WORK ON THE MOVE

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Driving Strategy and Change in Workplaces
Work on the Move
Driving Strategy and Change in Workplaces

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The workplace, like the world, is constantly changing and organizations must change with it to stay competitive. Although I believe this statement to have always been true it is the almost unbelievable speed at which things change today that provides today’s leaders with challenges that are truly unique.

The connected world, rapidly evolving technology, increased legislative attention and rapid internationalization are just some of the issues that today’s workplace leaders have to contend with. The two primary themes that tend to dominate the conversations around the workplace today are how to reduce the financial and environmental impact of the workplace and how to adapt your workplace to the needs of an evolving demographic of workers to ensure they are efficient and productive.

Today’s workers expect their workplace to offer a much higher level of freedom both physically and technically, and they tend to look at the workplace as an extension of their organization’s culture and to some extent themselves. They expect the organization they work for to have values that are in harmony with their own values and lifestyle.

It is well known that some of today’s technology companies offer workplaces that are more like adult playgrounds than workplaces. They can connect and work from anywhere. They can schedule meetings in the company tree house. Everything they want to eat or drink is free. Their dry cleaning is taken care of even though most people tend to wear shorts and sandals to work. Most importantly the worker makes a personal connection to the brand of the company they work for because they see where they work as an extension of themselves.

Other companies that come from a much more traditional background, such as insurance or finance, are also adopting some of these approaches in their workplaces and company culture. I recently visited a large insurance company that has adopted some of the approaches described above. Their employees can work from anywhere in the building, they can reserve hotel-like meeting facilities, all technology is portable, and they accurately measure both the supply and demand for workplace services on a daily basis. This allows them to shut down entire floors of the building when they know there isn’t a demand for the space, which significantly reduces their overall cost and environmental footprint while ensuring that the needs of their workforce are met. The greenest space is the space you don’t need to use.

The workplace and how organizations use it to reduce costs, attract talented employees, drive efficiency, inspire team work and ensure employee loyalty is rapidly evolving. If managed correctly it can be a competitive advantage for the right organization.

The workplace is moving; make sure you move with it.

Jim Wilton
Vice President
Planon
The IFMA Foundation is pleased to present this publication, *Work on the Move*, which will be an invaluable guide for facility managers interested in taking a leadership role in the changing workplace. The *Work on the Move* authors and contributors have done a brilliant job of describing rapidly changing workplace trends and offering valuable insights into how facility managers can create the future. The concepts in the book, combined with many dazzling case studies of theory in action, make this an essential resource and thought provoker for industry-leading facility managers and change agents.

Strategically, organizations today are dealing with changing workforces, varying work demands and new technologies that cause the workplace of today to look and feel dramatically different from yesterday’s workplace, and from tomorrow’s. This book provides facility management practitioners with unique and invaluable insights into what you can do to lead organizations as they drive to quickly bring products to market, attract and retain talent, and make a difference for their stakeholders.

The IFMA Foundation, with its three pillars of education, research and scholarships, is dedicated to expanding knowledge of the built environment and to advancing the facility management profession. The IFMA Foundation relies solely on the generosity of people who believe in this mission and who are passionate about the facility management industry.

We invite you to get involved with the exciting work of the IFMA Foundation. There are many ways to support the foundation. Become one of the many volunteers and friends of the foundation who have helped the foundation become what it is today. We also ask you to consider the IFMA Foundation first on your list of options for charitable donations and in-kind giving.

Finally, I would like to recognize IFMA Foundation Trustee Diane Coles, MCR, who has provided uncommon leadership and vision in championing the conversion of a concept into this valuable tool for the facility management profession. I would also like to formally thank the many distinguished authors who have donated their knowledge and time; without their generous participation this product would not exist. Finally I would like to thank the production team and the exceptional volunteers who provided the technical assistance required to pull together a cohesive and consistent product for our industry: Nancy Johnson Sanquist – lead editor; Lisa Berman – copy editor; Troy Carpenter – graphic design and production layout; Kate North, case study team leader; Sandy Oliver and Andy Fuhrman – case study search and review team; Michael Schley – production, PR and marketing leader; Barbett Byarlay Ramsey – marketing and PR; and Russell Womer – production coordinator.

Together we truly can create a more productive, sustainable built environment.

Roger Peterson
Chairman
IFMA Foundation
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PROLOGUE

Franklin Becker, Ph.D.

Facility management as we know it today appeared on the business radar screen 30 years ago, in 1980. It was then that IFMA, the International Facility Management Association, was founded. From its inception, and I am proud to say with the active involvement of myself and Professor William Sims, the co-founders at the same time of Cornell University’s Facility Planning and Management Program, IFMA has framed the work of facility management as the integration of people, place and process. For a nascent profession that historically had often been associated with low-level maintenance and operations, conceptualizing this old field but new profession as a fundamental element of business strategy was a radical reformulation. It came at a time when desktop computing was in its infancy, when a fax machine was novel technology, “mobile” phones as we know them did not exist and innovative space planning was “bureauschaf” or office landscaping, imported from Germany. The pressing challenge was how to manage wires, literally miles of it, now needed to power desktop computers at workstations distributed over huge open plan floor areas. With intensive computer work requiring employees to sit in a static position for hours, as well as the resulting glare on screens from lighting designed for an earlier era, office ergonomics became important; so, too, did office flexibility stimulated by the widespread reconfiguration of workstations in response to more dynamic organizations constantly shifting, expanding and shrinking, and reconstituting departments and teams. What a heady time! The 1980s created the perfect storm for the launching of a new profession seeking to integrate planning, design, information technology, human resources, finance and corporate strategy.

Now, 30 years later, concepts like mobility, virtual work, cross-functional collaboration, and flexibility and adaptability that were once on the cutting, radical edge have moved to the center. What is new now is not the concepts themselves, but how they are being shaped and implemented in firms large and small the world over. Using international case studies and their own considerable experience working in the FM field, Work on the Move: Driving Strategy and Change in Workplaces editors Diane Coles and Nancy Johnson Sanquist along with authors from around the globe do a terrific job of chronicling the evolution of the FM field, the forces that are shaping it today and the ways in which facility managers can play a leadership role in the continued development of FM as a form of business strategy.

As they note, thinking of facilities as a cost center makes no sense when how buildings are planned, designed and managed affects the attraction and retention of the best-qualified employees; and contributes significantly to their ability to work productively, both individually and as members of teams that are simultaneously proximate and far flung. In the face of technology that enables people to work anywhere at any time, to share information effortlessly and to communicate with colleagues on different continents with videoconferencing systems with unparalleled (though not unanticipated) visual and auditory quality, Coles and Sanquist ask the most critical question: What role can (should?) the workplace serve in this new globally connected digital world? We have long passed the point where the key question was “open plan” or “closed office” and “mobile” or “fixed.” The answer is “all of the above,” and more. It is difficult to imagine today that providing an employee with a mobile telephone, let alone a slow and heavy laptop with minimal functionality, once served as an incentive for working from home or in an unassigned “hoteling” office.

Yet new ways of working, and the changes they require from staff and management alike, are never easy. Because technology allows us to work virtually does not mean we want to. We still like to meet our counterparts in person, to feel a handshake, and share a beer and meal. Yet at a time when international travel with its crowded flights, often inedible food and airport security that borders on personal harassment is the norm, the benefits of digital travel via a videoconference that can save the employee mental and physical wear and tear, and the company time and money, are attractive. Such conflicting forces are at the crux of what I call “design dilemmas.” These are critical facility and design decisions — workplace strategies — that have no simple, obvious, universally accepted solution.

Take the pressures to reduce facility costs. What is the problem? Just squeeze more people into less space. Keep the space warmer in the summer and colder in the winter. Let maintenance lapse. The challenge comes from the fact that for the company to survive, let alone thrive, those cost cuts must be balanced by the need to attract and retain the best people, enable them to work safely and comfortably, and facilitate collaboration with highly diverse teams, all while managing chronic uncertainty ranging from new technology to dramatic market swings. These are wicked problems that require not only credible evidence and data, but great imagination. The journey that the facility management profession has been on, the forces shaping it today, and innovative approaches to wicked problems is what this book is about; and it could not come at a more timely moment.

Franklin Becker, Ph.D., is professor in the Department of Design & Environmental Analysis, the College of Human Ecology, Cornell University. With Professor William Sims, in 1980 he co-founded the first university facility management program in the world. He is founder of the Cornell University International Workplace Studies Program (IWSAP).
The New World of Work

The world of work is changing and so too is the nature of the office. The function, design and location of the workplace have undergone a major transformation in recent years, and the process is continuing. With this in mind, what role can the physical workplace play in a world of work that is increasingly global, networked, distributed and virtual? How will this transformation change the practice of facility management (FM)? What are the emerging trends and current best practices in the workplace today?

Business leaders are constantly challenged with delivering greater value more efficiently — rightsizing the workplace, technology integration, and increasing productivity and employee engagement.

FM is the integration of people and business processes of an organization with its physical work space. It is commonly assumed that organizational workplace strategies are greatly influenced by their business activity and the workplace infrastructure available. How people interact with their physical working environment can offer insights into what is happening within organizations through spatial and resource allocation and the interrelationships of staff and visitors with a facility.

Anecdotal evidence suggests that most organizations are experiencing rapid change due to advances in technology and a more integrated global economy. Such change requires the facility manager to react quickly and decisively to the demands of a changing workplace. One indicator of this management response to change is the need for functional flexibility within a modern facility.

So we are now faced with Work on the Move.

We know that the workplace of the future will be much different than it is today, just as we can easily observe the radical changes in how and where we work in recent decades. But how much different will work be is the big question, and how do we deal with such change? Seeking these answers will require different ways of thinking, new tools and openness to new ideas. This means that the old assumptions that our future will be much like the past deserves to be challenged. This includes the design of the workplace to reflect the impact of emerging technologies and a cultural revolution in the way we work.

The IFMA Foundation, an international nonprofit entity, is dedicated to expanding our knowledge of the built environment in a changing world through the support of scholarships, education and research. This book deals with the modern phenomenon of Work on the Move and FM’s response to the associated challenges.

In order to achieve this, we have brought together an international team of workplace experts to examine this topic with a new vision of exploring the modern workplace. By actively looking for answers around the world, we are broadening our sources of information and the body of knowledge available to facility managers seeking answers to questions: Why are some countries more advanced in workplace strategy than others? What can we learn from them? How do we prepare for workplace trends? What are the best practices in workplace strategy? How is FM technology changing to meet new workplace demands? How do we design space for mobility and flexibility? What will the office of the future look like? How does culture play a role in the office? What is the future role of FM? What skills will the future facility manager need?

We may not have all the answers to these questions, but this book is an important companion on the journey into the future.
Technology, economic and social change is progressing at the most accelerated pace in human history, dramatically changing the ways in which we work and live. Businesses today are challenged by rapid innovation, global economic shifts, competing priorities, cultural change, shifting demographics, new regulations and other issues making it difficult to stay on their strategic course. Organizational priorities and strategies are shifting faster than ever, resulting in constantly changing workplace needs.

As managers, our challenge is to make change easier for workplace users without creating a stressful environment. Good planning is vital, but of equal importance is to communicate effectively with your stakeholders, especially when introducing new workplace initiatives. Following up with employees to monitor progress is a key element to implementing a successful change and achieving a positive outcome.

As FM professionals, we know that when things start changing at accelerating rates, people get concerned about their future, especially when they feel that they do not have control over their environment. Making sense of rapid change and responding effectively to workplace demands is challenging. We find ourselves often asking the questions “How do I keep up with all of this uncertainty in the workplace?” and “How do I prepare for what lies ahead?”

According to Daniel Pink, author of A Whole New Mind, we are moving into the age of creativity and innovation. Organizations that do not innovate fast enough stand to lose significant market share. As mentioned in The Techno-Human Condition, even though technology is progressing, human ability to keep up with rapid innovation is a concern. The authors Braden Allenby and Dan Sarewitz are apprehensive about our capabilities to be psychologically prepared for radical innovations coming our way. Furthermore, will rapid innovation result in humans adapting to change quicker or will we retreat into unbending belief systems or worse, become indifferent? As facility managers, we can easily relate to this inflexibility when implementing workplace change. We see management and employees struggling with change and uncertainty on a daily basis.

FM and the workplace are now at the forefront of change. There has never been a better opportunity for facility managers to drive strategy and change in the workplace. By the workplace, we mean the office. Retreating to old ways will not work in this new world of techno-change. We must adapt with the times as resistance, lack of knowledge or lack of interest in future trends could result in extinction. We must prepare for the future. This means increasing our capacity to deal with acceleration and providing workplaces that are flexible and agile to assist our organizations in meeting competitive demands, productivity and cost concerns. As you will see throughout this book, it has been proven that a successful workplace strategy can not only impact the bottom line, it can also improve employee attraction and retention, increase customer satisfaction, provide faster expansion into new markets, and be environmentally conscious.

Work on the Move was created to assist facility managers to better understand and optimize the future of the workplace for large, midsize and small organizations alike. This book examines the forces driving workplace change and its strategic impact on facility managers. It provides practical tools to show you how to take the driver’s seat, become more strategic and lead change in the workplace.

Getting the attention of the executive suite and senior management, and making your case for the allocation of critical resources, is a challenge. This book provides guidance on how to promote your ideas to management. There are examples throughout the book to take with you to meetings and drive ideas.

The approaches in this book will help persuade those in human resources (HR), information technology (IT), corporate real estate (CRE), finance and others to join you in creating and advancing a successful workplace strategy.

Global best practices are showcased with some award-winning case studies in workplace strategy that demonstrates that FM is the foremost contributor to a more cost effective, productive and sustainable workplace.

“Everybody has accepted now that ‘change is unavoidable.’ But that still implies that change is like ‘death and taxes’: It should be postponed as long as possible, and no change would be vastly preferable. But in a period of upheavals, such as the one we are living in, change is the norm.” Peter F. Drucker
Steering Through the Roadmap and Troubleshooting Guide

This book is not necessarily intended to be read in sequential chapter order; rather you can start wherever it suits your next workplace strategy project and the issues facing your organization. To help you maneuver through the book, the “Roadmap” (Figure 1) is intended as a quick reference guide for you to follow to pinpoint exactly where you need to be for help on specific issues. If this does not work, then try the next section, which is the “Troubleshooting Guide.” If you are still lost, then try the brief descriptions of each chapter found in the “Chapter Tweets” section.

The information provided in each chapter, including insights, charts, graphs, pictures and case studies, can be used for management presentations to HR, IT, CRE, finance and others to explain workplace strategy, team roles, ideas and more.

To use the “Roadmap” (Figure 1) start in the middle to determine your level of expertise in workplace strategy and then drive through the map to your areas of interest. Levels of expertise are separated into the following areas:

1. New to workplace strategy?
2. Workplace strategy in the formative stages?
3. Having issues with existing workplace strategy?
4. Already have a good workplace strategy?
5. Don’t manage workplace strategy? Just want to know about future trends?

From the point of view of these five areas or starting points, the “Roadmap” will guide you through the book:

1. **New to workplace strategy?**
   If you were just assigned as the new workplace strategy project manager and are uncertain what this means, congratulations, you are in the driver’s seat. You will want to read this book from cover to cover.

   If you are new to workplace strategy and are not even sure what it is, then we suggest you skip to the definition of workplace strategy at the beginning of Chapter 4 Workplace Strategy: What It Is and Why It’s Important, before turning to Chapter 2 The Forces Driving Change.

2. **Workplace strategy in the formative stages?**
   For those of you just beginning your workplace strategy, where you start in the book depends on where you are in the process. The roadmap and troubleshooting guide provide some questions that will direct you to the chapter that best suits your needs. Of course, we hope that you read the entire book but understand that you may be in a hurry to get where you need to go right away.

3. **Having issues with your workplace strategy?**
   To find the answers you are seeking, follow the questions on the roadmap and troubleshooting guide. They will direct you to the best starting point.

   One of the greatest challenges in workplace strategy is gaining management support, promoting your ideas and managing change in this age of environmental thrift. This entire book is intended to be used to help you persuade senior management and employees alike about the future of the workplace. The troubleshooting guide lists chapters best suited for persuading stakeholders.

4. **Already have a good workplace strategy?**
   If you already have a good workplace strategy there is still plenty of valuable information for you in this book. For example, the global case studies in Chapter 10 showcase best practices in workplace strategy and design from around the world.

5. **Don’t manage or have influence on workplace strategy?**
   If you do not manage or have influence on workplace strategy, included in this book are insights and important practical knowledge about the FM field, space planning, technology, change management, leadership and the future of work. For example, if you are interested in the latest trends and future outlook in FM, use the troubleshooting guide or roadmap to move through the book to examine new developments.
## Work on the Move Troubleshooting Guide

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To borrow an idea from Daniel Pink’s book *Drive: The Surprising Truth About What Motivates Us*, we have provided a summary of each chapter in Twitter format. That is, we used a maximum of 140 characters (see www.twitter.com). If you are a Twitter fan, feel free to re-tweet these chapter summaries.

**Chapter Tweets**

*Chapter 1 Getting in Motion*
A roadmap and guide pinpointing which chapter to start with to drive strategy and change in the workplace and engage stakeholders

*Chapter 2 The Forces Driving Change*
Discussion, data and global examples to identify and understand key forces driving change in the workplace

*Chapter 3 Evolution of the Workplace*
History of the office from its origin to the rise of the cube farm and benching, with examples and discussion about the office of the future

*Chapter 4 Workplace Strategy: What It Is and Why It’s Important*
Explanation of workplace strategy, how it aligns with business strategy to improve business outcomes and impact the triple bottom line

*Chapter 5 Implementing a Mobile Workplace Strategy*
The best methods to manage the transition of space from traditional office to distributed work and implement a mobile workplace strategy

### Area of concern | Question(s) | Try chapter
--- | --- | ---
Change management | Dealing with reluctance to change issues? | 8 – Change Management as a Core FM Competency
Persuading stakeholders | Management | Chapters 2, 3, 4 and 10
Finance | Chapters 2, 4, 5 and 10
HR | Chapters 2, 3, 4, 8 and 10
IT | Chapters 2, 3, 4, 9 and 10
CRE | Chapters 2, 3, 4, 5, 6 and 10
Employees | | Chapters 2, 3, 8 and 10
Looking for trends? | Technology | Chapters 2 and 9
Workplace strategy | Chapters 2, 3, 5 and 10
Workplace design | Chapters 2, 3, 5 and 10
FM profession | Chapters 2, 6, 8 and 9
Leadership | Chapters 7 and 6
Change management | | Chapters 8 and 10
Chapter 6 Projected Impacts on the FM Profession
A discussion on how the facility management profession is changing as the world of work changes, including trends worth monitoring.

Chapter 7 Leadership in the 21st Century
Essential information for facility managers on how to be at the forefront of new leadership skills needed in a global, interconnected world.

Chapter 8 Change Management as a Core FM Competency
Facility managers should be well-versed in change management. Practical tools for managing change in the workplace are provided.

Chapter 9 Technology and the Future of Facilities
Technology is changing the way people work. Here’s how facility managers can support new ways of working by utilizing new technologies.

Chapter 10 Case Studies from Around the World
Innovative, forward-thinking and even some award-winning workplace strategy case studies from around the globe.

Chapter 11 Moving Forward
Where do we go from here? Twenty thoughts to ponder and discuss about the future of the workplace and the field of facility management.

Driving Toward the Future

“I don’t know where I’m going, but I’m on my way.”
Carl Sagan, Astronomer & Cosmologist

No one can predict the future with 100% accuracy, but knowledge is power. This book was created to provide you with the information needed to make better decisions about the workplace and take control of your future.

This book will help you persuade senior management and employees alike about the future of workplace strategy. There is no time better than the present to embrace change and prepare for the future.
Diane Coles, MCR  
Director of Workplace Solutions, SCAN Health Plan

Diane Coles is the director of workplace solutions at SCAN Health Plan in Long Beach, California, and has over 20 years of experience in corporate real estate, facility management and business continuity planning. She spearheaded an innovative alternate workplace strategy called the AWESOME project and won the 2009 IFMA George Graves Facility Management Achievement Award, the 2009 CoreNet Southern California Remmy for “Workplace Innovation” and was named a Southern California Real Estate Journal “Woman of Influence.”

Coles is a guest lecturer at MIT Professional Education and a speaker at international conferences. She is a co-author of Cut it Out! Save for Today, Build for Tomorrow (IFMA Foundation 2009) and contributing author to Facility Management Journal (FMJ).

Coles is an IFMA Foundation trustee, IFMA CREC secretary and past president of the IFMA Orange County chapter. She is a member of CoreNet and holds its Masters in Corporate Real Estate (MCR) designation.

Stephen Ballesty  MBA, CFM, FRICS, FAIQS, ICECA  
Director and Head of Advisory, Rider Levett Bucknall

Stephen Ballesty is the Sydney-based director and head of advisory for global consulting group Rider Levett Bucknall. He is a past chairman of the Facility Management Association of Australia, the former deputy chairman of the Australian Government’s FM Action Agenda and was the first non-North American to hold the position of chairman of the IFMA Foundation. He is currently serving as immediate past chairman of the IFMA Foundation.

Ballesty is a RICS Fellow, AIQS Fellow, Chartered FM Surveyor and was FMA Australia’s national member of the year in 2007 and its first recipient of IFMA’s Certified Facility Manager (CFM) designation in 2008. He was awarded FMA Australia Life Membership in 2011 for service to industry.

In addition, Ballesty was the co-author of numerous industry guides covering issues of risk management, sustainability, building quality and due diligence, including the award winning “FM as a business enabler” based on the FM Exemplar Project: Sydney Opera House.
Chapter Two
The Forces Driving Change

Laurie Aznavoorian
Geyer

Paul Doherty
Screampoint

The Idea in Brief

- The starting point for the development of a workplace strategy must be an appreciation for the broader business and social context an organization exists within.
- Major forces in technology, the economy, society and culture have combined in a way that will make the near future dramatically different to what we have experienced in the past. As a result, the future can no longer be effectively extrapolated from the past.
- The role of the workplace strategist is to demonstrate to organizations that space matters by undertaking the following: encouraging them to look beyond the present, considering broader context, and developing links between the physical environment and an organization’s business performance, brand and company culture.
- Developing a workplace strategy requires a unique method of investigation that goes beyond the typical architect’s brief. Organizations are advised to engage skilled strategists who are able to ask the right people the right questions in the right way.

The Idea at Work

- Companies that base their workplace design on the past are likely to fall short in supporting the needs of a society whose work processes, attitudes and social drivers are evolving.
- Engaging in a robust strategic process that considers how the physical environment addresses the key forces that are impacting business is the best way to create a workplace that is a “business tool.”
- Demonstrating that space matters and linking the design of work environments to business performance will help steer decision-makers away from individual preferences and desires, toward decisions that will best position the business.

Executive Summary

In the book *The Rise of the Creative Class* author Richard Florida investigates forces reshaping our economy and how companies, communities and people can survive and prosper in uncertain times. Florida’s belief that first world countries are evolving to be primarily places where people create for a living is evident in everything we see today. Our awareness of this shift and of the importance of knowledge, creativity and innovation — skills that fuel our economy — are accepted.

Intuitively we know the places we live and work in must shift in tandem. Our society is no longer focused on manufacturing or technology, and the environments designed to support that work type no longer suffice. We also know that we work hard and have an expectation that the workplaces we pay for work as hard as we do. What is not easy is having the courage and attitude to change the environments that have served us well in the past.

Work environments have the ability to support an organization’s business objectives, communicate their brand and position in the marketplace and, importantly, influence the behaviors of the workers who occupy them. The challenge facility managers face in creating environments that achieve this is in helping the business take the leap of faith required to change. This involves appreciating how much the organization is prepared to evolve and communicating and educating the business to the ways the workplace can be a catalyst for that change.

Facility managers should not go it alone. Appointing workplace specialists in a strategic engagement process will ensure workplace strategies address broader global issues that influence business, as well as incorporate social expectations and the unique business drivers that differentiate the organization. By facilitating this process, the FM will elevate discussions about the workplace from pragmatic spatial requirements to broader issues that impact business sustainability, and in so doing will provide greater value to the business.

The Approach in Brief

Approaching the design of a workplace with the intention of creating not just a place for people to work, but a potent business tool, requires a different approach to what architects, designers and the FM professional typically follow. In some instances the workplace plays a direct role in addressing broader issues businesses face; in other instances it is a support role. Either way,
by not considering the business and social context it is nearly impossible to intuitively create an environment that will serve a business today.

Every organization is different. The mistake many make when developing workplace strategies is lumping the company into silos without appreciating specific industry influences. Another common mistake is to assume the way we do things now is an indication of how we should do things in the future. There are enough demographic, social and technological changes evident everyday to know this approach is at fault. We live in a highly competitive world and need our workplaces to do all they can to survive. Some of the issues that should be considered:

• Technology crossroads
• Cultural diversity in the workplace
• Employee health and well-being
• Greater efficiency by aligning the workplace with today’s work styles
• Knowledge transfer
• Talent attraction
• Sustainability and corporate social responsibility (CSR)
• Building communities

Each of these topics will be explored in greater detail. Many examples and statistics are from Australia, where this author resides. Although, specific numbers will not follow, the trends will be consistent with other developed countries around the world.

Technology Crossroads

For too long, we have heard how technology will change the workplace as long as we embrace technology. But what happens when you embrace technology and it does not hug back? Let’s explore five trends that are directly affecting the workplace and how you can derive value from these trends.

FM and Corporate IT

Corporate IT departments are fighting a multifold war of having to deploy, support and maintain expert systems, enterprise class systems and ever-changing telecommunication devices and services. FM relies on corporate IT for its IT expertise, but a shift has begun that circumvents corporate IT in order to implement information and communications technology (ICT) tools and solutions that are becoming more and more “standard” in the way the masses communicate. Texting, smartphones (and their apps), Facebook, LinkedIn, Skype and other consumer-based ICT tools and solutions have invaded the FM world, bringing challenges and opportunities to both FM professionals and their relationships with their IT departments.

Corporate IT gets upset when outside technologies are used in the corporate environment without their knowledge, especially when the technology interfaces with corporate IT systems. But for FM, sometimes waiting for corporate IT approval is a long process for what seems to be a simple solution that is needed in a tight timeframe. Corporate IT will argue that security and privacy issues arise when non-approved new technologies get introduced into the corporate IT ecosystem. Most will also argue that corporate IT will need to support non-approved technologies by default, adding to an overloaded support process. In order to gain acceptance and provide a clear path of approval for FM technology tools in the corporate environment, FM professionals should prepare a business case that provides corporate IT with alignment to corporate strategy.

Convergence of Enterprise Business Support Units

The convergence of the enterprise business support units of IT, FM and HR has been slowly building for over a generation. Some have called this trend infrastructure management to describe the role and value such a convergence brings to an organization. The first wave of convergence began with the implementation of enterprise-wide technology platforms called enterprise resource planning (ERP), which has provided the base for organizations to begin to share data in unique ways. The second wave of convergence has provided individual business support units like IT, FM and HR with technologies that provide discrete process and workflow management of each of their data sources and applications.

We are now entering the mature third wave of convergence that provides interoperability between these discrete business unit solutions, providing a transparency that has never been achieved before. This wave is called 5D, the linking of data/files to timelines and 3D objects in real time. The ability for each business unit to work independently within their sphere of expertise,
and building systems are being explored by organizations like Armstrong World Industries, Hayworth, Steelcase and others. By pulling ICT components out of the traditional cases of desktops, laptops, smartphones and tablets, facility managers will be challenged with having to understand how to manage, repair and maintain an interactive physical environment that acts and feels like the building as a computer (BaaC).

Ubiquitous Mobility

Mobile ICT is maturing at a fast rate with the emergence of smartphones and tablet-based computing (e.g., the iPad). Facility managers have a dual responsibility to leverage the power of ubiquitous computing and communication for internal FM processes and workflows and ensuring that a workplace strategy is developed for their organizations that extends the workplace beyond the traditional “bricks and mortar” facilities and offices. By extending the term “facility” to be aligned with a “clicks and mortar” strategy, facility managers can ensure that the experience of their organization remains consistent and standardized, providing for greater control and better overall management. Policies of accessing enterprise data remotely (home office, Starbucks, airplane, etc.) and limits to this access regarding security, appropriateness and cost value should be a joint effort between FM, IT and HR.

Cultural Diversity in the Workplace

In many OECD countries, falling birthrates, historically low levels of unemployment and changing attitudes about work are combining to cause a “talent squeeze.”² Developed countries will need to deal with more culturally diverse workforces and extend migration to fill both skilled and unskilled gaps in labor forces.³ It is no surprise that businesses in countries around the world are finding that skills shortages are restricting business and placing their future competitiveness at risk.

The situation that exists in Australia is similar to many countries. The 2010 Intergenerational Report commissioned by the Australian Government highlights that Australia faces real challenges for maintaining its workforce into the future.⁴ Shortages of skilled labor have contributed to a decline in labor and productivity growth across the world; this could be changed if organizations engaged a more diverse workforce and considered

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³ OECD, 2009.

the gray generation, people with disabilities, people from different cultures and women. There are opportunities to attract solid talent from these groups.

**Women**

Closing the gap between male and female employment rates alone would have important implications for the world’s economies. For example, economists in Australia estimate a boost of GDP of 11 percent could be achieved by employing more women who represent 50.2 percent of the population and 45.7 percent of the national workforce.

There is a global trend that has seen the role women play in society and the workplace increase, so it makes sense for our workplaces to follow suit. Women are in more leadership and decision-making positions; in addition to boosting waning employment numbers, workplaces are benefiting from feminine characteristics they bring. So-called feminine traits, holistic thought, creativity, collaboration and playfulness, are associated with the right side of the brain; while the left side of the brain focuses on analytical thought, logic, language, and science and math, generally considered to be male traits.

We are moving into a business climate where greater clarity, transparency and trust are desired; therefore, it is beneficial to connect to the right side of our brains. Many companies are exploring tactics to get their people to be more right-brained, and workplaces should provide a background for these attributes. Additional beneficial feminine traits companies seek are the ability to build communities within a group, the ability to form relationships, excellent communication skills and being relational, as well as greater intuition and a desire to share feelings, observations and beliefs.

It is not just companies; some countries are recognizing the benefit of feminine traits. As of January 2008, 40 percent of company directors in Norway must be women or face dissolution. Spain is on the same path, and Sweden has also proposed making gender diversity a legal issue.

Employees leave organizations for many reasons, including career advancement, better job opportunities and retirement. These departures are difficult to prevent. Women in particular tend to leave their jobs to gain better work-life balance, often the result of a change in family situation that impacts women more as the primary caregiver for children and elderly parents. The stress women experience can be relieved when employers offer flexible working hours, time off or leave arrangements, and provide access to suitable childcare arrangements.

Many larger workplaces provide on-site childcare; others that do not want to take on this responsibility make arrangements with nearby facilities to ensure employees get preferences for coveted spots in childcare centers. Additional steps organizations can take to keep their women employees are to provide a “parent room” in the workplace where employees can bring a child and work for an hour or two. These spaces feature a work setting for the employee with network access and a place for the child to play, watch television or nap. Larger companies may sponsor programs to help their employees over school breaks.

**Ageing Workers**

The process by which older persons form a proportionally larger share of the total population is referred to as population ageing. It is a global phenomenon that will have an economic, political and social impact around the world.

- By 2050 the average age will be 55 years
- In the UK the number of people of pensionable age has just exceeded those under 16
- One in four Australians will be over age 60 by 2025
- Labor levels in the US have fallen to the lowest since 1994; the aging demographic accounts for about half the downward trend in participation rates
- In the US people born between 1946 and 1964 make up 25.8 percent of the population
- In 2007 the UK had the highest proportion of people in the 60+ age bracket (21.8 percent) followed by Australia (18.1 percent) and Hong Kong (16.1 percent)
- The UK has the oldest working population in the developed world
- Japan and the US are the fastest ageing populations in the developed world

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5 United Nations Department of Economic and Social Affairs, 2007.
As baby boomers come closer to retirement age, organizations will be looking for ways to keep them in the workforce to combat the gap we will face due to the talent shortage. People will be staying in the workforce until much later in life, and organizations will need to prepare themselves by adopting long-term recruitment strategies to attract applicants over the age of 45, because 85 percent of new labor will be coming from this group.

Evidence suggests that older employees believe part-time and flexible conditions would encourage them to stay in the workforce longer, preferably working two to three days per week or on assignment. Organizations would be wise to act upon older workers’ willingness to re-enter the workforce; evidence suggests that older employees are better knowledge workers, give longer and more reliable service, offer greater depth of skills and experience, and are less likely to take time off due to illness, accidents or injuries than their younger counterparts.6

The types of spaces that are attractive to younger workers rarely attract the older worker. The World Health Organization’s “Study of Ageing and Working Capacity” (1993) found that changes in motor and visual systems associated with aging affect working needs. Older workers are more sensitive to heat, cold and light changes. The popular staples of contemporary workplace design, hard surfaces, overhead lights, open environments and furniture that may not be as stable or easy to get in and out of, will challenge the older worker.

The facility manager can ensure older workers’ needs are being met by providing some spaces within the accommodation that feature lighting, acoustics and furniture that are more comfortable and encouraging the IT group to choose user-friendly technology that is more intuitive. Access to organic and tactile environments, green spaces and natural light are also pluses for the older worker.

**Cultural Diversity**

Globalization has led to increased diversity in workforces in all developed countries. Australia experienced the second-largest influx of migrants since World War II in the year 2009; half the increase in population was from overseas migration. With these types of changes in our communities it follows that attitudes about work are changing as well. Workplace diversity, generational differences and cultural differences each pose new and interesting challenges for the FM professional.

Migration to fill labor shortages, particularly highly skilled shortages, is a common policy response in many developed countries.7 In Australian workplaces, the percentage of workers born overseas is 25 percent and 15 percent come from non-English speaking backgrounds. While figures will vary from country to country, what is undisputable is that business today is driven by a diverse workforce.

Research shows that a diverse workforce is good for business, too. It promotes greater creativity and innovation because people who are willing to cross gender, ethnic and age boundaries are exposed to ideas, stories and ways of doing things that enrich them. There is a clear association established between knowledge management practices, innovation and productivity.

Our workplaces are microcosms of the general makeup of the communities we live in. For them to be successful, organizations must attach great importance to diversity and take into account elements that will appeal to people of different ethnic backgrounds when creating work environments.

Creating workplaces that make all inhabitants feel comfortable will boost productivity. It is naïve to think we can take what an employee has to offer professionally and ask them to check their inner self at the door. Different customs and cultures must be addressed in the physical environment, and while most would agree it is impossible to acknowledge the nuances of each individual, small gestures can make a big difference (Figure 1). Taking the other path and appealing to the lowest common denominator will run the risk of creating a “beige workplace” that is bland, uninspiring and appealing to no one. Work environments must address the unique cultural differences and expectations of their employee base.

Examples of how cultural diversity can be addressed in the workplace include providing rooms that can double as quiet places, prayer rooms or resting places. In accommodations where multiple break-out areas are provided, designs may vary to reflect different cultures.

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7 OECD 2009.
Chapter 2    The Forces Driving Change

Having an appreciation and sensitivity for different customs, holidays and deep-seated beliefs of people from other cultures will help the FM create a more hospitable and tolerant environment. It may not be necessary to provide prayer rooms, kosher kitchens and squat toilets in the environment, but knowing they are important to some employees is a step toward full integration and acceptance.

Employee Health and Well-Being

In the book *The Brave New World of Work* author Ulrich Beck argues that work constructs identity in the 21st century, “‘Everything is work, or else it is nothing.’” This suggests that we have replaced all things important to us with work: family, religion, our free time. Sadly for many of us, this is not far from the truth. The 2009 Australian Work and Life Index survey indicates a quarter of employees felt their jobs often, or almost always, interfered with activities outside work, particularly with having enough time with family and friends.

It is no surprise that time emerges as the most pressing issue for employees today; over half surveyed felt there was not enough of it. Being time poor affects an employee’s ability to spend time with family, eat healthily, exercise or have a social life. Additional stress is endured when juggling work and home activities forces the employee to request time off from work to attend school functions and after-school activities with children to maintain family and social obligations.

Stress

It goes without saying that stress has an impact on psychological well-being. Stress levels peak when people reach their early 50s but dip toward old age. The bad news is that work-related stress can stay with people into retirement. The cost of stress-related illness is $14.81 billion (Australian dollars) annually in Australia and $10.11 billion (Australian dollars) of that is borne by the employer’s direct costs and productivity losses. In other developed nations, reports claim 90 percent of people across the European Union member states consider stress and associated problems as a major cause of disease. 

It makes sense for organizations to get a handle on employees’ stress levels, as stress is thought to be responsible for more working days lost than any other cause. Helping employees identify and cope with stress is good business practice, and for the FM, it is critical the workplaces they create do not add to it by prohibiting employees from effectively doing their jobs. Poor ergonomics, lighting or environmental conditions can impact productivity, as can distractions due to poor workplace zoning. Ideally, there should be places within the overall workplace environment that have a calming effect on the employee.

People engaged with their jobs will want to work harder. Even though most work involves some level of drudgery, doing the hard yards produces “good stress” as defined by Eric Kandel, who shared the Nobel Prize for psychology in 2000. Good stress comes from taxing your brain; as you do that, synapses expand and connections become more secure. Repeated firing of neurons in the brain leads to overall improved performance. It is true, hard work is difficult, but when it is over there is a feeling of satisfaction that makes us stronger.

Stress is not the enemy in our lives; it is the key to our growth. However, bad stress cannot be endured for any length of time without inflicting damage. Toxic stress generally comes from external sources, such as natural disasters, an earthquake or flood, the economy or a bad boss. Studies in the Netherlands indicate high levels of the stress hormone, urinary cortisol, increase the risk of cardiovascular disease fivefold.

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8 World Health Organization, 2010.
Sleep Loss

There are also connections between workplace stress and our sleep patterns. Seven or more hours of sleep is recommended for good health, but 28.5 percent of employees do not achieve this, and 15.4 percent report work causes them to have less sleep than they need. Fatigue is common in the general working population, with 30.4 percent of employees feeling fatigued (extremely tired or completely exhausted) as reported by the Australian Work and Life Index 2010.

The negative effects of sleep loss are well-researched; disruption of physical health, cognitive functioning and psychological well-being are all at risk. The Australian study found nearly one-third of the working population were at risk of experiencing some form of negative outcomes due to lost sleep, which places a strain on their capacity to be engaged workers, partners, parents or community members.

Research conducted by Galaxy Research commissioned by Virgin Active Health Clubs found one in three workers has taken a sick day to catch up on sleep, and younger workers are 44 percent more likely to do this than older ones. The study also indicated 43 percent of workers arrived late to work because they slept in. It goes without saying that tired workers do not perform at their peak, with 19 percent admitting to dozing off in meetings.

Figure 2: Sleep pods, a chaise lounge with privacy bubble and built-in, full-body buzzer alarm clock for a midday nap by MetroNaps (metronaps.com.au).

Research has shown that a half hour nap significantly improves performance on repetitive perceptual and cognitive tasks. MetroNaps, a provider of power napping solutions for the workplace (Figure 2), has carefully calculated 20-minute nap times to allow five minutes to fall asleep with 15 to nap. This is the optimal time to relieve an energy slump.

Psychological Well-Being

Work-related factors, such as performance investigations, complaints, exposure to aggressive clients, conflict with colleagues, high workloads, poor management/supervisory skills, transfers and poor person-job fit all place psychological well-being at risk.9

Psychologists Edward Hallowell notes what he terms a “disease” rampant in organizations today that effectively saps their creative drive. Coined “disconnection,” it is due to employees being pulled from pillar to post resulting in a fragmentation of focus. To remedy the disease and help people become more engaged with work, Hallowell recommends workers follow five steps:

1. Select – the right tasks
2. Connect – with colleagues
3. Play – with problems
4. Grapple and grow – from challenges
5. Shine – in acknowledgement of your achievements

The physical workplace can play a role in helping employees connect, play and shine.

Changing Expectations Around Employee Health

It is clear that employees’ expectations are changing; it is now expected that the employer will play a greater role in helping establish a balanced work and home life. In studies conducted by Curtin University in Western Australia, respondents identified the need to address the balance between work and family as their most pressing concern that they expected their employer to address (40 percent). This was followed by the need to improve flexibility (20 percent) followed by being time poor (17 percent). Dealing with stress and health problems and cultural diversity both came in at 12 percent.

Employees are drawn to organizations that have positive work-life balance thinking. The importance of modeling best practice work-life balance from the top cannot be underestimated. Employees will look to superiors for an indication of how they should behave. Consequently, managers that are positive about making changes that help employees deal with family commitments and those that trust and treat employees like responsible adults, can make great strides.

A clear policy statement demonstrating the company’s commitment to providing a flexible responsive workplace allows employees to balance home and work better. The factors shown to impact most on employees attempting to balance work and life are required hours of work, a lack of flexibility in altering work hours, time off or leave, access to childcare arrangements and undue stress in the workplace.

Increasing flexibility is a strategy to address the needs of the time poor employee; however, like most strategies there are two sides to be considered. On the one hand, increasing flexibility gives individual employees more control over when and how they work. The downside of this is that increased flexibility for the employer often limits flexibility for the employee at home as working hours expand.

Unfortunately, despite the benefits, not all employers are willing to offer workers greater flexibility. The Australian Bureau of Statistics indicates the proportion of workers with any choice over their hours has remained low. Less than 40 percent of full-time workers have any choice over the times they start and finish, and according to the figures, less than half have the option of negotiating extra hours to get more time off at a later date. In the three years to last November, the number of workers who negotiated an agreement for flexible hours with the boss, either formally or informally, fell to about 30 percent.

This is most likely due to fears brought on by the economic downturn; it is a reminder of the close link and power the economy has over our work life. As further evidence, a 2009 Australian Psychological Society survey into the impact of the global economic downturn on the currently employed revealed 37 percent reported being under financial strain; 20 percent reported an increase to their workload; and 27 percent indicated moderate to extreme concern about job security.

### Demonstrating Concern for Health and Well-Being

Greater flexibility for employees can be seen in the increasing reliance on new forms of employment, such as telecommuting, virtual connections and teamwork. While these are positive improvements for the lives of workers, there is concern that these changed work arrangements have blurred the boundaries between work and nonwork. The question of occupational health and safety in locations other than the workplace can become yet another responsibility for the employer.

In developed countries where worth is measured in quality over quantity, the drive toward employee health and well-being organizations engage in represents a positive step toward awareness of the employee as a whole person. The benefit in creating a workplace that openly and honestly supports employees with family and personal responsibility is the ability to attract and retain skilled employees.

Of course it is not enough for organizations to only talk about their concern for employee health and well-being. The physical environment must visibly demonstrate they have created a more positive place for employees. With today’s transparency, organizations cannot afford to be seen as not living their values. It tarnishes public perception and has a negative impact on recruiting an emergent workforce that has great concerns with the company walking the talk.

Today many organizations are dedicating greater amounts of floor area in the workplace for health, well-being and fitness. These spaces may include gyms and change and shower rooms, as well as places to learn, connect, eat healthy food and retreat. Particularly for organizations that include employee health and safety as a part of their corporate brand values, the expression of health and an overall awareness of safety evident in the workplace is vital; whether one works in a regional, manufacturing site or a city high-rise, the workplace can reinforce the message, embedding it into the organization’s DNA.
Greater Efficiency: Alignment of the Workplace With Today’s Work Styles

The cultural and social demographic profile of the workplace has changed in the past three decades. This will accelerate into the 21st century where employees will be more mobile, networked and have access to technologies we can barely dream of today. With these changes will come evolving expectations consistent with peoples’ physical and social needs. In order to get a rough indication of the kind of work environments that will best support our future needs, it is helpful to look at societal developments that will affect work lives.

Ageing

We have already discussed the fact that the ageing of society will impact all regions of the world. This has significance for society, economics, corporations and individuals. From a property perspective it is important to develop strategies to help older workers embrace new technologies and work styles; to grossly generalize, older people are less open to change. We must cast a net to the future when designing future workplaces. Unfortunately senior leaders, who are often decision-makers, consider themselves and how they prefer to work before, and sometimes at the exclusion of, others.

Facility professionals have to challenge leaders to not only consider a new generation of worker when they develop the workplace strategy, but to also steer clear of individual preferences or “aspirations” that may make one person feel good, but do very little to support the business.

This brings to light one of the many challenges the FM faces: the occasional necessity to push back on people in the organization who are quite powerful and in some cases outrank him or her. This is a good argument for bringing in specialists to engage the leadership, and hopefully others in the organization, in a unique process of inquiry. Their experience with other companies and knowledge of issues that drive trends in the workplace will provide great value. Additionally, engaging an external specialist escalates the importance of the exercise and highlights the need for a business-driven approach.

Globalization

To reference author Thomas Friedman, the world is flat. Globalization has made us much more aware of the elements that make us the same and those that make us different from others in the world. As condensed as our world has become, there has been the development of a counter-trend in local businesses rediscovering regionality.

Regions are not isolated islands in a networked world, but rather a part of a trend we call “glocalisation.” Local differences must be considered with workspace planning, cultural codes must be adhered to, and as a member of the “glocalised” world we must think in the sequence: location > region > culture > world.10

Figure 3: Local influences expressed within global brand standards at American Express Singapore.
Design: Geyer

Acceleration

Changes to our lives are accelerating, coming faster and in more areas than ever before. In the coming decades we will experience massive changes due to advancements in information technology, biotechnology, nanotechnology and energy. This combines with predictions made by the United Nations that the share of the world population living in urban areas will rise to 53.6 percent in 2030, creating a growing demand for world consistency. As we experience migration from region to region and from the country to urban areas, people will desire the same lifestyles and opportunities we have in the developed world.

This will challenge infrastructure, livable housing and the maintenance of healthy environments. We are already experiencing natural events that, depending on who you are talking to, may be linked to man’s impact on the environment. While not all sentiments align, most organizations today consider workplaces with some level of environmental rating. Even if all the proof is not in, they recognize it as a positive step in learning to live in what might become a post-oil world.

**Individualization**

In Western society people seek to distinguish themselves from others. We book customized holidays, have trainers develop individualized exercise programs, and create customized work hours and careers. We even seek to distinguish ourselves by customizing our mobile phone ring tones and computer screen savers. Mobility and a greater awareness of available options afford us the freedom to shape our lives privately and professionally, and this will continue into the future.

Retailers have gotten wind of this and some have developed very clever means of letting the consumer know they are unique. Manufacturers of workplace furniture know we not only want the freedom to work in different places within the accommodation, we also want to customize those spaces, too. As a result there is more “room-defining furniture” on the market, as well as furniture and accessories that provide us an unprecedented degree of personal adjustability.

The snag often comes from the FM and/or designer, who are holding on to their last vestiges of control over the work environment. They will need to learn to let go and allow people to use space in the way that best works for them. The desire and personal need to customize will not be going away any time soon.

**Digital World**

In our highly digitized world it is much easier to reach others globally. The Internet promotes commercialization by making it cheaper and faster for companies to compete in the global market. We have more money to spend and choose to spend it on tailored items that delight us, regardless of where they come from. Our access to new sources for products is unprecedented.

With more knowledge to consume, reject, communicate or interact with, the hurdle we face is the overwhelming feeling we have in attempting to navigate through it all. Despite the drive for individualization, we are social beings and increasingly join networks to share ideas and learn from others. Sadly, what this means for the FM is everybody is now an expert on the workplace, because they read something on the Internet or had an interaction online.

The “inch deep but mile wide” knowledge users have is reason for the FM to follow a process that closely links workplace decisions to stated business outcomes. Illustrating this relationship takes away personal subjectivity and gathers all workplace decisions into a cause most employees can buy into — sustaining the business and therefore their job.

These trends have impacted our social context, and as a result our working styles have evolved. One of the biggest changes in the way we work is not a new concept, we are knowledge workers; this has been talked about for the past decade. Unfortunately, despite popularity of the topic, the environments we created and technology used to support this work style are far from ideal.

As a starting point for discussing the changing needs of knowledge workers, it is worthwhile to note that in developed countries almost 80 percent of working people are in careers that focus on processing information. The term “knowledge economy” is often used to describe advanced economies where a large proportion of economic wealth comes from the exploitation
and distribution of knowledge and information. OECD data indicates that 43 percent of the national income in the US and Germany comes from knowledge-based industries; in the UK it is 43 percent; and Ireland tops the list at 48 percent.

Employers today are looking for work spaces and people with the skills to support an economy where knowledge is the raw material. Those skills include the ability to collect knowledge by researching, exploring, asking and listening; distributing that knowledge through presentations, writing and via technology; and most importantly processing the knowledge, which requires an understanding of complex interconnections and the ability to analyze.

Most environments we work in are inefficient and disconnected from the work styles of the knowledge economy. The workplace must offer places for concentration, collaboration and contemplation. Offices today are primarily open plan, highly cellularized or a mixture, depending on the industry. None of these combinations suits the needs of the knowledge worker. No matter how advanced the design of an open workstation or transparent an office might be, both are inadequate when it comes to supporting the wide range of activities the knowledge worker engages in daily. It is asking too much.

Few work spaces offer a wide enough variety of spaces; many are tantamount to working on an airplane where the only options are the assigned seat or the toilet seat. Some work environments not only do not support the way we work, they are also wasteful. This is particularly disgraceful when we consider efficiency, cost and the environment. As we move into the future, it is critical to align the design of our workplace with our need to engage in multiple activities and the high degree of mobility we have to do this.

Studies highlight on average workers spend 49 percent of their time at their desks; 27 percent of the time the desk is unoccupied; and 23 percent of the time desks are temporarily occupied. For most dealing with property, the first hurdle they face is in obtaining accurate data from space users to prove these patterns. Often it is necessary to engage in a time utilization study that charts worker movement over a two-week period. Doing this will not only keep a few students gainfully employed, it will also provide muscle.

Users misrepresent the amount of time they spend at the workplace. Whether this is an intentional strategy to keep the company from taking away their desk, or a genuine disconnect, is uncertain. The fact that it happens highlights the benefit of hard data and the need to offer workers an accurate vision of how a new workplace will perform to enable them to let go of the past.

Environments that will best support the majority of contemporary work styles are those that contain a wide variety of places to work, providing the employee choices that extend beyond their desk, to the entire office ecosystem. Workers today may change the location of where they work based on the activity they are undertaking.

By having many spaces, there is greater opportunity for them to be customized in both design and equipment to suit specific activities and worker preferences. In these environments the whole building becomes the workplace, not just the desk or office.

In the new workplace there must not only be a variety of spaces, but also a greater variety of individual work settings. Gone are the days where all men are equal. With the limited time spent at the desk, it is evident that some workers could abandon, or seriously downsize, their personal accommodation. The long-dead concept of “churn” in the workplace has been replaced with dynamic approaches, where worker mobility allows use of a whole environment. A “one-size-fits-all-desk” is a wasteful concept that leads to poor space utilization.

One way to approach this dilemma found in many organizations is the classification of workers according to time spent at the desk. Those who perform routine activities will warrant a dedicated, and in some instances larger, work setting; others whose jobs are highly collaborative and spend a good deal of time in meetings may only require a place to check emails. Still others may spend so little of their time in the office that a dedicated work setting is an extravagance.

Rightsizing the workplace is an effective way to minimize the impact the company makes on the environment. In addition, it makes sense to consolidate those whose work styles are more static into an area of greater activity and vibrancy where special attention can be paid to creating a sense of community. This helps to alleviate the “ghost town” feel that exists in many

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12 Geyer Deep Dive # 1 research findings, Mobility 2009.
workplaces where people travel frequently, and that is a positive move toward retaining and attracting employees.

The first annoying push back the FM will receive when suggesting this type of dynamic work environment will be, “I’m not doing that hot desking. Everyone knows that doesn’t work.” What needs to be made clear is that there are a wide variety of workplace options that fall between the extremes of everyone having a desk and no one having a desk; what is being proposed is a solution where not all desks are the same; and not having a desk is suggested only for those who it is appropriate.

The second area of push back will come from those who believe the only way to achieve personal connection to the workplace is through owned real estate. Again if attitudes can be shifted so employees view the whole workplace as their own, this fear will vanish. It is exactly this human demand for connection that highlights the need for us to create workplaces that have character and are meaningful to employees.

As we become more mobile, rather than diminish the importance of the office, mobility will make it even more important. The office will become our touchstone to the company and venue to interact with others. This is all the more reason to make it a wonderful environment with personality to match the organization’s culture.

Knowledge Transfer

The shortage of talent is one of the most challenging issues businesses will face in the next decade. The fact that the largest cohort of workers, the baby boomers, are leaving the workplace presents us with the dilemma of filling a physical void, as well as replenishing the organization’s intellectual capital. When the baby boomers depart they will be taking more than their physical presence with them, they will depart with valuable knowledge that is vital to the company’s sustainability.

Tactic knowledge and social knowledge or social capital — the network of people one knows outside of the company — are the knowledge types that are of greatest concern to organizations who have large numbers of retiring employees. This knowledge has the greatest value in differentiating and sustaining organizations and the two types of knowledge most likely to be lost when employees leave.

Knowledge transfer is particularly challenging because it is more complicated than exchanging information or data. Despite being a core component of knowledge management, organizations can only store data, not knowledge. The real value in having knowledge is not in what you know, but what you do with that knowledge. Since knowledge resides in the minds of people (Figure 5), it cannot be owned. Consequently, most organizations recognize knowledge is not only an asset, or a competitive advantage (Figure 6), but the only “product” that can be commercialized.

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Figure 5: Geyer Knowledge Management survey results: knowledge is a competitive advantage.

Figure 6: Geyer Knowledge Management survey results: knowledge resides with people.

The physical environment plays a vital role in how knowledge is passed through an organization. Space is an implicit knowledge medium; knowledge flows first through people, second through technology and third through space. By supporting listening and comprehending, sharing and presenting, the workplace can assist in knowledge transfer.

It is not surprising to find Geyer’s Knowledge Management13 survey results indicate the single most important layout for knowledge transfer is an open plan workplace. Rotating people’s location in the office environment is also considered to encourage knowledge transfer. An eye-opening observation was that

break-out areas and forced interactions did not necessarily encourage cross-pollination between business units. This is somewhat unfortunate, because as workplace strategist we have been touting this as a benefit for these spaces.

Forcing social interaction in the workplace in an effort to create relationships that become trust relationships has had disappointing results. It appears the most effective catalyst we can create is the opportunity for people to share a purpose by working together on projects. The work space can then play a supporting role by providing venues for casual exchange and a working environment that enables more than hallway or water cooler interaction.

It is no surprise that 82 percent of survey respondents felt knowledge is best transferred through social environments rather than through technology, which is seen as a repository of data and a delivery channel.14 This is somewhat different to what we have heard about younger, tech-savvy workers who have grown up with the Internet and mobile communications. It could be argued that younger workers, who are better able to navigate vast amounts of data on multiple digital devices, have the ability to absorb more through technology than older workers.

The critical factor in knowledge transfer is trust, and face-to-face interaction is critical for the development of trust. We live in a time where inter- and intra-organizational relationships have changed; relationships between people are looser. When relationships are more temporal and virtual, trust is needed more than ever to enhance cooperation and mentoring behaviors. It is interesting to observe that even though attitudes toward work and technology offer us greater opportunity for mobility, we need more than ever to be face to face with co-workers.

We do not need to be in the office, but maybe we should be. Learning how to apply knowledge is the result of experience and mentoring that provides the learner with an appreciation of the behaviors, language and thinking skills that make knowledge useful. Knowledge is often passed through “storytelling”; therefore, workplaces that have the ability to become visual stage sets for such interactions will assist in knowledge transfer (Figure 7). When we leave a “place” we remember the interactions we have had with people there, as well as the architecture, and these visual messages will provide us more insight and have greater meaning.

Knowledge management principles play a role in differentiating and sustaining business. As we progress deeper into the knowledge economy this will not change; businesses will not suddenly gain an advantage by going faster, doing more or having more sophisticated technology. Knowledge is and will continue to be a critical part of our work life in the 21st century. This in itself poses a dilemma because it occurs at the same time that technology and other social drivers have led to a more casual and highly mobile working style.

Talent Attraction

In many OECD countries, falling birthrates, historically low levels of employment and changing attitudes toward work are combine with global trends: the aging of the workforce, waning customer and employee loyalty, increasing competition, market globalization and pressure on profit margins. As these trends...

and demographic shifts manifest themselves, many countries and industries will find they are facing a talent shortage that will force them to dramatically rethink their employment practices and their workplaces.

When questioned, CEOs are most concerned about attraction and retention of the best talent. There is enough evidence to suggest the labor market is changing globally and this will clearly have a considerable impact on the future workplace. The needs of a multigenerational workforce will force organizations to consider the role their physical environment plays in inspiring, engaging and reflecting their brand. We spend more time at work than we do at home. It must be a place where we are able to progress our life’s aspirations, build our self-esteem and be emotionally attached (Figure 8).

Significant attention has been paid to the working patterns, expectations and digital proficiency of Generation Y, a cohort of workers who share an identity that is defined by historical events, economic trends and social upheavals that have impacted them. However, for the facility manager it is important to note that since the early 1990s social and economic factors have combined to create for the first time a workplace where at least three, and sometimes four, generations are represented. Consequently, it is important to be aware of what will attract, retain and groom top-class talent of all generations.

Generation Y commentator and author Peter Sheahan sums up the challenge of labeling and describing generations this way: “… it’s not about chronology, it’s about mindset.” Author James Adonis says, “Gen X and Gen Y stands for Generalisation X and Generalisation Y.” Both highlight the need to accept that all generations have different characteristics and needs and they may in fact have more in common than current dialogue implies. This may become apparent as Generation Y workers face adulthood and begin dealing with marriage, children, mortgages and the stress of being in the management ranks.

Even so, Generation Y workers are important for businesses today that deal in a climate where innovation and knowledge are its currency; therefore, it is worthwhile to appreciate what makes them tick. Gen Y workers are typically more inclusive, willing to lead and take risks, and their exposure to new technology makes them more adaptable to flexible working arrangements that can benefit employers. The challenge organizations have is in creating structures for them to thrive that do not hinder that creativity.

For many Gen Y workers the workplace is more than a place to work, it is a social structure; the ability to do more than work in the workplace is attractive. Twenty-nine percent of Gen Y workers would like to have a gym at work, as well as communal places to socialize. Eating is also important; organizations that offer healthy food options and subsidies are taking a step in the right direction. Finally, 18- to 25-year-olds prefer coffee shops (22 percent), snack facilities (18 percent) and kitchen facilities (18 percent). 

On the positive side, one of the advantages of having many generations in the workforce is the great potential for companies to benefit from multigenerational teams where Gen X, Gen Y and boomers work side by side. This interaction is an important aspect of attracting younger talent who yearn to be included. Cutting down hierarchies, particularly in the physical environment, by reducing offices and creating places people can interact can create a culture where there is greater potential to be inclusive and innovate.

In addition, workers have increasing loyalty to people, not the company, making the choice of leaders and access to those leaders a strong selling point for an organization. Work spaces that make inspiring leaders more visible and provide assembly spaces for them to address the population can help leverage these people, who are in themselves a retention tool.


Workers of every generation now consider the work environment to be a part of the “employment contract.” Studies indicate that the work environment and the feeling one gets when he or she comes to the office plays a role in retaining and motivating people. It is important for companies to make the distinction between extrinsic motivators (such as salary and working conditions), and intrinsic motivators (such as job satisfaction and personal fulfillment). Accepting that social drivers differ and understanding what drives people are critical steps in retaining talent.

A survey by the global employment agency Drakes found the number one factor that attracts people to a company is training and development opportunities, with 89 percent indicating this was an important consideration when choosing a company to work for. This is consistent with the desires of the younger generations. For Generation X “the more they learn the more they stay” and for Generation Y “continuous learning is a way of life.”

In addition, the rapid growth and acceptance of social networking (Web 2.0) applications such as blogs, wikis, podcasts and, more recently, Second Life, also potentially provide opportunities for less structured training that is attractive to younger workers.

The second-highest attribute identified by Drakes was salary, with 86 percent of respondents citing remuneration as an important element of an attraction package. The war for talent means candidates can and do make choices that are easy for them; therefore, organizations that are transparent and advertise their likely salary up front and have a straightforward application process are more likely to appeal to job seekers.

Similarly companies that have a workplace design that allows for greater transparency, openness and connection appeal to the worker’s demand to be in the know. Employees are looking for environments where they have access to those they need and where ideas can be exchanged. The design of the workplace plays a role in enhancing an organization’s ability to pass knowledge and manage performance.

The third key attractor was the promise of fun in the workplace. Over three-quarters (77 percent) of respondents said it was important to work in an enjoyable environment. A shift in our attitudes about “fun” can be attributed to Generation X business owners who seek to balance the needs of the corporate environment with the needs of their families. Success in their business is based on commitment, working and playing hard. However the notion of “playing” has shifted from *Mad Men* drinks at work, to attending children’s school activities, or exercising before work.

Employees today are bombarded with new information and stimulus, creating a state of positive stress. Having the ability to eliminate distractions and control one’s environment is critical. In the workplace, unnecessary everyday difficulties can drop productivity. Behaviors workers find most distracting are talking colleagues, followed by surfing the Internet, personal emails, smoking breaks and, finally, personal phone calls. Environments that segregate passive activities from active ones and support workers to be productive will attract employees who want to succeed.

Participation in life takes more energy than ever before. As a result, we are drawn to workplaces that stimulate, are magnetic and give us strength and enjoyment. Environments that replenish our spent energy and provoke us to be more creative and innovative are attractive to today’s worker. Unfortunately only 38 percent of workers feel they can be creative at their desk. Environments that provoke innovative thinking will provide workers with energy and lead to greater innovation in the work done.

A key challenge for organizations is aligning the motivations and behaviors of the very best individuals with the values and business objectives of the organization. Employees are looking for more immediacy and connection in the workplace and consider cultural aspects of an organization that make work a pleasant experience. Ability to emotionally engage will result from offering a workplace with distinctive space and character.

Keeping workers in their job is a major concern for most organizations. There is evidence that companies are working on improving recruitment process, but retention strategies, such as job design, employee engagement, managing diversity and work-life balance, receive less attention despite their importance.

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The cost of replacing skilled employees has been estimated by various organizations and businesses to be between $20,000 (Australian dollars) and $30,000 (Australian dollars) per employee. This includes the cost of lost productivity of the departed employee and time to recruit, select and induct a new employee. It takes on average of 18 months for an organization to get a return on investment for a new hire.19

Younger employees in particular will be quick to move roles if something better presents itself. The good news is the reasons employees leave are fairly consistent and relate to key motivators that drive job satisfaction and have little to do with physical space: the work itself, good leadership, relationships with supervisors, recognition and remuneration.

Despite not being a direct cause of departure, it is useful to understand what makes people move on and to also recognize that employee satisfaction and commitment can be eroded by events external to the company. It may be as simple as knowing that a single parent may need to start work later or that an employee has care responsibilities for an elderly parent. Spaces that create the ability to establish personal relationships with co-workers give us the opportunity to know and connect more with our colleagues, and this will result in greater awareness of the employee as a whole person.

**Sustainability/Corporate Social Responsibility (CSR)**

The predictions that companies would be abandoning commitments they have made to corporate social responsibility and sustainability due to swings in the economy has not eventuated. The number of sustainability reports where companies report performance against environmental criteria is increasing, according to the Global Reporting Initiative.

Environmental awareness is growing, and more people are becoming environmentally friendly in the way they work and live. On the workplace front, it would be unusual today to see a major organization approach a building or workplace project without requiring some level of green rating, whether that be LEED, BREEAM, Green Star or Green Mark. Becoming carbon neutral, or at least reducing one’s carbon footprint to some degree, is the buzzword of the decade.

A concern for workers of all generations, environmentalism is a particular focus of Gen Y and the “Netgens” that follow, who carry the burden of years of environmental damage and neglect. As a result, they are more embracing of sustainability as demonstrated by the findings of the Oxygenz survey: 96 percent of those aged 18 to 25 aspire to work in a greener office against 98 percent of those 26 to 35. However, those aged 26 to 35 are far more focused on environmental issues than the 18 to 25 group, with 67 percent who want their workplace to be environmentally friendly (i.e., well above regulatory compliance), against 57 percent.

The expectation that employers go beyond the minimum limits of environmental performance is a selling point for companies and there is evidence that some businesses are leading the charge in taking action on climate change, in some cases being the instigator with government. As evidenced by this statement made by Deutsche Bank Vice Chairman Caio Koch-Weser, “A strong deal is essential to create the rules, price signals, and risk-return incentives that business needs.” Those with a positive outlook will see this as a long-term way of businesses thinking; cynics will note most countries are currently considering carbon rebate schemes and taxes, so it may be they want a say in planning for the inevitable.

Attributes of a green workplace can be as simple as having recycling bins, water and energy-saving devices, or more complicated, such as the installation of solar panels, trigeneration plants or wind turbines. Even at their most meager, companies can experience cost savings by employing green initiatives. The third annual “Greening of the American Workplace,” conducted by Buck Consultants, revealed that 60 percent of organizations are measuring their cost savings from green programs. Survey respondents noted that the savings are widespread throughout the workplace. Seventy-eight percent report electricity cost savings, two-thirds indicate heating/cooling and paper savings, and 60 percent are cutting costs on water.20

Green building initiatives often go hand in hand with other desired work attitudes that are popular with those that have a concern for the environment, such as not using cars. The Colliers International Office Tenant Survey found tenants gave a rating of 7.1 out of 10 to the importance of providing bike racks and showers within buildings. This particular feature was one of the most significant growth indicators, increasing by 12.7 percent.

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since the same survey was completed in 2005. For some organizations, particularly those desiring environmental ratings, bike parking is now equal in importance to car parking.

The task of translating company values to physical attributes in an environment requires strategic translation of values to physical manifestations in the workplace. A company claiming to put their people first would not provide an environment with slow elevators, poor lighting, poor air quality, non-ergonomic furniture or junk food in vending machines. Exercise would be encouraged by providing interconnecting stairs to promote movement. Even tactics like consolidating printing in one location rather than at the desk serve to encourage movement at work.

Expressing an organization’s social responsibility and environmental standards is as much about buildings, architecture and material choices as it is about changing people’s behaviors and attitudes. On the whole we have little tolerance for organizations that do the wrong things, whether that is manifested in what they say, what they do, or the message their building and workplace sends. Today all of these issues are interlinked and play a very vital role in being a much coveted “employer of choice.”

Building Communities

For many people, access to technology and more relaxed attitudes about where and how we work make it possible to elude the office. This often gives rise to the question: Do we need an office? The answer to this is yes, but the reasons why have changed. We do not need an office to do our work, but as social beings we do need to feel we are a part of a larger whole. Beck and Beck-Gernsheim argue that globalization allows individuals to categorize themselves into different “in groups” as distinct from “out groups” to help create a positive sense of belonging.21

Many of our social relations and deep connections are made at work, both good and bad. The workplace today complements the role of the nuclear and extended family, community, church or social clubs we belong to. The work community is something we are a part of, and this is perhaps why surveys indicated that 60 percent of people would go to work even if they did not need the money. They value the social relations they have at work.

Plenty of negative things are written about work. It is often referred to as something we must do in trade of another leisure activity we would prefer to do in its place. Little is said of the many positive aspects of working, such as a sense of identity, contribution and vocation, the opportunity to continuously learn and the ability to make social connections. These positive experiences have an impact on us and on our home lives.

The sense of camaraderie in the workplace and the quality of relationships that exist are signals of a great place to work. The true measure of this is the culture of trust that exists in the workplace. Trust is a key element for many functions critical to organizational sustainability: knowledge transfer, adoption of new ideas and technologies, collaboration, provocation and sharing. Trust is the result of practices in the organization — transparency, impartiality and equality — and is not something that can be manufactured.

Creating a physical environment that contributes to a strong sense of community will benefit an organization because employees flourish if they have a sense of belonging and feel they are appreciated. The more they feel included the more engaged they will be with their jobs, and engaging employees requires more effort than hanging a mission statement on a wall. The environment itself must communicate the company’s brand values to employees and new recruits every day.

A branded work environment goes beyond a logo, which is merely a symbol of the brand. The physical environment is a home for the company brand and can be a catalyst for growth of the brand values. People can unite around brand values. Successfully branded workplaces unify values and serve as a differentiator so people identify that space as belonging to that firm. It is a nucleus and an attractor to the company.

Creating a successful sense of place is a mixture of physical sociability, uses and activities, access and linkages, and comfort and character. The designers of space should be looking to create places that break down barriers that may exist. These may be physical, technical, social or cultural.

Of course physical barriers are the ones the FM has the greatest influence over, although geographic distance and differences in time zones are still a challenge. Tactics like providing videocon-

ferencing rooms that encourage in-person meetings, even at a
distance, help establish relationships and strengthen communi-
ties. Introduction of technology for locating people and collabo-
ration can be an effective tool, one that will become more critical
as dynamic work styles and greater distances between workers
become more common.

Social or cultural barriers include rigid office hierarchies and
incentives that do not encourage people to engage and share. En-
couraging fewer walls or physical barriers that depict organiza-
tional hierarchy in favor of open and transparent accommodation
and providing gathering places with a strong sense of character
and meaning are ways to overcoming these barriers. Creating
linkages in the vertical space of the accommodation, through the
use of atria or interconnecting stairs, is an excellent way to build
communities in a tall office building.

Many organizations benefit from being a part of a broader com-
munity of similar companies that can gain benefit from being
near one another. Such is the case with the Medicon Valley in
Scandinavia, home to a large number of pharmaceutical com-
panies, and the Silicon Valley in California. These locations
have become globally recognized centers of excellence, and, for
many, choosing to locate in these regions is a strategic decision.

It is impossible to discuss the concept of community today with-
out the mention of the virtual communities that many people are
a part of and play such significant roles in our lives, particularly
the younger generations. One in every four and a half minutes
spent by people online is on social networks and blog sites. As of
July 2010, the social networking site Facebook had 500 million
users and a new member joins the business-oriented site Linked-
In approximately every second.22

Many companies attempted to ban such sites from employees;
however, now with smartphone technology this is virtually
impossible, and control has been put back in the hands of the
employee, highlighting the mantra of developing relationships of
trust from employee to employer and among employees. Several
organizations have embraced these technologies and use them as
a part of their interoffice communication, accentuating the physi-
cal sense of community with the virtual.

Given its popularity, online social networking is unlikely to be
going away and will quite likely change the value we attach to
physical space, creating new requirements that are more adaptive
and flexible.

Chapter 3 is a historical overview of the evolution of the FM
profession. Again, we believe that it is very important to know
where you came from in order to steer a true course to where
you want to go. As the old saying goes, “if you don’t know your
history, you are doomed to repeat it.” The purpose of this chap-
ter is to give that grounding in hopes you do not repeat mistakes
of the past.

A central point in this chapter is to boldly challenge the very
concept of the “office” itself. Is that what you manage? Is that
what you will need to manage tomorrow? The authors offer up
the radical idea that maybe the day of the office has passed us
by. Of course, we will return to this idea when we discuss tech-
nology enablers and highlight some case studies as we wrap up.

For now, soak up your profession’s history and challenge
conventional thinking. One thing we can guarantee is that the
workplace of the future will not be anything like the workplace of
yesteryear.

22 Internet World Stats, www.internetworldstats.com, Miniwatts Marketing
Group, Copyright © 2001 - 2011.
Additional Resources


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Laurie Aznavoorian is a director and the global workplace sector/innovation leader at Geyer, an Australia-based design company focusing on creating environments for workplace, retail and education. With over 28 years’ experience in architecture and workplace design, Aznavoorian is highly experienced in the translation of strategic business concepts to architectural application. She is responsible for driving a number of research opportunities and forums, capturing information from Geyer projects, developing global case studies, forecasting global trends and benchmarking. Aznavoorian is the co-author and editor of Fertilizer, Geyer’s research publication that has focused on topics such as workplace mobility, space as a knowledge management tool and technology in the workplace. She also authors the “Future’s Rambling” newsletter that deals with current workplace and business issues. Aznavoorian leads Geyer’s workplace strategy team, a group of strategic workplace consultants that work with clients to identify opportunities and strategies to maximize the value from their property portfolio.

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Chapter Three
Evolution of the Workplace

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The Idea in Brief

- Office design responds to economic and social forces shaping the nature of work, workers’ roles and where work is best done. Office work accounts for half the work of advanced economies. There is a phenomenally fast growth rate of office work, office buildings and facility management in developing countries.

- Modern office space from the early 1900s evolved to “office landscaping” with mobile furniture to optimize workflow (1950s), then to systems furniture “cubicles” (1970s) for space efficiency and standardization. Two trends today: variety, which echoes office landscaping, and benching furniture systems, echoing early office “bullpens.”

- Recent trends in office form, workplace design and facility management include change in status-based work space allocations, varied work settings, mobility within and beyond the office, less desk ownership, design for creative interaction, mandates for sustainability and focus on healthy working.

- Distributed work is a continuum from working in the office to working anytime, anywhere. It is enabled by information technology and driven by workforce demographics and retention, business globalization and requirements for efficiency, globalization, flexibility and business continuity.

- Remote work still cannot equal face-to-face communications for powerful engagement. Offices should be meeting places, centers of creativity and debate, hubs of knowledge exchange and places to transmit corporate culture to reinvent the office as a gathering place. Routine work should take place wherever it is most convenient, cheapest and sustainable.

The Idea at Work

- Office design, space efficiency and openness must be balanced with privacy for individuals and small groups to focus, and must provide support for work tasks, choice and flexibility for change.

- The most significant future challenge for offices and for facility management will be to reduce cost, reduce carbon and to increase support for creativity and collaboration in the office. Churn will involve fewer large-scale changes and more day-to-day management for more users and different needs.

- Facility managers will have less space to manage but more to do, with a network of places and tools for working anywhere, anytime. FM will include energy management, carbon accounting, space utilization monitoring and integrated workplace management systems with close HR, IT and business partnerships.

- Facility management will blend corporate real estate, property management, design, technology, finance, HR and IT, and will include hospitality services to meet users’ expectations.

Executive Summary

The evolution of office work from its beginnings over 5,000 years ago shows how the workplace responds to economic and social forces shaping the nature of work, workers’ roles and work locations. From early history to the present day, a key issue is the degree of openness. Who needs walls versus open space and why? How should the increase of distributed work change how offices should be designed, used, and managed? How do requirements for sustainability, efficiency, distributed work and collaboration in the office affect facility managers’ responsibilities, work activities and competencies?

Recent trends in office form, workplace design and facility management include change from status-based work space types, more variety in work settings, increased mobility within and beyond the office, less desk ownership, design for creative interaction, and mandates for efficiency, sustainability and healthy working. Remote work still cannot equal face-to-face communications for powerful engagement. Offices are becoming meeting places for creativity, debate, knowledge exchange and places to transmit corporate culture. Routine work should take place wherever it is most convenient, cheapest and sustainable.
Facility managers’ challenges will be to reduce cost and the carbon footprint, as well as support creativity and collaboration in the office by integrating HR, IT and property knowledge. There will be less space in the office, higher density, more users and additional places and tools outside to manage. Facility managers’ responsibilities for energy management, carbon accounting, quality assessment and space-utilization monitoring will require integrated workplace management systems to stay constantly connected and informed.

Office Origins

Office work has long and noble origins. Before there was paper, even before parchment or papyrus, the beginnings of office work existed at least 5,000 years ago. We know from thousands of Sumerian clay tablets with cuneiform script that have been excavated and translated by archaeologists that Mesopotamia had scribes and accountants keeping track of people, land, taxes and tithes, transactions, amounts owed, and goods ordered and received. Later Egyptians developed the hieroglyphic system of writing, and other scripts and enumeration recording systems were developed: Aramaic, Arabic, Greek and Roman scripts, to mention but a few.

The workplaces where “office” work happened were typically palaces, often within fortified cities. As Christianity grew, its monasteries became the equivalent of the office workplace. Few people knew how to read and write. Scrolls and, later books were rare handwritten documents, until the 15th century invention of the printing press.

Strangely, the first building considered to be a purpose-designed office building is now known as one of the world’s finest art galleries, the Uffizi in Florence, “uffizi” being the Italian word for “offices.” It was in fact designed as a back office for the Palazzo Vecchio, the Old Palace, that had become too crowded as the wealth, power and administrative demands of the Medici family grew. Designed by Vasari, Parigi and Buontalenti and built between 1560 and 1581, it has a distinguished external appearance while the interior is deceptively simple, consisting of a linked series of large rooms off a perimeter corridor. We know little about how it was actually used as it was soon converted to displaying the art collection of this noble family.

Italy was also the place in which Bernardino Ramazzini penned his brilliant occupational health treatise on the Health of Workers 150 years later, including his assessment of the health of scribes, in which he identified repetitive strain injury (RSI) and odd symptoms that have more recently been termed “sick building syndrome.” He wrote:

The maladies that afflict the clerks arise from three causes: first constant sitting, secondly the incessant movement of the hand and always in the same direction, thirdly the strain on the mind from the effort ... they lack the benefits of moderate exercise, for even if they wanted to take exercise they have no time for it ... incessant driving of the pen over paper causes intense fatigue of the hand and the whole arm ... from intense and incessant application of the mind ... result headaches, heavy colds, sore throats and fluxes to the eyes.1

By the 18th and 19th centuries, massive economic change and industrialization meant more people in more nations took the huge step of relocating from farms and rural villages, to urban life and factory jobs. Work, an activity that hitherto took place within the farmhouse or home, began to depart from the home to take place in differentiated building types: the factory, the administrative office building, the coffee house or the club. That working from home, the electronic cottages or “third places” is again a serious option is something to which we will return later.

By this time, reading and writing were increasingly common skills in Europe, the US and parts of Asia, considered essential for the growth of industry, and encouraged through widening access to education. Printed books, journals and newspapers proliferated and became more affordable. Administrative tasks flourished within factories, mills, retail and central and local government, to keep account of the movement of goods, people, purchases, court cases, tariffs and taxes.

By the late 18th and early 19th century, all the ingredients were in place to build large edifices for government administration, as well as commerce and the professions. In Washington, DC, not only were the White House and Capitol buildings constructed but also the Treasury Building, completed in 1836, was one of the largest office buildings in the world. London, capital of the British Empire despite losing the American colony, shaped a whole section of central London, known as Whitehall, to house the main departments of government for the growing public sec-

tor. Throughout Europe the major capital cities were improved throughout the 19th century by massive public investment in water supplies, drainage, roadwork, parks and large office buildings. In the later years of the 19th century, American architects in cities like Chicago, New York and San Francisco departed from classical forms and started to experiment with new forms of office construction and aesthetics. The skyscraper was born, and with it a new vision of the CBD and offices.

Transportation systems were essential to the success of these concentrated administrative centers. Commuting was invented. The horse-drawn omnibus and steam trains, bringing staff in from the urban edge, and underground train systems helped cities and office centers grow. In the 20th century the invention and proliferation of the private motor car helped them to flourish still more, and also created alternative forms of office buildings in suburban centers, and dispersed office parks on the urban edge.

Complementing the invention of large boilers to keep buildings warm came other brilliant engineering inventions: cast iron and then reinforced concrete structures that made redundant the need for internal walls, electric power for lighting, elevators for vertical access allowing office buildings to grow taller, and air conditioning that allowed them to grow fat in plan, no longer dependent on windows for ventilation. All the main elements that created the built form of the contemporary office building were in place already by 1900. Because of the engineering complexity and scale of these new office buildings, facility management became essential, although it took many more decades until terms such as “engineers” and “boilermen” were replaced by facility managers.

Economic and social changes reshaped office work and the roles of office workers. As women entered the workforce they tended to take on low-grade, low-paid, clerical roles, represented hauntingly in Edward Hopper’s 1940 painting “Office at Night,” charged with suppressed eroticism between the female typist and the man at his desk. It was to be many decades until rights of women to equal pay for equal work and opportunities for access to all levels of jobs, including those above the glass ceiling, were enacted.

Today office work continues to grow until it now accounts for half the workforce of advanced economies. In developing countries, the rate of growth of office work, office buildings and facility management is phenomenally fast as those economies rush headlong from agriculture and industry into the tertiary sector, as their own banks, stock exchanges, government and professional services grow, and as Western countries globalize setting up branches throughout the world or exporting some office jobs offshore.

White collar and gold collar jobs — clean, safe and quiet — are set apart from those of blue collar workers, with their overalls, grime, dirt and noise. “Knowledge work,” a term coined by Peter Drucker as early as 1959, is still viewed as the main future source of economic growth and prosperity, and the buildings in which knowledge work takes place are the new cathedrals. The words of author/social commentator Alain de Botton on entering the European headquarters of one of the world’s largest accountancy firms are evocative:

On entering the building, one encounters a lobby designed so that the head of any newcomer will ineluctably lean backwards to follow a succession of floors rising up to apparent infinity, and in the process dwell – as the cathedral-builders once invited one to do with their vaulted naves – on the respect that must be owed to those responsible for putting up and managing this colossus.2

Unfortunately, not all office workplaces are cathedrals to wealthy work. Bankers, corporate lawyers, accountants and management consultants may be the cathedral builders, while the rest work differently. Staff in IT and telecom companies often have workplaces that are relaxed, colorful and “on message” with youthful icons of games, graphics and great coffee. People doing routine, repetitive work in back offices and call centers may find themselves working in tightly packed office factory floors with little access to daylight, aesthetics or amenities.

Where the buildings are located and how they are planned internally also affect the built form. Office staffs in the US tolerate deep-plan buildings in which perimeter offices for managers block daylight penetration within the heartland where most staff spend their working hours. Daylight is further reduced by open floor plates being split into individual, Dilbert-style cubicles with high panels that block sunlight and views. Offices in most European countries have narrow floor plates, allowing daylight to light up every work space. Low partitions (panels) between desks enable staff to see one another, to know who is in, thus emphasizing the collective working community rather than the

solo worker. Proximity to daylight is in fact a regulatory require-
ment in some northern European countries.

The ownership of office buildings can also affect the built form. Owner-occupiers may opt for more natural daylight and narrow plans to improve staff well-being, even if the cost of construction is slightly higher. Speculative developers or office landlords may choose deep plan forms that are cheap to construct, even if less well-liked by their tenants.

Throughout the early history of the office right through to the present day and future, a key issue is the degree of openness. Who needs walls and why? Who needs open space for commu-
nication and why? How should they be laid out and furnished? What space standards are needed? The recent history of these issues is described in the next section.

The Open Office

Prior to the use of office landscaping and the development of systems furniture cubicles for offices, office space in the United States was built as corridors with private (or “cellular”) offices and open “bullpen” areas of desks in ordered rows. Most build-

lings used a combination of the closed and open spaces, allocated by job function and status. The bullpen environment consisted of a large undifferentiated area with identical rows of desks or long tables where clerks, typists or engineers performed repetitive functions. One’s work area was defined by the size of one’s desk or work surface and the ancillary space to accommodate a single chair. In European offices, the large bullpen environment was less common. People tended to sit together in smaller groups in partitioned space.

Office Landscape

From the late 1950s through the 1960s, there was a movement called “office landscaping” (Bürolandschaft in German) for office space planning, which divided the open space of bullpen offices into individual and small group areas to reflect workflows and communication processes. The office landscape approach to space planning was pioneered by a management consulting group, the Quickborner Team, led by Eberhard and Wolfgang Schnelle in Germany, who were concerned with the complexity of interactions and psychology of group work. The team experi-

mented with arranging office workers in optimal relationships to each other in informal groups of teams and activities. Office landscaping emphasized the office as an information system. The design principles were intended to provide a more collaborative and humane work environment by improving relations in the office by getting away from the regimented rows of desks that fostered schoolroom-like supervision.

The office landscape model replaced traditional desks with lightweight tables and mobile file carts to increase flexibility. Furniture was combined with curved freestanding panels and decorative plants to define groups and areas, with what could appear as random arrangements of desks. The furniture layouts were often free form arrangements with irregular geometry and organic circulation patterns, ignoring building geometry. The arrangements sometimes used more floor area than the bullpen arrangements due to the irregularity of the groupings.

Office landscaping provided a choice between the cellular office and the bullpen. It provided a series of planning rules and tech-
niques for implementation, with broad appeal to both manage-
ment and architects with how it combined design with organiza-
tional analysis.3

A central theme among proponents of office landscaping was that offices required large, undivided spaces and that everything had to be mobile. Office landscaping proponents also argued for egalitarian assignments of space with undifferentiated layouts where all workplaces were similar. However, giving people what they needed for their particular role was also stressed, which resulted in some variety that related to status and job roles. (In-

terestingly, the variety in early Bürolandschaft layouts is similar to recent office design trends to provide task setting variety and choices of settings for different work styles, tasks and stages of teamwork.)

Robert Probst of the Herman Miller Company in the United States introduced the first open office furniture system, Action Office 1 and 2, in 1964 and 1968. The intent was to provide a flexible, practical system for open office. He designed height-adjustable worktops that hung from panels that also supported files and storage cabinets. The panels were covered with fabric to absorb sounds and provide surfaces for personalization. Interlocking panels increased space efficiency and orderliness but compromised the flexibility goals of office landscaping to move furniture easily. The panel systems provided more privacy, density and storage capacity than office landscaping but eliminated the irregular, organic office landscape layouts. The system also eliminated the “do-it-ourselves” capabilities for groups to change their environment and to move their own furniture. Previously freestanding furniture pieces were changed to become interlocking parts of a system, that, despite claims that they were easy to reconfigure, were not something users could do on their own. Systems furniture effectively replaced office landscape by the mid-1970s, resulting in much more ordered and, in most cases, more space-efficient layouts.

Open office and systems furniture also provided tax and accounting advantages for depreciation of furniture versus accounting for capital investments of construction, which have been a major economic benefit in some countries for their use, particularly in the United States.

Systems Furniture

Universal Footprint

The regularity introduced by systems furniture over the organic planning of Bürolandschaft was also combined with the planning ideal of a “universal footprint” for flexibility. The universal footprint work space is a single size used for employees of different ranks and job functions. All staff receive the same size of space regardless of their rank or groupings. The space may be outfitted differently to accommodate specific needs of employee types, but the sizes do not vary.

A major benefit of implementing a universal footprint for facility managers is reducing the time and costs to accommodate churn by moving people, rather than furniture or walls, when adapting to meet organizational growth or change. It also makes planning forecasts much easier by reducing space differences tied to job positions. These benefits are especially important for companies undergoing rapid changes in business organization, mergers, acquisitions and jobs. By reducing the number of work space standards, the facility manager’s workload is simplified, reducing time and resources spent on renovation, reconfiguration and negotiation with building users.
Status and Work Space Hierarchy

With the advent of open office in the 1970s until today, there has been a continual shift from status-based work space assignments to fewer work space types and sizes. Governments and military organizations that evolved hierarchical space standards carefully varied by grade have moved to a simpler system with only a few standards. Most companies today apply only one or two work space standards. Private offices, which were once on window walls, more commonly have internal locations to maximize daylight and views to open office users. Private offices have also become fewer and smaller – relocating their meeting space within an office to more small meeting spaces that everyone can use.

Freestanding Furniture, “Benching” and Beyond

Work space in North America continues to move toward fewer private offices, lower cubicle panel heights, increased density and greater access to daylight views for all staff. There is a strong push to reduce space and operating costs, increase flexibility for change and address environmental sustainability. Workplace standards are moving to more open work spaces, fewer and smaller private offices, and emphasis on team space. Workplaces in the United States are looking more like the open environments one sees in the UK with low (or no) panels and more freestanding furniture. Workplace solutions are introducing more choices in the office for where and how to do work, with varying degrees of openness and privacy from informal interaction, territory for teams and small work groups, and access to daylight and amenities.

An emerging type of work space is “benching,” which does away with cubicle panels altogether. Bench systems are like long tables in which users sit face-to-face or side-by-side. There are minimal visual barriers between people and relatively little space. Benching can be used as a primary work setting for individuals, as project team space or for drop-in space for visitors. Ideally, it is combined with other options for work that offer more privacy for confidential or noisy work (such as extended phone calls or meetings) that could disturb one’s neighbors. Benching workstations give fixed spines of primary work surface against which movable pedestals, tables and accessories can be placed to create individual arenas for work in a small footprint. A historical look at the office shows that benching is quite similar to the bullpen environment before the 1950s that preceded office landscaping and systems furniture “cubicle farms.”

With changes to benching and more open work spaces in the office, there are risks in creating the very problems that office landscaping sought to address 50 years ago: noise, personal territory and individual control. There is an assumption that people will get used to these new ways of working in the open (and if they cannot, they are not the type of “team players” that today’s businesses want). The escape route is to work off-hours when fewer people are in the office and to work at home. Interest in telework may be as much related to poor office design for individual concentration as much as a desire to reduce commuting and improve family life.
The Limits of Density and Openness

Sharon Turner described how in the UK high-density open plan often results in office prairies with little regard to human scale and diversity of work tasks, cultures and generational differences. Revisiting the original intentions of Bürolandschaft, she reintroduced the idea of diverse office landscapes filled with real choices to support different activities, work styles and needs for privacy and access to others rather than one-size-fits-all work space defaults. Determining these choices demands better understanding of what people need to do in the workplace and how diversity of cultures, generations and work styles affect requirements for acoustic and visual privacy, connections to co-workers, access to daylight and support for interaction and teamwork.

Another critique of open plan came from Michael Brill and the BOSTI Associates, a research and consulting firm in the United States, which studied the connection between office design, productivity and job satisfaction in large-scale research studies from 1984–2001. BOSTI’s data from over 13,000 office workers in North America identified support for individual concentration and easy face-to-face interaction in the office as the two design factors that most strongly affect performance and job satisfaction. Providing for these two needs — for individual focus and for collaboration — is the biggest challenge in either an open or a private office environment.

BOSTI found that while open plan is intended to support easier collaboration and teamwork, the idea that collaboration involves constant interaction is naïve. In fact, collaboration involves a flow from individual work, to casual sharing of information (face-to-face or virtually), to focused group work.

BOSTI found office noise distractions (mostly conversational) affected work quality, downtime and stress. Even in intensely collaborative teams, about one-third of people’s time is spent on email, computer and paperwork, with additional time in telephone conversations that require concentration and focus for listening and response. Teamwork productivity involves flowing between meetings, individual work, collaborative tasks and informal interaction to solve problems and exchange ideas. When individual contributions to group work are not supported, teamwork productivity suffers. Privacy also supports more candid conversations and the ability to have extended discussions without disturbing others nearby. Open office users said they often shortened conversations or did not have them at all due to the open environment. In the survey responses, very few people said that overhearing others’ conversations was useful.

BOSTI’s data concludes that acoustic control of noise distractions is essential and very difficult to achieve in a totally open and very dense work environment. They also found that tall cubicle panels that are common in the United States can produce the worst environments for focus and interaction, creating a false sense of privacy and louder behaviors. Having low or no panels can actually result in a quieter office environment, especially if there are other places to have extended conversations and telephone calls away from individuals’ desk areas. BOSTI recommended office space with options to work in more private settings for focus, sound masking and segregation of noise-making activities from focus areas, which are very consistent with the current trend to providing more variety and choices of where to work in and out of the office.

From Disproving Widespread Myths About Workplace Design, 2001 (Michael Brill, Sue Weidemann and the BOSTI Associates).


BOSTI’s research is corroborated by field studies conducted by the National Research Council Institute of Canada’s Cost-Effective Open-Plan Environments (COPE) project consortium, which examined the effects of open-plan offices on occupant satisfaction. COPE found the most disturbing noises engage attention and are unpredictable, unnecessary and uncontrollable. They found the acoustic distractions had detrimental effects on complex task performance, causing decline in memory, problem-solving and creativity.

**The Acoustic Challenge**

The primary challenge of open plan is to provide a satisfactory acoustic environment for concentration. The National Research Council of Canada recommends the Speech Intelligibility Index (SII), which indicates how well speech can be understood in the presence of background noise, be less than 0.2 for acceptable speech privacy. Design factors that have the largest effects on speech privacy are ceiling absorption, workstation size and panel height. Reductions in workstation size and panels make noise control more challenging, requiring more attention to the ceiling and acoustic design, sound masking, relocation of noise-creating activities away from individual work areas, choices to do focused work elsewhere and a culture of consideration.

**Facility Manager’s Role/Commentary**

Space saving should be an outcome of good design that prioritizes what people need most to be productive. Understanding the impacts of design on productivity and satisfaction shows good design is an investment in human capital.

Facility managers need to balance floor density and cost reduction with support for job performance, workflow and workforce satisfaction. Facility managers should be wary of the force of marketing and benchmarking on business leaders. Each organization needs to do its own analysis for what it needs based on its mission, workforce, future work activities, real estate and furniture assets, time and budgets. Facility managers need to help management critique office space alternatives beyond the latest fashion to fit the function and culture of their organization.

As focus continues to be on cost reduction, solutions that maximize utilization rates and reduce costs per square foot will be increasingly attractive. Knowing that human capital is a company’s biggest investment, does benchmarking for “how low can you go” consider whether the best practices for utilization are really the best practices for business performance? Facility managers need to question the assumptions behind any alternative workplace strategy for how people will be expected to work in what is provided.

**The Evolution of the Office From a Place to Work to a Tool for Working**

Figure 1 summarizes current trends in the form of the office, as the workplace design and management community attempts to link the form of the office with the needs of organizations. Facility managers are seeing a convergence of a mandate to be efficient with cost, sustainability, technology support and work-life flexibility. The history of the office, of the open office, and innovation are based on several trends:

- The change in status-based work space allocations
- Innovation beyond the open office to provide more varied work settings and choices with mobility within and beyond the office
- Less desk ownership, to prioritize space based on what is needed and used most
- The ability to work anywhere anytime by job design, policy, technology and global work practices
- Using the office for creative interaction, and as a meeting ground, to support knowledge work and innovation on which the global economy depends
- Addressing global mandates for sustainable operations, healthy working and support for a diverse workforce

Figure 1: Current trends in the form of the office. (Source: AMA Alexi Marmot Associates London, 2011)

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Trends in design and management of the workplace respond to changes in business processes, workforce expectations and societal goals for energy-efficient and healthy environments. The results have been fewer, smaller and more open individual work spaces; expanding support space with more variety in settings for individual and collaborative work; and increased mobility and choices for where and when to work. Changes in office occupancy patterns have led to less desk ownership and more sharing through systems, such as hoteling, hot desking or free address, as well as more attention to support for collaborative work activities, such as meetings, informal interaction and teamwork.

The role of the office is changing from the primary setting for work to just one of many places where work can be done. The role of the facility manager is also changing from managing just one place to a new job managing a network of places and tools for being able to work anywhere, anytime. “Workplace strategists” blend disciplines of HR, corporate real estate, design, technology and business processes to address the core questions: How do we need to work to make our organization successful? What do we need to provide to enable people to do their best?

Sustainability for most organizations is a major aspect of social corporate responsibility for all their operations. Design and operation of the workplace has a big impact on carbon footprint. Customers and employees increasingly expect facility management and corporate real estate to deliver sustainable planning, construction, operations and maintenance. Sustainable design and operations extend to flexible working policies to reduce home to work commuting travel, energy use and carbon production. A key factor in reducing the facility’s carbon footprint is the reduction of space itself. Strategies to rightsize buildings to reduce underoccupied space (which can be a byproduct of flexible working) reduce energy, materials and operational costs.

Finally, buildings that sustain the environment should also sustain the people who use them. Sustainable design guidelines address building users’ needs for indoor environmental quality factors, such as indoor air quality, thermal comfort, systems controllability, daylight and window views, and occupant education on systems controllability and sustainability principles for best use of the work environment.

The workforce has become increasingly diverse with a wider span of ages, cultures and abilities. Design for diversity includes design for different physical capabilities, work styles and social/cultural needs that may change by work tasks and work site locations. Places, furniture and environmental conditions in the work environment should address ergonomics and human factors to accommodate differences with choices and flexibility.

**Flexible, Mobile, Alternate or Distributed Work**

We are now in the era of distributed work. When it comes to flexibility, work is not “either/or.” By this, we mean “either” work from home “or” work in the office. Work is a continuum from full-time in-office work to mobile, remote, distributed, virtual work. The impact of flexible work on interior design, the rise of collaboration spaces and the ability to work “anywhere” require FMs to think differently and create spaces that provide a multitude of work areas to meet the varied demands of this new way of working. Why has this happened?

Revolutions in the world of work lie behind the growth of flexible working and have proven to be drivers for change. Flexible working, also called mobile or distributed working, alternate officing, hoteling or new ways of working, has no precise definition but usually encompasses a variety of work locations and variety of working times – anytime, anywhere work. It promises a solution to many recent workplace changes:

- Information technology (IT)
- Demographics and worker benefits
- Globalization
- Adaptability, cost saving and sustainability
- Business continuity

The last two decades have witnessed unprecedented changes in IT and communications, demography of the working population, globalization of firms, business continuity and sustainability demands. To many companies, a solution to all these challenges is provided by a flexible, mobile, agile or distributed workplace solution. Real estate provided by the employer as a place in which employees conduct their work is an option. IT is no longer an option but a necessity. The future of FM lies not only in managing property estates, but in managing the balance between the physical and virtual workplace.
The IT and telecommunications industry has itself been the locus of many of the early experiments in flexible or new ways of working. AT&T, BT, Cisco, DEC, HP, IBM, Nokia, Nortel, Sprint/Nextel, Sun Micro, WorldCom, Xerox and many others pioneered new working arrangements using the best mobile technologies of the time. Many of these companies have gone on to sell not just IT but flexible workplace solutions as part of their firms' product lines. Other companies highly dependent on IT, such as petroleum companies and banks, have followed, until now the trend is widespread in most business sectors.

The workforce demographic increasingly includes people with caring responsibilities, particularly women with young children, single parents and those caring for elderly or disabled relatives, for whom a daily commute and long working hours is incompatible with the rest of their lives. Older people working into their 60s and 70s often welcome work, but not the normal work package. To retain the skill of these employees, an increasing number of companies are introducing distributed work, which also allows them to bring to the workforce people from low-wage areas, rural and remote communities, or people from other countries. The work-life balance is improved, giving staff more options for the time and place of work. This is also thought to appeal to young Gen Y/Millennials, who are thought to be more tech literate and less attuned to routine work patterns than their older counterparts.

Globalization and growth of companies demand that many people travel to meet with customers and colleagues across nations, and across the globe, resulting in massive expansion of business travel. This in turn has led to an increased underuse of desk space in office buildings that has not gone unnoticed by senior management. FMs have become adept in tools and techniques to measure the actual utilization of office space. They regularly document the fact that desks have no one sitting at them for two-thirds of the working day, and are completely unused even as a resting place for laptops and personal items for almost 50 percent of the working day.7

Flexible space appeals to senior management as it offers the ability for the company to grow without increasing the estate footprint and overhead. Groups within the company can grow or shrink without immediately needing people and walls to be moved to accommodate each and every individual. As long as office buildings are able to accommodate everyone who wants to work within them on a given day, then the footprint per person can be radically reduced compared to a one-person, one-desk scenario, thus offering competitive advantage. IFMA’s research on mobile working — IFMA Distributed Work Research Report No.31, published in 2009 — indicates that these factors of accommodating growth or shrinkage and cost savings are the main reasons for alternate work space (Figure 2).

Figure 2: Reasons for alternative work spaces. (Source: IFMA, Distributed Work Research Report No.31, 2009, p.15)

The sustainability agenda means that the cost and carbon associated with a high level of underuse within buildings is increasingly expensive, unattractive and unacceptable to companies that seek to reduce their energy costs and carbon footprint as part of corporate social responsibility. Citywide and countrywide carbon reduction targets or carbon taxes will increasingly exert pressure on FMs to help their organizations save carbon used in heating and cooling nonessential office space, or used for unnecessary commuting and business travel.

Business continuity planning is another factor encouraging distributed working. Freak weather conditions, natural disasters, war or terrorism, and urban transportation problems can

sometimes prevent people from reaching a fixed place of work. However, if they have options to work elsewhere, then operations can continue.

**Inhibitors**

The drivers that encourage flexible or distributed working, described above, are many. But so too are the inhibitors. The cultural tradition of daily commuting is hard to break. Many people have no desire or opportunity to bring work home, or to work other than in a fixed office building that they know well. The package of office building plus commute offers colleagues, friendships, corporate acculturation and a daily structure that separates work and nonwork.

Certainly there is a strong resistance to forfeiting a space of one’s own for a hot-desk regime. Managers often choose to ignore the possible gains of distributed working so as not to disrupt staff. They are reluctant for their company to become less attractive to rising stars who may long for promotion to their own large corner office with their name on the door, even if they frequently work elsewhere. Significant investment in change management is needed for any distributed working policy to be effective, and to release the promised benefits, and these costs may outweigh the gains. Evidence from the IFMA’s *Distributed Work Research Report No.31* shows that most distributed working arrangements in North America apply to outsourced workers, accounting, IT and sales staff (Figure 3).

Below we describe some of the alternative practices and important features of work space management for FMs involved in flexible and distributed working solutions:

- **Hoteling**
- **Team address or any address**
- **Third place**

Hoteling is a solution to the underused office space that is created by more and more people working out of the office at customer locations, at field offices and at home. As a space management system, it treats work spaces like a pool of hotel rooms: everyone gets a good work space when they are in and when it is part of the pool others use. The user’s telephone is routed to the work space, and work materials are brought in from personal storage units outside. It is only suitable for employees who are out consistently more than half of the time. By reducing the number of work spaces to fit how many people are typically “in,” it can reduce office space overall and/or increase the number of precious group-use meeting spaces and places for informal interaction. As well, people have options to choose which group they need to sit near on a day-to-day basis. It also gives some growth flexibility, achieved by increasing the ratios of people to work spaces and carefully managing office occupancy.

Early hoteling projects in the 1990s addressed offices for workers whose work focus is in the field with customers, including financial services, consulting, and sales and service organizations. Hoteling is now expanding to all organizations given mobile work trends to work at home, at other office locations and in the field. The space-saving benefits are very attractive, but hoteling is not always appropriate. If the system is not designed and managed to meet employees’ work needs for easy access to work space, technology and work materials, or if it treats “hotelers” as second-class citizens, there can be performance and satisfaction problems that outweigh space-saving and flexibility benefits.
In offices with hoteling, FMs have to help their management decide if everyone is free to work anywhere, or if people working in a team or a business stream should always sit together at a “team address.” The latter is usually preferable, as it allows colleagues working on related tasks to meet, learn from one another, to bond and to share ideas. Often the support team of administrators act as “anchors” to the group, always located in one place, welcoming people when they come into the office and keeping operations steady. Staff working flexibly relate to their team administrators and team location as their office base.

The “third place” refers to environments that are neither a corporate office, nor the employee’s home, in which people can work. Many employees do not want to work at home, or do not have enough space or sufficiently supportive personal circumstances in which to do work. They might be young people at the start of their working careers living in tiny accommodation and seeking a change of scenery and new people to meet as part of their job. Or they may have young children whose noise and demands conflict with the rituals of the working day. They want to get out of their home to work, but do not always need to travel into the corporate office building. So they work in serviced offices, business centers, clubs, local libraries and coffee shops. These places provide all the necessary infrastructure for modern office work: high-speed broadband, power, desks and meeting spaces, refreshments and colleagues for sociability and exchange of ideas. Many of them are also more lively, welcoming and stimulating places than conventional office buildings. The space and services consumed in the third place may be paid for by the employer if a contract has been organized with a chain of serviced offices. More commonly it is paid by the employee through a club membership, or by paying the price of a cup of coffee that comes with data, power and a place to work.

The Future Office: Cost, Carbon, Creativity and Collaboration

Where is it all going? Do we really know? What role can the office play?

The bottom line, then, is that while professional workers are spending less time in the office each week, the meaning of that time may have changed in important ways. The office has become an important location for symbolic, learning, and creative interactions. A direct result of this trend is that the design and décor of offices has taken on a renewed importance for corporate managers. Beyond simple notions of size and comfort, office design has gained attention for its ability to meet the emerging needs of workers who spend fewer, but perhaps more important, hours in the office.  

Rather than focusing on the design of environments, we need to design the experience — the interaction, as it were. What factors will shape worker’s behavior? If a new type of workplace is developed and provided, what are the functional requirements that will ensure its use? Features like location, accessibility, safety and amenities are critical, but so too are things like space typologies, convenience and image, as well as technology not available elsewhere (e.g., telepresence [Cisco], Thunder [Polyvision], Media:scape [Steelcase], Touch Table [Microsoft]).

Is the office as a distinct building type obsolete? We are now seeing the integration of office functions into a variety of building types and the growth of new urban models that integrate office, home, retail and education into new building types. Some look like a university designed for collaborative learning, with their integration of living, working, recreation and retail spaces to predict future workplace expectations.

What will be the future office, and what will it mean for facility managers? The most significant future challenge for offices and the FM industry is to respond to the ever-present need to reduce cost and the growing requirement to reduce carbon, while at the same time increasing creativity and collaboration.

Every facility owner, manager and office occupier is now concerned with the rising cost of energy and the long-term security of energy supply. The need to reduce carbon emissions and dependence on fossil fuels for heating, cooling and lighting is acute. Carbon reduction targets established by different states and countries make it mandatory that action is taken. The UK, for example, has legislation that commits to an ambitious target of carbon reduction of 80 percent by 2050, compared to 1990 levels. With around 45 percent of end-user carbon emissions due to buildings, all office buildings need to develop ways of meeting this reduction target. Technical ingenuity, cost incentives, offsets and behavior change are the tools that facility managers need to deliver these ambitious targets.

The journey to work — or its avoidance — is another important tool in the green facility manager’s armory. This dovetails with the growth of flexible and remote working referred to earlier. For many companies, the carbon footprint of their operations is made up of three elements: emissions due to what goes on within the office building, emissions from commuting to and from the office, and from business travel. All three can be reduced by responsible facility management:

- Space can be allocated and used efficiently, especially if not all staff need to come into the building every day; heating and cooling systems can be operated well; and lighting sensors can be installed that respond to movement and light levels.
- Many trips to and from the office can be avoided if people are allowed to work at home, or a nearby local base, some of the time.
- Work-related travel can be eliminated or reduced if high-quality videoconference systems, which simulate face-to-face subtleties of expressions and gestures, are provided in the office building.

Massive improvements in communications, referred to above, have potentially freed the office worker from both the desk and the office building. Yet remote work still cannot equal face-to-face communications for powerful engagement. Office buildings increasingly need to perform as meeting places, as centers of creativity and debate, hubs for knowledge exchange and engagement in ideas, and the transmittal of corporate culture. We need to reinvent the office workplace as a gathering place where great work happens, while routine work takes place wherever is most convenient, cheapest and lowest in carbon footprint (space and travel). With smartphones, cloud computing, laptops and Wi-Fi proliferating, a lot of work can be done anywhere, but special communications are worth a local commute to the office.

One of the visions is that of the desk-free office. Imagine the workplace as a hotel or mini-conference center in which there are multiple places for meeting colleagues, enjoying a drink or meal while talking together and transacting business; places to show presentations, to engage while sprawling about on soft furniture or on a park bench or sun lounger; places to read alone, or to work at computers. In short, a desk-free workplace where communication and collaboration trump working while seated at a horizontal slab of wood, metal, glass or plastic, surrounded by your stuff. Like the concierge, hospitality and catering personnel in hotels, facility management in these new work environments brings to the fore the soft skills of customer service and responsiveness. Meeting and greeting become essential services that lubricate business.

Future Facility Managers in the Office of the Future

Future facility managers need to combine hard and soft FM services in new and challenging ways. Energy management and carbon accounting will be one of the main business services they provide and against which they are judged. Real-time information on energy use, with intelligent benchmarks, will guide the way they control building performance. FMs will themselves control the office buildings using new technologies to stay constantly connected and informed, in touch with CAD drawings and/or BIM and inventories through integrated workplace management systems (IWMS), and able to order equipment on the spot.

They will continue to integrate IT, HR and property knowledge. And they will need to major in the soft services drawn from the hotel and catering industries to create office centers that people actually choose to come to when they have so many other options for work connectedness, and many incentives to avoid travel. Steep increases in users’ expectations for design quality, up-to-date technology and speedy problem resolution will continue. For FMs there will be relatively less space to manage for each individual, but more to do within it. The shift will be to managing its quality as well as the quantity of the portfolio. Churn will be different – fewer large-scale changes and more day-to-day management of different users and needs in the same spaces. Space utilization, monitoring, quality feedback and analysis will be important areas for FM service.

Even if most FM services are outsourced, the in-house team that sets policies and selects the outsourced providers has to ensure that the user experience is excellent, and is understood to be excellent. Intelligent feedback and surveys will be an essential part of the FM’s toolkit, to provide the evidence of what works and what can be improved, and to demonstrate how facility management helps to forge a good working environment, good working relationships and better business.
Enough background already. Chapter 4 turns a corner for the reader. Now we begin to dig down into the “how to” and get our hands dirty. So, what is a strategy? Well, for certain, it is more than an annual budget. And there are more actors involved than the finance department.

Chapter 4 takes some lessons and best practices from the world of business strategy and begins to apply them to the FM world. This chapter is the outline to creating a roadmap to turn C-suite goals into realizable actions on the ground.

But again, as is our recurring theme, a FM strategy that is not tightly coupled to the overall business is of little use. An FM leader needs to know how to go about the workplace strategy creation process. This chapter gives you that framework and a couple of good examples to learn from.
Ellen Bruce Keable
National Workplace Strategies Leader, Jacobs Global Buildings Consulting

Ellen Bruce Keable is the national workplace strategies leader with Jacobs Global Buildings advance planning group. Keable integrates business analysis with social research to create and manage cost-effective and high-performance work environments. She brings special expertise in evidence-based design, human factors, and the “people side” of facilities and change management. Trained as an architect and a social scientist, Keable is past chair of the Environmental Design Research Association and advisor to IFMA on research and workplace trends. Her long-term engagements with corporate real estate, government agencies and facility managers leverage multiple disciplines at Jacobs to plan, document, execute and measure change. Prior to Jacobs she was vice president at BOSTI Associates, Inc., pioneering the development of hoteling and design for mobile work. With Michael Brill and Sue Weidemann, she was a key contributor to BOSTI’s publications, including *Disproving Widespread Myths About Workplace Design* (2001, Kimball International).

Alexi Marmot
Director, AMA Alexi Marmot Associates

Alexi Marmot established AMA Alexi Marmot Associates in 1990 to help organizations to make best use of their buildings by applying evidence-based design and strategic space planning. She specializes in office workplaces, space for learning and teaching, and libraries. Her clients are mainly large multinational corporations, government and educational bodies and nonprofits including Bill and Melinda Gates Foundation, British Airways, BBC, BP, HSBC, IBM, Morgan Stanley, Nationwide and WWF.

She is Professor of Facility and Environment Management and Head of School at the Bartlett School of Graduate Studies, UCL University College London, and visiting professor at Sheffield Hallam University.

Marmot was educated as an architect and town planner in Sydney and California, where she also received her doctorate, before moving to London where she was director of research and development at DEGW. She is a frequent conference speaker and has prepared many articles on space design and management for professional journals, and co-authored two books, *Office Space Planning* (Mc-Graw-Hill, New York) and *Understanding Offices* (Penguin Books, London). The *AMA Workware* toolkit and database that she devised, comprise objective data and subjective responses from over 70,000 people working in hundreds of office buildings on work behavior and the quality of the work environment.
Chapter Four
Workplace Strategy: What It Is and Why It’s Important

Pat Turnbull
Kayhan International

Janice Cimbalo
Jones Lang LaSalle

Paul Doherty
Screampoint

Cary Johnson
Gensler

Ricardo Nabholz
Kayhan International

Darrin Norbut
Panduit

Dr. Alex Redlein
Vienna University of Technology

Nancy Johnson Sanquist
Manhattan Software

“The first step toward creating an improved future is developing the ability to envision it.”
Anonymous

The Idea in Brief

- Workplace strategy has become an important tool for business leaders who seek to optimize productivity, profitability and/or brand image. Over the past decade, workplace strategy has evolved beyond traditional real estate portfolio and space planning to deliver substantive triple bottom line business results critical to C-suite executives, such as:
  - Attracting and retaining talent
  - Improving productivity
  - Driving cost efficiency ($/SF, capital efficiency)
  - Reducing environmental impact of the property and workforce
  - Evolving organizational cultures
  - Fostering innovation

- As we learned in Chapters 2 and 3, workplace design and the workforce itself are changing radically in response to a combination of demographic, sociopolitical and economic factors.¹ This is especially true from a global perspective. The type of work performed by the knowledge worker or members of the “creative class” is changing as are the locations in which work is done around the globe. The goal of the employer, no matter what industry, is to ensure the knowledge worker is being as productive and innovative as possible in a work space that supports and enhances their activities.

- Effective work environments can encourage people to behave in new ways and, when aligned with corporate goals, help achieve desired business results. Studies show that workplace design can shape and influence workflow and productivity through layout and through space design (addressing different work modes). Top-performing companies are embracing new ways of working and are designing workplaces to support a variety of work activities, including collaboration, sharing, learning, socializing and focusing. This includes primary work spaces, common areas, meeting areas and training areas. Workplace design has also been shown to help achieve emotional engagement among workers, a critical factor for attracting and retaining Gen X and Gen Y talent in the emerging innovation age where knowledge is created and shared through networks.

The Idea at Work:

Having read this chapter, you will be able to:

- Articulate the value and benefits of workplace strategy as a business enabler
- Define and align real estate and facility management initiatives with executive management objectives
- Use the “Workplace Strategy Matrix” to involve stakeholders and assemble relevant data
- Understand the new world of work
- Build a balanced scorecard to effectively measure and continuously improve results

Executive Summary

Workplace strategy has become an important tool for business leaders who seek to optimize productivity, profitability and brand image. This chapter provides an approach to understanding what the development of an effective workplace strategy is and how you define the key stakeholders and find the relevant data to enable a successful strategy deployment.

We will discuss the development of workplace strategy and the importance of aligning real estate and facility management initiatives with executive management objectives. We explore how to lead strategy development and engage critical stakeholders. This holistic approach helps link workplace, facility and business strategy for enhanced business results. We provide a methodology for developing an effective workplace strategy and provide a framework for developing/using the balanced scorecard as a measurement tool.

Strategy and Workplace

Business strategy is important because it aligns all individual activities within a business entity toward a shared vision. It helps channel decisions about the organization’s focus, the investment of resources, what activities make sense and how to coordinate those activities across the entire organization.

One cannot mention the word “strategy,” in the context of business, without thinking of the work of Professor Michael Porter of the Harvard Business School. Porter refers to strategy as the movement of an organization (in this case the workplace resources group) from its present position to a desirable but uncertain future state. Since the organization has never actually been in this future state, the roadmap to get there is defined by a series of hypotheses and activities. The success of the strategy is dependent upon the choice of these activities and how well they are performed.

Sometimes referred to as strategic facility planning, strategic workplace planning or real estate and facility life cycle management, workplace strategy refers to aligning an organization’s work patterns with its environment to enable peak performance and reduce costs. Regardless of name, workplace strategy should be part of, and integrated into, a company’s business strategy to support the overall goals of the business entity.2

It is the responsibility of the person who is charged with developing the strategy (i.e., the workplace strategist), to understand the organization’s requirements and recommend a workplace solution that will address current and future needs. Often, workplace strategy provides a response to either running out of space, having too much space, or wanting to introduce organizational change to increase productivity, innovation and/or operational efficiencies. Therefore, an effective workplace strategy often includes achieving corporate goals relating to physical space, such as:

- Reducing costs
- Increasing the productivity of the occupant
- Supporting the “war for talent”
- Supporting creativity and team-oriented work
- Creating more transparency
- Reducing the environmental impact of facilities and the workforce
- Merging two or more organizations/cultures
- Relocating or consolidating occupied buildings

At a granular level, workplace strategy focuses on how to use the space more efficiently and effectively. Recommendations often include moving from cellular (predominantly private office) environments to open plan, introducing new ways of working and/or moving to a flexible or agile working environment, as first proposed by Frank Duffy. “Flexible work” is where the occupants have access to a range of work settings, including working at home or on the move. Employees may also share workstations, often referred to as alternative workplace strategies (AWS), hot desking or hoteling. AWS has been around now for more than two decades, so we may want to abandon the word “alternative” since it has become mainstream at this point.

### Stakeholder Engagement

The inclusion of workplace strategy as a part of a business’s overall strategic planning process is a relatively new phenomenon. Because most C-suite executives are not experts in real estate, facility and/or workplace design, the functional leaders of real estate and facility management need to define, educate and drive executive management understanding of how real estate and workplace design can support overall business objectives while effectively delivering a great place to work and related building support services.

Traditionally, strategic planning is driven by executive/senior management who may or may not be aware of the significant contribution that strategic real estate and facility planning (“workplace strategy”) can make toward achieving corporate goals. A strategic plan almost always involves a series of stakeholders who act as stewards of the plan; therefore, it makes sense to include “workplace” as a part of the strategic mix.

Workplace strategy should be developed by those with the responsibility to carry out the results. The highest level real estate and facility manager (executive/senior management) should be personally involved in the strategic planning process (versus delegating the responsibility entirely to staff). Involvement of high-level managers sends a signal to the entire stakeholder community of the importance of the planning process.

Figure 1 depicts a framework for change. Key components of the change process are:

- Strategy alignment
- Early engagement
- Plan and measurement development

Figure 1: A framework for change. (Adapted from Change Association Process (CAP) materials developed by GE Management Development Institute, Colorville, New York)\(^3\)

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Strategy alignment requires real estate and facility management leaders to define key RE principles in terms of how they integrate with overall business objectives. Real estate and facility management leaders must drive C-suite understanding of how alignment will deliver specific and quantifiable results. In addition to executive leadership support, alignment requires functional area collaboration, innovative design and intelligent technology integration.

Real estate and facility management professionals must engage early in the process with their human resources and information technology counterparts to help define and align all resources on executive objectives and corporate strategy. This alignment contributes significantly to an organization’s ability to “survive and thrive” in today’s increasingly dynamic and competitive business environment.

Outside assistance, in the form of a facilitator/consultant, is not a requirement for this process. That said, an outside consultant can be very helpful in assessing the latest trends and marketing strategies, as well as tying together the company’s strategic business plan with all of the available possibilities. An outside facilitator/consultant can also share creative ideas/pitfalls learned from other engagements, provide a neutral viewpoint and pose difficult questions without having a stake in the outcome.

Certainly having someone who is focused only on the task of strategic planning and not distracted when other priorities emerge is a positive. The questions below should help determine if there is an inside resource or if hiring an outside facilitator/consultant would be beneficial:

- Is there a staff person who has the skills necessary to facilitate meetings? If not, are there training resources available to help staff develop these skills?
- Is there a staff person who has the training to gather and present data? If not, are there resources that may provide assistance at no cost or at a low cost, such as professors or graduate students at a local university?
- Is executive/senior management willing to devote staff time to the assignment? Planning takes time, and the senior executive leadership of the organization must be willing to allocate staff time to strategic planning. If there is no ability to devote staff time, then an outside resource may be needed.
- Does the organization have sufficient credibility in the stakeholder community to effectively engage and gather input? If not, consider partnering with an organization or individual who can help gather input for the plan. Sometimes, going ahead with a stakeholder outreach plan will help to increase the credibility and visibility of the FM organization among stakeholders.
- Is there a staff person who can step outside the process and not participate but rather facilitate? A facilitator should not be a participant, but one who can move the conversation forward, ask probing questions, and not be tied to any particular outcome. This is often the most difficult element for an insider who facilitates a strategic planning process for their own organization.

Tactical plans are made in concert with a measurement system in order to gauge actual versus desired results. A communication plan should also be woven into the strategy in order to gain support and critical feedback from stakeholders.

Workplace Strategy Stakeholder and Information Source Matrix

Table 1 represents all of the stakeholders involved with workplace strategy design in terms of sources of information that may or may not be available to the workplace strategist when formulating their plan. The matrix was designed as an easy visual aid to view all of the stakeholders in the horizontal bar at the top and where they are involved in supplying data to the facility management planner. The sources include the C-suite, the business units, support organizations (finance, HR, IT, sustainability) as well as the facility management and corporate real estate groups. The following sources are critical in strategy development:

- C-suite: By C-suite, we mean the executive management team otherwise known as chief executive officer, chief operating officer, etc. It is important to understand the corporate strategic direction and plans, including quarterly updates that might alter the direction of that plan during the course of a year. Also, key information on branding and image, overall corporate culture, and sales, marketing and business development strategies are important to understanding the organization’s corporate direction.

An excellent example of corporate and workplace strategy alignment is found in the Panduit Corporation case study in Chapter 10. The challenge was to define and drive C-suite
understanding of facility management and corporate real estate’s ability to contribute to the overall corporate goals relating to:

- Global vision
- Innovation
- Collaboration
- Sustainability

Success hinged on executive leadership support, employee engagement, functional area collaboration, innovative workplace design and intelligent smart building integration.

- Business units: Each business unit’s strategy is also critical to understanding how it is responding to corporate initiatives. This includes future headcount, location analysis, revenue growth, work initiatives, change in workplace requirements (i.e., more lab, less office for that particular unit), historical trends, strategy mappings, and performance monitoring and measurement. This understanding may come from embedded workplace strategists in each business unit from facility management or corporate real estate, often referred to as relationship managers, or if they are not in place, from interviews with key members of the leadership team.

- Marketing and sales: It is important for the workplace strategist to understand the strategies of sales and marketing for increasing revenue and communicating most effectively with existing and potential customers, as well as understanding their relationships with each of the business units.

- Human resources: HR is the source of data on headcount (both employees and contractors), total cost of ownership (cost of people in seats), historical market statistics, workplace planning, on-boarding and off-boarding analyses and any other information on the workforce necessary to understanding provisioning of workplace.

- Information technology: As we have discussed in Chapter 2, technology and rapid changes to existing IT makes it more and more important for the workplace strategist to be close to the strategies of this organization. What are their plans for new mobile technologies — such as “bring your own computer” (BYOC) or “bring your own technology” (BYOT) — now in place, cloud computing versus data centers versus outsourcing models and most importantly, new technologies networking the operations of a building into a smart infrastructure? More information about these technologies can be found in Chapter 9.

- Finance: While CRE either reports directly to or is in a dotted line reporting structure to finance, it is important that the workplace strategist understands the financial direction of the company, as well as understanding the best strategy for a leased and owned portfolio and how newly proposed changes to real estate accounting rules (FASB/IASB) changes that strategy.

- Real estate and facility management: Obviously, much of the information for designing and implementing a workplace strategy is going to come from the facility management and corporate real estate departments. The critical list of information is listed in the “Workplace Strategy Matrix” (Table 1).

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<tr>
<th>Departmental sources:</th>
<th>C-suite (BUs)</th>
<th>Business Units (BUs)</th>
<th>Finance</th>
<th>Marketing/Sales</th>
<th>HR</th>
<th>IT</th>
<th>Sustainability Officer</th>
<th>RE</th>
<th>FM</th>
<th>Workplace strategist</th>
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<td><strong>Organization Analysis: Corporate and Business Unit Strategies</strong></td>
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Table 1: Dimensions of workplace strategy

4 The Financial Accounting Standards Board (FASB) develops generally accepted accounting principles in the US. The International Accounting Standards Board (IASB) is responsible for developing international financial reporting standards.
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<th>Required Workplace Strategy Information</th>
<th>C-suite</th>
<th>Business Units (BUs)</th>
<th>Finance</th>
<th>Marketing/ Sales</th>
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<td>Corporate Financial Strategy (reduce costs, improve productivity)</td>
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*Types and number of spaces required by year, future headcount, choice of locations, consolidation opportunities, technology requirements and amenities.*
<table>
<thead>
<tr>
<th>Departmental sources:</th>
<th>C-suite</th>
<th>Business Units (BUs)</th>
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The purpose of workplace strategy is to advance overall corporate goals and often includes reduction of cost and/or increased productivity. Measuring the first is straightforward; however, measuring workforce productivity is more challenging and has become the ultimate achievement of many corporate real estate and facility management departments.

What are the characteristics of today’s workers? If we look at the most progressive organizations, observed by expert business pundits, we arrive at the following picture:

- Individual “knowledge workers” (the “creative class”) are at the center of these organizations.
- Today’s workers are more empowered, motivated and passionate about what they do and with whom they do it, regardless of age group or location in the world.
- The “new” worker “swarms” in hyper-connected, collaborative, virtual as well as physically connected teams, executing both nonroutine (innovative and creative) and routine work.
- Technology tools allow them to do more analytical work with advanced business and location intelligence.

- Technology also enables more simulation and experimentation through the use of gaming and virtual reality activities.

Gartner calls the new worker the “Extreme Individual.” Here is its prediction for the worker in 2015:

- More than 60 percent of jobs will be unique to a company — that is, fluid, non-repeatable and without comparison
- People will customize 90 percent of the information, tools, and educational and technological resources they use at work, at home and for entertainment
- Workers will spend more than 80 percent of their time working collaboratively, either face to face or remotely, aided by technology tools
- Average 18-year-olds in developed countries will spend 50 percent of their waking hours using personally programmed devices for communication, entertainment, education, news and time management requirements
- Today’s “baby-boomers” (age 51 to 68) in developed countries will lead another wave of entrepreneurship and innovation
- 40 percent of bloggers will be over 65

So, what impact does the new worker have on the workplace?

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Aligning New Worker Requirements to Workplace Strategy

An important consideration affecting workplace strategy is worker satisfaction and effectiveness. As shared in Chapter 2, changing workforce composition and increased worker mobility are having a profound impact on the workplace. As a result, increasing attention is being given to factors relating to personal and cultural diversity. Almost 50 percent of global organizations have a mobility strategy, or are considering one. Workers spend less time at an assigned desk. Almost 50 percent of workers surveyed claim they work harder now that they are mobile. They cite the home as being the most productive environment for their focused work. The majority of respondents, however, still feel the office is a better environment for collaborative work. The reality of a multigenerational, mobile workforce means that workplace design must also change to address these challenges and opportunities.

When developing workplace strategy, the team should consider the following for a mobile, distributed organization:

- Cultural diversity
- Generational diversity
- Personal diversity
- Social responsibility and well-being

Cultural Diversity

Workplace design is affected by increasingly global business practices and resulting interactions between clients, suppliers and team members. We see the impact of culture in terms of space design, work styles and personal interaction. The workforce now encompasses a wider spectrum of talents and skills, physical capabilities, languages, communication styles, work ethics, lifestyles requirements and learning preferences. While we strive to create an acceptable universal style for conducting business between the varieties of cultural influences, we also seek to celebrate the richness of cultural differences. As a result, the new workplace is being designed to encourage understanding, tolerance and collaboration, critical elements for a diverse workforce. An excellent example of this can be seen in the Sultanate of Oman BankMuscat case study in Chapter 10.

Generational Diversity

A second challenge in the workplace is workforce composition. Today, we can have as many as four generations of employees working together, inter- or intra-companywide. Each generation has different skills, ways of communicating, needs and expectations, yet all of these people need to work side by side successfully in spite of any cultural, skill and/or life experience differences. Common expectations of the workers include respect, trust, interesting work, feedback and a chance to learn and develop new skills. Along with these aligned expectations, differences include lifestyle, education level, and exposure and fluency with technology, as well as other socioeconomic conditions.

Among the biggest hurdles of a multigenerational workforce is communication. Poor communication and/or inability to successfully collaborate negatively impacts both knowledge transfer and team-driven innovation efforts. Workplace strategy uses physical space to help support desired behaviors. Environments can be designed to encourage/support collaboration and socialization, critical elements for bridging generational differences and contributing to overall business success. See the Panduit Corporation case study, from Chicago, Illinois, in Chapter 10, which demonstrates the positive effects of workplace strategy on a generationally diverse workforce (Figure 2).

Personal Diversity

A third consideration affecting worker satisfaction and effectiveness stems from increased worker mobility and the “distributed” workforce. In its white paper on “Understanding Distributed Work” (2003), the Work Design Collaborative discusses the fact that computing and communications technology have transformed traditional workplaces into “virtual work spaces.” The transformation of the way work gets done — and managed — is one of the most distinctive aspects of the so-called “new economy,” since “knowledge” work can be conducted effectively from just about anywhere. The “distributed” workforce has also significantly impacted workplace design. An excellent example of this can be seen in the Macquarie Group case study in Chapter 10, which highlights the business results derived from an effective workplace strategy.
Social Responsibility and Well-Being

The convergence of generational priorities and a growing awareness of the physical environment where we live, play and work has created a profound desire to live healthier lives. Environmental considerations, such as energy conservation, clean air and natural light, have moved from options to expectations. Everywhere we turn, it is there. Schools teach it, governments promote it, consumers demand it, cities embrace it, stores sell it, and finally, workers expect it. How sustainability fits into the design of the work environment is a primary focus and must be communicated to C-suite leadership as a priority.

Up until recently, many of the corporate stakeholders overlooked using their real estate and workplace environments to enhance their image or brand. Today, research shows that, not only do well-designed work environments lower operating costs, help bring higher rents/sales prices, decrease tenant turnover and increase property values, but they also satisfy the new agenda of the younger generations in the workforce. An interesting example of branding in the workplace can be seen in the KARL STORZ Endoscopy case study in Chapter 10. One of the main challenges encountered in this project was extending and implementing KARL STORZ’s European/German standards into the Southern California culture.

At the top of the checklist for employees looking at career opportunities is the perception of the company’s ethics and social responsibility policy. What is its carbon footprint? This can affect the company’s ability to attract investors, customers and top talent. Therefore, being a good citizen and providing a high-quality physical environment allows companies to recruit and retain top talent and enhance productivity. Today’s employee has an increased awareness of the environment and a potential employer’s social responsibility and values. It may cause them to join, stay or leave. For an example of this in action, see the Panduit case study in Chapter 10.

Healthy building environments are not only about occupants feeling better while there; healthy environments also have an impact on reducing health care costs and lost productivity caused by a substandard building or workplace design. Whether it is cleaner air, better temperature control, daylight access, quality lighting, noise control or individual user control of these ele-
ments, together they create a package that gets and keeps people at work, enhances productivity and increases job satisfaction levels. These are powerful ways for organizations to demonstrate they care about their employees and their well-being.

Summary

In summary, cultural, generational and personal diversity are sensitivities that must be addressed in today’s global workplace. They are important considerations for every organization. Furthermore, technological advances supporting today’s mobile workforce help create a better work-life balance, enhancing worker productivity by enabling people to work from home and decreasing the amount of commute time. With mobile technology, work in the field can be highly productive and efficient. For the employer, better space utilization, lower operating costs and a smaller carbon footprint are all benefits. Ultimately, it is a win-win situation.

The New “Workscape”

A decade ago we would not have even thought of a workplace “experience.” Just as restaurants and stores care about the experience the customer has from the moment they enter the eating establishment or retail center, the workplace strategist needs to provide various types of experiential environments for the knowledge worker. We no longer think of going “to work” (a building) as much as going to “do work” (at various locations within a specified building and outside of it). Workplace experience becomes an important part of the strategy to attract and retain talent, which then builds and sustains the company’s competitive advantage by capitalizing on the combined power of the individual worker and their collective intelligence.

“Workscape” of Office Buildings

What does the workplace strategist need to consider when the business culture is one that wants its employees to come to a centralized office location to encourage the kind of communication and collaboration only face-to-face encounters can make happen more easily? Table 2 offers a view of the “workscape” keyed to particular types of activities required in an office complex today.

<table>
<thead>
<tr>
<th>Activity</th>
<th>Space and Amenities</th>
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<tbody>
<tr>
<td>Concentrated: nonroutine, noninteractive and singular</td>
<td>Cube in open office, private enclosed office, touchdown space (for mobile worker), phone booth, library</td>
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<tr>
<td>Collaborative work</td>
<td>Conference/team room with videoconferencing, whiteboards and/or tables, group workstations for co-working</td>
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<tr>
<td>Socialization</td>
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<tr>
<td>Rest/relaxation</td>
<td>Home like environments (den, kitchen table, backyard porch)</td>
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<tr>
<td>Eat</td>
<td>Restaurants, cafes, gardens (fresh vegetables)</td>
</tr>
<tr>
<td>Play</td>
<td>Basketball court, biking, skateboarding</td>
</tr>
<tr>
<td>Sustainability</td>
<td>Energy efficient systems, natural light</td>
</tr>
<tr>
<td>Work-life balance</td>
<td>Childcare, dry cleaner, wellness clinic, fitness center</td>
</tr>
</tbody>
</table>

“Workscape” of External/Alternative Work Locations

External locations, called alternative workplace solutions (AWS), were originally designed for real estate cost savings. AWS were made possible by technology advancements that untethered workers from the desk in their office building. Now AWS is used as a broader business strategy to support work-life balance and to provide additional space for teamwork and collaboration, as well as to embrace sustainable practices. These locations include satellite offices, telework centers and home office locations. AWS are also referred to as lodges, evoking thoughts of an era when the home, community and work were a synonymous location. An interesting service being provided in the UK is the leasing of workplace environments that resemble a garden shed — an enclosed work pod that can be placed in a worker’s home or outdoor area. These are considered “second places” of work.
“Third places” of work are all the locations where we can now work with mobile devices, such as airports, hotels, parks, restaurants, bars, beaches, mountains or wherever and whenever we feel like working anywhere in the world. “Fourth places” of work are leased facilities, both traditional and nontraditional. Traditional office leasing companies like Regus (global) or MetroOffice (Washington, DC, area) allow for an organization to rent space and/or services by the hour, day or month. These locations are also known as the “Agora” or “assembly place,” where people come together outside of the main office for commerce and activity and then go back to the main office location when that work is completed.

A new model has emerged in London (the Workspace Group) that not only leases office space, but virtual space, studios and light industrial. Another growing trend for the new knowledge worker who wants to get out of their home office and mingle with entrepreneurial folks like themselves are co-working offices or “jellies,” as promoted by companies like NextSpace in the San Francisco Bay Area and Los Angeles. These are a combination of coffee house and workbench-style environments on a small scale.

These collaborative communities are becoming more like medieval guilds that focus on one area of work. Pizza Island is a great example in the Green Point neighborhood of New York. Six female cartoonists have come together to rent studio space and be able to get out of their apartments and have a place they can work together and share thoughts and ideas. On a larger scale, the BBC is also considered a guild since freelancers come together for various projects and mix with employees on specific programming projects.

Developing a Workplace Strategy

To successfully lead and manage the strategic planning process and to define the optimal workplace strategy for a company requires several steps.

1. Define goals and targets of workplace strategy
2. Define the team
3. Define and categorize processes to determine infrastructure requirements including capacity planning
4. Measurement and reporting, focusing on “as is” and “should be” requirements for infrastructure
5. Real estate evaluation and initial space design
6. Coordination and guidance of architects and planners, specialists
7. Change management processes and marketing activities

Step 1: Define and align goals of workplace strategy

Getting executive/senior management understanding and endorsement of workplace strategy goals is critical to the success of your program. Dialogue at this level also helps ensure that the FM strategic plan aligns with the organization’s strategic plan. Alignment provides a more fertile environment for executive/senior management buy-in and involvement. By getting executive/senior management involved, the organization’s strategic planning team can provide the proper guidance to the workplace strategic planning team.

In the first step, the goals of the project have to be defined and aligned. Many goals are possible. Some examples are:

- Cost reduction
- Increase of productivity of employees
- Support the “war for talent”
- Support creativity, team orientation/work
- Create more transparency
- Create a culture shift

In most projects, a combination of goals is to be reached. Goal definition and alignment should be done together with decision-makers (executive management). The achievement of the goal should be quantifiable, such as 15 percent cost reduction. Measurement supports the evaluation of the success of the project when it is finished.

An excellent example of goal alignment is found in the Panduit case study in Chapter 10. The challenge was to define and drive C-suite understanding of real estate/facility management’s ability
to contribute to overall corporate goals relating to global vision, innovation, collaboration and sustainability. Success hinged on executive leadership support, employee engagement, functional area collaboration, innovative design and intelligent technology integration.

**Step 2: Define the team**

The next step is to define the workplace strategy team consisting of stakeholders who represent the employees and management who will be using the new office environment and solutions. There is no one person who implements workplace strategy, but a series of stakeholders who contribute to the entire strategic planning and implementation process. Of course, there is a project manager overseeing the workplace strategy project, and this is where facility managers can take the lead and drive change in the workplace. The process consists of intense, focused teamwork up front and then strategy reviews throughout the year.

Stakeholder engagement is especially important for the ultimate acceptance of the project. The workplace strategy planning team should include key stakeholders, such as real estate, facility management, business operations personnel, senior management, information technology, human resources, finance/accounting, and marketing and sales. These departments help provide all available information about planned developments in the organization. Including the IT department is necessary as in most cases the new environment can only be implemented with the help of the information and communication technology (ICT) department. For example, access to data from every workplace, telecommunication such as VOIP devices and implementation and measurement of sustainability goals all have an important impact on innovative workplaces. The team should also consider who should not be part of the team or drive the agenda, but who should be consulted.

**Step 3: Define and categorize processes to determine infrastructure requirements including capacity planning**

Step 3 is to analyze the work processes that should be carried out in the work environment. This is mainly done through workshops. The goal is to define and categorize processes in respect to the following criteria:

- Routine/complex
- Individual/team; project
- In-house/outside
- Contact with customer: intensive, frequent, rare, none

Based on this classification the requirements for the infrastructure, including capacity planning, can be carried out. Routine work processes and team orientation are best supported by team offices. Examples are shown in Figure 3.

Figure 3: A team office view and its layout.

Individual complex work requires areas that support employee concentration and focus, like think tanks. Examples of areas for concentrated, focused working are shown in Figure 4.

The higher the rate of interaction with customers and internal interaction, the more the need for special meeting areas result. If there is a lot of telephone conversation, noise reduction measures have to be taken. The analysis also takes into account the intensity of internal communication. This data is used for the allocation of the departments and the teams within each department. Teams with a high demand for communication should be located nearby. See Chapter 5 for more information in this area.
Step 4: Measurement and reporting

The results of the prior steps, especially the “as is” and the “should be” process analysis, and the derived requirements for infrastructure are stated in a status report, which is the basis for the further steps. The report also includes an estimation of the space needed for each of the office types and a rough space design (which team should be located where). This data provides the framework for Step 5 evaluations as to whether a building is capable of supporting the requirements and is efficient. It is also the basis for the interior design and office furniture planning.

By using a matrix-style process called the balanced scorecard, knowledge worker performance can be tracked and the impact on top line strategy/bottom line results can be measured and communicated. The balanced scorecard will identify performance objectives or outcomes and their observable drivers. More details on measurement and the balanced scorecard is in the section on “Balanced Scorecard.” The measures for each can be readily identified:

- Financial perspective: Measured by return on investment or economic value added
- Customer perspective: Measured by customer’s satisfaction and retention, by market penetration and account share
- Internal processes perspective: Measured by quality improvements, decreased response time, decreased cost or rate of new product introduction
- Learning and growth perspective: Measured by employee satisfaction, increased employee training and rate of skills acquisition

The balanced scorecard also provides a process for measuring continuous improvement. The process is continuous and should be a series of strategy reviews throughout the year. By spreading strategy reviews throughout the year, workplace strategy can focus on and resolve one issue at a time, as well as adapt to changing conditions.

Step 5: Real estate evaluation and initial space design

After the team has been defined and the company’s strategic and cultural considerations evaluated, all of the corporate goals must be integrated into an action plan. This typically takes place within the real estate delivery process, either as a reconfiguration of existing facilities or a plan for new ones.

Since real estate is the second-largest expenditure in a typical company’s budget (with the exception of companies with high technology requirements, where it is the third largest), any decision made with respect to a real estate requirement will greatly impact the corporate operations. This significant financial impact coupled with the immobility of a facility and the large costs associated with a reconfiguration or relocation create a necessity to plan early in order to secure the best options with the most leverage.

After the company has completed an initial internal process identifying that a workplace strategy evaluation is in alignment with the company’s strategic plan, it is essential to consult experts in the field to bring the latest and best in workplace strategy ideas in alignment with the corporate vision. These experts can be retained independently or can be aligned with the company’s real estate advisers.

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As a rule, definition and alignment of workplace strategy goals and objectives should take place before the evaluation of real estate options, as the decision about size and type of building, new or renovation could potentially change as the result of goal definition (Figure 5). The early formulation of a workplace strategy team can also save a significant amount of time and money, since the company only has to travel down a path one time after it has considered the alternatives early in the process.

This portion of the evaluation process provides an excellent opportunity to develop not only benchmarking standards for departmental use throughout the portfolio but also to create an internal check-and-balance system for ensuring that the company’s real estate requirements match corporate objectives.

Many corporations choose to enlist the assistance of an architect, who can evaluate the portfolio along a number of critical dimensions. A specific and commonly used tool worth mentioning is a space program, which has been defined as “a process for fulfilling the dreams, hopes, wishes, and desires of the building’s … inhabitants.”9 Space programming is a useful tool for benchmarking a company’s efficiency in terms of using space and how closely that space use is following established corporate guidelines.

In practical terms, a space program sets out an orderly delineation of each department’s designated size and therefore generates a total size range for the particular location. The data is collected by interviewing members of the work groups, as well as relevant managers, to determine the optimal sizes and locations of each affected department. Space programming is often done to determine the ideal size for a particular location prior to a relocation; however, the use of programming at existing locations can assist in this determination in order to adjust the size of that location and create office standards across the portfolio. This part of the process is explained in detail in Chapter 5.

**Step 6: Coordination and guidance of planners**

In the next step, architects, planners and specialists in occupational health and safety convert the status report into a detailed space and furniture plan that, on one hand, fulfills the defined requirements of the status report and, on the other hand, all legal requirements like industrial safety regulations. The emerging use of Building Information Modeling (BIM) and its use in facility management is a catalyst for this two-way continuous communication between your design consultants and your workplace strategic planning team. You are encouraged to explore the use of BIM as a process to create an environment to help coordinate and guide your internal planning and/or design consultants. For more information about BIM, see Chapter 9.

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Step 7: Change management processes

As in most cases, changes in the organization go together with changes in the workplace and vice versa. It is important to manage the change process. Only an optimal change management program can ensure that the whole project is successful. Organizations are all about people. People prefer the familiar to the comfortable and prefer the comfortable to the better. So a strategic planning process must account for the real and perceived challenges to the changes proposed to an organization’s people. For information on how to develop and implement a change management program, see Chapter 8.

Measuring the Success of Workplace Strategy

The concept of measuring performance is not a new concept, and in today’s Information Age, a variety of measurement tools exist that consider efficiency and effectiveness. The idea was documented in Frederick Winslow Taylor’s book Principles of Management, published in 1911. In his book, Taylor describes systems intended to gain maximum efficiency from both workers and machines in the factory environment. He used time and motion studies to help determine the best methods for performing a task in the least amount of time. Today’s knowledge workers pose a more difficult challenge in terms of how to measure their output. By using a matrix-style process called the balanced scorecard, however, knowledge worker performance can be tracked and the impact on top line strategy/bottom line results can be measured and communicated.

Gerald de Kerchove of PdK Consulting wrote in a research paper presented at the IIDA 1999 Research Summit at the Salk Institute that the first step in measuring knowledge worker performance is to isolate its components. Methods to identify and understand complex organisms are nothing new to physicists and chemists. When attempting to learn about complex organisms, they start a decomposing process until they can identify small elements of the organisms that they recognize and therefore can analyze. Similarly, we can start decomposing performance into a chain of smaller and smaller elements until we identify elements that are familiar and easy to recognize and measure. Joe Akinori Ouye observed that workplace performance can be decomposed into three distinctive directions:

- Strategic performance: How is the workplace supporting the mission, goals and objectives of the business?
- Worker performance: How well are the workers who use the workplace performing their functions?
- Workplace effectiveness: How effectively does the workplace support the performance of the workers?

Balanced Scorecard

Robert Kaplan and David Norton in a series of three seminal articles in the Harvard Business Review (1992 to 1996) demonstrated that existing performance-measurement approaches, primarily relying on financial accounting measures, were becoming obsolete. In response, they developed the “balanced scorecard.”

The balanced scorecard is an improved measurement system that can be adapted to the identification of performance measures for various work groups.

The balanced scorecard will identify performance objectives or outcomes and their observable drivers. Measures for each can be readily identified.

- Financial perspective: Measured by return on investment or economic value added
- Customer perspective: Measured by customer’s satisfaction and retention, by market penetration and account share
- Internal processes perspective: Measured by quality improvements, decreased response time, decreased cost or rate of new product introduction
- Learning and growth perspective: Measured by employee satisfaction, increased employee training and rate of skill acquisition

For each of these four perspectives, quantitative measures can be defined. Three examples are:

- A producer of very expensive medical equipment needed to deliver high-reliability equipment to its customers, and then measure customer satisfaction. It developed two customer-based metrics for its operations: equipment uptime percentage and mean-time response to a service call.

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• An office product manufacturer set out to reduce cycle time by 50 percent. This led to radically cutting the time to process customer orders, order and receive materials from suppliers, assemble products, and package and ship to customers.

• An insurance company had a goal of being recognized for the diversity of its talented workforce. This led to designing a workplace particularly inviting and convenient for physically challenged people.

Kaplan and Norton further demonstrate that the measurement system should make the relationships (hypotheses) among objectives (and measures) in the four perspectives explicit so that they can be managed and validated. The chain of cause and effect should pervade throughout. A good balanced scorecard should have a mix of outcome measures and performance drivers. Outcome measures without performance drivers do not communicate how the outcomes are realized. A balanced scorecard should have an appropriate mix of outcomes (lagging indicators) and performance drivers (leading indicators) for the work group.

**Strategic Performance**

Using the balanced scorecard concept, you should identify measurements for the strategic performance perspective first. You should start by identifying four or five specific objectives for which a measuring technique can become readily obvious:

• Financial: What are the cost savings (as measured by net present value or economic value added) achieved through the replanning of the space?
  ◦ Improved utilization as measured by employee density or net square foot per employee
  ◦ Lower initial move costs as measured by soft and hard costs for construction, and costs of furniture and equipment for each employee
  ◦ Lower churn costs or lower costs of moving employees as measured by costs for moving furniture, technology and boxes; by space reconfiguration and re-cabling; by employee “downtime”

• Customer: What are the improvements in business results derived from improved customer perception as a result of workplace designs focused on the customer’s perspective?
  ◦ Better customer image as measured by customer perception and customer satisfaction surveys
  ◦ Greater customer convenience as measured by change in frequency and time of customer accessibility to the workplace or the employees (customer service)

• Internal processes: What are the improvements in the processes aimed at satisfying the shareholders’ objectives?
  ◦ Improved product or service quality as measured by product defect rate or service incident reports (timeliness, completion and satisfaction)
  ◦ Faster product to market as measured by changes in product development cycles
  ◦ Greater effectiveness (doing the right things) as measured by the unit of labor required to complete the process
  ◦ Greater efficiency (doing things right) as measured by the volume of transactions processed by unit of time

• Learning and growth: How improved is the organization’s ability to extend the capabilities of its staff and to align with the company’s values and vision?
  ◦ Improved worker satisfaction as measured by employee surveys
  ◦ Improved staff retention as measured by the distribution of time between hire date and termination date
  ◦ Decreased time it takes for a new hire to come up to speed as measured by training time (trainee and trainer)
  ◦ Greater learning as measured by changes in the rate of coverage of anticipated needs and capabilities

**Workplace Effectiveness**

Workplace effectiveness measures how well the workplace supports the performance of the workers.

• Financial: What are the costs of operating the workplace that can be reduced through better design of the workplace?
  ◦ Reduction in HVAC operating costs through building insulation and operable windows
  ◦ Increase in perceived audio privacy through the introduction of “white noise” in lieu of full height partitions
  ◦ Decrease in maintenance costs through sustainability improvements
• Customer: How convenient is the workplace for customers to do business?
  ◦ How convenient is the location of the workplace for customers to conduct business as measured by customer surveys?
  ◦ How accessible is the workplace for visitors (parking, signage, reception, greeting) as measured by customer survey?
  ◦ How well does the workplace meet the customer’s needs: general accessibility and comfort; availability and accessibility of conference room: multimedia presentation technology: training or demonstration space?

• Internal processes: How well does the workplace enable the workers to perform the various tasks needed to meet their performance objectives?
  ◦ How well does the personal workplace enable workers to perform their tasks as measured by worker surveys?
  ◦ How convenient, accessible and equipped (projection equipment, whiteboards, conference phones, networked desktop, SMART Board, etc.) are the meeting places as measured by worker surveys?
  ◦ How convenient, accessible, reliable and effective (clock speed, screen size, memory, software, etc.) is the personal technology (phone, computer) as measured by worker surveys?
  ◦ How well does the workplace satisfy the needs for quietness and privacy as measured by worker surveys and measuring equipment?

• Learning and growth: How does the workplace facilitate the workers’ ability to increase their knowledge?
  ◦ How convenient and accessible are the training areas as measured by usage and worker surveys?
  ◦ How diverse and relevant are the training resources (classrooms, video rooms, CD tutorials, reading rooms, etc.) as measured by inventory and worker surveys?

• Financial: What are the cost reductions associated with improvements in worker performance?
  ◦ Reduced absenteeism through better ergonomics and employee training as measured by attendance records
  ◦ Reduction in employee counseling through better design (lighting, color, availability of comfortable room for employee and supervisor discussions, etc.) as measured by number of referrals or cost of outside counseling

• Customer: Is the workplace helping workers better respond to customers’ needs?
  ◦ Improved accessibility of customers to the workers through technology (cell phone, conference phones, videoconferencing, email, fax, extranet, etc.) as measured by employee and customer surveys
  ◦ Increased customer accessibility through alternative office solutions (telecommuting with follow-me phones, remote access to network, Web access, etc.) as measured by contacts outside of normal business hours

• Internal processes: Is the workplace conducive to improvements in the workers’ ability to perform?
  ◦ Improvements in personal factors, such as motivation, technical competence and visibility through better design, and as measured by psychological testing and feedback analysis
  ◦ Improvements in technology factors, such as groupware, communication software and office automation networks, as measured by employee surveys
  ◦ Increase in physical comfort, such as spatial comfort, ambiance control, privacy, isolation and lighting, as measured by employee perception surveys
  ◦ Improvements in the ability to balance privacy and isolation, concentration and interruption as measured by video ethnography

• Learning and growth: Are the workers participating in determining how the workplace is arranged?
  ◦ Increase in independence and initiative to do the work as measured by employee surveys and benchmark comparisons
  ◦ Improvement in the ability to choose between meetings via groupware information technology (time, place, agenda, purpose, required versus optional attendees, etc.) and concentrated, focused work as measured by employee surveys

Worker Performance

Worker performance measures the outputs and capabilities of individual workers and teams of workers.
### Table 3: An illustration of the balanced scorecard process using one generic example for each cell of the table.

<table>
<thead>
<tr>
<th>Strategic performance</th>
<th>Performance drivers</th>
<th>Outcome measures</th>
<th>Financial</th>
<th>Customer</th>
<th>Internal processes</th>
<th>Learning &amp; growth</th>
</tr>
</thead>
<tbody>
<tr>
<td>Workplace effectiveness</td>
<td>Outcome measures: Reduced workplace operating costs</td>
<td>Increased accessibility to customer</td>
<td>Reduced R/E costs</td>
<td>Improved customer convenience</td>
<td>Improved service quality</td>
<td>Improved staff retention</td>
</tr>
<tr>
<td>Workforce performance</td>
<td>Outcome measures: Decreased absenteeism</td>
<td>Improved response to customers</td>
<td>Increased workers’ ability to work independently</td>
<td>Increased workers’ knowledge</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Performance drivers: Improve ergonomics of personal space</td>
<td>Outcome measures: Availability of alternate workplace, such as telecommuting, flextime, satellite office centers</td>
<td>Training facility accessibility and diversity</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Three observations on using the balanced scorecard for facility management as a measurement tool:

1. The combination of the decomposition principle and of the balanced scorecard concept is a very detailed and thorough, perhaps even tedious, process.
2. The result is a very rich set of performance drivers that can be acted on to improve the performance of the work group.
3. Performance improvements require a combination of changes to the physical environment, employment of technology, improvements to processes and management of behavior changes.

By using the balanced scorecard tool, facility managers can better measure the performance of its knowledge workers in order to design environments and processes that deliver measurable improvements (Table 3).

### Summary

As described in this chapter, workplace strategy has become an important tool for business leaders who seek to optimize productivity, profitability and/or brand image. By moving the focus of the workplace beyond just the function of real estate, a successful workplace strategy will embrace people, places and overall business objectives. Indeed, workplace strategy is a triple win to help achieve bottom line results:

- **People**: Employees are empowered with work environments that support private and collaborative learning as well as help create balance between work and life demands.
- **Planet**: The natural environment wins as we deliver healthier and more sustainable places to work (with benefits that include reduced energy, improved water efficiency, reduced construction waste, better air quality, daylight harvesting, etc.). Effective work space evaluation and planning can lead to overall conservation of resources.
- **Profit**: Businesses reap the benefits of workplace strategy alignment to corporate goals, such as the ability to attract and retain talent, increase workforce productivity and reduce operating costs by maximizing usable space and reducing unnecessary space in the workplace.

Every organization has its own unique challenges and opportunities concerning its workplace strategy, but every organization requires an effective work environment that encourages people to behave in ways that, when aligned with an organization’s goals, will assist in achieving the desired business results.

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A successful workplace strategy is not only about doing more with less space, but more about doing more with the “right” space. When “the office” can be anywhere, traditional notions of how to manage “space” move beyond the physical office and into the new, innovative realm of the mobile, distributed workforce. Leaders that embrace, enable and properly manage this new and creative mobile workforce will directly impact the “value” they can bring to their organization.

Be sure to reference this chapter often as you develop and implement your workplace strategic plan and share this information with your key stakeholders.

Chapter 5 takes us one more level down in the planning and implementation process. Traditional models of space programming do not work very well in a new world of multiple work sites, globalization and cloud computing.

This chapter is very tactical. It gives you a set of tools and questions to be addressed to successfully develop and implement a forward-looking workplace strategy. It examines what you need to make a plan successful, what the trade-offs are in different workplace environments, how sustainability fits into this and lastly, how to deal with increasing degrees of uncertainty when you have to deploy resources today.

This chapter is the journeyman’s guide to the future. This is the one you copy and paste up on your wall on Monday at 8 am.
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Janice Cimbalo has been representing tenants with their office space requirements for 13 years. She is responsible for strategic planning and implementation for portfolio tenants throughout Southern California, as well as nationally and internationally.

Before joining Jones Lang LaSalle, Cimbalo assisted corporate users in a wide variety of industries and geographies while at Cushman & Wakefield and Studley. Prior to her position as a tenant advisor, she was a litigation attorney for seven years, handling cases relating to real estate, corporate, international, antitrust, bankruptcy, product liability and medical malpractice law. Her legal experience assists clients in evaluating their real estate transactions on an additional level, while coordinating the various transactional elements, including incentive negotiations for clients throughout the United States.

She also provides clients with cutting-edge strategic solutions, such as her REMMY award-winning work with SCAN Health Plan in Long Beach, California, evaluating and implementing cost-saving strategies in the development of SCAN’s “Office of the Future.” A partial list of clients represented include the City of Long Beach, California, 21st Century Insurance, LodgeNet Interactive Corporation, First Regional Bank, International Rectifier and World Poker Tour. Additionally, Cimbalo is a co-author of Cut it Out!, a book that provides creative solutions to reduce facilities expenses. She addresses the topic of leveraging the current market to decrease bottom line real estate portfolio costs.

Cimbalo is the past president and current vice president of the board of directors for the Corporate Real Estate Council of the International Facility Management Association (IFMA) and is actively involved in CoreNet Global, through which she has received her Masters of Corporate Real Estate. She is also the program director for the Organization of Women Executives and is a founding member of Executive Real Estate Women. She received a bachelor of arts degree in psychology and economics and a bachelor of science degree in biological sciences from the University of California at Irvine. She acquired her law degree from Pepperdine University and is a member of the State Bars of California and Tennessee.
Paul Doherty
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Paul Doherty is a senior vice president of Screampoint and is one of the global industry’s most sought after thought leaders, strategists and integrators of process, technology and business. His experience as an author, educator, analyst and advisor to Fortune 500 organizations, global government agencies, prominent institutions and the most prestigious architectural, engineering and contracting firms in the world provide Screampoint with world class leadership. He is a licensed architect and the former chief technology officer of Satellier, Inc., the industry leader in global workshare solutions and BIM services, for the design, construction and real estate industries. Doherty is also the former vice president of land development and home production processes for K. Hovnanian Homes (NYSE:HOV), the sixth-largest home builder in the United States. He is a prominent and highly rated speaker at numerous industry events around the world each year and has been appointed as a guest lecturer at leading universities throughout the world. A former board of director of the International Facility Management Association (IFMA), Paul is a co-founder of IFMA Shanghai, the first Western professional industry association in the People’s Republic of China.

Cary Johnson, FIIDA, LEED AP
Senior Associate, Gensler

Cary D. Johnson, FIIDA, is Gensler’s north central regional workplace leader. A recognized leader in the design community, Johnson is past president of the International Interior Design Association, served as the vice president for government and regulatory affairs, and guided the Illinois Interior Design Coalition as a member of the steering committee. For more than seven years, Johnson served as a member on the Illinois Department of Regulation board of directors for interior design. In 2003, the Illinois IIDA Chapter honored him at its annual leadership breakfast, recognizing Johnson’s lifetime achievement as a practitioner and supporter of the design community. He is also chairman of the CIDA board of directors and liaison to NCIDQ.

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Ricardo Nabholz is responsible for marketing and strategic initiatives at Kayhan International, a leading workplace strategy and furniture distribution company headquartered in Chicago, Illinois. Nabholz comes from a multidisciplinary design background and has extensive experience collaborating with architects, interior designers and their clients to deliver seamless integrated design and high performance work space. At Kayhan International, Nabholz is responsible for developing and executing key marketing strategies in order to strengthen Kayhan’s position in the marketplace. Nabholz has a bachelor of interior architecture degree from the School of the Art Institute of Chicago and he is a LEED Accredited Professional.

Darrin Norbut
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Darrin Norbut is a senior manager in Panduit’s global real estate (GRE) organization. Within the GRE organization, he leads a global workplace resource group whose role is to partner with the executive leaders to manage and implement strategic, sustainable and best-in-class capital improvements to Panduit’s real estate portfolio. Norbut has over 15 years of professional experience in leading projects comprised of architectural and engineering consultants, maintenance, environmental, health and safety teams to ensure responsible asset utilization in office and manufacturing environments. Recently, he led the integrated project delivery team for Panduit headquarters, a world-class 280,000 square foot project that is seeking LEED Gold certification.
Chapter 4    Workplace Strategy: What It Is and Why It’s Important

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Dr. Alexander Redlein is a university professor for facility management at the Vienna University of Technology and past president of IFMA Austria. After his interdisciplinary studies at the Vienna University of Technology and at the Vienna University of Economics and Business Administration he has now been engaged in research, education and consultancy in the area of FM for almost 20 years. He is head of the Centre for Information and Facility Management (IFM) at the Vienna University of Technology. Beside his research activities, he is responsible for technology transfer between the university and CEE companies. In numerous projects he set up FM concepts for international companies and optimized their FM processes, ICT and space management. As a researcher he conducted international studies about the status quo of FM in CEE and about the value added by FM. In the area of sustainability he compares building ratings systems and their impact on facility and real estate management. In addition, he heads a MBA for FM at the Vienna University of Technology.

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Vice President, Manhattan Software

Nancy Johnson Sanquist, IFMA Fellow and AIA Associate, is a vice president for Manhattan Software. She is an internationally recognized technology specialist with 25 years of diverse experience in corporate real estate (CRE) and facility management (FM).

Sanquist is considered an internationally recognized leader in the CRE/FM technology field and created the first seminar for the International Facility Management Association (IFMA) over 15 years ago. She has conducted numerous technology seminars and training sessions for both IFMA and CoreNet Global in North America, Europe, Australia and Asia. Additionally, she has contributed substantially to the research and development of CRE/FM technology through her many written works.

She has a B.A. from UCLA, a M.A. from Bryn Mawr College and a M.S. from the Graduate School of Architecture and Urban Planning at Columbia University. She currently serves on the occupancy cost standards workgroup of the Open Standards Consortium for Real Estate (OCSRE), is the vice president of the design committee for the Del Mar Village Association and is on the Del Mar Planning Commission.
Chapter Five
Implementing a Mobile Workplace Strategy

Marcus Bowen
CASP-R Limited

Chris Hood
CBRE

The Idea in Brief

• Developing a workplace strategy does not in itself benefit the enterprise. To achieve that, you need to make changes on the ground, through the engagement and actions of real people. And in the case of working practices, the issues being addressed present many opportunities for plans to be blocked and optimal results to be diluted or made unsustainable.

• The aim of this chapter is to help you overcome these implementation challenges. It provides a guide to the implementation process of a particular type of workplace strategy around mobility of the workforce and includes supporting tools and techniques, as well as acting as an introduction to themes further developed in Chapter 8: Change Management as a Core Competency for FM.

• We have assumed that the strategic goal or big idea of this chapter is to optimize the use of space to generate savings, and reinvest some of those savings in the spaces remaining in such a way that they better support the actual work processes demanded of them.

• The real wins emerge when these work processes are forward-looking and anticipate shifts, such as answers to questions: What work will be discarded? What is the new work yet to be undertaken? Directionally an element of “let’s get to the future, today (and beat the competition)” is associated with the big idea.

• We refer to the life cycle for implementing workplace strategy as the program, and we have assumed that you will be the program manager. This role may be different from your current role. Leading a workplace strategy implementation program is a challenging and hands-on role, but also rewarding and exciting. We hope our chapter conveys this excitement and the rewards of making strategic thinking real, while providing demonstrable improvement to the enterprise (profit), the people who work in it and, through better resource utilization, our planet.

The Idea at Work

Having read this chapter, you will be ready to:

• Establish the right environment to develop an implementation program.
• Analyze what is going on in your workplace today in terms of space use.
• Build an inventory of space components with which to meet user needs.
• Plan a building in terms of implementing your business’s workplace strategy.
• Identify the similarities and differences between successful mobile workplace strategies.
• Address issues critical to the sustainability of the program in context of possible management and employee concerns.
• Adopt an approach to planning that manages the uncertainty businesses have over future space needs.
• Advance communications tools to support program communication and change management.

In the interest of space and not diluting the material too much, we have chosen not to cover portfolio-level implementation; this would require several additional chapters. Our focus is therefore very much on providing building-level advice.

Executive Summary

In a world where business continues to become more competitive and more global, it is imperative that organizations maximize the value of their investment in infrastructure by placing it where it serves the highest purpose. The advent of mobile technology has loosened the ties that bind many employees to a specific workplace and thrown open new and exciting possibilities about where talent can be attracted and utilized to its highest purpose. Connecting people together productively, no matter where they are, is being seen as just as critical as the traditional workplace paradigm of successfully arranging floor plans to facilitate communications between co-located workers.

As undeniably valuable as face-to-face contact remains, and despite the fact that their desks are placed next to each other, utilization studies suggest that co-located workers are not often...
actually present in the same place at the same time. In fact, co-workers may be more available through virtual collaboration rather than face to face.

Contemporary workplace strategy can expunge the waste of underused office space, focusing reinvestment in a “less space but better space” proposition using a portion of the ensuing savings to encourage employees to take the time to master the enabling technology and learn the new prerequisites of remote collaboration, as well as mainstream remote performance management, and drive change management as a core management competency.

The results can be dramatic:

- The ability to engage and retain talent wherever it is situated
- New work environments that respond more accurately to evolving needs of collaboration and flexibility
- Workplace solutions built around future business needs, a departure perhaps from today’s status and entitlement paradigms
- Office space that has energy and buzz
- Major reductions in an organization’s carbon footprint

The reality of workplace strategy is that to deliver on its strategic vision, to realize the value, it has to be implemented, and to be implemented, a wide range of tasks and skills need to be organized in a business, possibly for the first time. This makes the transition from vision to actual value-enhancing outcomes risky and certainly not business as usual for many of those participating in or impacted by its changes.

The starting point is to make sure the level of leadership and commitment is in the business to sponsor and drive the change process. Being a new development, some people will need to be empowered to take on new roles (e.g., as workplace director) and have responsibility over new budgets (e.g., appointment of new advisers, suppliers).

Pre-Implementation Considerations

Before developing a program brief, reflect upon the following items, which can be thought of as a checklist for moving forward.

Defining Your Role as Program Lead

Is workplace strategy (WS) an explicit part of your job description? Your answer may be “not explicitly, but in the terms of achieving my objectives, I will need to change working practices.” The key point here is to ensure that those around you see involvement in workplace strategy as core to your role. This program will move your role beyond creating a work environment to directly questioning areas of work practice. Some people may challenge this and question your authority to operate in this area. To address this, it may be necessary for senior management to reconfirm your role (e.g., by way of a memo from the CEO concerning your role as WS program manager). Without this level of authority and acceptance, there may be difficulties obtaining the level of influence necessary to make the necessary changes.

Learning From Experience

Is there a history of this sort of program in the business and what can you learn from that history? What sort of culture does the business have and how does this relate to changing previous working practices? You need to discreetly seek out all those who may have considered or tried to make changes in this area and learn from their experience. It is possible one business manager is already practicing some new ways of working, the visibility of which is restricted to their local area. Consider also seeking out the experiences of your local competition. The process of learning about previous experiences may be time consuming, but can be very revealing as to the issues you will encounter.

Sponsorship and Leadership

Do you have the right level of support for the program? Time and again, studies indicate that the main cause of failure in implementing workplace strategy is lack of sponsorship from senior management across the program life cycle. As such, gaining and sustaining support must be your priority.

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1 We have experienced this in businesses that have lots of small semiautonomous units, like insurance sales. Some sales teams are operating advanced workplace solutions out of the same big office floor plate, but most are still based on “one-agent-one-desk and boss-in-corner-office” setups.
Who is to act as the executive and operational leader for the program? There may not be any obvious program leadership structure. Like sponsorship, you need to be clear where this is going to come from. Is it right to leave the day-to-day leadership role to your boss? Similarly, do you have the resources to manage both the business-as-usual issues and give this program adequate personal attention? Is your organizational culture such that an external consultant would be more appropriate? The issue of program leadership (and levels of responsibility) needs to be considered at this early stage.

Establishing Credible Business Intelligence

Can you obtain adequate data about current workplace use, costs and users’ productivity to demonstrate the ability of the WS to improve performance? While we look at this issue in more detail in the final section of this chapter, this aspect needs consideration at the outset. Without both understanding the start position and how changes in key performance measures can be measured, it will be very hard to establish a viable business case (let alone measure benefits post-project implementation). Consider how this can be done. There may need to be a preparatory data collection project.

Deciding on Appropriate Program Level

The mandatory considerations set out above apply equally to whether you are considering WS implementation at a portfolio level or building level and local or multisite/multiregional level. However, an early decision needs to be made as to the scope of influence of the program and link this back to the vision and goals of the WS. You may have an overarching WS, but at what level is it practical to implement?

The dimensions for scope of WS implementation are:

- Physical – Building, campus, cluster (e.g., metro area), portfolio (region/country/global)
- Organizational units – Departments, business lines
- User types – Office, mobile, super mobile, home worker

To start with, frame your perspective for the program as wide as possible so as to increase the economies of scale, network effects, utilization efficiencies and critical levels of adoption of new technology (e.g., desktop videoconferencing as opposed to travel to meetings). It should become clear that selecting too low a level of program can have significant impact on the ability for the WS to deliver optimum results. For example, a mobile-working strategy may not be viable unless a provision of hot desking is established across all offices within a sales region.

Be aware, that the practical and political impact of implementation can encourage managers to adopt more timid plans than the WS vision might suggest. This is because some aspects of WS may require new resource sharing and collaboration that the business is not currently set up to support, such as different business unit persons using other business unit offices, resources and so on, or a scheme that means closure of one building and development of another.

Deciding on the level of the program is therefore a critical and a defining moment, and may reflect as much upon the practical realities of “getting things done around here” as to the desire to optimize the economic potential of the WS itself.

Pilot Schemes

A word about pilot schemes: some will argue that pilot projects are essential as proof of concept statements. This would not be our chosen advice.

Pilot programs are rarely representative of the final outcome; they are usually relatively overfunded and attract more resources and attention per project than any businesswide solution could ever justify. They are therefore not usually a good guide to the ultimate deliverable and may give a false sense of what will be more broadly implemented. Furthermore, there is plenty of evidence out there that such strategies have already been successfully implemented elsewhere, so it is not really a proof of concept at all; it is a chance for the proponents and naysayers to further entrench their views.

We belong to the school of thought that says if we are going to do this, let’s do it right the first time, use the process as an holistic effort to reinvent ourselves more broadly and have the confidence to dive right in with phased deployment. This will require planning and groundwork of an order that is not practically justifiable for a single pilot. Success will come if your project is guided by systemwide implementation platforms that have been
well thought out and are consistently applied across the enterprise. (See the section Further Program-Level Issues later in this chapter.)

In the spirit of being fair, however, to those who have used pilots very successfully, the following is a listing of the pros and cons as we see them:

Pilots are a good idea because:

• They provide a focal point for program development activity, where the concept becomes tangible and the issues become real. One quickly starts talking about the right things, not imagining them.
• They can become a living lab where the infrastructure development team can try things to see how they work. This testing activity allows the team to then respond, with confidence, that they have undergone a testing program and have fine-tuned the solutions in accordance with the findings.
• One can photograph the solutions and use this as collateral for the wider program implementation.
• Senior management expects a pilot and will not agree to invest broadly without doing one.
• They provide an opportunity to develop a set of key performance indicators and sometimes create unintended discoveries that are truly useful.
• For many, seeing is believing. No other approach will provide them with the impetus to change.

They are not a good idea because:

• Pilots attract excessive focus, resources and investment. This is very unlikely to be an accurate depiction of the way an enterprise-wide program rollout will work. It gives a false sense of the implementation standards that will follow.
• Pilots present distorted economics since the pilot implementation cost applied broadly would be un-supportable from a business case perspective. Some parties who are either overtly or covertly against workplace changes may be orchestrating just such a conclusion.
• Pilots will typically be engaged in by groups who are essentially “for” the idea. They are typically not the procrastinators or the “not me” groups and therefore will tend to evaluate the solution in positive, and subjective, terms. The detractors will see right through this and use this to drive the wedge deeper.
• There are components of the technology implementation that only work when the entire organization is so endowed. For example, space booking systems would need to be part of the global facility reservation system before they can be useful. This is rarely done in a pilot.
• Pilots carry a tone of “let’s try this and see if it works, and if it doesn’t we will go back to what we had before.” Unfortunately in this atmosphere, and with this uncertainty, managers will not make the deep commitment to changing the way people work and how they manage being distributed without the broad push that they have to, because there is no turning back. They are too busy to spend the time on a wasted effort.

Perhaps the final words on this are: Make sure there is a clear definition in all parties’ minds between a pilot designed to see if this concept works and the first phase of an implementation to test the design of the components and how they play together. These are two very different things. The first carries a “one toe in the water to test the temperature” approach, which will never attract the deep commitment necessary. The second involves a committed deep dive, and this is the approach we favor.

Implementation Stages

How will such a program be implemented in your organization? Is there a well-known process for this sort of change project, or is it such a new subject that there is no existing process to follow? To be credible, the route map will need to reflect the special features of your business. As such, take time to sketch out implementation stages, with special focus on who will need to be involved, when. The business case will need to demonstrate a good understanding of the practical process and how senior management will interact with and exercise control over it.

The following example of program stages is provided as a starting point to develop your own more detailed program plan that reflects your specific circumstances.
### Stage 1 – Preparation

**Objective**
Gain senior management team (SMT) approval to undertake work to develop WS implementation business case

**Key tasks**
- a. Identify and resolve mandatory issues
- b. Define level and scope of WS program (physical, business units/lines, geography)
- c. Gain sponsorship and stakeholder approvals to establish business case

**Outputs**
SMT approval to establish a business case for the WS

### Stage 2 – Business case

**Objective**
Establish a business case for undertaking WS, in enough detail that it can act as the SMT basis for approval and monitoring of the program

**Key tasks**
- a. Define WS in terms of viable business case performance goals, targets
- b. Collect information relevant to base case (cost baseline) performance targets and acceptable “spend to save” expenditures
- c. Obtain various approvals necessary to proceed to next stage

**Output**
SMT approval to progressive implementation of WS program, as set out in a business case

### Stage 3 – Team formation and orientation

**Objective**
Assemble the right team of internal and external members

**Key tasks**
- a. Recruit/brief the appropriate adviser/management team and suppliers
- b. Hold workshop(s) to orientate team to program objectives, etc.
- c. Use team members’ inputs to further validate business case and program brief

**Output**
Mobilized organization for implementing the program

### Stage 4 – Implementation design

**Objective**
Create a detailed plan for the implementation of the WS, based on further technical/user research and representations from stakeholders

**Key tasks**
- a. Design detailed implementation projects and form subproject groups, including process flow and playbooks that guide the process
- b. Obtain confirmation in terms of business continuity, risk management, communications plan
- c. Obtain stakeholder buy-in and sponsorship sign-off

**Output**
Program implementation plan(s), approved

### Stage 5 – Implementation projects

**Objective**
Implement various subprojects to create desired changes

**Key tasks**
- a. Commence undertaking change projects
- b. Monitor user acceptance and change of operations, make adjustments
- c. Communicate impact, performance to stakeholders

**Output**
Completed projects in line with implementation project briefs
In addition, when developing the stages, also consider the following:

- **Address main constraints** – Are there any major constraints on how this is to evolve? The typical examples are imposed deadlines, budget restrictions and inclusion of new user groups (e.g., from recent merger or acquisition).

- **Control complexity through subprojects** – Most WS programs need to be broken down into a series of logical subprojects, usually because they affect distinctly different user groups, properties, etc., or have different constraints (e.g., lease end dates). In our example, we envisage a series of interrelated subprojects being managed by one program manager.

- **Devise a robust risk management regime** – Schedule out all the known risks to the program, and define their potential impact and how to mitigate them.

### Further Program-Level Issues

There may be further issues to consider in setting up the program specific to your business. The following are those that are typical to all programs operating “above building level.”

- **Essential conditions to proceed**: Will the key boxes be ticked (e.g., management support, performance management system operating)?

- **Benchmarking**: What are others doing in your industry in respect to agile working?

- **Productivity**: What will be the impact on productivity? Can you make the connection between workplace strategy and productivity of people?

- **Talent management**: What are the impacts on talent attraction and retention?

- **Space model**: Is there data to enable development of a space model for entire company headcount? You need this at the start.

- **Definitions**: You will need to agree to a commonly accepted set of definitions, particularly for worker types (patterns of working) and associated infrastructure (physical space and technology). Otherwise there is an opportunity for misunderstandings.

- **Vision**: Carry out a visioning exercise to gain consensus on the new imperatives for the future, such as speed to market, higher quality output and talent retention.

- **Needs assessment**: Define and measure what business units estimate they will require in terms of space and technology, now and in the future. Use this to inform scenario planning sessions.

- **Scenario planning**: Do you have access to the right group of business leaders to explore scenarios and hence identify the triggers for demand change (growth, flat and shrinkage by geography and timing)?

- **Space planning**: Develop a space planning model that derives a program from linking headcount, worker types and space utilization studies.

- **Change management**: Define the necessary infrastructure (team, communications, data points) and responsibilities.

- **Metro planning**: Containing the strategy to a metro area may be a good starting point, since existing and possible spaces will most likely fall in the same employee/sales catchment areas, with shared transportation links. By contrast, multi-region or multicountry schemes necessitate a more complex portfolio management approach.

- **Economics**: Identify the cost impact and investment criteria.

- **Non-company office solutions**: Telecommuting and serviced-office type solutions.

- **Product selection**: Develop a process of product selection (e.g., furniture, technology, ergonomics, finishes, etc.) that objectively relates functional capabilities, cost and quality.

- **Sustainability**: Identify if there are any essential corporate
sustainable design parameters to incorporate in the program.

• Branding: Identify the essential branding statements and elements that new spaces are to support.

• Training: Identify and gain support for training of managers and employees on how to use the new spaces and technologies. A simple induction meeting may not be enough, and you will need to follow up to check how things are progressing.

Further Building-Level Issues

Are there any building-specific factors that create local changes or challenges to workplace strategy implementation? Some things to consider are:

• Limitations imposed by configuration of building structure and floor plate layout
• Impact of increased intensity of use of parking, bathrooms, power consumption/AC, food service.
• Need for access to views and natural light to support certain functions.
• Security and need for secure areas.
• People access and exit, including meeting regulations for means of escape from fire.

Establishing The Program

What’s Happening Today?

“The Big Bold Shift Study”\(^2\) confirms that all credible workplace initiatives have to start with data. Management ranks are not swayed by opinions, but even the most entrenched views are more likely to be won over with high-quality data. Typically, in a workplace strategy context, this involves three interconnected sources:

• Utilization studies (to find out who is where and how often)
• Observation studies (to report independently on how space is being used)
• Surveys (to gauge employee reaction to space and under-

stand workplace expectations that currently prevail and may need to be changed)

In the “The Big Bold Shift Study,”\(^3\) 11 companies with relative maturity in this field shared their thoughts on implementation. They all started with utilization studies, so that is where we will begin.

Utilization Studies

The differences between employee accounts of presence and actual occupancy of space can differ greatly; therefore, it is recommended that objective third-party utilization studies should be undertaken. Figure 1 shows just how different: The outer ring of utilization data for a number of Hewlett-Packard sites was gathered through interviews with employees, and the inner ring was obtained through actual observation of employee presence.

Figure 1: Self-reported versus actual attendance in a work space.

In this diagram, we see the large gap between self-reported attendance as reported by employees (the outside dotted line for five sites) and the actual measured records of attendance (the solid interior line). The only location where the self-reported and measured attendance were close was in a call center.

The reasons for these variances range from an honest overestimation as to how much time one spends at one’s desk to deliberate agendas to influence the result of a study by misrepresenting information toward what one might expect to be the way the data is used. There are two possible reasons for this:

\(^2\) North, Kate and Hood, Chris, “Big Bold Shift Study,” CoreNet Workplace Community Webinar, February 22, 2011.

\(^3\) Ibid.
1. The survey subject just simply does not recount his business movements with any kind of authentic accuracy, or
2. The person interviewed suspects an ulterior motive to the question and is anxious to establish the most lengthy presence in the office with a goal of maintaining support for a dedicated space allocation.

So utilization studies are a good way of establishing the real situation. They can take several forms and provide different values in the workplace strategy process, as detailed below:

- **Log-in data**: Useful but requires system development to convert this data into planning advice (i.e., locating port locations, possible privacy issues).
- **Badge entry data**: Only works when there is rigid discipline around use of a badge swipe for entry and exit of a building. This supplies little information on where the employee is actually residing or what he or she is doing. Possible privacy issues to be considered.
- **Active badges**: From a facility standpoint, this is the ideal solution because it allows an individual’s every movement to be tracked; however, this would be considered very invasive by many.
- **“Bed checks”**: Usually accomplished by an individual walking around with a plan and a clipboard and noting the presence of individuals. Some consulting organizations have become quite sophisticated with this approach and use GPS technology to automate the data gathering and apply it directly to floor plans. Regrettably these are limited by the amount of times that an individual can be expected to pass through a space taking readings.
- **Sensing technologies**: Sensors are located at work settings and record the presence of individuals. Readings can be taken every few minutes and build up rich volumes of use data over a period of time. These solutions tend to be more expensive but create the best data. Privacy concerns can be addressed by allocating results for clusters of work settings rather than individual settings so as to depersonalize the data.
- **Reservation systems**: Only record bookable space and are therefore limited in scope. Reservations systems can also be abused and do not always convey an accurate picture of actual occupancy in spite of utilization checks.
- **Measurement of car park use, water and food consumption**: Though creative and noninvasive, they do not typically provide sufficient data to merit management credibility and are not recommended. They may be correlated with more detailed studies to provide snapshot readings of utilization without the need for the more significant deployment of measurement resources.

When performing utilization studies, other additional considerations include:

- **Timing**: The more data over the longest period of time will obviously lead to the best results, but at a very minimum two weeks of study with at least two readings, one mid-morning and one midafternoon, are required.
- **Privacy of data**: Recording when and how people use the office space is an important issue and companies vary in terms of the monitoring and observation that is permitted. Some companies will not release badge-entry data beyond the security function, believing it to be an invasion of privacy. Others articulate a greater freedom to monitor and record individual employee activity. In some cases this is not even a company decision. In Bulgaria for example, companies are forbidden by law from installing monitoring devices to measure employee activity. Such parameters will require that you make implementation decisions that work for the culture of your company; respect any legal or social mandates in effect; and develop the approach that will meet your company’s anticipated needs for data legitimacy.

### Observation Studies

The point of observation studies is to use objective third parties to observe what is going on today in a way that self-reporting cannot achieve.

Who are the observers? Typically observers are human factors engineers, sociologists, human computer interface experts and the like. The best observers can reliably be found in academia, although there are now consulting organizations that also specialize in this role.

What are they observing? Typically they are looking to see how things are being used and what things work and what do not. They can observe barriers to worker effectiveness and possibly offer the best answer to the question: How do I know if my workplace is more, or less, productive? Skilled observers can not only pick out barriers to productivity but suggest remedies.
The following are examples of the kinds of questions for which one might want to get answers from an observer:

- Are virtual communication tools being used at this site?
  ◦ Audio/teleconferencing?
  ◦ Net meeting/virtual classroom?
  ◦ Videoconferencing?
  ◦ WebEx?
  ◦ Streaming media?
  ◦ Instant messenger?
- Are employees sufficiently well-trained in these tools?
  ◦ Does the application open quickly?
  ◦ Can they open the application?
  ◦ Is everyone present familiar with its operation?
  ◦ Does use of tools seem basic, medium or advanced?
- How is the workplace working?
  ◦ What activities are not part of the intended use scenario?
  ◦ Are there items being stored incorrectly?
  ◦ Is the atmosphere positive or negative, and what seems to make it so?
  ◦ What is the general level of engagement between employees?
  ◦ Is there equipment that is not working properly?
  ◦ What is the appearance of the space?
- How are office protocols for allocation and use of space being observed?
  ◦ First come, first served?
  ◦ Respect for others? Noise?
  ◦ Reservations systems used properly?
  ◦ Holding disruptive meetings in the open?
  ◦ Pagers and mobile phones on vibrate mode?

The outcome of these studies, of which the above questions are only a small example, will enable you to talk in a very informed fashion about the overall level of effectiveness of today’s workplace.

**Employee Workplace Surveys**

There is almost universal agreement that surveying employees is a good idea. It brings forward an idea of what is on peoples’ minds, and identifes areas of concern and need for focus. But it would be wrong to consider this as the source of improvement information. Usually, employees’ comments are informed by their expectations, which may or may not be correctly set.

In a recent workplace transformation in a major technology company, the entire office footprint of the company was reduced by 40 percent. That meant that the business of the same population of the company was being transacted in just 60 percent of the former space, leading to higher energy and interaction levels mentioned earlier. Some employees expected the new environment to be just as quiet as the previous, sparsely populated version.

If one reacted solely to the survey results for the new space, one might be prompted to conduct expensive noise mitigation exercises, such as building private offices, installing very expensive ceiling systems, upgrading acoustic finishes throughout, etc. A more pragmatic approach might be to reset expectations prior to implementation and focus more on communicating appropriate office and workstation use protocols relating to noise generation.

Experience has shown that an employee population can internalize changing conditions and learn to live with them as long as the expectations are correctly set and that the underlying business logic of the transformation is well understood. Bottom line: satisfaction and needs surveys are very helpful but have to be considered carefully.

The best results flow when the three sources of data — utilization, observation and employee survey data — can be considered together. Each offers to the other the value of validation that either confirms, or casts doubt, on the need to respond. Figure 2 shows how the three can be combined to create valuable program design direction.

When this process is carried out successfully, high-quality direction can be determined as shown in Figure 3.
Figure 2: Combining utilization, observation and employee survey data to create valuable program design direction.

Figure 3: Example of successful design process.
Analyzing Use Information

Information Is King

Programs can be both data intensive and rely on data from a multitude of sources outside the program manager’s direct control. One of your biggest challenges as program manager is likely to be in the area of establishing and maintaining credible and effective knowledge management and business intelligence systems.

The data you have now gathered through utilization studies, observation and survey processes will provide you with the solid platform required to start planning. It is time to begin analyzing this data and to begin to build your program. For the rest of this section we focus on a building-level program; this is for containment purposes. We assume others will be aggregating this data at portfolio level and establishing implementation metrics across multiple buildings or geographies. We will leave that exercise to another book.

Let’s turn our attention to turning occupancy data into a building brief. Simply put, most mature programs have concluded that those employees who spend most of their time at a desk should continue to be assigned dedicated work spaces within the workplace. Typically there is no good purpose served by driving people out of the office. However, significant efficiencies in space can typically be achieved by just focusing on those who are already mobile: either mobile-remote from the office or mobile-within the office. Either way, employees vote with their feet each and every day, and the combined effect of these decisions will be clearly visible through the utilization survey results.

How aggressive one gets with driving mobile working is determined by the criteria one uses for mobility and the number of exceptions one grants for invalidating what the data is saying. Exceptions may be assigned to those with disabilities, employees with unique equipment or space needs, or those with special storage requirements. No doubt you will build your own lists.

In Figure 4, a picture of mobility emerges and it is varied.

Let us consider that in one case an individual may come into the office on Monday morning, work all day at his desk and do the same on Tuesday and Wednesday, at which point he leaves and does not reappear for the rest of the week. This looks like 50 percent occupancy of his desk space. Consider though an individual who is present at the office five days a week but is constantly going backward and forward between meetings, labs, sales...
events, etc. This could also look like 50 percent occupancy, but of a very different kind. By populating a chart similar to Figure 4 one is able to make decisions as to who gets what kind of space, as shown in Figure 5. Building and obtaining management decisions on charts such as this is a key step in establishing credible program implementation.

Presenting this data is a key challenge and the ability to be able to portray information from multiple sites at the same time helps program reviewers to understand that such behaviors are not unique but quite common across multiple sites. That is not to say that all sites are the same. The use profile of a sales site is likely to be quite different from that of a call center or a research building, but there is likely to be significant similarities across similar building types (Figure 6). This is true even across multiple geographies even though the actual space demand may vary according to local custom and common practice and local working practices/pattern.

Figure 6: Use profile for different sites.

Only 12-16% in their seats more than 60% of the time
Looking Forward

The above process is all very well and gives us a good idea about how to realign today’s business activities more closely to a snug-fitting business infrastructure, but it fails to look forward. The real breakthroughs emerge when the business leadership engages in a forward-looking exercise to determine what behaviors need to be encouraged in order to improve on what is being done today. You need to cause this exploration to occur.

A typical scenario might involve the establishment of a “charrette” (or design problem-solving group) involving the key stakeholders and asking the questions: How will we be working in five years’ time? What work will we be doing then that we are not doing now, and what work do we do today that we will not be doing then? Where will employees be located? What, if any, shifts will occur from heads-down work to more collaborative ways of working?

An example might be the shift in software development. Today many mature companies design software as individuals, who check in from time to time to ensure alignment with other co-owners of an overall solution. The focus is on the individual and his or her task performance. Contrast this with more contemporary notions, such as agile engineering, where the focus is very much more on the team and on very heavy, and more-or-less constant interplay between team members, and where the retreat to peace and tranquility is the exception rather than the rule.

Well-facilitated discussions with business leaders can identify these changes and build support for the change. By being together, at the same time, they get to hear various points of view, and have an opportunity to build points of consensus. The workplace initiative therefore becomes a shift toward enhanced business performance and not a cost-saving initiative. This is a winning business proposition. The outcome from such a session might result in new expectations as to engagement between employees and could lead to the creation of charts, such as depicted in Figure 7, to both build expectations with employees and to verify that the space and technology solutions are aligned with broad assumptions about future business trends and behaviors.

Figure 7 illustrates the primary communication exchanges in a large technology company and details, for each, the relative percentage of the population that is communicating to these audiences. On the top line, for example, almost 55 percent of the population is not communicating with customers off-site...
Chapter 5    Implementing a Mobile Workplace Strategy

The utilization studies and the planning activity associated with looking forward have given us insights into the number of desks and the major themes with regards to anticipated shifts in how work will be accomplished. However, we cannot predict 100 percent future demand, principally because of two major factors:

- Unpredictable businesses environments.
- People work differently. Even if it was possible to accurately predict future workplace needs by space type, this takes no account of the fact that two individuals may do the same job in different ways. One person requires a dedicated desk in a traditional work environment while another prefers a coffee bar.

The skill, therefore, is to understand the major patterns of use and, based on that understanding, provide a menu of spaces that meet these needs in more or less proportion to the anticipated demand. The menu falls into two pieces:

- Individual working spaces – Where individual work is accomplished and includes a range of desk options with various levels of openness or enclosure to address matters of immersion versus the need for confidentiality or focus.
- Collaboration spaces – Spaces where both formal and informal settings facilitate the coming together of individuals to work effectively as teams. This range might extend anywhere from the formality of a board room to an ad-hoc setting in the corner of a cafeteria, and will reflect both the task and the preferred working style and needs of the group.

Because many of the individual spaces are leveraged, the need for accuracy is not as high as if we continued to live in a one-person, one-desk world. In that world, if we end up one workplace short, we have an issue. In the leveraged world we are working in shared space and the introduction of one more person represents a minimal intervention. Consider if 100 employees share 10 desks, this is a sharing ratio of 10:1. If we now add 10 people and 110 individuals are sharing 10 desks, the ratio is now 11:1. Such sharing ratios are rarely that accurate. Peak attendance conditions can always be offset by thoughtful use of support spaces.

In Figure 8, one can summarize, at either building, business or geography level, actual space use. The blue columns refers to the number of workstations that are in use during the study sampling times. The red columns represent periods when the occupant is somewhere in the building but not at his or her workstation, and the pink columns represent an empty assigned workstation.

Figure 8: Diagram of actual space use.
Depending on the outlook of the organization this data can be used aggressively or conservatively to plan space consumption:

- The white line represents the number of workstations that are in use 80 percent of the time and arguably these are the only people who should have dedicated space.
- The purple line represents the average number of total spaces that are actually in use at any time.
- The green line represents the average number of workstations that are either being used or are waiting for someone in the office to return.
- The yellow line is the maximum value for the previous use scenario.
- The black line is the yellow line plus a 10 percent safety margin to address an extreme peak situation.

Different organizations will have different views about how aggressive they feel they need to be in regards to the above, but the bottom line is that this chart will generate a workstation count from which planning can begin.

**Space Planning for Mobility**

Floors that accommodate an increasingly fluid and mobile population require new considerations as opposed to totally assigned floor plans:

- Finding one’s way around (way finding): Clear circulation paths and layout logic are essential to support periodic visitors.
- Finding things: Good signage is important to help nonfamiliar staff to find conference rooms, social areas, printing and office resources, etc. Some solutions employ a concierge function that can give the visiting worker stationary, training and minor clerical assistance.
- Finding people: The development of neighborhoods to which employees (either assigned to space or mobile) belong is very helpful. This way all individuals have a “home” location in the workplace at which they are likely to find any co-workers who are present at the time, and resource office infrastructure, specialized equipment or other shared space or knowledge. Such neighborhoods can be derived along a variety of themes: business unit or function, a project, a cross-functional discipline, by age group or by job type.

Clearly circulation routes linking together such entities are very helpful.

**Space Profile**

How much space and of what kind?

Obviously, the amount of support space will be determined by the business type and the user groups’ needs (Figure 9).

![Figure 9: Diagram of space planning for mobility. (Source: Gervais Tompkin, Gensler)](image-url)
Table 1 provides examples of the types of support spaces and a space standard to which they typically comply.

The actual development of the above metrics is based upon an understanding of use expectations. Both the observational and utilization studies will inform this process. It is also a useful tool for communications purposes since it conveys a sense that the spaces provided are not arbitrary but have been well-researched and are the subject of significant scrutiny and thought. Building this knowledge base and being able to demonstrate your understanding of how the environment works with real data is a key implementation asset (Figure 10). It builds confidence in your command of the situation and makes you less vulnerable to push back that is perception-based. One should also understand that the metrics need to change based upon the size of the facility hence the inclusion of a range.

### Ongoing Improvement

As the program matures, it then becomes possible to start testing actual implementations against the planning metrics. Invariably the high-value conversations that take place at site level tease out local considerations, which provide a measure of practicality and verity to wide-ranging planning metrics. By checking the actual densities against the planning metrics, one can determine their usefulness as a planning guide. Ideally, the plusses and minuses should be equally split about the mid-point (Figure 11).

![Figure 10: Support space utilization.](image-url)

<table>
<thead>
<tr>
<th>Support spaces</th>
<th>Space standard</th>
</tr>
</thead>
<tbody>
<tr>
<td>Dedicated workstations</td>
<td>Sizes per company standards, number per utilization data</td>
</tr>
<tr>
<td>Free-address workstations</td>
<td>Sizes per company standards, number per utilization data</td>
</tr>
<tr>
<td>Mobile worker storage</td>
<td>Assume number of persons per locker space (assigned or free-address)</td>
</tr>
<tr>
<td>Open team space</td>
<td>1.2 to 1.75 sf per workstation</td>
</tr>
<tr>
<td>Focus booth/phone room</td>
<td>2 to 2.75 sf per workstation</td>
</tr>
<tr>
<td>Secondary circulation</td>
<td>Multiplier per best practice metrics</td>
</tr>
<tr>
<td>Business spaces</td>
<td>Examples: customer space, labs, training; based on business need</td>
</tr>
<tr>
<td>Conference rooms</td>
<td>12 to 18 sf per work station</td>
</tr>
<tr>
<td>Print areas</td>
<td>1.9 to 3.5 sf per work station</td>
</tr>
<tr>
<td>Office supplies/mailroom</td>
<td>Multipliers based upon the headcount</td>
</tr>
<tr>
<td>Common storage</td>
<td>1 to 1.5 sf per workstation or linear feet/meters of filing</td>
</tr>
<tr>
<td>Vending/break/e-club</td>
<td>6 to 20 sf per workstation</td>
</tr>
<tr>
<td>Food services</td>
<td>As required by local considerations</td>
</tr>
<tr>
<td>Wellness/fitness</td>
<td>As required by local considerations</td>
</tr>
<tr>
<td>Primary circulation</td>
<td>Per agreed best practice metrics</td>
</tr>
<tr>
<td>Building core</td>
<td>Per planning targets and best practices</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Work station</th>
<th>Quiet space</th>
<th>Meeting</th>
<th>Focus rooms</th>
<th>Team</th>
<th>Print</th>
<th>Touch down</th>
<th>E-Club</th>
</tr>
</thead>
<tbody>
<tr>
<td>Desk-based</td>
<td>High</td>
<td>Low</td>
<td>Low</td>
<td>Low</td>
<td>Low</td>
<td>None</td>
<td>Low</td>
</tr>
<tr>
<td>On-site mobile</td>
<td>Medium</td>
<td>Medium</td>
<td>Medium</td>
<td>Medium</td>
<td>Medium</td>
<td>Medium</td>
<td>Medium</td>
</tr>
<tr>
<td>Anywhere Mobile</td>
<td>Low</td>
<td>Low</td>
<td>Low</td>
<td>Low</td>
<td>Low</td>
<td>Low</td>
<td>Low</td>
</tr>
<tr>
<td>On-site non-office</td>
<td>None</td>
<td>Low</td>
<td>Low</td>
<td>Low</td>
<td>Medium</td>
<td>Medium</td>
<td>Medium</td>
</tr>
<tr>
<td>Off-site non-telework</td>
<td>None</td>
<td>None</td>
<td>Low</td>
<td>Low</td>
<td>Low</td>
<td>Low</td>
<td>Low</td>
</tr>
<tr>
<td>Tele commuter</td>
<td>None</td>
<td>None</td>
<td>Very Low</td>
<td>Very Low</td>
<td>Very Low</td>
<td>Very Low</td>
<td>Very Low</td>
</tr>
</tbody>
</table>
For most organizations, new ways of working present a learning experience where mobile workers tend to become more mobile over time. What starts out life as a very busy site, ends up with lower utilization levels over time as a result of this phenomenon, in effect creating additional future workplace capacity without changing anything. This phenomenon exposes a difficulty of being sufficiently aggressive with reducing workplace provisions. After about six months, increasingly mobile, less frequently visiting workers have returned the site to a position of less-than-optimum utilization necessitating further reduction in space provision in order to maintain the levels of buzz and interaction that characterize a desirable and productive workplace.

Most organizations opt on the side of safety, fearing that someone will appear in the office and not have a place to sit. In reality, this is a very rare incidence, albeit a desired consequence from time to time. It means that one probably has the mix of space about right, at which point one simply needs to have a peak demand strategy for addressing those few times of maximum use. Such strategies typically involve taking team rooms offline, and facilitating work in e-clubs and other social spaces.

The resulting description of space components is intended to create a range of choices that reflect the depth and breadth of need, both in terms of the ability to perform heads-down task work alone or the ability for high levels of collaboration with others.

The ideal outcome is to create a menu that allows individual choice to meet personal preferences and business needs in the areas of:

- Privacy and confidentiality
- Openness and transparency
- Control over the amount of light
- Thermal preferences (temperature and air movement)
- Acoustic performance
- Look and feel

Figure 12 presents this space-type information in a way that seeks to create a sense of the possibilities and to empower employees to be able to make choices as to when and how they work either as individuals or as groups.
Bear in mind, you are not alone. There is a growing number of design firms that understand the evolving subtleties of designing for mobility and choice. Their understanding of this subject continues to add to the bank of knowledge. However, you will find them most useful when you, in fact, become an informed user.

The advice in this chapter is intended to provide you with sufficient guidance as to the key issues and thinking so that you can ask informed questions, and make a judgment as to whether your consultant is sufficiently well-versed in the subject to provide you with appropriate solutions.

Managing Uncertainty

Managing Uncertainty

The Challenge That Uncertainty Creates

A critical and recurring problem with investment in the workplace is that the lifetime of the commitment far exceeds the planning certainty of those who are occupying it. This dilemma is best illustrated in the mismatch of duration of a new lease and the short planning horizon of the business unit occupying the accommodation it provides.

In this section, we move away from trend-line forecasting and introduce techniques that address the fact that there are significant levels of uncertainty about those things that have an impact on workplace demand.

To do this, we look at two interrelated planning methods:

- Contingency planning
- Scenario planning

These planning methods introduce the concepts of probability modeling and dynamic (event-driven) planning, which are currently outside the scope of this book but which you may like to investigate further.

Contingency Planning

Facility managers will be familiar with contingency plans linked to technical service issues (e.g., a response to maintaining services during a power interruption or natural disasters). Here, we widen the scope to consider those nontechnical events that lead to short-term change in demand for workplaces.

Examples of such critical events might be product recalls, competitor business failure, transport failures presenting significant commuting difficulties and short-term projects requiring new patterns of collaborative working (multibusiness, significant number of contract workers).

While business leaders are usually aware of the possibility of these events occurring, they often have good reason for not explicitly planning for them. However, the program manager needs to identify any of them that present a real risk to workplace provision and both define ways of dealing with them at a workplace strategy level and have a practical response at the program level. To do this will require you to work with business leaders to establish what short-term critical events are conceivable, estimate how likely they are and what impact they will have on workplace demands and supply and patterns of use.

The key here is to differentiate between critical events that create a change in demand that last a short duration and game-changing scenarios (discussed in the next section) with persistent impact.

If we pool together the potential events and their probabilities of occurring in the course of one year, we can build a quantitative model of the likelihood of requiring different levels of additional space in any one year.

In some cases, where demand is located inside the same shared local network of spaces, we can aggregate these probabilistic demand forecasts and find an overall result of likelihood at any one time for different levels of demand/supply around the norm.

Clearly, if the demand is in a different network of spaces then it is either not possible to pool in this manner or it brings into focus other non-space-related needs, such as AV and travel cost issues.

The usual reason is that is they see the cost of carrying spare space as not worthwhile based on their own probabilities. It is only when probabilities are pooled across multiple business units that the concept of holding standby space or investing in service office contracts seems worthwhile.
The main point of contingency planning is to give justification for either having too much or too little space relative to the simple business as usual forecast of need. Having contingency space allows a business to react effectively to disruptive change in business conditions, driven by the fact that many businesses cite speed to market or ability to respond commercially as a critical success factor in growing or maintaining their market position. Real estate should not hold them back from exploiting a good opportunity, but it should test any scenario that could lead to underutilized space. This ability to make business entities think long and hard about incremental space, and investment in such spaces, is a key strategic value add and can bring desirable balance to such dialogue.

Earlier in this chapter, we looked at program-level influences and in this section we look at dynamic planning and its reliance on establishing the key values or drivers that lead to business success or failure. The contingency planning process touches on this but can be limited to only considering a short list of possible events that directly disrupt demand or supply for space. If you find dynamic planning is something that is useful to your approach to space planning, then it may be worth expanding the dialogue with business units in the recommended charrette to review the short list of 10 to 15 value drivers that they see as critical to success/failure.

<table>
<thead>
<tr>
<th>Business line</th>
<th>Event</th>
<th>Likelihood of occurring in a year</th>
<th>Demand change if it occurs</th>
<th>Duration/notice</th>
</tr>
</thead>
<tbody>
<tr>
<td>A</td>
<td>Win a large project not in normal planning system</td>
<td>25%</td>
<td>5-25 desks</td>
<td>3 months (1 month lead in)</td>
</tr>
<tr>
<td>B</td>
<td>Increase claims handling due to mass incident</td>
<td>5%</td>
<td>10 to 50 more call center desks</td>
<td>2 months (immediate)</td>
</tr>
<tr>
<td>C</td>
<td>Increase in new sales due to failure of competitor</td>
<td>10%</td>
<td>15 new desks</td>
<td>3 months (immediate)</td>
</tr>
<tr>
<td>D</td>
<td>Long summer of good weather for sales</td>
<td>Once every 7-10 years</td>
<td>New temporary storage depot and 5 new temp places at head office</td>
<td>3 months (seasonal, c.1 months notice)</td>
</tr>
</tbody>
</table>

Table 2 sets out a simple example of a critical event impact study.

**Scenario Planning**

The best weapon against uncertainty is to be prepared; but for what? Using a technique called scenario planning, you can explore how the business can best organize to address a contrasting range of possible futures (scenarios). The key to scenario planning is not so much that it gives up a preconceived response to a specific circumstance, in the way that the contingency planning process does, rather the process of developing scenarios, and answering how best to address them, provides those involved with a deeper understanding as to how best to respond now.

Scenario planning can get complex. To get started, consider thinking about one specific variable, such as level of growth in the business, and how best to manage the workplace to respond. This will test your level of understanding about workplace issues. Then look at scenarios that resonant more with business leaders’ points of view (e.g., changes in technology, competition, law). This will lead to thinking about more macro/external-level issues, such as changes in energy policy and social changes.

Below are three levels of scenario planning:

- **Level 1** – Function level, looking at the scenario from how it impacts on resources we have to manage (e.g., central services, accommodation provision, work style, workplace economics).
- **Level 2** – Business level, introducing the thinking and values of the actual business leaders (e.g., changes in competition, products, sales locations).
- **Level 3** – Macro level, looking at the widest environment, big issues and how the business can best respond or interact.
Starting at Level 1, you could analyze how best to organize workplace resources related to three simple scenarios:

1. Steady state: business continues, with no change in products, service lines, etc.
2. Growth: the business grows at a set rate over the next five years.
3. Decline: the business declines at a set rate over the next five years.

Even at this first level, counter-intuitive opportunities may emerge. For example, you may find that aims to improve space utilization and reduce CO₂ emissions per person may be easier to reach through a growth scenario, since growth provides more opportunity to reconfigure space, relocate properties and change working practice.

In this way, your capability and knowledge grows to a point where you will be effective in scenario discussions that look at complex macro-level issues where workplace is just a small part of the response. Scenario planning is not forecasting, and the real benefits come from the collaborative process of thinking about the issue with other stakeholders.

We do not have the space here to fully explore scenario planning. However, here are two sources of further reading that are currently accessible on the Internet and make sense in terms of the workplace programmer:

• Value Based Management: www.valuebasedmanagement.net/methods_scenario_planning.html

### Summary of Initiatives to Mitigate Effects of Uncertainty

The following are a summary of actions to improve responsiveness to demand/supply changes and hence lessen the impact of uncertainty of space planning aspects:

<table>
<thead>
<tr>
<th>Initiative</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Improve business intelligence</td>
<td>Reduce the time between the point when a business unit realizes it needs more/less space and when it has defined this in a way that allows you to respond. In some companies, a workplace representative is “embedded” in each business unit to get this information as quickly as possible and better understand the work of that organization.</td>
</tr>
<tr>
<td>Prepare contingency plans</td>
<td>Have different grades of contingency plans ready to be implemented, so that the time between demand change notification and realization of supply is minimized.</td>
</tr>
<tr>
<td>Develop know-how through group scenario planning</td>
<td>Carry out scenario planning workshops to familiarize stakeholders with issues and opportunities, and agree on basis for actions now, to anticipate future uncertain events.</td>
</tr>
<tr>
<td>Move to a dynamic planning approach</td>
<td>Identify the main values and drivers of the business occupying the accommodation and then review plans where any of the main values or drivers is impacted.</td>
</tr>
<tr>
<td>Create an agile supply chain</td>
<td>Review the supply side from the point of view of delay; progressively create a degree of flexibility that matches the likely demand/supply fluctuation probability.</td>
</tr>
<tr>
<td>Enable fast and low-cost churn</td>
<td>Focus on design that removes cost of churn by making infrastructure flexible.</td>
</tr>
<tr>
<td>Increase the flexibility of supply</td>
<td>Make as many space settings as possible multipurpose; add in ability to use space in temporary offices and hotels at short notice.</td>
</tr>
<tr>
<td>Make cost in use and carry cost lower than alternatives</td>
<td>Start objectively looking at capacity from the point of view of enabling speed to market capability and hence placing a cost-benefit ratio on the current space.</td>
</tr>
<tr>
<td>Make starting and stopping their use easier, less costly</td>
<td>Standardize the fitting out specifications so no time is lost in preliminary design; design space to be easily packed-up; focus on dilapidation claim avoidance.</td>
</tr>
<tr>
<td>Enhance visibility of space availability</td>
<td>Make space/room booking systems easy and popular to use. Encourage people to use the “right size” space for their task (i.e., not use a meeting room for a private call, when a booth will do).</td>
</tr>
</tbody>
</table>
Planning for Productivity Improvements

Improvements in space utilization and other metrics provide desirable/undesirable byproducts that need to be planned for. We have already discussed the phenomenon of mobile workers becoming more mobile over time and thus causing actual utilization to go down over time. Part of the program must directly address how the business will be taking advantage of this, for example by adding in more staff over time from other areas or as part of a business expansion.

For the same reason, surveys of occupier feedback about the new workplace should be continued for some time. These will give insight as to how productivity of staff and others affected has changed and will act as a good source of anecdotal evidence to other business units still to be included in the program. Another measure is to be able to demonstrate that the work is somehow different and better aligned to new work paradigms — paradigms that might promote higher speed, better quality or higher adoption rates. No business that we are aware of is not under pressure to continuously get better, at whatever it does. This improvement requires amended, if not transformed, work practices aligned with new visions for the work and the processes that drive them.

Supporting Information

Playbook for Implementation

Loosely aligned with Six Sigma processes, we recommend the establishment of playbooks, which bring together all the necessary implementers into a carefully crafted plan that respects the interconnected nature of all the component parts.

A simple playbook might be made up of the following sections:

- Project set up
- Data collection and analysis
- Vision and concept development
- Implementation
- Management
- Project close out

Each section would be comprised of a series of subsections describing the roles and responsibilities of each of the players and also a listing of tools, processes and deliverables that take place within them. While it is useful to become familiar with each of these steps, it is simply not reasonable to expect the end-user project manager to develop all this material.

There is plenty of help out there though, with a team specializing in the development of their tool kits, processes and deliverables. If you really want to find good help among the many consulting firms and designers, ask to see their playbook. You will immediately get a sense as to those with deep experience in this area.

Audit Procedures

How will you know if you got there?

Other chapters of this book deal with performance management, and it is clearly in the program’s interests to be very specific about which measures with which your organization is going to measure success. To this advice we would like to stress the following:

- Measure often (quarterly preferably) and set an expectation that you will do this routinely and present the information in a state of the workplace report. This serves as a constant reminder that the program is being actively managed and is a cause to celebrate successes and identify further opportunities to improve.
- Results are also a very powerful way to tackle naysayers. There is nothing like data and objective facts to change minds, even though not all the data might be in the rosy column.
- Disciplined and objective reporting can also be used to further the PR interests of the organization. Companies like being known for pushing the envelope, for being progressive or advancing specific interests, such as the environment, in the right direction. The workplace industry offers a plethora of opportunities for teams to share their achievements and to mix with others in efforts to share results and learn from the most experienced. A seat at the table is much more likely with a good set of results.
Getting Started: What To Do Right Now

Everything starts with a plan but be warned, something larger than the back of an envelope may be necessary. This chapter has advanced the major themes and the major considerations for developing a program, but to get started, you need help:

- From others within your organization who might be predisposed toward the change
- Players who would own part of the solution
- Outsiders who have done this before and who can share their war stories
- Professionals who can provide knowledge, experience and support your efforts

Our best advice is to pull together an exploratory session to brainstorm the possibilities. Use this guide to help set the agenda, and use your powers of leadership to identify those individuals who can develop the passion and maintain the stamina to see this through.

We wish you every success.

Chapter 6 brings us back up a level in thinking. If all this is good and true, then what does that mean for you as a professional? In essence, this brings us back to the basic motivation for writing this book. Our assumption all along has been that the FM profession itself has to evolve along with its members’ career trajectories.

But how? The purpose of this chapter is to share with our readers our collective thinking on this topic. Where do we see the profession in 10 years? How will new (and experienced) practitioners learn? What is the emerging role of the professional society that supported this exploration of the future?

This chapter raises those central questions and offers some experienced insight. We don’t claim to have all the answers here for the profession, but we do claim to have teased out and surfaced some of the more important questions.
Marcus Bowen, MRICS
Director, CASP-R Limited

Marcus is based in Hong Kong and is a director of CASP-R, one of the few independent real estate and FM advisers in the Asia-Pacific region. He started his career in 1987 as a Chartered Building Surveyor (Royal Institute of Chartered Surveyors), working on planned preventative maintenance programs and what we now call FM outsourcing. This involvement led him into portfolio management assignments. By the mid-'90s, he had enrolled in an MBA in construction and real estate and established a specialist consultancy in accommodation strategy. It is in this context that he started his practical involvement in workplace issues.

Over the past 15 years, Marcus’ workplace assignments have spanned from simple space utilization and observation studies to designing space-allocation/optimization databases and systems to predict the future availability of workplaces at call center back-up facilities.

Today, Marcus’ focus on the workplace includes being the Asia-Pacific representative for Occupiers Journal Limited, where he continues to study the issues related to workplace productivity in different organizations and cultures. Marcus is also a CoreNet MCR faculty lecturer on portfolio management.

Chris Hood
Managing Director, Workplace Innovation, CBRE

Chris is managing director of workplace innovation in the global workplace strategy team at CB Richard Ellis. He specializes in developing innovative workplace strategies to achieve organizational objectives that include improved real estate and workplace efficiency, reduced operational expenses, and perhaps most importantly, a significantly improved workplace experience for employees. He has specialized in observing the wide range of outcomes of new workplace strategy initiatives and making ongoing adjustments and improvements to the tactical implementation work in pursuit of the best possible results.

Chris has more than 30 years of strategic workplace experience having been responsible for directing Hewlett Packard’s global industry-leading workplace programs. He is an architect and has worked on projects in over 20 countries. Chris is a noted authority on workplace strategy and was a co-founder of the CoreNet Workplace Community. He is a past recipient of the CoreNet Global Innovation Award and has shared his views on workplace strategy in many published articles, on the radio and also on TV.
Chapter Six
Projected Impacts on the FM Profession

John McGee
Kathy O. Roper
CFM, MCR, LEED AP, IFMA Fellow
Georgia Institute of Technology

The Idea in Brief

• Facility management is at a tipping point in its evolution as a profession. Today, membership in facility management associations worldwide has grown to be in excess of 50,000. At the same time, IFMA continues to be the largest association globally, with 20,000 members managing over 39 billion square feet. Associations are also seeing a greater number of young professionals giving first preference to facility management as a career, and their more experienced members having increasing strategic influence and positions within their companies. Facility managers have always had a proud tradition in operating buildings and building portfolios across the globe. Now we are seeing the profession moving from operational excellence to strategic influence and impact.

• With the emergence of environmental stewardship and energy management as social, environmental and economic priorities, facility managers have increased their strategic relevance within corporations as the built environment and building portfolios have become the core focus for sustainability improvements.

• For facility managers, the effective management of technology-enabled, high-performance workplaces is the next opportunity to best support their companies as they pursue superior business results. At the same time, the combined effects of a well-designed workspace plus enabling technologies empower individual workers and their teams to deliver at their most effective. In this role, facility managers will be best described as “workplace strategists” and highly valued for their impact on workforce effectiveness.

• The concept of workplace is changing rapidly and dramatically. Workplaces are transforming themselves from places where workers and teams are co-located to one where workers operate from the most effective locations (i.e., home, temporary, flexible and corporate offices) and are connected to co-workers via the Internet 24x7. Once designed, these workplaces are complex to manage and reconfigure and they typically require a combination of internal staff and strategic partners to ensure their effectiveness.

• This chapter explores the impact of these new workplaces on the facility management profession and the future career opportunities for facility managers including:
  ◦ How the facility management function will change
  ◦ How facility managers can increase their “strategic relevance” within companies
  ◦ The future competencies required of facility managers
  ◦ Some of the changes required in facility management education to prepare facility managers for their strategic roles in the workplaces of the future

The Idea at Work

• With the realization that the workplace can also shape a company’s culture, communicate its brand and retain employees, facility managers will need to be continuously sensitive to the effectiveness of the workplace in addressing these strategic areas and continuously looking for improvements.

• Facility managers need to be able to leverage the technology and lead building and workplace analyses, link actions to them and interpret the effects for multiple audiences.

• The future Fortune 500 and Fortune Global 500 lists will be dominated by companies that are best in class in delivering triple bottom line results. Facility managers, as leaders that operate entire building portfolios, are in a perfect position to impact all three areas — environmental, societal and economic.

• Facility managers will need to be comfortable with the scorecards and dashboards used by their companies, provide progress updates, interpret the results against targeted measures and take immediate corrective action when needed.

• Facility management education is expanding around the world. Programs at the baccalaureate and graduate level focus on translation of technical data to useable business information, financial and real estate acumen, and development of problem-solving skills needed in the built environment industry today and the near future.
Partnering between academia and facility management to deliver leading-edge research findings, best practices and perspectives is becoming commonplace. An excellent example is the *International Journal of Facility Management* whose purpose is to be a global “open source, Internet accessible journal devoted to the science, technology and practice of facility management. It is designed for both academics and professionals, and derives its audience from universities, researchers, practitioners and allied professional organizations throughout the world. Through research and practice papers, the journal enables the sharing of new theories, research, thoughts, experiences and concepts for building and workplace design, management, operations, use and disposition.”

**Executive Summary**

Facility management has never been in a better position to become recognized as critical to making a company’s strategic plan happen. Facility managers are in the prime position to lead the planning and execution of the sustainability agenda and have the opportunity to co-plan, co-implement and then manage the operational effectiveness of the workplaces of tomorrow.

Facility management will be at the leading edge of a number of exciting business developments, including:

- The design and execution of innovative workplace strategies to dynamically reconfigure workplaces as transformational technologies become available to companies across all business sectors
- The move to globally distributed but Internet-connected workplaces
- Step change advances in project management and collaborative software platforms
- The nurturing, development and retention of Generation C, the connected generation
- A maturing in the formation of global coalitions of in-house resources and best-in-class service providers and specialists

Facility managers will find themselves at the center, leading change management programs. Many times these initiatives will be due to overall company growth. Other times, the facility manager will be helping the company restructure and deal with the workplace requirements driven by the reality of being able to “do more with less.” In the latter case, facility managers will be designing effective workplaces where workers have less than full-time employment and many have temporary employment.

The challenge for the facility manager will be to ensure that the workplace plays its part in maintaining employee loyalty and a feeling of connection with the company. The additional challenge will be leading these change management initiatives in the midst of economic turbulence, decreasing product life cycles and the ability to shift work across business locations to take advantage of short-term opportunities.

Traditionally, facility managers concentrated on energy efficiency in buildings. With a move from managing energy efficiency programs to total energy management, this will broaden to incorporate demand response, selling excess energy into wholesale markets, cogenerating electricity on-site, being part of company teams designing and developing “micro grids,” interfacing with the smart grid as virtual power plants, and handling the blurring of the lines of demarcation between buildings and utilities.

For facility managers, having a C-suite title is not important. What is important is having a “seat at the table” and being a critical and respected team member when making the business strategically successful and achieving all triple bottom line goals. The time to make this happen for facility managers is now.

**Introduction**

Let’s start with a look at the major impacts on facility managers, including:

- The global business drivers that impact workplace strategy, placement and configuration
- The implications for workers, workplaces, technology and facility management
- The expectations of knowledge workers
- The role of workplace design

From there we will explore how these changes will impact the facility management profession.

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Business Drivers

The facility management profession and the role of the facility manager will continue to go through radical changes as the nature of work and the definition of “workplace” accommodate global economic constraints, adapt to 21st century business models and leverage advances in technology.

Integrated Operations

In the not too distant future, successful companies in this brave new world will have integrated operations established in both mature and emerging markets. Previously, companies would first put in place sales and distribution, followed by manufacturing and, lastly, research and development. Consequently, it would centralize and retain all intellectual property in the “home country” of the corporation.

In the future, and in order to gain market presence or growth, companies will be expected or obligated to place complete value chains inside geographic markets. This will be accelerated by companies developing and executing distributed business models and workforces driven by a focus on shortening the cycle time from “product development to revenue”; reducing cost of sales; reducing selling, general and administrative expenses; and minimizing tax burdens. From a business viewpoint this will not be a problem, as the ability to coordinate a distributed workforce via technology will have matured. But many issues will have to be considered during each major workplace design including:

- Retaining ownership of any intellectual property developed
- International laws associated with the movement of information across borders
- The privacy rights of workers where they might work on a global, virtual team but their individual rights are governed by their countries of residence
- The ability to quickly reconfigure a workplace and move it from one location to another, whether it is from one country to another or from one floor in a building to another

Companies will treat their networked and distributed building portfolios as an integral part of accomplishing their strategic plans, including continuous attention to shrinking the owned-building portfolios. In general, companies will manage owned portfolios that are considerably smaller than today’s holdings. This will be enabled by a continuation of the trend toward flexible workplaces, home offices, the co-location of functions with partners and treating the outsourcing of space as part of what is transferred when outsourcing non-core activities. The follow-on challenge that companies will face is how to manage and support what is left of the original portfolio as excess space continues to be divested and, at the same time, incorporate it inside a total workplace strategy that considers the entire workforce and allows a successful partnering with its workplace service providers.

Environmental Stewardship

Embedding environmental stewardship everywhere will be of primary importance. More and more companies will aim for net-zero energy portfolios with zero net energy consumption and zero carbon emissions annually. This will continue to be driven by regulatory compliance requirements, an environmentally sensitive workforce and the economic returns that come from energy efficiency improvements. Sustainability sensitive operations will be the norm rather than the exception — embraced as a business opportunity but also accepted as a business constraint. We can expect to see the formalization and convergence of standards (i.e., LEED, BREEAM, Green Globes, etc.), the move from voluntary to required reporting, and more acts and mandates requiring compliance from the nongovernment sectors. Even if this is slow to happen in one geography, in other regions it will accelerate, and with the move to globally distributed, networked companies, all globally focused companies will be impacted.

Aligning the Workplace, Buildings and Utilities

Workplace, buildings and utilities will begin acting as one. This will be driven by opportunities afforded by commercialized new technologies focused on building infrastructures and the interfaces and integration points to a maturing smart grid and to local utilities. Coalitions and joint ventures will continue to emerge and increase as efforts are made to accelerate the movement of new technologies from the laboratory to commercialization.

Companies are working to deliver capabilities that result in a seamless integration of buildings and the evolving smart grid. This implies, as Figure 1 illustrates, distributed generation and storage resulting in a blurring of the lines between buildings and

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utilities. Clusters of these resources will organize themselves into “micro grids” and the smart or power grid will become a network of micro grids capable of self-healing, self-coordination and self-scheduling.

Parallel to this, we will see technology breakthroughs that result in a reduction in the cost of generating energy from renewable sources and, in particular, wind and solar. At the same time, we will see more effective ways to store energy.

In addition, the worker and the building will begin acting as one, as next generation intelligent building and energy management systems will continue to add functionality that integrates the building and the smart grid. At the same time, these systems will better support the ability of teams and individuals to truly manage their “micro” environments.

Finally, environmentally sensitive workers will vote with their fingers. In this age of portable devices that are global in reach and always connected, Tweets, blogs, videos, social networking and other instant communication media provide workers the capability to voice their concerns instantaneously and to a global market.

Figure 1: Distributed power generation and storage. (Source: iTeres)

Implications

More and more, the workplace will be a network of places and not one or two central locations. The facility manager will need to provide and manage integrated workplace services where the “workplace” is networked, distributed and global. For facility managers to be strategically and operationally effective, they must have a deep appreciation of the company’s organizational structure, the rationale for its locations, the current workplace configurations and the direction, speed and options for change.

As workplaces become physically distributed but, at the same time, networked together, more and more emphasis will be placed on ensuring the:

- Effectiveness of each individual location or “mini-workplace”
- Availability of all locations to work and act together
- Ability to quickly form, reconfigure and dissolve virtual teams that are globally connected, collaborating and sharing knowledge
- Management of global programs and projects through virtual teams enabled by “cloud-based,” Internet delivery platforms
New organization models will continue to emerge and evolve that facilitate cultural diversity, multigenerational teams and a variety of work styles. Workplace, enabled by technology, will continue to be the way that companies think about the environment where work gets done and be a part of the more encompassing and emerging discipline of neuroarchitecture.

Workplace strategy as an accelerator of corporate strategic initiatives will rapidly reconfigure workplaces and ensure that “agile workplaces” are the norm. The nodes (i.e., where a person or team physically resides) will be simpler to reconfigure (i.e., move, adjust or eliminate). But the connecting tissue — the network, databases and platforms — will become more complex and will be managed by specialists.

In most cases, maturity will be reestablished when the workplace and technology again become “invisible,” with teams coming together in the most appropriate way and with a unity of purpose to achieve strategic objectives in the shortest time possible.

Therefore, based on the prior and leveraging technology, the workplace will be recognized as a potent business tool, becoming a formal component of company strategic plans. And depending on a company’s business model, the utilization (as opposed to the management) of space will sometimes enable and at other times support the realization of the business strategy.

Technology

As the user interface to applications and platforms becomes simpler and more intuitive for users, the technology itself will become more complex when coupled with a move to coalitions of companies and solution providers managing proprietary and shared platforms and where information travels freely and securely across the Internet.

For facility managers, and consistent with Chapter 9 Technology and the Future of Facilities, distributed work is changing how facility managers manage data and work with BIM/CAFM/IWMS and BMS platforms. Facility managers need to be able to leverage the technology and lead building and workplace analyses, link actions to them, and interpret the effects for multiple audiences. This competency is broader than that expected from traditional facility managers, including:

- Real estate, encompassing a globally distributed footprint of commercial, industrial, campus, institutional and residential space where, in some cases, the real estate owned is the connecting network
- Space management, including the rapid configuration and reconfiguration of flexible office space
- Computerized maintenance management systems, which perform as the co-coordinating platforms for sustainability-driven maintenance initiatives and programs
- Sustainability platforms, managing energy and water efficiency, environmental stewardship programs, conformance to rating systems and standards, as well as the tracking of performance against federal and state regulatory requirements
- Management of employee-facing services and service providers
- Project management applications, including the relationship to design systems and BIM
- Ensuring the effectiveness of distributed workplace encounters, including reservation systems, virtual team spaces and conferencing, virtual assistants, etc.

Strategic Impact of Technology

From a strategic impact perspective, the focus of facility management platforms will divide into categories, with different evolutionary paths and impacts on the facility management profession, including:

- Transactional and process
- Project management
- Reporting

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2 www.wisegeek.com/what-is-neuroarchitecture.htm
The transactional and process category includes traditional CAFM/IWMS platforms. Functionality will continue to be added and there will be tighter integration across embedded applications, but essentially these platforms manage the tactical aspects of facility management.

In terms of project management, more emphasis will be placed on providing platforms that enable teams to most effectively utilize agile methodologies adapted from software development disciplines. Agile development refers to a “group of software development methodologies based on iterative development … where requirements and solutions evolve through collaboration between self-organizing cross-functional teams.”

From a reporting standpoint, continued improvements will be made to improve the visual presentation, data mining, pattern analysis, configuration tools and other capabilities of scorecard and dashboard platforms. Automated reporting, rather than management time devoted to developing and gathering reports, will become the norm.

Maturing of Technology Platforms

But the major breakthroughs will continue as transformational technologies, data centers, collaborative technologies and community and social networks move toward being mature platforms. Think about the technologies that we now take for granted but did not exist 15 years ago. Now imagine the same level of breakthroughs in the next 15 years or less. It is reasonable to expect:

- Translation software that allows immediate and spontaneous spoken and written communication between employees who do not share a common language
- Collaboration software that eliminates or minimizes the need to physically travel
- Personal digital devices that provide a window to all of the tools and information and knowledge necessary for employees to do their jobs
- Secure environments where employees can work anytime and anywhere
- Virtual workplaces where employees have a sense of belonging and a sense of “my home office”

Many data centers cannot handle the cooling requirements demanded by current technology within energy-intensive server racks. The reason for this being that many centers were built prior to the Internet bubble, and server technologies and their associated demands have radically changed and are more energy intensive. To address this, we are seeing a trend toward building new and larger data centers as companies decommission and consolidate multiple older centers.

The newer centers are being connected through “cloud computing” enabling companies to dynamically shift processing to take advantage of available capacity and lower operating costs. Sometimes these operating cost opportunities are temporary (e.g., lower real-time energy pricing in specific locations) resulting in a continuous management of where data center activities are processed.

Data center managers, however, almost exclusively focus on the reliability of their equipment and the performance of their data centers. So the opportunity is there for a new strategic relationship between the CIO and facility manager where the facility manager takes care of the building infrastructure, ensuring that there is the required cost-effective energy to cool the data center assets. The CIO continues to focus on reliability and performance as his or her key metrics. But in combination, the facility manager and CIO deliver data center requirements at the lowest cost while ensuring 100 percent equipment uptime.

As a generalization, in the core business of companies, product life cycles will continue to get shorter and barriers to entry lower. This will drive the separate concepts of collaboration, project management and agile methodologies to come together and “time compression” will replace “task” as the core focus of the individual employee. Applications will come to market to more effectively allow project teams to work 24x7 — despite the workplace being distributed and networked, and often spanning all time zones.

Over the last 15 years, so much of workplace design has concentrated on designing and implementing high-performance, innovation-supportive physical workplaces where people want to work. But community and a sense of belonging are critical to achieving top performance and retaining top performers. Learning from the gaming industry, virtual environments will need to be developed that replicate physical social interaction.
and maintain a sense of community. Otherwise, these workplaces will experience high churn as employees will not feel connected to their companies and will move not for money but for richer interpersonal experiences.

**Knowledge-Based Worker Expectations**

A facility manager will need to understand his or her company’s culture, both in terms of how it attracts and retains key talent and how it presents itself to the marketplace by way of its communications and branding. This in turn will drive many of the workplace design considerations — from aesthetics to functionality. It will also influence what “satisfiers” are embedded in the environment to nurture individual and team behaviors.

On the other hand, knowledge-based workers will want to have both a career and the choice to be mobile and work in other countries or work in their own countries and localities. They will carry their “tools” with them and be in constant touch with all other assets as the fixed workplace evolves to a network of places. So for Generation C, the “connected” generation, the nature of work will be very different than that of today.

Unless corrected, the downside is that Generation C will feel more connected to their peer communities than their companies. This is another area where facility managers, in their role as workplace service providers, can have enormous impact on the business effectiveness of their companies. They are in the key position to recommend and codesign programs to improve the connectedness of Generation C employees to their personal workplace, to the larger distributed workplace and to the overall company.

**The Role of Workplace Design**

So from the facility manager’s viewpoint, how will organizations conceptualize, design, implement and manage the workplace? As discussed throughout this chapter, effective workplace design, configuration and implementation will result in:

- Multiple locations connected by technology.
- Global, virtual teams that are connected 24x7 and have the software tools and platforms to advance team goals, overcoming time zone and language barriers.
- Team members who feel connected and part of a single company culture — a concept critical to retaining high-performing team talent.
- Local, physical, workplaces that are a microcosm of the larger, distributed workplace. Employees should feel comfortable and the workplace natural when they work in more than one location.

**How the Facility Management Function Will Change**

Facility management as a business function has the opportunity now to increase its visibility and importance within companies or risk becoming marginalized to being a cost and support function. However, one thing is certain: the management of facilities and building portfolios will not go away.

The facility management and corporate real estate (CRE) functions and roles will change. In organizations that are rebalancing their portfolios in moves to distributed, networked, global organizational structures these functions could merge.

As a functional manager responsible for the effective operation of the built environment, the facility manager can retain the traditional responsibilities of facility management but also absorb many of the areas that today reside in the CRE and workplace design functions. As this shift occurs, the facility management function will evolve and become a strategic coordinating function with its leader described as “workplace services executive” (or similar) and have overall responsibility for ensuring that the workplace is effective. Effectiveness will be measured by worker satisfaction surveys and high employee retention rates when compared with benchmarked companies.

Workers are enabled as measured by the uptime in their “personal work environments” and whether they are working from home, leased or rented space or company-owned locations. It also includes having their collaboration and personal digital devices “always-connected” 24x7.

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The facility manager, being the overall coordinator of all functions impacting the physical workplace, will be responsible for the alignment of the CRE, HR, IT, finance and the traditional facility management functions. This includes the responsibility for managing strategic service partners.

Managing these partners will be more complex than traditional outsourcing. As the integration and resulting synergy from the worker, workplace and technology becomes inseparable from the business strategy and mission, outsourcing and integrated facility management will move to commodity status and co-sourcing will mature to being the preferred business model with service providers. Each partner will bring individual or bundled capabilities, and the complete service will be provided by a combination of staff from inside the organization and by external service providers.

In addition, managing some relationships will be a matrix responsibility, primarily reporting to other functions in the design phase and to the facility manager during the implementation and ongoing operations phases. This will be particularly the case in the management of specialists. For example, in large and complex projects, companies will engage leadership development specialists to help optimize the synergy of worker, workplace and technology. In those companies where the workplace is considered strategic such specialists will reside in the “workplace strategy and execution team.” And, in those cases where the focus is on the person and where the workplace is considered an enabler, the specialist will report to the HR function.

The key question is: How will facility managers increase their strategic relevance within companies and increase their role in workplace strategy?

There are several avenues through which the facility manager can achieve strategic relevance and an increased role in workplace strategy.

• Corporate strategic plan: Be a recognized part of the corporate strategic plan as both a contributor to its formulation and an owner of part of its execution. The major areas of opportunity for facility managers are in the areas of sustainability and workplace strategy. Facility management should either own workplace strategy or be a key member of the team should it reside in another function.

• Corporate strategic sustainability performance plan: Own the corporate strategic sustainability performance plan. Within this plan, the facility manager can tie together the building portfolio, the distributed workplaces and the participation of all workers in meeting the company’s energy efficiency and environmental stewardship goals. This opportunity may not always be available. For example, if the facility manager only manages leased facilities, the company will have little control over the landlord’s sustainability plan and therefore no energy or environmental stewardship goals.

• Workplace strategy program management: This is an area where facility managers can take the lead and create a workplace strategy that ties to the company plan. Most companies are constrained by past history and current circumstances. More tactically, facility managers are also in the perfect position to observe, understand and report the negative impact of those constraints on the workplace and the impact on worker effectiveness and satisfaction. All of this implies a strong partnering between facility management, HR and IT, ensuring that workforce strategy and IT strategy drive workplace plans.

ABCs for Facility Managers

• Accountability — Particularly how the company addresses its environmental stewardship obligations.
• Bottom line — The future Fortune 500 and Fortune Global 500 will be dominated by companies that are best in class in delivering triple bottom line results. Facility managers as owners of operating entire building portfolios are in a perfect position to impact all three areas: environmental, societal and economic.
• Business continuity plans — Ensuring that workplace strategy execution takes into account business continuity risks. At the same time, facility managers can reduce the costs associated with these plans (e.g., an effective telecommuting program can reduce hot site costs).
• Connected — Ensuring 24x7 connectivity for the distributed physical workplaces.
• Collaboration — Enabling the operational effectiveness of the distributed teams by ensuring that the collaboration platforms work as designed.
• Concentrated — Efficiently managing the reduced building portfolios owned by companies as more and more people work from home or in flexible office workplaces.
• Convergence — Looking for ways to help the business gain the benefits resulting from the synergy of the worker, workplace and technology.
At the same time, facility managers can significantly impact the plan to achieve “design for ongoing operations” with the following results:

- Superior integration of workplace and technology
- More efficient and cost-effective reconfigurations
- Minimized impacts on employees when changes are made
- Improved planned and predictive maintenance
- Effective integration of supplier partners into the overall workplace services team
- Direct and positive impact on employee productivity

Facility managers should participate in all aspects of the workplace planning, co-own the implementation and own the ongoing responsibility to ensure that the workplace delivers on the synergies resulting from the interactions of worker, workplace and technology. When improvements are identified or shortfalls occur, facility managers should coordinate or own any required corrective action, including the management of partnered service and solution providers.

One final area to consider is business continuity planning. Business continuity plans are critical to disaster resilience, characterized by a reduced probability of system failure, reduced consequences due to failure and reduced time to system restoration. Facility managers are in the best position to lead the development of business continuity and disaster recovery plans. Networked and distributed workplaces due to being in multiple locations and, many times, continents, are particularly susceptible to impacts resulting from:

- The direct consequences of natural disasters and the follow-on effects on infrastructure (e.g., nuclear facilities)
- Disruptions due to regional conflicts
- Imposed rules and censorship that impact communications and the exchange of information

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**Facility Manager Competencies in the Future Workplace**

In addition to traditional competencies, facility managers will need to build new ones to secure leadership positions in the business environment and workplace of tomorrow, including:

- Flexibility and adaptability
- Strategy formulation
- Environmental stewardship
- Total energy management
- Program and project management
- Reporting
- Benchmarking
- Layout and configuration

To begin with, flexibility and adaptability will be key. Facility managers will need to understand how best to participate on a team of peer functional leaders to anticipate and then craft the workplace so as to best enable its knowledge-based employees to develop and execute the company’s business strategies. One of the resulting strengths that a facility manager must have is the ability to “scenario plan,” where the results are comprehensively connected to the company’s strategic plan, real estate and IT, as well as the needs of the distributed workforce. Consequently, scenario planning is a major driver in ensuring an agile and flexible workplace. One scenario-planning tool that has been effectively used is the development of a “playbook” that IT, HR, workplace solutions, business development and marketing use when entering new markets or expanding services. Using the playbook, and prior to moving forward, these functions can come together, as a team, and develop tabletop scenarios similar to a business continuity plan to minimize execution and mobilization risks.

Comfort with and knowledge of strategic frameworks and methodologies used by the company will not be enough. Facility managers will need to have the ability to think strategically, formulate goals and targets, agree measures of success and plan follow-on actions.

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Providing guidance to the organization on how workplace strategy can impact the corporate sustainability performance plan (CSPP) will not be enough. The facility manager will need to have the ability to sell to a networked, distributed workplace that “owns” their personal workspace. Where employees work in company-own facilities, “ownership” and its impact is broad and comprehensive. But facility managers need to also impact the behavior of employees working from home. New incentive schemes will need to be developed (e.g., sustainability improvement allowances, where employees are paid for the company use of their homes with allowances that reflect their environmental stewardship actions). Facility managers will need to support HR and other function as they develop the compensation programs by suggesting the metrics and then tracking progress.

Facility managers have the opportunity to craft the strategies and prove the business case for initiatives in the area of total energy management and meet the ROI requirements in their companies. Facility managers will become experts in developing strategic energy management plans that will be a combination of initiatives, including energy efficiency, demand-response management, investing in cogeneration and on-site storage, and selling excess energy into energy wholesale markets.

This role can have a significant positive impact on the bottom line of companies. For example, we discussed data centers earlier in this chapter. The opportunity to reduce energy consumption and costs in data centers is huge. The Environmental Protection Agency (EPA) estimates that data centers consume approximately 2 percent of US electricity and have the potential to double consumption every five years. Individual data centers can be more than 40 times as energy intensive as conventional office buildings.

As companies rescale, reconfigure, network and virtualize workplaces, the facility manager, as the functional leader responsible for delivering workplace services, will need comprehensive program and project management skills. This includes the identification of all requisite roles and skills required for team success and the responsibility for the hiring of workplace specialists when the resources are not resident in-house.

Providing monthly reports on accomplishments by the facility management function will not be good enough. Facility managers will need to be able to demonstrate the effectiveness of the workplace services function. Consequently, facility managers will need to be comfortable with the company and functional scorecards and dashboards used to provide progress updates; interpret the results against targeted measures; and take immediate corrective action when needed. So a deep knowledge of financial as well as operational metrics, their tracking via scorecards and their communication via dashboards will be a higher-priority competency than was the case in traditional facility management.

Traditional benchmarking will be more complex due to the need to identify and then work with companies that are implementing similar globally, distributed and networked organizational and workplace structures. Facility managers will need to have the skills to compare workplaces, isolate the differences and provide inputs back to the design team(s) to take advantage of benchmarked best practices while respecting the actual workplace distribution and company technology constraints.

Facility managers will need an understanding of design as a process that can be consciously applied in changing situations, with knowledge of how to move from a wide array of configurations to a smaller set of options using functionality, cost and aesthetic filters. Basic understanding of social sciences — including organizational development, psychology and physiology — will be required to maximize designs for human motivation, impact and appropriate interaction. Experts may provide the analysis and recommendations, but facility managers will need to understand and relate these concepts to their organization to obtain best-fit results.

The Facility Manager and the Networked, Distributed Workplace

As companies depend more on networked, distributed workplaces, 100 percent uptime of the connected infrastructure will be critical. This will be particularly important in workplaces where the work is project-based and dependant on a distributed workforce. Successful facility managers will have advanced skills to react to unexpected failures, monitor operational performance of building assets and plan routine maintenance through global partners.

Because of the complexity and global footprint of a distributed workplace, companies will tend to work more and more with service providers who also have global operations. Facility managers will need to understand how to preserve options if performance or pricing is not acceptable. Also, facility managers will
need to have the skill sets to negotiate service level agreements where the quality of the work being performed is, in many cases, dependent on the performance of all partners.

Technology and distributed work are changing the way we manage office services, and new businesses are being created to meet these needs. Facility managers will need to understand these services and manage the providers of a number of nontraditional products, including:

- Virtual mail, virtual assistants, virtual office services and other products in support of distributed, non-co-located, paperless environments
- Communication, conferencing and other team collaboration products (e.g., instant voice and text language translation tools)
- Home office provisioning and productivity devices (e.g., iPad and yet to be developed “cloud” connected devices)

Providing a comfortable workplace will not be enough. It will be critical to understand or be intelligently aware of everything required to provide a sustainability-friendly, effective work environment for individuals and virtual teams. The need will always be there to manage building management systems and HVAC components, but facility managers will need to move to managing “environments”: micro, personal and distributed.

Facility managers will need to be continuously aware of individual employee and team satisfaction levels and the effectiveness of their work environments. Consequently facility managers will need the skills to monitor, analyze, react to and implement actions that improve satisfaction levels when it is necessary for the efficiency and effectiveness of the distributed workforce.

**Technology**

As discussed earlier, a key competency of facility managers will be the ability to stay abreast of improvements in the various platforms supporting the distributed building and workplace environments. Mastery of the traditional CAFM/IWMS platforms will not be enough, and facility managers will need to successfully integrate other building-oriented platforms (e.g., BIM). In addition, and perhaps more importantly, facility managers need to be comfortable with workplace-enabling platforms, particularly those that enable connectivity, collaboration and global program and project management.

**Worker**

Managing the comfort of the work space, managing the utilization of the space, and executing required moves, adds and changes so that workers are both effective and satisfied with their work environments will not be enough. With the realization that the workplace can also shape a company’s culture, communicate its brand and retain employees, facility managers will need to be continuously sensitive to the effectiveness of the workplace in addressing these strategic areas and continuously looking for improvements. As a requirement for success, facility managers will need to ensure that they have the most current relationship and social science skills to most-effectively meet user requirements in distributed and networked workplaces, along with all traditional knowledge.

**Synergy & Systems Thinking**

It is natural for facility managers to think in terms of systems ranging from the building infrastructure to software platforms — from HVAC systems to building management systems. One of the new requirements of facility managers will be to extend this systems thinking competency to the interactions between work, worker, workplace and technology. Properly addressed, the resulting synergy will have more impact on corporate results than the individual parts.

Facility managers will need to understand and be comfortable in working with different methodologies, templates and tools than those used in traditional facility management. For example, “workplace roadmaps” will be one of the tools used to provide a systems view of the workplace. Workplace roadmaps, conceptually similar to product roadmaps used in product development, will connect the corporate strategic plan and the enabling organizational structure and provide guidance to both the IT function for technology planning and to workplace planning and services in designing configurable distributed workplaces. With a “design for ongoing workplace effectiveness” philosophy and an emphasis on “ongoing,” facility managers can be the coordinators of roadmap development and the owners of roadmap execution.
Facility Management Education: Continuous and Lifelong

It is not possible for any one function or manager to absorb all of the learning or be an expert in all areas required to design, implement and manage the workplace of the future. It is better to consider learning as a lifelong process and divide it into categories.

Level 1: Core facility management skills
Functional and traditional skills taught through accredited facility management degree programs at recognized universities. These will also need to expand to include strong negotiation, management and finance skills needed by future facility managers and executives.

Level 2:
Orientation to other functions and their required skills taught through elective courses in degree programs at recognized universities.

Level 3:
Experience-based skills taught and tested through professional certification.

Level 4:
Just-in-time modules taught by universities and professional associations where skill and competency gaps are eliminated, with the goal of empowering facility managers to lead the workplace services function in their companies.

Facility management education will expand and become a more common offering in universities throughout the world. Along with more schools, more qualified entrants to facility management, with broad built environment and workplace needs skills, will bring facility management a more strategic role within organizations.

Specifically, there are 17 accredited FM programs in associate, baccalaureate and master’s level programs as of August 2011. Numerous other programs worldwide offer courses and full FM degrees, although they have not yet been vetted through the IFMA Foundation accreditation process. This broad expansion of FM education attests to the growth potential and need for education to manage the built environment of the 21st century. Southern Asia has seen a dramatic rise in the number of programs and courses taught in FM over the last decade. As these economies expand, the care and attention needed to properly maintain built assets is becoming recognized. Issues of sustainability, carbon reduction and attempts to meet international standards are driving this increase.

Europe has a well-developed network of educational programs in facility management and is much farther along in research within the field. With EU backing and broad acceptance of the need to maintain older infrastructure, the programs in Europe meet most job demands within the broad region. Specialization, such as the hospitality-FM link in the Netherlands, has resulted in nine schools providing FM degrees and a unique FM standard required for those Dutch schools.

In the UK, and to some extent in the US, research within the FM field has begun and a rise in the number of doctorate degrees, along with master’s degrees, has grown along with the research areas. These doctorate recipients provide a rich new base of teaching for the developing FM programs and have contributed to the growth in academic interest in facility management education.

The areas with strong growth in research are tending toward the social sciences, as “hard sciences,” like engineering and finance, are fairly well-developed. Students are marrying current topics, such as sustainability, with business realities to find new solutions that dramatically impact the workplace of the future. Once research can positively identify improvements, they require broad publication and discussion before they become mainstream and impact the workplace directly. To accomplish this publication and discussion, new research centers and scholarly journals are bringing professionals together with students and researchers to discuss ideas and how to best serve industry with research. More support is needed.

With this research, the curriculum for FM education will need to expand and provide students opportunities to learn these “soft science” skills, such as applying psychological and behavioral analysis to workplace use and design. More senior business skills sets are also expected to develop as FM moves closer to the C-suite and provides a more consultative role within the organizations supported. As buildings are more widely recognized as tools of productivity, rather than just costs which must be accepted, this advisory role for FMs will be required and will be taught within FM curricula. Professional continuing education will also need to “catch up” current FM professionals. IFMA and other FM associations will answer this need.
With growth of business and construction of more and more buildings around the world, especially in developing economies such as China and India, the need for educated facility management professionals is expected to grow, as well. There are discussions today about development of new programs in Chinese universities, and expansion of the current programs to reach across baccalaureate, master’s and doctorate levels, as well as provision of professional continuing education in FM. Similar growth is happening in the Middle East and is expected in South America as their economies stabilize and grow. We expect this trend to continue and expand. This is a key feature that can bring workplace understanding to a broad array of built environment professionals, whether they originated in architecture, construction, engineering, business or other fields.

Conclusion: The Facility Manager as Workplace Strategist

Facility managers will become a strategic business partner and senior level skills are required to manage the multiple competency areas that facility departments bring to support the organization. From real estate to design to technical management of building infrastructure systems, the new facility executive will rely more on the expertise of the FM team, including multiple service providers, staff and short-term contractors. Profound understanding of the organization, its culture, vision, decision-making processes and drivers in the global marketplace will be required for effective facility management.

In Chapter 6, we set the stage for three new competencies that FM professionals will need to be successful in the 21st century. Now that we have built that case it is time for more detail and guidance.

These three new competencies — leadership, change management and technology mastery — will be discussed in detail in the coming chapters.

Chapter 7 takes on leadership as a development topic for FM professionals. It is based on the most current “state of the practice” thinking in this area and has been modified to reflect some of the unique requirements in the FM field. A new transformational process is described along with specifications of new talents that will be required.

Two new organizational models are also developed. One is taken from the architecture and design field, the other from the military. Both are offered as potential examples that can be modified in practice.
ABOUT THE AUTHORS

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A senior executive with broad general management and operational experience in the commercial, energy and industrial sectors, McGee has worked in the semiconductor, industrial process controls, building controls, facility management, energy storage and rail and transportation industries with General Electric, Johnson Controls, EMCOR, ABB, Ice Energy and Finmeccanica in the US, UK, Germany, Italy and Ireland. Experienced in managing product lines and business units from development through commercialization and structuring operations for standardization and scalability, he has developed and executed successful plans for industrial, commercial, government, regulated, OEM and wholesale customers.

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With over 20 years in practice, Professor Kathy O. Roper now leads the Integrated Facility Management graduate program at Georgia Institute of Technology. She teaches sustainable facility and property management, facility planning, project management, benchmarking and corporate real estate courses, while researching workplace and health care facility management issues.

Roper is an active member of the International Facility Management Association (IFMA) and currently serves as chair of the board of directors. She holds the Certified Facility Manager designation and was recognized as an IFMA Fellow in 2007. She is a LEED Accredited Professional with the USGBC and an elected member of its education steering committee.

With over a dozen scholarly publications Roper co-founded and co-edits the open-access International Journal of Facility Management (www.ijfm.net). She is the 2005 IFMA Distinguished Educator and 2007 IFMA Distinguished Author, and her college awarded her the Early Career Achievement Award in 2006 and Faculty Service Award in 2007.
Chapter Seven
Leadership for the 21st Century

Charles E. Grantham, Ph.D.
Community Design Institute

“You cannot solve a problem from the same consciousness that created it. You must learn to see the world anew.”
Albert Einstein

The Idea in Brief

- The leadership skills that worked in the industrial era do not work today. This is a conceptual world, not a machine world. New leadership skills will be needed in a global, interconnected world. Facility managers can be at the forefront of this revolution, if they prepare themselves.
- Effective leadership for the 21st century begins with an internal, personal transformation. You cannot change an organization until the leaders change. It starts with each person and their transformation.
- The skills and competencies that are needed are knowable and can be taught through experience. This is not rocket science. Tried and true principles of social psychology can help prepare our future leaders. And, this psychology is valid across cultures in today’s global business environment.

The Idea at Work

- Commit to a process of transformation and seek out external resources to guide you through the process. You need to spend one day a week learning and practicing new ways of working. Start with building a new support network.
- Engage in a self-assessment process. Focus on finding out what you do best. What are your strengths? You cannot plan your journey unless you know where you are starting. The first step is an honest evaluation of your strengths and weaknesses.
- Begin building a business case. If you were 20 percent more productive, if your team was 40 percent more productive, what would be the financial impact on your business?

You cannot sell your boss an investment of money and your time unless you can show what results will occur.

Executive Summary

There are many forces pushing organizations to radically change the way they operate. The facility management profession lies at the heart of this new paradigm where information technology, human resources and real estate assets need to be managed in an integrated fashion.

This new business model requires a new kind and style of leadership. This chapter outlines those forces for change and a new paradigm of leadership development. Two specific cases for change are outlined along with a conclusion containing the skeleton of a program for developing new leaders in facility management.

What leadership role can FM professionals take going forward?

This chapter is a contribution to the overall thrust of this book: the facility management profession must change significantly if it is to materially contribute to the success of the organizations it serves. And, perhaps more importantly, what skills, competencies and learnings they will need to be successful.

My argument begins with a very brief overview of the forces I believe are critically shaping the larger environment that large, formal organizations live within. Next, I offer a brief synopsis of the field of leadership development followed by an overview of the new ways of thinking (and behaving) that will be required. I then offer examples of specific challenges the FM professional will face in the coming years. Lastly, I offer some concrete recommendations of how to get there and an outline for a leadership development program for the 21st century.

Forces Shaping Change

I have been writing for the last two years about the onrushing wave of fundamental change that is sweeping over the old industrial order of our world. I believe that what is occurring — what has everyone’s thoughts and fears all twisted up — is more than a routine swing in the business cycle. No less an expert than
Jeff Immelt, CEO of General Electric, said it best, “Someone hit the reset button.” I have expanded on that by suggesting that a “restructuring” of many industries is coming. And this force for change will impact the facility management profession just as significantly as it will marketing, finance and technology.

For example we have no less than Jim Clifton, Gallup’s chairman and CEO, saying that businesses have squeezed as much as they can out of the old industrial model of business organization. Management fads, such as Six Sigma, re-engineering and total quality management, have peaked in their ability to improve organizational performance. So, what is next? As you can see just from the title of this chapter, I believe the next frontier — the moon shot, if you will — is quite simply leadership: what it is, how it is practiced and how people can learn to be leaders of the 21st century.

Let us look at a couple of expert opinions. First The Herman Group, a highly respected authority in human resource management that produces a weekly Herman Trend Alert, quotes Dr. Ilene Gochman, managing director, talent management and organization alignment at TowersWatson, “What worked for organizations pre-recession just isn’t sustainable in today’s environment. The current business environment affects the supply and demand of talent in unprecedented ways, as well as the ability of employers to engage and retain employees.” The Trend Alert goes on to note, “Employers must respond to the revised ‘employee-employer contract’ … and employees’ evolving priorities. They must alter how they operate and how people may connect to their companies and work.”

These factors are not limited to the private sector. So, facility professionals in the public sector take note. In fact, I believe that the leadership “crisis” will first appear in the public sector when revenues decline by 25 to 33 percent in the next year. Specifically, communities, which have been relatively homogenous since World War II are being forced to change the way they think and behave by three major forces.

Second, demographics push villages and hamlets toward multigenerational populations and more ethnic diversity. This driver, it might be noted, will become endemic when the labor force is in shortfall and importation of “immigrant” labor is required, perhaps within just a few years. This is exactly the point the people at The Herman Group made above. Today we see it in the unskilled workforce of factory workers and manual labor, such as meat packers in North Dakota, shrimpers in Louisiana and day laborers in the lettuce fields of Arizona. Tomorrow it will be for tradecraft and knowledge workers. But then again, if you do not care about this part of the work world of the future it will not matter. Note: see ghost town in Wikipedia.

The third force is recognition of the external effects of resources (e.g., the net import of energy, food and water). If you have to depend on importing any of these necessities of life, you are vulnerable to forces outside your social and political control. For example, a pipeline disruption in Uzbekistan sends gasoline prices in Nebraska skyward. Also, climate changes in one region effect another, which changes weather patterns. Who would have speculated on the impact of an Icelandic volcano? We will leave the climate change debate for another time — just ask anyone within 300 miles of the US West Coast what an “El Nino” does for him or her. With all these forces imploding on you, how do you develop leaders capable of handling these new challenges? I have some ideas, but before that let’s take a brief look backward at how leaders have been developed, trained and educated in the past.

Brief History of Leadership Development

As usual, Wikipedia says it best:

Traditionally, leadership development has focused on developing the leadership abilities and attitudes of individuals. ... Different personal characteristics can help or hinder a person’s leadership effectiveness and require formalized programs for developing leadership competencies. Yet, everyone can develop their leadership effectiveness. Achieving such development takes focus, practice and persistence more akin to learning a musical instrument than reading a book.¹


² en.wikipedia.org/wiki/Leadership_development#cite_note-1
Traditionally, leadership development (LD) has been focused on the individual level. It has been assumed that success in development is tied to three variables:

- Individual learner characteristics, such as temperament or personality
- Quality of the leadership development program — the military does it best
- Support from upper management levels, both in terms of money and social support

Further, most formal programs contain similar elements.

- They integrate many developmental experiences over an extended time period (e.g., 12-18 months).
- They are based on experiential learning.
- They are founded on a principle of self-efficacy. That is, people are taught to believe that their efforts can have an effect on the organization.
- They originate from an ability to develop a clear vision of the desired state and this vision is communicated effectively.

Not that I think this approach is without merit. It certainly has worked well for decades. Entire organizations and numerous consulting practices have been built upon this model, including, for example, the renowned Center for Creative Leadership and others. However, many authorities in the field have come recently to question the efficacy of continuing to use this model for leadership development. Likewise, I believe that the time has come for a new model of leadership development, one based on the realities of the forces shaping our society as we enter the 21st century as I have outlined them.

**New Ways of Thinking Required**

I have intimated above that the world, which is emerging, is more interconnected, global and collaborative than that which has predominated in our (Western) culture the past two centuries. The fundamental cognitive shift, which is occurring, is from a straight, linear, predictable world to a curvilinear, systemic, uncertain world. We have to begin with looking at how we think, and therefore perceive the world around us. Again, a noted authority says it better than I can:

> *Most people are not aware of how they think. This is not because they are unintelligent, it is because their mode of thinking has evolved over many years, has served them well and does not need to be examined or questioned. Most people are unaware of the degree to which they use mechanical images and metaphors. They are also unaware of the degree to which their fear of loss of control and uncertainty maintains their commitment to, and belief in, control and predictability. Individuals only become aware of these facets of how they operate either in crises or as a result of deliberate self-inspection.*

So, if this indeed is the case, how would one go about developing a new leadership development program that takes all of this into account?

I believe that a leadership development program for experienced managers can be designed to develop the skills, knowledge and understanding that will enable them to move their organizations toward relevance and sustainability for the next decade.

The basic assumption I hold is that organizations cannot become relevant and sustainable until their leaders develop the mental flexibility and competencies necessary to deal with the uncertainties of the future. This new program is not a traditional change management program.

*This is about transformation — not transactions.*

Fundamental transformation has four basic dimensions: it is irreversible; it challenges traditional assumptions; it changes your identity; and it shifts the purpose of the organization. The model I have in mind leads a person through several stages of transformation change:

- Launch — What is it that I am so anxious about?
- Connection — Is it me or is everyone else around here crazy?

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1. www.ccl.org/leadership/index.aspx
• Dividing — What do I need to serve that is larger than myself?
• Agreement — What mental state do I need to be in?
• Approaching — What help do I need and where do I go to get it?
• Dismissal — How to get rid of the old baggage.
• Achievement — Waking up.

What are the new skills and abilities embedded in this program? I group learnings into three basic categories: functional, expressive and motivational skills. Specifically, they are defined as:

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<td>• Future thinking</td>
<td>• Asking questions</td>
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<td>• Drivers of change</td>
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<td>• Design processes</td>
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In summary, a leadership development program for the 21st century consists of seven stages of transformation change, which contain 12 discrete new competencies or skill sets.

Cultural Differences in Leadership

Leadership development in the 21st century will have to be global. That implies that the skills needed have to be cross-cultural, not rooted in a narrow geopolitical perspective. The program I am proposing in this chapter is designed to be “meta-cultural” in perspective and equally applicable in North America, Europe, South America and Asia.

One of the foremost experts on cross-cultural communications is Geert Hofstede. His studies point out several psychological universals that relate to the practice of leadership:

1. Relation of the individual to authority
2. Concept of self, especially:
   a. Relationship between individual and society
   b. Individual’s concept of masculinity and femininity
3. Ways of dealing with conflict, including aggression and emotionality

The development program I am proposing takes these universal issues into account. In fact, several of the units of instruction are designed primarily from an Eastern philosophical context to give leaders sensitivity to these central issues as a function of the culture they operate within. I will return to a specific application of these constructs toward the conclusion of this chapter.

Examples of Coming Challenges

I recognize that this is fine theory, but so what? What does this mean for the FM professional on the ground? Why should he or she care? What is going to come at the FM professional next Monday that makes developing these new leadership skills necessary? Let me provide two examples of trends in the FM world that will bring this into focus. First, let’s look at managing a portfolio that is considerably smaller than today’s holdings.

I, among others, believe that the process by which commercial real estate is designed and built is broken. Decreases in productivity and waste in the process cost owners 50 percent more than necessary. Financing of new construction is doomed without significant changes in the process. We can anticipate management pressure to reduce real estate portfolios by as much as 50 percent within five years. Forward leaning companies, such as IBM and H-P, are already moving in that direction. How will you respond?

Rex Miller and his team have produced a masterpiece detailing the broken process by which we currently design and construct our commercial buildings. Simply put, it does not work, and the banks that write checks, or underwrite corporations, are beginning to realize that half of their money goes down a black hole — never to be recovered.

So, what is the scope of the problem? Huge. In 2007, the commercial architects, engineering and construction (AEC) industry was netting $1.28 trillion in the US. Half of that money was wasted because of the process in place. If we come down from 50,000 feet, the average project is $6 million. But that means that $3 million on average goes out the back door.

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The problem, in essence, is an old industrial business process that is linear in form, composed of many disconnected pieces that are suboptimized on a cost basis. The world has become more complex, interrelated and faster in pace in the past 50 years. These forces have broken a model that worked well in slower-paced times. The typical business model for commercial construction optimizes on cost, schedule and quality. You can have two of the three, but never all three. If you want high quality (say a design that meets a business need), then you come in over budget and late.

Suffice to say, many factors contribute to this breakdown. Miller highlights a few for us:

1. Risk averse architects (probably a dying breed, by the way)
2. Legal processes that are murky at best
3. A cost estimating process that has built-in inaccuracies
4. Lack of up-front business cases

The solution is simple, actually, but extremely difficult to implement. This is why new leadership is required. Miller likes to use an analogy of a compass and a gyroscope. In the world of yesterday a compass was an effective way to guide you on a journey. Every once in awhile you would stop, take another reading, adjust your course and move on, repeating the process at frequent intervals. But today’s world requires a gyroscope that is dynamic and continuously self corrects to allow for constantly changing conditions. What these projects need is a gyroscope because the world will not sit still. And this is why FM has to change.

**Network of Support Facilities**

The next challenge that FM professionals will meet is how to manage and support what is left of the portfolio, because it will be a network of places — not one or two central locations. Again, a new perspective, a new framework of thought is going to be needed.

How do we organize the workplace to provide integrated services in an effective manner? I think the workplace services function (which used to be called facility management) needs a radical restructuring in terms of purpose, mission and organization to provide sustainable value.

A new world requires new strategies and organization. Hardly anyone would disagree with this statement. However, applying this simple observation within a company, and more specifically, within the facilities and real estate function, is problematic. I think that supporting a distributed “plug and play” workforce is a complex logistics function that should be managed as professionally as the military supports troops in the field. Think about it: the purpose of workplace services is (figuratively speaking) the “care and feeding” of the workforce. And it is literally about provisioning the workforce for optimal performance and productivity. Today’s corporate workforce is almost as mobile as, and is typically more dispersed than, a combat field force.

In short, military logistics involves:

- Design, development, acquisition, storage, distribution, maintenance, evacuation, and disposition of materiel.
- Transport of personnel.
- Acquisition or construction, maintenance, operation, and disposition of facilities.
- Acquisition or furnishing of services.
- Medical and health service support.

Business logistics, patterned after the military quartermaster function, is “having the right item in the right quantity at the right time at the right place for the right price in the right condition to the right customer.”

That perspective highlights the supply chain aspect of logistics: to most of the world logistics is about delivering physical things to where they are needed at optimum cost (think of transporting troops to Iraq and then supplying them with food, clothing, vehicles, weapons, ammunition, living facilities and communication capabilities; or think of delivering thousands of parts to the right station on an automobile assembly line just as they are needed).

Some may find it strange that I have picked a military analogy here. Technology changes are often adopted early on in a military environment, such as the telegraph, airplane and computers in our lifetime, to name a few. And it is often said “no (battle) plan survives the first contact with the enemy (or customer).” So I think the analogy is appropriate.
If the proper function of workplace services is akin to what we see as military logistics, then the appropriate role in the organization is one of quartermaster. But how is that different than your traditional corporate function? There are a couple of things that come to mind.

First, someone has to lead. I am suggesting, because of the integrative nature of this function, an identifiable position and person needs to be viewed as being in charge. Again, an obvious point, right? We have watched this same dynamic take place in the technology function over the past 30 years. Remember when the data processing manager kept whining that he or she did not play a strategic business role? Well what emerged was the chief information officer who did have a seat at the table. I believe that workplace services should not wait to be invited to the table, but should instead exercise a quartermaster lead role and call the meeting.

The business rationale for doing this is straightforward. The coordination costs across traditional silos of responsibility are prohibitive. The technology is readily available today to reduce those coordination costs significantly. In fact, in my work I have seen workplace provisioning costs decrease by typically 40 percent when the model I am promoting here is adopted.

Drawing again on the military metaphor for a moment, I believe the world of e-commerce will look more like guerilla warfare than fixed pitched battles. This brings us back full circle to a core principle of the agile corporation. It does not rely on fixed asset bases for its talent (human resources), facilities (real estate) nor technology (cloud computing). You do not carry all this around with you or engage in commerce from a fixed location.

So, the new quartermaster of commerce has a different mantra. The mantra of tomorrow’s logistician will be, “Turn it up, turn it down and move out of town.” Certainly there will be relatively fixed long-term locations for certain things, like long-range planning and training, but nowhere near the scale of today. Think more in terms of 20 percent fixed, 80 percent mobile. And in conclusion, each asset (read: person) will be optimized in terms of self-sufficiency. They will carry their “tools” with them and be in constant touch with all other assets. So workplace services now needs to think about how they will support that new organization and lead in a new way.

Specifically, workplace services professionals need to train themselves today for tomorrow. Time is of the essence. You need to become, at a minimum, conversant in three languages: logistics, technology and talent management. Also, I see project management as becoming a central player in this area. That means project management specialists need to be brought into the workplace services function, not treated as a separate operations subset.

Which leads me to recommending having a leadership development specialist fully integrated into the workplace services team. What you end up with is a small team of professionals who all have primary skills sets, secondary disciplinary expertise, are fluent in several languages, highly self-sufficient and team oriented. In short, back to the military analogy, workplace services needs to become the corporate equivalent of special forces.

**Playbook for Implementation**

How do you get to this new vision of leadership? The first thing to do is start asking the right questions. Again, from our colleague Jake Chapman, here are five key questions that can help you engage in a systemic approach to leadership:

1. How would my perspective change if I regarded this organization as a complex adaptive system?
2. What approach would I adopt if I accepted that this system cannot be controlled nor its behavior predicted?
3. What other perspectives are there on this issue and how can I understand them?
4. How can I learn what is most effective here?
5. What relationships are key in moving forward and how can I nurture them?

When policymakers and managers think through answers to these questions, then their thinking will start to shift away from the mechanistic assumptions embedded in our culture and to-

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11 Full disclosure: I have over eight years’ experience in military special operations, hence I speak from experience — not just theory

12 The best resource for this argument is Thomas Malone’s *The Future of Work* (2004). Although a nice book, I suggest a more comprehensive treatment of the issue can be found in *The Future of Work* by C. Grantham published four years earlier.
ward a more holistic and systemic perspective, which is the basis for the new approach I am suggesting. What would this kind of new leadership development look like?

Next 10 Plays

The major barrier to developing a sustainable organization or community at this point is a polity that lacks basic competencies to pull organizations forward in the direction of societal evolution. That direction, by the way, is toward continuously greater connectivity, harmony of relations among different groups and the recognition of unity of purpose.

Leaders that can’t or won’t lead in this direction are harmful to the long-term health of the organization.

But most leaders today do not know what they do not know. We can thank Socrates for giving us a way to think instead of being told what to do. My outline for a leadership development program can best be described as a set of questions that training would help you answer. So, I like to phrase those capacities in the form of being able to answer some key questions:

1. How should you think about the future?
2. What forces are driving these fundamental changes?
3. What would new patterns of behavior and action look like?
4. What can we learn from the process of design to help us continuously adapt?
5. Are we asking the right critical questions?
6. Are you able to think systemically at a higher level of complexity?
7. How do we achieve balance in flows of energy and information?
8. What is the core of my personal identity as a leader?
9. How can I live this vision out?
10. How do others perceive me in a leadership role?

The formal program consists of a series of eight workshops structured around the seven stages of transformation outlined above, plus an introduction to the process. As I mentioned earlier, this approach also focuses on teams of leaders, not individuals, so it is critical that whole leadership teams participate together so they learn to function as a highly effective group.

So, the challenge is there for facility managers. The good news is that there is a path forward that can lead to success, but it will take considerable commitment and a realization that not changing with the times is no longer a sustainable option.

An Eastern Perspective on Leadership

Before I wrap up with some ideas of how you will know when you have arrived, I want to return to a central theme of this book: globalization of facility management. As I mentioned earlier, there are some cultural universals to leadership competencies. But, let me be more specific here.

One of the most well-known Eastern philosophies on leadership is *The Art of War* by Sun Tzu. I humbly suggest that just as we can apply Eastern thought into the Western world, we can do the reverse. For example, when you closely examine the content of leadership development 2.0 learning units, they correlate with the ancient Chinese concepts of yin and yang.

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<thead>
<tr>
<th>Yin</th>
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<td>Female, passive, dark</td>
<td>Male, aggressive, light</td>
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<tr>
<td>• Design process</td>
<td>• Future thinking</td>
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<td>• Drivers of change</td>
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<td>• Personal identity</td>
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Brevity prohibits in-depth discussion of the cross-cultural applicability of the leadership development program proposed here. Suffice to say, the structure and content was developed with equal recognition of the validity of a broad array of cultural philosophies.

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How Will You Know When You Get There?

How do you know you have made the transformation? There is no examination, no test you can take. What people report is that when they are presented with a new problem or situation, they find themselves behaving in non-habitual ways.

New ways of thinking, new ways of seeing the world are more sensed than seen. I find it useful to have a small group of advisors who have some history with you. They will be the ones to tell you that you are doing things differently.

One very specific technique, which is effective, is personal journaling. Keep a journal on a weekly basis (daily is better if you have the time). Note self-reflections of your actions, thoughts and attitudes. Reflecting back on this journal will help you spot trends and changes. One of the critical new leadership skills is an ability to do self-reflection and self-observation. You develop the ability to self-monitor; you no longer need external validation of your leadership behavior. You will know when you are there.

Chapter 8 is the second in our series focusing on specific abilities for the new FM professional. This chapter looks at change management as a generalized skill set that will be needed going forward.

It is the author’s combined experience that led us to emphasizing this competency. All the efforts we have been involved in, no matter how sound the strategy, or how tight the financial business case, became at its base a change management program.

FM leaders will need to know how to crystallize a compelling vision, build the case for upper management (and acknowledge the pain it will cause), and follow through with leading (yes, FM not HR) the process in a collaborative, inclusive way. We realize this is heavy lifting and probably not what you signed on for as a facility management professional. But, we hope that by now you realize the world is changing fast and you will need to understand this core process.
Resources

Books


Online Links

en.wikipedia.org/wiki/Leadership_development

www.comm-design.net

Appendix A

Leadership Competencies

**Future thinking**: The ability to anticipate events in the larger context of your business. The ability to do “what if” scenarios in the three to five year timeframe. For example, what would be the impact on your business if energy prices quadrupled?

**Drivers of change**: Recognition of the multidisciplinary nature of change. A broad perspective that includes technology, economics, politics and cultural aspects, which shape human behavior in both rational and irrational ways.

**New patterns of action**: An ability to move beyond simple “cause and effect” relationships. The corollary ability to visualize alternative organizational structures and forms and an understanding of the utility of using different forms in different situations.

**Design processes**: An understanding of design as a process that can be consciously applied in changing situations. Knowledge of how to move from a wide array of configurations to a smaller set of options using functionality, cost and aesthetic filters.

**Asking questions**: An ability to engage in critical thinking. Knowing what the critical questions to ask as you move up a hierarchy of “unreflective thinker” to “master thinker.” Knowledge of, and an understanding of, how to apply universal intellectual standards.

**Systems thinking**: Seeing the pattern that connects systems relationships, including feedback, feed forward, attenuation and amplification. Understanding of the links between environment, internal operations and information flows.

**Balance, flow and circularity**: An understanding of the pattern to the flow of energy (including information). The need for balance of positive and negative forces and their reconciliation. An understanding of a larger context to which you and your organization is connected.

**Living out leadership**: Everyday living out the principles of leadership: integrity of action. Empathy, loyalty, discretion in action. Living out high moral and ethical standards.
**Spirituality and change:** An understanding, appreciation and acceptance of the spiritual aspects of life. Service in the interests of others and a community of which you are member. Appreciation of the principle of “stewardship” of resources and the environment.

**Presence of self:** Understanding how others view you in action. Living in the moment. A sense of the dramatic and ability of actions and words to influence others’ attitudes and shape their behavior.

**Transformation:** An understanding, and a sincere desire, of what is required to fundamentally change. Never going back, never looking the same, having a different fundamental identity and being in service. Recognition of your calling.
Charlie Grantham is a Vietnam combat veteran having served eight years in the US Army as a chief warrant officer in the Intelligence Corps. That time was followed by successful careers in academia as a professor and in multinational technology companies as an executive director of research and development.

Dr. Grantham received his Ph.D. in sociology from the University of Maryland in 1980. He has published seven books and several dozen technical papers. He is a frequent speaker at international events and a “go to” resource for the media on a wide range of workplace issues ranging from psychology to public policy.

With this rich multidisciplinary background, he is now pursuing his passion for helping communities and leaders realize their true potential for effective governance and sustainability. He is organizing a new community of practitioners called FutureWork>ing<TOGETHER to prepare leaders for the future.
The Idea in Brief

- Implementing a new workplace strategy is a major undertaking; it often involves major architectural design, lease negotiations, physical construction, furniture selection, hiring of service providers and major disruption of “normal” work.
- But most of all, workplace strategy involves redesigning the work experience of employees, and that means changing people’s behavior.
- How, when and where people do the company’s work and interact with each other — that is what culture is all about.
- In short, workplace strategy almost always involves organizational and cultural change.
- Yet change can be very difficult, and many organizations do not have the capability for constructive change, even if there is a strong desire for change.
- Most importantly, leading organizational change requires a core set of skills and techniques that go well beyond the training of most facility professionals.

The Idea at Work

- Leading organizational change is at the heart of what workplace professionals do, whether they realize it or not.
- There are three core principles for creating constructive organizational change: (1) developing a clear and compelling vision of the future; (2) building a case for change that appeals to both logic and emotion; and (3) shaping a widely participative process for moving forward.
- Ultimately, change leadership is not about making people do what you want, it is about making them want what you want.

Executive Summary

Everything changes over time. For living things (like people, plants and animals), if we do not change we die. Even buildings change. While they may appear to be permanent, we all know their outside surfaces (and their internal spaces, too) age and degrade; they require regular maintenance to remain viable. Periodically we either renovate buildings or replace them. Just like living things, they have a life cycle. Yes, they may survive for hundreds or even thousands of years, but they do change — all the time.

Why should we expect organizations to be any different? The business environment changes, new tools and technologies enable new ways of working and using space, and people learn to work differently. Organizational change is just as common, and just as needed, as change in other parts of our world.

So why is leading organizational change so difficult and so important? Like it or not, organizational inertia is very real. And unfortunately most workplace professionals are not adequately trained as change leaders.

This chapter steps slightly away from the focus on workplace issues and challenges per se that most of this book is devoted to. Here we broaden our perspective to add change management — and change leadership — to the workplace services toolkit.

First we address why change management is so critical for workplace professionals. We then describe a basic framework for thinking about organizational change, offer some first principles, and report on the most effective change management agenda we know. The remainder of the chapter is filled with examples, tools and techniques, and guidelines for creating positive organizational change.

“A body at rest tends to stay at rest; a body in motion tends to stay in motion.”

Newton’s First Law of Motion

“It is not the strongest of the species that survives, nor the most intelligent ... It is the one that is the most adaptable to change.”

Charles Darwin
Change Management as a Core Competency for Facilities Managers

CRE and FM professionals in 2011 face enormous pressure to reduce costs and make more efficient use of real estate. And they are being confronted with new ideas about workplace design, workplace operations and workforce support at a dizzying pace.

By now the economic, social and environmental benefits of moving to a flexible work environment are widely known. We have seen solid evidence that an enterprise can reduce the cost of workforce support by over 40 percent, which flows directly to the bottom line.¹

Yet the rate of adoption of new ways of working has been far slower than it could (and should) be.

I have become convinced that the there are two basic reasons for the slow uptake of what are clearly good, commonsense ideas: (1) classic, old-fashioned organizational inertia and (2) a basic failure by most organizational leaders to understand and appreciate the effort and skill it takes to overcome that inertia.

By “inertia” I mean a reluctance to embrace the cultures (values, habit, norms, expectations) and measurement/management systems at the foundation of the new generation of workplace strategies that are described so eloquently in the rest of this book.

Unfortunately for facility professionals, most of the new ideas that are thrusting their way into workplace design, workforce support and flexible work programs represent radical departures from established practice. As such, they introduce so many new ways of working, of organizing and of measuring workforce productivity that they bump right up against organizational resistance to change: the tendency of “stationary objects” to remain stationary.

In short, the problem usually is not the lack of a compelling business case, or confusion about what flexible work means. It is basic resistance to change. Senior executives, as well as middle managers, have generally been unwilling to give up their established business practices, those old habits that remain very comfortable and difficult to change, even when they are demonstrably suboptimal and even counterproductive.

Thus the authors of this book all agree that workplace service professionals must become not only strategic thinkers, workplace designers and operations experts, but accomplished change managers as well.

Thinking About Change: First Principles

Old habits die hard. Or, to put it more accurately, they resist being killed off. Yet resistance to change is not a universal truth.

The common wisdom usually goes something like this: “No one likes change except a wet baby.”

Candidly, that is one of the dumbest and most inaccurate statements I have ever heard. And I hear it all too often, usually from someone who is advocating careful attention to change management. But, as well-intentioned as they may be, people who believe that change is always resisted simply do not know what they are talking about.

Yes, organizational inertia is real, and it is widespread. But that is not the same thing as hard-edged, knee-jerk resistance to change.

In every single organization I have ever worked with there are people who are incredibly frustrated with the status quo, and who actively — often desperately — want change. And do not forget, it is often said that “Variety is the spice of life.”

Let’s be very clear: very few people universally resist change. What they do resist — and resent — is being changed, with no control over where, when or how that change is imposed on them.

People do not universally demand stability; what most of us want is predictability, or at least a reasonable level of personal control over whatever changes we are experiencing. And when organizational staff believe that they are contributing to positive change (meaning they see benefits in it for themselves), they will not only get on board; they will usually be chafing at the bit to help make things better.

¹ See “The Office: A New Look at an Old Friend,” Chapter Five of Cut it Out! Save for Today, Build for Tomorrow, for a detailed description of how SCAN Health Plan increased employee productivity, reduced facilities costs by over $1 million a year and achieved more than a 40 percent return on investment by embracing flexible work and redesigning its corporate headquarters to reflect new ways of working.
Fear of change usually means fear of loss of control. Staff who are told their jobs are changing, or the business process they are part of is being redesigned, are usually afraid they will not have the knowledge or skill to succeed in the new conditions. They fear not being able to perform well, or they resent the extra effort they assume it will take to learn the new procedures.

And, as Chip and Dan Heath point out in *Switch: How to Change Things When Change Is Hard*, self-control is an exhaustible resource. That is, there is only so much of it, and people get worn out and stressed out by trying their darndest to maintain a basic sense of self-control. So lesson number one is “Be very careful when you’re pushing people out of their comfort zone.”

**Understanding Change**

The best model I have ever come across for thinking about organizational change is a very simple framework that captures the three most important factors that affect organizational response to change. It’s not everything you need to know about change, but it is a foundation for everything else. And it is easy to remember:

\[ C = D \times V \times P \]

**Change**

“\(C\)” is the success of the change — the degree to which the intended changes are accomplished and achieve the organization’s goals.

**Dissatisfaction**

“\(D\)” is a measure of dissatisfaction with the status quo. People who are satisfied and happy with the way things are generally are not supportive of change: “If it ain’t broke, don’t fix it.”

But the important question about this factor is who is dissatisfied? If senior management wants to change something, but no one else understands the problem (or the opportunity for improvement), there is likely to be active resistance. And if senior management is satisfied with the status quo you are going to have a major problem getting their support.

Thus one of the first steps in a major organizational initiative is usually making the case for change to those who do not yet see the need for it, especially if they are the ones with the purse strings.

There is a whole body of literature about how to do that effectively; perhaps the most articulate experts on leading organizational change today are Professors John Kotter of the Harvard Business School and Chip Heath of Stanford’s Graduate School of Business, along with Dan Heath (Chip’s brother), a senior fellow at Duke University’s Center for the Advancement of Social Entrepreneurship. You will not go wrong by relying on Kotter’s two best sellers, *Leading Change* and *Our Iceberg Is Melting*, and the more recent Heath brothers’ contribution, *Switch* (view book descriptions on Amazon.com). Many, though by no means all, of the ideas discussed in this chapter are derived from the work of Kotter and the Heath brothers.

Back to our basic model.

**Vision**

The “\(V\)” in that equation represents the change leaders’ vision for the future. And if it is a compelling one, the vision can even help to create dissatisfaction among those who previously thought everything was just fine. In the vernacular, it is about showing people the “promised land of milk and honey” that makes even a comfortable current existence seem wholly inadequate.

On the other hand, if the vision is not particularly promising, or well-described, it may be difficult to motivate even highly disgruntled employees (or their bosses) to support the changes you are promoting.

Employees could be incredibly frustrated with the way things are, but if they do not see a better way they will usually just hunker down and tough it out.

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On to the third factor affecting change: the process for accomplishing the desired changes.

**Process**

The “P” in the formula represents the quality of the process — the plans for moving from today to tomorrow. Even if there is plenty of dissatisfaction with the status quo and a compelling vision of what could be, without a clear plan or roadmap for the journey, you probably will not get where you want to go.

What makes this change model particularly valuable is that those little “x’s” between the three key factors are multipliers. In other words, the formula means that the success of a change initiative depends on the “product” of the three components (think of each of the three key variables as a percentage running from 0 to 100). If any of the three factors is absent (0), you are not going to succeed. In contrast, if all three are present and of reasonably high quality, your chances of success are fairly good.

Note that the way the model highlights the interaction of the three key factors offers one more insight into how organizational change works. If either the level of dissatisfaction or the quality of the vision is not where it should be, a good change management process can include actions, events and communication programs designed to overcome those deficiencies.

If the problems with the status quo are not clear or widely understood, make the case for change by highlighting those problems; explain to those who will be affected by the change why it is needed, what benefits it will produce (the vision), and how it will affect them. If the vision is not clear or widely accepted, include activities in the process, like brainstorming sessions, focus groups or futures research, to develop the vision more completely.

**Participation**

Finally, there is one other basic change management principle that has been implicit throughout this discussion, but should be stated clearly: few people actively resist change that they have been part of shaping. If employees’ voices and ideas are heard as the change is being designed, they will not only feel valued and listened to, but the odds are the change will be higher quality in and of itself.

**How Change Unfolds in Organizations**

Now let’s dig in a little deeper and explore what a leader of change can do to generate that widespread dissatisfaction that is so fundamental to successful change programs. It is clearly the first step in preparing an organization to change.

As a side note, I recently had an opportunity to participate in a two-day project planning session with a large organization that has adopted John Kotter’s eight-step change model (as described first in his two best-sellers *Leading Change* and *The Heart of Change* (with Dan Cohen), and then in the highly compelling fable *Our Iceberg Is Melting* (with Holger Rathgeber).3

I have been familiar with Kotter’s work for many years. (I was actually a colleague of his when I served on the faculty at the Harvard Business School long, long ago.) But, candidly, even I did not appreciate just how powerful Kotter’s model is until I applied it directly to several change projects I have worked on recently.

In brief, Kotter’s eight steps (the sequence is critically important) are:

1. Create a sense of urgency
   The more people who understand why the change is needed, and share a desire to make it happen, the more likely the change program will succeed.

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3 All books listed are available through Amazon.com.
2. Pull together the guiding team
Recruit the small, core group of leaders, stakeholders and influencers who you need to help you design and implement the change.

3. Develop the change vision and strategy
Work with the core team to build the case for change; incorporate their perspectives, which will create the clear sense of your goals and help persuade others.

4. Communicate for understanding and buy-in
Develop an explicit communication strategy; and do not simply rely on a barrage of press releases and speeches. Plan events that give others a chance not only to hear about the whys and wherefores of the change, but to ask questions and make suggestions.

5. Empower others to act
The more you can spread the “gospel” and give others the means to do things in furtherance of the change, the more the change will gain momentum.

6. Produce short-term wins
As the old saying goes, “Nothing succeeds like success.” Short-term wins prove the new concept, create winners, and lead to even wider acceptance of the new future.

7. Do not let up
If things are going well and you have a number of short-term wins to point to, it becomes all too easy to slack off, to assume that it will be all downhill from here on. Nothing could be further from the truth; be persistent, and stay focused on the end state, because there is a major tendency for individuals and organizations to slip back into their old habits when the pressure for change drops off.

8. Make it stick by creating a new culture
If you have gotten this far, the new processes, new workplaces and new procedures will have become the “new normal.” While old habits die hard, new ones can in fact take their place. Find ways to “legitimate” new habits: by recognizing individuals who exemplify the new culture, by incorporating new performance measures in compensation and reward systems, and by developing and distributing written materials (brand images, logos, brochures, etc.) that model the new culture.

Let’s consider the most critical steps in this process in more detail, and look at some real-world examples of how this process can help make change happen.

1. Create a Sense of Urgency
I believe that Kotter’s “sense of urgency” (step 1) is essentially similar to the notion of “dissatisfaction with the status quo” described previously. In the vernacular, it is about identifying the “burning platform” (referring to an oil rig in the middle of the ocean where you either put out the fire immediately or perish — a lesson learned the hard way in the 2010 Deep Water Horizon disaster).

But the core question I hear all the time is, “How do you do that without creating widespread panic or counterproductive fear?” It may seem obvious to you that there is an urgent need for change, but how you go about developing a widespread sense of urgency will make all the difference in the world.

In my mind there are three core principles for creating “productive urgency.”

First, as we say all the time, design from data. In other words, be observant, be objective and compile the relevant data (about the company’s performance, its competition, the economic conditions, the labor market, internal employee morale, best practices from the industry — whatever is relevant to the situation). Do not just wave your arms and claim the sky is falling. Come to the party with a briefcase full of facts.

And make it a point to spend more time listening than talking at this stage. You need to understand what the people who matter to your future are seeing, hearing, thinking and feeling (and what they are feeling may be the most important data of all).

Second, get outside your own organization and question all your assumptions. It is really, really hard to see things from
others’ perspectives, but it is absolutely essential. Do not be guilty of thinking you know all the answers; do not fall into a “groupthink” sink hole where everyone in your organization spends all their time talking to each other and ignores the rest of the world.

One of the best (or, rather, worst) examples of groupthink I know of was the way John F. Kennedy’s advisors approached what we now know as the “Bay of Pigs fiasco” back in the early 1960s.

As Kennedy and his team developed plans for an invasion of Cuba, the so-called experts in Kennedy’s inner circle spent all their time talking to each other, almost willfully ignoring all the evidence that was right there in front of them that Cuba was ready, willing and able to fight back.

When SCAN Health Plan first began exploring the concept of workforce mobility and work-from-home programs, Diane Coles, director of workplace solutions, first brought in an outside consulting firm (full disclosure: that firm was Work Design Collaborative (WDC), of which I was a co-founder). With WDC’s help, Diane arranged to visit several firms that had already implemented flexible work programs.

Those experiences helped convince Diane and her team that flexible work was not only possible but also highly effective in reducing workplace costs and increasing employee productivity. She listened to the stories she heard, not just in terms of what they did, but how they did it, what objections they faced and how they overcame those barriers.

For a wonderful corporate perspective on the value of getting outside your own comfort zone, see “Spend a Day in the Life of Your Customers” in the Harvard Business Review.4

Third, connect the data to the stakeholders’ interests — and their emotions. Talk about the issues and challenges openly, candidly and widely. Make it all directly relevant to them — in their guts. I am convinced that, as important as “hard facts” and accurate data are to making the business case for change, they usually are not enough. If your senior executives do not feel the need for change, they will find every excuse imaginable to avoid making commitments to moving forward, let alone provide you with the active sponsorship and support you will need to be successful.

At this point in the process, it is more effective to risk scaring people than to let them remain ignorant or complacent about the need for change. Most people are actually pretty perceptive, even if they are afraid of the facts or in denial. Once you describe the elephant in the room, most people will admit they have sensed all along it was there, but they were hoping it would go away.

But the most important thing you can do to create a sense of urgency is to talk about the need for change in ways that connect with people’s feelings. As John Kotter and his co-author Dan Cohen point out in The Heart of Change:

... the core of the matter is always about changing the behavior of people, and behavior change happens in highly successful situations mostly by speaking to people’s feelings. This is true even in organizations that are very focused on analysis and quantitative measurement, even among people who think of themselves as smart in an M.B.A. sense. In highly successful change efforts, people find ways to help others see the problems in ways that influence emotions, not just thought.

Whether you are intensifying peoples’ anxieties about negative realities (which can be very effective, up to a point), or attempting to inspire them with ideas about how much better things could be, you will get a much stronger response if you are tapping the right side of their brains rather than the left.

Again, though, remember that in the early stages of orchestrating change you should be focusing on heightening the sense of urgency, not on what the future will be like. It is all right to talk about problems and the need to do something, even if you do not have a solution yet.

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I once heard a CEO who led a highly successful, widely participative organizational renewal effort say, “I woke up one day and realized that 5,000 people in total were a whole lot smarter than the five of us on the executive committee.”

To return to SCAN Health Plan, the operational steering committee members that Diane Coles recruited spent almost as much time debating the concept of distributed work, and all its pros and cons, as they did developing the company’s formal HR, legal and IT policies. Committee meetings frequently got bogged down in heated arguments as members expressed their personal fears (loss of control, employees goofing off instead of working, their inability to know who was working and who was not) and voiced many previously hidden assumptions about employee capabilities and motivations.

2. Pull Together the Guiding Team

As you begin to build understanding that something has to change, you will discover fairly quickly who agrees with you, who is at least sympathetic and open to learning more, and who simply refuses to accept the picture you have been painting. The second step in the process is to begin recruiting both your supporters and the doubters to join your “team.”

Actually, in most organizations there will be several different kinds of “guiding” teams. At SCAN Health Plan, Diane Coles built a core team that consisted of herself, her assistant Anna Richards, her long-time architect Manuel Urquiza, and the outside consulting firm Work Design Collaborative already mentioned earlier. She also treated her boss, the CFO and one director each from HR and IT as “insider” members of the team.

But the most important “guiding team” was the operational steering committee that Diane recruited, with senior executive support, to help her define and shape the pilot project that would eventually “prove” the value of supporting a remote work program.

3. Develop the change vision and strategy

Once Diane Coles had convinced the SCAN Health Plan executive team that flexible work might have a huge financial benefit for the company, she was able to gain formal approval to form the steering committee. That group was then charged with exploring the basic concept and developing a formal implementation plan.

The process of shaping that plan, which was not approved and funded by the executive committee for another six months, became the forum in which, as noted above, the group wrestled with the management and HR policies, training programs, communication strategies and success metrics that ultimately guided what became a very successful flexible work program.

4. Communicate for understanding and buy-in

Like any effective guiding team, the steering committee at SCAN Health Plan included not only the key decision-makers from HR, IT, facilities, legal, risk management and so on, but also several of the line managers who would eventually be responsible for the staff working remotely. There were several skeptics in the group, and many of the regular weekly meetings of the team were filled with back-and-forth arguing about whether remote employees would be more or less productive than their office-bound colleagues.

During those weekly debates many basic assumptions about people, motivation, management and SCAN as an organization surfaced and were hotly debated. Over the course of six months, SCAN’s flexible work program took shape — slowly at first, but with increasing clarity as the deadline for launching the pilot program approached.

And as that clarity emerged, the committee turned to SCAN’s director of communications, who developed a comprehensive, long-term communications strategy. That strategy included a series of employee bulletins that not only described the program and quoted senior executives talking about its importance and value, but also included “first-person” stories of some of the early participants in the pilot program.

5. Empower others to act

This step is all about broadening the “insider” group to include other advocates and influencers. Do not try to do it all yourself; both your time and your influence is bounded by natural realities. The larger the number of advocates who are carrying the message (and the torch), the larger the impact you can have on the organization.
6. **Produce short-term wins**

   Here’s a bumper-sticker slogan for change agents: “Front-end load your projects for early success.” Success breeds success; the word gets around, and you have built momentum for progress.

   Again, the project at SCAN Health serves as a perfect example. The program began with a pilot that initially included only 20 employees. Their managers were intimately involved in the early planning; the project team defined explicit performance goals and then monitored the results very closely.

   Glitches were inevitable, but the project team responded to them immediately, so that even when there were unexpected difficulties, the program participants remained positive because difficulties were confronted and fixed so quickly.

   Participants were polled frequently in the early weeks, and both they and their managers participated in monthly focus group discussions where they were encouraged to be completely candid about their likes and dislikes. Again, when problems were identified they were dealt with as rapidly as possible, so the project team was seen as highly responsive and competent — and the number of problems dwindled over time.

7. **Do not let up**

   Organizational change takes a long time to “stick.” Just like dieters and would-be marathoners, participants in change programs find it all too easy to “drift back” to their old habits (having that piece of pie for dessert; slacking off on the number of miles run per week). You have to keep the pressure on, until long after you are convinced the new processes have become “old habits.” Because if you do not work to make the new processes into habits, those pre-existing old habits will rear their ugly heads and take over once again.

   Change has become a way of life at SCAN Health Plan, in large part because Diane Coles kept the AWESOME5 program alive by producing regular progress reports for the executive committee, by recalculating and reporting the economic benefits annually, by rebuilding one floor at a time in the headquarters building, and by adding new components (like a business continuity plan and a paperless office initiative) to the original project scope every few months.

8. **Make it stick by creating a new culture**

   Strong cultures are self-sustaining and that is what makes organizational change so difficult. Once you have begun to achieve the changes you have been advocating, you need to find ways to lock in the new “habits” so they too become self-sustaining.

   Creating a new culture is a daunting task. Cultures are distinguished by values, norms, assumptions and beliefs. As the new culture takes shape, you can reinforce it by making the values and norms explicit, by rewarding individuals and teams that demonstrate the “right” behaviors, and by calling out both positive and negative examples on a regular basis.

### Tools for Leading Change

**A Change Agent’s Toolkit**

- Organizational Assessment System©
- Stakeholder analysis
- Future state scenarios
- Playbooks
- Business case scenarios
- Mockery

I suggested earlier that it is important to “design from data.” All too often we hear senior executives (and middle managers as well) making statements about current work habits, or current organizational policies, that are just not true, or are based on untested assumptions about their current employees’ work patterns (and their future behaviors).

In both my research and my consulting work I regularly make use of a number of diagnostic tools to help build a data-based case for change, to monitor whether desired changes have actually taken place, and to learn from experience and adapt accordingly.

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5 AWESOME is SCAN Health Plan’s workplace strategy project. The acronym stands for alternate workplaces engaging staff and office management efficiencies.
In this section I will briefly describe several of the tools I have found to be most useful in supporting, and even fostering, organizational change. However, this is hardly a definitive list, and I know there are other instruments available (both public and proprietary) that can provide you with the data ammunition you need.

Organizational Readiness and Capability for Change

The Organizational Analysis System™ (OAS) was first developed by Dr. Charles Grantham over a decade ago. Over the last decade the two of us led a number of engagements that relied heavily on the OAS to determine our clients’ organizational readiness and capability for change.

The logic behind the OAS is straightforward. The OAS is designed to provide decision-makers with a reliable, quantifiable assessment of a work group’s potential for successfully making a transition to a new way of working.

Whenever the vision of the end state of an organizational change process is, we need to know:

1. How well is the direction of the workgroup articulated and communicated to employees?
2. How much human capital exists and how is it developed?
3. How well does the group deliver on its value proposition to its customers?
4. How close are its information systems to “state of the practice”?
5. How well does the group’s planning and improvement process operate?
6. What is the availability of, and the potential to provide, appropriate physical facilities to support emerging forms of work process?

Answers to these six structural questions (which we determine based on our assessment of four to six specific components for each area of interest) facilitate the decision process and allow for priority allocation of assets to enhance the chance of success in the transition. We collect OAS data using a structured interview process that produces composite scores for each of the six dimensions defined by the questions listed above.

Figure 1: OAS data display

An OAS analysis produces a “spider diagram” chart like the one in Figure 1. Our research shows that, in 95 percent of the cases, workgroups that score more than one standard deviation below...
national norms on three or more of the six core factors will fail to make a successful transition to a new work state.\(^7\)

When we identify an organization that is incapable of making the needed change, our recommendations then focus on shoring up the inadequate organizational factors. In one instance, for example, we helped establish a companywide training program that over several years strengthened the firm’s human capital, led to a significant rethink of its customer service function and enhanced employee IT literacy. At that point the organization was fully ready to launch — and embrace — an aggressive flexible work program.

**Stakeholder Analysis**

Stakeholder analysis is a simple but powerful framework that can help you identify both your supporters and your detractors in a change situation. While it builds on intuitive understanding, a systematic assessment of who supports or opposes the change, and how much power those individuals wield, can help you anticipate and/or prevent major difficulty.

A stakeholder is someone (or a group of someones) who will be directly affected, one way or another, by the change program you are contemplating, or designing.

Stakeholder analysis is a very simple process. Focus on two questions about each stakeholder:

1. Is this individual in favor of, or opposed to, the change?
2. How much power does this individual have to help or hinder the change?

You are basically asking the age-old “WIFM” (What’s in it for me?) question for everyone involved (from their perspective, of course). But just as importantly, you are asking what each of them is capable of doing about their perceptions. Can they help you by influencing others? By providing resources, by taking specific actions, by speaking out on your behalf? Or could they derail your initiative by withholding funds, by refusing to let their staff participate or by speaking out against the idea?

Once you have asked and answered those two questions for each significant stakeholder, array your assessment on a two-by-two grid like the one shown in Figure 2.

**Future State Scenarios**

Throughout this chapter I have emphasized the importance of developing and articulating a clear, explicit and compelling vision of the future you are attempting to lead the organization toward. We know that both senior executive decision-makers and everyone else in an organization needs to feel confident in, and energized by, that vision.

But one of the most frequent barriers to constructive change that I encounter is differing perspectives on the financial and social impacts of embracing flexible work programs. As has been suggested several times in this chapter (and elsewhere in the book), new workplace/workforce strategies almost always represent significant departures from past practice, and as such are often difficult for decision-makers to imagine or even relate to.

\(^7\) For more information about the OAS, or to consider its use in your organization, please contact James Ware of The Future of Work…unlimited at jim@thefutureof-work.net
I have found that the most effective way to overcome these differing beliefs about the future is to employ scenario planning, a futures-oriented visioning process that focuses on defining alternative possible futures, without forcing universal agreement on what will actually happen.8

Scenario planning produces several different “pictures” of possible future situations. Scenarios can be powerful vehicles for enabling change because they focus on what might or could happen, not on what will happen in any absolute sense.

Scenarios are not predictions of the future; rather, they are images of possible futures, taken from the perspective of the present. Scenarios are stories about the future that, when taken together, describe a range of plausible future states of an industry, its markets, a particular business, or a workplace environment.

Because scenarios are typically developed explicitly to describe a range of possibilities, they enable managers to open their minds to the inherent uncertainties in the future, and to consider a number of “what-if” possibilities without needing to choose and commit exclusively to one most-likely outcome. Scenario analysis enables managers, business planners and executive teams to develop multiple options for action that can be compared and assessed in advance of the need to implement them.

Depending on a well-defined “map” of what amounts to an unexplored territory can be highly misleading. As a real-life example, here’s a brief history lesson. When European mapmakers in the 17th century listened to the ship captains who returned from exploring the western coast of North America, they depicted California as a large island, separated from the western United States by a large unnamed body of water.

Although wrong, their logic was understandable. Sailing past Baja California, the ship captains had reported seeing nothing but water to the north. Then they traveled north in the Pacific Ocean to what we now call Puget Sound; once again they saw nothing but water. Based on their limited experience, it was simple to conclude that California was indeed a large island. The incorrect maps they produced led to incorrect — and sometimes disastrous — decisions by the early settlers of the American West.9

Scenario planning, in contrast, encourages a creative tolerance for ambiguity; and the process enables organizational members to consider what skills and resources they would need to operate effectively in each of the imagined alternative futures, as well as how they would have to change current practices to survive in that world.

Scenario planning also provides executives with a sense of what events or patterns to look for as early warning signs that one or more of the projected scenarios might actually be starting to occur. This early sense of how the future is beginning to unfold amounts to a form of “anticipatory insurance.”

Think of a scenario as a “script” for a series of actions and events that could unfold in the future. The most important contribution scenarios make is the way they uncover underlying, and usually unstated, assumptions about the forces driving future change. Scenarios help make the implicit explicit; they help you know which trends or discontinuities to be on the lookout for.

For example, when vacancies in a particular rental market hit a “trigger” level, you know it is time to consider renegotiating your outstanding leases. But you only know that because you have previously constructed several alternative scenarios that helped you determine just what that trigger vacancy rate should be for your organization, in your situation.

Playbooks

A “playbook” is an extension of scenario planning. Professional teams in most major team sports — especially those in time-based sports like football, basketball and soccer — have used playbooks for years. A playbook contains a series of different offensive and defensive plays that have been developed for a variety of different conditions.

An effective playbook also takes into account the unique strengths (and weaknesses) of the team; there is one set of plays for the first-string quarterback (who may be a left-handed, rollout passer) and a second set for the backup quarterback (who may be right-handed and more of a drop-back passer). Similarly, when the star halfback is in the game, the team will execute one

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8 See Peter Schwartz, The Art of the Long View (Currency Doubleday, 1996) for a very detailed and articulate description of scenario planning and how it was developed at Shell Oil International in the 1960s and ’70s. See also “Scenario Planning: Preparing for Uncertainty,” by James Ware, in Chapter 2 of The New HR Analytics (AMA-Com, 2010) by Jac Fitz-Enz. Both books are available through Amazon.com.

9 This example comes from Eric Clemons, a friend and former colleague who teaches IT and business strategy at The Wharton School at the University of Pennsylvania.
set of running plays, and when he is on the sidelines, there may be a completely different running game in place.

The analogy to businesses undergoing dramatic change is straightforward; like a football team, you cannot afford to wait until the opening kickoff to figure out what to do. Nor do you want to wait until you have only 30 seconds left in the game to figure out how to move the ball 60 yards downfield. Instead, you want to anticipate, develop and practice (i.e., pilot) a series of possible “moves.” Then, depending on the conditions that develop and what your competitors do, you can carry out one set of plans or another.

A solid playbook helps an organization anticipate and prepare for change. When the scenarios and the “plays” are well-developed they help make both the future vision and the pathway for getting there much more tangible, and more easily understood by the members of the organization.

For example, at SCAN Health Plan, Diane Coles, in conjunction with her counterparts in HR, IT and strategic planning, developed a detailed playbook that lays out the “game plan” of what to do when the company expands into new geographic areas. Now, when the company wants to consider opening operations in a new state or region, everyone knows what to do in both the planning and the implementation stages. The changes are not mysterious, and they do not have to be reinvented over and over again; what could be experienced as a significant or even disruptive change has become entirely familiar and routine. There is no fear of the unknown and no loss of control; it is just another “routine” expansion of the business.

Business Case Scenarios

As senior executives consider new workplace strategies the fundamental question that is always asked is “What impact will this new approach have on the bottom line?” And few questions stir up more uncertainty and differing expectations than this one.

Certainly real estate executives who believe in flexible work programs know that they can reduce expenses dramatically by moving away from individually assigned spaces for some or all employees. But almost every time a CRE or FM professional proposes a flexible work program or a “hot desk” environment, an IT professional will begin arguing that technology costs will inevitably increase, an HR professional will raise questions about changes in span of control ratios or in voluntary attrition rates, and a legal expert will raise questions about liability, insurance and other elements of risk.

These kinds of arguments about what the future will look like are very common among even well-intentioned professionals. And they can freeze an organization, making it impossible to reach consensus on the urgency of the proposed change, or on a vision of the future.

Remember our first principle: design from data. Almost a decade ago, faced with these kinds of debates about economics of flexible work, Charlie Grantham and I assembled a group of corporate executives who shared our frustration as well as our interest in developing a comprehensive economic analysis of how flexible work would impact a company’s income and expenses. Over the ensuing 18 months the Future of Work research program designed and validated several new diagnostic tools, including an updated version of the OAS™ described above.

But the tool that has had the biggest impact on building a business case for change has been the ROI Calculator™, a spreadsheet-based decision support tool that enables senior executives to understand the combined effects of changes in the number of flexible workers, in the number of workers per desk in the corporate office, in attraction/retention rates, in the management span of control (number of employees per manager) and other HR metrics, and in the level of technology investment.

The ROI Calculator™ includes a “baseline” that approximates an organization’s current workplace/workforce configuration. It then provides as many alternative future scenarios as management wants to explore. Assumptions are made about a wide range of critical variables, and the net effect of those assumptions on key performance and productivity metrics is instantly displayed.10

The ROI Calculator™ was instrumental in persuading the executive committee at SCAN Health Plan to proceed with the work-from-home pilot program that eventually grew to involve over one-third of SCAN’s Southern California workforce. Our initial analysis demonstrated a potential for a 40 percent return on

10 For more information about the ROI Calculator™, download “The ROI Calculator Overview” from The Future of Work...unlimited website, or contact James Ware (jim@thefutureofwork.net) to arrange a live demonstration of the tool.
investment over a four-year time horizon. That number became both a goal and a success measure at SCAN.

More importantly, SCAN has repeated the ROI analysis annually for four years since the initial pilot program in 2007. Actual results have exceeded the ROI Calculator™ predictions every year, and that outcome has been a significant contributor to the continuing support of SCAN’s senior executives.

Mockery

Mockery sounds like a very strange “tool” for leading change. And, indeed, it may only be appropriate in unusual situations, particularly when the change advocates lack formal power.

However, Nicholas Kristof of The New York Times pointed out in a column in April 2011 that mockery had been a very powerful component of the citizen revolts in Egypt, Tunisia, Bahrain and many other countries. As he describes it, this nonviolent strategy was developed by Serbian students (but inspired by an octogenarian American scholar named Gene Sharp):

This “uprising in a bottle” blueprint was developed by the Serbian youth movement, Otpor, to overthrow Slobodan Milosevic in 2000. One of Otpor's insights was that the most effective weapon against dictators isn’t bombs or fiery speeches. It’s mockery. Otpor activists once put Milosevic’s picture on a barrel that they rolled down the street, inviting people to hit it with a bat.

Mockery has also been an important weapon in the battle to reduce teenage smoking in the United States:

From the 1970s through the 1990s, nothing seemed to work to dissuade teenagers from smoking. Television commercials warned that smoking kills you or turns your teeth yellow, but teenagers felt invulnerable. And with adults united in disapproval of teenage smoking, what better way for adolescents to rebel than to cough their way through a cigarette?

Then in the late-1990s, some frustrated anti-smoking campaigners showed teenagers how cigarette companies were manipulating them into addiction. Starting in Florida, the teenagers then designed a series of funny and withering commercials, many based on prank phone calls.

One depicted a couple of teenagers telephoning an ad agency that promoted cigarettes. The kids tried to give the agency a prize for killing teenagers in large numbers, flummoxing the staff.

In one multistate commercial, a young man calls a cigarette company and says that he is a dog walker. Then he explains his business proposition: He wants to sell dog urine. “Dog pee is full of urea, and that’s one of the chemicals in cigarettes,” he explains.11

But a brief word of caution is important here. Use humor, and especially mockery, with care. It is not a good career move to mock your boss, or other senior executives — particularly in public, or in front of their peers. Mockery, and even light humor, can be a very effective means of calling attention to an issue or opportunity when the person doing the mocking has very little formal power, or lacks access to normal communication channels.

On the other hand, judicious use of humor can help people see inconsistencies, or new realities, that they would otherwise miss, or at least misunderstand. For example, one of the best sources of humorous insights into the new world of mobile work is the “Chuckle Channel” on the WorkplaceTV website. If you have not seen it, be sure to watch the brief segment “The Restaurant,” which draws a telling parallel between reserved tables in an empty restaurant and assigned workplaces in an office setting.12

Summary

At the risk of sounding redundant, change is enabled by tools like those described here for one simple reason. Formal diagnostic tools transform conversations about change from purely emotional arguments about what the “facts” are into objective, informed considerations of possible future states. These kinds of tools bring data into the equation; but just as importantly they pull many more people (and their perspectives) into the conversation.

Rules for Radicals

Top 10 Rules for Radicals
1. Light many fires
2. Don’t ask if they can say “no”
3. Ask for help, not decisions
4. Don’t be a lone ranger
5. Look for bright spots
6. Create heroes
7. Ride your winnings, cut your losses
8. Measure everything that moves
9. Find a personal confessor
10. Make it personal; live the change

As a way of summarizing and reinforcing the ideas discussed here, I hereby offer my personal “Top 10 Rules for Change Agents.” These guidelines may sound slightly irreverent, but they are deadly serious. They provide a different slant on leading change than did the preceding discussion, but they are just as valid, and just as important (and highly consistent). These ideas come out of my personal experience — not from any textbooks or manuals. They are not intended to replace any of what has already been said, but to speak more to your gut.

1. Light many fires
   Get lots of small change efforts underway. They will not all succeed, but the more you have got going on the better the chance that some of them will flare up and produce meaningful change.

2. Don’t ask if they can say “no”
   There’s nothing more tragic than the premature death of an idea. If it is not fleshed out, or lacks a compelling business case, it is all too easy for decision-makers to reject it. So do not push for approval or commitments of funds until you are ready with an iron-tight case.

3. Ask for help, not decisions
   I learned this one early in my career. I was proposing a brand-new management training program that none of the important stakeholders understood. Instead of pushing them to support me (which I could tell was an impossible task), I started asking them to help me edit the basic program description. All of a sudden, they began to understand the concept. More importantly, the program description became theirs as much as it was mine.

4. Don’t be a lone ranger
   Find and recruit friends. Very few change programs that come entirely out of one functional area last very long. To make your program stick, be sure it has multiple sponsors and even more advocates. Build coalitions for change by helping your colleagues in other areas understand how your initiative also supports their goals and helps make them successful, too.

5. Look for bright spots
   It is really a simple idea: find places where your vision of the future is already working. Then tell people about it, watch, listen and learn. Dig into the situation to understand the conditions and/or actions that are generating the positive results you want to see everywhere else. Bright spots are like laboratories of the future; use them to learn, and to demonstrate to others that your vision is not only possible, but realistic.

6. Create heroes
   Once you have found those bright spots, shine the light on them. Identify the individuals and the teams in your organization that are already “living the future” you envision — and use them as case examples. In one large insurance organization I worked with several years ago, the CEO used every opportunity he could to publicly recognize the managers and executives in the company who embodied the leadership qualities he was seeking to spread throughout the organization. He made the small success stories into big ones by “anointing” heroes wherever he could find them.

13 This phrase is actually the title of an old but very relevant book. Written by Saul Alinsky in 1965 as a guidebook for driving large-scale social change, it was “the bible” for many ‘60s and ‘70s revolutionaries committed to ending the war in Vietnam, achieving civil rights and ending homophobic laws. Given the relative success of those movements, it is well worth revisiting in 2011 as we tackle what may be the toughest challenge of all: transforming corporate cultures. (Saul Alinsky, Rules for Radicals: A Pragmatic Primer for Realistic Radicals, Vintage Books, 1969. Reprinted 1989, Random House). Note, however, that my “top 10 rules” are my own, not Alinsky’s.
Needless to say, everyone in the organization paid attention, figured out what those heroes were doing right and started doing the same thing. Voila: the new culture took hold much more quickly than anyone had expected.

7. **Ride your winnings, cut your losses**

One of the most innovative senior executives I have ever met told me — to my initial surprise — that he never runs pilot programs. I found that hard to believe, because he had an industrywide reputation as someone who was always trying new things, usually months before any of his peers in other organizations.

“It’s simple,” he said. “We try new things all the time, but we only call them ‘pilots’ when they fail. When that happens, we say ‘Oh, that was only a pilot.’” When new ideas worked, he just kept them going and growing, until they were established and sustainable.

This is a lesson that all successful investors know in their guts: hang on to your profitable ventures, cut your losses quickly. It is another way to build a culture of change and progress.

8. **Measure everything that moves**

Do not take this one literally, but develop as many measurements as you can for each of your new ventures and change initiatives.

Never forget that finance is the “language of business,” but do not limit your measurement efforts to financial factors alone.

The simple fact is that you will need proof of your success to maintain executive support. Good feelings and testimonials are not enough to keep change initiatives going. As I suggested several times in the discussion of change management tools, “design from data,” and make sure your progress reports are full of “hard” data.

9. **Find a personal confessor**

Every change agent needs someone he or she can talk to openly and candidly — a friend who can help you think through ideas, test out possibilities, and express fears and frustrations. Find someone (or two) who you can trust, who knows your strengths and weaknesses as well as your situation, and confide in them. Use your “confessor” (or mentor, or coach) as a sounding board. Leading change is tough work, with lots of risk-taking and inherent stress. So in addition to building a coalition of supporters within the organization, it is also well worth the effort to find one or two friends outside the company who have nothing riding on the outcome (except for the way they care about you).

10. **Make it personal: live the change**

Finally, do not be an advocate for changes that you would not accept yourself. Or, to be much more positive about it, demonstrate the value of the changes you advocate by acting them out yourself. Diane Coles became SCAN Health Plan’s first “office nomad” by giving up her assigned workplace even though her job as director of workplace solutions meant she had to be on-site virtually fulltime. She became a living, breathing, walking example of the kind of mobility she was asking everyone else in the company to embrace. That made her vision and her proposals much more acceptable to the other executives at SCAN.

**Final Thoughts**

Facility managers have the power to enhance the health, welfare and performance not just of their organizations, but of the millions of hard-working people who make up the workforce around the globe. You create the work environments where most people spend most of their waking hours. How they experience their work depends largely on the physical, social and technological resources they have at their disposal. And that’s your job as a facility and/or real estate professional.

But accomplishing that goal means becoming both an advocate and a leader of change.

Fortunately, change can be just as habit-forming as the legacy processes you are trying to change. Make change a way of life; once an organization gets moving, it is a whole lot easier to keep it moving. Let organizational inertia work *for you*; remember, a body in motion tends to stay in motion.

But there are no easy answers. There are no simple formulas, and every change experience is unique. Leading change is hard
work. However, I am convinced that changing organizational cultures, practices and processes is not just possible, it is also rewarding, fun and incredibly important.

Chapter 9 is the last of our competency-focused chapters. Chapter 9 is about the “glue” that holds all these other moving parts together: technology. Nowhere is change faster, costs more and is less understood. Facility managers need to be able to talk to IT pros as peers.

Oftentimes, they lack the right language and understanding of basic IT concepts, and the conversation turns to the blame game and back biting. The purpose of this chapter is to give facility managers the foundational understanding of the technologies, which will impact facilities.

We have tried to take the mystery out of initials like IWMS and lofty concepts like cloud computing. This isn’t the last word on technology because it changes so fast. But this chapter will be the primer you need to move forward.
Additional Resources


Online Links

The Future of Work…unlimited: www.thefutureofwork.net

The Organizational Assessment System (OAS): www.thefutureofwork.net/assets/OAS_Executive_Summary_2011.pdf


The Organization Development Network: www.odnetwork.org/

Organizational Change Resources: www.entarga.com/orgchange/resources.htm

LinkedIn: Organizational Change Practitioners Discussion Group: www.linkedin.com/groups?gid=63688&trk=myg_ugrp_ovr


ABOUT THE AUTHOR

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Jim is a former Harvard Business School professor who has spent his entire career helping clients invent their own futures by exploring and interpreting the changing nature of work, the workforce and the workplace. He facilitates conversations and collaborative learning, builds scenarios of alternative futures, and transforms ideas and insights into bottom-line results.

He is currently the founder and executive director of The Future of Work…unlimited and the global research director for Occupiers Journal Ltd.

The Future of Work…unlimited is a research and advisory services firm that creates visions of the future and helps clients achieve them. Occupiers Journal Ltd. is a global peer and knowledge-exchange network providing proprietary research and advice to end-user workplace management executives.

Jim was a co-author and the lead editor for Cut It Out! Save for Today, Build for Tomorrow, published by the IFMA Foundation in October 2009. He authored the chapter on change management for Work on the Move, also from the IFMA Foundation (October 2011).

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Jim holds Ph.D., M.A. and B.Sc. degrees from Cornell University and an MBA (With Distinction) from the Harvard Business School. He served on the board of trustees of Heald College from 1998 to 2007, the last two years as chairman. He lives and works in Berkeley, California.
Chapter Nine
Technology and the Future of Facilities

Erik Jaspers
Planon

Eric Teicholz
Graphic Systems, Inc.

The Idea in Brief

• The diversity of IT technologies around the workplace is expanding rapidly and will continue to do so in the near-term future. Facility management (FM) professionals will be challenged to understand the impact of these emerging technologies as well as their applicability. Such technologies will impact the:
  ◦ Management of the physical workplace
  ◦ Utilization of the physical workplace
  ◦ Creation of the virtual workplace

• IT tools developed to mobilize work and support people in collaboration and communication are fundamentally changing the definition of workplace. There exists no workplace that is merely defined simply by physical components anymore. The evolution of the virtual workplace will impact use patterns, as well as requirements placed on the physical environment.

• Implementing technologies that impact the workplace is no longer merely controlled by IT management. Organizations are increasingly accommodating and enabling support of existing technologies that staff uses at home. So, who will define the workplace of the future (Figure 1)? Facility management will be advised to consider its relation to and with IT management.

• Existing IT systems involved in managing the physical workplace and the information they carry can often be used to analyze (parts of) the use patterns of facilities prior to embarking on workplace restructuring projects.1 Agility, the ability to adapt the workplace to changed demand of the workforce, is a logical consequence of not only technological innovation, but also from social and economic change. Technologies are being developed to create “intelligent infrastructures” that will support FM professionals in understanding the change in demand profiles.

The Idea at Work

• This chapter is written to assist FM professionals in assessing what kinds of technologies are available relevant to the workplace and how to interpret their use and applicability. Facility managers must not only understand these technologies and their implications on how and where people can work, they must educate both senior and IT management regarding how such knowledge can impact the existing work landscape.

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1 See Chapter 5 Implementing a Mobile Workplace Strategy
There is no one technology that is applicable to all types of problems. There will never be a single technology that will solve all challenges and needed applications. By evaluating your legacy FM systems and integrating new technologies, improvements to the business of facility management organizations can be achieved. When assessing the acquisition of IT tools of any kind, it is advisable to assess their capabilities in the context of your existing software and hardware systems as well as the IT policy in place within your organization.

Executive Summary

Technology innovation is applicable to multiple aspects of the FM profession. Technologies are developing, enabling professionals to manage the physical infrastructure of offices and services in new ways for the workforce. Many of these developments align with developing new and innovative office-like workplaces. Other technology innovations are changing the set of tools that knowledge workers can (and will) use, enabling them to work in new and fundamentally different ways. Each profession will use different tools, which can be shared between them. With the increasing mobility of the workforce that results from this, this virtual workplace will stay connected to them. People will travel between locations and buildings, but they will always carry their virtual workplace with them. To summarize, the definition of workplace may fundamentally change over the coming years, requiring FM professionals to accommodate these changes.

This implies that FM professionals will have to grasp the essence of the technological developments that take place and position themselves for the changes they will invoke. Further, the FM profession will need to understand how best to implement the new technologies with traditional legacy systems and the potential impact of this integration on the workplace. One can expect that senior FM and IT management will work together to define how the organization will support and manage the workplace, both in the physical and in the virtual world. Both worlds interact and mutually influence each other.

Definition of “Workplace”

What is the definition of “workplace”? For FM professionals, the built workplace is both key to and a prime focus of their activities. Obviously, we see some fundamental changes occurring in the built environment. Flexibility and supporting the mobility of the workforce are significant elements of workplace change.

Specifically for knowledge workers, the definition of workplace is implicitly changing and will continue to do so. A new type of workplace is being added to the built environment: the virtual workplace (Figure 2). New software applications and information are emerging.

Figure 2: Workplace typologies.

One could state that the virtual workplace is independent of the people using it. Within this workplace there are three aspects of information technology emerging:

- Devices: New generations of personal devices are becoming available. Simplicity, ease of use and high-level user experience are key elements. Devices are expected to be further personalized.
- Network connectivity: Being connected to the network/Internet is a factor of increasing importance. Networking technologies are diversifying to meet different connectivity

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2 Mostly in the form of offices
3 Wearable devices, surface/flexible displays and so on
Network connectivity is not only moving toward a ubiquitous service, the increase in bandwidth (the ability to transport large volumes of data) is also enabling new types of applications.

- Applications and information: Corporate business applications are gradually allowing people to work independently of a location by use of the Internet. Additionally, there are new types of applications emerging that shape the virtual workplace for its users. Think of social networking tools, as well as tools to enable the sharing and exchanging of information and collaboration, the emergence of services to store data on the Internet and applications for specific Internet-based functions. The way applications can be acquired and installed is simplified through cloud computing, discussed later in this chapter, further lowering thresholds to using them.

IT technology is going through a process of commoditization: tools are becoming easier to use and acquire. This in turn is leading to faster and widespread adoption. This adoption is often done autonomously by people. That is, they use certain tools outside the office and expect their employers to provide access to them as well. In many organizations, IT management is moving away from a prescribed set of tools to support a policy of adaptation to change. “BYOC” (bring your own computer) is a good example of this, where employees are enabled to pick devices of their preference and have them connected to the company IT infrastructure.

The key to the virtual workplace is that it enables and enhances the mobility of people. Today’s workers are offered the opportunity to work at times and in places of their own choosing. Their perception of the workplace that employers offer them is not only created by just the physical environment. This development enables IT, FM and HR management to relate to each other holistically in terms of the workplace.

Wireless Networking

In information technology, a “network” is defined as a series of points or nodes interconnected by communication paths. Networks can interconnect with other networks and contain subnetworks. The communication paths in a network can be either hardwired (such as exists in many offices today), or they can be implemented wirelessly by the use of transmitters sending data and receivers providing the data to equipment and applications.

Wireless networking is an enabler of many new types of workplace innovation applications. Its key contribution lies in the opportunity to connect all kinds of devices with software applications. In the built environment, this creates the flexibility to attach such devices in various locations. Previously, it would not be feasible to connect them to a network, either because it was practically not achievable or just too expensive or disruptive to realize.

There are many wireless technologies currently available and under development. Around the workplace we see some dominant technologies being used and some others emerging: Wi-Fi and mesh networks based on ZigBee standards next to the well-known LAN and 3G network technologies that normally run on our smartphones and PC devices.

Wireless networking enables ubiquitous connectivity to people and therefore enhances employee mobility. This is an important reason why we see a steep growth of the use of wireless technologies around the workplace. We also see Wi-Fi adoption in information-sensitive environments (e.g., the financial industry), indicating that concerns about information security on wireless networks are subsiding because of their increased security.

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4 Examples: 3G and 4G networks, Wi-Fi and mesh networking. See also the IFMA Foundation publication “Facility Management Technology Today,” Eric Teicholz, editor.

7 Think of high-quality videoconferencing and real-time collaboration in engineering and research.

8 See also Chapter 6 on community and social trends. Specifically the section on “Technology.”

9 For example, the trend toward Web-based application user interfaces, as opposed to software installation on specific devices.

10 For example, Google Apps, Microsoft Online, Salesforce.com, wikis, Asana, BIM (discussed later in this chapter), application stores for smartphone apps, etc.

12 Laptops, tablet PCs, smartphones, e-readers, etc.

13 See also Chapter 4 on educating C-suite executives, within the section on “Stakeholder Engagement.”

14 For more detailed information, see www.ieee.org.
Current Workplace Issues

Various FM disciplines around the workplace face different challenges for which technology can provide assistance. Table 1 summarizes such challenges in terms of strategic, tactical and operational issues.

The efficient use of facilities in terms of “appropriate for purpose” and matching demand with adequate supply, for example, will impact all concerned. As discussed earlier in this book, research has shown significant under-occupancy of desks, not only leading to unnecessary housing costs, but also wasting natural resources. Most research conducted thus far relates to fixed-desk areas. Furthermore, FMs need relevant knowledge to assess how to plan and size new work spaces, including new and innovative ones.15

Now that flexible (hot desk) facilities have emerged and the employee-to-desk ratio will probably fall well below 1:1, defining effective space utilization is further complicated because people also tend to work outside of the office. Furthermore, the principle of part-time work is either existent or emerging in a number of countries.16 The consequence of this is that space management professionals are being confronted with fundamental changes (variability) in the demand for workplaces. This variability emerges from various causes:

- Changing daily work patterns: People tend to work at home in the morning, avoiding traffic, and thereby coming to work later in the day, leaving early to avoid traffic, and working in the evenings at home.
- Changing weekly work patterns: People with part-time jobs tend to take Wednesday and/or Friday off.17
- Changing monthly patterns: People leave work on holidays, preferably during children’s holidays from school. An impact of this is that, during vacation periods, significant percentages of the workforce are absent.
- Changing multiyear patterns: Organizations tend to reorganize and may relocate operational units across various properties.
- Changing hiring patterns: Many organizations hire personnel for a shorter timeframe and hire temporary personnel — often for specialty jobs or projects. In many cases, this leads to a situation whereby facility management professionals, and sometimes human resource (HR) professionals, do not really know how large the current workforce actually is.
- The rise of project-based work, requiring cross-functional team members to cooperate in a timely manner.

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15 See “Establishing Credible Business Intelligence” in Chapter 5.
16 In Europe, part-time work is common in a number of countries. It can mount up to workweeks of effectively two to three days, but workweeks of four days are quite common.
17 Worldwide the number of holidays differs greatly. In a number of European countries it is not uncommon that people have a total volume of 30 free days to spend yearly, apart from official holidays.
Another concern is the effectiveness of the use of specific facilities. In modern flexible office environments, various work space types are offered to the workforce and fitted out to support different types of activities, such as meetings, teaming and private activities. FM professionals (specifically in space management) are confronted with the question of whether the mix of work space types really fits actual demand, and if demand is changing over time.

This is not only a concern in the flexible office. It also is relevant in fixed-desk environments where space management professionals have difficulty in (re)defining effective space needs for the operating units.

The efficiency of space utilization is a matter of concern as well. This is best explained by the problem of “no-shows” — specifically around scarce and expensive facilities such as (video) conference rooms and team rooms, even when reservation systems are in place. Once a facility is reserved, these systems effectively prevent others from using it at the same time. However, the reality is that people either do not often show up or they use the facility for a much shorter period than indicated. This not only leads to inefficient use of space but often incurs the indignation of colleagues who are forced to find alternative space.

Another element that impacts use efficiency is how well people “like” a space for the work assigned them. Specifically, in new and innovative office environments, experimentation has been done in an effort to define attractive spaces for people to work. This can result in workers feeling that the new environment is either successful, temporarily successful or having a negative impact on productivity.

Use efficiency can also be negatively influenced by breakage (defects). In flex offices, in particular, there is an interesting phenomenon occurring called “lack of ownership.” People in the fixed workplace environment will naturally report a malfunction; in a flexible environment, they often will not do so. Rather, they prefer to move to a more satisfactory space. In these kinds of environments, broken work spaces can go unnoticed for long periods of time while, at the same time, resulting in space underutilization.

A facility information manager of a company in financial services with multiyear experience in flexing, for example, once expressed the desire to “temporarily shut down” parts of the facility. Closing complete floors of flexible offices on days when there is no demand for them saves heating costs (and resources), as well as cleaning costs (and materials). The challenge is to really understand the use pattern of the facilities.

**Involvement of FM**

The role of the FM professional is concerned with providing the environment for people to work effectively and with pleasure. The workplace is not just defined by the physical environment in which work is performed. Workplace services are a key concern of FM’s, as well, and form an integral part of the workplace experience of the workforce. Three primary workplace services the facility manager must focus on are:

- Space management
- Service management
- Maintenance management

Space management has been very much impacted by the technologies described in this chapter. Space management is concerned with allocating space to the operational units of an organization based on existing and forecasted requirements and the desired adjacency needs of the organizational units (Figure 3).

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18 Concentration space, private space, meeting space, teamwork space, desks in open areas, etc.
Space management is fundamentally changing. With the emergence of new work styles and office concepts to support them, new types of space are created, which in turn facilitate new patterns of collaboration and teamwork. Most existing space planning software for stacking and blocking needs to be re-evaluated in the context of a shifting paradigm away from “one person, one desk.” In some cases, even the issue of explicit adjacency planning is abandoned and replaced by the policy that people will decide for themselves with whom to sit. In these cases, a goal of space layout might be to foster “accidental encounters” between members of the staff.

“Soft services” refer to those activities primarily related to individuals in the workforce. Examples of soft services include catering, meeting services and help desks, as well as the issuance or collecting of work-related goods associated with on- or off-boarding.19

Some organizations regard facility management soft services to be of prime importance. In the global competitive marketplace, an increasing number of organizations see the need to provide such services for their knowledge workers. Service definition, contracting/supply chain management and performance monitoring are key components of this field (Figure 4).

Figure 4: Key aspects of FM services management.

Maintenance management relates to keeping assets in their required acceptable condition (Figure 5). This results in:

- Protection of asset value
- Provision of a safe environment for workers
- Minimization of operational disruptions
- Support of regulatory compliance

Maintenance management staff is interested in the optimal expenditure of maintenance investments, providing desired results in terms of health, safety and asset quality within the boundaries of regulatory compliance.

Budget deficits are a common issue for many organizations. Tight budgets result in maintenance managers looking for “lean” approaches in the planning and execution of work, in deferring maintenance, in identifying work priorities and in trying to avoid waste in work execution.

Technology Landscape

The balance of this chapter addresses two primary questions:
1. What does the current FM technology landscape look like?
2. For what purpose can different technologies be used by FM?

19 Enabling new employees have the tools they need to be more productive
CAFM/IWMS/CMMS Systems

Computer aided facility management (CAFM), integrated workplace management systems20 (IWMS) and computer aided maintenance management systems (CMMS) are a facility manager’s administration/information management systems. These types of systems may have different labels but they are commonly referred to as comprehensive CAFM/IWMS (which often incorporate CMMS functionality) systems. They provide support for all the FM disciplines and add support for project management and sustainability (Table 2). In project management, not only construction projects are managed but systems now have the ability to financially manage projects, enabling the planning of expenses and budget control. This is often labeled as “capital project management” and “capital planning.”

20 By Gartner (www.gartner.com).

Building Information Modeling (BIM)

Building Information Modeling (BIM) systems provide a powerful collaborative, virtual modeling environment for the design, construction and engineering of buildings (Table 3). They allow users to create three dimensional digital representations of physical and functional characteristics of a facility (Figure 6). A BIM integrated 3D model can access all pertinent graphic and non-graphic data about a facility as an integrated model. It not only contains information about the 2D and 3D geometry of the building’s elements but the types of topological relationships that exist between elements. Thus if a user makes a change in one view, it is automatically reflected in all views.
The key strength of BIM lies in its capability to allow different participants in the development of the building to collaborate in almost real time.

When buildings are to be constructed or renovated, various disciplines involved can each enter asset information specific to the data required by that discipline. Thus an asset might incorporate data associated with stakeholders that “touch” the asset throughout its life cycle. These disciplines include:

- Architecture, involved in function fit, design and aesthetics
- Engineering, calculating and dimensioning the technical elements of the building (floors, walls) and the sizing of all mechanical, electrical and plumbing objects in the building
- Contractors, building the structure according to plan

In typical construction projects, each participant would independently design their part of the process. In practice, this leads to much communication overhead and erroneous designs that might not integrate easily. On average, each drawing is redrawn seven times over the duration of the project, and many errors are identified late in the process, leading to change orders and high costs.

Conceptually, a BIM is a collaboration tool between stakeholders and, as such, overcomes many of the problems described above, as highlighted below:

- BIM is a repository for drawing information, including document version management.
- BIM tools exist to manipulate (drawing) models in 3D, including solid modeling.
- BIM associates nongeometric data parametrically with the models.
- BIM can perform model-checking functions that analyze all design models and run them against predefined rules to which the design has to comply. There is a wide variety of such rules that can be applied. For instance, a set of rules can be implemented ensuring that the designs will remain within the boundaries that have been set by the governmental organizations involved issuing the required permits. Model checkers enable identification of design clashes as well (Figures 7 and 8). “Design clashes” are basically inconsistencies between different designs of different elements of the building. A simple example of this is a pipe that might penetrate a column.
- BIM contains simulation features enabling visualization of model characteristics, such as heat profiles and structural tension (stress) patterns.

Table 3: Overview of potential contribution of BIM.

<table>
<thead>
<tr>
<th></th>
<th>Footprint (SF, m²)</th>
<th>Appropriate-for-purpose</th>
<th>Technical management</th>
<th>Sustainability &amp; energy management</th>
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<tbody>
<tr>
<td><strong>Strategic</strong></td>
<td></td>
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<tr>
<td></td>
<td>Insight in total occupancy building(s), portfolio (fit) analysis</td>
<td>Appropriate building design, comfort, binding of talented staff</td>
<td>Capital &amp; maintenance budget planning</td>
<td>Improvement program identification; certification (LEED, BREEAM)</td>
</tr>
<tr>
<td><strong>Tactical</strong></td>
<td></td>
<td>Demand/supply matching on work space types</td>
<td>Maintenance on demand (just-in-time)</td>
<td>Saving (costs on) energy and other natural resources</td>
</tr>
<tr>
<td><strong>Operational</strong></td>
<td></td>
<td>Efficient environment, health &amp; safety, user satisfaction</td>
<td>Understanding status of systems and inventory</td>
<td>Sustainable conduct, sustainable user processes</td>
</tr>
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Figure 6: A 3D BIM model of a building, highlighting specific assets. (Courtesy of Veeccins 3D)
BIM incorporates viewer technology to inspect design results. The strong 3D representation properties of BIM platforms enable fast identification of undesirable construction and design. Both analytic and visual feedback is provided to owners.

BIM systems provide the means for design and construction projects to become agile. Because all stakeholder disciplines add and share their information to the model, the model becomes increasingly rich and enables early detection of errors (Figure 9). Research on quality costs has already shown that early detection of errors makes a significant contribution to reducing the total cost of projects.

Through the richness of the model, BIM systems enable companies to easily extract a complete bill-of-materials required to build the structure, saving time on project preparation and minimizing errors associated with material calculations. BIM systems provide the features to define the timeline for the construction planning (called the fourth dimension). It can depict the construction stages the project will go through. This allows for planners to better anticipate staffing and materials over time. The ability to “view” the projected sequence of construction allows the checking of potential logistical issues and problems, enabling the planner to solve such problems before they emerge in practice.

BIM projects have already shown dramatic cost reductions for architects, engineers and contractors. It is only a matter of time before this technology impacts facility management to the same degree.
Building Automation Systems (BAS)

A key component of building infrastructure is building automation systems (BAS). BAS are concerned with controlling the building’s systems for climate control (heating, cooling, air conditioning or HVAC), lighting and safety (fire alarms). BAS are primarily involved in energy management and control assets. When they first appeared over 30 years ago, they used proprietary software that made integration of assets impossible.

Over the years, it became possible to connect and control devices from multiple vendors, and BAS devices became interoperable by the use of open protocols (open standards by which devices communicate). Thus the BACnet and LonTalk protocols were developed. BAS systems have greatly improved over the years. The introduction of IP networking in this realm enables direct access to, and interoperability with, components of the BAS infrastructure. An important aspect of this integration enables IWMS/CMMS systems to interact with new generations of BAS systems to not only identify upcoming potential failures (reactive maintenance), but also make use of sensor readings to schedule upcoming maintenance activities based on actual asset performance (just-in-time rather than time-based, preventive maintenance).

The new generation of BAS systems contributes to the productivity of the enterprise by conserving energy and optimizing the efficiency of both the equipment throughout facilities and the people who are responsible for operating and maintaining them. They provide a foundation for sustainable programs and projects by providing the accurate and secure data that is required for decision-making and verification.

For facility management professionals, there is often the problem that, in the average building portfolio, different systems of different ages and versions exist. This fact alone complicates the development of a standardized integration policy involving BAS systems. For each building, specific integration patterns will have to be resolved. New insights derived from sustainable condition-based maintenance indicate that replacing older infrastructures with new ones is financially viable. The benefits achieved in energy savings and improved sustainability of the building over the total life cycle also makes these solutions viable.

Access and Security Management Systems

The core business problem that access and security management systems solve in the context of buildings is the regulated and managed admittance of people to specific areas. Many organizations model their floor spaces to security levels (or security rings) (Figure 10). People will have access to specific areas when they are cleared to do so.

For facility management professionals, there is often the problem that, in the average building portfolio, different systems of different ages and versions exist. This fact alone complicates the development of a standardized integration policy involving BAS systems. For each building, specific integration patterns will have to be resolved. New insights derived from sustainable condition-based maintenance indicate that replacing older infrastructures with new ones is financially viable. The benefits achieved in energy savings and improved sustainability of the building over the total life cycle also makes these solutions viable.

There are products emerging that target middleware solutions for managing diverse BMS systems, using one interface and API. This facilitates interfacing diverse BAS systems with a single energy management system or central control (monitoring) system.

Figure 10: Typical design of security zones for a building.

Access management systems bring tools for managing access profiles and the use of personal tokens (e.g., smart cards) for this purpose. For implementing easy access to space, these systems provide a wide array of sensors (cameras, detectors) and actuators (automated gates, doors), all linked to system networks.

By their nature, access management systems carry information at any time regarding where individuals are located. In buildings where a granular security design has been implemented, this information can well be used by facility and space management staff to evaluate occupancy rates for different areas (Figure 11).

By linking access data to the space and workplace management systems that provide workplace capacity data and geographic analysis, meaningful insights can be derived to the use-efficiency of those office areas.

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22 www.bacnet.org
23 www.echelon.com/communities/energycontrol/developers/lonworks
24 Often referred to as the “glue” between diverse software components
25 Application Programming Interface
26 In many cases depersonalized to protect privacy of individuals
A GIS is a system of hardware and software used for storage, retrieval, mapping and analysis of geographic data (Table 4). Spatial features are stored in a coordinate system (latitude/longitude, state plane, UTM, etc.), which references a unique location on the earth. Descriptive attributes in tabular form are associated with spatial features. Spatial data and associated attributes in the same coordinate system can then be layered together for mapping and spatial analysis. GIS differs from CAD and other graphical computer applications in that all spatial data is geographically referenced to a map projection in an earth coordinate system. For the most part, spatial data can be “re-projected” from one coordinate system into another, thus data from various sources can be brought together into a common database using GIS software.

GIS tools have been successfully applied in fields such as environmental and demographic analysis, utility management and landscape planning. These powerful tools integrate and analyze data from various sources and relate those to geospatial information. The powerful visual representation and its ability to process and visualize complex relationships make it a valuable asset for FM professionals to use.

Recent research shows that 22 percent of CRE organizations use GIS tools. Although this is a relatively high percentage, it still leaves 78 percent of CRE organizations that do not. In March 2011, the applicability of GIS for FM was underscored by a press release from both OSCRE29 and OGC30 stipulating that “there’s a tremendous need for better information exchange among companies and government administrative bodies that buy, sell, own, occupy, insure, inspect, appraise, manage, design, build and protect real estate. Leveraging this information in a location and time context is critically important for decision making.”31

27 See www.nwgis.com
29 See www.oscre.org
30 See www.opengeospatial.org
We will now examine the key role GIS tools play in:

- Real estate and portfolio management
- Maintenance management
- Environmental and sustainability management

GIS systems create an holistic view of buildings and the landscape properties where they are situated. A major contribution of GIS is site selection. When evaluating different property propositions, transaction managers will have to take into account numerous functional as well as nonfunctional requirements (Figure 12). For example, the accessibility of the workplace by the workforce in terms of distance as well as means of travel (including sustainable means for traveling) is taken into account in LEED classification.

With GIS, it is not only possible to visualize such complex relationships but the technology also allows for the 3D evaluation of the different site proposals. Other environmental properties, such as air condition temperatures, rain profiles and the risks involved with the geo position itself (earthquake history, risks of flooding and such), can be analyzed using GIS. These types of data can be associated with the costs of various site options to help in site selection. In retail site selection, GIS is extensively used for analyzing the location and movement of target customer groups and identifying the optimum locations for retail shops.

In maintenance, analysis of different networks (e.g., water, transportation, natural gas, oil, electricity, etc.) that need to be maintained involves geospatial analysis to answer questions such as: “When valve x is closed, which facilities will be affected?” Network analyses play an important role in the planning and preparation of infrastructural maintenance.

We are currently witnessing the emergence of augmented reality applications, often employing mobile technology, using GIS technology to show assets (e.g., pipe joints) that are underground (Figure 13). This saves not only time in locating where to work, it avoids the risk of damaging underground infrastructure.

Another important use of geospatial analysis in maintenance is work planning and scheduling. Maintenance activities are typically geographically dispersed and can only be accomplished by professionals (individuals or teams) who are certified to do the work. When setting up work schedules, GIS analysis will provide the information on what staff to deploy, based on the

![Figure 12: Average travel time to locations. (Courtesy of ESRI)](image)

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Table 4: Overview of potential contribution of GIS.

<table>
<thead>
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32 Applications that associate data with real images as taken at the current location of the user, showing the real world image, combined with relevant data. These applications are in general “location aware” — they know where the user is located at the time of use.
analysis of the current location of the individual and the routing involved to arrive at a specific location.

Sustainability will increasingly become more important. Organizations are looking for ways to reduce the use of energy in their buildings. GIS technology is playing a role in energy data collection and analysis (Figure 14). For example, there is GIS software for the analysis of the potential to use solar cells for electricity generation that takes into account sunlight analysis and the optimal orientation of solar collectors for maximum output.

Although GIS technology holds great potential, its adoption is often complex and expensive for organizations that do not use this technology as part of their core non-FM activities. The problem such organizations face is the degree of expertise and sophisticated infrastructure needed to support this technology.

Several recent developments are facilitating the deployment of GIS technology, including:

- **Cloud services for running GIS infrastructures**: GIS can be installed and operated using virtual (cloud) computer infrastructures. This alleviates users from the burden of system management by permitting direct access to GIS services.
- **Standardization**: Widely accepted GIS standards already allow cross-platform access to geospatial information. Emerging standardization of GIS in OSCRE may lead to the creation of facility management related GIS services.

![Figure 13: Using GIS spatial data, locations of underground network service points are shown in the field. (Courtesy of Tensing)](image)

![Figure 14: Example of the application of GIS, depicting the potential for the use of solar energy, combined with actual project information. (Courtesy of ESRI)](image)
• Business to consumer developments: GIS vendors realize the potential of growth in the facility management sector. Development of open systems and public availability of GIS tools (e.g., viewers) provides a wide variety of mapping data and other geospatial information.

The wide use and adoption of true GIS intelligence for facility management could very well be fueled by the emergence of dedicated applications, providing high-quality spatial analysis, and distributed to users as cloud services. Such applications would provide specialized GIS analyses for the benefit of organizations without having to invest in the acquisition of an internal GIS infrastructure. This in turn should substantially lower the cost entry point for using GIS technology.

Digital Signage

Specifically in shared (flexible) office environments, there is a need to support employees and visitors in locating work spaces. Since there is a trend that reduces private ownership of work spaces, people need effective tools to help them find their way around the workplace. Digital signage applications help people in identifying where work spaces are available. By integrating digital signage with space management and workplace reservation systems, people can check for availability on-site as well as remotely and reserve facilities, thereby ensuring their availability.

It has been found, however, that mandating work space reservations often fails since workers tend to only reserve work spaces in times of scarcity. A pragmatic approach to this problem involves the principle of “optional reservations.” That is, reserving work spaces is not required, but when someone has reserved a space, that person will have precedence in using it. This practical approach provides value to the ones who do make reservations.

There is a risk involved in the use of reservations for individual work spaces when there is a “no-show” or “short-stay” situation. People tend to reserve a space but due to a variety of circumstances, often do not use the space at all or use the space for only part of the time. The risk is that it blurs the meaning of effective workplace availability. This in fact reflects the need for an automated “check-out” solution not requiring any action on the part of the worker. There is technology to accomplish this as illustrated in Figure 15.

Sustainability and Energy Management at the Workplace

Sustainability has recently become of significant importance to facility management professionals. The historic and dreadful consequences of the Japan earthquake and ensuing tsunami in 2011 had a dramatic impact on energy supply, distribution via the energy grid and supply chain management. In facility management, sustainability certification systems, such as LEED, BREEAM and ENERGY STAR, are aimed at benchmarking the environmental performance of buildings as they are used by organizations. Sustainability reaches out to all disciplines of facility management.

One clear and understandable approach to sustainability is illustrated by the Trias Energetica concept, an energy-saving process developed in the Netherlands that is dedicated to three goals (Figure 16):

1. The reduction of the demand for energy by avoiding waste and implementing energy-saving measures
2. The use of sustainable sources of energy, such as wind, solar power and water
3. The use of fossil fuel energy as efficiently as possible and only if sustainable sources of energy are unavailable

Computer-based energy modeling of buildings and building systems and the determination of cost-effective energy conservation measures (ECMs) is currently receiving a great deal of attention (Table 5). This is not surprising since buildings are responsible...
Energy models need to make inferences for unknown data. The starting point for these models is either whatever input data the user knows about the building (e.g., age, location, use, occupancy, etc.) or energy data automatically pulled from other systems (e.g., utilities, BAS systems, etc.). Based on analyzing this initial data, the software infers other energy-related data and, based on the amount of input data, calibrates the degree to which the model feels its analysis is accurate (Figure 17).

The emergence of a new generation of intelligent meters are specifically equipped to be retrofitted at any desired location in buildings and have wireless communication capabilities to transfer their readings to applications such as IWMS energy management and BAS systems. For energy management purposes, they enable the modeling of buildings into “energy consumption segments,” registering actual consumption of those segments.

Energy management modeling can allow for modeling the consumption profile of a building not only by the use of physical meters/counts but also for the introduction of virtual meters and counters. Virtual meters are software components used in the computer model only. They can be “located” at any place in the meter network (Figure 18) and the function they provide is adding the readings from a number of physical sub-meters/counts. The advantage of a virtual meter/counter is that it can be defined for any building location. For example, it can be used to calculate the total energy consumption for a rentable unit when there are sub-meters already installed on all related spaces but not at the rentable unit level itself.

Table 5: Overview of potential contribution of computer-based energy modeling.

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38 The United States Green Building Council (USGBC), “Building and Climate Change.”
39 USGBC, op. cit.
These types of applications can not only be used for energy management (identification and correction of energy waste), they can also be used to calculate energy surcharges in a precise manner, providing the flexibility for the sensors to be relocated when the occupants change their footprint in the building.

Interesting options are now emerging for wireless energy management “at the wall outlet level” as well. These consist of (ZigBee) networked devices that are plugged on the wall outlets and perform the following functions:

- Measure consumption
- Switch power (wireless)

This type of technology provides the means to schedule asset energy consumption based on the availability of green energy. Some assets (e.g., washing machines) can be scheduled to be switched on, based on the expectation when green energy is to be produced by linking up to weather forecasts. These types of applications are based on the implementation of “smart grids.”

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40 See, for example, www.plugwise.com

Figure 17: Modeling energy usage and costs by month. (Courtesy of Retroficiency)

Figure 18: A principle of in-building wireless energy management.
At a building level, there are normally assets that serve no purpose being switched on during nonworking hours. By measuring and analyzing consumption profiles and switching assets on/off at optimal times, energy savings can be achieved independently of the building management systems. These types of applications are neither complex nor disruptive to install and use.

**Emerging Technologies**

### Smart Infrastructures

New and emerging applications related to intelligent infrastructures include wireless networks consisting of sensors, intelligent meters and/or switches (Table 6). Such networks enable space and real estate professionals to register events around the workplace, analyze them and act upon the information they provide. The advantage that these solutions provide is that they are inexpensive to install (retrofit) since they do not impact existing walls, floors and ceilings.

Sensors/actuator networks can be applied for a range of purposes, including energy savings, access control, monitoring and analyzing work space use, health and safety monitoring, and no-show management.

Specifically for dense wireless-networked environments like the typical modern office, technology is being developed that will enable capturing the position of people in the building by means of the smartphone they carry. This localization technology is expected to be accurate to the level of 1 meter (40 inches). The ability to rapidly and accurately locate colleagues has many uses, such as disaster recovery and space utilization patterns.

Linking occupancy information to digital signage solutions will result in the indication of real time work space availability that in turn will support users in quickly locating appropriate locations to work.

### Applications of Sensor Networking Around the Workplace

Various devices are currently available that, apart from performing their function, also operate as a node in a mesh network. Among those devices are:

- A variety of sensors, ranging from simple infrared (IR) sensors to complex ones; such sensors have the ability to sense light (cameras), sound, temperature, presence of gasses like CO₂ and other environmental data
- Intelligent meters, which have the ability to record consumption readings related to the date and time of the reading and transmitting this data to applications, such as BMS and CAFM/IWMS systems, for subsequent processing
- Actuators, such as power-switching devices that can be remotely controlled by software applications

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**Table 6: Overview of potential contribution of smart infrastructure.**

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41 Coffee machines, printers and such (see www.plugwise.com)
Now let’s look at specific examples of where sensor networks add value in the workplace:

- Managing no-shows
- Managing supply for demand: parking
- Managing workplace demand: space management

Perhaps the simplest use of sensor networking is to be found in no-show applications. In facilities that have reserved spaces (e.g., meeting rooms), a simple IR sensor is either hung or an existing one is connected with the room booking system. There exist various suppliers of platforms that manage this hardware, such as security system platforms or specific vendors who specialize in the management of AV equipment for meeting rooms.

Room booking systems can simply interrogate the room by checking the sensor status to see whether people are present or not. If no one is present, the reservation system can automatically cancel the meeting (including room services), freeing the facility for use by others, notify the organizer about the event and charge costs if incurred.

Automated no-show detection also will provide space management staff with an accurate overview of the effective use of the facilities. People will often take voluntary action only if there is value created for them in return (i.e., “when I reserve a room, I am sure that I shall have access to it”). As a consequence, people will be motivated to use the reservation system but will rarely manually check-out when leaving. This is because the action of checking-out does not bring value to them apart from perhaps thinking this is the responsible thing to do.

In summary, the availability of even simple sensors in meeting rooms can be used for automated check-in and check-out. This is convenient for users, keeps the availability of meeting rooms at its maximum capacity and produces reliable use data for space management professionals to analyze.

Parking places share many commonalities with meeting rooms: they are expensive, scarce and in high demand. Reservations systems enable spaces to be reserved for parts of the day, particularly important for visitor spaces. As with meeting rooms, parking no-show situations occur that result in the spaces going unused.

The use of sensor networks in parking areas is becoming fairly common (Figure 19). Wireless sensor technologies allow sensors to be installed without the need to wire them, resulting in inexpensive and easy retrofitting. Sensors also allow measurement of actual occupation. Linking this information to the reservations system enables effective management of no-show spaces that in turn allows for better use of available resources using the simple formula:

$$\text{Space capacity available} = (\text{Currently non-occupied places}) - (\text{number of reservations open})$$

Apart from the “technical” advantage of increasing the availability of expensive spaces, no-show detection can be used to change people’s behavior in a noninvasive way. Reservation systems in general provide the means to notify people in advance that a meeting with a room reservation is due. The objective here is that people will cancel the meeting when it is not being held, which will avoid simply not showing up. With no-show detection technology, one can personalize this message in such a way that only people who have a track record of no-shows will be notified.

In summary, the availability of even simple sensors in meeting rooms can be used for automated check-in and check-out. This is convenient for users, keeps the availability of meeting rooms at its maximum capacity and produces reliable use data for space management professionals to analyze.

Figure 19: Parking garage in Frankfurt, Germany. Sensors above each space allow for accurate estimation of available capacity.

This equation enables facility managers to have more accurate data that in turn results in higher use efficiency. Used with digital signage, users entering a garage can be told where free parking spaces are available. The use of such systems has resulted in increased employee satisfaction since they are not turned away from a parking lot where they observe free spaces.
This technology is capable of managing high volumes of assets. In the Netherlands, for example, many people go to the railway station to travel to work using bicycles. A major railway company is currently equipping its bicycle parking lots in a number of train stations with 90,000 sensors, each identifying if a bike location is occupied. When bicycles are not picked up for a long time, they are tagged and removed. This practice eliminates the need to expand bicycle parking capacity.

A second example of this technology is a hospital that had a requirement that, at all times, a minimum number of ambulances had to be ready to respond to emergency calls. By equipping ambulance parking spaces with sensors, the system monitors this requirement and alerts staff when the requirement is not met.

What can be done in parking lots can, in principle, be applied to the workplace.

With the increased flexibility of organizational workforces, both in dedicated as well as shared workplace environments, real estate and space managers need to adapt faster to changes in workplace demand. Space management is becoming more of a real-time dynamic process. Apart from traditional space planning approaches, the ability to “inspect and adapt” to change in demand, as it is occurring, will become a standard practice.

There is an increasing need to adapt space and to know what is happening within a space. Technology is emerging where sensor technology is attached/located at work spaces, identifying their status: occupied or available (Figure 20).

Not only are sensors with wireless networking capabilities explicitly suitable for this, but also other networked sensors, such as cameras and RFID technology, can be used for this purpose. There are a number of possible implementations emerging in applying sensor technology around the workplace.

Energy Management: Smart Grids

Technological developments are designed to lessen the demand of electricity and other natural resources (tier 1). Notable developments take place in tier 2 as well. “Smart grid” technology is gradually finding its way into the workplace (Figure 21). Although a standardized definition of smart grids has not yet been established, a definition was described by the European Union as follows: “an electricity network that can intelligently integrate the actions of all users connected to it — generators, consumers and those that do both — in order to efficiently deliver sustainable, economic and secure electricity supplies.”

Sensor battery life is well above 10 years.

There is an increasing need to adapt space and to know what is happening within a space. Technology is emerging where sensor technology is attached/located at work spaces, identifying their status: occupied or available (Figure 20).

Figure 20: Sensor technology indicating the status of work spaces.

Figure 21: Smart grid principles.

The major benefit of smart grids is their ability to link natural energy sources to the energy network of facilities and manage assets in such a way that they preferably consume energy at the times when sustainable energy is expected to be generated. In real estate, the goal of smart grids is that modern buildings should be able to produce electrical power themselves instead of just consuming it. This way, modern buildings become a node in the energy grid.

42 See www.smartgrids.eu/web/node/56#12 (“What is Smart Grids”) and www.oe.energy.gov.
43 Tier 2 (scope 2) emissions are those emissions used by a sector or building.
44 For example, solar energy, wind energy.
45 See also Chapter 6 on “Aligning the Workplace, Buildings and Utilities.”
Improved performance of buildings in terms of their use of electricity is not only a matter of corporate responsibility, but also results in societal and financial benefits. The ongoing rising demand of electricity will increase energy prices significantly. The reduction of the use of energy will have direct and substantial financial impact since buildings account for over 40 percent of our total energy use, over 40 percent of our waste products and almost 75 percent of our electricity use (in the United States).

**Cloud Computing**

“Cloud computing,” software as a service (SaaS) and on-demand computing are labels to denote all types of IT services that are necessary to run applications. The unique property of cloud-based services is that they run on multiple servers on the network (or the Internet) in such a way that it seems as if it were just one powerful computer that serves the vast amount of users connected to the services. In many cases, these types of computing models consist of multiple interconnected virtual servers and storage media. This redundancy in processing infrastructure renders high reliability and uptime: “the computer virtually never fails.”

The users do not have any notion of where the cloud services run and how they are managed. The users just use the services rendered to them, for which the sole requirement is network/Internet connectivity. Within the concept of cloud computing, different services are offered for customers to use. Where cloud computing denotes the computing concept, the services rendered by service providers running such infrastructures are often denoted by an “as-a-service” label (Figure 22).

Currently some concerns about their use do exist. Among the most discussed ones are:

- Data and information privacy: Does the user have guarantees that information uploaded to or generated in the cloud is not disclosed to third parties to which the user does not want it to be disclosed? To what terms does the provider of the services commit and how can compliance be monitored?
- Data security: How well is the data safeguarded against malicious acts of third parties to obtain information unrightfully?
- Level of availability (uptime guarantees): How robust is the processing infrastructure? Is it able to recover from hardware, software and network failure without affecting the rendering of service?

To address this kind of issues, providers deliver different cloud services options, among which are:

- Open (Internet) cloud services: No specific conditions are prearranged, but general conditions are published48 by the vendor.
- Trusted cloud services: Cloud services that are used by a limited group of users, sharing conditions between them.
- Private cloud services: Cloud services that are rendered based on a service level agreement (SLA) with the customer. In this SLA, various agreements can be negotiated.

Cloud and on-demand computing services are expected to considerably impact the IT landscape over the near term. They encourage employee mobility by their ease of adoption and generally low price levels.

**Radio Frequency Identification (RFID)**

RFID technologies can be used for real-time location of people and assets (Figure 23). They can also be used in conjunction with sensors. Sensors using RFID technology might detect air flow for energy analysis. In the health care industry, for example such technology might be used to detect radiation or hazardous materials.

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47 Note that there are more divisions than represented in this figure. The authors deliberately limited this overview to clarify the main principles.

48 All well-known social networking offerings are based on this principle.
RFID technology employs two components:

- A radio tag containing a microchip for storing data about an object and an antenna for transmitting such data
- A reader that provides power for the tag and then reads and processes such data

Although the International Standardizations Organization (ISO) holds some RFID standards, this technology is less well standardized and vendor-specific proprietary solutions are the rule. In general, smart cards, as used by security systems, are based on RFID technology.

The location of people or goods is established when the tag is present in the range of the scanner. RFID tracking is therefore personalized. The tag identifies the person or asset concerned. RFID infrastructures are in general regarded as expensive to install when compared to simple barcodes. At present, it is estimated that barcodes cost half a cent (US dollars) each while passive RFID tags cost more than 5 cents (US dollars) each. However, when you start to look at other variables, such as the speed of collecting data or the cost of RFID scanners versus barcode interrogators and the number of times you need to perform the asset inventory, the cost delta is impacted and the costs become somewhat more equal. Note that RFID technology may be already present by means of the access control system installed in the facilities.

Perhaps the most dominant application of RFID technology around the workplace is found in smart cards, used to identify people and granting them access to facilities. For assets, RFID technology is increasingly used for asset condition in BAS systems and for energy control software input.

Conclusion

This chapter summarizes how technology is evolving as it relates to managing and using the physical workplace. It depicts how technology impacts both how and where we work. Drivers that impact how these technologies are implemented are financial, social, legal and environmental. Like technology itself, these drivers are evolving rapidly and dramatically impact the workplace.

These factors in turn influence the facility manager and the role of facility management in organizations. The knowledge base required of the facility manager includes not only the technology but how such technology can affect how and where work is performed. This in turn will increase the importance of the facility manager in assisting senior management in making strategic decisions that impact the workplace. Given the dynamic nature of technology and the continuously evolving drivers that impact the workplace, facility management professionals will need to determine what technologies are available to support the strategic objectives of their organizations and how facility-related operations and services support such objectives.

No facility management book would be complete without a compendium of case studies. We are no different. Chapter 10 showcases a suite of case studies from around the globe that illustrates the material in the first 9 chapters.

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Erik Jaspers has over 27 years of experience in IT Technology and has held various positions, primarily in IT project management and information management for multinational companies like ATOS (Origin) and Philips.

For the last 12 years he has been working for Planon, a European-based CAFM/IWMS software vendor. Over those years, he has held leadership positions concerning the development of CAFM/IWMS software solutions. He led the introduction of Agile project management for software product development (SCRUM), at the forefront of the adoption of these methodologies.

Jaspers is now primarily concerned with innovation policy and the management of the Products and Solutions Roadmap for Planon, translating market developments (technical as well as nontechnical) into solutions for facility management.

Planon is committed to developing leading solutions for companies in managing their real estate, space, maintenance and service management operations. Planon products are well-suited for worldwide deployment.

Eric Teicholz is president and founder of Graphic Systems, Inc., a Cambridge, Massachusetts, firm specializing in facility management and real estate automation consulting. He is a Fellow of the International Facility Management Association, chair of knowledge management and member of the IFMA Foundation Board of Trustees, a member of the facility maintenance and operations committee (FMOC) at the National Institute of Building Sciences, a member of the National Academies National Research Council Committee on “Predicting Outcomes of Investments in Maintenance and Repair for Federal Facilities” and, until recently, an executive member of Harvard’s Graduate School of Design’s Alumni Council. His current work at IFMA includes his position as chair of the IFMA Sustainability Committee, executive editor of IFMA’s “How-to” Sustainability Guides, and co-editor of the peer-reviewed International Journal of Facility Management, sponsored by IFMA, BOMI, BOMA and EuroFM.

Teicholz has helped organizations define and implement FM technology for over 30 years. He lectures internationally and is the author of hundreds of articles on computer graphics, facility management, computer-aided design and architecture, computer-aided facilities management and geographic information system technology. He is also the author/editor of 11 books on these subjects including:

- *Computer Graphics and Environmental Planning* (Prentice Hall)
Teicholz was educated as an architect at Harvard University. Before Graphic Systems, he spent 12 years at Harvard’s Graduate School of Design as an associate professor of architecture and associate director of Harvard’s largest R+D facility, the Laboratory for Computer Graphics and Spatial Analysis.
From around the globe we have sought out case studies that exemplify many of the key points made throughout the book to further your learning, to be used as a reference and to share with others. Collectively, they demonstrate exemplary workplace strategies and provide insights and real-life examples for you to share with others whom you are engaging.

Our goal has been to gather a wide variety of case studies globally that collectively represent different types of organizations, regions, cultures, industries, sectors and approaches. Some of the case studies are from FM leaders who have proudly completed their first workplace strategy, while other case studies showcase workplace strategies that have been in process for years, gone through numerous iterations and are now morphing into global programs. Each one is a gem despite where they are on the continuum, and we are grateful to these individuals and organizations for writing these case studies and allowing us to share them within this book.

It has truly been an honor working with the brave and courageous FM and workplace leaders that submitted case studies. I have valued their incredible insights and shared learnings, for it is through this exchange we can all hone our skills. Some of the most fascinating conversations were around the “lessons learned,” and we all agree, it will be great fodder for another book. To keep the case studies focused and consistent we have used a simple template that addresses the challenge, the solution, the impact to the business strategy and the triple bottom line results. We recognize that you may have questions or want to explore these case studies further and to that end, we have noted the name of the workplace or FM lead or team in each case study and encourage you to reach out directly.

The challenge with “case studies” is that they represent a sliver in time and as we know, these projects will seldom stagnate. Hopefully, they will continue to evolve as the business shifts, and as such, it is simply impossible for us to capture this type of workplace “evolution” in a printed book. In fact, one of the best ways to measure a strong workplace strategy is to give it “the test of time” to see how well the workplace morphs with the organization. Like a good wine, if done well, it can get better with time. As you will note, some of our case studies have just recently launched when this book went to print, and needless to say, their results are in the very early stages of collecting data and measurements while others, especially the “global” case studies that have been in place for a few years, may have dashboards filled with results. Our strategy for capturing the results has been anchored in a triple bottom line framework, which is based upon the impact to people, planet and profit, as we believe this framework succinctly captures the holistic impact best.

For certain, each workplace strategy is as unique as the company it represents. Each strategy focuses on slightly different business drivers, yet many of the case studies in this chapter have applied very similar processes. Also noteworthy is the personal impact leading a workplace transformation can have on the FM/workplace team. Perhaps this “shift” comes from deep learning, taking risks or launching something new. Maybe it is sparked from surviving the intensity of the challenge. Regardless, embracing this type of work can often lead to a personal transformation that will leave you wanting more, and you may never want to approach a FM project in a “traditional” way again. From my observation, once you have tasted and experienced the richness and rewards that come from leading this type of workplace transformation, you will crave more. You will become more curious; you will seek out more challenging problems to solve. You will not want to stay within your box. Let’s face it, we are living in the perfect storm, and if you are able to seize the moment and jump in, there are terrific opportunities both personally and professionally.

To make this information easy to use and reference, we have organized these case studies alphabetically and we have also noted the country of origin in the title. The matrix that follows has been created to help identify those case studies with specific focus on a given business driver or outcome.

Enjoy!
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<tr>
<td>Case Study</td>
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<td>SCAN Health Plan</td>
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<td>Health Care</td>
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<td>Sony Electronics</td>
<td>Singapore</td>
<td>Electronics</td>
<td>Cost Containment, Real Estate Efficiency, Sustainability</td>
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<td>Southwark Council</td>
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<td>Steelcase</td>
<td>United States</td>
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<td>Telecom New Zealand</td>
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<td>TELUS</td>
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<td>Wolters Kluwer</td>
<td>Global</td>
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<td>Yell</td>
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<td>Third Place, Change Communication, Commutes, Work Styles, Mobile Work Process</td>
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BankMuscat
Oman

With assets worth over $15 billion (US dollars), BankMuscat is the leading financial services provider in the Sultanate of Oman, with a strong presence in corporate banking, retail banking, investment banking, treasury, private banking and asset management. The international operations consist of a branch each in Riyadh (Saudi Arabia) and Kuwait and a representative office in Dubai (UAE).

Firmly positioned to reach every household in Oman, BankMuscat offers the complete range of innovative banking products and services to the largest banking family in Oman comprising 1.3 million customers. Endowed with a global outlook, BankMuscat remains Omani at heart. Epitomizing the distinct Omani heritage, BankMuscat has evolved during the past 29 years to become a towering presence not only in the banking sector but in all arenas of the Sultanate.

The BankMuscat headquarters strengthens its reputation as a forward-thinking business at the heart of its people and cultural heritage. Recognized as a Renaissance achievement of Oman, the new headquarters redefines benchmarks in workplace design.

The purpose-built headquarters incorporates the latest technology and trends, meeting the key requisites in terms of functionality, security and business continuity planning (BCP). A perfect expression of functional finesse, the banking experience in the new environment is set to create strong professional and cultural links among the largest banking family in Oman.

The Challenge

Cultural overtones and modern Islamic sensitivities are clearly evident in the new building designed to house the largest bank in Muscat, the capital city of the Sultanate of Oman. Conceived as a “normal bank head office building,” the leaders of the business undertook a workplace strategy that questioned the real purpose of the head office and helped put a picture to the words used to describe the headquarters. What they discovered enabled them to work with the architect and building developer to evolve the design to something that would better support their business moving forward.

The strategic process helped the bank leaders to openly explore the future and consider evolutions in the banking industry, work styles and communication trends to inform the design of their new workplace. The process ensured the new environment would be a springboard to evolve work practices, as well as provide an attractive environment for the next generation of highly educated Omani workers.

The Solution

The workplace strategy explored how the building could become a catalyst for greater community engagement and connection to the families of bank employees. The primary vehicle to support this level of community was in the introduction of a “main street” on the ground floor of the building.

The interactive main street links four campus-style buildings with various retail outlets (cafes and food outlets, gymnasium and a child care center) aimed at catering to staff, their families and the broader community.

Impact to Business Strategy

As a people-driven business, the more open headquarters actively demonstrates Omani’s commitment to their employees’ families and community. The street features of the retail bank, restaurants and shops, and a multipurpose space can be used for internal bank presentations, public events, or to show films to family and friends. The street will become a draw for people in the community.

John Cooper, deputy general manager ebanking, technology, operations, processes and systems at BankMuscat, says, “One senior executive wants to showcase the ‘street’ with art exhibitions.” He knows people will visit the building just to look at this different design and believes the building can be used to promote the arts. “I think this will be one of many such ideas that will come out.”

The open work environment and desk layout offer greater flexibility for teams to shrink or grow. The open layout fosters a greater sense of collaboration and knowledge transfer within the bank.

The design provides BankMuscat with an opportunity to create an iconic presence in Oman and the Middle East and demonstrate its global competitiveness.

Results

The design provides spaces that support work-life balance, allowing employees of the bank a place to think, meet, collaborate, touchdown, relax, exercise, eat healthy, consult and gather with family and friends.
Project Team

FM Project Manager....................John Cooper, Deputy General Manager eBanking, Technology, Operations, Processes and Systems

Architect/Interior Designer..................WS Atkins (architecture) Geyer with Design and Arches (interior design)

Contractor.................................................................Galfar

Furniture Manufacturer(s)...............Various – Steelcase work settings

Location of Project.................................Muscat, Oman
Bharti Airtel Limited
India

Bharti Airtel Limited, commonly known as Airtel, is an Indian telecommunications company that operates in 19 countries across South Asia, Africa and the Channel Islands. It operates a GSM network in all countries, providing 2G or 3G services depending upon the country of operation. Airtel is the fifth-largest telecom operator in the world and is the largest cellular service provider in India, as of June 2011.

The Challenge

In the Asian context, the nature of work is undergoing a dramatic change with generational transition, cultural diversity, technology permeation, security, doing more with less, mergers/acquisitions/downsizing, optimizing resources and measuring performance. All these factors add layers of complexity and create huge opportunities for the workplace. These factors also require a different kind of workplace making. Business success is enhanced or inhibited by the degree to which corporate real estate professionals understand the nature of work, its key attributes and implications for facilities, technology and policy in the Asian environment.

Bharti-Airtel’s corporate real estate group developed a comprehensive set of workplace guidelines based on four corporate drivers of “can do,” “in touch,” “on my side” and “think fresh,” which led to completely redefining workplace guidelines.

Bharti-Airtel’s corporate real estate team, with its partner NELSON, created a workplace environments program to reshape the portfolio so that workplace effectiveness becomes an integral, branded component of Bharti-Airtel’s corporate vision to be the most admired Brand in India by achieving the following goals:

• Loved by more customers
• Targeted by top talent
• Benchmarked by more businesses

The Solution

The Workplace Environments program is marketed as creating a workplace as a competitive advantage that enables organizations to attract and retain the best talent while providing higher shareholder ROI with the standardization that has been implemented. The initiative sold at the Airtel Management board level has been well-received and seen as a key distinguishing factor for Bharti-Airtel’s goal to “attract top talent.” The process, built on principles of universal planning, is built on industry best practices for successful workplace-making and evaluating how forward-thinking corporations are using the workplace as a strategic business tool to gain competitive advantage. Industry experts and service providers from real estate (Bharti Airtel corporate real estate and NELSON), technology (internal and external partners), HR (internal) and marketing (Bharti-Airtel) form the core team tasked with successful implementation of the initiative, understanding the importance of managing change and expectations, and reviewing key effectiveness and efficiency measures for success of the program.

The program is designed in conjunction with various industry experts to create a workplace that is designed for productivity and focused on promoting high performance within standardized environments. The program has completed its first pilot of 700,000 square feet in its headquarters building in National Capital Region in India. The building is projected to provide occupancy savings for the shareholders, increase associate satisfaction with a better work environment and offer a superior return on investment through standardization of workplace.

Key features include:

• World class facility meeting international guidelines
• Equitable office space, with similar offices and workstations for all employees
• Open and closed collaboration areas, with facilities such as quiet rooms and break-out employee hub areas
• Flexible and universal space standards based on long-term modularity

Impact to Business Strategy

The success of the Workplace Environments initiative is currently being tracked at the first implementation of the headquarters campus with the help of surveys to assess key indicators of associate satisfaction and ability to attract and retain talent. The program is being rolled out across all new campuses of approximately 2 million square feet, and major renovations are planned over the next few years. These measures are projected to deliver significant occupancy savings for the corporation through potential increase in associate satisfaction and productivity and reduction in recruiting time. The initiative provides valuable lessons for Asia-based CRE organizations on how to create a workplace for knowledge workers, understand the integrated approach between workplace, technology and HR to deliver successful results, manage an effective change management process, and deliver positive results for the shareholders, associates and customers.

Results

People

Significant improvement in associate satisfaction and productivity.

Planet

Reduced the energy requirement by 10 percent by using energy-efficient solutions for lighting, HVAC and building systems equipment.

Profit

Part of a consolidation strategy into one campus from 19 locations, which led to operational expense savings.

Project Team

FM Project Manager..........................Ashish Mehrotra – Bharti Airtel
Architect/Interior Designer..........................NELSON Planning and Design Private Limited
Contractor................................................MS Decorators
Furniture Manufacturer(s)....................Technigroup and Haworth
Furniture Dealer(s)..............................Direct Purchase
Furniture Installers..............................Technigroup and Haworth
Consultant(s)........................................NELSON Engineering
Location of Project................................Gurgaon, Haryana, India
Cisco Systems

Global

Cisco Systems is a multinational corporation headquartered in San Jose, California, that designs and sells consumer electronics, networking, voice and communications technology and services. Cisco has more than 70,000 employees and annual revenue of $40 billion (US dollars) as of 2010.

The Challenge

Cisco Systems designed its offices in the 1990s under the assumption that the workforce would work during regular work hours in assigned space with PCs and phones. Leadership received private offices, and high-walled cubicles were assigned to individual contributors. Cisco sales were product-based, mainly routers and switches for infrastructure. The office interiors were conservative in nature, and Cisco’s brand of frugality was a driving principle.

Today Cisco sales are now solution-based, resulting in a global workforce that is highly collaborative. Employees work nontraditional hours and new, complex business issues only increase the need for collaboration. Employees are often away from their desks in meeting rooms, at client sites or at home with laptop and mobile phone in tow. Cisco has also rebranded itself for the consumer market, which has resulted in more use of color graphics and imagery in the Cisco brand.

With the traditional workspace not meeting the needs of the current workforce, a new solution was needed: one that would fit many objectives, such as matching the physical world environment to the new work styles, increasing the real estate efficiency by “capturing” the unused space, updating the physical environment to attract and retain key talent, and showcasing Cisco’s new brand identity.

The Solution

Workplace Resources (WPR), the group that manages real estate within Cisco, realized one project was not going to be enough. A complete program that included a cultural shift, multiple capital projects and extensive change management at every level needed to be undertaken. Thus, a new workplace experience was born that emphasizes flexibility and choice for the Cisco workforce. The solution is comprised of the Cisco Connected Workplace (CCW), which is the physical environment that works in conjunction with a global policy on space utilization, Cisco-technology specifications (Cisco-on-Cisco) and flexible work practices. The new workspace has brighter colors, more natural light and an open floor plan that enables more employee connectedness. In addition, CCW increases the number of employees in an office without increasing real estate costs, and allows for a more productive environment than that afforded by traditional cubicles.

CCW guiding design principles:

- Encourage collaboration to become the norm
- Improve efficiency in the workforce
- Support Cisco’s sustainability objectives
- Create opportunities for social networking
- Help improve visibility within the space
- Allow flexibility for the different ways people prefer to work

- Through increased collaboration, helps people accomplish both team and individual goals

A variety of space types and many levels of integrated technology form the cornerstone for CCW. The key physical attributes include:

- No more than seated height privacy in open plans
- The transformation of private offices into collaboration rooms
- Personal storage that is separated from seats

Along with Cisco’s flexible work practices and Global Space Policy, CCW space has transitioned from individual-assigned space to group-assigned space. As a result, the way Cisco thinks about real estate has changed — including metrics. For example, building capacity was previously measured by number of seats; now building capacity is measured by persons housed.

Ongoing management of the facilities changed as well. Sustaining management teams (SMTs) are set up to manage diverse and dynamic workforce needs. Local control and accountability for workplaces has now migrated to the internal client organizations through the neighborhood SMT model. Clients lead a partnership of their representatives, along with Workplace Resources and Human Resources, to enable the most effective use of group space assignments.

Cisco now builds and manages a work environment based not on hierarchy, but on the needs of the team. Employees have the freedom to choose their environment based on the requirements of their current task. The company’s CCW environment gives employees a broad choice of workspaces and technological tools to do their best work.

Impact to Business Strategy

Cisco has achieved measurable business benefits with CCW and regularly evaluates the success of its effectiveness and efficiency. Effectiveness is measured by the increase in productivity and participant satisfaction resulting from the integrated workplace design and IT solutions. Efficiency is measured by the improvement in key metrics such as space utilization, cost and portfolio optimization.

Also, WPR performs periodic interviews with each organization and administers a regular companywide employee survey. Common feedback is that most employees like the choice of work environments, cutting-edge technologies, natural light, openness and the opportunity for increased collaboration between groups. Most participants state they would not want to go back to the traditional environment.

The group-assigned CCW workspace generates significant cost savings for Cisco including:

- Real estate rent — accommodating more people in the same amount of space
- Construction — building smaller spaces per person than previously required
- Services — consolidated trash, maintenance costs and nearly eliminating the costs of moves/adds/changes
- Furniture — purchasing less furniture per person than previous cubicles
- Printers — fewer machines per person needed due to paperless processes
- IT costs — spending less on switches and switch ports
- Cabling — reducing the number of wired IP cables per workspace
- Equipment room space — racking fewer switches because of wireless infrastructure

• Help improve visibility within the space
• Allow flexibility for the different ways people prefer to work
Results

People
The 2010 Cisco Connected World Report states people prefer jobs with workplace flexibility/remote access over a less-flexible job with a higher salary. Employees that work in a CCW workplace were surveyed and results show:

- 77 percent prefer CCW environment to traditional space
- 82 percent state communication between individual people and teams improved
- 62 percent state an increased ease in finding quiet space for focus work
- 80 percent state an increased ease in finding open meeting rooms

Planet
CCW contributed, along with the lab strategy, collaboration technologies and renewable energy, to Cisco’s greenhouse gas commitment of a 25 percent reduction in GHG emissions by 2012.

- 58 percent reduction in connected electrical load (watts/employee)
- 44 percent reduction in total cooling loads (BTUs)
- Less commute traffic with flexible work

Profit
Millions of dollars have been saved in travel expense with Cisco’s use of its WebEx and TelePresence technologies in the CCW environment.

- Capital expenditure on cabling and IT infrastructure reduced 50 percent per square foot
- Capital expenditure of furniture reduced 55 percent per square foot
- Square foot allocated per person reduced 30 percent
- Less than three years return on investment for CCW renovations

Project Team

FM Project Manager...............................Cisco Workplace Resources and Associated Partners
Architect/Interior Designer.............Cisco Solution Design Managers and many design houses worldwide
Location of Project.....................Global program affecting every country
Fuji Xerox Co., Ltd.
Japan

Fuji Xerox Co., Ltd. is a joint venture partnership between the Japanese photographic firm Fuji Films Holding Corp. (75%) and the American document management company Xerox (25%) that was established to develop, produce and sell xerographic and document-related products and services in the Asia-Pacific region. Its headquarters is in Midtown West in Tokyo, Japan, and the company employs approximately 40,500 people.

The Challenge

FUJIFILM Holdings Corporation developed a corporation management reform project called “Vision 75,” which coincided with the organization’s 75th anniversary. The reform project’s purpose was to integrate the headquarters functions of the two major companies of the group, FUJIFILM and Fuji Xerox in an office building convenient to transportation and communication in central Tokyo. The project’s goals were to support the integration of the two companies, increase business efficiency, consolidate offices and apply innovative construction and workplace solutions.

The Solution

To support two cultures coming together, there was a desire to increase communication and interaction between the two companies. To do so, the meeting rooms, restaurants, cafes, shops and reception areas were used as a catalyst to make it easy for the employees to interact.

• Improvement in office productivity: The unification of office standards and operations in the universal design made it possible for managers to deal with the organization and personnel changes. The introduction of the document management and security system with IC cards improved security levels and business productivity.
• Improvement in efficiency: The unification of the office service functions has been realized with the office concierge.

Impact to Business Strategy

The FUJIFILM Holdings Corp. was established just before the office integration, and the shared service company of the group, FUJIFILM Business Expert Corp., was established six months later, after the integration. As a result, the office integration drove the management reform. The creation of the company and the process of office integration produced maximum profits in 2007 and increased the total sales revenue for the organization.

Results

People

Based upon the results of a questionnaire, 80 percent of the employees have responded affirmatively to the workplace and specifically appreciate the opportunity to get to know employees within the other organization.

Planet

The zero emission system was established to eliminate waste from the building, which would have been disposed of by incineration or through landfill. The waste is collected and separated into 20 classes. As a result, paper document storage has decreased by 60 percent and printing has been decreased by 50 percent.

Profit

As a result of the office integration, approximately 20 percent of the office space has been decreased, along with decreased energy and cleaning expenses.

Project Team

FM Project Manager.......................Yasunori Kawashima, Manager, General affairs, FUJIFILM Holdings Co. and FUJIFILM Co
Yuri Nasu, Manager, General affairs, FUJIFILM Holdings Co. and FUJIFILM Co
Keiko Kimura, Manager, General affairs, Fuji XEROX Co.

Architect/Interior Designer..............Interior / ILYA CORPORATION
Contractor..................................Interior / ILYA CORPORATION
Furniture Manufacturer(s)..............Okamura Corporation, UCHIDA YOKO Co. Ltd., KOKUYO Co. Ltd., ITOKI CORPORATION, PLUS Corporation, etc.
Reception

Cafe

Office (Standard floor)
U.S. General Services Administration —  
Rocky Mountain Region  
United States

The U.S. General Services Administration celebrated its 60th anniversary in 2009 and is the largest public real estate organization in the USA. The agency provides approximately 354 million square feet of office space to more than 1 million federal employees in 2,100 cities and towns across the country.

GSA is also behind most of the government’s purchases, including everything from phone contracts to computers, cars, trucks and buses. Nearly all federal activities are conducted using furniture, computer equipment and office supplies procured through GSA.

For the fifth consecutive time, GSA is among the Top 10 best places to work in the federal government. The agency ranked No. 1 in the following categories: pay and benefits; teamwork; work-life balance; training and development; effective leadership; and effective leadership — empowerment.

This case study takes place in GSA’s Rocky Mountain Region, which includes Colorado, Wyoming, Utah, Montana, South Dakota and North Dakota. Despite its seemingly remote location in the Wild West, this region has been able to make some very progressive moves into a new mobile working environment.

The Challenge

In 2010 the GSA began to redesign its regional headquarters at the Denver Federal Center (DFC) in Denver, Colorado, as the organization’s staff had outgrown its work space. As a federal agency, the GSA needed to balance the competing pressures of shrinking budgets, green mandates and employee engagement. The region soon discovered that the solution was more than reconfigured office space — it was an entirely new philosophy on work. Modern technology now enables the workforce to be more mobile than ever before and this mobility allows agencies to save money, reduce their environment impact and encourage work-life balance in smaller work spaces.

The impetus for change arose when GSA’s two business lines, the Federal Acquisition Service (FAS) and the Public Buildings Service (PBS), decided to be housed in one building. Instead of applying the traditional approach, which would have required extensive and expensive construction, the project team decided to create a mobile work environment, thereby consolidating both groups onto one floor.

The first phase of the project would have required 50 employees to be displaced without a temporary location in the building. The project team surveyed employees to identify 50 people willing to telework on a permanent basis. The surprising, yet inspiring, survey feedback was that employees wanted to continue to be part of the work environment in the building. To address the employees’ concerns, the FAS and PBS regional commissioners jointly committed that everyone would be welcome in the building and they would all have a work space.

Thus the “Mobile Workspace,” an office designed to look more like your local coffee shop and less like the traditional rows of a cube farm, was born. This approach allows employees to break out of the box and work from anywhere at any time.

The Solution

With only six weeks to complete the project, the project team began to tackle the issue of how to create a mobile work environment that would reduce the amount of individual space, but still allow everyone to have a seat. The team decided to increase the amount of small meeting areas and collaborative space. Taking advantage of the flexibility of the region’s nine-year-old furniture, the team was able to disassemble, lower, and reconfigure the furniture into unique stations that would accommodate four different types of work styles. Wi-Fi services were expanded to cover more common areas, including a neighboring park on the DFC campus. Although individual stations decreased in size, the possibility to work from anywhere in or near the building provided employees with many new options and opened an innovative way of working that was far less restrictive.

From a change management perspective, the project team knew the success of this project would hinge on the ability of users to determine their preferred work style and their willingness to quickly adapt. To pilot the project, they identified a small group of early adopters called “mobile geniuses,” whose job was to test the solutions, track comments and capture honest feedback. These mobile geniuses played a key role in the pilot and had jokingly commented they often felt like they were “on show” as many visitors stopped by to observe, much like animals in a zoo. So to create a level of fun and to capitalize on this emerging animal theme, the project team quickly developed a branding campaign that connected animals to the four workstyles supported by the new furniture configuration. These work styles were not dependent on occupation, grade or demographics, but instead reflected personal preferences. The users were assured that if the new space did not fit, they would have the option to return to a traditional workstation.

The four animal work styles were:

- Eagles: Employees who do not rely upon a designated work area. They flock to touchdown spaces provided in the building.
- Dolphins: Employees who do not need a lot of storage or work space, but want a very small assigned area where they can meet and collaborate with their co-workers.
- Camels: Employees who need a small assigned work space, but require more storage space.
- Labradors: Employees who prefer a traditional “den” or cubicle environment where they can concentrate.

Results

People

The initial pilot was a success and the project team capitalized on this momentum to transform three additional areas to accommodate the 50 original displaced users. Additionally, they ensured that there are enough free workstations to allow everyone a welcome place to work, as well as the freedom to change work styles.

The team soon noticed that groups began collaborating differently as they gravitated away from their assigned cubicle. Furthermore, as the users selected work spaces that supported both their job and how they like to work, they began collaborating with new people, exploring new ideas and gaining additional insights.
Specific benefits of the mobile work environment included:

- A 30 percent increase in the number of assigned workstations in existing space
- Lower furniture panels and fluid layouts that allow natural daylight to flood the environment
- The elimination of rows of workstations, providing more organic and natural paths through the space, encouraging workers to engage more with each other.
- Areas buzzing with activity that is visible, audible, open and inviting

The project has become an invaluable tool in partnering with customers. The space is now a showroom, allowing people from other agencies to visualize how the new mobile world looks, feels and sounds. “The tours have opened a new avenue for us to talk, not only about the physical layout of space, but the way employees work within it. We encourage our customers to create an environment that can attract, retain and inspire new associates by breaking the conventions that tie down government space,” states Jonna Larson, GSA mobile program manager for the Rocky Mountain Region.

Planet

The reduction in space has made a positive impact on the region’s environmental footprint, both in terms of energy consumption and materials. The project team also believes that future changes will have less of an impact because the space was designed to be flexible. The days of traditional demolition will soon be a thing of the past and the relocation of a handful of panels will require dramatically less energy than traditional construction machinery. Yet, perhaps most importantly, mobile work spaces transform the way users think. Employees are now truly living the mantra: want less, use less and think more.

Profit

Through its creative approach to the modern workplace, the Rocky Mountain Region has reduced space per employee by approximately 48 percent. Data reveals:

- 145 SF/person in a traditional 8’x8’ cube layout versus a 100 SF/person in the new mobile workstations
- 75 SF/person in the new mobile work environment, which includes assigned workstations and flex stations
- 77 traditional workstations have been reconfigured into 122 assigned mobile workstations
- A $6,000 (US dollars) traditional workstation has been reduced to a $1,500 (US dollars) assigned workstation in the mobile reconfigurations

Project Team

FM Project Manager........................................................Rob Kirkpatrick
Mobile Program Manager.....................................................Jonna Larson
Architect/Interior Designer.................................................Verna McCain
Contractor....................................................................................Elements
Location of Project..............................................Denver, Colorado, USA
Chapter 10  Case Studies From Around the World

**Storus Maximus**
Enjoys mobility and loves storage

Known to take delight in their access to lateral files and cabinets. _Storus Maximus_ are often seen roaming in bench-style environments.

**Tradicionali Loyalite**
Most comfortable in their den

Extremely loyal. _Tradicionali Loyalite_ perform most efficiently in the familiarity of the tried and true environments of the traditional cube.

**Collab Orateor**
Mobile participant performs well with others

When focused on their teams, _Collab Orateor_ favor being around others and are found frequently communicating and laboring in their pods.

**Neo Flexibilite**
Virtually unconstrained by wires in the clouds

Easily spotted touching down in open sealing and bench-style workstations. _Neo Flexibilites_ are always on the move.
Home Office
United Kingdom

The Home Office is the United Kingdom government department responsible for defending the country against terrorism, securing our borders and controlling immigration, enabling the police and local communities to step up the fight against crime and anti-social behavior, and championing equality. It includes a central HQ, based in London, together with several agencies — the UK Border Agency, Identity and Passport Service, and the Criminal Records Bureau — and a number of other arm’s length bodies.

The Challenge

The Home Office wanted to create a totally flexible workplace with few fixed desks as part of its move from seven buildings to two premises. The aim was both to save money and energy (and therefore reduce carbon emissions) while also changing the way the organization and its people worked, allowing them to be more productive and effective. The adoption of flexible working was, for the Home Office, essentially about changing the way staff view their work space — deciding what space they need at any time and releasing it when they no longer need it.

The Solution

The project commenced with several months of evaluation to understand how the existing site was currently being used. A utilization study of 2,500 desks revealed a 56 percent occupancy rate (and under utilization of non-desk areas), and this was cross-referenced with data on business unit’s headcount and from the door entry system on numbers of staff and visitors on-site, together with online surveys and face-to-face interviews to get a rounded picture of users’ experience of their workplace and of the work which they undertook in it.

Basic workplace etiquette was reintroduced so that people understood that working in a break-out space was considered acceptable and a pilot project was launched with three new work styles: fixed, mobile within the office (the default option) and mobile in and out of the office. New software was deployed to allow maximum flexibility within teams, and new solutions were introduced to switch between laptops and PCs at the same desk. The telephone system allows staff to log on to their existing telephone number at any desk and provides voice mail when not logged in.

Every workstation has a generic setup, with an adjustable chair and the same desk furniture, so people do not have to relearn the system each time; they can simply sit down and start working.

Champions were appointed within teams to act as the project link and to manage the transition of their own team colleagues, discussing their fears, uncertainties and worries, and supported by their team leaders and material from the project team.

Impact to Business Strategy

Gradually between spring 2009 and May 2010, the pilots were increased until now almost the entire building is working flexibly. Immediately following the project, the building supported approximately 4,500 staff (compared to 3,800 previously) and there is the potential to increase the population further to around 4,940.

Average utilization has reached a maximum of 80 percent and the desk-sharing ratio is 8:10. Although the project to introduce flexible working is essentially complete, there is an organizational understanding that it must remain on the agenda for it to continue to be a success and to prevent users and the organization from slipping back into old habits.

There has been an increased workload for the facility management service provider Ecovert: customer service expectations have increased as staff expect more and expect it quicker. Supporting more people with the same number of desks means that floors can be more heavily used; so for example, a broken PC has a greater impact and a bin may need emptying more often. New facilities service assistants posts have been introduced to monitor service across the building and to ensure they stay on top of customers’ needs. Some things have become easier: the strict clear desk policy makes cleaning easier, for example.

Results

People

Many employees have discovered for themselves the opportunities that working flexibly brings once they have made the transition. For some it can be very hard to imagine what it might be like when you are used only to working in a traditional approach with an allocated workplace where you are told to sit. Some secretaries, for example, who had been stuck at a static desk near the boss, but away from the rest of the team for years, were delighted that they could become part of a four-desk pod. Other users have said how easy it is now to pull together a project team quickly and that there is a real buzz about the place. Team leaders like being able to sit with different members of their team.

The flexible environment also allowed the organization to adjust its working arrangements quickly in response to the change in the government, which would not have been possible with the old way of working.

Planet

While the Home Office’s overall sustainability performance has improved by reducing its number of occupied buildings (from seven to two) and supporting more people, it is also using more energy to heat, cool and light it, which affects the individual building’s performance. But there are savings with paper and printing as staff report that they are working more online, for example. And there is a recognition that more needs to be done to realize the further benefits and estates efficiencies that new technology and changes to workforce can deliver.

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Profit
The results speak for themselves: around 4,500 staff now occupies a purpose-built, open-plan working environment constructed in 2005, which used to support 3,800 people. Facility management costs per occupant have reduced by 20 percent and this could fall by another 8 percent, which means that the building has the potential to move from being an expensive London building to an average London building in terms of occupancy costs. Apart from bringing in consultants Advanced Workplace Associates to lead the project and act as workplace change management specialists, little new equipment was purchased — existing furniture was simply used differently, for example.

Project Team
FM Project Manager.........................Paul Pickhaver, head of the Flexible Working programme, Home Office
Consultant(s)..........................................Helen Guest, Senior Associate, Advanced Workplace Associates
Location of Project................................................London, UK
KARL STORZ Endoscopy
United States

Since its beginnings in 1945, KARL STORZ has established itself worldwide as an international and highly regarded company in the production and sale of medical instruments and devices. Not only is the company an internationally recognized brand but it is also a leader in creativity, versatility and competence. Founded in 1971 as the gateway to the United States, KARL STORZ Endoscopy-America, Inc. (KSEA) is responsible for all US distribution of endoscopes, instruments, imaging systems, electromechanical devices and OR1® integration. Headquartered in El Segundo, California, KSEA operates with over 100 highly trained, professional sales representatives who manage individual accounts across the country.

The Challenge

Increasing connectivity between the German and North American headquarters was a key driver in the development of the new KARL STORZ’s North American headquarters in El Segundo, California. The need to support the globalization and internationalization of an organization was critical.

One of the main challenges encountered in this project was extending and implementing KARL STORZ’s European/German standards into the Southern California culture. The new design would need to incorporate the German standards used in other facilities.

The design objectives for the building were heavily influenced by KARL STORZ’s executives, including the international president, chief financial officer, vice president of human resources, vice president of information technology and the facilities manager. The output would be to shift to a new open environment, but this would require a significant move from traditional office-intensive environment (80 percent private offices and 20 percent workstation) to a transformed, open, workplace design of 20 percent private offices and 80 percent workstations.

The Solution

To successfully realize the new planning objectives, the facilities manager helped create special “task forces” to lead the new design concepts and assist in companywide buy-in. The benefits of the new plan included team building/collaboration solutions, such as creation of agile spaces that respond to change. The restructured plan incorporates minimal private offices on the perimeter of the space to avoid blocking the window line and maximizes natural light. Workstations feature lower panel heights with translucent glass to promote interaction. Glass is used extensively to maintain a sense of openness as well as transparency, and to heighten visibility throughout the space.

The transformation of the new headquarters was dramatic. The old space was dark, disorganized and had numerous hallways. The new space is simple, clean, bright and open within an organized layout of contemporary workstations, glass-fronted offices and accent colors depicting the corporate brand. The new furnishings reflect a clean contemporary feel with a German utilitarian vibe that ties to KARL STORZ’s family culture.

Impact to Business Strategy

KARL STORZ’s new space is flexible, high-tech and sustainable. The combination of these factors, along with the incorporation of sustainable design principles, gives way to three positive effects in its overall business strategy. The new space realizes a long-term return on investment, increases employee retention, and minimizes maintenance costs while maximizing energy savings.

KARL STORZ’s new North American headquarters is a great example of the “globalization” and “internationalization” the new workplace is experiencing in today’s market. The workplace is also an extension of its employees’ overall work-life experience.

Through diligence, collaboration and creativity of the project team, the headquarters was up and running ahead of schedule and within construction budget parameters.

Results

People

The open plan creates a bright, daylight-filled space that exposes KARL STORZ employees to an airy, open and interactive environment. The implementation of this plan creates a positive environmental experience for the employees. The open windows create an exposed feel and gives way to a connection of being outside. One employee said, “[The new space has] changed my whole attitude about work. Working in this environment has inspired me to be better at what I do.”

Planet

The project incorporates a variety of green strategies that impacted three main long-term components that positively effects the overall environment. A variety of materials with low- or no-VOC levels are used in order to improve the space’s indoor air quality and reduce toxins. This strategy affected the space following construction, facilitating residual emissions from paints, glues and other material to dissipate at a faster pace. Natural lighting is maximized throughout the space, and the use of automated lighting fixtures is predominant in the late business hours, which impact the long-term energy savings. The new facility is situated in a prime location that promotes alternative forms of transportation for the employees. The location strategy reinforces KARL STORZ’s commitment to sustainability by encouraging employees to reduce commuting travel and lower their carbon emissions footprint.
Chapter 10 Case Studies From Around the World

Profit

Future cost savings was a key element of the new space. The use of finishes that are both resilient yet timeless decreases constant upkeep and increases cost efficiency. The space plan maximizes natural daylight, but also includes energy-efficient lighting fixtures, daylight harvesting, automated lighting/water controls and water-efficient irrigation of native landscape to positively impact long-term energy/water costs. The incorporation of KARL STORZ’s German culture allows for an increased flow in communication and interaction of the departments. This flow in turn creates a more rooted synergy between the departments that contributes to a better bottom line.

Project Team

FM Project Manager...............Stacy Wilder, Project Manager, Studley
Architect/Interior Designer.......Amanda Kaleps, Principal, Wolcott
Architecture | Interior
Contractor..........................Andrew Witham, Chief Estimator,
Sierra Pacific Construction
Furniture Manufacturer(s)...........Alana Draper, Representative,
Associates Purchasing
Furniture Dealer(s)..........................Knoll
Furniture Installer(s).........................Knoll
Consultant(s)............................ Ali Sherafat, President, WM Group
Location of Project....................El Segundo, California
**Kellogg Company**  
**Madrid, Spain**

Kellogg Company is a producer of cereal and convenience foods dedicated to providing high-quality products compatible with a healthy lifestyle. The company manufactures in 18 countries and markets in more than 180 countries around the world. This case study is based on the Madrid, Spain, headquarters location, which was established in 1977 and became the leader in the Spanish market for cereals. It employs about 130 people at its headquarters in Madrid and has manufacturing in Tarragona.

**The Challenge**

The Kellogg location in Madrid, Spain, desired to lower its cost of business and decided to relocate to a new headquarters location. During this process, the company recognized the opportunity to change the way in which it was working. The team explored the differences between generations and technology, and recognized the need to attract talent.

Kellogg desired to move from traditional ways of working (enclosed offices, fixed hours, etc.) to a new way of working that was based upon best practices. This would allow the company to reduce office space while improving the efficiency of its people, leveraging technology and increasing flexibility, both in hours they worked and workplaces they could use. Kellogg wanted to encourage teamwork and informal connections between employees.

Kellogg realized that a flexible work solution would produce positive social benefits for employees, such as better work-life integration, as well as reduce the environmental impact. It believed this strategy would also attract talent and support retention, but it was a lot easier to say, than to do. To make this a successful project, it would need to change the mindset about “work” and help employees realize the benefits and the objectives of this project.

Key measures for success were to:

- Design and deliver appropriate spaces for the flexible working concept with a deep understanding of the relationships and activities performed within Kellogg
- Foster communication between employees and encourage collaborative work
- Overcome the resistance of employees to change

**The Solution**

*Work is what we do, not where we go.*

The innovative solution the Kellogg team created was based upon the concept of the office as a “hub”: a place where employees gather to share ideas, review ongoing projects and connect. It provided a “menu” of spaces that supported various activities, giving the employees the freedom to work anywhere — in or out of the office and on the move.

Key concepts included:

- Everyone is located in open spaces
- All workplaces are shared; no one “owns” a table and a chair
- Departments were open and simulated neighborhoods for better interaction and communication
- Access to wireless intranet and Internet was available throughout the office
- Laptops, mobile phones, home phone lines and 3G Internet connections were made available for all employees

Work space options included:

- Conference rooms with projector for presentations or big meetings
- Meeting rooms (accommodating four to six people) enclosed for confidential, formal meetings; these rooms do not require a reservation
- Informal, open meeting areas in strategic locations to help people connect
- Rooms to support individual work and, specifically, acoustical privacy for confidential conversations
- “Silent” rooms to support concentrated work
- Creativity spaces for team brainstorming and cultivating new creative ideas
- Vending areas to relax and connect with colleagues

From a sustainability perspective, Kellogg’s “GoGreen” program measures waste recycling and energy efficiency, and the flexible work options support family relationships and events.

**Impact to Business Strategy**

The impact to the business was positive from all points of view. The company truly reflects “best practices” and it has been recognized with the “Best Workplaces Spain” award in 2009 and 2010. Additionally, the image of the brand and company has improved, and now Kellogg is used as a positive example for other organizations interested in innovation and a modern way of working. Needless to say, the positive publicity in numerous magazines has been an added benefit and also reduced marketing costs.

The cost to support personnel or equipment changes is much lower and happens quickly. Issues of relocating and modifying spaces have disappeared, and it is much easier to move people around the company. In addition, operating costs have been lowered, as there is less space, fewer services needed and lower utility bills.

Attracting new employees has also become easier as the “social benefits,” such as flexible work, hold more weight than salary. Supporting work-life integration is a key factor for new hires.

The project supports the company’s social corporate responsibilities, as well.
Results

People
Kellogg’s employee satisfaction survey ranked in the top five in Spain and had the best qualitative scoring.

Planet
- Electricity bills were lowered 63 percent
- Paper was reduced 70 percent
- Toner consumption is down 65 percent
- Employee commutes have been reduced by half

Profit
- Building maintenance cost are 65 percent less
- Lease costs have been reduced by 30 percent

Project Team
FM Project Manager........................... Francisco Vázquez, President and Managing Director, 3G Office
Architect/Interior Designer...............Mauricio Real, Production director, 3G Office; Jaime Méndez, Space designer 3G Office
Contractor........................................................................................ IC-10
Furniture Manufacturer(s).............................................................. Levira
Furniture Dealer(s)...............................................................Grupo Línea/Arlex
Furniture Installer(s)........................................................... Grupo Línea/Arlex
Location of Project............................................................ Madrid, Spain
Macquarie Group
Australia

Macquarie Group (Macquarie) is a global provider of banking, financial, advisory, investment and funds management services. Macquarie’s main business focus is making returns by providing a diversified range of services to clients. Macquarie acts on behalf of institutional, corporate and retail clients and counterparties around the world. Founded in 1969, Macquarie employs more than 15,500 people in over 28 countries. At March 31, 2011, Macquarie had assets under management of $A310 billion.

The Challenge

The challenge was to design a workplace in 2008 that was going to be relevant and useful to the organization in 2020 and most importantly, creating an inspiring place for Macquarie’s Banking and Financial Services Group, the primary relationship manager for Macquarie Group’s retail client base, to work.

When the 1 Shelley St project in Sydney came along the project team was mindful of the one in 15 year opportunity to create an amazing retail client base, to work.

The Solution

The solution evolved over three years working with a highly experienced team from around the globe. The team came from Sydney, London, the Netherlands and Los Angeles. Macquarie was fully prepared to be challenged in order to push the boundaries and if they didn’t get the right answer they went looking for another view.

The team explored the best options with the building developer regarding the configuration of the atrium, the need for ceilings, alternate lighting solutions and to find ways to integrate the aspirations of the building user and the building owner.

The workplace Architect worked closely with the building Architect to create a dynamic atrium space, complete with the iconic meeting pods and the staircase. This collaboration was vital to creating a successful community heart to the building.

The light bulb moment for the businesses arose when they visited Interpolis, a Dutch insurance company, in Tilburg, Netherlands. Their building felt like the future. It was an open community where people moved freely around an inspiring environment with their computers and telephones in hand.

The visit became the catalyst to introduce the new way of working, Activity Based Working into the project and the move went from being a workplace project to a business transformation. The team responsible for the transformation included Physical (workspace), Virtual (IT), Behavioural (cultural change), Paper Independence and Communications.

The end result is a workplace where everybody gets to share a vibrant workplace. There is a wide variety of activity setting available to everybody in the building. People get to choose the setting that suits the task, high partitioned desks for quiet concentrated work, open tables for teams to collaborate. Everybody has a laptop and a mobile telephone connected to a wireless network. A locker and team filing is provided for paper storage but there’s a clean desk policy as all the desks are shared. All mail is distributed electronically through the building. The meeting rooms are all fitted with screens that connected wirelessly to laptops.

Impact to Business Strategy

The introduction of Activity Based Working and the move to 1 Shelley Street became integral to organizational change. The change to a new way of working became a catalyst for a broader business change that encompassed leadership styles, collaboration and cooperation across teams and empowerment and accountability.

Results

Responses from employees working at 1 Shelley Street indicate that they are in the top 3 percent of the Australian benchmark for experiencing satisfaction and comfort as well as for the overall performance of their work space (UNSW and UTS Survey, 2011).

Compared to Macquarie’s other premises in Sydney with similar capacity but 10 years older, 1 Shelley Street uses 50 percent less energy which equates to 3,000 CO₂e tonnes. A cost saving of approximately $A10 million per annum for accommodation ( benchmarked against previous accommodation costs) due to:

- Higher occupancy at 1 Shelley Street given shared desk arrangement with ABW
- No fit out churn costs
- Reduced energy costs
Project Team

FM Project Manager......................Will Walker, Executive Director, Business Services Division

Macquarie team: Grant Baldwin, Michael Silman, Anthony Henry, Trisha Harding, David Kane, Richard Nicholls

The team responsible for the business transformation included: Physical (workspace), Virtual (IT), Behavioural (cultural change), Paper Independence and Communications.

Architect/Interior Designer.............Design Architect: Clive Wilkinson Architects

Architects

Project Architect: Woods Bagot

Contractor.................................................................Brookfield Multiplex

Furniture Manufacturer(s)...............................Haworth

Other..................................Workplace Consultant: Veldhoen + Company

Location of Project.........................................................Sydney, Australia

All Macquarie Group photos used in this case study are credited to Sharon McGrath.
Orange Business Services
Global

Orange Business Services (OBS) is part of the France Télécom Group, dedicated to global business communications solutions. OBS offers a range of managed services, including WAN and LAN services, security, mobility, voice, video and consulting services, in over 220 countries and territories with staff in 167 countries.

The Challenge

OBS took a pioneering lead in creating an alternative workforce/workplace strategy within the France Télécom Group to optimize office space utilization, energy conservation and new technology deployment while saving significant amounts of money and enhancing employee productivity.

The Solution

Orange Business Services embraced mobile working on a global basis as a viable alternative to traditional full-time office working using permanently assigned workstations. OBS implemented a desk-sharing program referred to as “FlexPlace.”

FlexPlace moves some employees from assigned seats to unassigned ones. When these employees come to the office to work or when they travel to other offices, they reserve and use the FlexPlace desks. The result is increased flexibility and mobility for the workforce.

FlexPlace is essentially desk/office space that is available for reservation via Web-based workplace management software, provided by AgilQuest and called OnBoard®. Participating mobile staff does not have permanent seating assignments and instead use FlexPlace when they come into the office.

The key components of FlexPlace are the AgilQuest OnBoard reservation software and the service feature of Orange’s Internet Protocol Telephony (IPT), which allows mobile workers to have their office phone number follow them anywhere in the world. Employee phone extension mobility was enabled with the use of both IPT hard phones in the office FlexPlace desks and IPT soft phones loaded on the user’s laptop computers. This allows the user’s phone configuration and number to follow them from home to the office or any travel or telework location, for both outbound and inbound calling.

FlexPlace was first implemented in June 2005 and is now available globally at 38 locations in 18 countries.

Impact to Business Strategy

In some locations OBS was able to close a number of offices and effectively fit all of the employees into fewer locations using reservable FlexPlace desks. In other locations it was able to close several floors of space and consolidate staff on fewer remaining floors, still housing and supporting both fixed and mobile professionals.

OBS has aggressively implemented FlexPlace in conjunction with a more flexible remote working policy (telework). It has since increased the number of sites that implemented the FlexPlace workplace strategy to 18 countries. Introducing FlexPlace drives other space optimization actions, such as improved workplace utilization and careful identification of documented teleworkers so that staff whereabouts can be validated in cases of site risks or threats.

The desk reservation system not only saves the company money in rent on office space, but it allows costs to be cut in the areas of heating, lighting, security and the cleaning of unused offices.

The project has achieved more than its goals and been a definite money-saving success. FlexPlace ensures that Orange makes the most efficient use of office space, workplace utilities and employee productivity while optimizing operating expenses. With AgilQuest’s innovative OnBoard and Orange’s own IPT, OBS has become greener and more sustainable as it has allowed the company to consolidate operations and dispose of properties that were underutilized.

Results

People

FlexPlace focuses on how people actually work and how the various work styles contribute to a healthier workforce and healthier planet.

Planet

OBS cut energy consumption by an estimated 110 billion BTUs over four years, as well as reduced carbon emissions by an estimated 5,500 MTCE (metric tons of carbon equivalent per year primary) over the same four years.

Profit

OBS reduced the number of facilities needed to support the workforce and achieved a $30 million savings target in the first two years, which cut property-related costs another $40 million in the second two years.

Project Team

FM Project Manager....................Amy Teklinsky, General Services Project Manager
Consultant(s).............................................AgilQuest Corporation
Other..................................AgilQuest Corporation, Technology provider
Location of Project......Herndon, Virginia, USA; Atlanta, Georgia, USA; Geneva, Switzerland; Wan Chai, Hong Kong; Rio de Janeiro, Brazil; Dubai, UAE; and more than 30 other top financial locations worldwide
Panduit Corporation
United States

Panduit is a global manufacturer of physical infrastructure solutions that support power, communications, computing, control and security systems. The company has a global coverage of more than 4,000 employees with support in over 120 countries. Founded in 1955, Panduit is headquartered in Tinley Park, Illinois.

The Challenge

Panduit Corporation opened its five-story, 280,000 square foot world headquarters in a suburb of Chicago in 2010, providing a state of the art, intelligent building to better serve its customers, partners and employees.

The building represents a dramatic leap forward in integrated, sustainable building design because it is built on the principle of a “Unified Physical Infrastructure,” which combines ultimate visibility and control for all building systems: communications, computing, power, security and HVAC.

The challenge was to define and drive the C-suite’s understanding of RE/FM’s ability to contribute to overall corporate goals relating to:

- Global vision
  - Providing world class facilities for every Panduit employee
  - Rewarding long-time employees and attract/retain talent
  - Creating healthy places to work
- Innovation
  - Helping deliver cohesive, branded message about Panduit’s ability to contribute to high-performance building design
  - Demonstrating a unified physical infrastructure for control and the interoperability of all building systems
  - Creating open protocols and flexible infrastructure platform for future technological advancements
- Collaboration
  - Providing an environment that encourages communication, personal growth and teamwork
  - Developing an integrated and cross-functional project delivery model for teams to utilize to produce on-time, on-budget, quality results
- Sustainability
  - Creating an environmentally sustainable and healthy place to work
  - Designing facilities to reduce their environmental impact
  - Providing quantifiable energy and operational cost savings
  - Achieving LEED Gold certification

Success hinged on executive leadership, employee engagement, functional area collaboration, innovative design and intelligent technology integration. An innovative financial model called the “EBS Model” (essential, business and strategic) was developed to help evaluate options through a consistent set of filters for efficient decision-making and consensus building. After passing the EBS test, products were then trialed and rated in a newly constructed mock-up area by Panduit employees. Multiple feedback surveys were undertaken to ensure best-in-class solutions were being implemented.

The Solution

This Panduit case study exemplifies the:

- Alignment of RE/FM initiatives with C-Suite objectives to deliver enhanced business results.
- Innovative practices surrounding the real estate delivery process, the design of flexible, integrated and sustainable work space, and the intelligent application of technology to enable the delivery of a sustainable, healthy and productive work environment.
- The effectiveness of a unified physical infrastructure to provide real-time analytics, enabling better building management at a lower cost while increasing service levels.
- Power of using RE/FM to support talent retention, productivity enhancement, cost reduction, brand development, education and training, sustainable design and a healthy work environment.
- World class implementation using integrated project delivery and strategic partnerships to deliver best in class results:
  - Cisco Connected Real Estate (CRE)
  - Panduit Connected Building Solutions (CBS)
  - Panduit Data Center Solutions (DCS)
  - Gensler Architecture & Interiors
  - AEI (Affiliated Engineers Inc) for M&E
  - Haworth Architectural Products, furniture systems, seating, storage and case goods
  - Kayhan International, master furniture consultation and delivery/service
  - Lutron, Tridium, Liebert

Impact to Business Strategy

Panduit successfully delivered its new five-story, 280,000 square foot, 800-employee capacity, LEED Gold certified headquarters building in April 2010. The company met its financial objectives and future-proofed its investment with an adaptable, state-of-the-art building design. The building includes office, conference and training space with open office concepts and the integration of the latest technologies to drive productivity, safety, reliability and sustainability.

Through the strategic alignment of RE/FM initiatives with C-Suite objectives we were able to develop a shared vision with full stakeholder engagement. Through the application of an intelligent, well-planned unified physical infrastructure and open-source technology platforms, the work environment has been future-proofed for technological advancements.

New ways of working were tested and employed, including private, collaborative, social, mobile and virtual space. These new workplace strategies helped increase employee satisfaction, attraction and retention of talent and employee productivity, and reduced the facilities/workforce environmental impact.

Furniture was one of the most important elements of our long-term sustainability plan. Creating the right footprint/kit of parts (Haworth’s “Integrated Palette”), and selecting adaptable products (Haworth’s raised access floor and moveable wall systems), supported our desire for a completely modular, flexible building interior and contributed mightily to our vision of a sustainable workplace.
Throughout the course of the project, the building was developed to become an effective business tool to support core business strategies and marketing initiatives, such as using the building as an educational tool to:

1. Help customers during “visioning” process
2. Provide case study example for the project “execution” phase (supports vision)
3. Demonstrate that if vision and execution are in alignment, then the delivery of sustainable design and a productive work environment can be ensured

**Results**

**People**

People impact:

- Increased staff productivity up to 30 percent
- Increased employee satisfaction and retention (surveys showed greater than 50 percent improvement)
- Increased customer service levels through the use of the unified physical infrastructure through which real-time analytics enabled better building management at a lower cost
- Enhanced the Panduit brand by providing a building that serves as a training center and case study for visioning, executing and continuous improvement
- Improved employees’ attitudes by creating a healthy, contemporary, connected place to work that has employees excited about coming to work
- Increased global communication and collaboration through effective use of technology to communicate and bring employees together
- Health and safety and business continuity were also positively impacted

**Planet**

Operating gains:

- Achieved LEED Gold certification
  - Sustainable site (9 out of 14 points)
  - Water efficiency (4 out of 5 points)
  - Energy and atmosphere (7 out of 17 points)
  - Materials and resources (7 out of 13 points)
  - Indoor environmental quality (13 out of 15 points)
  - Innovation and design process (5 out of 5 points)
- 23 percent below ASHRAE 90.1 2004 base design
- 30 percent increase in outside air over ASHRAE 62.1, 2004
- Reduced energy consumption (electricity average cost/SF US$1.01)
- Reduced energy consumption (gas average cost/SF US$0.02)

**Profit**

ROI of five years for all building systems and efficiency gains:

- Reduced cabling costs by greater than 10 percent
- Reduced outlets by 25 percent
- Reduced IT space by 67 percent
- Increased staff productivity up to 30 percent
- Reduced reconfiguration costs up to 20 percent

**Project Team**

FM Project Manager.................Darrin Norbut, Associate AIA, LEED
Green Associate, Director Real Estate
& Facilities, Panduit Corporation

Kevin Hoffmeyer, MBA, LEED
Green Associate, Sr. Manager Facilities,
Panduit Corporation

Architect/Interior Designer...............Cary Johnson, Gensler, Chicago
Contractor.............................Power Construction
Furniture Manufacturer(s)....................Haworth
Furniture Dealer(s)..........................Kayhan International
Furniture Installer(s)..........................ISI
Consultant(s)..............................AEI Affiliated Engineers Incorporated
Location of Project.............................Tinley Park, Illinois
Pfizer Global

Pfizer is a global pharmaceutical company with over 110,600 employees. The company is based in New York City with research headquarters in Groton, Connecticut.

The Challenge

Pfizer needed to completely change its workplace environment to become leaner, more competitive, more productive and better positioned to attract the new workforce. The mandate to reduce corporate costs and footprint was counterbalanced with the need to increase knowledge worker productivity. Pfizer’s goal was to reduce its footprint by 30 percent and convert to a new workplace design and standards that include new policies on unassigned workstations. Pfizer needed to redefine work, give control to colleagues by providing choices about where and how they work when they chose to be on-site, and promote a cultural change in the workforce to a flex work style.

Pfizer’s global research and development headquarters in Groton/New London is comprised of two campuses on either side of the Thames River. The consolidation of New London colleagues onto the Groton campus was to occur without adding new buildings or adding temporary facilities. Savings was to be achieved through reduction in space and operating costs and enhancements to productivity. The goal was to vacate New London by the end of 2011, but the schedule was accelerated during the design phase to mid-2011 to accelerate savings associated with the sale of the New London campus, an approximate 761,000 square foot property comprised of three 6-story tower buildings.

The Solution

Pfizer’s consolidation strategy included a plan to widely introduce flexible work styles in order to support work-life balance and aid in footprint reduction. To successfully implement this change, Pfizer incorporated a philosophy to redefine work and facilitate a cultural change in the workplace to the flex work style to promote greater teamwork, collaboration and performance while reducing operating costs and increasing productivity.

Understanding the profile of knowledge workers and the impact on space planning was critical to the process. Behavior benchmarks and the amount of time and types of activities knowledge workers are typically engaged in during the course of the day were analyzed. How knowledge workers learn and share information and the types of spaces required to support knowledge worker productivity were also examined.

The process involved identifying buildings with additional capacity without renovation and buildings to renovate to flex work environments. Programming sessions with New London involved 24 business units representing 3,200 colleagues. There were three different methods used for research and data collection during the process: interviews, surveys and observational studies.

The transformation of the Pfizer workplace required a conversion from a 200,000 square foot traditional dedicated office environment to an open, flexible collaborative environment where space is unassigned and allocated by utilization not by head count. Pfizer identified build-

Impact to Business Strategy

- Pfizer’s ability to stay competitive in the global marketplace directly relates to the ability to accelerate the pace of knowledge work by increasing productivity and innovation.
- Global competitiveness requires mobility, and the way we think about the design of corporate facilities has to incorporate disposability.
- Primary function of a workplace is to be a venue to promote face-to-face collaboration, and build culture and personal networks; aligning work settings with the most productive work activities will provide the greatest return on investment.
- The Pfizer B260 project successfully served as a 200,000 square foot flagship project for the new culture as a result of the Pfizer/Wyeth merger.

Results

People

- Ability to attract and retain new talent; the next generation of knowledge workers.
- Treats colleagues with respect; they determine what their work processes and work style require.
  - Provides choices in how colleagues work, including flexible working, remote work and telecommuting.
  - Provides choices where colleagues work while on-site, including private spaces, collaborative spaces, social areas and work spaces.
- Encourages social interactions and promotes collaboration, innovation and synergy.
- Flex work enhances corporate loyalty and commitment.

Planet

- Access to natural light provided to every workspace.
- Save on printing, paper and other resources by supporting digital storage.
- Reduction in carbon emissions and energy use.
Profit

- This transformative process resulted in a significant cultural change that was led by the site leadership.
- Improved space utilization (the typical knowledge worker spends less than 50 percent of their time in an office/workstation).
- Reduced portfolio/corporate footprint, with this transformation process resulting in a 50 percent reduction in square footage per person.
- Increased density to foster innovation, social interaction, networking and collaboration.
- Reduced operation expenses.
- Promotes flexibility and productivity as work processes change.
- Positions business units to quickly respond to staff changes.

Project Team

FM Project Manager..................Gary C. Annino, Director Pfizer Global Operations-Facilities Solutions for the Americas
Architect/Interior Designer.............The S/L/A/M Collaborative:
  Robert Pulito, AIA, Project Executive
  Terri Frink, IIDA, Principal Interior Designer
  Monika Avery, IIDA, LEED AP – Senior Interior Designer
  Fred Saehrig, AIA – Senior Project Architect
Contractor..........................................................AZ Corporation
Furniture Manufacturer(s)..................Herman Miller
Furniture Dealer(s).................................OFI Contract Interiors
Consultant(s)........................................VanZelm Engineers
Location of Project.............................Groton, Connecticut, USA
Second Floor Plan
Plantronics Ltd.
United Kingdom

Plantronics is a world leader in personal audio communications for professionals and consumers. The company headquarters is located in Santa Cruz, California, and it has 3,000 employees globally. This case study is focused specifically on the UK facility.

The Challenge

The main challenge for Plantronics was to enable its staff to work smarter, giving them the freedom, tools and environments to work where and when they are most productive, in both a cost-effective and environmentally respectful way. The plan was to redesign the current UK facilities to create a more effective working environment in which staff was more comfortable and more productive. Additionally, Plantronics wished to optimize the physical space it owned and reduce the footprint, if appropriate. In undertaking these two major tasks, Plantronics was also challenged to redefine its working policy to increase employee satisfaction and attract and retain talent.

The project began by employing independent workplace effectiveness strategists Leesman, who performed a workplace satisfaction survey across all of Plantronics employees based in the UK office. This gave Plantronics a snapshot of its employees’ satisfaction and engagement with the work settings provided for them. The analysis also provided detailed satisfaction data across multiple areas, including physical aspects, such as seating, desk facilities, meeting rooms, computer equipment, informal work areas and personal storage space, and also more intangible factors, such as noise levels, natural light and air quality.

The Leesman index survey was the starting point and enabled Plantronics to get a detailed insight and analysis of its employees’ satisfaction and engagement with the workplace. This provided the foundation on which Plantronics designed and created an effective and innovative workplace space that responds to employees’ needs and supports their productivity.

The Solution

As a result of the Leesman survey, Plantronics was able to redesign its offices to meet the exact needs of its employees. In doing so, the company reduced its physical footprint and created an inspiring, designed space to work. The results showed that employees needed four different work spaces that were divided into zones:

- Concentrate, for focused, individual work
- Collaborate, for stimulating group sessions
- Contemplate, for recharging batteries and re-energizing
- Communicate, for collaborating with others either virtually or face to face

Plantronics also implemented an EMEA-wide “Smarter Working” policy to give employees the freedom to work from any location and supported this policy with an internal interactive e-learning program developed by e-Work.com, to ensure that all employees are equipped with the right knowledge, tools, resources and confidence to work and collaborate successfully from wherever they may be. As a result, Plantronics now has 40 percent of its EMEA staff working on a flexible basis and 53 percent of its UK staff.

To enable employees to work smarter and more efficiently, Plantronics made several changes, including optimizing its network and upgrading the wireless; implementing a full spectrum of collaboration tools, including PC soft phones with headsets, across the business; using online presence indicators to indicate availability, instant messenger and desktop sharing, all of which improve productivity. By using its latest audio headsets and installing the most up to date audio and Web conferencing facilities and wireless interactive whiteboards, employees can communicate more efficiently.

Plantronics strives to be environmentally responsible and is proud to have been able to reduce its environmental footprint with the new office redesign, including reducing its physical server count by 60 percent, reducing its data center power costs by 40 percent and reducing its printer count by 90 percent.

Impact to Business Strategy

The initial impact to business strategy has been extremely positive; Plantronics staff are now living and breathing the vision of smarter working. This enables everyone in the company to truly understand and communicate passionately about this way of working and the technology needed to do so.

As the project is still very new, Plantronics will be measuring the full impact over the next 12 months.

Results

People

- Expectation of 5 percent increase in employee engagement
- Project currently underway to measure productivity measurement linked to smarter working and engagement.

Planet

Using new heat recovery system will help to reduce utilities cost by up to 40 percent and be 45 percent more fuel efficient.

Profit

- Possible first year saving on utilities, rates and maintenance contracts of £179,000
- 11 percent reduction in absenteeism, down to 2.7 percent
- Overall reduction in employee relations issues

Project Team

FM Project Manager.................George Coffin MBE and Hazel Reason MBIFM- Plantronics

Architect/Interior Designer..............................................................Maris LLP
Contractor.........................................................................................Maris LLP
Furniture Manufacturer(s)............................................................OrangeBox and Techos
Furniture Dealer(s)...........................................................................Office Portfolio
Furniture Installer(s)...............................................................OrangeBox and Office Portfolio
Consultant(s)...............................................................................Magenta, Crosscom (acoustic consultants)
Training Provider............................................................................e-Work.com

Location of Project..............................................................Wootton Bassett Wiltshire, UK
Royal Bank of Scotland
United Kingdom

Royal Bank of Scotland is the largest banking group in Scotland and operates a wide variety of banking brands, offering personal and business banking, private banking, insurance and corporate finance throughout its operations located in Europe, North America and Asia. It was founded in 1727 and has headquarters in Edinburgh, Scotland, United Kingdom.

The Challenge

Royal Bank of Scotland has 5,200 properties and 38 million square feet in 53 countries, supporting 142,000 staff. The challenge to the property and facility management team, set back in 2005, was for the bank to use this space better and get more out of its portfolio; to encourage staff to work more efficiently and effectively; and to save energy.

The Solution

The solution was to introduce intelligent working (RBS’s term for agile or flexible working). The vision was to bring space, technology and people together; optimize space; and create flexibility and choice, thus delivering benefits to people, the business and the environment. The key principles were as follows:

• People would have a team zone within a building where they come to work with other members of their team when they need to.
• People would have access to a variety of shared spaces located close to their team zone that are equipped and maintained to enable people to be as effective as they can possibly be. People use these spaces as they need them and release them for the use of others when they are not using them.
• People would be able to access their applications, data and files in their zone and be able to receive and make telephone calls from the locations in which they work.

Once an initial assessment (with empirical evidence garnered from workplace utilization surveys) had been made, the first step was to find pilot groups to trial IT, telephony and space solutions, and also the workplace utilization surveys. Once an initial assessment (with empirical evidence garnered from workplace utilization surveys) had been made, the first step was to find pilot groups to trial IT, telephony and space solutions, and also the workplace utilization surveys. Once two key pilots had been completed, the first large-scale deployment started in 2007. By 2009 12,900 staff in the UK (nearly 20 percent of its UK workforce and 9 percent of RBS’s global staff) was introduced to the concept, and the first global engagements were started in 2009, with projects in Asia and the US, followed by India and EMEA in 2010 and 2011.

Impact to Business Strategy

As a result of the introduction of a new way of structuring the way RBS allocates cost to its businesses for space, this has brought a change in emphasis, with business units now seeking intelligent working as a means of improving efficiency: intelligent working allows for greater staff mobility and the ability to accommodate rapid headcount change. This introduction of cost allocation meant that the different parts of the business have started to focus on the effectiveness of space they use, and what they really need. It encouraged them to look at reducing space by working differently.

The success of the intelligent working program (and any other change management program) is not indicated by post-occupancy evaluation statistics alone, but also in the fact that sharing ratios have gradually increased since the start.

From a facility management perspective, the introduction of intelligent working has meant a much more hands-on, proactive approach. Where-as teams previously stocked up their own stationery cupboards and put paper in the printers, this is now done centrally. Customer liaison people on all floors walk the floors and make sure everything is clean, tidy and available for use.

Results

People

Intelligent working includes flexible working patterns, improved mobility and enhanced environments, all of which give staff more control over their work style and lifestyle and have improved staff attraction and retention at RBS, which was a key business imperative.

For both Aldgate Union and Bankside, post-occupancy evaluation three months after move-in revealed that more than 80 percent of people believed intelligent working had a positive or neutral effect on their work performance, while 75 percent felt that the new environment and facilities were the same or better in supporting work activities than before.

Planet

The introduction of intelligent working has boosted the bank’s sustainability credentials. The total amount of energy used in RBS buildings (mainly from electricity and gas) fell by 6 percent in 2010 compared to 2009. And CO₂ emissions, which predominantly came from energy use, also dropped by 6 percent — part of which can be attributed to the intelligent working program.

Profit

Financially the changes have measured up. In Aldgate Union, for example, the introduction of intelligent working has resulted in a 23 percent reduction in operational cost compared to the traditional ways of working, and there has been a 22 percent cost avoidance in capital investment.

Project Team

FM Project Manager............. Tim Yendell, head of intelligent working programme, Royal Bank of Scotland
Consultant(s)..............................Karen Plum, Director of consulting, Advanced Workplace Associates
Location of Project.........................London and Edinburgh, UK
Royal Philips Electronics NV
Global

Philips is one of the largest electronics companies in the world. The company employs 119,000 people in more than 100 locations globally, with headquarters in Amsterdam, Netherlands. For Philips, innovation is central to the business model. Products range from LED lighting to Senseo coffee makers, health care patient monitors to shavers — all designed to simply make a difference to people’s lives. Philips celebrated its 120th anniversary in 2011.

The Challenge

The way we work is changing. Virtual teaming with multidisciplinary experts from all over the globe has become a common practice. New generations bring in new ways of working with social media and a more flexible approach of the workplace. There is an increasing need for the right work-life balance, which requires more flexibility in when and where we work. Work is what you do, not a place to go.

In a company like Philips, it needs the right people working in the right way: they need easy access to knowledge; they need to collaborate on new ideas easily; and they need to work in an environment with the right tools and attract highly skilled staff.

The office environment within Philips needed to be a workplace that would:

• Meet the needs of the employees and enable teams to work effectively to shorten time to market and facilitate growth of the company.
• Attract new talent through an inspiring and engaging work environment.
• Help employees to be productive and get the best out of themselves.

The Solution

In 2006, Philips launched the “Workplace Innovation Program” (WPI) to create a great place to work: an environment that helps employees be more productive, inspired and creative. Workplace innovation is based on three pillars: people, place and technology.

The people aspects are based on new ways of working, including output-based performance management, more flexible labor agreements, management by trust instead of control and empowerment of the employees.

The place aspects are driven by activity-based working: choose the right work setting that fits the activity you plan to do. A range of different work settings was designed (e.g., open space desks for nondemanding tasks, enclosed work settings for concentrated tasks and telephone calls, break-out areas for informal meetings and enclosed meeting rooms for more formal or confidential meetings). All work settings are shared. No one has his or her own room. Some desks are assigned due to information and communication technology (ICT) or medical reasons. An average sharing ratio of 1.3 has been applied, taking into account the large number of back office workers. The technology aspects include state-of-the-art ICT that enables employees to work anytime anywhere and creates access to the Philips IT servers from home or any other locations outside the office.

The program was initiated and led by Philips corporate real estate, but it quickly realized that this transformation would need an integral approach with expertise from IT and HR. Together, they created an holistic approach with the three disciplines represented in the WPI program management office. Change management is key in making a mind shift toward more flexible, activity-based and output-based working, and for that reason, an emphasis was placed on communication and training employees so they could be prepared for the change.

Impact to Business Strategy

For Philips, innovation is central to the business model, and innovation is driven by collaboration, communication and easy access to knowledge. The WPI program supports these drivers by creating the right work environment.

Philips company values are “Eager to win, Take charge and Team up to excel.” To support these values and facilitate growth, the work environment should be flexible and engaging so employees can be productive and inspired.

Measuring the impact of the WPI program is not easy, but pre- and post-move workplace innovation surveys were introduced.

The annual Philips employee engagement survey asks questions about how proud employees are of the company, the way they are managed and inspired. The WPI program has added an additional question to the annual survey: Is your working environment energizing and inspiring? We want to know whether our people feel that in the new environment they feel more content at work — that they are making a difference. Since the program started, we have seen as much as 20 to 40 percent uplift in scores on a 100-point scale in this area. And this trend is confirmed by our more detailed pre- and post-move WPI surveys.

Results

People

The WPI program has increased employee satisfaction of WPI locations by 20 to 40 percent on a 100-point scale. They have started a research study on key performance indicators (KPI) for productivity; results are expected at the end of 2011.

Planet

With the WPI program, the carbon footprint was reduced significantly, but data is not yet available on the reduction of greenhouse gas emissions or energy savings.

Profit

The expected cost savings after implementing 35 projects worldwide is about €28 million per annum. The average return on investment is less than four years.
Project Team

FM Project Manager.................. Several RE/FM employees have led the roll-out process by region (EMEA, APAC, NAM, LATAM)
Architect/Interior Designer.............. Multiple architects have contributed to the design of the WPI locations globally. Philips Design and DEGW were involved in the initial WPI Design Guidelines.
Contractor................................ Multiple contractors are contracted.

Furniture Manufacturer(s).............. Multiple furniture manufacturers are involved.
Consultant(s).......................... Several project management consultants are hired, Accenture for Change Management Toolkit
Location of Project.................. 35 projects (16 finished) around the globe, including Shanghai, Dubai, Bangkok, Hong Kong, Sao Paulo, Bogota, Andover (US), Stockholm, Moscow, Lisbon, Amsterdam, Brussels.
**SCAN Health Plan**  
**United States**

SCAN Health Plan®, a Medicare Advantage plan serving the needs of more than 128,000 members in California and Arizona. Today, SCAN is the fourth-largest not-for-profit Medicare Advantage health plan in the United States. Founded in 1977, SCAN is headquartered in Long Beach, California.

The Challenge

- Constant changes in federal regulations causing uncertainty in workforce numbers
- Rapid growth in customer base and staff, while at the same time decrease in health care revenue from the government
- Rapid expansion into new areas
- Attracting and retaining key talent
- Corporate facility was at capacity
- The workplace did not meet the company’s vision and business strategy
- Workforce support costs were high and growing

The Solution

The facilities team took leadership in aligning itself with human resources (HR) and information technology (IT) departments to spearhead a workplace strategy. This strategy was referred to as “The AWESOME Project,” which stands for alternate workplaces engaging staff and office management efficiencies (AWESOME). The project involved three major changes made at SCAN:

1. A flexible work program that now enables hundreds of employees to work from home, at other locations or anywhere in the building;
2. An aggressive redesign and repurposing of the workplaces within the company’s corporate headquarters facility; and
3. A fundamental redesign of the process by which individual and team workplaces were configured and provisioned.

The AWESOME team realigned the workplace strategy with SCAN’s 2012 vision and created a new flexible, agile and sustainable work environment.

The team developed a unique design concept to replace the traditional office cubicle. The design philosophy reflects SCAN’s corporate culture expressing openness, collaboration and teaming. It includes “creative” spaces transcending traditional offices with more of a home office environment. The staff has freedom to work anywhere within “townhouses,” touchdown areas, phone booths, collaboration parks, and teaming and huddle rooms.

The group has complete flexibility to move furniture components quickly with no attachments to panels and minimal need for outside vendor services. They created the “townhouse” idea which is a “home” for four to six employees; the sizes range from 16x16 to 16x24 feet. Townhouse “residents” choose their own furniture (from an approved list) and its placement within the townhouse, displaying their designs on an interactive whiteboard (SMARTboard). As seen in this YouTube video, www.youtube.com/watch?v=k1A9AdVd0Ks, using Steelcase Post and Beam product, a townhouse can be reconfigured immediately.

For the call center, SCAN used the Kimball Office Hum product. The special requirements of SCAN’s call center were met by Kimball Office’s innovative HUM product. A 120° hexagon layout optimized what customer service demanded: accessibility and collaboration.

Impact to Business Strategy

This project shows that a facilities team can have an impact on corporate strategy, on corporate productivity and cost savings. AWESOME has laid the foundation for SCAN’s entry into new markets by putting in place a more efficient facilities change process and creating a workplace that attracts and retains employees. AWESOME has changed the way SCAN looks at its business model for expansion.

Perhaps the most important point of all is that AWESOME has been a team effort. Right from the beginning, representatives from workplace solutions, human resources and information technology came together to produce a unified vision and action plan.

Results

**People**

- Improved employee attraction and retention
- 18 percent employee productivity gain
- Increased facility help desk customer satisfaction rate by 3 percent
- Zero workers comp claims for home office workers

**Planet**

- Reduced greenhouse gas emissions by eliminating 650,000 annual car miles on California freeways
- Mobile paperless strategy resulted in recycling 25 tons of paper

**Profit**

- Saved $7 million (US dollars)
- Achieved 40 percent return on investment
- Reduced facilities staff by 25 percent
- Increased density of occupation by 25 percent

Project Team

- **FM Project Manager**.................................Diane Coles, Director, Workplace Solutions
- **Architect/Interior Designer**.........................Manuel Urquiza, Principal, Urquiza Group Inc.
- **Contractor**..............................................Inner Space Constructors
- **Furniture Manufacturer(s)**..........................Steelcase
- **Furniture Dealer(s)**.................................Kimball Office
- **Consultant(s)**..........................................Charlie Grantham, Founder, Community Design Institute

**Location of Project**.................................Long Beach, California
Sony Electronics Asia Pacific (SEAP)  
Singapore

Based in Singapore, Sony Electronics Asia Pacific Pte. Ltd. (SEAP) is a subsidiary of Sony Corporation. It serves as the regional marketing and corporate headquarters for Sony’s consumer as well as broadcast and professional products in Asia Pacific, Oceania, Middle East and Africa regions.

Since establishing its presence in Singapore in 1973, Sony has grown steadily over the years to become a leader in the consumer electronics market. Today, the operations in Singapore include regional headquarters functions, sales and marketing, engineering and manufacturing, logistics, IT, treasury services, as well as entertainment. With a cumulative investment of over $2 billion (Singapore dollars) and supported by a dedicated group of 1,900 employees, Sony is strongly committed to enhancing its operations and contributing to the local economy.

In its regional marketing role, the company develops the regional management strategy and oversees a common sales and marketing platform across Sony’s sales companies in the region. It ensures efficient regional operations by engaging in business process re-engineering and information systems data management. It also supports the sales companies with marketing strategies, customer communications marketing, marketing communications, and market research and design services.

In its regional corporate headquarters’ role, the company facilitates the smooth running of Sony’s business activities by providing strategic support in key areas including accounting and taxation, compliance, corporate communications, customer service, environmental and facilities management, human resources and information systems.

The Challenge

Sony was facing a 20 percent increase in rent during 2011. Additionally, the FM team uncovered that only 80 percent of the office users were satisfied with the current office conditions. Lastly, the results from a recent seat utilization survey confirmed a 50 percent utilization rate, leaving 50 percent underutilized.

This case study demonstrates how Sony Electronics Asia Pacific used a workplace strategy to overcome these significant challenges without creating any dissatisfaction from end users or interruptions to the operation.

The Solution

To address the identified challenges, the FM team introduced the F.R.E.E (“Flexible, Relaxing, & Enjoying Environment”) office concept, which incorporates hot-desking and free address options. F.R.E.E. allows employees to work anywhere within the office. In addition they have also introduced a one-day “Work@Home” program.

The office environment has significantly changed. Sony has migrated from conventional linear workstations to more dynamic honeycomb-type workstations. The workstations ratio is at 75 percent, yet seats can accommodate 100 percent of the head count, which will support peak periods.

The FM team designed a number of work spaces that support various activities and increase the enjoyment for the employees to work, eat and play. For example, the “pantry” was converted into a vibrant staff lounge and touchdown corners were created to support higher levels of flexibility for the staff.

Impact to Business Strategy

The FM team was able to successfully convince management to reduce the real estate to counter the increase of rent and optimize the underutilized workstations. By implementing F.R.E.E., the FM team was able to reduce real estate costs without decreasing satisfaction or interrupting operations.

Although space has been reduced, it does not mean that F.R.E.E office does not cater for future expansions. With the introduction of free addressing and the hot-desking concept, it is possible for the office to expand without increasing real estate space.

Results

People

As a sales and marketing company, supporting the sales team in the field was of utmost importance to the FM team, and through the implementation of F.R.E.E., the workplace better supports the needs of the sales teams and their need for flexibility.

The Sony management team also changed their thinking and now allows employees to work in a more flexible way.

Planet

As a result to the reduction of space, the company has successfully reduced the current CO₂ emission by 100 tons per year.

The ceiling lighting has been relocated to cater to individual workstations versus the corridor and unproductive areas.

The carpet has been replaced with an environmentally friendly brand to reduce the carbon footprint.

The one day a week “Work@Home” program also helps in cutting the commuting carbon footprint for all employees.

Profit

The F.R.E.E office project has resulted in a 15 percent reduction of space, allowing for Sony to maintain the same monthly rent.

Project Team

<table>
<thead>
<tr>
<th>Position</th>
<th>Name</th>
</tr>
</thead>
<tbody>
<tr>
<td>FM Project Manager</td>
<td>Noriaki Yamada, Assistant GM, CFM, CFMJ, SEAP</td>
</tr>
<tr>
<td>FM Project Asst. Manager</td>
<td>Victor Lam, Assistant Manager, CFM, FMP, SEAP</td>
</tr>
<tr>
<td>Architect/Interior Designer</td>
<td>Mr. Hitoshi Yamamura, Design Manager, Takenaka Corporation</td>
</tr>
<tr>
<td>Singapore Office (Rollout)</td>
<td>Ms. Jessica Tay, Marketing Director Db&amp;b Pte.Ltd.(Pilot)</td>
</tr>
<tr>
<td>Contractor</td>
<td>Mr. Kawada, Project Manager, Takenaka Corporation Singapore Office</td>
</tr>
</tbody>
</table>

Contractor..................................Ms. Jessica Tay, Marketing Director Db&b Pte.Ltd.(Pilot)
Southwark Council
United Kingdom

The London Borough of Southwark is a borough in southeast London, England. It is directly south of the River Thames and the City of London, and forms part of Inner London.

The Challenge

In 2007, the London Borough of Southwark (LBS), a local council, embarked upon an ambitious program to modernize and improve public services. Serving a very diverse population of clients and customers, from vulnerable and/or disabled individuals and families to wealthy business investors and industrialists, LBS wanted to be recognized as an authority that excels in customer care. The council also sought to adopt more sustainable working practices; increase efficiency of staff traveling throughout the borough; enable Southwark Council to be viewed as a local employer of choice; provide more supportive arrangements for democratic government; and foster staff motivation, enhancing all occupants’ ability to do their best work.

LBS employees were originally housed in approximately 20 buildings throughout the borough, consuming large amounts of time in travel between locations. Existing workplaces were comprised of predominantly enclosed office accommodation, and employees relied heavily on dedicated file storage and personal printers. Work styles varied dramatically between teams, as some departments spent large portions of time away from the office and others were required to be office-based and required specialist equipment. Space utilization studies of selected buildings revealed that work spaces were empty 60 percent of the time, on average. Employees’ overall satisfaction with their office environment was low, at an average of 41 percent, and they indicated that more quiet, private spaces were needed. Air quality, temperature control and day lighting were often unsatisfactory, and significant challenges accessing sufficient storage arose for several teams.

To address these challenges and support the long-term vision, the council aimed to co-locate key services and rationalize the inefficient, geographically distributed and poor quality estate to accommodate more than 2,000 employees within a centralized administrative center and adopt flexible and mobile working.

The Solution

LBS procured an office building at 160 Tooley Street, with 19,040 square meters net internal area (205,000 SF), to serve as its administrative center and the catalyst to introduce modern ways of working among employees. They moved to the building in late 2009. AMA engaged stakeholders in interviews and workshops to explore opportunities and concerns regarding the new building, as well as to discuss the implications of organizational modernization. Space utilization surveys were performed in six existing office buildings to measure workstation and meeting room activity. A staff questionnaire was administered to all employees to explore workplace satisfaction and determine the characteristics of their work style. It was recommended that all employees participate in desk sharing at an 8:10 ratio and reduce storage space by more than 60 percent. BDGworkfutures designed open plan areas with sensitivity to concerns about noise and availability of space, and the council adopted a clear desk policy for personal items and files. LBS utilized a meeting room booking system and introduced the “Paper-Lite” project, comprised of new electronic storage policies. Technological support, including laptop provision, CITRIX thin client technology, VOIP software and teleconferencing equipment, was implemented to support the new ways of working. Personal printers were replaced with shared multifunctional devices. To support the introduction of modern ways of working, AMA and LBS developed a set of guidelines, “ModernISE: the way we work,” and a comprehensive change management program was devised to complement office relocation. Each department was assigned a change agent to work with the business change managers.

Impact to Business Strategy

The relocation to Tooley Street helped achieve the council’s overriding strategy to modernize and improve performance services quality. Creating an administrative center and introducing flexible working enabled LBS to rationalize its poorly distributed estate, streamlining costs and increasing accessibility. Additionally, the Tooley Street development was designed to significantly reduce carbon emissions and be fully compliant.

Results

People

The project improved employees’ work-life balance by offering more choice in selecting the most beneficial way of working. Productivity has been increased by reducing time spent on work-related travel and by enabling electronic file access and remote telephony services. Staffs are likely to have experienced increased empowerment and trust within their teams and are supported by open, flexible environments that encourage interaction. An enhanced customer experience was expected to result from the relocation, through both the improved quality and provision of more accessible and adjacent services.

This is best expressed in the open design of the main reception area where Southwark residents, business owners and visitors to the council are welcomed.

Planet

In line with the UK government mandate, Southwark Council has agreed to reduce carbon emissions by 80 percent by 2050. The Tooley Street building preserves some Victorian buildings along the street frontage, while the new building behind was designed using 60 percent glazing on the façade; double-glazed units are solar protecting and reduce typical cooling and heating demand. In addition to a biomass boiler, the energy plant consists of condensing boilers and air-cooled chillers, increasing efficiency by 10 percent. A rainwater catchment system was devised to transfer water from the roof to WC flushing. Bicycle parking spaces and showers are provided within the building, which is located in an area extremely well served by public transport: bus, underground and train.
According to the questionnaire conducted during the briefing process, employees spent more than three hours per week, on average, traveling for work, in addition to their daily commute. Nearly 30 percent of work-related travel was conducted by car and 44 percent by public transport; the building consolidation and increased accessibility provided by the Tooley Street administrative center provides the opportunity to reduce associated transport-related emissions.

Prior to the move to Tooley Street, 15 percent of employees printed more than twenty 1- to 10-page documents per day. An additional 15 percent printed between 11 and 20 documents of up to 10 pages per day. The “Paper-Lite” process undoubtedly contributed additional carbon emission savings, generated by reduced printing activity, and reduced paper waste considerably.

**Profit**

The initial investment in capital works on fitting out the new building and change and technology cost is projected to yield £39.5 million GBP in capital receipts from disposals of former office buildings. The provision of the new shared facility has generated an annual saving of £5 million GBP through the delivery of shared support services and streamlining of several corporate departments. Additional savings were made through the consolidation of offices to Tooley Street, including £250,000 GBP in energy bills that had been previously spent on older, inefficient council buildings, £260,000 GBP from streamlining office supplies and reduction in copier equipment rentals, and £72,000 GBP annual savings in taxicab expenditures. The Tooley Street building serves as a model for other LBS office buildings and for other councils; principles and best practices have been seamlessly transferred to other refurbishment and modernization exercises.

**Project Team**

FM Project Manager........................................................................................................MITIE
Architect/Interior Designer......Allford Hall Monaghan Morris (building)
BDGworkfutures (interior)
AMA Alexi Marmot Associates Ltd (reception)
Contractor...................................................... Laing O’Rourke (building)
Consultant(s)............AMA Alexi Marmot Associates (workplace strategy)
Location of Project.................................................................London, UK


Steelcase, Inc.
United States

Steelcase is a global office furniture company of over 10,000 people, based in Grand Rapids, Michigan, USA.

The Challenge

The project goal was to bring together its headquarters-based office workforce onto one campus. The project is currently underway and will be completed in the second half of 2012. While the move will result in real estate and cost savings based on the closure of a 20-year-old development facility, the real estate concerns lead to a much broader strategy. Rather than a facility project affecting culture, it may be more correct to see it as a cultural project that affects facilities. The larger opportunity comes in applying the multidimensional learnings from this period in a fresh, global business context, helping Steelcase move toward an integrated global campus. As such, the targets are behavioral-, cultural- and process-focused, including improving social interaction, supporting mobility and creating global community. The aspiration was to inspire and integrate people, as they explore and model new ways of learning and innovating.

The Solution

The Steelcase applied research and consulting (ARC) team codeveloped the strategy via a deeply participative and iterative engagement. While compression was intended, it was not the dominant objective. As in many companies, utilization of “fixed I” space was declining, while the need for interactivity and a space strategy to support it was high. Findings suggested the majority of people were already mobile much of the time. As such, the campus is being designed to support this technology-enabled mobility, while placing a far greater emphasis on collaborative space and much greater personal choice over where and how to work, while significantly reducing real estate use. Extensive workshops and online tools were critical in helping staff and management develop and embrace what is now known as the “Best Place” workplace strategy. Two major subprojects are complete to date: a work café, designed to support work style preferences, global connection and personal well-being, and highly mobile and compressed home base area for sourcing and finance staff.

Impact to Business Strategy

Supporting the well-being of its people, the global nature of social interaction and complete globalization of product development processes are all driving themes in the company. The space/technology mix in this project is intended to leverage these objectives by supporting cultural evolution and helping build new work relationships and practices. It is anticipated these outcomes will reduce cost and improve revenue. A complete measurement structure targeting traditional RE metrics to human and organizational performance metrics is underway, led by the workspace futures (R&D) team.

Results

The project is currently underway and the pre-work has been collected to support the measurement strategy that will be an ongoing process.

Project Team

FM Project Manager...............................Jim Lawler and Dan White, Directors, Corporate Real Estate
Architect/Interior Designer..............Internal and Shimoda Design Group
Contractor...............................Several depending on scale/type of project
Furniture Manufacturer(s).................................Steelcase brands
Furniture Dealer(s)..........................................................................Custer
Furniture Installer(s)....................................................Custer and internal
Consultant(s)............................................................................ARC, WSF
Location of Project....................................Grand Rapids, Michigan, USA
Telecom New Zealand

Telecom New Zealand is a New Zealand-based communications service provider, providing fixed line telephone services and a mobile network, as well as being an Internet service provider, a major Information and communications technology provider to NZ businesses and a wholesale network infrastructure provider to other NZ Communicating Sequential Processes. Telecom NZ employs around 6,500 people in New Zealand and 2,000 people in Australia.

The Challenge

Changes in the highly competitive telecommunication industry and an extensive property strategy led Telecom to reconsider how their property would support their new business model and customer approach, which involved being more in touch with customers, New Zealanders and their own people. To achieve this, a critical factor for Telecom in the selection of the building and workplace design was the community and customer perception of the company as a result of the building design, and physical environment. It was recognized that the building and workplace would demonstrate Telecom’s commitment to be better connected.

Initial property searches in Auckland were unable to yield buildings large enough to house the consolidation of 14 different leased sites in Auckland into a single low rise campus. Telecom did not want a 30-story tower that would create vertical separation; it wanted a low rise horizontal campus. Other specialized requirements, such as the ability to represent many brands that exist under the Telecom umbrella, the imminent decision by the New Zealand government that Telecom would be required to undertake operational separation (under the Telecommunications Act 2001), and the desire to have a building that invited the community to become a part of the organization, were all drivers behind the site selection.

The Solution

Telecom chose to work closely with the developer and the architect of the building they selected to make building amendments. This ensured Telecom would have a work environment that was the right size and in the right location, with the attributes it required.

Changes made to the initial building design included the addition of a glass roof connecting the four separate buildings to create a single structure with a dynamic atrium and the introduction of sky bridges and stairs linking the four quadrants of the building.

In addition, changes to the building facade were negotiated to create a contemporary feel reflecting Telecom’s brand. The ground floor has been cleared to create a public plaza that maintains contextual links to the surrounding area and supports pedestrian traffic flow. The public are invited to be a part of Telecom and experience its innovation, as well as gain exposure to the company’s inner culture.

Working floors are designed to be as flexible as possible. A repeating footprint stacks up through the buildings, and contains a great variety of meeting and work spaces. At street level, the atrium is ringed on every floor by communal spaces, such as lounges and meeting rooms.

Impact to Business Strategy

- From products and services to trusted advisor: The evolution and education of the Telecom workforce to be more knowledgeable of all Telecom products and services is a key driver in moving the business forward. The combination of atrium, sky bridge and collaborative areas will create a conduit for Telecom people to learn about other areas of the business, enabling them to better assist customers with multiple services and product lines.
- Providing advice not just product: Transformation of the Telecom culture to be more CRM-focused is a business initiative designed to get closer to customers, understand their needs and as a result be more proactive in product and service responses. Creating an environment that breaks down the barriers between Telecom and the public is an important step toward achieving this.
- Greater efficiencies: Eliminating waste by aligning the type of work settings provided to the work styles of Telecom people is a key strategy to unload excess space. By identifying the unique work styles of the four business groupings within Telecom, the design of the work environment is able to better respond to workers’ needs. This approach has resulted in about a 20 percent space savings.
- Operational separation: The imminent decision by the New Zealand government that Telecom would be required to undertake operational separation (under the Telecommunications Act 2001) impacted the property strategy. The selection of a building helped to address this concern as it is made of four separate structures linked by an atrium.
- Build trust and confidence of the New Zealand people: Telecom’s portfolio is viewed as means to show their transformation to a company more in touch with customers and one another, and to illustrate the values of the organization to the broad NZ community. Public access through the site is retained.
- A proposition to attract the increasingly skilled ITC knowledge workers: The new workplace offers a contemporary environment that features an increased number of informal collaborative areas that address a more relaxed work style prevalent in this industry sector.
- Agility to support new business models and approaches: Telecom sees growth being achieved by partnering with other organizations to overcome geography or skills limitations. The new environment addresses this need through the incorporation of project spaces that allow teams to be assembled quickly and eliminates security and Internet protocol concerns associated with accommodating external partners by strategically locating project rooms within the environment.
- Flexibility to allow multiple diverse brands to exist under a single Telecom umbrella: Telecom brand is parent to a number of others, such as Gen-i, Wholesale and Chorus. Allowing sub-brands to maintain their unique aspects is critical for the organization.
Results

People
People at Telecom have found they are much more engaged with the organization and with co-workers. The layout and shape of the building builds a strong sense of community that will be highly attractive. In addition, by adopting a dynamic work profile, employees are empowered to work in places that best suit the work they are undertaking.

Planet
The adoption of a dynamic work environment will use less space overall, reducing the overall footprint of the organization.

The building has received a 5 star Green Star certified rating from NZ Green Building Council; the interior is compliant with the new NZGBC interior rating system.

Project Team

FM Project Manager.................................................Jim Robb
Architect/Interior Designer.........................Architectus (building architect) / Geyer (workplace and property strategy) Geyer and Warren and Mahoney (Interior design)
Contractor.................................................................Mansons TCLM
Furniture Manufacturer(s)............................Multiple – Vidak workstations
Location of Project....................................................Auckland, New Zealand
TELUS Canada

TELUS is a leading national telecommunications company in Canada, with $10.1 billion (Canadian dollars) of annual revenue and 12.4 million customer connections, including 7.1 million wireless subscribers, 3.7 million wireline network access lines and 1.2 million Internet subscribers and more than 400,000 TELUS TV customers. Led since 2000 by President and CEO Darren Entwistle, TELUS provides a wide range of communications products and services, including data, Internet protocol (IP), voice, entertainment and video.

At the end of 2010, the company employed approximately 34,800 TELUS team members (33,900 FTE) across a wide range of operational functions domestically and certain functions internationally.

The Challenge

An internal self-reporting survey done in 2007 with 20,000 responses showed that 61 percent of team members considered themselves resident workers, 33 percent were mobile and 6 percent identified themselves as working from home.

However an occupancy study done the same year showed that current real estate spaces and assets were underutilized:

- Average 35 percent occupancy everyday
- 40 to 50 percent of the seats were not occupied during the course of the day, of which 20 to 30 percent were out of the office all day
- 10 to 20 percent unassigned and vacant every day

The project team found there was a huge discrepancy between the “perception” and “reality.” Therefore TELUS had an opportunity to maximize its current assets through change management and real estate efficiency. Project locations include Vancouver, Burnaby, Calgary, Edmonton, Toronto, Montreal, Ville St-Laurent and Quebec City.

The Solution

TELUS developed a “Work Styles Program” to address this challenge. A five-year plan was approved to implement the TELUS “Work Styles Program,” which is designed to consolidate the current portfolio and maximize the assets in terms of operation and capital investment.

This five-year plan is supported with an official corporate policy and incentive program for team members. Eligibility for “Work Styles” enablement benefits is dependent on leaders entering the “Works Styles Program.” These incentives include terms of reimbursement for some team member expenses if they adopt a mobile or an at-home work style. The program has set targets of 30 percent resident, 40 percent Mobile and 30 percent At Home.

The Real Estate project team, in collaboration with Human Resources and IT, will be focusing their efforts on team members affected by real estate consolidations. A detailed communication plan will be shared at each project kickoff meeting. This plan details all communication materials and features an internal website, which highlights key programs that showcase strategic advantages to delivering value to TELUS team members and Business Units in an holistic manner through cost efficiencies, productivity improvements and brand awareness. This new way of working will foster social networking, stimulate ideas and encourage collaboration. It supports the company’s corporate social responsibility objectives by responding to environmental, community and workplace well-being issues. And it is an innovative response to a workforce that is increasingly more mobile, environmentally conscious and concerned with work-life balance.

“Work Styles” is about enabling mobility and flexibility, allowing team members to work when and where they are most effective while achieving their personal work-life balance goals.

With a clear definition of each work style, the project team assesses team members’ status and the technology currently available to them, to determine the level of changes required to reach the targeted adoption of 30 percent Resident, 40 percent Mobile and 30 percent At Home.

- Resident: Works at an assigned desk in a TELUS location 90 percent or more of the workweek
- Mobile: Consistently works in a variety of locations, which may or may not include working from home
- At Home: Works from home on an established schedule for 90 percent or more of the workweek

Following discussions between the Leaders and their team members, a work style selection is made for each team member and recorded in the team member profile. Rules of engagement are also established with the entire team. To support the “Work Styles Program,” additional non-bookable touchdown workstations are provided on each floor to allow for short-term use.

Guidelines, protocols, process and support tools are provided on an internal website for team members. An instrumental support tool was to incorporate a reservation system that is accessible by team member’s computer and PDA. This allows the mobile and at home worker the ability to reserve their workstation in advance. Additional technologies are also provided; laptop, PDA, softphone, Live Meeting, instant messaging, TelePresence, etc.

Impact to Business Strategy

In order to attract and retain the best talent in the global telecommunications industry, TELUS has had to adapt to the new reality. TELUS Leaders have to learn to manage in the new flexible environment while maintaining the team spirit that makes TELUS a great place to work, as well as successfully achieve the performance and corporate goals the company sets every year. The “Work Styles Program” puts new ways to work together, sets expectations, supports new rules of engagement and considers new ways to evaluate performance.
Results

People
TELUS increased engagement and satisfaction scores as well as recruitment and retention. TELUS was noted as one of the top 100 employers in Canada.

Planet
- Reduced greenhouse gas (GHG); resulting in 3,000 kilograms reductions in GHG emissions per employee per year
- Reduced commute time; saved 160 hours per employee per year
- Global 100 most sustainable companies in the world
- Recipient of BC Hydro Power Smart Award

Profit
Forecasted real estate footprint reduction by 30 percent by 2014.

Project Team
FM Project Manager...............TELUS Work Styles & Real Estate teams
Architect/Interior Designer..............................................................Multiple
Contractor.................................................................Multiple
Furniture Manufacturer(s)........................................................Steelcase
Furniture Dealer(s)..........................................................Steelcase’s dealers
Furniture Installer(s)...........................................................Steelcase’s dealers
Consultant(s)..............................................................................Multiple
Other....................................................................................Multiple
Location of Project..........................................................Canada, Vancouver, Burnaby, Calgary, Edmonton, Toronto, Montreal, Ville St-Laurent, Quebec City
Wolters Kluwer
United States

Wolters Kluwer is a global information services and publishing company that provides products and services for professionals in the health, tax, accounting, corporate, financial services, legal and regulatory sectors. Wolters Kluwer has annual revenues (2010) of €3.556 billion, employs approximately 19,000 people worldwide and maintains operations across Europe, North America and Asia Pacific. Wolters Kluwer is headquartered in Alphen aan den Rijn, Netherlands.

The Challenge

Like many companies around the world, the transition of the work environment and work spaces has lagged significantly behind the evolution of the multitude of work styles seen today throughout many organizations. “We are living in legacy office environments that predate the extreme mobility we see both inside and outside the walls of our offices,” states David Barban, director for corporate real estate and workplace solutions.

Dave continues, “The increase in mobility has created a profound decrease in the utilization of our work spaces throughout North America and around the world. Decreased utilization suggested to us that there was excess capacity that we could recapture to generate cost savings and/or that we could repurpose into more functional and productive work environments.”

Traditionally, the CRE team used a series of standards and metrics that created a cookie-cutter approach to office design regardless of the types of work at each Wolters Kluwer site. This one-size-fits-all method had outlived its usefulness, and the new goal was to create a process that allowed the workplace solutions team to customize a workplace solution on a site-by-site basis, matching work environments to existing and future work styles, rather than the other way around.

“Until recently, the employee’s definition of shared space was a conference room. Today, cubicle sharing instead of assigned space has to become the new way of working. Team collaboration and the environment that supports it are key to the success of the new project development,” states Chuck Keel, VP corporate real estate and workplace solutions.

Part of the strategy was to allow for controlled and 100 percent voluntary remote work opportunities for qualified employees. To finalize approval for the workplace solutions program, however, the team was tasked by board members to prove “productivity wasn’t going to walk out the door” if employees were able to work remotely a couple of days per week.

Supporting this request would require Wolters Kluwer leaders to move from “line-of-site management” to “output-based performance management practices.” This shift was beyond the core competencies of a small corporate real estate department, and HR would need to become a critical partner to ensure a successful launch.

The Solution

@WorkAnywhere (@WA) is the internally branded workplace solutions strategy for Wolters Kluwer and addresses the challenges presented above. It is a four-prong strategy that incorporates a top-down and a bottom-up approach to office design and allocation.

Traditionally, the CRE team would go to the CEOs/CFOs of each business unit to gather the business requirements for a build out — a truly top-down only approach. With @WA, the team now incorporates a bottom-up approach, involving employees and midlevel management in a comprehensive assessment of space needs/requirements in an effort to produce a customized office environment that will optimize performance and productivity.

@WorkAnywhere’s four-prong strategy includes:

1. Functional space design: Customized, intelligent design that most effectively supports work flows and work styles
2. Remote work: Empowering employees to work two to three days per week from home and two to three days in the office, as work activities permit
3. Shared environments: Remote workers do not have dedicated work space but have access to a shared environment that consists of a multitude of design elements to support the variety of work styles in effect throughout each work day (i.e., quiet zones, collaborative bullpens, huddle rooms, lounges)
4. Sustainability: From construction practices to procurement of furniture made from recycled material, to reduced carbon emissions for remote workers, sustainability hits all aspects of @WA

The team conducts @WA assessments on a site-by-site basis, usually in anticipation of impending lease expiration. Assessments start with a time utilization study (TUS) to gauge the space that is used the most and space that could potentially be repurposed or disposed of at lease expiration. Following the TUS there is a combination of focus groups, surveys, observational interviews, culture studies and other activities that help the team understand the work flows and work styles at play within each facility. At the end of each assessment, a “Findings and Recommendation” report is generated that details the proposed functional space design solutions, as well as remote work and shared space opportunities.

The team successfully collaborated with HR to create a productivity framework that is a requirement for all remote workers. In order for an employee to qualify for remote work, the employee and their manager must satisfy three criteria:

1. Employee’s role within the organization must pass an HR certification process
2. Employees must establish productivity metrics that are reviewed quarterly by their managers
3. Employees and managers must attend a remote work training class that was developed in collaboration with HR

Impact to Business Strategy

The first @WorkAnywhere implementation began with a pilot in New York City. The CRE team wanted to consolidate two properties, but did not have quite enough capacity in the larger facility, so they designed a pilot space that housed an 8,000 square foot shared environment reserved only for remote employees. It was built out at a 2.5:1 ratio of people to work spaces that could accommodate approximately 90 employees. The increased space efficiency created the additional capacity needed to proceed with the consolidation of the two facilities that would ultimately yield a $1.2 million (US dollars) year-over-year savings for Wolters Kluwer.
Technology deficiencies identified during the assessment were incorporated into the new shared space, which not only promoted participation in the remote work program, but also improved collaboration, communication and productivity. The productivity framework and metrics concept was proven successful and had very positive results and feedback from almost all participants and managers.

Some employees reported improved and faster communication with remote employees as the result of an increased use of instant messaging. This was particularly encouraging given the initial concerns raised before the pilot that remote work would make employees hard to find and out of touch with those in the office. Some managers have been told by newer employees that the ability to work from home a couple of days per week is something they could not find at any other company, making @WA a “retention handcuff” and thus promoting greater attraction and retention for high-quality employees.

One final, significant strategic benefit that @WA has provided is enhanced business continuity planning. In recent years, blizzards, hurricanes and floods have underscored and helped promote the benefits that remote work creates by being able to continue full business operations without having to go to a brick and mortar facility. Since the advent of @WA the corporate real estate team has also partnered with risk management to incorporate the remote work policies and procedures into the fabric of disaster and business continuity planning.

The development of the @WA program and process has been a multiyear journey, and WK feels it is still in the beginning stages of the formal rollout and implementation. To date, it has conducted full assessments on five other locations and has multiple implementations of the @WA recommendations currently underway and scheduled for completion in late 2011 and early 2012.

**Results**

**People**

Responses from the NYC pilot and its subsequent expansion have been overwhelmingly positive. The team surveyed both participants and the internal customers with whom they interact on a regular basis, and have interviewed managers that participated in the @WA process and/or who have remote workers reporting to them. Below are some highlights from those results:

- 64 percent of participants reported an increase in productivity in the new @WA environment
- 92 percent of respondents said they agreed or strongly agreed that the @WA approach better fit their work and personal needs
- 100 percent of respondents reported being satisfied or very satisfied with their @WA experience
- 24 percent of internal customers reported increased levels of responsiveness from @WA participants (remaining 74 percent reported responsiveness as staying about the same)
- 68 percent of respondents reported increased levels of job satisfaction after joining the @WA program
- A department responsible for trademark researching reported improvements in both qualitative and quantitative productivity metrics for all participants, as well as reduced overtime during the same period

**Planet**

There are sustainability impacts in virtually all phases of the @Work-Anywhere program: from construction and demolition practices to the procurement of furniture to the reduced carbon footprint associated with a remote work strategy.

**Construction/demolition practices:**

- Low VOC paints and adhesives
- Carpet made from recycled material and other sustainable floor products
- Energy-efficient appliances and light fixtures
- Light sensors with automatic shut-off

**Furniture procurement:**

- New workstations are constructed with more than 30 percent recycled material
- New workstations are more than 80 percent recyclable at end of life
- New filing cabinets are more than 95 percent recyclable at end of life
- Recycled and refurbished furniture is used in capital constrained projects

**Remote work:**

- Remote workers are commuting two to three days less per week and from work, lowering carbon emissions
- For every 100 employees working remotely, CO₂ emissions are reduced by over 200 tons per year

**Profit**

Cost reductions resulting from higher employee density (i.e., less square footage per person) and lower overall square footage requirements are contributing significantly to bottom line profitability.

- Annual bottom line lease cost savings for @WA implementations will exceed $1.8 million (US dollars) by mid-2012; at a 20 percent margin that is equivalent to generating over $9 million (US dollars) in revenue per year
- Shared space environments built at 2:1 or 2.5:1 ratios reduce space requirements by 50 to 60 percent
- 22 percent reduction in cost per head metrics for @WA implementations
- Smaller overall space requirements have led to lower capital requirements for new build outs

**Project Team**

FM Project Manager...David Barban, Director of Finance & Workplace Solutions;
Chuck Keel, VP Corp Real Estate & Workplace Solutions;
Kevin Bertone, National Facilities Director;
Erin Bush, Sr HR Manager;
Jeff Nelson, VP Human Resources

Furniture Manufacturer(s)...Steelcase
Location of Project...Steelcase

Chapter 10    Case Studies From Around the World

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Yell Group
United Kingdom

Yell is a leading international directories business operating in the classified advertising market and providing quality business leads and marketing solutions, predominantly to small and medium-sized enterprises. Its products are available through printed, online and local search, and mobile-based media, and in the UK its principal brands are yell.com, Yellow Pages and 118 24 7. It employs about 3,000 people in the UK, including approximately 700 on-the-road sales consultants (who are the subject of this case study).

The Challenge

The utilization of Yell’s 20 regional sales offices throughout the UK had dropped to about 25 percent due to the adoption of mobile and laptop technology, as there was little need for sales consultants to visit the offices other than to collect stationery that they had ordered online and to attend team meetings.

Monitoring showed that offices were busy on Mondays, but much less so for the rest of the week. There was a clear case for change.

The Solution

In February 2010, Yell became aware that Regus had expanded its network of business centers into suburban areas, close to where people live, creating hubs for home-based and mobile workers. The Regus Businessworld membership program allowed member’s access to flexible low-cost workplaces, office facilities and meeting rooms on demand in more than 1,000 locations worldwide.

Instead of continuing to use a network of underutilized Yell sales offices, Yell employees could use any of Regus’ business centers across the UK for the same purpose. Yell issued its sales force with Regus Businessworld gold cards that allowed the company to close all 20 offices (which supported 700 sales staff), while still offering its face-to-face consultants a place to go and an office premises to conduct meetings. Strong change communication was a key element in the solution’s success.

In May 2010, Yell began to trial the solution at its Watford, UK, sales office (80 staff, 10,000 SF) where the lease was due to expire. With just two weeks’ notice, Yell closed the Watford office and took the entire Watford sales team to the nearest Regus business center (less than a mile away) and gave each sales consultant a Regus Businessworld gold card, which allowed them unlimited walk-in access to Regus’ business lounges and cafes, and explained how to use them. Throughout the trial, regular weekly updates with the sales team enabled instant feedback. Minor irritations or problems could be easily rectified, of which Yell used the feedback to produce Q&A’s and guidance for other sales teams. The benefits for the team were immediate, alleviating long commutes and highly congested routes.

Impact to Business Strategy

The innovation reflects the changing work styles of Yell’s regional field sales teams, resulting in their less regular need for office premises to work from. Driven in part by continual developments in technology over the last 12 to 18 months, Yell’s sales teams have increasingly changed their work process by evolving traditional office-based activities into more online and mobile applications, leaving the office network mainly used for team meetings.

Simon Taylor, head of property at Yell in the UK, said:

“Our field sales teams’ use and reliance upon a physical place of work has significantly changed in the last year due to developing technology and we no longer require our network of sales offices. Our agreement with Regus provides our sales teams with the resources and specialized facilities of a traditional office environment on an as-needs basis. Not only is this far more cost effective, lower risk, flexible and sustainable but will, over time, increase productivity as less time is spent commuting and working in poorly equipped places, such as hotels and cafes.

Would this solution work for all mobile work forces?

Possibly not where the sales force was less client facing (i.e., needing to sell in a consultative manner, face to face) and/or less capable of autonomous working. Some sales forces are mobile but need regular “return to base” meetings for team building, reporting, training and compliance.

Results

People

Yell believes that this more agile way of working leads to more focused communication, more empowered staff and greater productivity.

Planet

Sales force car mileage has substantially reduced, with 2,000 less expensive miles on average per individual or 1.4 million miles per year.

Profit

Reduced costs and increased sales resulted. The costs impacted included rent, rates, insurance, the cost of running a portfolio of properties (i.e., connectivity to the network), management and FM provisioning (i.e., management, maintenance of facilities, statutory/legal testing, hospitality, health and safety inspections).

Yell has initially estimated annual savings of around £3 million, but these are likely to increase further as sales teams become ever more agile in the way they work. Early indications show that each month the usage is dropping as the workforce embraces flexible working.

Project Team

FM Project Manager............................Simon Taylor – Head of Property, Yell Group PLC
Other.................................................................Regus
Location of Project.........................................................UK
Kate North is vice president of global development for e-Work.com (www.e-work.com), an industry leader in Web-based training designed to prepare the workforce for the “evolving workplace” and a “new way of working.” North is responsible for global development initiatives and innovative training solutions that support the change management process.

North has over 25 years of global experience in workplace strategy, research, design and transformational change. She offers her clients an holistic perspective, focusing on the impacts of the work place, work practice and work process.

North continues to globally support the Workplace Community of Practice within CoreNet Global and is a core member of the Future of Work Collaborative. She also actively serves on the advisory board for New Ways of Working, a global research consortium.

Previously, North was vice president of the strategic business group at Herman Miller Inc. and also served as the Global Director of Ideation, a workplace research consultancy at Haworth.
Chapter Eleven
Moving Forward

Nancy Johnson Sanquist
Manhattan Software

Diane Coles
SCAN Health Plan

The last chapter of this book will explore an aspect of workplace strategy that goes beyond what most people think of when they are considering the future of the office environment. This is the importance of the concept of “place” and an understanding of how the new geographic landscape will be creating opportunities for new types of workplaces around the globe. Therefore, we will go back to the first chapter’s homage to the authors who taught us the importance of “place” as well as space, and describe how we foresee place changing.

The chapter ends with a series of discussion questions for you to use to engage with your own organization or peers on how you want to move forward to design your own workplace strategy to allow your company to move beyond competitive advantage to sensational strategies to revolutionize the way work is done and workplaces are created.

Understanding Place Matters

Place matters. ... The office is here to stay. Place provides the context to organizational action, fulfills a symbolic role as the physical embodiment of the organization, and not insignificantly, still provides a physical space for many kinds of tasks.
Martha O’Mara, Strategy and Place, 1999.

Martha O’Mara wrote that a dozen years ago and it is as relevant today as then. Place still matters even though we work virtually 43 percent of our day and 30 percent alone, but only spend 15 percent of our time in face-to-face meetings.1 Due to this usage and the fact our offices are often 40 to 60 percent vacant at some time during the day, some companies have jettisoned headquarters locations (Lenovo, McKinsey, Accenture), but place obviously still matters for their manufacturing and for knowledge transfer between their consultants.

In environmental psychology there is an interesting concept called “place identity.” This is defined as the meaning and significance of place to inhabitants and users. And while this is often discussed in light of the urban experience, it is also a critical component in understanding the workplace as many companies are trying to understand what makes a great place for a knowledge worker to come to work each day and want to stay at that company rather than pass through to another job. Headquarters locations still matter to companies like Apple, Google, Facebook and Intel, as well as Bank of America, Proctor & Gamble and Whirlpool. Regus calls this type of workplace “an Academy — a place for people that provides choice and empowerment, enabled by technology and an accepting leadership culture.”2

The two questions we will address in this “Place” section are:

• Where are workplaces today and will there be a change in location decisions?
• What will these new workplaces need to consider based on the organizational style, technology infrastructure, work patterns and resource (talent, capital and environmental) constraints?

The Changing Geography of Place

If place matters and is a competitive arrow in the organization’s business strategy quiver, where the workplace strategist looks for a new location is critical in the decision-making process. New concepts that have emerged and should be taken into consideration include:

• The emergence of the “mega-region”
• The city center/urban place
• The “edge cities”
  ◦ Suburban place
  ◦ The aerotropolis (airport place)
  ◦ Idea factories and innovation clusters

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1 DEGW and Bank of America presentation at CoreNet Global Summit, May 2011. Based on DEGW research from 2006-09.

The Emergence of the “Mega-Region”

According to the controversial urban theorist Richard Florida, the future of urban development will be in a large cluster of geographic units called “mega-regions.” These are located around the world and will consist of several cities and their adjacent suburban outgrowth areas. The largest in the US grouping is the “Bos-Wash” mega-region. This area stretches south from Boston along the New York City, Philadelphia, Baltimore, Washington, DC, corridor. It is a hyper-connected economic powerhouse, home to 50 million people producing $2 trillion (US dollars) in financial activity. To understand the value of this development strip, that is greater than the economic output of the UK or France, and double that of Canada or India.

Therefore, the workplace strategist may want to keep an eye on www.america2050.org, which is a clearing house of research and activities happening to make these mega-regions a successful component of future development in the US and other areas of the world.

The City Center/Urban Place

Florida calls the era we are working in the “Third Industrial Revolution,” which is a shift from an economy that is based on things to one that is about innovation. A better term is perhaps the “Era of Creativity” (as we mentioned previously, Florida called the knowledge worker a member of the creative class). Many people working in this new era want to have a job and live in a densely populated urban place filled with cultural activities; with other creative and innovative folks who they can bump into from time to time both physically and virtually; and that is populated with locations outside their main place of business with different types of environments in which to do their work. These other locations can be cafes, hotel lobbies, bars, restaurants, as well as co-working offices where they can come together with like-minded workers who may not belong to their company or even their field of endeavor.

Urban place is important to the knowledge workers who live in New York City and New Jersey and work for Google. So the company purchased one of the world’s most coveted pieces of real estate in 2010 to house some of these urban creatures. This is one of the world’s most wired buildings, which was built in 1932 on 8th Avenue between 15th and 16th Streets. It was renovated in the 1990s to become a “carrier building” to house various companies’ data centers as well as half a million square feet of office space. The advantages of this approach: labor (engineers could be poached from Wall Street, IBM and Bell Labs) and location (neighbors of the Chelsea Market and the High Line Park).

Edge Cities

The concept of “edge cities” was coined by Joel Garreau in his 1991 book by the same name. This is a 20th century urban phenomena that was designed as new communities adjacent to existing 19th century downtown locations. Although Garreau established strict rules for suburbs to be called edge cities, we are using the term as a type of community that either exists today and has grown irrelevant to new work and buying and living requirements, requiring revitalization, or an area outside downtown that has land available to build a new edge city. There are three distinct types:

- Suburban places
- Aerotropoli
- Innovation clusters

First let’s look at suburban places. The suburb is not dead; if it is lucky, it is being retrofitted into denser, mixed-use communities. Some are being transformed from car-oriented, tarmac-surfaced work and shopping areas to pedestrian-friendly, green, live-work-play places modernized into sustainable environments. Examples of these expanded cities or satellite centers can be found all over the US and in many parts of the world:

- Visteon Village (Van Buren Township, Michigan) is a sustainable corporate headquarters designed for one of the world’s largest parts suppliers. The goal of the project was to create a “neighborhood” that encourages innovation and collaboration by supporting a sense of community for its 3,200 employees. The campus was a consolidation of 13 disparate locations onto a single 265-acre campus. This sense of community expands outside the perimeter of the grounds to allow the nearby public access to the recreational paths and nature trails surrounding a man-made lake.
- Tysons Corner, Virginia, is being transformed from a giant shopping and business center into a walkable, livable community with new rail lines connecting to Washington, DC, and other nearby communities. By 2050, the plan calls for
Tysons Corner to be transformed into a sustainable, 24-hour urban center that will be home to up to 100,000 residents and 200,000 jobs.

- Apple recently announced the Norman Foster design for a new headquarters building on former HP parcels totaling 150 acres. The round, spaceship-like building will be the work environment for 12,000 to 13,000 employees with 80 percent of the site landscaped with indigenous plant materials and eliminating 90 percent of the existing surface parking now on the site. Apple chose the site in suburban Cupertino not far from downtown San Francisco.

- Facebook also took over another former tech giant’s site in Menlo Park, another San Francisco suburb location that will eventually house 4,000 people. The theme is exactly opposite from Apple: one of low tech, low cost, garage doors, scrappy and open. Work happens on shared 30x60 foot tables with no interior walls, which is viewed as a container for spontaneous communication. Meandering down the center of the complex is a curvy central boulevard, which garage doors will open up to, as will cafes and conference rooms.

The second type of edge city community is found in the new developments popping up around airports that are being called “aerotropoli.” John Kasarda and Greg Lindsay have written extensively about these new suburban airport complexes that are growing due to the new global demand of speed, location and accessibility. The airport is at the center of the complexes with subsequent rings providing land for distribution and logistics; office, research and development parks; convention centers, hotels, health care facilities, entertainment complexes, university campuses, retail and wholesale marts; manufacturing buildings; and commercial and residential high-rise towers. High-speed trains deliver passengers and cargo from this hub to the nearby downtown.

One of the interesting things that should be noted by the workplace strategist is that Lindsay and Kasarda believe that there will be a new skill set required for the new aerotropolis — one that combines knowledge of urban design, airport planning, business acumen and marketing strategy.

One example of an emerging aerotropolis is in Albuquerque, New Mexico, where a new design by Peter Calthorpe is emerging called Mesa del Sol. It was designed for Richard Florida’s “creative class” of knowledge workers who the developers think will be made up of West Coast dwellers that will dump their million dollar homes on the Pacific for a hacienda costing half as much in the desert. How they are going to lure these ocean loving people to the inland desert is, to us, a marketing phenomenon.

They have planned this community for the freelance or mobile worker who has a specifically designed home office; service support, meeting rooms and videoconferencing that can be rented whenever needed; and who can be at the airport in six minutes to fly to a meeting or to the headquarters office. The designs of the three-phased development look well thought out, with a Main Street spine and friendly grid-planned streets to get to and from the downtown core. The various architectural styles available for residential dwelling are good designs paying homage to older New Mexican housing stock.

Now to the third type of edge city communities that are called the “neurocenters” of the knowledge economy. Innovation clusters and idea factories are sprouting up in downtown cities and adjacent to university campuses in suburban locations. They can consist of one high-rise building (idea factory) or can be as large as 115 urban blocks in a downtown. The concept behind them is to become incubators of new innovations for scientists, entrepreneurs and the creative class of workers who can partner with universities to develop the next generation of workers, products and services.

In the US, a good example of both types of complexes is found in Cambridge’s and Boston’s waterfront. One Broadway consists of the Cambridge Innovation Center where 250 small entrepreneurial companies come together to create innovative concepts in the MIT-owned building. It is rented by Michael Reich who acts like the building’s concierge to startups, nonprofits and service businesses that sublease from him on rolling four-week leases. Reich sees his enterprise as part of the greater Boston’s role as an innovation cluster. On the other side of the river, a major developer assembled 20 acres in the Seaport District that is being master planned as a huge sustainable innovation center. Fan Pier was able to assemble an impressive combination of state and local tax incentives to lure Vertex Pharma away from its 10 leased Cambridge sites to this development location. It is part of the larger seaport development created to ensure Boston stays at the forefront of the innovation economy in the 21st century.
Other cities that are developing innovation centers on enormous scales include Spain’s 22@Barcelona, transforming 115 blocks of the city to what will be 150,000 creative class workers by 2025. It is inviting international media, IT and biomedical technology companies to live, work and play in this district in the downtown. Singapore has at least three projects underway, including a “biopolis” of 4.5 million square feet for 1,000 employees who are involved with research and development for life sciences and public research and a “fusionopolis” for media, communication and IT workers to come together in a 24-story idea factory where they can live-work-play in the high-rise complex. The biomedical sciences director of Singapore’s Economic Development Board, Yeoh Keat Chuan has said, “We want to be a window on what an Asian city of the future will look like.”

Discussion Questions for Moving Forward

1. We all agree space matters and the workplace can now be thought of as a business tool (Chapter 2). Is the future of space programming going to change in terms of being able to predict demand forecasting better than we can today? How will space design need to change as we design for new work in the new era of the 21st century city? (Chapter 2)

2. More and more remote work is happening in our business environments. Why do we need the traditional office like Apple is building? Is it that face to face still matters in our increasingly collaborative work processes and the office becomes the gathering place? Will this new gathering place cater to the employee “experience” as is happening in retail environments and will now require more hospitality services? (Chapter 3)

3. How do you balance standardization and efficiency with diversity of culture and demographics demanding more personalization? How do we ensure that we have gotten all the stakeholders involved with the new workplace strategy? (Chapter 4)

4. How do we “get to the future today”? Is program management part of the kit bag of skills a workplace strategist needs to have? Will we be designing for less space but better space? How? (Chapter 5)

5. Do you think that the role of the workplace strategist increases the strategic relevance of the entire profession of facility management? Will the facility management group be in charge of the global network of places or will it be some other group, like CRE? (Chapter 6)

6. Are the skill sets necessary to lead the transformation of the workplace within the typical competencies of the facility planner or does outside training need to be done to create the right abilities to lead change for the entire organization? (Chapter 7)

7. Do you think that change management should be called adoption management to ensure that the new workplace strategy will be embraced by the entire organization and the maximum benefits are achieved upon its inception? (Chapter 8)

8. Do you understand all you need to about new technologies: 1) for integrated, smart building operations and 2) for corporate real estate and facility management to be able to design, implement and measure a workplace strategy program? How will you ensure there are better business analytics to do all of the required analysis for the strategy, including “what if” scenarios? Will the current “alphabet soup” of technology (IWMS, CAFM, CAD, GIS, BIM, BAS) get more complex or become more integrated? (Chapter 9)

9. Some “outlier” questions include:

   • Is a ROI on people more important than a ROI on buildings?

   • How will the furniture industry react to all these changes? Will future office furniture be designed to be even more agile and flexible?

   • Will employees allow their locations to be monitored by sensors at all times?

   • What will the workplace look like in the age of ubiquitous technology where every surface can be embedded with smart technology?

   • Will virtual environments like Second Life become more or less important to the “workscape”?

   • Will new scientific breakthroughs (like the ones being charted by the Academy of Neuroscience for

Architecture) reveal to us more evidenced-based results of how one workplace design enables innovation and creativity more than another?

- Will facility management and corporate real estate become more integrated or will CRE drift closer to finance due to proposed new governance requirements (i.e., FASB/IASB changes)?

- Will facility management morph into a discipline that will lean more heavily on other fields that are not well utilized in strategy formulation today, including urban design, environmental planning, evidenced-based design, event planning and theatrical production?

And the final question we ask in this chapter is the most open-ended and thought provoking:

*What will the workplace look like in 2020? In 2050?*

We would love to hear your thoughts on this and urge you to contact any of the authors to give us your views on how we can best move forward to create better and more effective workplace strategies in the future.
ABOUT THE AUTHORS

Nancy Johnson Sanquist  
Vice President, Manhattan Software

Nancy Johnson Sanquist, IFMA Fellow and AIA Associate, is a vice president for Manhattan Software. She is an internationally recognized technology specialist with 25 years of diverse experience in corporate real estate (CRE) and facility management (FM).

Sanquist is considered an internationally recognized leader in the CRE/FM technology field and created the first seminar for the International Facility Management Association (IFMA) over 15 years ago. She has conducted numerous technology seminars and training sessions for both IFMA and CoreNet Global in North America, Europe, Australia and Asia. Additionally, she has contributed substantially to the research and development of CRE/FM technology through her many written works.

She has a B.A. from UCLA, a M.A. from Bryn Mawr College and a M.S. from the Graduate School of Architecture and Urban Planning at Columbia University. She currently serves on the occupancy cost standards workgroup of the Open Standards Consortium for Real Estate (OCSRE), is the vice president of the design committee for the Del Mar Village Association and is on the Del Mar Planning Commission.

Diane Coles, MCR  
Director of Workplace Solutions, SCAN Health Plan

Diane Coles is the director of workplace solutions at SCAN Health Plan in Long Beach, California, and has over 20 years of experience in corporate real estate, facilities management and business continuity planning. She spearheaded an innovative alternate workplace strategy called the AWESOME project and won the 2009 IFMA George Graves Facility Management Achievement Award, the 2009 CoreNet Southern California Remmy for “Workplace Innovation” and was named a Southern California Real Estate Journal “Woman of Influence.”

Coles is a guest lecturer at MIT Professional Education and a speaker at international conferences. She is a co-author of Cut it Out! Save for Today, Build for Tomorrow (IFMA Foundation 2009) and contributing author to Facility Management Journal (FMJ).

Coles is an IFMA Foundation trustee, IFMA CREC secretary and past president of the IFMA Orange County chapter. She is a member of CoreNet and holds its Masters in Corporate Real Estate (MCR) designation.
It is important to note that workplace strategy is not a new topic. As a matter of fact, some of the most interesting and innovative research on the workplace and strategy was done from the beginning of the ‘90s to the turn of this century. Research by Michael Joroff and his colleagues from MIT, Frank Duffy, Franklin Becker, Martha O’Mara, Ouye and Bellas, as well as Gartner with MIT and 22 industry sponsors, led the way for current workplace strategy thinking. The significant work from these researchers transformed the way we think about the workplace and increased our understanding of its importance of place as an enabler of change and gaining competitive advantage for businesses. Subsequent strategy development work has been built on the findings from these pioneers of workplace strategy.

The Changing Workplace by Frank Duffy (1992). It is in the great UK business guru Charles Handy’s foreword to this book that sums up the importance of all of Duffy’s work and its influence on designing the proper workplace strategy. Handy states, “Francis Duffy’s desire to allow the building to be a framework for a changing variety of behavior has led him into the fields of management theory and the sociology of work where more architects and designers need to reach. It is too easy to think that we already know how people behave and how they want to live. We are easily convinced by stereotypes and we, the managers and workers, adapt to those stereotypes ourselves because we did not know there might be an alternative.” The book included Duffy’s PhD thesis written at Princeton and published in 1974, which formed the basis for his beliefs in tying the workplace to the business.

Workplace by Design: Mapping the High Performance Workplace by Franklin Becker and Fritz Steele (1995). The following statement from Chapter 1 “Space: The Organization’s Second Most Expensive Resource” reflects concepts that are as true today as they were over 15 years ago:

This book is dedicated to the creation of high-performance workplaces that energize managers and employees alike, to workplaces that use the available resources — people, time, money, technology — to make organizations more competitive so that they not only survive but thrive in difficult and turbulent times. It is about how understanding space, the second most expensive resource an organization has (its people being the first) can be leveraged to help those people work more effectively, and to attract and retain the right people in the first place.

Another chapter in the book could be taken directly into this book as it is entitled “Developing an Integrated Workplace Strategy.”

Excellence by Design: Transforming Workplace and Work Practice by Turid H. Horgen, Michael L. Joroff, William L. Porter and Donald A. Schon (1999). In this work, the concept of four dimensions of the workplace — spatial, organizational, financial and technological — is introduced. “These dimensions are interdependent and in a dynamic relationship with one another. A change in one demands change in others. The result creates opportunities otherwise unachievable. Approaching the workplace through these interdependent dimensions usually suggests solutions that might not otherwise be considered.” The goal of workplace strategy then is to “achieve a dynamic coherence between the work and these four dimensions of the workplace.”1

This “dynamic coherence” is created by establishing a relationship among the four dimensions mentioned above and seeing how each of them play out in the workplace strategy process and how the players interact in the process. If there is a gap in the demand and/or the supply of space, it is then necessary to execute various “what if” scenarios to determine how that gap is to be filled (add or dump space, consolidate, etc.). Much of the analytical information needed to support “gap” decisions is captured in electronic format (often in spreadsheets). Integrated workplace management systems (IWMS) linked with other tools (i.e., CAD, GIS and business/location intelligence apps) can also be a great resource for this activity (see Chapter 9).

The Competitive Workplace, by Joe A. Ouye and Jean Bellas (in Japanese and English). Ouye and Bellas, like Joroff and Franklin Becker from Cornell University, viewed the workplace as an integrated system of interactive parts, an ecosystem, requiring an holistic understanding for planning strategically. They defined

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workplace as “the entire spectrum, from the organizational structure (processes, information technologies and physical systems) to real estate and facilities (all the way down to rooms, furniture and technologies), which shelter and support the work of a corporation. This includes headquarters, research and development facilities, sales offices, manufacturing and distribution centers, as well as alternative workplaces, such as satellite work centers and the home. The workplace, usually a competitive disadvantage due to improper planning and use, can be changed into a competitive advantage.”

Strategy and Place: Managing Corporate Real Estate and Facilities for Competitive Advantage by Martha A. O’Mara (2000). O’Mara challenged the old assumptions about workplace location, design, use and management as uncontrollable external components of supply and sinkholes of cost. In her analysis, she also viewed the workplace as a strategic asset and enabler for competitive advantage. She stated her case and declared “the office is here to stay” and defended it by stating that it works if it:

- Gives real context to the actions of organizations
- Presents the symbolic and physical embodiment of the brand
- Provides physical space for the production of product or services or supports the innovation of the creative class and knowledge economy
- Enables flexible response to heightened competitive pressures
- Supports new internal work processes while enhancing cultural differences and similarities.

CRE 2000. IDRC Research Study. This was the catalyst (much of the work was performed by an MIT team headed by Joroff) for understanding the competency shifts that were changing the CRE and FM professions. In one chart, the story was told that we were moving from early technical and analytical stages (“Taskmasters” and “Controllers”) through a middle era (“Dealmaking”) where standardization reigned supreme to a stage where RE/FM were becoming business partners with other areas of the organization, such as IT, HR and finance. The final stage is the one in which we are attempting to engage now, that of the “Business Strategist” who can “catalyze the workforce” in new workplace practices.

The Agile Workplace: Supporting People and Their Work. This work was conducted by a research partnership between Gartner, MIT and 22 industry sponsors and published in 2001. It was an unusual pairing of the foremost IT analyst organizations and Gartner (collaborating with staff from the MIT School of Architecture and Urban Planning) along with 22 industry supporters, including AT&T, Cisco, GSA, HP, JCI, P&G and Sun. Their findings also affected the way we understand workplace strategy:

- They changed the concept of workplace from real estate where work is conducted to workplace as a group of services that enables the work of an organization. They changed the concept of a real estate “portfolio” to a network of places, connected electronically, spatially and socially, which enables agility.
- Agility is a result of that “dynamic coherence” of work, the workplace and work tools referenced in Joroff’s earlier work.
- “An agile workplace … is one that is constantly transforming, adjusting and responding to organizational learning. Agility means more than having buildings and communication technology ready for alternative uses. It means constantly improving work and the infrastructure that enables it.” (p. 10)

As a result of this innovative research, we now use the term “workplace strategy” and associate it with the definitions/goals of these early pioneers to create:

- A dynamic coherence of the interplay between the four dimensions of the workplace — spatial, organizational, technological and financial
- Alignment with the strategy of the organization and each of the business units, enabling the workplace to become a competitive advantage rather than a cost center
- The role of the workplace strategist to catalyze the workforce today and in the future
- An agile environment that weaves together a network of places that align with the external pressures of market forces, the strategies of the business, as well as the internal work environment to ensure it is the most productive place it can be in order to support creativity and innovation

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This book is the product of the insight, creativity and experience of a remarkable group of global workplace experts from Australia, Austria, Hong Kong, the Netherlands, Shanghai, United Kingdom and the United States. Their passion for making this effort a success was truly amazing. Created entirely on a collaborative website, Work on the Move is a prime example of how the virtual world is changing the nature of work. The international authors and production team worked together with peers, some of whom they did not know and many of whom they have never personally met. One outcome of this collaborative process has been the creation of an international workplace community where we will continue to share new ideas and best practices.

Work on the Move would not have been possible without the participation of a number of dedicated professionals. At the very top of the list is Nancy Johnson Sanquist, whose editing talents energized the authors, challenged our thinking and kept us focused on the facility manager and practical applications. In addition, this book would not have happened without the expertise of Lisa Berman, copy editor, and Troy Carpenter, graphics designer, both of whom worked tirelessly under the challenges of a short deadline, multiple authors and styles, and international time zones.

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To all the companies who submitted case studies and the courageous facility managers who pushed the envelope and drove strategy and change in their workplaces, many thanks and congratulations! As Margaret Mead said, “Never doubt that a small group of thoughtful concerned citizens can change the world. Indeed it is the only thing that ever has.”

Special appreciation goes to the spouses, families and significant others of the Work on the Move authors and team, including mine, Art Levine, for their understanding in our pursuit to change the workplace for the better.

Diane Coles, MCR
IFMA Foundation Trustee
Established in 1990 as a nonprofit, 501(c)(3) corporation, and separate entity from IFMA, the IFMA Foundation works for the public good to promote priority research and educational opportunities for the advancement of facility management. The IFMA Foundation is supported by the generosity of the FM community including IFMA members, chapters, councils, corporate sponsors and private contributors who share the belief that education and research improve the FM profession.

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- Underwrite research — to generate knowledge that directly benefits the profession
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