

# FMJ



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International Facility Management Association

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## THE BACK TO BASICS ISSUE

**FEATURING**

# DIGGING OUT OF DEFERRED MAINTENANCE

**PAGE 48**

**20**

MAKING  
FACILITY  
FLOORING  
WORK FOR YOU

**30**

FROM  
MAINTENANCE  
CLOSET TO  
SAVINGS VAULT

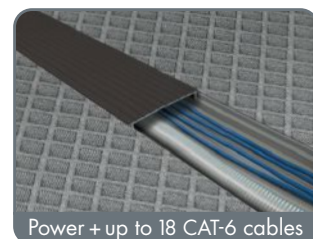




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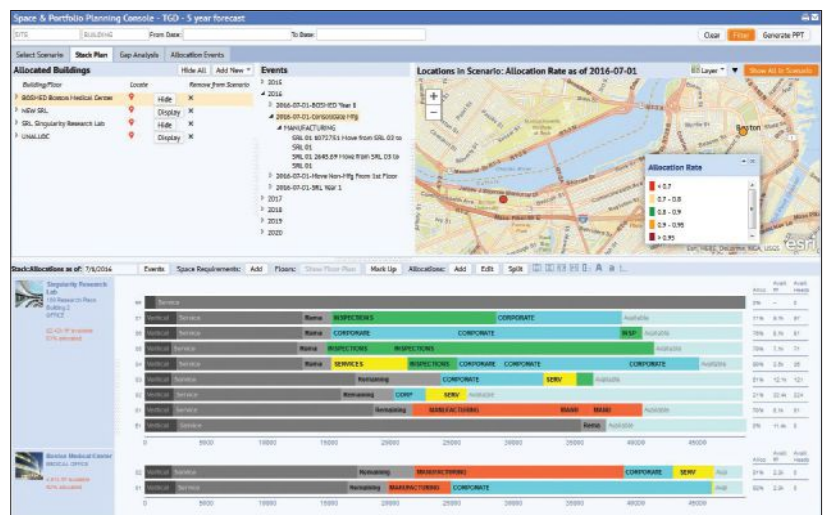
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## FEATURING

48

## DIGGING OUT OF DEFERRED MAINTENANCE

JOHN RIMER



## FEATURES

20

## Making Facility Flooring Work for You

DONALD HOOPER



24

## Aerial Platforms: Putting Work Within Reach

BRIAN BOECKMAN AND COREY RAYMO

30

## From Maintenance Closet to Savings Vault

Strategic sourcing for FM  
TERRY SAMBROWSKI

36

## Bridging the Gap Between FM and IT

ROBERT MARTENS



54

## Communicate to Connect: Getting the FM Message Across

BILL CONLEY

62

## How to Integrate Capital Planning and FM

LAURA COOK

83

## Are You Controlling Your Backlog or Is It Controlling You?

KRIS BADAGIA

89

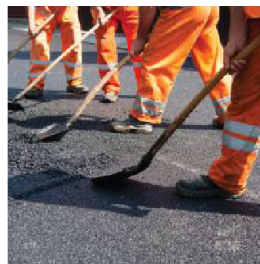
## Flood Planning and Risk Mitigation

JENNIFER BRAYER

96

## Proactive Pavement Management

TOM SOVEL



## ON STANDARDS

70

The Right Fit  
Selecting an FM management system standard

CASEY MARTIN AND LAVERNE DECKERT



## SECTIONS

- 8 Editor's Column
- 10 Chair's Column
- 12 President's Column
- 14 Industry News
- 67 IFMA Foundation
- 76 Credential Recipients
- 78 Behind the Brand  
*Insight on IFMA's Corporate Sustaining Partners*
- 80 Corporate Sustaining Partners
- 101 Resources
- 102 New Products & Services
- 106 Advertiser Index

## BEHIND THE COVER

The simple photo of FMs surveying a workplace on our cover represents the simplicity of this issue – all FMs rely on a solid foundation of industry knowledge, new trends and evolving technologies, so that's why we're boiling down to the basics to provide reminders, hints and tips. Read on for more great FMJ coverage.



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PLEASE RECYCLE



**ABOUT IFMA** IFMA is the world's largest and most widely recognized international association for facility management professionals, supporting 24,000 members in 105 countries. The association's members, represented in 134 chapters and 17 councils worldwide, manage more than 37 billion square feet of property and annually purchase more than US\$100 billion in products and services. Formed in 1980, IFMA certifies professionals in facility management, conducts research, provides educational programs and produces World Workplace, the world's largest facility management conference and exposition. To join and follow IFMA's social media outlets online, visit the association's LinkedIn, Facebook, YouTube and Twitter pages. For more information, visit the IFMA press room or [www.ifma.org](http://www.ifma.org).

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The online version of FMJ features extra resources like videos, podcasts, white papers and more to enhance your reading experience. Click on the **FMJ Extra** icons that appear in the digital magazine to link to additional sources of information on topics covered by articles in this issue.



- **INFOGRAPHIC:** "Facility Managers Facing New Challenges" to accompany "Survey Reveals 35 Percent of Facility Managers Updating Workplaces in 2016" (p. 14)



- **BLOG POST:** "How Flooring Choices Impact Office Flexibility" to accompany "Making Facility Flooring Work for You" (p. 20)



- **WHITE PAPER:** "Cleaning High-density Workspaces" to accompany "From Maintenance Closet to Savings Vault" (p. 30)



- **FMJ ARTICLE:** "No More Firefighting" to accompany "Digging Out of Deferred Maintenance" (p. 48)



- **CASE STUDY:** "James Madison University – An Accruent Case Study" to accompany "How to Integrate Capital Planning and FM" (p. 62)



- **ARTICLE:** "Five Strategies to Achieve World-class Preventive Maintenance" to accompany "Are You Controlling Your Backlog or is It Controlling You?" (p. 83)



- **BLOG POST:** "Critical Building Systems: Emergency Preparedness 101" to accompany "Flood Planning and Risk Mitigation" (p. 89)



- **ARTICLE:** "Understanding Asphalt Pavement Distresses – Five Distresses Explained" to accompany "Proactive Pavement Management" (p. 96)

Don't stop reading at the back cover. The online magazine includes **FMJ Extended**, a special section at the end of each issue that contains additional articles not available in print. Navigate in the digital edition to the articles listed below to read contributions from IFMA's FM Consultants Council and Environmental Stewardship, Utilities and Sustainability Committee, and other content just for you.

110

### Get to Know IFMA's February 2016 Member of the Month

111

### The Voice of the Tenant

BY GARY FESCINE AND CODY TAYLOR

*Contributed by IFMA's Environmental Stewardship, Utilities and Sustainability Strategic Advisory Group*

118

### Ask the Experts

*Contributed by IFMA's Facility Management Consultants Council*

121

### Vendor Profiles





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## EDITOR'S COLUMN

**ERIN SEVITZ**  
Editor  
IFMA's FMJ magazine



IFMA staff members have been undergoing leadership strengths training — identifying the top characteristics that each person brings to the table and how these shape us as individuals and as a collective. Our training is teaching us to heighten awareness of our natural tendencies and to better leverage team members who excel in the less dominant areas for a balanced organizational approach.

While this is interesting work in itself, what it has highlighted most strikingly for me is not only the talents of my colleagues, but the degree to which each employee cares passionately about improving the value, experience and benefits for IFMA members and the FM community worldwide. Many of us have different approaches, and sometimes this leads to heated — but healthy — debate. However, the consistent thread is a genuine desire to serve FM practitioners.

### SERVING THE FM COMMUNITY

In a meeting recently, we discussed how best to align IFMA's various content pieces across job competencies, topical trends and for all learning and career stages to help FMs find the knowledge you need to succeed. I couldn't help wondering whether there are groups as dedicated to supporting professionals in other industries.

Whether or not the outcomes are always outwardly visible, the commitment and determination of IFMA staff, board members, component leaders and volunteers to enhance available FM resources is unwavering.

One way in which this is manifesting is through IFMA's collaboration with the Royal Institution of Chartered Surveyors, which you'll hear a lot about in the next few pages. Many members have already asked what this means in terms of immediate, practical, day-to-day implications for the IFMA family.

We are actively engaged in defining exactly how this will look. The various work stream

# The commitment and determination of IFMA to enhance available FM resources is unwavering.

teams from both organizations are still in the early stages of determining where we can build on what each group is already doing in the FM space, and where there are opportunities for us to create entirely new FM resources together.

However, having spent the past few months working closely with my communications counterparts at RICS, I have seen firsthand that their staff shares the same dedication to benefiting the people who optimize the built environment.

### BACK TO BASICS

This issue of FMJ focuses on some of the core competency domains of facility management: operations and maintenance, project management, finance and business, communication, and leadership and strategy. No matter what your depth of FM experience is, refreshing on the fundamentals (or on areas you don't practice regularly) will help you keep your skills and competitive advantage sharp.

The FMJ team is also in the midst of planning the editorial themes for 2017. If there's a particular trend or topic you'd like to see covered, please let us know.

*P.S. If you're curious about the strengths assessment, I'd be happy to discuss. I'd also love to hear your thoughts on FMJ — email me at [erin.sevitz@ifma.org](mailto:erin.sevitz@ifma.org) to get in touch.*

Erin

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## HELLO, IFMA MEMBERS AND FMS EVERYWHERE!

To say these are exciting times for facility management is clearly an understatement.

### A LANDMARK COLLABORATION

Attendees at IFMA's Facility Fusion 2016 Conference and Expo in Indianapolis, Indiana, USA, were on hand to witness the signing of a landmark collaboration agreement between IFMA and the Royal Institution of Chartered Surveyors (RICS). A huge thank you goes to members of IFMA's Indianapolis Chapter — you were outstanding hosts and advocates for your great city. The entire program truly reinforced IFMA's world-class event management skills.

In this final column as your chair, I want to discuss the strategic context and historic relevance of the IFMA-RICS collaboration. The agreement enables two global institutions with outstanding reputations to deploy their combined strengths to benefit FMs everywhere. This is evidence of shared strategic benefits triumphing over short-term unilateral actions.

This would not have been possible without IFMA's strategic focus and status as a highly respected international professional association. It is a fitting tribute to all key contributors who led us through the first 36 years of evolution. That this collaboration is structured to serve all professional disciplines contributing to the built environment through the full life cycle is not just evolutionary, but revolutionary.

The IFMA-RICS collaboration will accelerate the global development of the FM profession. While important progress is made on IFMA's strategic business initiatives each year, it is by design highly incremental due to limited resource availability. However, in addition to reflecting increased stature for and recognition of FM, the IFMA-RICS collaboration will provide access to new resources to help amplify this good work.

### REFLECTING ON PROGRESS

The 2015-2016 IFMA Board of Directors has built on the work of prior boards to complete several important initiatives, including ANSI accreditation of IFMA's credentials, finalization of ISO standards, the launch of the Knowledge Library and approval of the IFMA-RICS collaboration. I could not be more proud of executive committee and the full

board for their vision, willingness to take bold action and unanimous support of this transformative collaboration.

I also want to acknowledge the incredible effort by IFMA CEO Tony Keane, RICS Chief Executive Sean Tompkins and their teams to produce the agreement. The teamwork demonstrated during the formation of the agreement bodes well as we move into implementation.

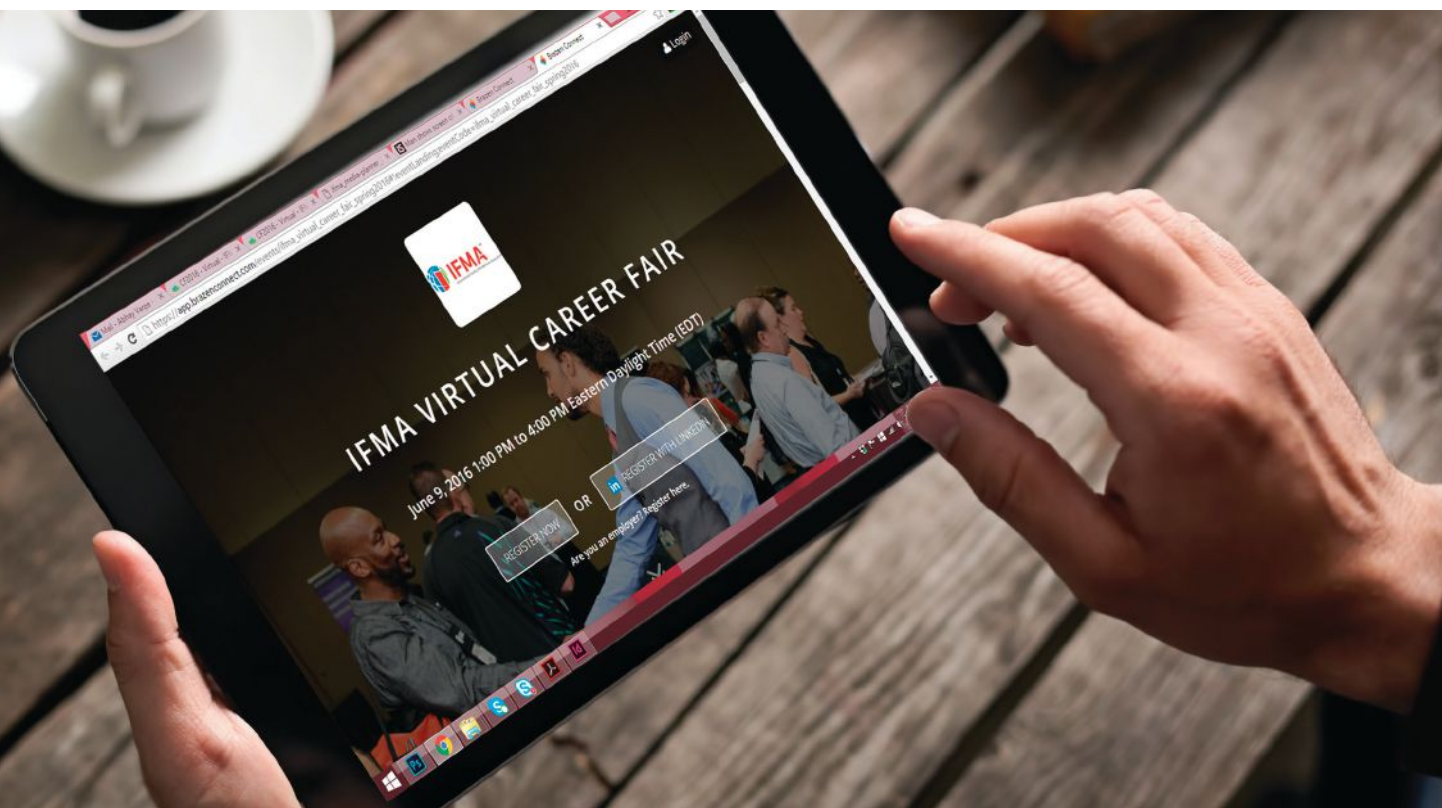
Fully realizing that the benefits of this collaboration will take time, I view it as akin to planting a seedling — if nurtured effectively, it should grow and flourish. The IFMA and RICS teams are developing a strategic business plan for providing professional development products and services to support the entire FM career path. Watch for additional details at IFMA's World Workplace 2016 Conference and Expo in San Diego, California, USA, Oct. 5-7.

In closing, I want you to know how honored I have been to serve as your 2015-2016 chair. As I move into the role of past chair I am very confident that the incoming officers and new board members will dedicate their efforts to take full advantage of the collaboration. The incoming board has a diversity of strategic business leadership, deep operational experience and geography that will allow it to stay focused on delivering value to existing members while driving growth in emerging FM markets.

I also want to salute the efforts of Jim Whittaker, our outgoing past chair. Jim's contributions to IFMA during his six years on the board have been incredibly significant. His sage advice, positive demeanor, analytical capabilities, professional judgement, preparation and decisiveness have been invaluable to me and the board, and critical to IFMA's continued success. All of those contributions and his dedicated leadership in the ISO standard setting process will benefit FMs for generations. Thank you, Jim!

Finally, my sincere thanks to IFMA members everywhere for your support, participation and dedication to building a better, stronger, more globally relevant IFMA.





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## AS MIKE MENTIONED IN HIS COLUMN,

the signing of the collaboration agreement between IFMA and RICS was one of many highlights of the recent Facility Fusion event in Indianapolis. As always, Facility Fusion brought together many FM professionals, IFMA component leaders and exhibitors for an enriching conference.

### WHAT'S THE BUZZ ABOUT?

IFMA's collaboration with RICS, which you can read more about on page 14, will yield three major benefits. First, the FM community will gain increased access to resources and solutions, along with an expanded support base around the world. Second, it will help develop a much broader awareness of the strategic value FM brings to organizations and the built environment. Third, it will provide a focus on the FM career path and the credentials needed to sustain success in the discipline.

As I write this, I can hear your voices saying "Okay, Tony — this all sounds good, but how does it help me?" Well, I'm glad you asked! This is what it means for you as an IFMA member and/or credential holder:

- Access to an expanded professional network
- Increased support and representation outside of North America
- Heightened status and recognition as market awareness expands
- Greater audience and influence across built environment community
- Opportunity to leverage the global infrastructure of RICS for joint efforts to advance FM

The bottom line is that, through this collaboration, IFMA will be able to share increased wisdom to help you implement FM strategies in your organization. At the same time, you'll benefit from increased recognition through your association with IFMA and the facility management profession.

This won't all happen overnight. We expect a 12- to 18-month implementation period before the initial aspects envisioned will come to fruition. Watch [www.ifma.org/ricscollaboration](http://www.ifma.org/ricscollaboration) for more information and updates as the collaboration develops.

We have many great stories to tell about the positive impact FM has on people. What's your story?

A big thank you to the Indianapolis Chapter of IFMA for helping us host Facility Fusion this year. We look forward now to next year's U.S. Fusion event in Las Vegas. I would also like to thank my hosts from the Las Vegas chapter board of directors for a great lunch meeting.

### YOU MAKE FM MATTER

Here are some ways you can help spread the story of how facility management makes a difference in the world:

When you're in a public place, like a shopping mall, a restaurant or a store, talk about how FM relates to the customer experience. A well-run FM program increases the revenue potential in these places because customers feel comfortable staying longer.

Tell colleagues the story of how you and your team make a difference in the workplace. Savvy FM tactics foster productivity and enable worker satisfaction. People like to work in clean, safe, secure environments. People like to work in places that have the tools they need to do the job. Talk about how FM makes this happen.

When you're walking in a park or engaging in other outdoor activities, tell the story of how FM can reduce energy consumption in facilities, which results in lower carbon emissions and a cleaner planet. Sustainability in the built environment is not possible without a strong, thoughtfully implemented FM program.

We have many great stories to tell about the positive impact FM has on people. What's your story?

Please invite a colleague to join IFMA and get involved!



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## WORLD-RENOWNED FM AND REAL ESTATE THOUGHT LEADERS LAUNCH LANDMARK COLLABORATION

IFMA and the Royal Institution of Chartered Surveyors seek to unify the facility management profession across the globe

IFMA and the Royal Institution of Chartered Surveyors (RICS) have announced a landmark collaboration which promises to transform the US\$1 trillion global facility management industry. By joining strategic resources, they will create an unprecedented level of industry support to meet growing demands from the 25 million FM practitioners around the world, as well as launch a single and compelling career pathway into the FM profession.

Over recent years, the FM industry has advanced in stature and evolved into an increasingly strategic discipline. IFMA and RICS research has empirically demonstrated the tangible advantages of effective facility management, ranging from improved productivity and cost savings to energy efficiency and employee well-being. As established leaders offering extensive resources to practitioners across the built environment, IFMA and RICS have come together in collaboration to further develop and professionalize the field of facility management.

Even as the industry has attained increased status and prominence, the global professional community which has pioneered much of this advance has suffered through fragmented support, according to an RICS survey of professionals across six continents. The IFMA-RICS collaboration will seek to address this by providing strong, global leadership and the tools needed to harness the power of strategic FM services.

"As global thought leaders dedicated to the professionals who support the built environment, IFMA and RICS identified a unique opportunity to team up and



**RICS Chief Executive Sean Tompkins (left) and IFMA President and CEO Tony Keane (right) sign collaboration agreement on stage during IFMA's Facility Fusion Conference and Expo in Indianapolis, Indiana, USA on April 12, 2016.**

fortify existing resources to enhance the outstanding level of service they already provide to professionals in the built environment industry," said IFMA President and CEO Tony Keane. "The framework of this collaboration will create a less fragmented, more inclusive and highly regarded global facility management community."

The collaboration will also seek to address the current shortage of FM professionals in the workforce. "While there is a growing market demand for facility management skills around the world, currently there is a shortage of professionally qualified practitioners equipped to deliver this service," said RICS CEO Sean Tompkins.

"Our collaboration will establish a clearly defined, single career pathway which will see FM practitioners acquire

the leading skills they need to become recognized as preeminent professionals."

The goals of the IFMA-RICS collaboration include:

- » Advancing global knowledge sharing and cohesion within the FM community
- » Expanding the existing informational and networking infrastructure for members of both organizations
- » Unifying the FM career path through both IFMA credentials and RICS qualifications
- » Incorporating FM trends and best practices into a more comprehensive picture of the built environment
- » Encouraging graduates and young professionals to select careers in FM
- » Asserting the strategic value of FM to business in order to further elevate the profession



CONTINUED



The IFMA-RICS collaboration will be shaped over time, but initially will leverage both organizations' existing resources in education, research, conferences and events, and external relations. IFMA and RICS will also work together to align credentials and qualifications to shape a single FM career path with demonstrable professional status which is recognized and respected globally.

RICS professionals who have qualified in FM will automatically receive IFMA member benefits. In turn, IFMA members and credential holders will be enabled to attain RICS professional qualification and benefit from RICS' international standards and global professional network.

Learn more about RICS at [www.rics.org](http://www.rics.org), or visit [www.ifma.org/ricscollaboration](http://www.ifma.org/ricscollaboration) for ongoing updates on the collaboration.

## GLOBAL FM CALLS ON ENTIRE FM PROFESSION TO MARK WORLD FM DAY 2016

Global FM, a worldwide alliance of member-centered facility management organizations, has announced July 13 as World FM Day 2016 and July 11-15 as World FM Week 2016. The theme will be "empowering people for a productive world," looking at how FM enables different business disciplines to collaborate to deliver high-quality business performance.

World FM Day, which is led by Global FM through its World FM Day Task Force, has been an annual celebration since 2009. It aims to recognize the vital contributions of FM professionals and the FM sector to businesses worldwide, while raising the profile of the FM profession across the globe. All FM professionals and organizations are encouraged to host events such as social media campaigns, luncheons, seminars and workshops to celebrate and promote FM during this week-long global event.

Celebrations for World FM Day will be led across six continents by Global FM members: the Associação Brasileira de Facilities, the British Institute of Facilities Management, the European Facility Management

Network, the Facility Management Association of Australia, the Facilities Management Association of New Zealand, the Hungarian Facility Management Society, IFMA, the Middle East Facility Management Association and the South African Facilities Management Association.



Winners in the Global FM Awards of Excellence will also be revealed on World FM Day. The awards recognize the best of the best in FM, highlighting how they support businesses around the world. In 2015, BIFM's "JLL Property and Asset Management Academy" submission scooped the Platinum Award, followed by Westminster Schools through IFMA and then the Commonwealth Bank of Australia with FMA Australia.

For further details on World FM Day 2016, to get support for organizing your own World FM Day event or to access materials to promote the day within your organization, visit [globalfm.org/events/world-fm-day-2016](http://globalfm.org/events/world-fm-day-2016).

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Facility Managers Facing New Challenges

## SURVEY REVEALS 35 PERCENT OF FACILITY MANAGERS UPDATING WORKPLACES IN 2016

As employees crave more variety in their workplaces — from remote capabilities to sit-to-stand desks — facility managers are adapting to meet these changes. A survey conducted by CORT® at IFMA's World Workplace 2015 U.S. Conference and Expo revealed that 35 percent of facility managers will update workplace environments in 2016 to accommodate evolving trends in workplace design.

Other key findings:

- » More than half of respondents make major updates to their office spaces within five years of setting it up
- » 24 percent of facility managers

consider the ability to adapt to change a top priority for their organization

- » 92 percent of respondents use part of their limited resources to store and maintain unused furniture

CORT is a Silver-level Corporate Sustaining Partner of IFMA and a leading U.S. provider of transition services, including furniture rental, event furnishings, destination services and more. To learn more about the survey respondents, their spaces and intended updates, check out the flexible workplace infographic created by CORT included in the digital version of this issue.

## UPCOMING FM EVENTS

### IFMA'S VIRTUAL CAREER FAIR

June 9, 2016, 12-3 p.m. CT  
bit.ly/232uYqH

### INTERNATIONAL SUSTAINABLE ASSET MANAGEMENT CONFERENCE

June 22-24, 2016

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### WORLD FM DAY

July 13, 2016  
globalfm.org/events/world-fm-day

### IFMA'S ADVOCACY DAY AND PUBLIC POLICY FORUM

Sept. 6-7, 2016  
Washington, D.C., USA  
ifma.org/events/advocacy-day



### IFMA'S WORLD WORKPLACE CONFERENCE AND EXPO

Oct. 5-7, 2016  
San Diego, California, USA  
worldworkplace.ifma.org



### IFMA'S WORLD WORKPLACE ASIA

Oct. 20-21, 2016  
Shanghai, China  
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### IFMA'S WORLD WORKPLACE INDIA

Nov. 3-5, 2016  
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## FACILITY ENGINEERING ASSOCIATES EARNS ISO 22301 CERTIFICATION

Facility Engineering Associates, P.C. (FEA), a Corporate Sustaining Partner of IFMA, recently earned its ISO certification under the 22301 Business Continuity Management (BCM) Systems standard. In conjunction with the ISO standard, FEA is certified to the PS-Prep™ standard, which is a U.S. Department of Homeland Federal Emergency Management Agency program. Global ISO registrar National Quality Assurance provided FEA's certification.

FEA's corporate BCM policy covers the entire company and lays a foundation for a company-wide business continuity strategy. FEA pursued the certification to strengthen its organizational resilience and ability to continue business during a disruptive event, as well as to enhance business continuity service delivery for its clients.



FEA is an international engineering and facilities consulting firm specializing in existing facilities. FEA is headquartered in the Washington, D.C. metro area, with additional office locations in

Denver, Colorado and San Francisco, California. Since FEA is headquartered within the national capital region and co-located with most of the United States' federal agencies, its ability to provide consulting and engineering services during emergencies gives it a critical market advantage.

To learn more about FEA's ISO 22301 certification, or for more information on FEA, please visit [www.feapc.com](http://www.feapc.com).

## IFMA'S KNOWLEDGE LIBRARY: TRENDING NOW

Highly ranked by IFMA's content experts for its relevancy and value to FM, the U.S. National Academy of Sciences' research report "Predicting Outcomes of Investments in Maintenance and Repair of Federal Facilities," pairs research findings with the recommended processes and practices necessary for converting the United States' portfolio of federal facilities into one that is more economically, physically and environmentally sustainable.

In order to optimize their facility investments, the Federal Facilities Council

requested that the National Research Council appoint an ad hoc committee of experts to develop methods, strategies and procedures to predict outcomes of investments in maintenance and repair of federal facilities. The committee reviewed reports that focused on management of federal facilities; consulted with representatives of private-sector organizations, professional societies and numerous federal agencies; and conducted research on relevant topics to formulate this research report, which contains more than 100 pages of findings and recommendations.

*IFMA's Knowledge Library features hundreds of expert-vetted FM resources published with current FM events, topics and trends in mind. Throughout the month of May, the Knowledge Library is featuring operations and maintenance content in accordance with this "Back to Basics" issue of FMJ.*

*Visit the Knowledge Library at [community.ifma.org/knowledge\\_library](http://community.ifma.org/knowledge_library) to read this and other valuable O&M content. Plus, don't forget to rate the content you read so other FMJs can benefit from your expert evaluation.*





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For more information about Saint-Gobain and Sodexo and how the companies partner to enhance quality of life, visit:  
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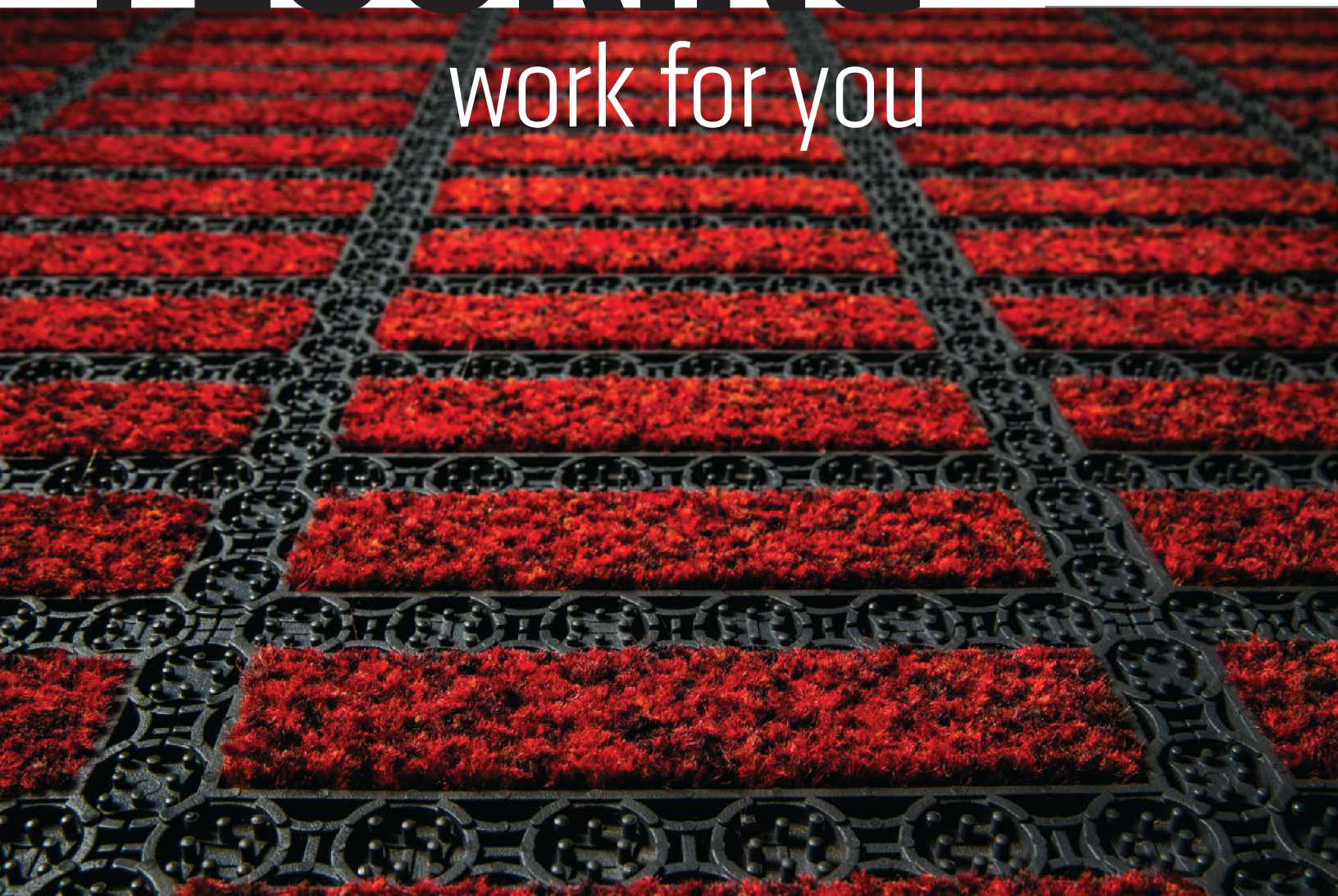
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How Flooring Choices  
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BY DONALD HOOPER

**P**reventive care is critical to prolonging a product's lifespan. Everything requires a certain level of maintenance – from the cars we drive to the computers we use daily. Extending the life of your investments enables you to achieve the lowest total cost of ownership. This principle applies to your facility's investments, too, and perhaps most critically, to your flooring.

Replacing flooring can be costly, requiring not only the purchase of physical materials, but scheduling installation and paying for labor, which can be expensive and disruptive. Undergoing these costly projects every five or six years is a tall order.

Today, longer-term occupancy allows you to utilize existing flooring as long as its usable life. But how can you ensure that your carpet will perform for the entirety of a 10- to 15-year occupancy and maintain its original appearance?

Achieving long-term value out of flooring requires carefully thought-out preventive care. This starts with creating a comprehensive plan up front. Preventive maintenance solutions are an integral part of installing a floor and can reduce or eliminate costly, time-intensive repairs, like adding entry systems or replacing damaged flooring.

There are many ways you can care for your building's flooring: purchasing flooring with built-in performance features that enhance durability, installing entryway systems that effectively remove dirt and moisture from the soles of shoes before entry, and scheduling regular floor maintenance with targeted attention on high-traffic areas.

**EXAMPLE** Hartsfield-Jackson Atlanta International Airport's South Terminal Entrance *Pictured in detail at left*



The best solutions are comprehensive. A multi-faceted, three-pronged approach to preventive maintenance will help you maximize the usable life of your flooring investment. It's the best way to use your facility's budget wisely, maintain your space for reduced cost of ownership and create an optimal work environment in your facility.

#### **Built-in performance features**

Contrary to popular belief, carpet doesn't wear out, it "uglies out" from the accumulation of stains, soil and visible traffic patterns. However, these factors can be mitigated to help you maintain the original appearance



up to 10 years down the road. Replacing carpet every five to six years is yesterday's status quo for facility management. A true budget-conscious approach prioritizes preventive care, which starts with selecting flooring with built-in defense mechanisms.

Choosing flooring that features innate technologies to guard against soils, stains, mildew and mold growth, and general wear is a critical component to maximizing the usable life of your flooring. This applies to both soft-textile floorings, like modular carpet, and hard-surface solutions, like luxury vinyl tile (LVT). Built-in performance features make upkeep easier and less costly, and when regularly maintained, these properties can double or even triple the asset's usable life.

With carpet, begin by assessing your environment. The traffic appearance retention rating of your carpet should be constructed to withstand your facility's traffic. Note that nylon construction is always more resilient than polypropylene or polyester.

Consider constructions that allow moisture to rise through the flooring, instead of trapping it underneath. Also, look for applied chemistries that resist soil and stain absorption into the carpet fiber. Some of the best stain and soil chemistries will force spilled liquids to bead up on the surface of the carpet where they can be easily blotted away. This will also stop soil and dirt from adhering to the surface of the carpet and help loosen debris for easy removal during regular vacuuming. Stain chemistries can also block dye spots in the carpet's face fiber to prevent even the toughest stains, like yellow mustard, from bonding with the yarn.

To prevent traffic patterns from showing, look for carpets with attached cushion backing. The cushion acts as a shock absorber, slowing the rate at which traffic patterns become visibly imprinted. In fact, some open-cell cushion backing can extend the lifespan of carpet by up to 40 percent.

Cushion backing can also reduce noise by up to 50 percent more than hard-backed carpets.

When selecting LVT, pay close attention to the thickness of the wear layer, as this plays a critical role in defending against foot traffic and scratches and affects its level of required maintenance.

### Entry systems

According to the International Sanitary Supply Association (ISSA), between 70 and 90 percent of soil inside a facility is "walked in" through its entrance. An ISSA study notes that 1,000 people can track in as much as 24 pounds of dirt. Effective entryway systems can trap up to 80 percent of this dirt, dust and moisture in the first 25 to 30 feet, saving you the estimated removal cost of US\$500 to US\$800 per pound.

Immediately after selecting the right flooring for your space, design an effective entryway to prevent dirt, moisture and other outside elements from being tracked onto your new flooring. This prevents unnecessary wear, helps maintain its appearance, and saves time and money.

Effective entryway matting can extend the life of flooring by 40 to 60 percent. Half of this impact is directly related to keeping dirt and moisture from being walked into your building, reducing the frequency of hard-surface floor refinishing, improving a building's aesthetics and potentially preventing costly slip-and-fall accidents during inclement weather.

Each environment will require tailored solutions. It's important to modify entryway flooring to meet the unique needs of your building, taking into account its geographic setting, function and traffic level.

Two features of entryway flooring are critical for optimal performance: a fiber construction that attracts moisture and an open construction that captures dirt and moisture. Open nylon

constructions are especially effective at snatching and trapping water off of the soles of shoes. Mechanically, walk-off solutions work by knocking off dirt and moisture from shoes, carts or luggage, and then absorbing that debris. Their function is the opposite of traditional carpet or hard-surface flooring — rather than repelling dirt and moisture, the goal is to attract it.

Entry systems will require frequent cleaning to remove the accumulated dirt and moisture from your facility. It is much easier to clean 30 to 40 feet at the entry as compared to cleaning an entire floor or building.

The amount of walk-off you are able to install plays a key role in its ability to keep the rest of your flooring clean. The ideal amount is 30 to 40 feet. However, most buildings don't have the luxury of including 40 feet of entry systems in a typical vestibule.

In these cases, it's critical to use the best combination of entryway solutions for your building: bulk scraping outside the entry vestibule, scraping and absorption within the vestibule, and continuing moisture absorption directly inside the building.

Entryway solutions are worth a substantial up-front investment because of their potential to protect your budget down the road. Luckily, the cost of replacing entryway flooring is much less expensive and disruptive than replacing field flooring. Because entryways are generally small, it's much more effective to replace entryways more often than replacing the flooring they are in place to protect.

### Regular maintenance

Regular, scheduled maintenance of both your field flooring and entryway matting is critical to maximize your budget. Regular maintenance can even extend the life of your flooring by 20 to 25 percent.

Depending on each space, carpets should be vacuumed daily or every

other day and spot cleaned for stains when needed. Well-manufactured LVT only requires regular sweeping or damp mop cleaning. Foot traffic patterns dictate the frequency of deep cleanings for the entirety of your space, which should average two to three times per year, although some high-traffic areas might even require deep cleaning once a month.

The longevity and performance of your entryway depends on regular maintenance, including daily vacuuming and frequent deep cleaning every three to four weeks, depending on weather. Walk-off matting is actually built for a shorter life span, because it is designed to get very dirty.

You can expect entry solutions to last two to five years, but if you select a well-constructed product and maintain it frequently, you can stretch its usable life to seven or even 10 years.

Keep in mind that regular maintenance on all of your flooring is also required for many manufacturer warranties to remain valid. In order to maximize your investment in flooring, be sure to discuss recommended maintenance with your flooring manufacturer. They'll know the best way to preserve the construction and chemistries of your flooring so that it looks its best for longer.

### Summary

Preventive measures must be in place to maximize the usable life of flooring and achieve the lowest possible cost of ownership. This means approaching your building's flooring through a multi-faceted lens: selecting durable carpet designed to withstand your building's specific environment, utilizing effective entryway systems to keep your flooring looking like new for longer and scheduling regular maintenance so that your flooring can perform its job as engineered.

With all three components in place, you'll help your flooring work best for you, your facility and your budget. **FMJ**



**Donald Hooper** is regional manager for commercial entry systems for the Milliken floor covering division. He is responsible for the North American entry

market, including sales and marketing, strategy, product portfolio direction and development.

For more than 20 years, he's held several key roles in Milliken's commercial carpet business, including operations planning manager, sales associate, national account manager for education, market manager for the public space, education and government segments, and global product manager for the commercial carpet business.

Hooper received a B.S. in Industrial Engineering from the Georgia Institute of Technology. You can contact him at [donald.hooper@milliken.com](mailto:donald.hooper@milliken.com).



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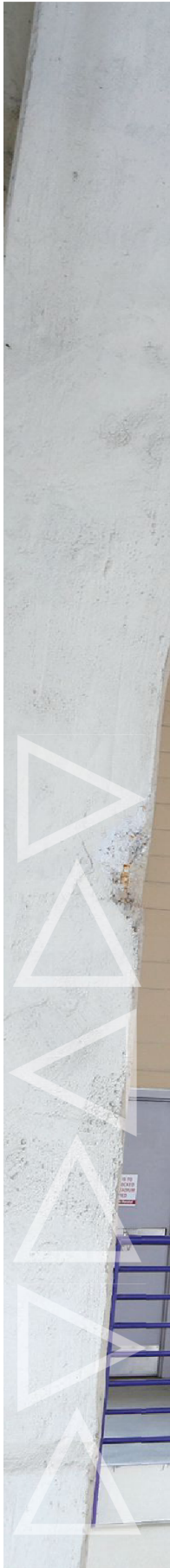
**T**he job of a facility manager encompasses a variety of indoor and outdoor responsibilities — everything from scheduling cleaning and repairs to monitoring security, managing renovation projects and directing building and equipment maintenance.

Sometimes the maintenance task is as simple as changing a lightbulb. But even that job can quickly become complicated when the lightbulb is out of reach — in the ceiling of a warehouse, for example, or at the top of a parking lot light pole. Ladders can help, but they are not always the

safest option, especially when two hands are needed to complete the task. To use a ladder correctly, a worker is required to maintain three points of contact, leaving just one hand free to perform a task.

Scaffolding is another option, but it, too, has its drawbacks. Scaffolding takes time to assemble and disassemble. In addition, it's a stationary solution, making it difficult to move quickly through a facility performing routine maintenance tasks.

The right piece of equipment, including aerial work platforms (AWPs) and telehandlers, can be instrumental in getting







a job done, as it safely and efficiently moves people and materials where they need to be. The key to success is selecting the piece of equipment that best matches the task at hand. To do so requires a thorough understanding of the work to be done and the capabilities of the various machines available.


### Understand the scope of work

The selection process should begin by seeking answers to a number of questions regarding the work:


- Will the work be performed inside or outside?
- Will the work require people or materials to be moved? How many people or how much material?
- How high does the machine need to go?
- Does the machine need to go up steps or into an elevator to reach the job site?
- What are the conditions where the work will be performed? Does the work area include uneven surfaces or obstacles to work around or over?
- What tools will be required to complete the job?
- Will the work require you to move around the job site?
- Must the equipment fit through a doorway or through another narrow opening?

With answers to these questions in hand, it is time to ask questions about the capabilities of the machines under consideration for the task:

- What is the machine's vertical and horizontal reach?
- Does the lift offer up-and-over capabilities?



## The key to success is selecting the piece of equipment that best matches the task at hand.



- What is the platform's weight capacity?
- Is the machine self-propelled to maneuver around the job site?
- Is the machine available in electric or hybrid models for indoor use?
- Does the machine offer accessibility in confined spaces? Can it fit through doorways or other narrow openings?
- Is the machine able to climb stairs?
- What accessories are available to equip the machine for the task?

### AWPs place people in hard-to-reach places

Going back to the task at hand, changing a ceiling lightbulb requires moving a person to access the light, making an AWP the appropriate machine to help complete the work. AWP's place people in hard-to-reach spaces, leaving two hands free to work safely. The platform provides additional space for tools and materials, and the machine can move freely in, out and around a job site or a facility to accomplish multiple tasks or similar tasks in multiple locations. In

either case, productivity is enhanced as workers do not need to move ladders or erect and tear down scaffolding.

AWPs come in various shapes and sizes, including small personal lifts, electric mast lifts, scissor lifts, compact crawler booms, telescopic booms and articulating boom lifts. Personal portable lifts offer facility workers a secure, enclosed work platform and the ability to work in a 360-degree radius with both hands at heights of up to two stories.

Small lifts like these can often be moved and quickly assembled by one person. Some models feature non-marking caster wheels and bases that allow them to roll through standard-width interior doors and attachable accessory trays to hold materials. When not in use, they require very little storage space — some models can even be stored in closets.

Slightly larger mast lifts use a jib to reach up, over and around shelving, ductwork and other obstacles to change lightbulbs and perform other maintenance, repair and inspection tasks. These machines have a lifting capacity as high as 500 pounds and a higher lift height than personal portable lifts. In addition, some models are equipped with 360-degree rotating masts.

Some of these machines are powered by an environmentally friendly electric drive system, which uses fewer hydraulic hoses and reduces maintenance needs and the potential for oil leaks. If your team plans on indoor use, look for lifts that feature non-marking rubber tires.

### Scissor lifts feature large platforms

Larger still, a scissor lift is a portable lift with an enclosed platform that can be raised straight up. It uses a linked, folding support in a crisscross "x" pattern, which gives the machine its name. Its compact dimensions make this type of machine mobile, indoors and out. When moving indoors, electric-powered models ensure a quieter work area, less dependency on hydraulic oils and no emissions.

Scissor lift platform heights range between two to four stories, making the



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machine a good choice for maintenance personnel as well as electricians; pipe fitters; heating, ventilation and air-conditioning contractors; sprinkler system installers; fire and safety engineers; and window cleaners. The machines offer a high weight-lifting capacity, and platforms range from narrow, for access through standard doorways, and wider, to carry more worker tools and supplies. The additional platform space in wider models translates to fewer trips up and down, which can mean faster project completion.

### Compact crawler booms work inside and out

For work that requires higher reach, compact crawler booms make a good choice. Working heights range from four to nearly eight stories, and booms that use a hydraulic jib put more projects within the operator's reach. The machines easily fit through most standard commercial doorways, narrow aisles and hallways, gates, and other tight spaces.

Again, look for compact crawler booms that use non-marking treads, which make the machine a good choice for work indoors — anything from painting and washing windows to changing lightbulbs, checking sprinkler systems, and performing other maintenance tasks. In addition, when selecting a compact crawler boom, evaluate the power sources used. Some models offer an optional lithium-ion electrical system that does not produce emissions. Models that can operate on rechargeable batteries increase freedom of movement, as they do not have to be tethered to a power source.

Because their design disperses the machines' weight across a wide area, compact crawler booms can be set up on sensitive flooring and landscaping. If the surfaces on which the boom will be placed are uneven, models with leveling capabilities give users the ability to even out the machine placement.

### Telescopic booms offer highest reach

Although something that FM teams may use less frequently, telescopic booms are

capable of reaching heights as high as 19 stories and provide access to the widest range of reachable space.

Another AWP, the articulating boom lift, provides up-and-over access at heights up to 13 stories. These lifts employ a joint or knuckle that enables the boom to bend and reach up, over and around obstacles. The work platforms on these machines can typically accommodate multiple workers, tools and equipment. They are available in electric-, gas- and diesel-powered models, as well as hybrid models that use electric and diesel or gas, making them suitable for work indoors or outside.

In addition to their reach and access capabilities, AWP's offer tools and accessories to increase productivity. Platforms can be equipped with workstations that include welding units, storage bay for parts and hardware, saw and drill ports, rail-mounted vises, and light towers for illumination. Some also feature outlets on the platform, which makes using rechargeable tools easy. Newer boom lifts incorporate electric, air and water lines inside the boom, and onboard generators offer uninterrupted tool operation when the lift is moved.

### Telehandlers move materials

Sometimes tasks require materials to be moved, in which case a telehandler might be the machine of choice. Equipped with telescoping booms, telehandlers can deliver materials to mid-range heights and can carry and maneuver extremely heavy loads.

For smaller loads, compact telehandlers are available. These machines feature tight turning radii and low profiles for outstanding maneuverability in tight spaces.

A variety of attachments enhance the versatility of telehandlers. Buckets, for example, scoop and carry loose material and debris like gravel or dirt. A material bucket, along with sweeper attachments, can also be used for clean up around job sites. Other popular attachments include work platforms, which can be used to carry people; sheet metal adapters, for moving

large, flat materials, such as drywall or plywood; and fork carriages, which are available in a variety of widths and offer varying degrees of rotation and side tilt.

So many of the tasks facility managers perform or manage can be accomplished more efficiently and safely with the help of AWP's and telehandlers. Asking the right questions about the task to be performed and becoming familiar with equipment capabilities will go a long way toward ensuring that tasks are completed on time and within budget. **FMJ**



**Brian Boeckman** is the global product director for telehandlers at JLG Industries, Inc. In this role, he is responsible for worldwide management of

the company's full line of telehandling equipment, which is sold under the JLG, SkyTrak and Deutz Fahr brands. Since joining the company in 1995 as an electrical engineer, Boeckman has held significant roles in product management, program management and telehandler engineering.

Boeckman holds an MBA from Frostburg State University. His undergraduate degrees include a bachelor of applied science in electronic engineering technology from the University of Toledo and an associate of applied science degree in industrial electronics from Wright State University.



**Corey Raymo** is global category director of booms at JLG Industries, Inc. In this role he is responsible for worldwide management of the company's full line of

boom lifts. Raymo joined JLG in 2001 as an engineer in mechanical design. Since then he has held a variety of positions at JLG, including corporate warranty manager, director of product support engineering and director of engineering. He was promoted to category director of scissors before being named to his current position in 2014.

Raymo holds an MBA from Penn State University, where he also earned a bachelor's degree in mechanical engineering. In addition, he is a certified Six Sigma Black Belt.



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# STRATEGIC SOURCING FOR FM

BY TERRY SAMBROWSKI



A US\$6 billion global high-tech company was looking for ways to cut its supply costs. The company's previous procurement program could best be defined as "simple purchasing." Using this outdated system, the company purchased products — for both facility and business operations — from about 40 different vendors, as materials were needed.

However, in an effort to reduce costs and streamline business operations, this company started annually ranking its suppliers, giving them grades based on tangible items, such as their product prices, the quality of the items ordered, delivery times and responsiveness to issues. They also looked at less tangible variables, such as how well these vendors aligned with the tech company's goals, ethics and ways of doing business.

With all of these metrics analyzed, the company eliminated vendors that did not "fit" its business. The company officials also did the same with suppliers that tended to have higher charges compared to other vendors for the same or similar products, as well as with those that did not meet requirements based on the grading criteria.

The tech company then approached the remaining vendors with a proposition: In exchange for greater purchasing demand and more sales (due to fewer vendors), they asked to renegotiate terms, costs and delivery procedures in order to achieve higher savings and smoother business operations. Ultimately, the result was a cost savings on overall purchasing over 10 percent.

This example is one component of what is called strategic sourcing, a term with several definitions that can be best understood through a focus on some of

its key features and benefits. According to a report by the University of Michigan,<sup>1</sup> strategic sourcing encompasses such items as:

- A focus on the total cost of ownership of a product, considering such issues as organizational needs and goals
- Getting the best product or service at the best value
- Leveraging savings (renegotiating charges, as referenced earlier)
- Making purchasing decisions on a fact-based analysis

In general, it's important to recognize that strategic sourcing is an ongoing process, not a one-time project.

Many large corporations and other organizations have adopted one or more forms of strategic sourcing in order to help achieve exactly what the high-tech company from the example scenario accomplished. However many others, including facility management organizations, which may be purchasing millions of dollars' worth of products from scores of different vendors every year, do not use strategic sourcing for their business operations. The end result: These facility managers may very well be paying considerably more and facing more procurement issues than needed.

Let's look at some other terms that apply to procurement and purchasing. While they may not all result in dramatic cost savings for facility managers, they typically can help smooth out procurement procedures, which likely will result in enhanced efficiencies that may produce savings on their own.



## Product mapping

Because it involves a grading system, the first term we should logically discuss is called product mapping.

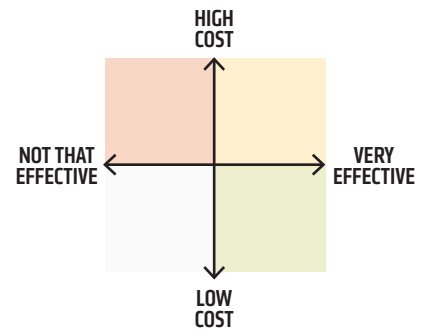
With product mapping, instead of grading vendors, the focus is on grading products.

The following scenario illustrates the product mapping concept.

A facility management organization was purchasing a variety of floor care products (cleaners, strippers, finishes, etc.) from several different vendors for its many properties. With some facilities, the products purchased were essentially “grandfathered in” when the management company took over the properties.

These properties all had similar hard-surface floors. Because of this, the managers, working with their in-house and contracted cleaning crews, decided to analyze all the different floor care products — first looking at such factors as costs and effectiveness. Later, they analyzed the same products, as well as other cleaning-related products, based on attributes like ease of use, durability (where applicable), environmental issues, etc.

Since the managers were only considering costs and overall effectiveness of the products at this point, they outlined the following quadrants for comparison, at top right.



They placed their many floor care products on the map reflecting the analysis. After viewing the map, they decided to eliminate all products judged to be “not that effective.” They then weeded out those products that were the most expensive but, according to the map, similarly effective as less costly floor care products. They then turned their attention to the least costly products that were also judged to be very effective, marking these as the products they would continue purchasing.

Along with cost savings, this facility management organization found other benefits from the product mapping exercise, such as:

- Reducing the number of vendor relationships to maintain
- Eliminating products that were less effective than others, along with eliminating product redundancies (too many products that do the same thing)
- Reducing training needs and time (fewer products means custodial workers need training on only those products)
- Fewer safety data sheets to maintain at facilities
- Opening up of storage supply space
- Streamlining ordering
- Gaining the ability to cost leverage with vendors (offering larger-volume purchases in exchange for lower costs and other benefits)

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## Group purchasing organizations

Group purchasing organizations (GPOs) are more than a century old and began in the health care industry. While health care is still the largest market for GPOs, they are spreading to other industries, including food service, other service industries, and, for larger contract cleaners, the professional cleaning industry. Essentially, a GPO leverages the purchasing power of its members to obtain discounts from vendors (usually manufacturers).

Unless a facility management organization is a member, it may not benefit from a GPO directly. However, these organizations certainly can benefit from GPOs indirectly. The following scenario outlines how a GPO can provide a competitive advantage.

A facility management company accepts bids to handle the cleaning needs of several of its properties. The company's decision-makers have narrowed the field to three respected contract cleaning companies that meet their standards and requirements. The bids of two of the cleaning companies were essentially the same. However, one bid was about 15 percent less than the other two.

When the managers met with the three qualifiers, they asked the contractor why his bid was considerably less than the others presented. The contractor responded that his company is a member of a GPO. Because he is paying less for cleaning-related chemicals, tools and equipment, he is able to pass on a percentage of those savings to his clients and prospective clients.

While astute facility managers certainly do not select cleaning contractors simply based on the lowest bid, with all other things being equal, why not take advantage of these indirect cost savings?

## Inventory days of supply

Back in the 1970s and 1980s, many U.S. manufacturers were beginning to lose market share to Japanese companies. One of the reasons for this was that the Japanese companies often could produce similar products of the same or better quality, but at a lower price. Investigating how they were accomplishing this competitive edge, the U.S. manufacturers discovered that many of these companies employed a method referred to as just-in-time (JIT) purchasing.

Instead of procuring huge volumes of products and supplies with each purchase order, which was very costly and also could increase warehousing costs, they made smaller purchases only when they needed the products. Among other benefits, this helped them monitor their costs more effectively as well as reduce overall costs because they were only purchasing products if and when needed.

However, further research indicated some potential issues with JIT purchasing. What if the manufacturer needs a certain component or part but it was out of stock? In a worst-case scenario, it could halt production. What often happened is manufacturers had to seek other sources for a similar product, often costing considerably more than what they were paying, or have their current supplier rush to manufacture the necessary products, which could again cause cost increases.

While a JIT program can result in cost savings, purchasing should include some type of product inventory plan. Often these programs go by such names as "inventory days of supply," "inventory turnover" or an "inventory-days-on-hand" program.

Whatever term is used, these are essentially forecasting tools that allow organizations — and facility managers — to make purchases on an as needed/when needed basis, help smooth out business

operations as it applies to procurement, taking advantage of potential product cost savings, and avoid "stock out" or product shortage situations. These programs can also be designed to take advantage of large quantity discounts.

Calculating inventory days of supply or inventory turnover can be a bit complicated. Software programs are available that can help make the process easier, and facility managers are advised to work closely with suppliers in creating a program. However, savings are possible, many times even considerable, so it is another procurement program that should be investigated.

## The bottom line

The goal of discussing these purchasing and procurement programs is to help facility managers realize that an effective purchasing program can result in significant cost savings. Weeding out vendors and products that do not make the "grade" as well as taking advantage of GPOs and inventory management

programs are all part of a well-run, efficient and cost-focused organization. When it comes to streamlining operating and controlling costs, no leaf should remain unturned, including procurement operations. **FMJ**

## REFERENCES

1. [ast.umich.edu/pdfs/What-is-strategic-sourcing-102811.pdf](http://ast.umich.edu/pdfs/What-is-strategic-sourcing-102811.pdf)



**Terry Sambrowski** is vice president and executive director for National

Service Alliance and has been with the organization since July 2001. She played a major role in expanding the vendor partnerships offered to members.

National Service Alliance is the industry-leading group purchasing organization for independently-owned building service contractors and related businesses in the U.S. NSA is headquartered in Charlotte, North Carolina, USA. Visit [nansa.org](http://nansa.org) for more information.

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# BRIDGING THE GAP BETWEEN FM AND IT

BY ROBERT MARTENS

The adoption of technology in physical access control has proven incredibly beneficial for facility managers, but it has also necessitated a closer integration of FM and IT teams. While overcoming perceived cultural differences and knowledge gaps on both sides can seem daunting, proper integration of these new systems requires both departments to not just tolerate, but actively collaborate with, each other.

In the past, when integrators were brought in on large security projects, one of the first tasks was often to introduce the chief information officer (CIO) and FM. This unfortunate situation still occurs in some facilities, particularly on large college or business campuses, but after years of discussion about the growing involvement of IT in areas that were traditionally the sole responsibility of facility managers, we are finally beginning to see more successful blending of physical access control and IT.

As facility managers have grown in general technical savvy, CIOs are becoming more familiar with physical access control information and best practices. Companies are beginning to recognize that there is no surrogate for physical access control knowledge, and that even if they purchase the

best systems money can buy, if they are applied incorrectly or if those systems do not have the basic connectivity and bandwidth necessary, they won't function properly and the facility will still be insecure.

If they are to have any hope of withstanding cyber or physical threats to organizational safety and security, FM and IT must cultivate what is known as "tribal knowledge," or collective wisdom. Ultimately, the success of this convergence depends on the willingness of facility managers to share their in-depth knowledge of buildings and their systems with CIOs, and the ability of both parties to set aside differences, recognize shared goals and begin fostering an open and interactive relationship.

#### **Security partners**

Although there has been progress, few facilities can claim to be fully integrated,

## FM's are uniquely positioned to know the technological secrets of their buildings.

and an almost palpable disconnect often lingers between IT and FM. Convergence can be difficult, because each team has its own priorities, perspectives and opinions. While CIOs own the budget and digital assets, they may have no grounding in physical

access control. Meanwhile, facility managers understand that they will be held accountable for a security breach regardless of who has ultimate fiscal responsibility, and may therefore be hesitant to relinquish control.

However, the adoption of technology continues to evolve the facility management role and, subsequently, FM's relationship with IT. It's becoming apparent that the institutional knowledge of facility managers, combined with an aptitude for technology, can result in formidable leadership. Many FM's are now capable of doing and understanding things that many IT executives are unable to do. In addition to being the traditional jack-of-all-trades, today's FM is apt to be technologically savvy, to the point of having far more knowledge of what data is being collected by the facility's systems than the CIO.

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But the full scope of data and resources facility management teams own is likely just the beginning of the list of things a CIO won't know and, without input from FMs, CIOs can paint themselves into a corner very quickly — not just from a physical access control standpoint, but also concerning data management and cybersecurity. FMs are uniquely positioned to know the technological secrets of their buildings — from Wi-Fi dead zones to overall network reliability.

This level of familiarity with the facility means FMs are the experts who determine what combination of mechanical versus electronic solutions makes sense for each application. They are best equipped to determine whether battery-operated or hardwired systems are better suited for egress areas based on traffic frequency at each point, as well as any fire, life safety and compliance codes that may impact the decision. It's not enough to be familiar with the technology; someone needs to know how to properly apply it. Smart CIOs will recognize this fact and begin to view FMs as true partners in maintaining safe and secure facilities.

### Common ground

In the past, one could joke that CIOs thought that egress was a rare waterfowl and facility managers thought that encryption was a funeral burial option. Thankfully, that level of disconnect is changing, though not as rapidly as many facility managers would like.

Often, the best solution for bridging this gap is to bring on an integration partner to facilitate assimilation of more than just security systems, but also the people and their skillsets and cultures. Integrators can start with the basics, whether that means making long-overdue introductions, or helping the teams level set on the needs of IT versus those of FM.

One of the best analogies for the role that integrators play is that of a symphony conductor. Just as conductors ensure that the disparate

parts of a symphony are played in harmony, integrators support a smooth collaboration process. Integration partners can help mediate differences that may arise between IT and FM teams, particularly for those organizations still in the early stages of working toward true interdepartmental cooperation. They can also help establish effective methods of communication as well as create a plan for deployment.

As a neutral third party, integrators are ideally suited to blend IT teams' strong understanding of network capability with the detailed facility knowledge and best practices represented by FMs. They can also be incredibly successful at building the framework for future partnerships.

Sometimes, the most effective method for resolving differences is to highlight the similarities between the two sides, as they may have more in common than either would suspect. Both departments are under a tremendous amount of pressure and spend long hours ensuring business-as-usual operations for other teams — efforts that may go unnoticed unless something malfunctions. Failure is never an option.

Both teams guard against the threat of unauthorized access while ensuring maximum convenience and accessibility for authorized users. Both the computer codes of one field and the fire and life safety codes of the other require incredible attention to detail to implement effectively. Both teams must deal with end users whose behaviors may unwittingly compromise security, whether this manifests in the form of propping open a fire door or inadvertently downloading malware.

Sharing these types of stories should prompt enough commiseration to break the ice and allow both sides to recognize their shared goal of safeguarding facility occupants and assets. While there's no denying the number of differences — both real and imagined — to overcome, there is more than enough common ground on which to build a foundation of trust and active collaboration.

### Collaboration is key

Technology continues to advance at an incredible pace, but the speed at which these two groups can bridge knowledge gaps and learn to work together effectively is the biggest factor in determining how adoption will take place.

Although many of today's FMs are exceptionally tech savvy, some still lack a basic understanding of networking. It's not necessary to become an IT expert, but as products increasingly become tech-enabled, it's important to know the basic vocabulary. Good manufacturers aim to make their products simple to use, but understanding how they will interact with the physical and technological realities of your facility will make or break implementation.

Once you've overcome these obstacles, you may need to help the CIO understand the basics of physical access control — points of egress, points of entry, and the different requirements of high- versus low-traffic areas and what they mean. A few lessons in regulation compliance and fire and life safety codes may be necessary as well.

It's likely that both the IT and FM teams could benefit from a greater degree of mutual understanding, and a good integrator can facilitate this process. However, the real change that must occur is for both sides to begin treating each other as equal partners in the shared objective of maintaining a safe and secure environment for facility occupants. **FMJ**



**Rob Martens** is the futurist and director of connectivity platforms at Allegion. He focuses on forward-looking solutions and is responsible for staying up-to-date on

emerging trends such as the Internet of Things. Martens has more than 11 years of experience in the safety and security industry, focusing on technology, innovation and business intelligence. Learn more at [us.allegion.com](http://us.allegion.com).



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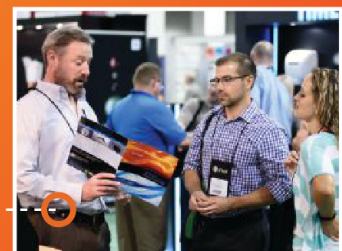
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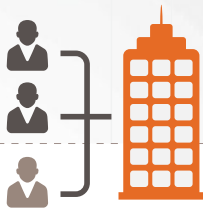
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## Prologue: Pre-conference activities...



**Tuesday**  
**Oct. 4, 2016**

- 7 a.m. - 2:30 p.m.** 2016 Doug Underwood/Utilities Council Golf Tournament
- 7 a.m. - 5 p.m.** Satellite Registration @ Marriott Marquis
- 7:30 a.m. - 5 p.m.** On-site Registration @ San Diego Convention Center
- 12 p.m. - 5 p.m.** IFMA Foundation Silent Auction
- 1 p.m. - 5 p.m.** Facility Tours
- 2:30 p.m. - 4 p.m.** IFMA House of Delegates & Annual Meeting
- 7 p.m. - 10 p.m.** IFMA Foundation Celebration



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# Chapter 1: The story begins...



**Wednesday**  
**Oct. 5, 2016**

**7 a.m. - 10 a.m.**

**7 a.m. - 6 p.m.**

**7:30 a.m. - 8:30 a.m.**

**7:30 a.m. - 10 a.m.**

**8 a.m. - 9 a.m.**

**8 a.m. - 5 p.m.**

**10 a.m. - 11:30 a.m.**

**11:30 a.m. - 12 p.m.**

**11:30 a.m. - 4:30 p.m.**

**11:30 a.m. - 2:30 p.m.**

**1:30 p.m. - 4 p.m.**

**5:30 p.m. - 6:30 p.m.**

**7 p.m. - 10 p.m.**

Satellite Registration @ Marriott Marquis

On-site Registration @ San Diego Convention Center

Wellness Class

IFMA Council Meetings

First-time Attendee Orientation

IFMA Foundation Silent Auction

Welcome & Opening Keynote Address

Opening Keynote Book Signing

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## Chapter 2: The plot thickens...



**Thursday**  
**Oct. 6, 2016**

7 a.m. - 4 p.m.  
7:30 a.m. - 5 p.m.  
8 a.m. - 9 a.m.  
9:30 a.m. - 10:30 a.m.  
10:30 a.m. - 3 p.m.  
11 a.m. - 2 p.m.  
11 a.m. - 2:30 p.m.  
3 p.m. - 4 p.m.  
4:15 p.m. - 5:15 p.m.  
5:30 p.m. - 6:30 p.m.

On-site Registration @ San Diego Convention Center  
IFMA Foundation Silent Auction  
Concurrent Educational Sessions 1.01-1.12  
Concurrent Educational Sessions 2.01-2.12  
Expo Hall Open  
Solutions Arenas (Expo Hall)  
Lunch (Expo Hall)  
Concurrent Educational Sessions 3.01-3.12  
Concurrent Educational Sessions 4.01-4.12  
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## Chapter 3: The grand finale...



**Friday**  
**Oct. 7, 2016**

7 a.m. - 2 p.m.

7:30 a.m. - 1 p.m.

8 a.m. - 9 a.m.

9:15 a.m. - 10:15 a.m.

9:30 a.m. - 10:30 a.m.

10:30 a.m. - 11:30 a.m.

10:30 a.m. - 11:30 a.m.

11:45 a.m. - 12:45 p.m.

1:15 p.m. - 2:15 p.m.

2:15 p.m. - 3:15 p.m.

3:15 p.m. - 3:45 p.m.

6:30 p.m. - 11 p.m.

On-site Registration @ San Diego Convention Center

IFMA Foundation Silent Auction

Concurrent Educational Sessions 5.01-5.12

Concurrent Educational Sessions 6.01-6.12

FM Internship Session

Concurrent Educational Sessions 7.01-7.12

ADP Development Information Session

Concurrent Educational Sessions 8.01-8.12

IFMA's Awards of Excellence Luncheon

Closing Keynote Address

Closing Keynote Book Signing

IFMA's Awards of Excellence Banquet



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# DIGGING OUT OF **DEFERRED** MAINTENANCE

**FMJ EXTRA**



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No More  
Firefighting





BY JOHN RIMER

Excitingly, the facility industry continues to mature, advancing the stature of FMs within organizations. However, one key anchor impeding that progress is the aging infrastructure that exists in many facilities and the subsequent reactive maintenance it creates. This reactive firefighting is a drain of valuable personnel and financial resources, and it negatively impacts the triple bottom line and the image of facility management professionals within organizations.

In a recent survey conducted by FM360, 40 percent of respondents reported that aging infrastructure remains their biggest challenge in 2016. Deferred maintenance is often the result of many years of insufficient capital reinvestment into facility infrastructure. In these cases, management does not recognize the importance and necessity of funding equipment replacement.

This is caused by the inability of FMs to successfully sell and market the value of facilities and related services. However, nearly 60 percent of survey respondents indicated that they now have a seat at the management table or are at least making progress in that regard. Thus, now is the time to assemble and sell a plan to management that digs out of the deferred maintenance backlog and sheds the anchor holding your FM team back from success.

#### **Capital reinvestment planning**

The most effective way to crawl out of this proverbial hole is to replace the equipment that is at or beyond its useful life expectancy. For most, the capital bucket is not sufficiently large to bail out all of the assets in this category in a timely fashion. This is why FMs must be armed with a strategic,

long-range plan that will generate a consistent, manageable budget designed to refresh existing equipment, both now and in the future.

### ASSIGN CRITICALITIES

This first step in developing a capital reinvestment plan is to assign system and equipment criticalities that accurately align with the organization's overall strategy. These criticalities will assist in prioritizing the proposed capital expenditures and justifying the expense to management.

Consider the following general criticality/priority recommendations:

- **Life safety and regulatory**
- **Direct impact to production** – failure of equipment would stop production or make the space uninhabitable (such as lack of adequate fresh air or running water)
- **Indirect impact to production** – failure of equipment would not stop production but could inhibit productivity (such as reduced capacity or inability to maintain comfortable space temperatures)
- **Support equipment** – failure of equipment does not affect production and is more of an inconvenience (e.g., a bathroom exhaust fan)
- **Miscellaneous** – failure is inconsequential

Most computerized maintenance and asset management systems readily accommodate the addition of this type of data.

### CONDUCT A FACILITY CONDITION ASSESSMENT

Second, conduct a full-scale facility condition assessment (FCA) to clearly evaluate the existing condition and anticipated replacement date and costs. If an FCA has never been performed, organizations typically solicit outside assistance to generate a

baseline and to establish an initial one-, three-, five- and/or 10-year capital forecast.

However, if this is financially unfeasible, internal expertise and outside contractors can be leveraged to conduct the assessment. While this may be a bit rudimentary and require more effort on your part, the outcome should still satisfy the objective.

### SMOOTH OUT THE PEAKS AND VALLEYS

The resulting capital budget will need to be massaged to smooth out the peaks and valleys and avoid a schizophrenic budget that keeps management waiting for the next surprise. Considering the aforementioned assigned criticalities and current equipment condition, some replacements can be pushed out, while others will need to be brought forward to generate consistent, steady-state expenditures.

Forecasting at this level is critical to the success of capital reinvestment planning as the intent is to propose a consistent, manageable budget. This will likely mean that the proposed budget will be significantly higher than what has been spent in the past. However, once the initial shock has worn off, hopefully management, with your expert selling, will see the need to support the budget.

### RINSE AND REPEAT

An FCA, which is essentially a facility inspection, should be performed annually. You should be able to conduct subsequent assessments using internal resources by updating the previous year's FCA and corresponding capital forecast, and leaning on contractors/consultants for support as needed.

The end goal is to continue justification for a steady, sufficient, year-over-year budget that you can divvy out per plan (with flexibility) to refresh end-of-life assets. Use the annual updates to show senior management how the organization's capital investments are reaping benefits, including reduced corrective maintenance costs and lower facility condition indices.

NOW IS THE TIME TO ASSEMBLE A PLAN THAT DIGS OUT OF THE DEFERRED MAINTENANCE BACKLOG AND SHEDS THE ANCHOR HOLDING YOUR FM TEAM BACK FROM SUCCESS.



### Operational strategies

Aside from money, another strained resource for most facility organizations is personnel. The increasing exodus of retiring Baby Boomers will further this strain and the industry's ability to satisfactorily operate and maintain facilities. Already, the reactive nature of many organizations means that some facility departments operate at only 20 to 40 percent efficiency.

The deciding factor in resolving this conundrum is the deliberate migration from costly, inefficient, reactive maintenance to planned, scheduled maintenance. This paradigm shift can be easier said than done, especially for those whose portfolios are comprised of high facility condition indices; hence the need for capital reinvestment. However, we cannot and should not wait for the financial coffers to open before making a migration plan and sticking to it.

### PRIORITIZE WORK

A necessary step toward proactive FM is to prioritize planned maintenance over corrective maintenance. This can be difficult, especially if your organization normally responds quickly to customer complaints and service requests.

Facility managers and staff will have to work to adjust stakeholder expectations while selling the value of scheduled maintenance. However, the ultimate aim is to move from the "squeaky wheel" approach to a strategic, business-driven use of resources and support of the overall organization's vision and mission.

Some computerized maintenance management systems can auto-assign work order priorities based upon equipment criticality, maintenance type and frequency; however, such automation may require expensive customization. The manual alternative is to utilize a scheduler to prioritize and assign work. An administrator can be an invaluable contributor to the department by assigning and dispatching tasks, following up with customers, coordinating contractors, tracking work orders to closure, and ensuring accuracy of data entry. This will enable you to keep higher-paid laborers in the field instead of at a desk.

### SCHEDULE RESOURCES

There is no switch you can flip to transform your department from reactive firefighters to proactive practitioners overnight. Once work orders are prioritized in accordance with the organization's strategic objectives, you must deliberately distribute work to begin the transformation.

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A practice that works for some organizations is setting aside resources solely to focus upon planned activities while remaining team members continue battling the flames. For example, if there are five building engineers, dedicate two of them to completing planned maintenance. As time and the program advance, dedicate three and then eventually four to planned maintenance, leaving the fifth to respond to service requests and corrective maintenance. This approach works when multiple staff with similar, or at least necessary, skillsets are assigned to one building or group of buildings.

As an alternative to dedicating personnel, set aside days or parts of days for planned maintenance. Start with reserving a day or two, then slowly add days until approximately 80 to 90 percent of time is attributed to planned maintenance. Another option to consider is utilizing outside contractors to supplement your team's internal efforts. Any of these approaches, or a combination thereof, should progress your team toward a proactive, planned maintenance program.

#### MONITOR AND MARKET PERFORMANCE

Monitoring and managing the performance of your team and the exercise of operational and capital dollars to deliver organizational value is critical to the success of digging out. Some basic key performance indicators to assist with these efforts include:

- **Planned to unplanned maintenance ratio:** Generally a ratio of 80 percent/20 percent is feasible; however, if your team is currently closer to 20 percent/80 percent, then you may want to set iterative goals as you work toward reversing that balance. Note that critical environments, such as health care, data center and manufacturing facilities, should target 90 percent planned to 10 percent unplanned maintenance.
- **Work order completion by priority:** This ensures that the most important maintenance is accomplished given existing resources. At minimum, 100 percent of priority 1 and 2 work orders should be completed on time; completion percentages for the remaining priorities can trail off based upon current conditions and resource constraints. However, the end goal is to see each of the respective percentage completions improve over time, with a delineation between planned and corrective maintenance.
- **Average backlog:** This is useful to track if your team is digging out or getting further behind. If you are falling behind or never catching up, the backlog can be used to justify additional

resources and required skillsets. Measure your backlog in days — you don't need to ensure it reaches zero, but rather keep it at bay.

As part of selling the FM team as a strategic contributor, share and publicly market this data throughout the organization.

#### Maintenance strategies

Moving your FM team toward proactive operation likely requires a review of currently deployed maintenance strategies to identify opportunities to leverage technology in lieu of staff resources.

Preventive maintenance is typically intrusive and often requires downtime, which corresponds to more labor and possible production impacts. Additionally, preventive maintenance can often introduce failure modes that would not exist had the maintenance not been performed.

This does not mean you should adopt a run-to-failure approach; rather, assess systems to determine if they are good candidates for predictive and condition-based maintenance methodologies. Both leverage technology to discern equipment condition, including performance deficiencies, and do not typically require downtime. Other technologies, such as building control systems, can and should also be utilized to trend and track equipment performance, alerting engineers not only to parameter excursions but to inefficiencies.

Facility managers are business managers; thus FMs must develop and implement plans that deliver value to the triple bottom line. The above strategies are key contributors to ensuring the success of your facility team and organization. The associated tasks may seem like wishful thinking or unattainable. However, your organization and FM team cannot afford to do nothing. The key is to start somewhere. Make a plan, sell it, stick to it and watch the change happen! **FMJ**



**John Rimer, CFM**, is president of FM360 Consulting and has 18 years' facility management experience in a variety of capacities and industries. He uses his breadth of knowledge and diverse expertise to provide a comprehensive perspective to his clients and students.

Rimer is very active in the facility management community and an avid proponent of education. As such, he is an IFMA Qualified Instructor and an approved Building Operator Certification instructor.



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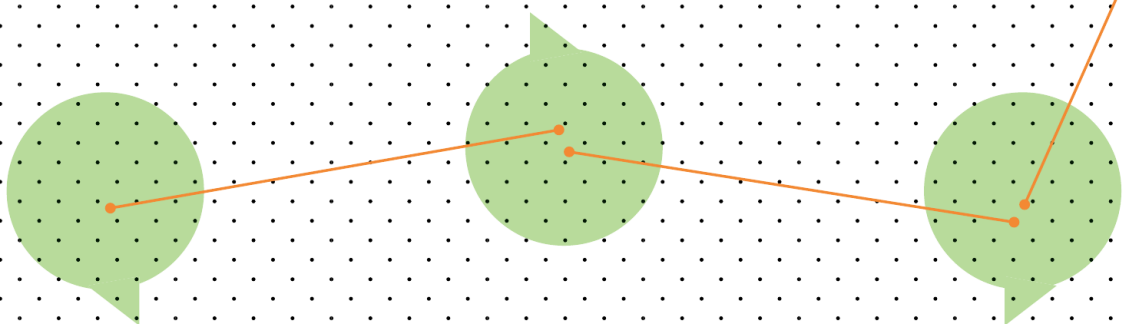


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# communicate

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# getting the fm message across



BY BILL CONLEY

“What we’ve got here, is failure to communicate.” Based on historical (and cinematic) context, this is a statement no one wants to hear; it definitely reflects a perception that spells trouble for FMs.

Transparency, accountability and understanding are paramount to facility managers’ success. Lack of communication negatively impacts the awareness and appreciation of what facility management delivers to its stakeholders. Facility professionals must be willing to communicate often and be able to do so well.

Communication is more than a tool. When used correctly, it can be an asset. When it is not used, or used incorrectly, it can be a detriment to success in the workplace. Informing people is giving out; communicating with them is getting through.

Effective communication, also called open communication, prevents barriers from forming between personnel and the facilities group that might impede progress in striving to reach common goals. Misunderstandings and lack of continual updates can cause friction and foment negative perceptions. This can be avoided by ensuring that customers are informed and involved as work goes on. Such empowerment will lead to long-lasting employee motivation that can translate into increases in productivity and efficiency.

For businesses to function as desired, managers, upper-level employees and facilities must be able to interact clearly and effectively through both



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# Informing people is giving out; communicating with them is getting through.

verbal and non-verbal communication to achieve specific business goals.

## To whom

Words are words, until they are applied correctly. Data is data until it is interpreted and utilized. Neither is of any use when employed in the wrong context. In order to get meaningful points across, ensure that the message fits the audience. Just like a business or any organization, the FM team has stakeholders to satisfy. This group includes anyone with a vested interest in the facility and its successful operations. Facilities staff, employees, vendors, management, shareholders, local jurisdictions and even the community fall into this category. Each of these entities need to be addressed in language they understand.

In that respect, facility managers need to be multi-lingual. When talking to financial people, they need to talk in terms like internal rate of return, return on investment and net present value. When presenting to those in human resources, discussions should revolve around how facilities can improve indoor environmental quality and productivity, or lead to the attraction and retention of good employees. In talking to vendors, establishing the benefits of life cycle assessments and sustainability will lead to better partnerships.

Each stakeholder group has its own hot topics and needs. Addressing them specifically and in terms that resonate will build a better rapport and improve cooperative efforts.

Operational definitions are also important. Ensure that no assumptions are made in discussions on what terms mean or imply. Both parties need to speak the same language using operational definitions that have been established and clarified.

In a facility, one of the easiest ways to know and understand customers is through the “manage by walking around” approach. This allows facility managers to assess what types of contact work best based on daily interactions. Typically, the best process of laying a strong base of understanding and trust is well-thought-out discussions in face-to-face meetings. This helps develop relationships with key people, managers and gatekeepers, and create an awareness of who is best aligned to receive and disseminate communication.

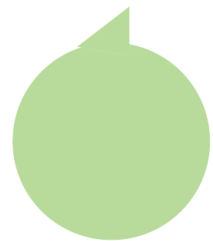
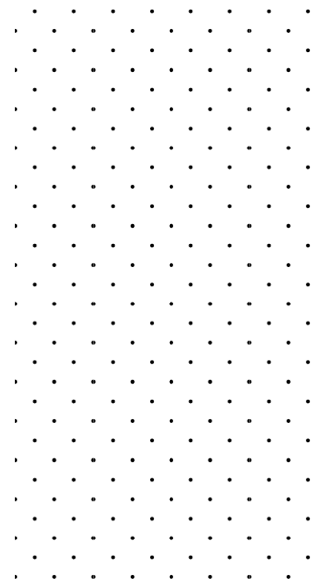
It will also inform FMs as to what communication method results in the best response. Some customers will prefer hard copy correspondence versus electronic; others would rather have personal visits instead of email. Figuring out how coworkers like to receive information will make efforts move along more smoothly.

Another lesson that can be learned through familiarity with your customers is how to deliver a message. If a message is too informal, the customer might feel as if he or she is being patronized or, worse, that the communication attempt is insincere. If a message is too formal, the customer might feel that he or she is not being talked to at all. Use plain, straightforward language that expresses the message simply and clearly.

## What did they say?

Initiate dialogues that create synergy, define expectations for both parties and frame perceptions. Two monologues do not make a dialogue. Communication is two-way and isn't about one side doing all the talking.

One of the best ways to communicate well is to listen well. Both parties must talk, but more importantly, FMs must listen. Stakeholder



needs should become clear based on what FMs hear and the questions they ask, although sometimes the conversation needs to be steered in a direction that serves both parties.

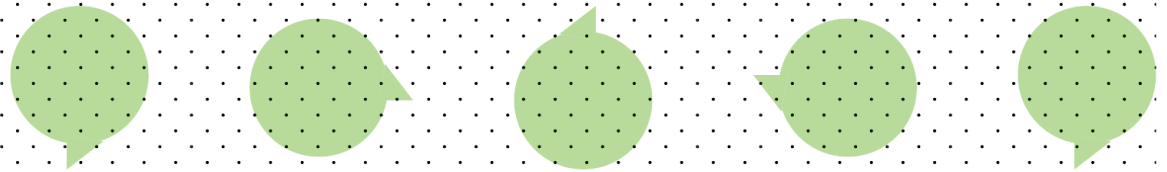
One mistake people make is forming a response while someone else is talking rather than fully listening to what is being said. This is when key information is missed. Good listeners are not only popular everywhere, but tend to learn something in the process.

### **Eschew obfuscation**

One of the most important avenues to success is ensuring that communication pathways are open and that trust is earned. Eliminate or avoid confusion through clear messaging and two-way channels. Conversely, customer frustration at a lack of concise, relevant communication can lead to misguided perceptions.

Everyone has a filter, and not everything is heard how it was intended. Many negative situations can arise from making incorrect assumptions, especially in an email or a text message. In these situations, people often find themselves determining a tone of voice when there is none.

Perceptual barriers have always been a constant in workplace communication. The main problem with perception is that people look at the world differently and interpret it their own way. One way to avoid perceptual barriers is to remember there are other view points and opinions out there; everybody has their own. Unless a message is clear and unequivocal, it may be taken the wrong way. It is important when delivering a message that it is obvious to everyone what was said and what was intended.



Use plain,  
straight-  
forward  
language that  
expresses the  
message  
simply and  
clearly.

The key is to be proactive. Tell them about milestones reached, and about milestones almost reached. Provide regular status reports so that the client never feels in the dark or out of control. Documentation is key to ensuring all bases are covered. FMs should keep negative news to a minimum. If there is a challenge or an issue that needs to be resolved, have a possible solution in mind.

One thing about which FMs must be careful is to try and minimize questions on status from the customer to avoid continual queries. Supplying customers with ongoing updates and maintaining engagement will mitigate negative perceptions. If a customer does initiate contact, FMs should be responsive to their needs and empathetic to the challenges they face. Otherwise, tell them what's been done, what is going to be done and get it done.

An inherent challenge in dealing with communication is the clarity of the message. Sometimes the message sent isn't always the message received. Messages tend to get distorted.

### **Create a plan**

There are a lot of aspects involved in the proper and efficient communications from a facility management team. One way to keep them all in place and as a part of the overall efforts of FM is to develop and implement a facility management communication plan, including messages, reminders, vision and mission.

Communications planning takes the customer as the starting point, and recognizes that people don't experience messages in neatly wrapped and singular packages. Customers build an overall and ever-shifting impression of facility services through a non-linear set of messages, both stated and observed.

The plan should be designed to help advance FM proposals and programs and improve the perceived value of facility management through positive messages and proactive communication. It will serve to promote FM information and recommendations to internal and external stakeholders, manage/oversee perceptions and expectations, and be used to prepare reports.



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A communication plan should include:

- **Who:** *target audience(s)*
- **What:** *key messages to articulate*
- **When:** *appropriate timing for delivery of each message*
- **Why:** *desired outcomes*
- **How:** *selected media/communication vehicle and techniques for each situation*
- **By whom:** *facility manager or designee*

A communications plan can cultivate the practice of both responses to requests and the supply of constant updates. It can provide a template for preparing and delivering messages to achieve an intended result. It will help keep customers apprised of current and future project status and ensure they never feel left in the dark or unsure of what is occurring.

### Work the plan

One unfortunate aspect of life is that that many good things go unnoticed; good attempts go awry; wants are fulfilled instead of needs. Effective communication can be used to close those gaps. For a facility manager, there are three key deliverables from a good communications program:

- Telling everyone the benefits of the department — what has the FM department done for them lately? If FMs don't blow their own horn, no one else will.
- Informing everyone what is transpiring in the workplace and why it's happening.
- Convincing everyone that FM initiatives and projects will be beneficial to the facility, the employees and the business.

These objectives can be achieved by being proactive: reaching out to the customers regularly rather than waiting for them to approach. Periodic updates should be frequent and to the point. One of the most important avenues to success is continuous engagement. The department needs to be transparent. Customers should always know what's going on, how things are being done and how this relates to their needs. In the workplace, no one like surprises.

In order to fully serve and satisfy any customer, expectations must be defined. It should be understood what they need, as well as what support or assistance they will receive from the facilities department. Once needs are understood, the FM team can create a feeling of trust and

establish a positive comfort level. In the beginning, customers may not be used to constant updates, but they will definitely appreciate them.

All communications should be duplicated. Follow up on phone calls via email, and vice versa. Clarification is often needed and sometimes one medium won't be enough to suffice. If all other types of communication fail, try words. Personal contact is important. People relate to one another better when they can meet in person and read each other's body language, so they can feel the energy the connection creates.

Communication is one of the 11 core competencies of facility management as defined by IFMA, which reflects how tremendously important it is in this arena. However, a case could be made that it is one of the most important attributes of an FM that needs to be cultivated and utilized. Effective communication in the workplace plays a prominent role in developing a cooperative and willing employee base as FMs strive to improve on the facility function.

One of many positive benefits gained from well-established organizational communication is improved relationships. Facilities' job is to enhance the ability of employees to be productive. Things go smoothly when everyone is on the same page, understanding the goals and the direction in which a company is vested and what the day-to-day and long-term contributions facility management delivers to realize those ends. If there is not a failure to communicate in the workplace, then sustaining success is that much more achievable. **FMJ**



**Bill Conley**, CFM, SFP, FMP, LEED AP, IFMA Fellow, is facility manager at Yamaha Motor Corp. in Cypress, California, USA. Prior to that, he served as owner and chief sustainability officer of CFM2, a facility management

and sustainability consulting company. Conley has more than 40 years of experience in the facility management profession and has been a proponent of sustainable operations for more than 20 years.

Conley has served on the IFMA board of directors, is a recipient of IFMA's distinguished member of the year award and has received the association's distinguished author award three times. He has been a regular contributor to FMJ for more than 20 years and has authored more than 50 FMJ articles.



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# How to integrate **capital planning**



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## FMJ EXTRA



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BY LAURA COOK

Facility management and capital planning are both critical to enabling occupant productivity and supporting organizational missions. While capital planning looks at facilities' longer-term needs to support organizations' strategic plans, facility management must also focus on the day-to-day issues and shorter-term maintenance of those buildings.

In many organizations, the capital planning role is quite distinct from the facility management function, and the two teams often have minimal contact. In these cases, the FMs may have little insight into the organization's overall long-term capital investment plans, while the capital planners lack the detailed knowledge of specific buildings and systems that those charged with their efficient operation acquire. This asymmetry in the information available to both sides can have a high organizational cost.

Consider a real-world example in which a building's roof needed repair. The FM team did its job, submitting work orders, evaluating vendor bids, and ultimately, repairing the roof. What the facilities team didn't know, however, was that the capital projects team had different plans. Just six months after the costly roof repair, the building was torn down. While this example might seem extreme, it is a scenario that is not uncommon.

## Information silos

In the same way that the FM and capital planning teams can be siloed, so too are the software applications they use to facilitate their work. Capital planning software enables forecasting of long-term renewal and other capital costs, and the prioritization of those investments based on the organization's mission and business strategy.

Such planning efforts are generally not a daily activity. Instead, capital planners have planning and review cycles that track with the fiscal year and include quarterly updates. Meanwhile, FM teams typically rely on a computerized maintenance management system (CMMS) to manage tasks, which can range from occupant requests and emergency repairs to scheduled maintenance. It is rare that information from one system is used to inform the other, which can result in significant operational inefficiencies and the risk of spending funds in areas that will not achieve the greatest return.

It's understandable that organizations, despite recognizing the value in bringing these data together, often struggle to do so. This may be due to the fact that software management is not a core function of these teams. In addition, each software system may have a unique way of structuring data. Different systems are built on different platforms, and support different methods of data exchange. Exchanging data across software applications and keeping it synchronized can require a significant amount of human intervention. The alternative of duplicative manual data entry is error prone and a drain on productivity.

Yet sharing information about both capital and maintenance investments is crucial to making optimal decisions about both. Capital planners can more accurately estimate the investment needed to renew building systems, while facility managers can make better informed decisions about repair and maintenance activities when they understand the longer-term plans for a piece of equipment, a space or an entire building.

## Sharing information about capital and maintenance investments is crucial to making optimal decisions about both.

In order for these groups to attain a better alignment of purpose and resources, each team needs visibility into the data being gathered by the other. This visibility can help organizations to avoid costly mistakes and invest their limited resources wisely.

## Priorities and prediction

One case of misallocation of investments occurred at a large bank when the corporate real estate team estimated that the organization was wasting about five percent of its annual capital expenses per year. As an example, they pointed to an extensive renovation of the restrooms in two large facilities, totaling 1.2 million square feet, one of which housed their trading floor. Meanwhile, some potentially serious issues with power transformers — issues that could affect the availability of services for the trading room and therefore significantly impact revenue — went untouched.

Part of why this occurred was because the capital projects team did not have adequate visibility into the ongoing transformers issues the FM staff was facing. As in many organizations, the project in which the impact to facility occupants was obvious — in this case, one involving interior finishes — was easier to make a case for funding than those that would address infrastructure needs. The restroom renovations totaled half a million dollars — five percent of the US\$10.5 million annual capital budget for the two facilities.

While this example focuses on a major capital renovation, smaller repair and replacement work that typically runs through the maintenance application adds up to a significant percentage of facilities investment as well. For many organizations with smaller budgets and fewer staff than needed to address these issues in an ideal timeframe, prioritization of this work is important, but difficult to accomplish with consistency.

While CMMS applications can project scheduled maintenance needs and their related costs, they do not address the question of how to prioritize work beyond, for example, a priority value for a work order. When looking across the needs of a facility or group of facilities — particularly repair and replacement projects for pieces of equipment that may require longer

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lead times — CMMS solutions do little to facilitate their prioritization.

### Building a two-way street

Bringing together information about capital and maintenance plans and costs is not just a question of integrating data, but of aligning the people and organizational processes involved in these activities. Many organizations already have informal processes to support this exchange of information, such as periodic reviews where capital planners meet with managers of certain facilities to better understand the day-to-day issues of maintenance and operations, as well as how the organization may need the function of a facility to evolve to meet its business needs.

Organizations can support these conversations and provide a foundation for better decision making about facility investments by identifying the key metrics that are critical to their business. For instance, an organization may want to quantify downtime that results in interruptions to research or customer service, or the target condition at which different types of buildings should be maintained, as measured by the deferred maintenance cost relative to the facility's replacement value.

Understanding the overall cost of maintenance (both in terms of materials and labor) of critical building systems relative to their replacement cost is another ratio that organizations may wish to track, as well as the ratio of scheduled versus reactive maintenance costs. Every organization will have its own key performance indicators based on its business and current strategic initiatives.

Once these metrics are identified, the organization can determine where the data that is needed to calculate them resides. Depending on the frequency with which the target metrics need to be calculated, the teams can determine how best to bring the data together. For example, should key data be pulled from the maintenance system into the capital planning system or vice versa? Should data be pulled from both into a

central warehouse with data from other systems, such as energy management, to provide the needed visibility into key performance indicators?

For many organizations, pulling key metrics from a CMMS into a capital planning system can be a valuable first step in gaining insights that will help to better allocate limited capital investments. By bringing information about the maintenance history of a system to bear on decisions about repair and replacement, beyond expected life cycle, capital planners can create funding plans that better address the current areas of high maintenance costs. Data on both sides fills in missing pieces of the puzzle of understanding total costs.

Capital planning applications, which provide high-level budgetary projections, typically lack detailed component information. For example, capital planning software may represent a mechanical system such as an air-cooled water chiller as a single piece of equipment. Meanwhile, the CMMS may not represent this system as a whole at all, but rather, by its component parts, such as a compressor, condenser, evaporator, coolant pump and so on.

By defining the various assets in the CMMS — along with the work orders related to those assets — to the larger system represented in the capital planning system, capital planners can gain insight into the costs of maintaining the system, not just its renewal cost. Key metrics in this case might include the 12-month trailing costs of completed maintenance for each component, also rolled up to the system level. This total in turn can be compared to the system replacement cost to provide an index that can assist in the prioritization of the system renewal relative to other systems competing for investment.

This type of data sharing provides the opportunity to flag costs that are out of line based on history. For example, if an asset with a 10-year life has 75 percent of its replacement cost spent in the

first five years, such an index can alert planners to the potential need for earlier replacement. This kind of information, when gathered across multiple systems and facilities, can also form the foundation for predicting the risk of failure based on historic data for similar systems and components.

### Make better spending decisions

The benefits of integrating processes and information related to capital and maintenance investments is clear: businesses have the opportunity to better align with organizational needs, reduce costs and stretch limited funding further. Getting there involves first bringing people from both sides together to share information, as well as identifying the key performance indicators that will be most beneficial in supporting the organizational mission.

Taking a holistic view of key data generated by capital planning and facility management systems can facilitate the process of calculating and analyzing these metrics. This provides planners and FMs with the visibility they need to be most effective in their respective roles, leveraging the right information, at the right time, for the right decisions. **FMJ**



**Laura Cook** is principal product manager at Accruent, where she manages the VFA suite of capital planning products.

As part of the VFA team for the past 10 years, Cook has worked in various product and marketing roles. Some of her recent accomplishments include the introduction of VFA FacilityView, which enables customers to easily share information about their real estate portfolios, and the introduction of features to support linear network management, building sustainability tracking and capital cost estimation for multiple geographic markets.

Cook holds a master's degree in Communications Management from Simmons College and a bachelor's degree from Middlebury College, where she graduated magna cum laude. Learn more about Accruent at [www.accruent.com](http://www.accruent.com).



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## C&W Services Signs on as First Charter GWI Advisor

C&W Services (formerly known as Cushman & Wakefield and DTZ) has become the first charter advisor of the IFMA Foundation's Global Workforce Initiative. The Advisory will draw together a coalition of industry-leading firms to work on tangible solutions to a growing gap in the facilities services workforce at all levels.

By taking a leadership role in the GWI, C&W Services will help raise the profile of facilities services as an important and rewarding career. C&W Services is proud to commit to a five-year sponsorship of the GWI, which recognizes the importance of the people – managerial, technical and trade – who keep facilities running smoothly every day.



## Get Involved With the GWI

The enhanced structure of the GWI (International) committee was implemented in February. Multiple GWI sub-committees, task forces, activities, programs, projects and resource development are coordinated through the committee. Mike Schley, IFMA Fellow is chairing the committee, and Pat McKee is the point person for all pilot program locations.

## New GWI Collateral & Resource Development Team

One of the new teams to form from the enhanced GWI committee is a group of volunteers who will assist in the creation of collateral (brochures, PowerPoints with talking points, student and parent facing website, etc.) to introduce students and incumbent workers to the FM profession. The team is being led by IFMA Fellow Nancy Sanquist. Interested volunteers may contact Amy (Campbell) Arnold at [amy.arnold@ifma.org](mailto:amy.arnold@ifma.org).

### ABOUT US

ESTABLISHED IN 1990 AS A NONPROFIT 501(C)(3) CORPORATION AND SEPARATE ENTITY FROM THE INTERNATIONAL FACILITY MANAGEMENT ASSOCIATION, THE IFMA FOUNDATION HAS – FOR 20 YEARS – WORKED FOR THE PUBLIC GOOD BY PROMOTING PRIORITY RESEARCH AND EDUCATIONAL OPPORTUNITIES FOR THE ADVANCEMENT OF FACILITY MANAGEMENT. THE IFMA FOUNDATION IS SUPPORTED BY THE GENEROSITY OF THE FACILITY MANAGEMENT COMMUNITY, INCLUDING IFMA MEMBERS, CHAPTERS, COUNCILS, CORPORATE SPONSORS AND PRIVATE CONTRIBUTORS WHO ARE UNITED BY THE BELIEF THAT EDUCATION AND RESEARCH IMPROVE THE FACILITY MANAGEMENT PROFESSION. TO LEARN MORE ABOUT THE GOOD WORKS OF THE IFMA FOUNDATION, VISIT [WWW.IFMAFOUNDATION.ORG](http://WWW.IFMAFOUNDATION.ORG). FOR MORE INFORMATION ABOUT IFMA, VISIT [WWW.IFMA.ORG](http://WWW.IFMA.ORG).





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- Operations and Maintenance
- Project Management
- Quality
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IFMA's Facility Management Professional (FMP) designation is a knowledge-based credential that will demonstrate a facility professional's proven comprehension of the foundations of facility management. It is ideal for:

- Facility management practitioners looking to increase their depth-of-knowledge in the foundational FM topics deemed critical by employers.
- Individuals who are transitioning into the FM profession.
- Related-industry practitioners such as architects, designers and safety engineers.
- Facility-related product and service providers.
- Students entering the profession from colleges, universities and certificate or technical programs.
- LEED professionals seeking continuing education hours.
- Federal employees and contractors looking to comply with the U.S. Federal Buildings Personnel Training Act (FBPTA).
- Experienced FMs intending to pursue the CFM® credential.

### Comprehensive courses addressing the core elements of facility management:

- **Operations and Maintenance:** The primary role of facility managers is to manage/oversee an operating facility. To do this, facility managers must have a working knowledge of building systems, structure, interiors and exteriors and grounds so the facility and all of its required systems function efficiently, reliably, safely, securely and in a manner consistent with existing regulations and standards. Effective operation and maintenance of facilities is a complex responsibility in today's environment.

- **Project Management:** Facility managers make use of all aspects of project management beginning with planning, scoping and scheduling, and ending with evaluating. Project planning and management are core skills in facility management. The skills are particularly important because of the wide range of projects assigned to the facility organization. Projects vary in scope, complexity, duration and financial risk.
- **Finance and Business:** Facility managers manage/oversee high-value assets that represent significant financial investment in technology, buildings, structures, interiors, exteriors and grounds. Since facility managers are typically responsible for the oversight, operation and maintenance of the buildings and grounds, as well as oversight of various service contracts, understanding the basics of finance and business is critical.
- **Leadership and Strategy:** To be effective, facility managers must develop strategies to successfully carry out major initiatives by influencing the decisions and attitudes of others. Effective strategies require that facility managers are able to integrate people, places, processes and technology. They must be able to align the facility portfolio with the entire organization's missions and available resources, and to be innovative in order to move forward with their staff and processes to respond to ever-changing requirements.

The IFMA FMP credential program is the only tool you need to earn your FMP. The program will help you gain a solid understanding of the facility management profession and develop the knowledge and skills demanded by employers.

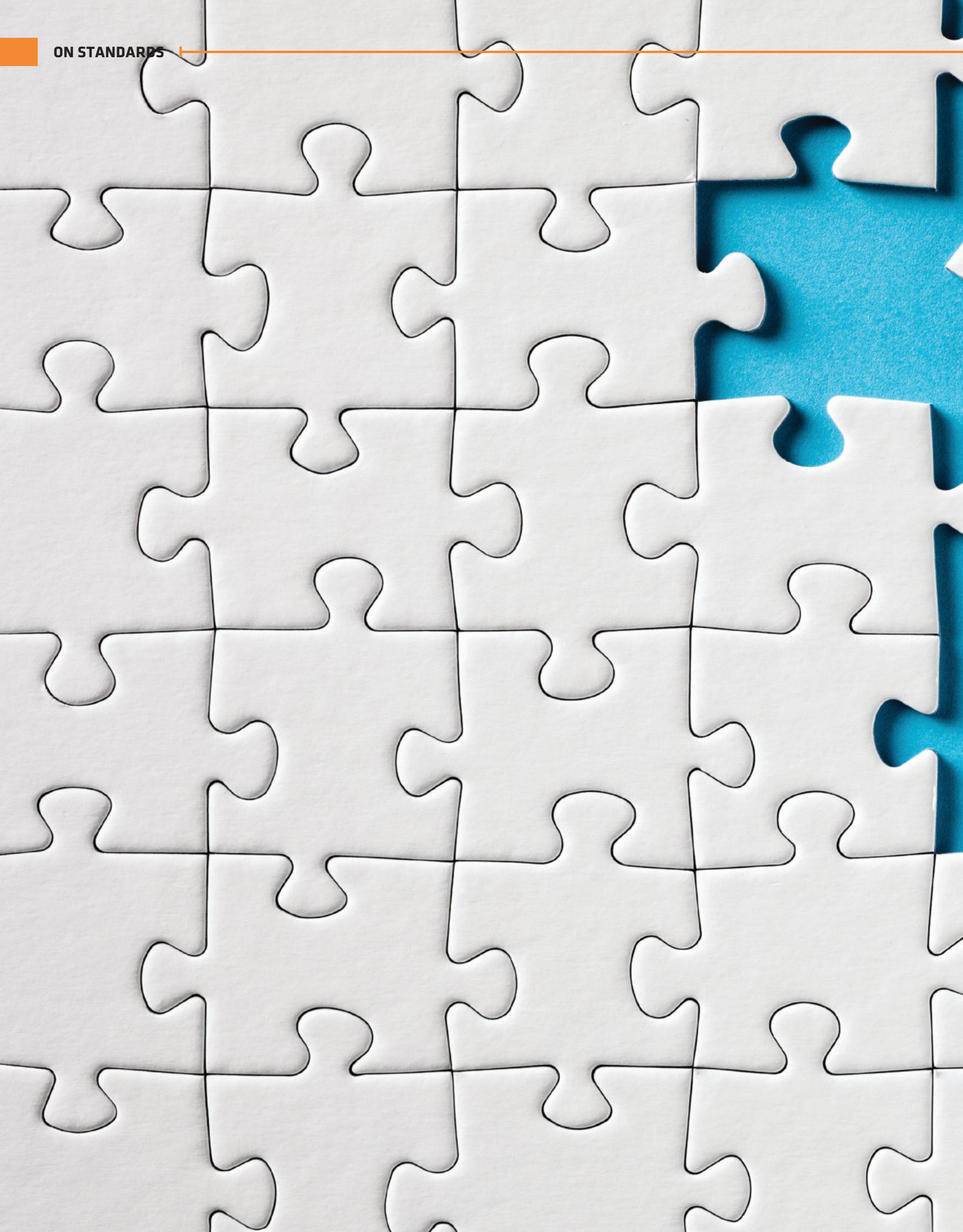
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"I recommend the FMP program to everyone who considers themselves a facility professional. The FMP credential helps professionals better understand and apply the core elements of the various FM disciplines, challenges their decision-making skills and sets the stage for the CFM credential. I feel stronger in my knowledge base knowing I passed the rigorous FMP online self-study program."

- Brian Rush, CFM, FMP







# • the right fit

## SELECTING AN FM MANAGEMENT SYSTEM STANDARD FOR YOUR FACILITIES

BY  
CASEY  
MARTIN  
AND  
LAVERNE  
DECKERT

Today's facility managers face unprecedented challenges. In a profession already saturated with competing priorities and investment options, why would any organization voluntarily self-impose a complex and potentially costly management system standard?

In the rapidly evolving world of facility management, for which the only reliable forecast is more transformation, management system standards should be a welcome change for today's facility managers. Based on the plan-do-check-act cycle, management system standards provide relevant specifications for organizations to demonstrate their capability to meet internal and external requirements.

Management system standards require FM teams to focus on operations and processes, thus enabling efficiencies. They enable facility managers to focus on strategies that reduce costs by minimizing waste and errors and increase productivity.

A 2012 study by the International Organization for Standardization (ISO) documented three key benefits realized by companies

small and large that use standards. These companies are able to:

1. streamline internal operations;
2. innovate and scale up operations
3. and even create or enter new markets.<sup>1</sup>

Imagine for a minute a life with no standards. What if no one asked for metrics or benchmarks before approving a budget? What if there were no processes or policies to follow and no data to maintain? Life for facility managers would be easy — or at least easier.

In a world with no budget or time constraints, FMs could perform reactive maintenance and replace assets deteriorating before reaching the end of their useful service life without concern for cost, lost revenue or downtime. Each FM would be free to use any self-invented terminology, like naming chillers after planets or exotic animals (think of Apple's operating system names: Puma, Jaguar, Snow Leopard, etc.). Life would be dreamy...or would it?



Without standards, it would be impossible to compare our performance to that of other organizations or across the industry. There would be no foundation to learn about what other organizations are doing that may be best practices, and we may not be able to determine the best capital investment options, since there would not be a standard in place to support decision making. Without standards, we may as well use “eeny, meeny, miny, moe” as the foundation of our decision-making processes.

### So many standards for FMs; so little time

The development of internal procedures and the process for systemizing how activities are performed within an organization is a management system. The benefits of management system standards include improved communication of requirements and methodologies among and between public- and private-sector organizations, improved service consistency, and hence, reduced risk to buyers and a common platform for small businesses and those from developing economies. For businesses, they are strategic tools that reduce costs by minimizing waste and errors, while also increasing productivity.

There are several ISO management system standards (MSS) available for use by facility managers; the purpose here is to highlight a few that impact facility management. When evaluating which one to implement, a good rule of thumb is to consider your organization’s business objectives, then determine which MSS will help you support the achievement of those goals. When implemented, applied and certified, management system standards can improve profitability, quality, service, organizational performance, client loyalty, brand reputation and much more.

Here are a few standards to consider:

## ISO 9001 Quality Management Standard

Customer satisfaction is the cornerstone of **ISO 9001**. This MSS is grounded in the concept of continual improvement and is applicable to both product- and service-based enterprises. The standard guides organizations in identifying their customers — all those affected by the work performed by the organization and the expectations they have.

Quality is important to all organizations hoping to maintain a customer base, whether this is internal or external. **ISO 9001** outlines the requirements for establishing a quality management system to control and manage organizational processes to increase customer satisfaction.

Efficiency is another focus of the quality management system. Efficient operations mean better process flow and control, with processes defined, aligned and understood by the whole organization as contributing to higher productivity and lower costs.



## ISO 50001 Energy Management System Standard

Escalating energy costs and shifting environmental regulations are a challenge to any organization. **ISO 50001** is the management system standard for designing an energy policy that enables each organization to maximize the effectiveness of its consumption.

The standard requires the development of an energy management plan that identifies and analyzes regulatory requirements, evaluates existing energy use and determines the energy baseline for the organization. Following the development of a policy and management plan, it guides implementation to initiate control measures over all high-energy consumption activities, information integration, document control and training curricula within the organization.

The implementation is where the rubber meets the road, and finally, where measuring and monitoring energy use, process and policy compliance, and legislative changes will ensure the energy management system continually meets goals and efficiency targets, but also identifies areas for improvement of the overall energy efficiency of the facility. Following **ISO 50001**, organizations will be able to determine which additional opportunities align with business goals and criteria when integrated into the energy management system.

When the organization’s core objectives are to conserve resources, positively impact climate change and save money, understanding what energy is being used and where it is being used through the implementation of this MSS enables facility managers to implement operational controls for efficiency and reduce energy waste while remaining compliant with regulatory laws and legislation changes. The identification and management of risks to rising energy costs and supply shortages is another benefit of developing an energy management system.





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## ISO 55001

### Asset Management System Standard

The new international asset management standard, released in 2014, focuses on the full life cycle of facilities. The asset management system provides a framework for controlling, aligning, collaborating, optimizing and continually improving the processes for managing physical organizational assets. Optimizing the delicate balance between risk, cost and performance against organizational objectives and operational priorities can reduce the total cost of ownership, as well as provide an increase in reliability and operational stability for physical assets.

**ISO 55001** is intended to organize the continual improvement phases of the asset management system.

Implementing an asset management strategy requires a holistic enterprise transformation built on a foundation of organizational context, leadership, planning, support, operation, performance evaluation and continual improvement. This MSS describes the procedures required to meet the organizational objectives for managing the full life cycle of physical assets. It outlines what needs to be done, while leaving the development of how it needs to be done to each organization to determine.

More mature organizations that are ready to consider their operations and assets from a cradle to grave perspective will benefit from implementing **ISO 55001**.



## ISO 14001

### Environmental Management System Standard

Efficient use of resources and reduction of waste are of concern to every facility manager, and no professional is better positioned to understand and manage the relationship between natural resources and the environmental impact of every facility. The updated environmental MSS helps organizations align with current regulatory requirements and provides greater focus on the assimilation of environmental issues into the business management realm (both an inward and outward assessment), including employee and leadership engagement and supply chain management.

**ISO 14001** steers organizations through the environmental performance labyrinth while maintaining the full life cycle, holistic approach. The environmental MSS aligns environmental performance with organizational objectives and strategic initiatives. This standard is framed under the same guidance structure that flows parallel to the plan-do-check-act format and incorporates identify, manage, monitor and control.

As with all ISO management system standards, the effect of implementing the **ISO 14001** is realized in cost reductions and efficiency improvements. Companies whose brand is tied to strong corporate social responsibility initiatives will benefit from implementing this standard as it can result in a positive social impact.



## ISO 22301

### Societal Security: Business Continuity Management System Standard

Whether it's an act of terrorism or a natural catastrophe, unexpected disasters can strike at any time. Because facility managers have responsibility for so much of the built environment, contingency planning and disaster recovery are familiar terms.

The advancement of these responsive plans has evolved into business continuity management (BCM) — a business led process for mitigating the adverse effects of disruptive events on society. The BCM MSS addresses a larger purview than just the internal organizational procedures during an emergency and includes considerations such as supply chain continuity, business partner continuity alignment and a plan for return to normal business operations.

Performance against plan, as well as continual improvement, are both requirements of this and all management system standards. Functional tests to validate continuity are required and may already be part of a facility manager's emergency preparedness and operability plan, such as emergency generator testing.

There is no organization that cannot benefit from a plan that focuses on recovery from disruptive events, but if your organization's core objectives are focused on maintaining service delivery through all supply chains, this standard is for you.

# ISO 26000

## Guidance on Social Responsibility

Facility managers across the globe are becoming increasingly aware of the need to operate in a socially responsible manner, including organizational policies and processes for operating and maintaining facilities. Businesses are dependent on the social and environmental networks that provide the opportunity for the organization to pursue their business mission.

**ISO 26000** provides a tool to assist organizations in developing operation and management models that contribute to a healthy environment, social equity and sustainable organizational processes.

As more organizations enter the international facility management zone, it is important to understand not only social, environmental, legal, political and cultural considerations, but also alignment with acceptable international norms and behaviors toward social responsibility. The seven core guidance sections within the standard include human rights, labor practices, the environment, fair operating practices, consumer issues, and community involvement and development.

Because **ISO 26000** is not a management system standard and does not contain requirements, it cannot be certified against. It can however, be very valuable for understanding social responsibility and identifying stakeholders within the sphere of influence of the organization. Once these two fundamental issues have been realized, the standard provides additional guidance for integrating social responsibility throughout the organization and contributes to sustainable development.

In partnership with ISO 14001 or ISO 50001, this guidance standard enables an organization to build a solid brand around a message of corporate social responsibility.

### Why should FM's use standards?

The benefits of using international standards for facility managers are wide-ranging. From economic and performance improvements to best practice implementation and industry standardization — there are aspects of every management system standard that can help facility managers align with business priorities, provide decision making support to executive management, increase credibility and confidence from customers and stakeholders, prepare for unexpected events and realize continuous improvement.

The allocation of precious time and resources is well worth the effort of developing and implementing a management system, whether you choose to use a third party or take a do-it-yourself approach. The investment in developing organizational standards, even if you do not seek certification, not only results in more efficient operations and management of facilities, but also contributes to improved total cost of ownership, positive social impact and sustained business continuity.

### Developing FM standards

The FM profession has a direct impact on the productivity of every individual who works in and around buildings and infrastructure. FM also plays a role in the security and quality of life of people around the world. Beginning in February 2014, ISO Technical Committee 267, chaired by Stan Mitchell representing the British Standards Institute, began work on an FM management system standard. ISO 41001 will enable “an organization to be able to demonstrate that it has a robust process through which to design, manage and improve its integrated facility management system.”

If you are interested in getting involved in the development of ISO FM standards, or for more information, contact Laverne Deckert at [ifmastandards@ifma.org](mailto:ifmastandards@ifma.org) to help form the DNA of the FM profession of the future. **FMJ**

### REFERENCES

1. [www.iso.org/iso/benefits\\_of\\_standards.html](http://www.iso.org/iso/benefits_of_standards.html)



**Casey Martin** has more than 20 years of building industry experience and is currently engaged in the Asset Management Strategies practice at Jacobs Engineering. In this role, she consults with private and U.S. federal institutions, providing full life cycle perspectives throughout project development stages. Her approach considers important long-term views such as total cost of ownership, reliability-centered maintenance practices, operation strategies, and processes and policies to align asset management with business and mission objectives.



**Laverne Deckert** has been with IFMA since 2012 leading projects that focus on the strategic elements of FM. In her current role as product manager, she manages IFMA's professional development programs for classroom delivery and instructor development as well as IFMA's standards initiatives.

Deckert served as project lead for IFMA's publications, “Facility Management Trend Report: Emerging Opportunities for Industry Leaders,” “High Stakes Business: People, Property and Services,” and “Redefining the Executive View of Facility Management.” She also serves as the U.S. Technical Advisory Group Administrator on behalf of the American National Standards Institute for ISO/TC 267, Facilities Management.





# Credentials

The following people were awarded the Certified Facility Manager® (CFM®) certification in **JANUARY 2016:**

**Katherine Doherty, CFM**  
Tufts University  
Millis, Massachusetts

**Valerius Koch, CFM**  
Jones Lang LaSalle  
Camden, New York

**Bret Donaldson, CFM**  
Elk Grove, California

**David Boyle, CFM**  
Government of Nunavut  
Pond Inlet, NU, Canada

**Todd Traister, CFM**  
Trade Center Management  
Associates LLC  
Washington, District of Columbia

**Russell Karlstad, CFM**  
American Venture Corporation  
Worcester, Massachusetts

**Michael Lexvold, CFM**  
Dakota County  
Goodhue, Minnesota

**Kevin Cullens, CFM**  
Desert Botanical Garden  
Tempe, Arizona

**Gregg Gibson, CFM**  
Columbus Hospitality Management  
Lewis Center, Ohio

**Rick Keen, CFM**  
UCHealth/Longmont Clinic  
Longmont, Colorado

**Kathryn Fudge, CFM**  
Jones Lang LaSalle  
Port Charlotte, Florida

The following people were awarded the Sustainability Facility Professional® (SFP®) designation:

**Boyd Carter, SFP**  
SP+ Maintenance  
West Jordan, Utah

**Kathryn Gibbs, SFP**  
Merck  
North Brunswick, New Jersey

**Tina Ritsco, SFP**  
AltaLink  
Calgary, AB, Canada

**Barry Lynch, SFP**  
Labarre Associates Inc.  
Denham Springs, Louisiana

**Michele Gregg, SFP**  
H&R Block  
Kansas City, Missouri

**Robert Blakey, SFP**  
CBRE  
Seattle, Washington

**Ian Hughes, SFP**  
Jones Lang LaSalle  
Sydney, NSW, Australia

**Rabija Hadzivukovic, SFP**  
System Operator  
Mississauga, ON, Canada

**Clayton Bartczak, SFP**  
Ambient Energy  
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**Jason Kinikin, SFP**  
American Institutes for Research  
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**Guy Compagnone, SFP**  
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**Chad Wyllie, SFP**  
United States Marine Corps.  
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**Scott Lang, SFP**  
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**Joanne Cole, SFP**  
Atlanta Centers for Disease  
Control and Prevention  
Chamblee, Georgia

**Jennifer Ridgeway, SFP**  
Ridgeway Construction Inc.  
San Jose, California

**Craig Borkman, SFP**  
Virginia Beach City Public Schools  
Virginia Beach, Virginia

**Daniel Peller, SFP**  
Becton Dickinson  
Plymouth, Minnesota

**David Breland, SFP**  
Intuit  
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**Paul Whitman, SFP**  
Gibbsboro, New Jersey

**Gabriel Schiada, SFP**  
Sodexo  
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**Patricia Nordline, SFP**  
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**David Jacks, SFP**  
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Behind every successful FM are a host of product and service providers that offer solutions to make the hectic task of ensuring seamless facility operations a little smoother. This showcase goes behind the brand to reveal the culture that makes these powerhouse businesses the best in class.

# ORACLE®

## PRIMAVERA

**COMPANY NAME** Oracle

**EXPERTISE** FM Software

**CSP LEVEL** Platinum

**CSP SINCE** 2016

**WEBSITE** [www.oracle.com/applications/primavera](http://www.oracle.com/applications/primavera)

### FMJ: WHAT IS ORACLE'S FACILITIES AND ASSET LIFECYCLE MANAGEMENT SOLUTION, AND HOW CAN IT BE LEVERAGED BY FACILITY MANAGERS?

**ORACLE:** Facilities and Asset Lifecycle Management (FALM) is a single, integrated platform that brings together every phase of the facility life cycle. With best-in-class, robust yet flexible solution capabilities, Oracle's FALM solution is designed to solve simple and complex business process needs for the plan, build and operate phases of any facility.

Facility managers can leverage the powerful single integrated solution and unique flexibility to effectively plan capital and expense projects, design and build facilities and, most importantly, manage and operate their entire facility portfolios and assets.

Facility managers benefit from the ability to bring together disparate planning processes and tools into an integrated system, providing data continuity across the entire facility and asset life cycle — from building and renovations to facility management and maintenance.

The platform includes tools for strategic planning (such as site identification, selection and development), capital planning, request for proposal and lease analysis, financial management and analytics, property tax management, transaction management and more.

For design and build, FALM provides facility managers with a unified solution for all aspects of both construction of new facilities and remodeling and/or upgrading existing facilities. It

provides both complete end-to-end cost management and integrated project delivery. Tools include capital planning, design, funding, bidding, procurement, cost and resource management, contract and change management, project execution workflows, construction, project documentation and drawings, scheduling, and critical path analysis.

When it comes to managing and operating facilities, FMs can leverage FALM to manage, budget and control costs, optimize space usage, maximize revenues, and manage transactions.

Facility maintenance is one key area for which efficiency and cost savings can be realized through FALM. FMs can use the robust asset and equipment life cycle management, combined with the corrective and preventive maintenance capabilities, to ensure assets, building systems and other equipment operate at optimum efficiency with minimum system failures.

The platform's ability to track asset warranties and expiration dates can help facility managers can eliminate or minimize unnecessary maintenance expenses.

Oracle's FALM solution empowers facility managers to be in full control of planning, building, operating and maintaining their entire facility portfolio on a single integrated platform.

### FMJ: WHAT SHOULD FMS CONSIDER WHEN INTEGRATING ON-PREMISE WITH CLOUD-BASED OPERATIONS APPLICATIONS?

**ORACLE:** One key thing FMs should consider is the flow of data touchpoints between on-premise back-office systems like enterprise resource planning (ERP) and human resources (HR). Data touchpoints integrate only the data that is required to successfully manage and operate the facility.

ERP and HR systems retain an enormous amount of data that may not be needed for facility management operations. Likewise, cloud-based facilities solutions also generate data that may not be needed for ERP or HR management. In regard to the flow and direction of data, FMs need to clearly define the system of record for each of the data touchpoints and also how often the data should be synchronized.

### FMJ: CAN YOU SHARE WHY ORACLE IS SO PASSIONATE ABOUT REDUCING IT COMPLEXITY?

**ORACLE:** Oracle has always been passionate about not only reducing IT complexity but also helping customers become more efficient in planning, building and operating their facilities and assets. Our passion is driven by the benefits that customers realize by implementing our solutions, such as operating cost reductions and control, revenue increase, business process efficiency, risk mitigation, visibility and transparency.

IFMA's Corporate Sustaining Partners (CSPs) are trusted vendors that support the operational excellence of facility management teams. By partnering with IFMA, this elite group demonstrates the highest commitment to creating a more comfortable and efficient built environment.



## Exceptional Workplaces\*

**COMPANY NAME** Kimberly-Clark Professional  
**EXPERTISE** Restroom Accessories/Janitorial Supplies  
**CSP LEVEL** Gold **CSP SINCE** 2015  
**WEBSITE** [www.kcprofessional.com](http://www.kcprofessional.com)

### **FMJ:** WHAT ARE SOME KEY STEPS FACILITY MANAGERS CAN TAKE TO IMPROVE SAFETY AND EFFICIENCY WITHIN THEIR BUILDINGS?

**KIMBERLY-CLARK:** There are many ways to drive efficiency and it's critical to push the envelope daily on each one in order to improve your bottom line. Here are just a few:

- » Optimizing cleaning staff, operational time
- » Improving occupant employee productivity
- » Reducing cleaning labor time per job
- » Reducing waste (both product and labor)

Waste ultimately leads to downtime and inefficiencies in your operations. In terms of reducing waste, it's important to recognize that many forms of waste are obvious, but others are not easy to see. Utilizing the lean manufacturing approach of identifying the eight types of waste within a facility can help.

The eight types of waste to look for throughout your processes include: defects in product or process; over-production; waiting; not utilizing resources like knowledge; transportation; inventory; motion; and over-processing. Viewing your operations through these lenses can help streamline operations and ensure that you are operating at optimal potential.

### **FMJ:** TELL US ABOUT KIMBERLY-CLARK'S "REDUCE TODAY, RESPECT TOMORROW" SUSTAINABILITY APPROACH.

**KIMBERLY-CLARK:** Sustainability at Kimberly-Clark goes far beyond our operational footprint and is a key part of

our commitment to create Exceptional Workplaces\* that are healthier, safer and more productive. With our Reduce Today, Respect Tomorrow\* approach, we incorporate sustainability into everything we do, from product design and manufacture to distribution and disposal.

In fact, by using this approach we became the first major towel and tissue manufacturer in North America to introduce products containing natural, non-tree fibers. In addition, all Kimberly-Clark Professional towels are certified compostable through the ASTM standard and can be composted in municipal or industrial facilities in the United States and Canada.

Our responsible choices help you make your own sustainable decisions about the products you choose, the resources you use and the impact you have.

### **FMJ:** HOW CAN FMS ENCOURAGE HYGIENIC PRACTICES AMONG BUILDING OCCUPANTS AND GUESTS?

**KIMBERLY-CLARK:** It's about driving behavior change through encouraging the right hand and surface hygiene practices that target high-touch areas across the facility. Through education, engagement and the right product solutions, employees can become champions of better hygiene, and our wash, wipe sanitize protocol, a part of The Healthy Workplace Project\*, helps to support workplace hygiene.

The Healthy Workplace Project\* is a service solution which aims to combat illness and infection in the workplace through its Hygienify\* and germ hot spot protocols. It's a wellness program designed to educate and engage employees into taking proactive

steps to protect the health and well-being of everyone in an office environment, thus establishing a direct relationship between occupants and FMs.

There are four key components to a workplace hygiene program and you can easily share these suggestions to encourage a healthier workplace. Each one is designed to reduce unplanned employee absences and presenteeism, as well as slow medical trend costs associated with minor illness. They include steps to:

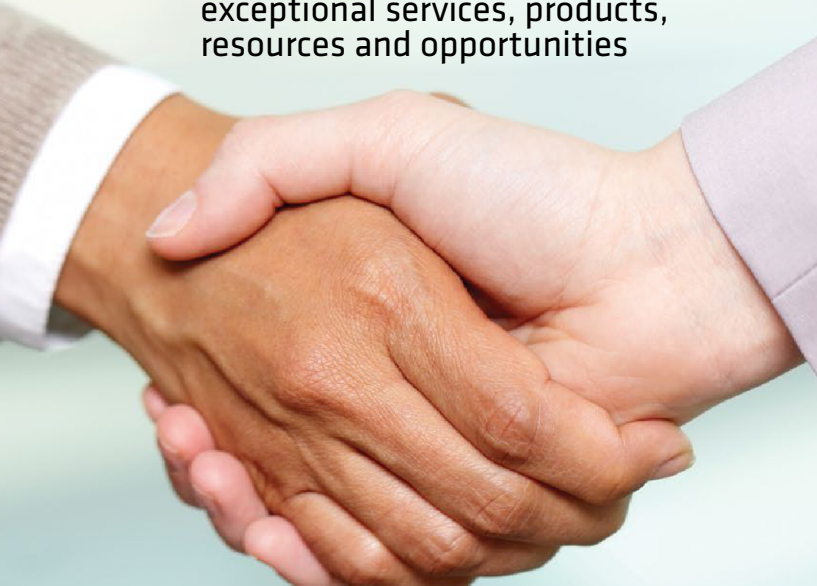
- » Educate the workforce about high-risk communal areas and office hot spots for germs, as well as how to best reduce the three biggest threats (cold, flu and stomach illness). Employee communications need to include strategic awareness tools, supportive signage, emails and supplemental information.
- » Empower employees with greater knowledge of solutions that include hand sanitizers, anti-bacterial soap, surface disinfectants, antiviral tissue and restroom hand towels. It's also important to explain the most high-risk areas for the spread of minor illnesses: office desks, conference rooms, break rooms and common areas.
- » Engage employees in healthy habits (washing, wiping and sanitizing hands). Such efforts could include a kickoff party or team competitions that feature incentives and product giveaways to help generate interest in the program.
- » Evaluate or measure programs with the help of regularly scheduled swabbing and quarterly progress.



IFMA's **Corporate Sustaining Partners (CSPs)** are an elite group of companies that have made a powerful statement in support of facility management by partnering with IFMA. It goes beyond just selling a product or service - these companies believe in the FM profession and believe in supporting its future.

**These outstanding providers can enable you to;**

- Easily find the top FM products and providers
- Make informed buying decisions
- Take part in increasing the role of your profession
- Help your association offer exceptional services, products, resources and opportunities



Contact **April Tone** to learn more about how you can benefit from IFMA's corporate programs.

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# ARE YOU CONTROLLING YOUR BACKLOG

# OR IS IT CONTROLLING YOU?

BY KRIS BADAGIA

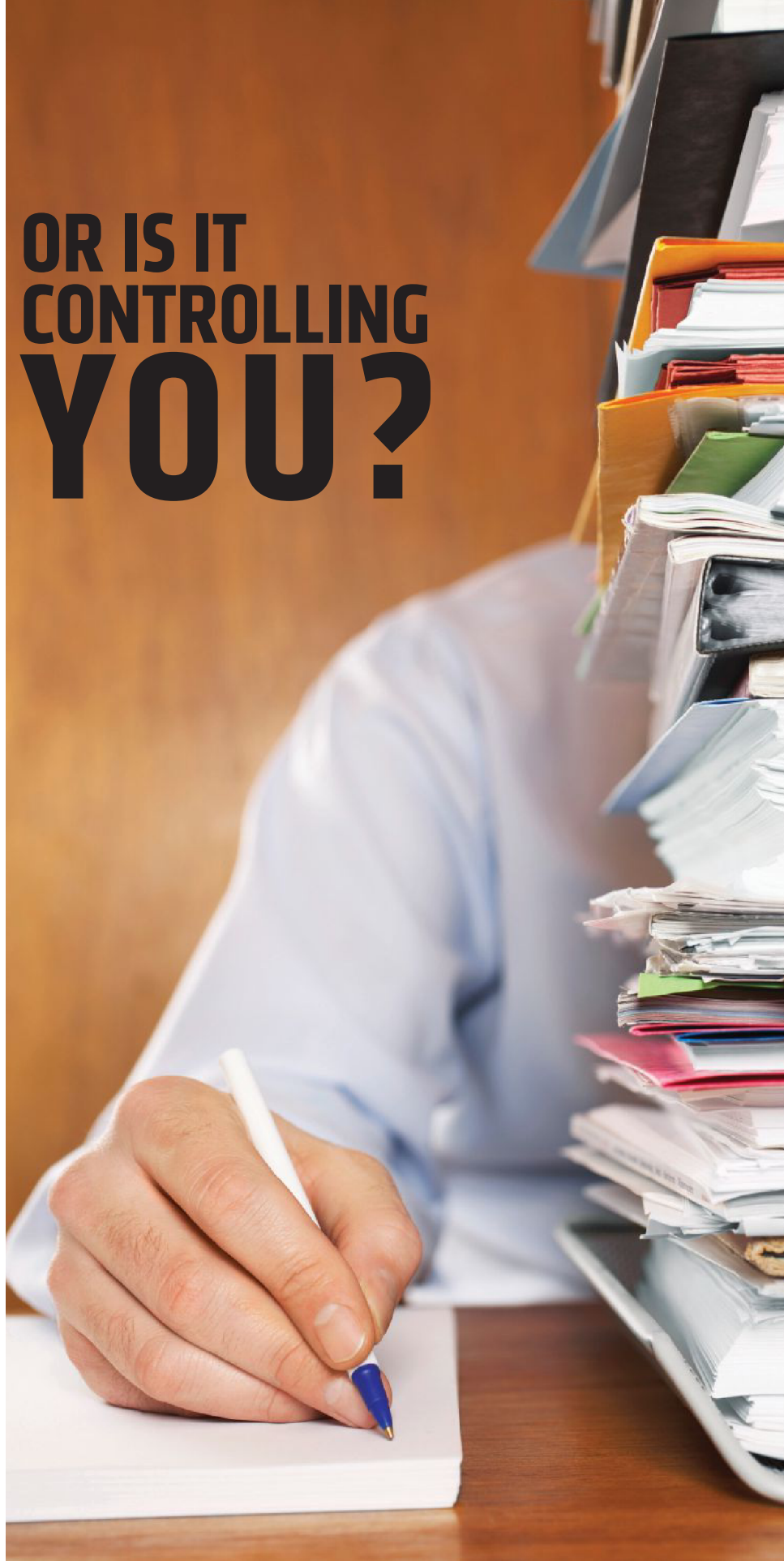
**FMJ EXTRA**



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**Five Strategies to  
Achieve World-  
class Preventive  
Maintenance**

For any maintenance operation to be successful, it is essential that the backlog is under control. The definition of the term “backlog” varies with context, but for the purpose of this article, the backlog is all pending work, at any given time, that has been planned. This means that a planner or planning department has reviewed all received work requests, including preventive maintenance plans, and determined the number of work orders based on those requests that can be performed. These work orders become the pending workload or backlog.





### Should an operation have a backlog?

When presented with this question, many FMs might conclude that their operation should not have a backlog. If this were so, then consider the following: If an operation did not have any backlog, what would there be to do at work tomorrow? Of course, there are plenty of daily tasks and ongoing projects for FMs to maintain in addition to maintenance backlogs, but ideally, an operation should always have some backlog planned to ensure that maintenance processes are active and consistent.

So, how much of a backlog should exist? A good rule of thumb is that two weeks of backlog per technician is a healthy amount. While there is no absolute rule, it can become an issue if there is too little or too much backlog. When it comes to planning for accumulated maintenance workloads, balance is key.

### Artificial versus real backlog

As its name implies, artificial backlog is backlog that is not real. For example, it is typical to find duplicate work requests in any maintenance operation. This can occur when a request remains unfulfilled, or if the requester does not receive feedback and re-submits a work order. In other cases, work may be completed but is not recorded in the system.

The real backlog is the actual workload remaining after removal of the artificial backlog. Keeping duplicate requests and unrecorded work under control will help create a more realistic picture of the overall maintenance backlog. Planning and monitoring on a regular basis can help minimize the artificial backlog, as it's easier to spot issues as they arise rather than months later.

There are several disadvantages to having duplicate requests, including wasting time as well as staff and monetary resources. It is crucial to keep the backlog organized to prevent these types of situations.

### Determining the cause of excess backlog

If an operation has little to no backlog, this may be an indication that it is overstaffed. However, while a large backlog can indicate that the operation is understaffed, this is not necessarily true. Instead, operations can tend toward a reactive approach to maintenance when operational processes are not regularly assessed and optimized.

The following are commonly occurring scenarios in reactive-mode maintenance operations that can result in a significant backlog, making it seem as if the operation is understaffed because work is not getting done.



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The banner features a large red Chinese lantern hanging from a white bridge railing in the foreground. In the background, a panoramic view of the Shanghai skyline is visible, including the Oriental Pearl Tower and the Shanghai Tower. The IFMA logo is in the top right corner. The event title and details are at the bottom, accompanied by a stylized '16' logo.

### Scenario One

*An emergency job is assigned to a technician, and because of the nature of the issue, the technician must immediately attend to the request. Before the technician can finish the task, she is shifted to assist with a higher-priority emergency event. This cycle continues, and at the end of the day, it seems as if nothing has been accomplished and the first reaction is to assume that the operation is understaffed. This is a typical reactive-mode operation: too many emergencies and too many interruptions.*

---

### Scenario Two

*A job is assigned to a technician who does some troubleshooting and determines that a bearing is required to fix the problem. The first problem is that the technician does not know the exact type of bearing or the part number because the operation is not organized. In many operations, a technician ends up opening up a piece of equipment to determine the exact part needed, and that alone can take hours. This is an unnecessary waste of time that prolongs job completion.*

---

### Scenario Three

*The technician knows what part is needed, goes to the storeroom and begins hunting for that part. The system says that the part is on hand, but the technician cannot find it. He now has to spend time trying to locate that part while the equipment is down. Again, a lot of valuable uptime and money is wasted.*

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### Scenario Four

*The technician determines that a needed part is not on hand or she cannot find the part, and decides that the part needs to be purchased immediately. The technician goes to local stores searching for the part, and hours of labor are wasted.*

---

### Scenario Five

*A job is assigned to a technician, but the instructions are not clear. The technician must locate and speak to either the requester or a supervisor for clarification. In this scenario, the problem can extend past the technician and even the maintenance team, transferring loss of time across operations.*

---

### Scenario Six

*The technician has to walk a half hour to the job site and then discovers that she needs a specific tool to complete the job. The technician has to go all the way back to the storeroom to get that tool and then has to return to the jobsite — that's a lot of time spent on unnecessary travel.*

---

### Scenario Seven

*The technician goes to the job site and discovers that the equipment he is supposed to work on is unavailable. The schedule gets disrupted, and the technician is assigned something just to keep him busy. This is a result of poor scheduling and poor planning, causing delays and more wasted time.*



# KEEPING DUPLICATE REQUESTS AND UNRECORDED WORK UNDER CONTROL WILL HELP CREATE A MORE REALISTIC PICTURE OF THE OVERALL MAINTENANCE BACKLOG.

The list could go on, but all of these circumstances are signs that the operation is functioning in a reactive mode. As a result, supervisors and managers may perceive that they do not have enough staff, while an analysis may show that the team is actually operating below the possible efficiency level. If scenarios like the above are occurring, the operation's work process flow should be examined to identify opportunities to improve productivity.

## **The importance of a proper process flow**

In most facilities, incoming work requests are dispatched to a technician who completes the request and then moves on to the next task. At best, some preventive maintenance is performed when scheduled. All of these work orders are entered into a computerized maintenance management system (CMMS). The number of work orders accumulates daily, never to be seen or reviewed again. This is how maintenance has traditionally operated, but this process must improve.

A proper maintenance-work process flow should include eight distinct steps:

1. Notification
2. Approval
3. Planning
4. Scheduling
5. Dispatch
6. Execution
7. Follow up
8. Reporting metrics/key performance indicators

Many of these steps are missing from most operations, and follow up and reporting metrics/

KPIs are rarely implemented. If proper planning and scheduling is implemented and the right CMMS is used, the end result should include information such as work order or reference number, priority level, dates of request/deadline, equipment and a description of the request.

This information gives the manager a tool to make meaningful decisions. For example, the manager may see that 90 mechanic hours are required for a week but that only 80 hours are available. Based on this information, the manager can decide either to reschedule 10 hours' worth of work for the following week or if overtime is needed.

## **Final thoughts**

Backlog is a key component of every maintenance operation. All maintenance operations should have some backlog, and controlling this backlog is an essential step in achieving a successful maintenance operation.

Implementing proper planning and monitoring the backlog will minimize artificial backlog, allowing an analysis of the real backlog. With effective planning, scheduling and process flow, the backlog can be controlled and brought to appropriate levels. **FMJ**



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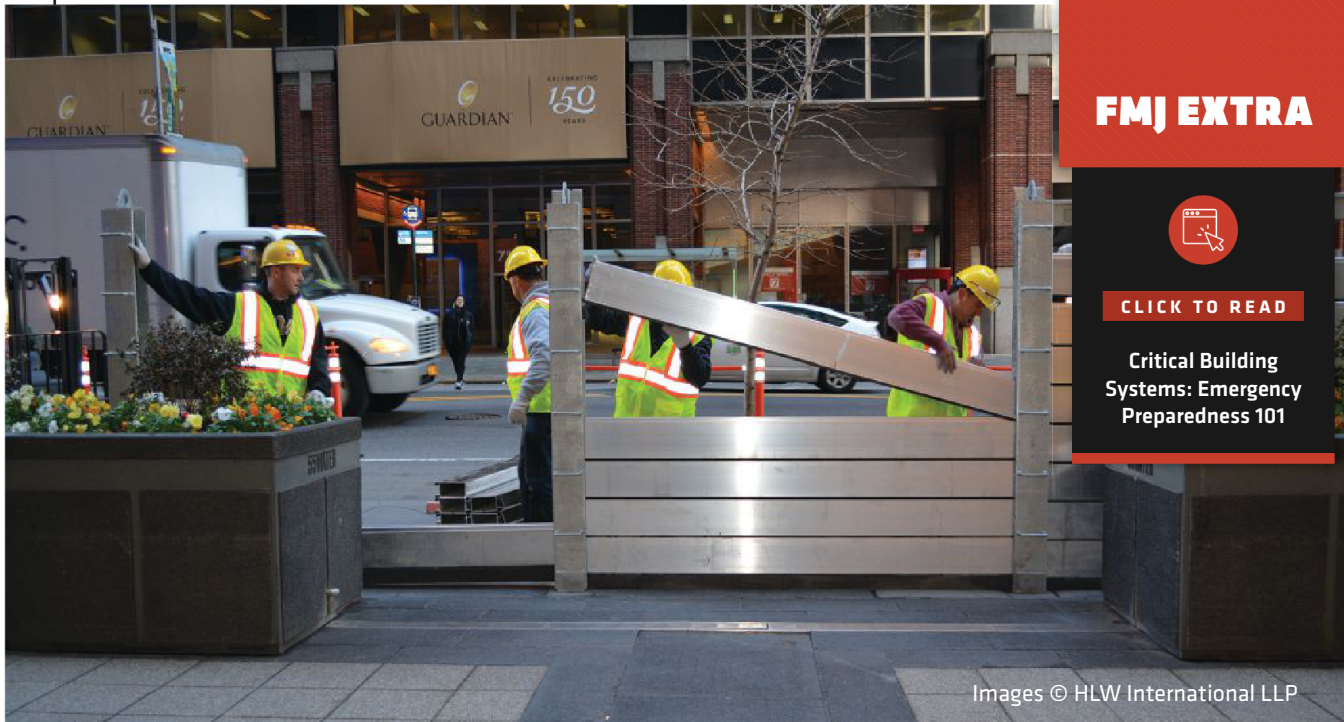
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# Flood Planning and Risk Mitigation



**FMJ EXTRA**



**CLICK TO READ**

**Critical Building  
Systems: Emergency  
Preparedness 101**

Images © HLW International LLP

BY JENNIFER BRAYER

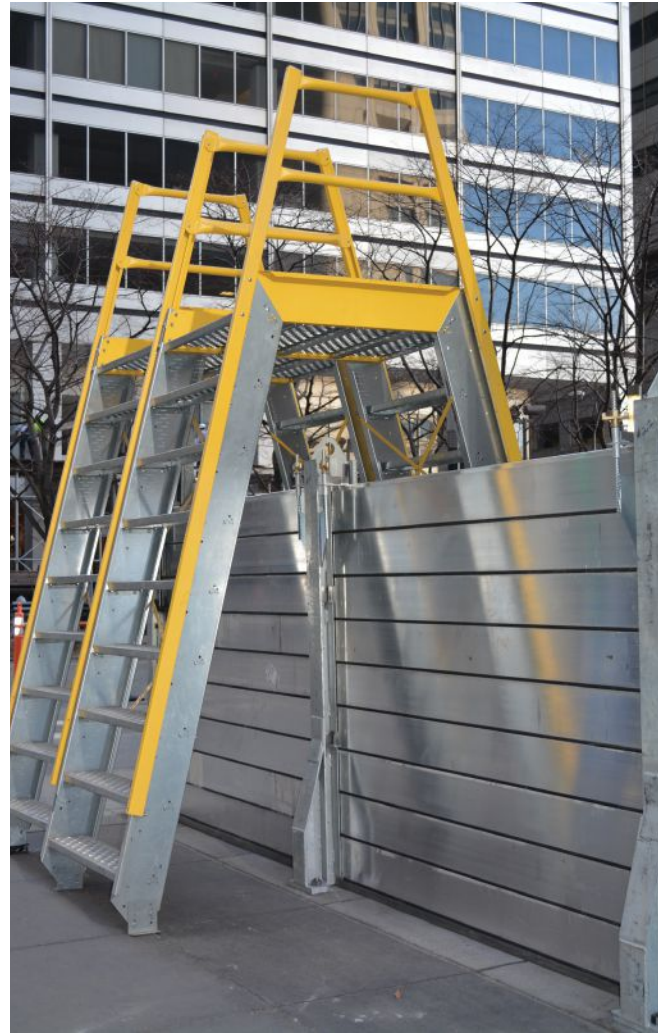
**S**torm resiliency is often discussed in terms of capacity to adapt to changing circumstances in a positive way. For facility managers facing threats of flooding, capacity is measured in increments: functionality, uptime and bounce back.

Part risk assessment, part risk reduction and part risk management, successful flood mitigation strategies share a common thread in that the building's properties and siting are key factors in decision making.

Effective risk mitigation planning, which is rarely about procuring absolutes, offers building- and problem-specific solutions that allow FMs to tackle a spectrum of requirements.

Having sufficient information about your building and the particular challenges it faces during storms directly correlates with the effectiveness and targeting of mitigation measures. In general, information gathering and analysis leads to three categories of risk mitigation planning objectives: how to make your building structure and foundation less vulnerable to flooding and storm surge, how to protect critical building systems, and ultimately, how to sustain operations before, during and after an emergency event.





### **Pre-emergency planning: A data-driven process**

Planning begins by identifying threats specific to the building or site, and the degree of risk exposure. Considering how the foundation and main structure will be impacted, as well as critical mechanical and electrical infrastructure components — both at the time of an event and as a result of erosive properties — will inform design criteria for any new construction or upgrades. Siting and design, along with construction practices and emergency operations protocol, are important tactics for reducing potential damage.

The process should begin with data collection and analysis. Then, base recommendations on current and future programming requirements and existing building conditions. Ultimately,

the anticipated resources per upgrade will establish the priority level for implementation (e.g., whether the line item will be addressed in the short term or via a long-term capital investment).

A resiliency assessment is only valuable and cost effective if it is tailored to an individual site over time. This necessitates a comprehensive survey of the building's existing vulnerabilities and entry points, in addition to its critical systems and load capacities.

When you adopt a relational outlook for the collection and analysis of information about your building, the resulting flood-proofing alternatives will have the capacity to address evolving situations and objectives through cost-beneficial means. Strategic pre-emergency planning requires establishing a data-driven analytical framework for decision

making, one that considers all the relationships impacting your building by simultaneously employing both macro- and micro-level approaches.

### **Determining the facility's physical nature**

An initial step toward establishing your building's physical characteristics is determining where the structure resides in proximity to flood zones. Neighborhood contextual factors, including building orientation, the interconnection of mechanical, electrical and plumbing systems and supply lines, and the fact that physical connections may exist both above and below grade, can contribute to significant cost variables in flood mitigation measures.

Local development projects, as well as influences such as climate change and erosion, can all have an effect on your

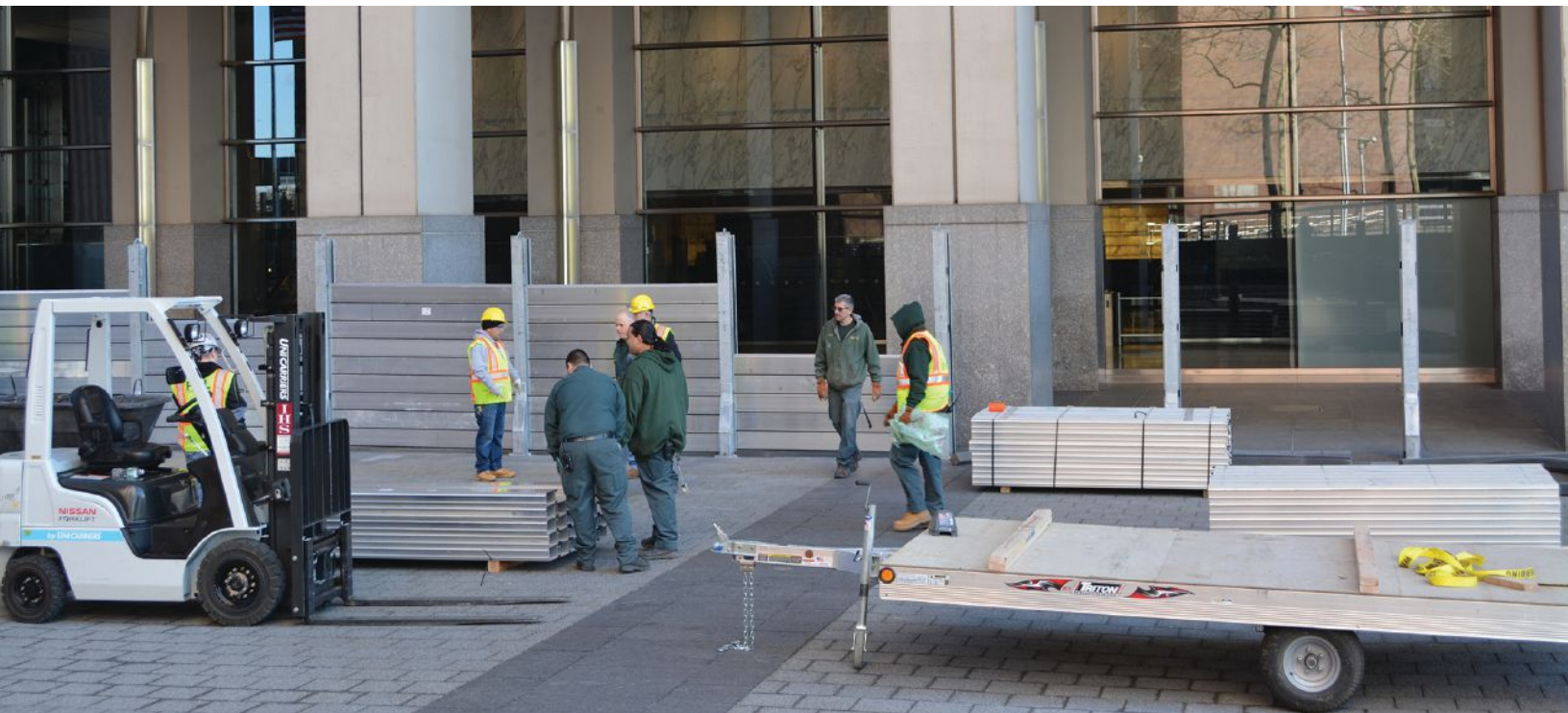
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property risk level. Whenever available, secure flood hazard mapping and modeling exercises, but review this information in context, as conditions are rarely fixed.

Multi-story, multi-tenant facilities have challenges specific to their building conditions: multiple points of egress, high power demands, complex life-safety systems and vertical transportation requirements. Determining the physical nature of your facility for risk mitigation planning purposes typically involves identifying the building construction and foundation type, but cannot conclude with a simple listing of sealant types and shield materials currently in use.

A more comprehensive survey will determine the ability of the existing envelope to withstand forces imposed by flooding and analyze the number of openings in relation to the permeable surface area, as well as the potential exposure of critical systems. This considers the building as a whole, interconnected, interdependent system.

Structural considerations are essentially about withstanding the pressures of flood waters. The extent

of vulnerability can be measured by the foundation's ability to withstand the pressure of flood loads (including structural stability and uplift) and the positioning of the main structure in relation to the design flood elevation. Having accurate and complete information about your building will shape your approach to mitigation planning toward holistic solutions.

### **Building a team of risk, mitigation and design experts**

It is important to think beyond mitigating for a single event in isolation, and instead, plan for the possibility of simultaneous, interrelated threats. This requires extensive engagement with ownership, the managing agencies, tenants and maintenance personnel, and may also include emergency personnel and governing agencies.

The assembling of an effective team of risk, mitigation and design experts is the first step in creating a solid foundation for an effective emergency preparedness response plan. An effective risk mitigation assessment process requires expert input at each stage of the assessment process:

- Due diligence analysis
- Initial integration opportunities
- Screening
- Evaluation
- Developing a risk reduction policy
- Rehabilitation planning for specific buildings
- Staging rehabilitation increments
- Coordination with tenants
- Budget packaging
- Rehabilitation logistics

### **The risk assessor and financial counsel's critical role**

Accurate risk assessment and risk reduction involve a coordinated effort on capital expenditures. Beyond identifying the hazards, determine the desired level of protection from those hazards. Managing the residual risk — where and to what extent risk will be tolerated — is also a critical component of this process.



The final assessment should identify up-front costs versus return on investment over time as well as clearly identify the level of risk that is not offset by design or insurance. Sometimes, the residual risk is acceptable, but a coordinated team of experts can help determine when it is more cost-beneficial to increase resiliency in favor of reducing residual risk.

### **The architectural and engineering team**

Securing architectural and engineering (A/E) expertise is advantageous once a direction has been established. The A/E team can address both levels of protection: keeping flood waters away from the building, and where applicable, ensuring uninterrupted operations through the permanent upgrade, modification or relocation of critical building systems.

For FMs facing flooding threats, increased structural integrity is crucial. Is the structure capable of withstanding a prolonged surge of six or more hours? What are the effects of flooding on building and foundation design?

Hardening strategies can vary in material and effectiveness, from waterproof coatings and impermeable membranes to reinforcement of existing construction to watertight shields for wall penetrations. Hardening measures can be both cost effective and space efficient. Similarly, if the measures hold, there will be minimal damage and clean-up expenses.

But, this “if” is laden with the potential for significant expenditure should the measures fail. You should advise the building owner of the potential drawbacks of mitigation measures that could lead to an inadequate response to high-velocity flood flow, resulting in additional threats to the building’s structural integrity.

It’s also important to weigh aesthetic concerns and the need for continual maintenance. Permanent protection measures, such as elevating critical building systems or the use of submersible systems, may be required.

Elevating critical systems can entail relocating to a higher elevation or building a new utility structure on site.

To prevent interruptions in critical services, it is important for the A/E team to identify and mitigate vulnerabilities in essential systems and equipment. Mitigation can reduce vulnerabilities and risk by either improving equipment or creating redundancies. The solution, in turn, becomes a key aspect of effective pre-emergency planning by coordinating operational protocol with the new system capacity demands.

### **Elevating critical systems**

Relocating critical systems to a higher elevation can have benefits, including complete removal of critical systems from the threat, uninterrupted operations during times of emergency and increased energy efficiency. However, repositioning measures can also entail drawbacks such as:

- Reduction in income-generating tenant space
- Up-front expenses
- New hazards with relocation
- Dead loads requiring structural reinforcements
- Coordination during system relocation
- Compliance filings and zoning/code-related considerations
- Coordination with utility companies and transit authorities
- Noise, vibrations and fumes

With that in mind, facility operators should consider not only the essential systems and equipment, but also all ancillary elements required for each system to function. For example, for an HVAC system to function, individual pieces of HVAC equipment and related supplies must be protected from damage.

Other mitigation measures to review with your A/E team involve wet flood-proofing strategies, such as allowing flood waters to easily enter and exit your building, thus diminishing the overall impact of a surge through the use of strategic openings and breakaway walls. Structures can also be anchored against flood flows and high-volume pumps installed to mitigate the overall damage. The advantage of wet flood-proofing methods is that hydrostatic pressures are permitted to equalize, effectively lessening the loads.

The result is a faster, easier and safer clean-up and damage repair, as well as a reduction in the length of time a building remains unoccupied. Understanding the building’s exposure to foreign objects due to wind and water action, as well as to the potentially toxic sediments, sewage and chemicals dispersed by flood waters, also plays a part in the design approach to wet flood proofing.

Less permanent mitigation options typically involve temporary flood barrier systems that provide perimeter protection. These systems may contain temporary and permanent components. However, they offer an immediate, scaled response to an emergency situation. The design must also take into account the logistics of installment as well as requirements for storing the temporary elements. Emergency planning protocols also need to incorporate sufficient warning time for the successful implementation of such systems.

### **Flood mitigation planning for the approval process**

Consider that multiple communities are involved in any flood mitigation planning process: facility management, owners, occupants, tenants, emergency first responders, etc. The approval process is triggered by concerns for both the building and its occupants. Consequently, issues of egress (for occupants) and issues of access (for first responders) need to be addressed in unison. Understandably, certain documentation related to flood mitigation planning becomes a part

of the public record in the form of emergency action plans, fire protection plans and more.

Government agencies are involved at a multitude of levels, and sometimes the decision to extend measures beyond your property lines precipitates external agency participation in the process — a result of any number of possible life-safety issues, the need for fire department access, road closures or even staging areas. Consequently, knowing when and where to rely on outside entities for help is critical to a successful mitigation strategy.

Considerations when seeking project approval:

- Emergency action planning
- Flood hazard assessment and planning
- Flood warning systems and coordination with authorities
- Community engagement, coordination and buy-in
- Protocols for tenants
- Protocols for facility management and building engineers
- Safely bringing systems off and online again
- Maintenance and operations during non-emergency periods

### Your flood mitigation plan is in place. Now what?

Once your flood mitigation plan is in place, consider how it will impact FM operations and building occupants. As you prepare to implement any flood mitigation plan, it is important to keep key issues in sight, such as:

- Considerations for health, safety and wellness
- Change management strategies, including how you will socialize



the plan and foster a culture of emergency preparedness and critical awareness

- Training program(s) tailored to the solution
- Working closely with human resources and information technology teams
- Alignment with business continuity plan(s)

Pre-emergency planning allows for the immediate implementation of policies and procedures practiced and understood by everyone on site. A detailed and well-established flood loss prevention plan:

- Empowers personnel to respond more rapidly and effectively than if no planning had taken place
- Promotes an understanding of the issues involved in responding to a dangerous situation
- Ensures development of complex responses to complex situations
- Provides for a complete examination of difficult and controversial issues (e.g., chain of emergency command)
- Identifies information that must be gathered to properly respond to flood events
- Recognizes preparations that must

be made for a response (acquiring and maintaining equipment, records, funding, materials, etc.)

- Promotes a sense of ownership and buy-in to the plan among personnel who participate in the planning process and who will be impacted by the plan
- Ensures clear assignment of tasks and responsibilities to avoid unnecessary duplication of important duties **FMJ**

### RESOURCES

- Resilient Design Institute, [www.resilientdesign.org](http://www.resilientdesign.org).
- Reducing Interruptions to Mid and High-rise Buildings During Floods, HSFE60-13-0002, 0003. March 2013.
- Fundamentals of Risk Analysis and Risk Reduction, Coastal Construction Manual. FEMA P-55, 6-1. August 2011.
- Flood Risk: Mitigation Planning is Key. Strategic Outcomes Practice: Technical Advisory Bulletin. October 2010.



With more than 30 years of experience, **Jennifer Brayer**, AIA, LEED AP, specializes in the development, planning and design of new construction and renovation

projects. A partner at HLW International, a global architecture firm headquartered in New York City, Brayer has extensive knowledge in building repositioning and adaptive reuse. A licensed architect, she has worked on some of the city's most iconic buildings, and lives in Brooklyn, New York, USA.





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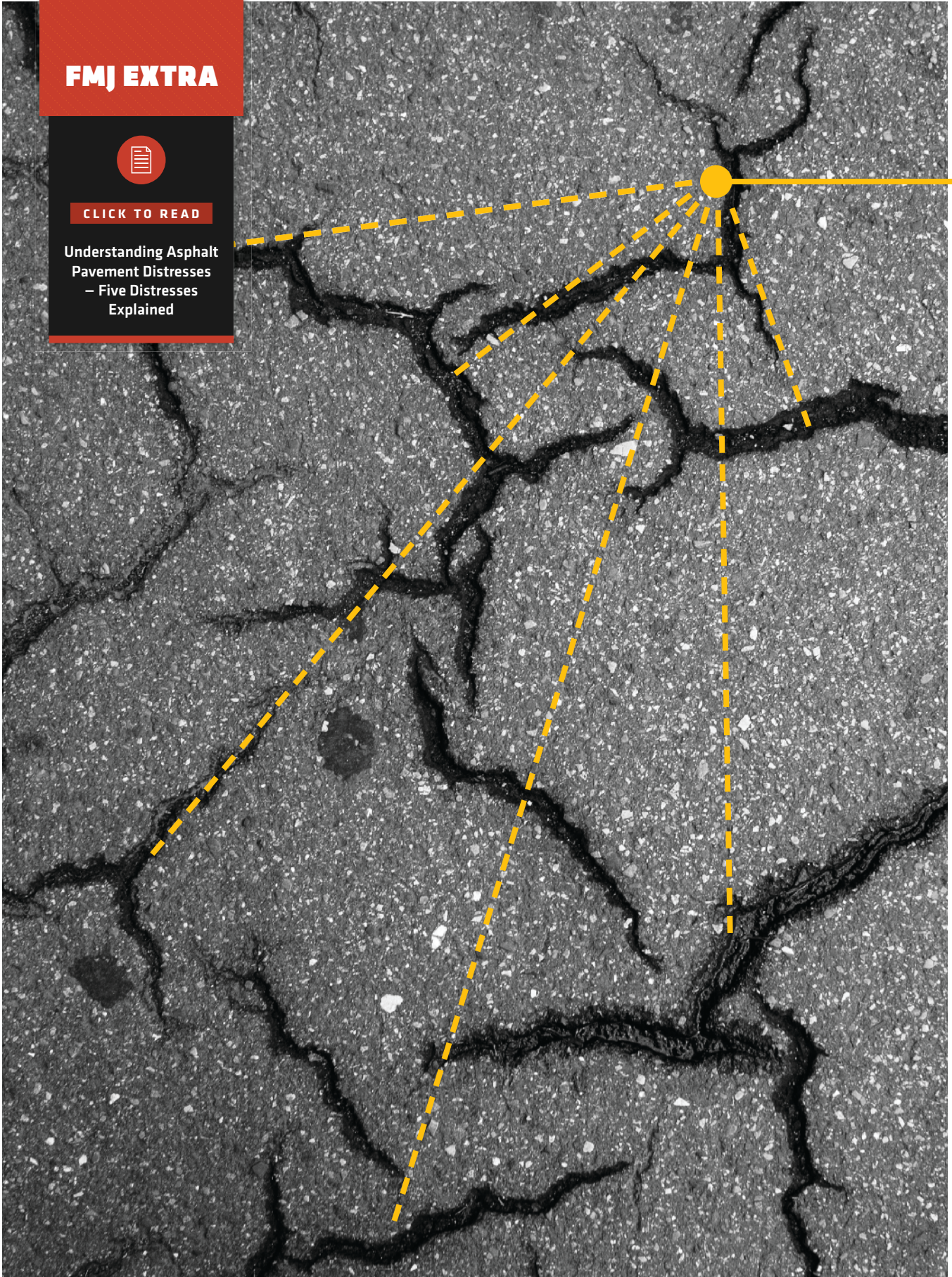


## FMJ EXTRA



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Understanding Asphalt  
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# PROACTIVE PAVEMENT MANAGEMENT

BY TOM SOVEL

Imagine driving onto a corporate campus or headquarters for the first time, excited to meet with your new design team, financial planner, advertising consultant or other professional. You see beautiful buildings basking in the sunshine and impeccable landscaping with the hustle and bustle of employees, clients and customers all around, but before you enter the building, what do you see first?

A crumbling parking lot. Potholes filled with asphalt heaps. Snaking cracks streaked with sealant. Curbs eaten by weather and traffic. Suddenly, you're not feeling so enthusiastic.

Why is it that building owners spend so much on building maintenance, but not on pavement maintenance? Unfortunately, pavement concerns are usually way down the list. The path to quality roads and surfaces is paved with good intentions, but it should be paved with a sound plan for maintenance and repair. It's just like the old adage: failing to plan is planning to fail — and pavement care is no exception.

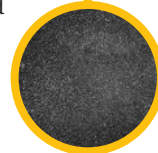
## **Pavement maintenance pitfalls**

The concept of pavement management is not new; however, like other assets, maintenance tends to be more reactive than proactive. When repairs are done only after pavement failures,

rehabilitation expenses can cost ten times what they may have cost if there had been a plan in place.

Pavement, including roads, parking lots, parking deck surfaces, sidewalks and pathways, has a life cycle. It won't last forever. But crisis-point spending can be astounding on a seemingly simple repair.

Pavement with alligator cracks — those “spider webbing” cracks sometimes filled in with black sealant — can cost US\$5 per square foot or more to replace. If the same pavement were maintained with a plan and budget in place, the



repair cost could be reduced to roughly 10 cents per square foot every few years by sealing the pavement and filling cracks. Undertaking a cut-and-patch maintenance approach may save money in the short term, but it is hit and miss and will only prolong the inevitable.

And, once pavement is beyond the point of repair, reconstruction costs may be one of the largest capital expenses an organization may incur. Not only that, but cut-and-patch work may not even address the underlying problem, which could be moisture problems in the subgrade, surface drainage conditions or a host of other possibilities. This approach will lead to the inevitable recurrence of the pavement failing in a short time if the root cause is not remedied.

More often than not, pavement maintenance is handled by setting a site budget that forces the facilities team or a consultant to pick and choose what to repair. Inevitably in these scenarios, due to budget inadequacy, repairs are

focused solely near the front door, because it is the most high-profile area.

There are two common mistakes made when it comes to pavement management. The first is when the preventive maintenance program only concentrates on keeping pavement in a fair to good condition by sealing cracks and applying seal coating, while letting pavement that is in poor condition deteriorate further. The second mistake is to fix poor condition pavement in crisis mode and ignore the fair condition pavement altogether — a recipe for the good to go bad.

So what's an organization to do? Every organization should have a sound plan of action for maintaining pavement. In fact, it's easier than you think. A critical function of any pavement management program is strategy: develop short- and long-term budgets that allocate funds between maintenance and capital projects. The key is the right approach to address current conditions and plan for future needs.

### Developing a pavement management program

A solid pavement management program consists of the following components:

- Identification of current pavement conditions
- Prioritization of various pavement segments
- Computer analysis to generate repair options
- Development of five- or 10-year plans and budgets to achieve goals
- Development of repair plans
- Implementation of repairs

Pavement is assessed using a standard condition rating system, such as the Pavement and Surface Evaluation Rating System. The property owner and/or FM team provides input on the desired average condition rating across the network (areas) of paving. A software program can then run an analysis based on existing conditions and priorities, and recommend long-range plans and budgets.



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The program can be condition based, calculating how much should be spent each year to achieve the desired result, or budget based, which will provide repair plans based on the available budget even though the target condition may not be met. Software tools can also analyze repair backlogs, review budget forecasting and adjust for future repair scenarios.

However, developing the right pavement management program involves more than simple data analysis. Organizations may have many divisions and departments, all potentially with a say in who needs what first: typically, they prioritize what is best for them. When developing a pavement maintenance strategy, a consultant can help make sure that decisions are network based, meaning that all areas of the pavement are considered in the scenario, not just the bad ones.

As an impartial third party, a consultant can help balance the priorities of various teams. This prevents one area or department from making a one-way decision that may not be beneficial to the entire pavement network. This provides an objective analysis by an independent body, removing opportunities for bias and giving your team a solid response to the inevitable question, “Why did you fix that parking lot first and not the one where I park?”

A good pavement management plan is like a diet — it won’t work unless you are proactive in undertaking and sticking to it. The real failure is when a team completes the planning process and then the maintenance program is not followed. Another failure can occur when there is a lack of follow up with the team and/or consultant after program implementation.

Pavement management should be treated as a living program that is updated as property improvements are made, maintenance budgets shift and as needs expands in future years. By predicting the path that the pavement will follow as it ages, you can beat the game. Ultimately, this type of planning can result in less expensive repairs that will extend the life of the pavement.



Pavement management and long-range planning at Northville Public Schools in Northville, Michigan, USA

### Accessibility

Another important component of a sound pavement management program is to ensure that proper regulatory guidelines are followed for barrier-free parking and accessibility. Almost without exception, parking lots that were constructed several years ago fall short on accessibility requirements, either with parking areas that are too steep, parking spaces that are not the proper size or signs that do not meet height requirements. In addition, access routes, including sidewalks and ramps, are often not in compliance.

It is important to consider these items in a pavement program, since costs can be high if extensive corrective measures that require reconstruction and regrading of the parking lot are needed. If sidewalks are non-compliant and funds are required to reconstruct them, this may significantly impact the budget.

### Case study: Proactive planning at EMU

Large corporate headquarters can be very similar to educational campuses. As a proactive institution, Eastern Michigan University (EMU), located in Ypsilanti, Michigan, USA, recognized the need to maintain its pavement, one of the university’s largest assets.

Pavement was important to the school for many reasons: public safety, accessibility compliance, financial value and, quite literally, curb appeal. EMU wanted to make the best possible first impression on potential students and visitors while undertaking a solid maintenance program. The university

had an annual budget of US\$1,000,000 but found that deciding what should be repaired, and when, was a daunting task. Ultimately, EMU sought help from a consultant to craft and implement its pavement plan.

The detailed plan allowed for the creation of five-year budgets, comparing costs between timely repairs and deferred capital maintenance while maintaining consistency across the entire pavement network. With the help of the consultant, EMU implemented a plan would make any facility management professional and business manager proud.

### The bottom line

Planning and implementing a smart pavement management program should be an integral part of any corporate budget. Technology, a common-sense approach and a commitment to follow through are crucial to maximizing the investment of this essential part of an organization’s infrastructure. The goal is to push the pavement deterioration curve out and extend the life of parking lots by performing less expensive preventive maintenance measures.

Don’t let your roadways be pulled out from underneath you. You can’t avoid every bump in the road ahead, but you can make them more cost effective to repair. **FMJ**



**Tom Sovel, PE**, is vice president and senior project manager for land development with Spalding DeDecker.

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## NEW WATER-RESISTANT AND HACCP INTERNATIONAL CERTIFIED WIPER DISPENSING SYSTEM

SCA North America, producer of the Tork® brand of Away-from-Home professional hygiene products and a Silver-level Corporate Sustaining Partner of IFMA, announces the launch of the new Tork Washstation Dispenser, a purpose-built dispenser designed to handle the rigors of the challenging food-processing environment. It provides best-in-class water resistance, hands-free dispensing and the highest capacity refill on the market. It is certified by Hazard Analysis and Critical Control Points (HACCP) International and can help mitigate risks and streamline operational efficiencies.



these findings, the Tork Washstation Dispenser was purpose-built to fit these specifications, including:

- Best-in-class water-resistance — no need to cover or remove during spray down
- Higher capacity roll system — less downtime for refill
- Hands-free dispensing — improves hygiene
- Modern functional design in Tork performance dispenser colors — available in transparent aqua/white and transparent red/smoke
- HACCP International certification

### NO MORE COVER-UPS

Unlike traditional dispensers, the Tork Washstation Dispenser is water-resistant and does not need to be covered or removed from walls during routine sanitation procedures, including high-pressure spray downs. This dispenser was designed to channel water off the housing and away from the refills inside. This not only avoids bacteria growth from pooling water, but also reduces waste from refills getting wet during clean up. In addition to saving time and reducing waste, the high capacity of the Tork Washstation Dispenser improves plant floor efficiency

— staying stocked longer, meaning less downtime for refilling.

### PURPOSE-BUILT AND BACKED BY RESEARCH

SCA commissioned an independent research firm to fully understand the dispenser needs of the food processing facility environment. The study found that, in addition to a certification from HACCP International, an ideal dispenser would offer increased durability and ease of refill, accommodate more paper, have improved safety and contamination deterrents, as well as be available in a modern and sleek design. Based on

### SEE FOR YOURSELF

To introduce its newest dispenser and disposable wiper system, Tork will be offering free trials for customers wanting to spray down the water-resistant solution themselves. Learn more about the Tork Washstation Dispenser and sign up for a free trial at [www.tork.ca/en/washstation](http://www.tork.ca/en/washstation).



## NEW APP AUTOMATES COMPLIANCE CALCULATIONS FOR ANSI STANDARD 90.1-2010

A new Web application from the American Society of Heating, Refrigerating and Air-Conditioning Engineers (ASHRAE)

automates the calculations needed to show a building project's compliance with American National Standards Institute (ANSI) Standard 90.1-2010. The 90.1 ECB Web application models compliance with standard 90.1-2010, Energy Standard for Buildings Except Low-Rise Residential Buildings, by using the Energy Cost Budget (ECB) method.

The application allows users to input project parameters and then calculate

the proposed design's projected performance and compliance, with the results exportable in a workable spreadsheet for project use. The application is accessible from desktop, tablet or other mobile device, allowing users to store project information in one place for easy reference and comparison.

The app is free of charge to users. To learn more about the ASHRAE 90.1 ECB Web application, visit [901ecb.ashrae.org/Home/About](http://901ecb.ashrae.org/Home/About).



## MOBILE APP PROVIDES ANYTIME, ANYWHERE CENTRAL WATER MANAGEMENT

HydroPoint Data Systems, an established leader in smart water management solutions and maker of the WeatherTRAK smart irrigation technology, has released the WeatherTRAK Mobile App 2. This free app is better than the original, providing additional features for remote control and central management for Apple iOS or Android devices.

The WeatherTRAK Mobile 2 App features Spanish language localization, Google Map integration and manual irrigation settings, allowing users to quickly perform system wet checks. Additionally, the app shows active station run status and easy-to-read watering count down time, plus the one-click ability to contact customer support.

The WeatherTRAK Mobile 2 App is available free of charge at the iTunes Store or Google Play Store. For more information visit [www.hydpoint.com/mobileapp2](http://www.hydpoint.com/mobileapp2).

## IMPACT- AND SLIP-RESISTANT GLOVE FEATURES COMPLEX CONSTRUCTION FOR WIDE-RANGING PROTECTION



Brass Knuckle® safety products from Safety Today Inc. introduces the SmartShell™ BKCR4599, a heavy-duty protective glove offering wide-ranging protection for extreme jobs. The BKCR4599 is a category jumper providing heavy-duty cut resistance, light oil and moisture resistance, non-tacky slip resistance, and shock-absorbing impact protection — all in an easy-wearing glove that defies comfort expectations.

Providing a broad spectrum of protection, the BKCR4599 is a high-end mechanic's glove that delivers American National Standards Institute (ANSI) level 4 cut resistance in a breathable, durable and flexible glove. On the palm and fingers, the BKCR4599 offers three layers of protection. The liner is an ultra-high-performance polyethylene (HPPE) and spandex composite that delivers heavy-duty cut resistance without bulk. Bonded to the first layer is a gray polyurethane (PU) fabric

topped with a gripping nitrile surface; a barrier to light-oil or other light-liquid penetration. In the critical areas of the palm, padding provides impact resistance. Finally, the back of the hand is loaded with sonically welded thermoplastic rubber (TPR) padding that easily counters workplace pounding and abrasion.

The BKCR4599 glove is well suited to work in a wide variety of industries, including assembly, agricultural, construction, aerospace, electric energy, engineering, forestry and logging, heavy equipment, machine operation, manufacturing, material handling, mining, metal handling, oil and gas drilling, packaging, refining, rigging and transportation.

For more information about Safety Today USA, call +1-800-837-5900 or visit [www.safetytoday.com](http://www.safetytoday.com). For more information about Safety Today Canada, call +1-800-263-1251 or visit [www.safetytoday.ca](http://www.safetytoday.ca).



## TYPE MC-PCS CABLE LAUNCHED FOR HEALTH CARE FACILITY APPLICATION

Southwire® is first to launch Type MC-PCS cable for health care facilities (HCF). This new metal-clad (MC) cable product, MC-PCS HCF Duo™ Cable, combines power and control/signal conductors and includes redundant grounding paths to provide approximately 3.5 times better grounding performance than Type AC-HCF Cable.

MC-PCS HCF Duo Cable is ideal for use with LED lighting with 0-10V dimming control in patient care areas of hospitals, nursing homes, dental offices, outpatient and other health care facilities. MC-PCS HCF Duo Cable combines power conductors for lighting with 0-10V

signal conductors for dimming control, and includes Southwire's patented redundant grounding system comprised of an insulated copper ground and a bare aluminum-bonding conductor that is in constant contact with the overall armor.

The MC-PCS HCF Duo Cable is made in America and constructed with 12 American wire gauge (AWG) or 10 AWG CU type thermoplastic high heat-resistant nylon (THHN)/thermoplastic heat and water-resistant nylon-coated (THWN) power and ground conductors along with an oversized bare aluminum bonding/grounding conductor and a signal conductor assembly comprised of a 30 mil PVC jacket covering two 16 AWG CU type thermoplastic flexible fixture wire nylon (TFN) conductors. The power conductors, insulated green ground and signal conductor assembly are cabled together, and a binder tape bearing the print legend is wrapped around the assembly. A bare

aluminum grounding/bonding conductor is located outside the binder tape, has the same lay as the insulated conductors and maintains intimate contact with the overall armor. Green aluminum interlocking armor is applied over the cabled assembly. Yellow stripe/blocks are printed on the outside of the armor and circuit-identifying print is applied on every fourth yellow stripe/block. The cable is also available in steel armor or with an overall PVC jacket and comes in 250-foot coils, 1,000-foot reels, boxes or prefab assemblies.

Southwire MC-PCS HCF Duo Cable meets UL and National Electric Code (NEC) requirements for combining power/lighting circuits, Class 2 or Class 3 signal or control circuits in the same cable and redundant ground paths, including UL 1569 and NEC articles 330, 725 and 517.13(A) & (B).

Visit [mcpcsduo.southwire.com](http://mcpcsduo.southwire.com) for more information on the MC-PCS HCF DUO Cable.

## INTERIOR FLUSH GLAZE FRAMING ACCOMMODATES FAST-TRACK CONSTRUCTION SCHEDULES

Tubelite Inc. announces a new extension of its 4500 Series Storefront framing called INT45 Interior Flush Glaze Framing, developed for commercial interiors. Specialized adapters allow Tubelite INT45's frames to be installed



before or after the drywall, completely covering the end of the stud wall and helping meet fast-track construction schedules.

The product gaskets accommodate 0.25-inch to 0.5-inch

glass thicknesses and are available in black or grey, and recycled aluminum content may be specified for the storefront-framing members. Aluminum extrusions are stocked in dark bronze and clear anodize, and can also be requested in five other anodize colors, 20 standard paint choices or a custom paint color. Matching finishes are offered for standard swing doors and frames to complete the system.

Learn more about Tubelite's new INT45 Interior Flush Glaze Framing, as well as its 4500 Series Storefront framing and standard entrance systems at [www.tubeliteinc.com](http://www.tubeliteinc.com).





## DURABLE LED BOLLARDS PROVIDE ENERGY-EFFICIENT OUTDOOR ILLUMINATION

U.S. Architectural Lighting's sleek new Razar LED Generation Bollard is the latest model in the company's Razar LED Generation of outdoor fixtures, which also includes area lighting and wall-mounted luminaires. The Razar LED Generation Bollard is available in single and twin head models. The RZRB1 (single head) is designed for pathways and driveways where perimeter illumination is desired. The RZRB2 (twin head) is suitable for open areas where illumination is required on all sides of the bollard.

Razar LED Generation Bollards share five asymmetric polymer light-emitting diode (PLED) optical panels, also used in Razar LED pole- and wall-mounted luminaires. The PLED optical modules are field replaceable and rotatable in 90-degree increments. Color temperatures are offered in 3000K (warm white), 4000K (neutral white/standard) and 5000K (cool white). Drive currents are 175 milliamperes (mA) and 350mA, creating light levels on par with 50W to 70W high intensity discharge (HID) in the RZRB1 (12W to 22W LED) and levels on par with 70W to 100W HID in the RZRB2 (22W to 44W LED).

The bollard stands 42 inches high and heavy-duty cast aluminum construction ensures durability in all environments. Razar LED Generation heat management technology,



including low-drive currents and robust cooling fans, keeps the fixture's surface temperature cool to the touch, even after hours of operation. The bollards are offered in five textured finishes: black, white, grey, dark bronze and green. Custom colors are also available. An optional battery-driven emergency LED driver provides 40 percent to 90 percent of the full illumination for 90 minutes (depending upon the drive currents specified).

U.S. Architectural Lighting's Razar LED Generation features a unified design with optical components and capabilities that are consistent throughout the line, including field rotatability and replacement, range of drive currents and dimming.

For more information on the Razar LED Generation of outdoor fixtures, visit [www.usaltg.com/products/featured/rzr.html](http://www.usaltg.com/products/featured/rzr.html) or call +1-800-877-6537.

## SELF-LEVELING COMPOUND AND ADHESIVE SOLVE SUBFLOOR CHALLENGES

Schönox® introduces two new subfloor products: Schönox DSP, a self-leveling compound that can be used as a top level wear layer, as well as Schönox HPS 92, a new acrylic adhesive for use with resilient flooring that is moisture resistant.

Schönox DSP is a new wear-rated, cement-based, self-leveling compound for use as a concrete topping with a wide range of uses including those in retail, restaurants, public buildings, entryways, offices, warehouses and even manufacturing areas with moderate industrial loads. With a compressive strength of 7,250 pounds per square inch, Schönox DSP provides an extremely dense and durable surface that can be stained, sealed or polished in interior and exterior areas.

Schönox HPS 92 is a new acrylic adhesive for use with resilient flooring including vinyl composition, vinyl enhanced, solid vinyl, and LVT tiles and planks, plus it is moisture resistant with subfloors not exceeding 92 percent relative humidity. The adhesive has a host of benefits including high strength, low odor, volatile organic compound compliance, high coverage and the ability to be used over porous and non-porous substrates.

For more information about Schönox products, call Tracy Strayhorn at +1-855-391-2649 or email [tstrayhorn@hpsubfloors.com](mailto:tstrayhorn@hpsubfloors.com).



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# FMJ EXTENDED

MAY / JUNE 2016

THIS EXCLUSIVE ONLINE SECTION FOCUSES  
ON EXPANDED FM COVERAGE.

**110**

**Get to Know IFMA's February 2016  
Member of the Month**

**111**

**The Voice of the Tenant**

BY GARY FESCINE AND CODY TAYLOR

*Contributed by IFMA's Environmental Stewardship, Utilities and  
Sustainability Strategic Advisory Group*

**118**

**Ask the Experts**

*Contributed by IFMA's Facility Management Consultants Council*

**121**

**Vendor Profiles**



# GET TO KNOW IFMA'S

# FEBRUARY 2016

## MEMBER OF THE MONTH



As members of the world's premier association with a network of more than 24,000 facility management professionals, IFMA recognizes how hard you work in your careers and in advancing the FM profession. It is through members such as you that the association has had a positive influence and made a difference in increasing the awareness of facility management.

In 2015 IFMA committed to further recognizing your accomplishments within the industry by developing a Member of the Month program. Members selected for this honor will gain additional recognition from their peers and IFMA.

Please join us in congratulating **Michele Gregg**, IFMA's February 2016 winner.

### MICHELE GREGG, CFM, SFP

*FEBRUARY 2016 MEMBER OF THE MONTH*

Michele Gregg, CFM, SFP, is a facility project manager for H&R Block. She began her career in the Office Services Department at Blackwell Sanders prior to leading the facilities department for six years as facility manager for Stinson Morrison Hecker LLP.


An active IFMA member since 2007, Gregg is also a member of the IFMA Kansas City Chapter with a wide array of association involvement at the chapter level, including chairing the programs and events committees before joining the executive board to serve the roles of treasurer, vice president and currently, chapter president.

She earned her Bachelor of Science degree in business administration with an emphasis in sustainable enterprise management in 2012 before moving on to earn IFMA's Sustainability Facility Professional® (SFP®) credential in 2013 and Certified Facility Manager® (CFM®) credential in 2014.

Gregg began volunteering with the IFMA Foundation in 2014, serving as chair for the Chairman's Reception and the Foundation Celebration, and was elected to the IFMA Foundation Board of Trustees in 2015.



**IFMA NEEDS YOUR HELP!** Nominate a member who has made a difference in the FM industry at [www.ifma.org/membership/member-of-the-month](http://www.ifma.org/membership/member-of-the-month) or contact Senior Manager of Membership Lauren Krueger at [lauren.krueger@ifma.org](mailto:lauren.krueger@ifma.org) for information on the nominating process.



# *the* **VOICE** *of the* **TENANT**

BY GARY FESCINE AND CODY TAYLOR

This FMJ Extended article is divided into two parts. The first, “The Need for a Tenant Voice” by Gary Fescine, makes the case that IFMA’s sustainability community has an opportunity to provide additional services that relate to leased facilities and become a tenant advocacy group for building occupants – thereby serving as a communications channel between brokers, owners and FMs.

The 2015 Energy Efficiency Act required the United States Environmental Protection Agency (EPA) to develop a voluntary tenant recognition system similar to ENERGY STAR. The second part of this article, “Feasibility of Tenant Space Efficiency: Update from U.S. Department of Energy,” by Cody Taylor, discusses preliminary findings of a United States Department of Energy (DOE) feasibility analysis related to the implementation of tenant-specific energy-efficiency measures.

– *IFMA’s Environmental Stewardship, Utilities  
and Sustainability Strategic Advisory Group*



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# THE NEED FOR A TENANT VOICE

BY GARY FESCINE

ARTICLE  
1

The International Facility Management Association is committed to support, represent and advance facility management, not only for members, but for the entire FM community. As the board of directors identifies changes and trends impacting the profession, IFMA staff respond by developing resources that enhance the value of the association to all segments of the international facility management community.

Considering this approach to IFMA strategic planning, and identifying changes and trends impacting the profession, it has become very clear that there is a need for the sustainability community within IFMA to support a commercial tenant voice at the city, state, federal and international level. Energy efficiency and sustainability align with the organizational goals of most large city corporate tenants and their facility managers. The cities want those FMs to work with their landlords to accomplish the reduction

of greenhouse gas (GHG) emissions and energy savings goals.

FMs need a cohesive voice to have their concerns reviewed and considered, and to help them fully understand the political, social and economic issues surrounding landlord-tenant collaboration.

## Global action group to reduce greenhouse gas emissions

The C40 Cities Climate Leadership Group (C40) is a network of the world's megacities taking action to reduce GHG emissions. C40 harnesses the assets of member cities to address local and global climate risks.

C40 is composed of 83 member cities around the world. Former Mayor of New York City, Michael R. Bloomberg, is the president of the C40 Board of Directors. Along with the chair, Mayor of Rio de Janeiro Eduardo Paes, they lead a rotating steering committee of C40 mayors providing strategic direction and governance. Current

steering committee members include representatives from Tokyo, Hong Kong, Johannesburg, Jakarta, London, Seoul, Los Angeles, Copenhagen, Milan, Amman and Rio de Janeiro.

With a focus on collaboration among member cities to accelerate climate actions, C40 has established 18 networks across seven initiative areas with a global staff to support collaborative problem solving, promote the exchange of programs and policies developed by cities, and facilitate targeted peer-to-peer dialogue among city staff. City members currently include Boston; Chicago; Houston; Los Angeles; New York; Philadelphia; Toronto; Washington, D.C.; Hong Kong; Tokyo; London; Paris and Rome, among others.

Through these efforts, C40 aims to demonstrate that cities are significantly reducing GHG emissions and hopes to provide proven models that other cities and national governments can adopt. Michael Bloomberg, C40 president, stated “while international negotiations continue to make incremental progress, C40 cities are forging ahead. Collectively they have taken more than 5,000 actions to tackle climate change, and the will to do more is stronger than ever. As innovators and practitioners, our cities are at the forefront of this issue — arguably the greatest challenge of our time.”

### How it all started

New York City is the largest city in the United States; alone, it emits nearly 0.25 percent of the world’s total greenhouse gases. Improving sustainability measures and reducing total GHG emissions within the city could have a tangible impact on both a regional and global scale. To that end, PlaNYC, a comprehensive sustainability plan for New York City’s future, was released on Earth Day, April 22, 2007. To complete PlaNYC, city officials met with more than 100 advocacy organizations, held 11 neighborhood town hall meetings, gave 50 presentations and received more than 3,000 emails over the course of four months.

Mayor Bloomberg, with the help of landlord groups — including the Building Owners and Managers Association, the Real Estate Board of New York, the Mayor’s Office of Sustainability and the Department of Buildings — created PlaNYC, New York City’s plan for sustainable growth through 2030. PlaNYC laid out 10 major goals, including cleaner air, water and homes for almost one million New Yorkers. These goals culminate in a citywide GHG emissions reduction target of 30 percent by 2030.

Achieving this target requires increasing energy efficiency in city buildings. Roughly 45 percent of the energy is consumed by only 22,000 buildings. These large buildings come in all types: commercial, industrial, institutional, multi-family residential and mixed use. The Greater Greener Buildings Plan (GGBP) is a comprehensive, mandatory policy that targets this portion of PlaNYC. For these buildings, the policies require:

- Annual benchmarking of energy and water use with public disclosure
- Audit and retro-commissioning every 10 years for non-residential spaces
- Upgrades for lighting to meet the energy code
- Installation of electrical meters or submeters for large tenant spaces

### The gap

However, there is a gap in the New York City initiative: no input by any tenant advocacy group or association helped develop these policies.

In addition, as part of the GGBP, Local Law 84 was created. This law requires landlords to benchmark their energy usage annually and requires tenants to submit their energy usage data to the landlord if they are direct metered and in buildings of more than 50,000 square feet. Unfortunately, in deciding this local law, a tenant advocate was not invited to the table.

The list of partnerships continued to grow for GGBP such as: the New York City Chapter of the Green Building Council (Urban Green), New York City Energy Efficiency Corporation, the Association of Energy Affordability, the Association of Energy Engineers, the Building Commissioning Association, New York State Energy Research and Development Authority and the Consolidated Edison Company of New York. Despite this participation, there was no clear representation of tenant concerns among the groups.

As FMs are directly held accountable for supplying their data, IFMA’s sustainability community is a logical choice to address this gap. This community could act as a tenant advocacy group for building occupants with special research groups and committees tasked with gathering data and listening to what tenants really want and need as part of their agenda.

In this manner, they could serve as a bridge between real estate, design and construction, FM operations and sustainability; and between landlords, brokers and tenants. It would increase the visibility of the association, elevate discussions with the FM industry and demonstrate our professional community’s commitment to social and environmental responsibility.

### Current

In 2013, data pointed to the realization that commercial buildings account for 21 percent of New York City’s GHG emissions and the energy used in interior office spaces and leased spaces accounts for 40-60 percent of the energy used in a typical commercial office building. To help address energy use in these spaces, the city launched the New York City Carbon Challenge for Commercial Offices, which included some of the city’s largest commercial tenants and owner occupiers. The 11 participating companies have pledged to voluntarily reduce their GHG emissions intensity (per square foot or per full-time employee) by 30 percent in 10 years, depending on their base year.



Commercial office challenge participants are focusing on using energy more efficiently in their interior office spaces and leased spaces through innovative strategies such as IT efficiency, lighting controls, supplemental heating, ventilation and air conditioning upgrades, and space layout optimization. Altogether, participating companies have reduced their New York City-based GHG emissions from their respective base years by 15 percent, or more than 50,000 metric tons of carbon dioxide equivalents.

BlackRock, AIG, Bloomberg, Credit Suisse, Deutsche Bank, Google, Goldman Sachs, JetBlue, JPMorgan Chase, Kirkland and Ellis, and the PVH Corp. accepted the challenge and volunteered to reduce kilowatt hours per full-time employee by 30 percent by the year 2021. Yet again, there was no unified voice from an occupant-focused association to represent those opinions.

### Opportunity

This gap represents an opportunity for the corporate FM and associate segment of IFMA's membership to take a leadership role, along with IFMA's sustainability community, to establish a better foundation from which to grow.

As a former president of the New York City Chapter of IFMA, I developed a relationship with the New York City Mayor's Office of Long Term Planning and Sustainability through continual meetings, dialogue and metrics review. Recently, the current mayor called for an 80 percent reduction of GHG emissions by 2050 — a plan called "80 by 50." It stands to reason that the only way to reach that type of goal is by reducing energy consumption in both the owned and leased spaces of commercial buildings, necessitating collaboration between landlords and tenants.

This strategy presents a significant opportunity to reduce GHG emissions. However, tenants and landlords face a range of coordination issues and barriers, such as split incentives (which

you'll hear more about in the following article), when it comes to implementing energy-efficiency projects.

Improving coordination between commercial landlords and tenants, as well as offering solutions, presents a significant opportunity for FMs to take on the role of the "voice of the tenant." Moreover, energy efficiency and sustainability align with the goals of most large corporate tenants, and facility managers are the natural connection between organizational initiatives and the landlords who play such a crucial role in their success.

### Future

As tenants work with landlords to achieve reduced GHG emissions, IFMA's sustainability community could potentially provide:

- Best practices for commercial tenants
- Sample copies of tenant green leases
- A sample tenant lease that is less landlord-centric
- Design and construction best practices for minimizing energy usage
- Information on local government and utility rebate programs
- Sample ROI case studies for LED lamp programs in different countries around the world
- Energy purchasing best practices in different countries around the world
- Ways and means to work with landlords to improve energy efficiency and carbon reduction
- Global history and possible energy reduction project action plans from each country

Other positive steps could include establishing a team of experts in best practices for energy-efficiency projects. IFMA's sustainability-minded members have adequate stature and influence to sit at the table with city governments and with landlords on tenants' behalves so that commercial tenants of all sizes have representation, especially when new laws and codes are being formulated.

The president of IFMA's New York City Chapter, James Camille, CFM, agrees that this is the perfect time for IFMA to rise to the occasion to utilize the city's landlord/tenant experience as an opportunity and a strategic steppingstone to a national or international plan.

It is time to assess the current state and create a strategic plan to position ourselves for the future, developing resources that enhance the value of the association to specific corporate and associate segments of the international facility management community. It is time to further refine and focus the goals and objectives IFMA's sustainability members pledge to carry out for the benefit of the facility management industry to include this community as the future voice of the tenant. **FMJ**



**Gary Fescine, FMA, RPA**, is a member of BlackRock's Corporate Services facility management team. He is global director of facilities, building operations. He has

held a number of related positions, including director of facilities at The New York Times and director of operations at the New York Post.

Fescine earned his bachelor's degree in business administration from the Fordham University School of Business. He also earned designations as a Facility Management Administrator and Real Property Administrator from New York University and the Building Owners and Managers Institute.

He is a past president of the New York City Chapter of IFMA and currently acts as an advisor to the chapter's board of directors.



# FEASIBILITY OF TENANT SPACE EFFICIENCY

*UPDATE FROM U.S. DEPARTMENT OF ENERGY*

BY CODY TAYLOR

ARTICLE  
**2**

Commercial buildings account for 36 percent of energy used in the United States economy,<sup>1</sup> with leased spaces representing approximately 50 percent of all commercial building energy use.<sup>2</sup> Increasingly, market pressures such as rising energy costs, new requirements to publicly disclose energy usage and increased attention on energy efficiency as a means to combat climate change, are motivating tenants, building owners and other commercial building stakeholders to explore new ways to reduce energy consumption.

Reaching the tenant market is critical to advancing the United States Department of Energy's (DOE) goals to advance energy efficiency in the commercial building sector. This market, however, has historically been very difficult to reach and faces myriad challenges and barriers, most notably "split incentives" which are discussed in more detail below.

In an effort to increase tenant efficiency opportunities, Congress passed the Energy Efficiency Act of 2015, which requires the

Environmental Protection Agency (EPA) to develop a voluntary tenant space recognition system similar to its successful ENERGY STAR buildings program. Additionally, the legislation required a feasibility analysis prepared by the DOE regarding the implementation of tenant-specific energy efficiency measures.<sup>3</sup>

This update, which summarizes some of the early findings of the report, highlights best practices and policies that could serve as the backbone for future tenant energy-efficiency programs, along with a possible timeline for the development of a federal recognition system.

## **Barriers to efficiency**

The energy consumption at a representative large, multi-tenant building can be partitioned into energy attributable to common areas, shared mechanical systems and tenant spaces. Control of each of these segments is often fragmented. For example, while building owners often manage communal facets of the building (such as garage lighting), tenants often oversee energy usage within their specific spaces (such as plug loads).



Ultimately, both tenants and owners have a role to play in advancing energy efficiency in multi-tenant spaces. While circumstances differ based on lease structure, neither owner nor tenant is granted complete control; rather, both parties are jointly responsible for both energy usage and associated emissions attributed to the property.<sup>3</sup> A collaborative relationship between an owner and tenant is required in order to actualize significant reductions in energy consumption.

A variety of energy-efficient technologies exists in the market today; however, wide-spread adoption has been hindered by historic challenges experienced by the sector, such as:

- The timing and process of leasing — characterized by infrequent design windows; multiple stakeholders, design and budget constraints; and the dynamics of fluctuating negotiating leverage between owners and tenants — have largely prevented rapid advancement of energy efficiency in separate tenant spaces.
- Many owners, tenants and brokers remain unaware of or uninterested in the financial benefits and opportunities afforded by energy efficiency within leased spaces.
- The majority of tenants in the market are small, disparate and hard to reach with overarching energy-efficiency strategies.
- Owners and tenants are hesitant to invest in tenant space energy-efficiency measures due to the “split incentive” problem, which refers to the financial disconnect of investments in energy efficiency that can result from how costs and benefits of energy efficiency are allocated to different parties.
- The inability to collect tenant-specific energy data from whole building consumption in order to

validate the benefits of energy-efficiency investments limits owner and tenant insight into the value of energy efficiency, further dampening interest.

### Opportunities

Increased education and awareness materials, collection of tenant-specific energy consumption data, and a re-alignment of leasing cost structures targeted toward building owners, tenants and brokers, may help overcome these challenges and encourage widespread uptake of tenant space energy-efficiency measures. Potential ways to address these needs include:

#### SUBMETERING OF TENANT SPACES

Metering tenant-specific energy use offers the ability to separate out individual tenant-level energy usage from common area usage. Submetering helps ensure that each tenant pays for their own energy consumption and receives the full benefit of energy cost reductions on their part. Empowering tenants to ask for submetering will send a signal to building owners that tenants want an active role in monitoring and managing their energy consumption.

#### EASY COMPARISON OF ENERGY-EFFICIENT TECHNOLOGIES

Technologies to increase the energy efficiency of tenant spaces currently exist. However, understanding the costs and benefits of utilizing such technologies is often complicated and time consuming, requiring tenants to understand not only the energy-saving attributes of individual products, but also interactive effects between technologies. The ability to readily compare packages of technologies, whether through interactive tools or build-out guidance checklists, is one potential way to increase the uptake of energy-efficient technology in tenant spaces.

#### RECOGNIZING THE BUSINESS CASE FOR ENERGY EFFICIENCY

Many businesses recognize the ways in which energy efficiency can improve their bottom line. This can be supported through the development of educational

and marketing materials geared toward tenants, brokers and owners to emphasize the many co-benefits of energy efficiency, showing how these measures will help reduce the total cost of occupancy, make spaces more comfortable and attractive, contribute to improved performance of workers and increase asset value at time of sale.

Even in lease structures with a split incentive for energy efficiency, building owners can benefit from increased energy efficiency through market differentiation, and in certain markets command higher rents and longer tenures. A growing body of research has shown that energy-efficient buildings rent for an average premium of 2-6 percent,<sup>4</sup> can sell for a premium of as much as 16 percent,<sup>5</sup> attract high-quality tenants<sup>6</sup> and have lower default rates for commercial mortgages.<sup>7</sup>

#### LOW-COST ENERGY SIMULATION MODELS FOR TENANT SPACES

Tenants have the ability to compare different energy-efficiency measures through energy simulations. These allow them to make well-informed decisions regarding what options are most appropriate for their space. Energy modeling is most often used today in large spaces (greater than 20,000 square feet) where the return on investment from energy-efficiency measures more than covers the upfront costs of modeling. Continued investments in both guidance and software to make advanced modeling more accessible will help make this process financially feasible for smaller tenant applications (less than 20,000 square feet).

#### IMPROVING LEASING LANGUAGE AND BROKER ENGAGEMENT

Energy-efficiency-aligned language can be added to traditional building leases to create “green leases” that mitigate the landlord-tenant split-incentive problem. In order to increase the use of green leasing practices, which in turn advance high performance spaces, industry trade organizations can continue to highlight examples of successful green

leases, collect and publish best practices, and create case studies that illustrate the benefits and market opportunity for green leasing strategies. Education that increases energy-efficiency literacy among real estate brokers will help them to better respond to tenant requests for energy-efficient spaces and leases.

### Creation of a federal tenant space recognition system

The U.S. is exploring a federal program to recognize energy-efficient tenant spaces and allow peer-to-peer comparison of tenant spaces based on their energy performance. This will foster an environment of transparency to help owners, tenants and brokers evaluate performance, broadcast the value of energy-efficiency measures and distinguish high-performance tenant spaces from the rest of the market. Simplifying efficiency to an accessible metric gives market participants a “scorecard” to measure higher levels of performance, and often drives activity across the industry as a whole through competitive forces and peer comparison.

Prominent examples of rating systems for whole-building energy performance already exist in the marketplace. ENERGY STAR provides a 1-100 score that directly coincides with performance compared to peer buildings, based on the building operator’s efforts in benchmarking and energy management practices.

Private green rating systems provide a framework for owners and operators to achieve designations in design, construction, or operations and maintenance. The DOE’s Building Energy Asset Score assesses the physical and structural energy efficiency of buildings, generating a simple rating that enables comparison and identifies opportunities to invest in energy-efficiency upgrades based on design, construction and energy systems.

In establishing a tenant-focused system, there will be several possible ways to design a recognition program. Options range from recognition based

on outcome-focused gross metrics like those used by the Australian government (energy use intensity), to detailed metrics focused on design and operational inputs like the government in Singapore (lighting level, temperature ranges), to energy simulation-based approaches or simpler checklist-based approaches. Further research is warranted to assess the market viability, metrics and structure of a potential system to best support the U.S. market.

### Potential timeline for federal recognition system

The following are possible dates, as development of a federal rating system is uncertain and dependent on congressional funding and market progress in areas like submetering:

- **2016-2017** – EPA may develop a voluntary program to recognize commercial building owners and tenants for energy-efficient design and construction in separate spaces.
- **2017-2018:** U.S. Energy Information Administration (EIA) to collect tenant energy use data as part of the Commercial Buildings Energy Consumption Survey (CBECS) or develop capabilities and begin collecting tenant data in future CBECS.
- **2021:** Earliest likely date of tenant data public release from EIA or EPA to receive data and begin developing occupancy-based recognition for tenants.
- **2022 or after:** EPA to develop voluntary tenant space recognition program modeled after ENERGY STAR for buildings. **FMJ**

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**Cody Taylor** is a team lead in the Commercial Building Integration group in the DOE’s Building Technology Office. He leads the team’s market transformation

portfolio, helping markets to more effectively deliver energy efficiency. This includes initiatives to accelerate the market for zero-energy buildings; improve data interoperability in the buildings sector; prepare the American workforce to deliver efficient buildings; and more readily incorporate energy performance information into real estate finance, investment, construction and leasing decisions.



# ASK THE EXPERTS

BY IFMA'S FACILITY MANAGEMENT CONSULTANTS COUNCIL



**IFMA™** FM Consultants  
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In each issue of FMJ, IFMA's Facility Management Consultants Council shares some commonly asked FM-related questions accompanied by advice from top FM consultants. The questions and answers presented in this section align with IFMA's core competencies following the themes outlined for the given edition of the magazine.

While the following answers are intended to be helpful, these responses should not be deemed complete and are limited in context by the space allocated. Please contact the individual consultants directly for further explanation of the opinions expressed.

The theme of this edition of FMJ is **"Back to Basics."**

*The Facility Management Consultants Council (FMCC) represents more than 300 FM consultants from various countries around the globe. Its mission states, "The FMCC is the resource and voice for facility management consultants worldwide to leverage our collective expertise to benefit IFMA members, and the facility management profession."*

*Questions regarding the Ask the Experts section of FMJ can be directed to Mark Sekula, CFM, FMP, LEED AP, IFMA Fellow, president of Facility Futures, Inc., at [msekula1@wi.rr.com](mailto:msekula1@wi.rr.com).*

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## QUESTION

**As the team responsible for organizations' second most expensive asset, facility management professionals must engage in careful, proactive asset management. As an FM consultant, what would you recommend that FMs do in order to become more proactive asset managers?**

**ANSWER:** To begin, I would ask the FM client if he or she points out the balance sheet value of the asset(s) involved when proposing a project or expense. While this can help demonstrate that the FM team is oriented to asset value, the balance sheet is at best a lagging indicator that does not show what the asset actually contributes. Therefore, the FM team may be leaving a lot on the table. What could proactive asset management gain, and how?

Asset management is about optimizing return on investments made to accomplish the organization's purposes. Does the FM team talk this way, or in other words, how strategic are they? Proactive asset management is much more than a method. It is a reflection of organizational philosophy that leads to integration in a culture of communication and strategic management.

An organization working strategically will also require skills and processes to execute strategies. In a recent article on ReliabilityWeb titled, "Controlling the Silent Killers of Strategic Asset Management," Grahame Fogel and Johann Stimie show that, while the potential gains of asset management are large and ongoing, executives and practitioners find strategy execution notoriously difficult, as it requires judicious monitoring and unexpected rethinking.

Execution is the most vulnerable part of proactive asset management.

The client organization must not only be oriented strategically. Executive sponsors and FMs have to be proficient in processes and techniques for executing strategy, working in alignment, horizontally and vertically, and communicating throughout.

If it were easy, everyone would do it. What can consultants do to help clients take up proactive asset management? First, assess the organization in and above FM for strategic management. This might be a good time to work with another consultant to create or tune up strategic management in the client organization.

Second, determine if FM strategies and objectives concerning asset management directly reflect current organizational strategies and objectives. If so, the consultant may confidently initiate proactive asset management as a limited implementation in a narrow area.

Prepare the client to stop, rethink, revise and go the distance. Keep the executive sponsor updated. In terms of learning and acceptance, the client's first proactive asset management initiative will have organizational importance in proportion to its size.

**ANSWERED BY:**  
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Reynolds is with FM-CONSULT-CREATE. He joined FMCC in 2014, is a recent CFM and has held an FMP since 2004. His background is in systems, project management and consulting in small companies serving a variety of clients and industries. He holds degrees in science, engineering and allied health areas.

He focuses on FM as organizations adopt asset and risk management principles and practices, where clear, visible, interactive, maintainable processes and models, data and measurements can better frame FM in alignment with organization strategies and objectives. Reynolds' pro bono work includes construction, maintenance, safety and health. He is also a member of IFMA's Environmental Health and Safety Council.

**ANSWER:** Organizational re-commissioning is the process of constantly reviewing and recalibrating operations. This could start with "retuning" building operations and lead to a complete staffing analysis. It involves diagnosing the current health of your organization, including how your team is developing and functioning, how well you are working collaboratively with senior management and customers, evaluating your financial stewardship, and ultimately ending with a new perspective on the current and desired state of your FM organization.

It is imperative that we never allow our operations to become stagnant, but instead, look for ways to improve on a consistent basis. Take one step at a time, but keep moving forward!

**ANSWERED BY:**  
**Teena Shouse**  
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Teena Shouse is principal of FM Transitions and was vice president of client services at Facility Engineering Associates for eight years. She has more than 29 years of experience in service-related fields (predominately facility management), including 18 years at Sprint headquarters in Kansas City, Missouri, USA.

From 2005-2007, she served as chair of the IFMA Board of Directors, and from October 2010 to January 2013 she held the position of chair of the Global FM Board of Directors.

Shouse creates and teaches facility management courses for IFMA and is a guest speaker at numerous North American and international conferences and universities. Her primary expertise includes project management, business process improvement, sustainability in FM, staff development, outsourced contract governance, capital planning and budgeting, and operations and maintenance.

**ANSWER:** This may be one of the greatest opportunities for the success of FMs. Facility managers have to address the demands of the workforce (wherever they may be located), as well as the physical space (the hub at the intersection of processes and hardware) for which FM is responsible. Thus, FM in this case is the art of integrating the maximum level of service, usable hardware and productive space, plus achieving this without spending money or buying/leasing expensive buildings.

One of the first challenges is to determine the cost of FM, including all basic requirements, such as building maintenance, environmental services, communication, transport, HR benefits and safety. This also includes the cost of utilities, in addition to delivering comfort and safety to occupants who are not on-site. The FM costs should be distinguished from leasing and property costs. In order to maximize efficiency, consider questions such as:

- How many square feet are necessary to support the demands of the company and customers?
- What kind of services and resources are really needed on-site, and which can be outsourced?
- How long do occupants stay in the office (are they just in the office periodically to interact with colleagues)?
- Do we need an expensive parking lot or can occupants use public transportation?
- How intelligent is our communication structure? Can people stay connected wherever they are?
- Where does the work take place (e.g., in an urban site, downtown, on the city periphery, in remote areas and/or in the cloud)?
- Do most of our customers visit us at our physical sites or virtually?
- How many co-working systems and spaces do we offer for remote staff?

The strategy of reducing the physical space of workplaces not only serves to ensure that we

best invest our money and resources, but also allows us to effectively meet the current and future needs of customers and clients.

Consider a simple team survey addressing the following questions:

- What tasks do you really need to do on-site?
- Do you need to be on-site to begin specific tasks? If so, how frequently?
- Who are the colleagues you need to collaborate with on-site daily or weekly?
- How do you get the “raw materials” for your job?
- How do you produce and distribute deliverables to your “clients”?
- How much time do you spend in travel to the office and back home?

You’ll be surprised at the answers, and you will no doubt find that occupants’ needs depend much more on their virtual connection than physical presence in the office. Thus, you can help them overcome the challenges of urban mobility, such as the heavy traffic of big cities and the security of people and vehicles.

In all likelihood, the more technology you have, the higher your percentage of unnecessary on-site presence. However, it’s important to ensure that customers and employees still have the resources they need to feel comfortable and supported in their jobs.

Much discussion in our industry revolves around material and technological resources, but we also need to consider the psychological preparation required to adapt to new ways of working and avoid blending private and professional needs and expectations.

**ANSWERED BY:**

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**ANSWER:** I would advise them to program space for the future. Real estate improvement costs continue to rise and companies/departments are always changing. Every stakeholder wants to be a part of the design phase. Convince them to put their personal agendas aside and design for the future, but also offer them the ability to personalize the space with custom finishes and paint. Everyone is replaceable, and when their replacement arrives, the highest compliment anyone can receive is when their replacement recognizes the opportunity to revamp space with minimal costs for a different use.

**ANSWERED BY:**

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Richardson has more than 30 years of experience as both a real estate asset and facility manager. For the last 17 years he has held the roles of owner and president of PBJ Facility Solutions, Ltd.

With an experienced team of 32 employees, PBJ provides FM services for small- to mid-sized companies. These range from facility design and project management to on-site staffing for engineering, custodial, maintenance and landscape services.

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Camargo is director of Interface Facilities Management. He has worked in FM for 25 years in executive positions for many multinational groups in Brazil and throughout Latin America. He is responsible for planning, implementing, controlling and developing resources, activities and people inside integrated sites or mobile teams.

Camargo conducts FM seminars and workshops throughout Brazil for senior FM professionals and students. His key strategic objective is to align his mindset and coaching to IFMA’s industry-leading concepts and practices.



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