

# FMJ



**IFMA**<sup>TM</sup>  
International Facility Management Association

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Budgeting: A rite of passage

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My Facility: The USS Midway

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World Workplace 2019

# FINANCIAL GAINS

*Budgeting for FM priorities*



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“

IFMA is a true asset for FMs worldwide. I find value in the networking and plethora of resources that help me find solutions to the FM challenges I face. It's comforting to know that the FM professionals I meet through IFMA are international peers and help me find solutions, improve processes, decrease operational expenses, improve health and safety and overall maximize your facilities' potentials. I find IFMA to be a "must" for any FM out there.

**Carlos Rodríguez**

*Santo Domingo, Dominican Republic  
IFMA Member since 2016*

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**ABOUT IFMA** IFMA is the world's largest and most widely recognized international association for facility management professionals, supporting 23,000 members in more than 100 countries. This diverse membership participates in focused component groups equipped to address their unique situations by region (142 chapters), industry (16 councils) and areas of interest (six communities). Together they manage more than 78 billion square feet of property and annually purchase more than US\$526 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 series of facility management conferences and expositions. For more information, visit [www.ifma.org](http://www.ifma.org).

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### FMJ Extras

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Eric Teicholz

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### IN CASE YOU MISSED IT ...

The September/October 2019 issue of FMJ focused on sustainability. Our most-read article was “Pool Play: Keeping IAQ from taking a dive” by Ralph Kittler. Learn more about how planning and developing an indoor pool incorporates the most important parts of a building envelope. <http://bit.ly/2N2aehW>



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 IFMA's FMJ



# Editor's Note Bobby Vasquez

If time is money, are you getting the full value of your professional wealth? How are you taking care of your most valuable professional asset?

Regardless of our rung on the ladder, employees bring many of the same components to the workplace – experience, labor, knowledge and a field of networking at their fingertips. We all know someone who knows everything about a given subject. In short, only you can provide the skills and knowledge that you have and only you can strengthen those things to make you a more valuable asset.

This issue of IFMA's FMJ focuses on financial and budgeting best practices for FMs. But what about best practices for taking care of you? All the value and assets we provide to our employer go for naught if we are not at our best.

The human body is a finely tuned machine. Much like our IoT tells us when something is wrong in our built environment, our bodies are telling us when things are wrong. What is your response time when a sensor or tenant tells you that there are issues with the facility's heating system or elevator?

What is your response time when your body aches or your brain is foggy from working all day on the next budget or strategic purchase?

While HVAC, elevator and other building systems can be repaired and replaced, the human body is not always as fortunate. We may be able to take a quick pill for pain relief or walk to clear the brain. But if our FM mantra is to fix the problem instead of fixing a symptom, shouldn't we do the same with our bodies and minds?

Our body is the most important facility we maintain, and as such, we are not immune to the stresses of everyday life, be it on the job or at home. When our bodies and minds struggle to perform our daily tasks, it bogs down our potential to be the most productive we can be. When we lose our productivity, our value-added to our employer takes a hit. It becomes a no-win situation.

If the office heating system is not working on a blustery, cold day, it makes for an uncomfortable work environment. If the elevator is not working properly, those who work on the upper floors will have a steep climb just to start their day.

The human body is the same, and therefore we must put the same consideration and care into ourselves as we do to all the intricate systems in our properties.

Are you taking advantage of the building amenities that you offer your tenants? It's OK to hit the onsite gymnasium you placed in your building. It's okay to take a walk in the outdoor garden to clear your head before you tackle your next big project. Take that yoga class. Find a healthy treat in the building's deli space.

Take time for a vacation, or if need be, a staycation. You worked hard to earn that time. Plan a weekend getaway. Get your wellness checkup. Just like our building systems, doing the small things can prevent something big from happening. The best you is the most productive, and thus, the most valuable you.

Cheers!

Interested in writing for FMJ?  
Email [bobby.vasquez@ifma.org](mailto:bobby.vasquez@ifma.org) article ideas to be considered for future issues of FMJ.

## STAFF

EDITOR IN CHIEF  
**Bobby Vasquez**  
bobby.vasquez@ifma.org

SENIOR COPYWRITER  
**Chablis Lindquist**  
chablis.lindquist@ifma.org

ADVERTISING ACCOUNT SPECIALIST  
**Diana Maldonado**  
diana.maldonado@ifma.org

MARKETING  
**Amanda Day**  
amanda.day@ifma.org

DESIGNER  
**Ellen Cregan**

## IFMA 2019-20 BOARD OF DIRECTORS

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Agile OAK LLC  
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Denver, Colorado, USA

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# From the **Chair**

What a positive year it has been for IFMA. We are financially and organizationally strong. We have a solid strategy in place and the commitment and enthusiasm of the board and staff to see it through. We had a tremendous World Workplace event in Phoenix, Arizona, USA, with a record turnout for the world's marquee FM conference and expo. We were proud to welcome some 200 new faces in the First-time Attendee Orientation, as well as close to 100 new exhibitors and sponsors.

While at World Workplace, we honored the contributions of FM professionals and partners who continually inspire and innovate within our profession. We inducted the newest class of IFMA Fellows and paid tribute to the 28 classes of Fellows since the program began in 1992. We presented 27 worthy FM students with scholarships and recognized Awards of Excellence winners in 12 categories. We recognized our ICON Exhibitors – companies that have consistently exhibited at World Workplace for 5, 10, 15 and 20 years. Versteel was celebrated as a 25-year Exhibitor ICON.

Our profession and our association thrive on the continuous stream of ideas, perspectives, strategies and solutions. We live in a world of accelerated change. Smart buildings need trained professionals to run them. Successful companies want game-changing ideas for gaining a competitive advantage while improving the bottom line. Employees want human-centered perks. We can depend on IFMA to lead the FM conversation based on current and forecasted trends, helping us all prepare for what's next.

We had so many informative sessions in Phoenix, including the Workplace Evolutionaries' Workplace Management Program. Developed by an international team of subject matter experts, it is an example of how we identify trends, collaborate with experts, and deliver a resource so that our professional community is better equipped to manage and drive beneficial change in our facilities.

As digitization continues to make its mark on how FM and CRE are practiced, thought leaders from IFMA's Environmental Stewardship, Utilities and Sustainability (ESUS) Community discussed technologies (FM/BIM platforms, BlockChain, MicroWeather) that could fundamentally disrupt current FM and real estate practices.

Also at World Workplace, we unveiled "Climate Change Fundamentals for Facility Management Professionals." Climate change is a reality. It is a global crisis, and if current trends continue, the effect on our ecosystems will have serious consequences. Even while global bodies and governments work to mitigate climate change, the aftermath of extreme environmental shifts pose threats to life and property, impacting our ability to safeguard both. Available to download free through IFMA's Knowledge Library, this report contains information and insights that every FM can use immediately to confidently discuss and plan for climate change.

Implementing smart technology now as a plan for resilience is one step in the right direction. It is imperative that facility management and corporate real estate work together with private and public entities on long-term solutions, sharing best sustainable practices and industry standards, with an eye toward smart city development.

Providing benchmarking and networking resources, IFMA is committed to educating our community on why climate change is occurring and how we can prepare our people and our properties for future risks. How we act on this information will set the course for how the workplace environment survives and thrives.

On behalf of the board and staff, I thank you for attending this year's World Workplace. Thanks also to all IFMA members for making this past year a success for our association.

# Is Your Facility Passing Its Annual Performance Review?

BY JOSI HERON AND CASEY MARTIN

We all face that time of year when we are obligated to review the outcomes from the passing fiscal year and determine our capital investment plan for the next budget term. Without the ability to measure performance progress, we can't build the business case for future investments in FM programs. Benchmarking and monitoring progress is the foundation for measuring success, and making informed decisions for future investment priorities.

**FM** organizations are keenly aware of the need to be cost effective while adding value to the organizational mission. To better understand their value contributions, the FM organization needs to be able to demonstrate how the facilities and support services are benefitting the organizational mission. This requires alignment of FM performance metrics to the broader corporate mission, so the results are meaningful to top management.

Before we start measuring and monitoring, we need to understand where we are starting. This benchmarking exercise should allow organizations to compare their starting point with peer organizations to understand what the current baseline means compared to similar facilities, industries or market sectors. Once performance metrics are determined, notching a line on the scale sets the baseline and initiates the continuous improvement journey.

## WHAT NEEDS TO BE MEASURED?

How do we determine what is meaningful to measure? Performance metrics should be based on information that will be useful for decision-making in granularity to the FM organization, and meaningful in aggregate to both the FM organization and the demand organization. Just because data is readily available doesn't mean it should automatically become a performance metric. If the data is just information and does not contribute to decision-making, then it is probably just nice-to-have information that isn't very meaningful. The key is to interpret the data and turn it from information to usable knowledge, and often the simpler the vehicle the more readily it will get used.

FM performance metrics need to link to an organizational outcome that demonstrates a value add to the organizational performance metric. For health care facilities, the FM performance metrics should align with improving the patient experience or lowering the cost per bed, per patient day if those are the organizational goals. For manufacturing facilities, the performance metrics should align with an increase in production, an improvement in quality or whatever the organizational mission may be.

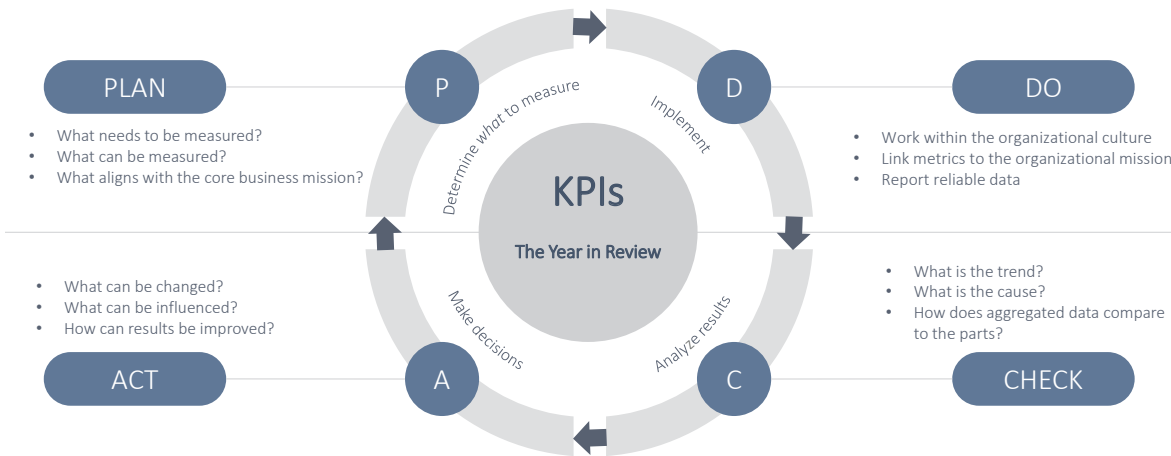
Simply tracking work order efficiency may be useful to the FM organization, but it needs to be translated into a performance metric that aligns with the organization and demonstrates the contributions of FM to the business. What information supports corporate-level decision making? What information provides a competitive advantage for the organization? In the federal or operational market, critical performance metrics center on risk to mission, or what magnitude of disruption to the overall organizational goals is there if the facility is degraded or unavailable at any point. What results from a mission-based metric

is a tiered look at the most critical facilities, structures or equipment that assists with strategic prioritization of projects and funds for the senior leaders. This can be combined with information on the condition of the facilities to create an overall prioritization model that spans maintenance and recapitalization efforts.

Identify key areas where results are important. A few examples to consider:

- » Strategic performance drivers unique to a facility or industry can be a metric and very useful to the organization when aggregated to the portfolio level.
- » Compliance and continuity metrics that monitor risk, business continuity, budget controls or compliance audits can track mandated metrics that will be critical for an audit or natural disaster.
- » Service delivery environments that monitor levels of service, asset conditions or asset management can support decision-making for strategic capital investment planning or corporate level initiatives.
- » Service delivery performance for tracking efficiencies for utilities, maintenance, project and contract management are meaningful financial metrics and useful in aggregate or for comparative benchmarking purposes across a portfolio.
- » Workforce metrics such as staffing effectiveness, competencies, resourcing levels or procedure adherence can support staff development and identify workforce skill gaps.





### WHAT CAN BE MEASURED?

Performance metrics should collect data that can be used to improve outcomes. If the FM organization does not have the ability to improve the outcomes of the performance metric, then it is information, not a performance metric. The FM organization needs to assess their context to the broader organization and align performance metrics with activities they have the ability to control. Are there external factors that prohibit the FM group from being able to control the results of the performance metric? Are there internal influences that the FM group can leverage to affect change in the performance results? Analyzing the activities that support the organizational mission and that the FM organization can control are the quintessential sweet spot of performance metrics.

### HOW ARE KPIS IMPLEMENTED?

Knowing what to measure is a great start. Embedding the performance metrics into the daily routines of the workforce is required for the metrics to be meaningful and the outcomes to be improved. As with any change management activity, effectively implementing performance metrics takes multiple steps. Key concepts when implementing performance metrics:

- » Identify the organizational culture and what can be changed by working within the cultural expectations
- » Link metrics to activities that support the success of the organizational mission
- » Ensure the performance metrics translate to the intended audience and are easily understood
- » Convey the effects of the performance metric on the organizational mission – what is the consequence (positive or negative) to the mission?
- » Report consistent and reliable data that can also be used for trending, or aggregated to a portfolio or other tiered level that will be meaningful to top management in aggregate

Whether it is quality, customer satisfaction, cost or timeliness that may be a driver in your organization — standards can help frame the process for measuring the effectiveness of an FM organization or service providers. The ISO 41000 Facility Management suite of documents provides guidance and best practices to assist in the performance review of your facility:

**ISO 41012:** Facility management — Guidance on strategic sourcing and the development of agreements provides a framework for determining service levels and translating needs into requirements. This approach can be used for formalizing levels of service between the FM organization and the demand organization, or between the FM organization and third-party vendors.

**ISO 41001:** Facility management systems standard provides guidance for integrating an FM management system into the organization for benefits that include “improved efficiency and effectiveness, thus improving cost benefits to organizations.” FMJ



**Casey Martin, AIA, AICP, CFM,** is program manager in the Strategic Consulting Group of Jacobs. Her focus is facility and asset management including cultural resources and historic facilities. She works primarily with federal civilian agencies, providing consulting services that embrace creative solutions to maintaining assets, including adaptive reuse strategies, facility and business maintenance and operation strategies, life cycle analyses, facility transition planning and sustainability performance planning. Martin also serves as the chair for the ISO 41000 Facility Management US Technical Advisory Group developing international standards for FM.



**Josi Heron** is a program manager in the Strategic Consulting Group of Jacobs, and a commander in the Coast Guard Reserves. She is a leading FM consultant with expertise in operational risk analysis, facilities management strategies, and business continuity planning. As a Coast Guard officer, Heron has held roles as a strategic planner, resource manager and national contingency planner. She taught at the leadership and development center at the United States Coast Guard Academy and earned the 2016 CAPT Witherspoon Inspirational Leadership Award for mission-based change management at Coast Guard Sector San Diego, California, USA.



*The 2019 Class of IFMA Fellows – (pictured left to right) John Vinken, Michael Riseborough and Ted Ritter, presented by IFMA chair John Carrillo at World Workplace in Phoenix, Arizona, USA.*

# IFMA INDUCTS 2019 CLASS OF FELLOWS

IFMA's Fellows Program was established in 1992 to recognize members who have distinguished themselves by achievement in and around IFMA and the field of facility management. Unparalleled among workplace-related recognitions, the IFMA Fellows Program is the highest honor bestowed by the association. From founders and early association leaders to authors, speakers, professors and industry giants, Fellows form an elite core of respected trailblazers, innovators, educators and experts who serve as advisors to and ambassadors for the association.

Chair of IFMA's Global Board of Directors John Carrillo, CFM, IFMA Fellow spoke on the prestige of achieving this exclusive designation, as well as the responsibility of every Fellow to continue enriching and advancing the profession. Mary Gauer, CFM, IFMA Fellow, 2019 IFMA Fellows Jury Member joined Carrillo on stage to introduce this year's inductees:

### **John Vinken, M. Eng., CFM, FMP, SFP, CET, CRSP, CEM, IFMA Fellow**

An incredible force within the global facility management profession for close to four decades, John Vinken was instrumental in the creation of the Project and Facility Management Program at Conestoga College, the first FM degree program in Canada. He served on the program's Public Advisory Committee (PAC), including a term as PAC chair. His

innate ability to engage learners has made him one of IFMA's most sought-after instructors. Contributing significantly to IFMA's global credential programs through course development and teaching, Vinken has taught more than 1,000 of the FMPs currently working in North America, Africa, the Middle and Far East. He co-created one of the few accredited university-level FMP courses outside of the U.S., and mentored IFMA's British Columbia, Calgary and Nigerian Chapters, along with a group of potential instructors to create a steady local source for IFMA education.

### **Ted Ritter, CBD, PMP, LEED AP, IFMA Fellow**

A tireless leader and avid promoter of the facility management profession, Ted Ritter has applied his multidisciplinary background in information technology, sustainability, marketing and project management to advance the FM profession through opportunities in technology innovation, smart buildings and best practice sharing. He has been involved in IFMA at the board, chapter, council and community levels, leading or participating in IFMA's Information Technology Community, FM Consultants Council, America's Advisory Board, the Phoenix and Phoenix Student Chapters of IFMA. His collaborations with other organizations have led to the development of FM technical tools and methods, including his most comprehen-

sive single contribution, "The FM Guide to Information Technology." Ritter has provided educational content for working professionals at multiple venues in the U.S. and for students in the Arizona State University FM Program for more than two decades.

### **Michael Ross Riseborough, RPA, FMA, AAE, FMP, CFM, IFMA Fellow**

Michael Riseborough's influence in the international airport industry is estimable. Bringing FM to the forefront among the Canadian Parliament, he also led a team of stakeholders in establishing the foundation for critical regulations for in-line security screening of bags at airports post-9/11. He co-authored ASCE Standard 21, Automated People Mover Standards (Safety requirements for) and garnered support from the Greater Toronto Airport Authority (GTAA) and the National Research Council Canada to create a benchmarking tool for airports. As council president, he led IFMA's Airport Facilities Council to become Council of the Year in 2014. Riseborough was recognized by the University of Waterloo, Ontario, Canada, for collaborative research projects spanning more than 12 years and received the inaugural IFMA Industry Leadership and Outstanding Contribution Award, recognizing achievements within the Canadian real estate and building maintenance industries.

*See recent contributions of IFMA Fellows in FMJ Extended.*



# PROBLEMS ARE INEVITABLE.

**DISASTER ISN'T.**

Jesús is a maintenance technician at a sprawling railroad fueling facility in New Mexico. Given the site's size and complexity, the team there regularly trains for the unexpected.

This preparation was recently put to the test when the facility lost power during a late-night storm—a potentially crippling blow to a high-stakes 24/7 operation. Always on call, Jesús rushed to the site from his home, quickly assessed the situation, and applied his technical know-how to restore power to the facility and reactivate its fuel pump system. He then stayed onsite well beyond the immediate emergency to make sure everything was running properly.

**Who takes care of your facility?**

## Bill introduced to incentivize energy-efficient construction

In September, United States Congressmen Jim Langevin (D-RI) and Peter Welch (D-VT) introduced the Building Efficiently Act of 2019, a bill to encourage property developers to improve the energy efficiency of the buildings they work on. The bill would extend residential construction tax credits that expired in 2017 and expand them to rental properties.

Jeff Johnson, IFMA Director of Government Affairs and Chair of the High-Performance Buildings Coalition had been working with Langevin and Welch on legislation to provide tax incentives for energy efficiency improvements in commercial buildings. Both Congressmen spoke at IFMA's 2019 Advocacy Day.

"Too often, developers neglect to make energy efficiency a priority when building and renovating properties because it's deemed to be too expensive," said Congressman Langevin, a founding member of the Sustainable Energy and

Environment Coalition. "The Building Efficiently Act renews and expands tax incentives so developers are encouraged to construct more efficient properties. More energy-efficient homes and businesses will strengthen the economy, lower pollution and provide for a more sustainable future."

The Building Efficiently Act extends the expired New Energy Efficient Home Credit, which provides a tax credit of up to US\$2,000 for contractors who build new energy-efficient homes. This tax credit encourages developers to build with an eye toward green design and explain to home buyers that small investments in efficiency up front can pay long-term dividends in terms of lower utility bills.

When offered the choice, many buyers prefer more energy-efficient homes because the costs of ownership are lower; however, these same dynamics do not always apply to rental properties, where the landlord has to pay for energy-

efficiency upgrades, but the savings are realized by the tenants. The Building Efficiently Act creates a new tax credit worth up to 3.3 percent of the total cost of construction for residential rental properties that are planned to reduce energy use by 40 percent or more. The bill also ensures that low-income properties eligible for other tax credits can claim efficiency savings.

"High-performance buildings require smart systems and smart people. Both require regular investment to achieve and sustain improved performance," said Johnson. "The ability to finance these systems and deduct their cost provides a much-needed tool to continue to make buildings more efficient. We thank Congressman Langevin for his leadership on this issue and for his continued commitment to improvements across the built environment."

## NEW REPORT HELPS FMS UNDERSTAND THE SCIENCE BEHIND CLIMATE CHANGE

From floods to droughts to scorching heat and bitter cold, extreme environmental factors pose increasing levels of risk to life and property. Climate change concerns almost every aspect of the built environment; but understanding how and why climate change is occurring can enable facility management teams to assess risks and develop plans for resilience.

Initiated by Dean Stanberry, CFM, LEED AP O+M, Chair, IFMA Environmental Stewardship, Utilities and Sustainability Community (ESUS) and authored by Kathy Roper, RCFM, LEED AP, IFMA Fellow, "Climate Change Fundamentals for Facility Management Professionals" is an actionable guide to understanding and preparing for the threat of climate change, written specifically for FMs. More than 3,000 pages of scientific evidence have been summarized in 30 pages of key points that FMs can use immediately.

Officially released at World Workplace, "Climate Change Fundamentals" was published by IFMA's ESUS Community in partnership with IFMA's FM Research and Benchmarking Institute and BGIS. The report is free to download at [bit.ly/ClimateChangeGuide](http://bit.ly/ClimateChangeGuide).

Slated to launch at Facility Fusion 2020, "Adapting to Climate Change" is a follow-up that builds on the previous report, providing FMs with specific risk scenarios, as well as tools and resources for performing climate change risk assessments.

"Being unprepared for environmental extremes can become an expensive and disastrous oversight," said Stanberry. "These reports will help you understand how environmental changes can impact your facility, and what you can do now to prepare for the road ahead."



Climate Change Fundamentals  
for Facility Management Professionals

IFMA  
FM Research & Benchmarking Institute

*"This report addresses the unprecedented threat that climate change poses for the built environment and its coinciding impact on our industry. Understanding the science behind climate change will help FMs plan for risks with confidence."*

*- Report Author Kathy Roper*

## UPCOMING EVENTS



### World Workplace Europe 2020

March 18-20, 2020  
Amsterdam, The Netherlands  
[worldworkplaceeurope.ifma.org](http://worldworkplaceeurope.ifma.org)



### World Workplace Asia 2020

April 7-9, 2020  
Singapore  
[worldworkplaceasia.ifma.org](http://worldworkplaceasia.ifma.org)



### IFMA's Facility Fusion 2020 Conference and Expo

April 14-16, 2020  
San Francisco, California, USA  
[facilityfusion.ifma.org](http://facilityfusion.ifma.org)



*John Carrillo presents Francis Kuhn with the 2019 chair citation at World Workplace.*

## Past IFMA chair Francis Kuhn honored with 2019 citation

It's the privilege of each IFMA chair to recognize individuals whose contributions to IFMA, to the profession, to staff and to the board of directors have had such a profound impact that it's impossible to imagine progress made without their counsel, ingenuity and initiative.

At the World Workplace opening general session on Wednesday, Oct. 16, IFMA chair John Carrillo recognized Francis J. Kuhn, CFM, IFMA Fellow for dedicating a lifetime to excellence in the training, support, practice and future of facility management. "For the past 30 years, Francis Kuhn has showed all of us how to get the job done," said Carrillo. "But most importantly, how to get it done simply, with graceful determination and an irresistible exuberance that ensures even the most resistant skeptic is on board."

Kuhn was chair of the IFMA Foundation's board of trustees, and the 2011-12 chair of IFMA's board of directors. He served as president, vice president, secretary and chapter

historian for the Los Angeles Chapter of IFMA. As chair of the Headquarters Workplace Strategy Steering Committee, his vision helped make IFMA's Service Center of Excellence in Houston, Texas, USA, possible. The IFMA headquarters facility serves as a model for smart, productive, sustainable concepts in the built environment.

As an author and speaker, Kuhn has vigorously promoted the FM profession, presenting at conferences around the world and writing articles for FMJ for almost two decades. He's been a member of IFMA's Corporate Facilities and Banking Institutions and Credit Unions Councils, and served on IFMA's Education Program Planning Committee, Emerging Leaders Task Force and Sustainability Task Force.

Carrillo thanked Kuhn for his "sincere care and interest in the personal and professional achievements of his colleagues, and for being a great friend to the IFMA family and to the FM profession."

*See the 2019 Awards of Excellence and IFMA Foundation Trustees Award recipients in FMJ Extended.*

**Industry News**

## Industry News

# 2020 marks IFMA's 40-year anniversary



**George Graves, IFMA Fellow, co-founder and first president of IFMA.**

In the early 1970s, a move toward using systems furniture – commonly referred to as cubicles – and the introduction of computer terminals into the workplace helped set the evolutionary course of facility management. As facility management grew, those tasked with overseeing the new workplace were in need of guidance; but there was no organization focused on providing information to manage the office environment.

In 1978, Herman Miller Research Corp. hosted a conference on “Facility Influence on Productivity.” The event united George Graves of Texas Eastern Transmission Corp., Charles Hitch of Manufacturer’s Bank in Detroit and David Armstrong of Michigan State University. It was the first step toward the formation of an organization through which the profession of “facility management” could receive recognition and credibility.

Two years later, the National Facility Management Association (NFMA) was established, appointing George Graves as president and Melvin Schlitt executive director. In addition to Graves, Schlitt, Hitch and Armstrong, founding members included: William Back, Gregory Demanski, William Dergis, Judy Brady Farrar, Edward

Foley, Donald Fruechtemeyer, Mary Day Gauer, Wayne Mills, Andy Pedrazas, Douglas Sherman, Robert Snyder and Charles White.

In 1982, with the charter of the Toronto Chapter, NFMA formally changed its name to the International Facility Management Association (IFMA) and incorporated as a non-profit (501 c6) association. That year, IFMA headquarters employed two staff members and membership surpassed 400.

IFMA now employs more than 60 staff members worldwide who support the professional needs of more than 23,000 members in more than 100 countries. In addition to IFMA's original Service Center of Excellence in Houston, Texas, USA, IFMA Europe, China and India bring the association's educational, informational and networking resources directly to members in those regions.

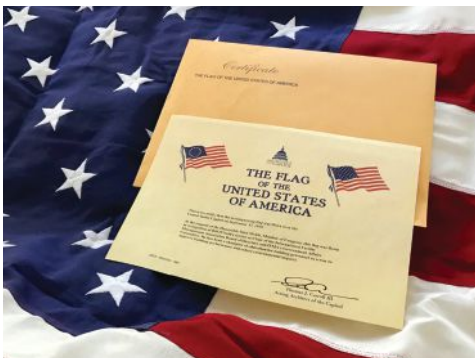
Next year, IFMA celebrates its 40-year anniversary. Thanks to the foresight and pioneering spirit of a handful of facility professionals who wanted more for their profession, IFMA came to life. Thanks to the leadership and enterprise of elected chairs, appointed presidents, staff and every active member, IFMA matured, earning global respect as the ultimate resource for facility management professionals, as well as the frontrunner in promoting excellence in the management of the built environment.

Following World Workplace 2019, IFMA chair John Carrillo appointed a 40th Anniversary Task Force, which includes members of IFMA's global board of directors and the IFMA Foundation's board of trustees, as well as key members of IFMA staff. The association expects 2020 to be a banner year of celebration and remembrance. Stay tuned for updates.



## PAST IFMA CHAIR BILL O'NEILL HONORED FOR YEARS OF SERVICE

At the request of United States Congressman Peter Welch (D-VT), Chair of the High-Performance Building Congressional Caucus, an American flag was flown over the U.S. Capitol on Sept. 17, 2019 in recognition of IFMA's Advocacy Day. The flag was presented to William (Bill) M. O'Neill, CFM in appreciation of his years of service as chair of IFMA's Government Affairs Committee, as well as his contributions to IFMA's global board of directors as a member and 2017-18 chair.



*The flag was accompanied by a certificate that reads:*

*“This flag was flown at the request of the Honorable Peter Welch, Member of Congress, in recognition of Bill O'Neill's service as Chair of the International Facility Management Association Board of Directors and as Chair of IFMA's Government Affairs Committee. He has been a champion of education and training for building personnel as a way to improve building performance and reduce environmental impacts.”*

Have relevant FM industry news to share?

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# PLANNING AHEAD

*Budgeting space for efficiency*

BY CINDY STEGMEIER

Facility managers are repeatedly challenged to push the boundaries of space use efficiency. The opportunities for advancement often span across multiple teams, but who is looking for these benefits when responsibility can be spread across an entire organization? It is not always effective for executive leaders to be involved in the level of detail required to identify and diagnose this type of organization wide issue, and front-line staff are often not positioned to see the bigger picture across multiple departments.





It can take months or even years for individual or isolated discussions to build and spread, before an opportunity is clearly identified and defined, and even when this happens, it can be difficult to create change on a large scale. It is often a daunting task for leaders to implement significant change and employees can often be resistant. Despite this, the benefits for efficient space use can be substantial and with considerable financial implications, so where do we begin?

As organizations grow — especially when they grow quickly — it can be common for services to become decentralized, processes can progress in complexity or be duplicated, and it can be harder to provide effective strategic oversight. A holistic review of systems is often required to ensure efficiency within the organization. There are

common variables in many organizations that can contribute to space use efficiency. Some of these variables include: how space is assigned, the type and number of room booking software programs used, the administrative processes for booking space, the number of people or departments administering room bookings, the event planning process and how many teams or people plan events, as well as all employees who book and use meeting space. The most impactful variable however, is the culture of how facility space is used and viewed by everyone within the organization. Although these variables will inevitably span across an organization, they all link back to space, which can put FMs in a unique position to identify and champion space use change initiatives.

## SETTING OBJECTIVES

After many discussions regarding the complexities of space use, Mount Royal University in Calgary, Alberta, Canada set out to capitalize on the opportunities of effective space management, through the development of two policies. An initial space management policy was approved to focus on defining the governance and responsibilities for the allocation, assignment and coordination of all campus space. The second policy is underway with the intention to create change on a large scale and shift the culture of how all bookable space is administered and used including for events and in public spaces. This policy aims to achieve the following:

- Shift the culture of space use from dedicated to shared
- Simplify the room booking process and improve the customer experience
- Decrease administrative time managing bookings
- Increase and maximize the number of meeting rooms employees can use
- Decrease the number of software systems used to manage room bookings
- Create a consistent approach to space charges and event fees
- Centralize room booking data for holistic and consistent data reporting, improved event planning, and to support emergency management needs
- Ensure room use is appropriate to mitigate institutional risks
- Increase the capacity for revenue from space rentals and event bookings

## CREATING CHANGE

Despite the overwhelmingly positive benefits from an initiative such as this, it also means that people and processes must change, and change can be hard. When making any wide-sweeping shift in an organization it can be helpful to ensure:

### **Executive Leadership Guidance**

Formal approval of a written project outline can include the problem to be solved, key objectives and strategies for implementing change. The executive leadership team can guide and approve this document. If the intended changes have the potential to impact the whole of the organization, this approval would come from the leader of the organization. Project progress updates can be provided on a regular basis, including any major decisions, milestones, expected impacts and benefits, as well as required involvement of the executive team in communicating changes.

### **A Clear Vision for the Future is Communicated**

Good communications begin by explaining why the change is occurring, the problems that will be solved, and a clear definition of the desired end state. Ensuring that the benefits or answer to the question, “What’s in it for me?” is communicated, will help stakeholders to see a manageable and positive path forward. These messages can be delivered to every stakeholder group and repetition is often required when creating large-scale change. The more executive leadership is involved in delivering this vision for the future, the more impactful and successful the change can be.

### **All Interested Stakeholders are Involved**

Nobody likes to be told what to do. When people are involved in developing change, they can voice their concerns and provide the necessary input to ensure the changes will be as effective as possible. They will be more likely to understand the rationale for change and hopefully become ambassadors that support the change and help others to do the same. Consistent and authentic engagement with stakeholders will improve the final outcome of the initiative and mitigate risks to implementing change.



## IDENTIFYING BENCHMARKS & BASELINE DATA

As part of the initial phases of the policy drafting process, Mount Royal University first completed an environmental scan of existing space use policies to understand the standards of similar institutions across Canada. The university also conducted research on pertinent space utilization metrics and benchmark standards. To measure postsecondary university space utilization, the Council of Ontario Universities recommends the following calculation:

$$\text{NASM/FLE} = \text{A}/(\text{HxS}) \times \text{AWSCH}$$

*Net Assignable Square Metres Per Full-Time Learner Equivalent = Average Area of Student Station in Square Metres / (Hours x Station) x Average Weekly Scheduled Contact Hours (AWSCH = the average hours that a student is scheduled to spend in class)*

*Alberta Infrastructure sets the following utilization benchmarks in relation to this calculation: Classrooms are to be used 80 percent of the time in an average 57-hour week (Hours = 45) and 80 percent of all seats in a classroom are to be filled (Station = 0.8).*

*Existing room scheduling software was able to provide data on the current level of bookings for classrooms that are dedicated to specific faculties, and these were compared with rooms that were openly available for booking by any faculty.*

*Utilization of open classrooms during prime periods — 84 percent utilization*

*Utilization of dedicated classrooms during prime periods — 34 percent utilization*

This data conveys that dedicated rooms are booked much less often than open rooms. In some instances classrooms are specialized or designed for a single intended use, such as science labs. In these cases the lower number of bookings makes sense, as only specific classes can be held in these rooms. However in other cases, standard classrooms that could be used for multiple types of classes are dedicated to specific faculties and often sit empty, as no one else is permitted to book them. Some of these dedicated classrooms are also booked through an alternate software program that is administered within a fac-

ulty. When these rooms are not in use, the central scheduling team is not able to see the room availability, or book the room. The value in understanding current state data strengthens the understanding and opportunity for effective change. Mount Royal's policy is intended to identify and maximize the number of standard classrooms to be openly available for use by all faculties and booked through the central scheduling team. This shift from dedicated classrooms to open classrooms will help build capacity for future program and enrollment growth.

## PUTTING IT ALL TOGETHER


At Mount Royal, some faculties have administered and controlled dedicated classrooms for years and even decades. To shift the way they are currently managed is a significant, and in many cases, unwelcome change. Identifying and clearly communicating the institutional benefits will aid in this process, but to really get people on board it's helpful to point out how it can benefit them personally. In this case, saving administrative time in managing bookings and providing access to more classrooms (that were previously dedicated) are two significant areas of improvement that can be communicated.

An institution-wide stakeholder group was formed to explore and understand all impacts, benefits and opportunities to be addressed through the policy drafting process. Stakeholder conversations required to create change are not always easy, and it's important to recognize emotional responses to change. People want to feel seen, heard and understood. Authentically listening to responses and concerns from a place of curiosity can aid in working with stakeholder groups. The policy, procedures and benchmarks are foundational, however it is the process of developing them in a way that works for all areas of the business, that ultimately inform the successful shift of culture.

Through Mount Royal's stakeholder group, cross-department relationships are building, process and functional responsibility changes are occurring, awareness of institutional benefits is building, and the cultural shift is already beginning to take place. The team is becoming well-informed ambassadors who understand the challenges of implementing new space use

benchmarks. They are able to help their teams and co-workers see a better future and how they can contribute to a stronger, more efficient system. Stakeholders can often become the biggest supporters of change once they fully understand what is at stake to gain.

## BENEFITS

Given the shift of postsecondary support in Canada from being publicly funded to more appropriately described recently by Alex Usher, President of Higher Education Strategy Associates as "publicly-aided,"<sup>1</sup> attention to cost effective operations is imperative for a sustainable future. The effective booking, management and use of space can provide significant benefits including reductions in administrative efforts, increased classroom capacity and increases in revenue generation. When facility managers start with the end in mind, by setting clear objectives, researching applicable benchmarks, gathering current use data, ensuring executive leadership support, communicating a clear vision and engaging all stakeholders, these benefits are within reach. Mount Royal's policy on the temporary use of space is expected to be completed in early 2020 with additional implementation to occur throughout the year. 

<sup>1</sup>Usher, A., (2019). The State of Postsecondary Education in Canada, 2019. Toronto: Higher Education Strategy Associates.



**Cindy Stegmeier** BID, LEED AP, CEFP, CEC, currently works as an Executive Advisor for Mount Royal

University and has 10 years of experience working in the FM profession, eight of which with The City of Calgary. Her previous role was as the Manager of Strategic Space Utilization. She is passionate about people, leadership, governance and business strategy, and has also recently become a Certified Executive Coach through Royal Roads University in Victoria British Columbia.



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# THE Financial Benefits



# OF Green Buildings

BY MARC KARELL

Green building is a very popular topic these days. However, most building owners or managers are not familiar with the concept as it is relatively new and was not taught to most in school. With lack of familiarity comes hesitancy to take advantage. Yet studies show that buildings that achieve certain green goals will often save operating costs and raise both asset value and demand for space.

**W**ith growing public concern about climate change and fuel and electricity availability, upgrading existing buildings is becoming of greater importance. Buildings play a significant role in everyday life. They must not only serve purposes and be comfortable, but also have a reduced impact on the environment. How can buildings be designed and operated to be both functional and green?

## What Is Green Building?

There is no specific, universal standard for a green building, and some claims are controversial. The United States Green Building Council (USGBC) developed and oversees the world's most commonly respected green building standard called Leadership in Energy & Environmental Design (LEED). Any building meeting LEED standards as certified by the USGBC, can viably claim to be green. However, meeting strict LEED standards is expensive and takes time, and can be a hardship. Owners will benefit from incorporating at least some green building features, even if not officially certified. Any building improvements resulting in greater energy efficiency, reduced water use, better indoor air quality, reduced waste creation (and/or greater recycling rates), and incorporation of innovative technologies, such as green roof systems and renewable power, are positive steps toward being green, will likely result in direct financial benefits and is worth talking about to potential renters.

## The Many Financial Benefits of Green Building

Here are some of the direct financial benefits from implementing green strategies.

- **It's Not So Expensive.** Conventional thinking says adding or updating to green features will make a prospective project prohibitively expensive or result in a negative payback. Not true. Most green technologies have dropped in price because of greater competition; meaning adding green features will not raise the initial cost of a new building or upgrades greatly. Many utilities and governments have reason to encourage such upgrades and will pay part of the upfront cost in direct rebates or tax incentives. If completed correctly, most green upgrades will show an ROI in a short timeframe.
- **Reduced Costs.** Again, if done properly, a green upgrade will reduce operating costs, such as electricity, fuel and/or water enough over the lifetime of the change to pay back the initial investment at minimum. ROIs equivalent to 20, 30 or 40 percent or more per year have been achieved.

Many green updates prove to be a great investment that shows perpetual savings. For example, if the building owner pays for the technologies to reduce electricity usage (improved lights, better HVAC, improved insulation) one time, but can earn cost savings year after year. It's not like anyone would yank out the efficient lights and re-install the old ones!

If a building owner saves, say, US\$10,000 per year in electricity costs the first year after changes, the savings will not only be the same US\$10,000 the next year, but actually more, as savings are based on a utility rate which only rises in time (how often do utilities lower their electric or gas rates?). The second year, the cost savings may well be US\$10,300, and the third year, US\$10,700, etc., for as many years as the technologies last. For LED lighting, that could mean seven to 10 years or more; and all without having to do any additional efforts. This is different from most sales, which must be achieved every year.

This is why such projects — again, if done smartly — should not be thought of as frivolous or cool, but as good financial investments. According to the California Sustainable Building Task Force (<https://www.thespruce.com/benefits-of-green-buildings-1708553>), a 2 percent investment in green building design will save more than 10 times that investment in time. In other words, a US\$20,000 investment in green features for a US\$1 million project will typically result in about US\$200,000 in actual cost savings over 20 years. This begs the question: what bank or Wall Street investment pays a return like that — and with no risk?

- **Reduced O&M.** Many green upgrades result in reduced O&M costs. For example, LED lights do not burn out and many are warranted for seven to 10 years and do not need to be replaced for longer. This differs from most fluorescent lamps which typically last about two years. This means less time for maintenance changing light bulbs, freeing them to focus on higher-priority projects for tenants while reducing risks from possible accidents. Also, because such equipment must be replaced less often, fewer pieces must be stocked as spares, freeing up space for important inventory.
- **Higher rents, better tenants.** Having a certified green building is known to attract more high-end tenants who want/need the association, allowing the owner to charge higher rates. The resale value of certified green buildings is higher because potential buyers know


that costs (energy, water, waste) will be lower. A recent study by Build It Green, funded by PG&E, shows that green-certified homes in northern California bring a higher sales price, even though market barriers often prevent the full value of its green features from being recognized ([https://www.builditgreen.org/images/BIG\\_Green\\_Home\\_Sales\\_Prices\\_Report\\_FINAL\\_2018.pdf](https://www.builditgreen.org/images/BIG_Green_Home_Sales_Prices_Report_FINAL_2018.pdf)).

- **More satisfied tenants means less turnover.** There is experience now to demonstrate that working in a certified green building is good for both physical and mental health, improving the productivity or sales of the tenant company and resulting in the desire to renew the lease for the long-term. Lower tenant turnover and having successful businesses as tenants are good for

the building owner. Investment by an owner in such green features as better ventilation, no VOC carpets and furniture, no toxic pesticides, green roofs can result in this. A building owner can go further and invest in upgrades for gyms, more bike racks, better furniture, upgrading staircases, etc. to boost the health and well-being of building users. One major study (<http://newsroom.ucla.edu/releases/study-certified-green-companies-238203>) showed employees who work in green buildings are 16 percent more productive than those who work in traditional buildings. Another study (<https://www.nationalgeographic.com/environment/urban-expeditions/green-buildings/surprising-ways-green-buildings-improve-health-sustainability/>) showed that employees in green buildings were

better at making decisions, reaching goals and completing tasks. Some green features helped circadian rhythms, allowing workers to sleep better and be more alert for the tenant company.

- **Environmental progress.** Do not forget that having green buildings results in indisputable environmental benefits. By moving toward green building, a firm can demonstrate to stakeholders real progress, which can be tracked through the amount of greenhouse gas emission reductions achieved, a metric that is universally respected. This can put a company on the moral high ground, which would be helpful in public perception or should there be future disputes.

Investing in green features in a building, whether it is formally certified or merely recorded, is good for any company's bottom line. The science of green building has advanced so that proper analyses can be performed to predict the degree of success. It is no longer cute to be green, but now makes economic sense and can put you ahead of the competition. 

## CASE STUDY.

There is much literature on major companies who have invested in green upgrades or becoming LEED- or WELL-certified and the benefits they have brought. It's easier for them, having a lot of resources on hand to invest. However, here is a case study of a small company without a huge amount of money set aside that went green that may have been the difference between business success and failure.

The firm (which wishes to remain nameless) owns two adjoining buildings built in the late 1940s in a New York City suburb where the firm performs warehousing, office and light industrial activities. The buildings had had minimal changes over the decades, including the original windows and boiler. The owner thought such upgrades were unimportant and would drain funds from the business. One cold, winter day a gust of wind hit the building and literally blew the papers off the owner's desk. The single-pane windows had cracks and needed caulking so badly it could not keep out the outdoor wind! The owner walked down the main aisle of his office and saw his workers at their desks using space heaters and sitting in their parkas – with the boiler on! He realized this was not the way to run a company and was determined to do better.

To his credit, the owner did not put band-

aids on the problem but went full out to improve the two buildings. He invested in a series of upgrades, such as new top-of-the-line double-pane windows, a new boiler (going from about 40 percent thermal efficiency to 95 percent), improved insulation and lighting, and thermostats to bring conditioned air only to the places that needed it. They received available utility rebates and state tax incentives to recover some of the upfront cost. Total energy usage was reduced by just under two-thirds. They then invested some of the initial cost savings into installing solar panels on the roof for both domestic hot water and for electricity for further energy cost savings.

The workers no longer had to wear their parkas at their desks and morale was raised. But there turned out to be an additional financial benefit no one had anticipated. A portion of the warehouse had been unused for decades and was a depository for old window air conditioning units and other junk. The owner learned that the local utility pays for each unit returned, no questions asked. In addition, with energy costs curbed, he renovated that space and rented it out for more income. And he rented it to a supplier, allowing him to get some of his supplies in a shorter time. Another financial benefit for the company.



**Marc Karell** is a principal of the energy and environmental consulting firm Climate Change & Environmental Services, LLC, located in New York, USA. He earned his Bachelors of Science degree from New York University, Masters of Science degrees in Biochemistry from the University of Wisconsin and in Chemical Engineering from Columbia University. Karell is a licensed professional engineer, a certified energy manager, and an existing building commissioning professional. He has more than 30 years of experience in the environmental, energy, and sustainability fields. His main areas of expertise are energy audits, projects managing energy upgrades, making sustainability profitable, renewable power, climate change, carbon footprinting, and air pollution permitting and compliance.



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BY BILL CONLEY

## *An Annual Rite of Passage*

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Once a year, FMs experience the drudgery and anticipation of their budget process. It's a task few look forward to, but if done correctly, the number crunching can lead to a more effective, functional facility. There are tangible and intangible benefits from creating and adhering to a budget. Primarily, it allows an FM to function effectively while maintaining a facility in a safe, healthy, cost-efficient manner. Secondly, if a facility is run well and within budget, it provides evidence to senior management and other entities that the FM knows how to run their department like a business and there's more to an FM than that which the tool-belt perception perpetuates.

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Budget preparation and management is the beating heart of a facility and money is its life-blood, sustaining the ability to maintain and continually improve operations. Appropriate budgets are essential in delivering a workspace that satisfies personnel and leads to comfort and productivity. Inadequate funding will result in sub-par facilities. It is up to an FM to plan and justify a budget that will support their roles and responsibilities.

Understanding how to budget starts with acknowledging and anticipating the various costs of running a workplace. Everything from maintenance costs to expenses for repairs, refurbishment and the replacement of key components affect how much an FM needs to budget: and that's just the bare-bones of the process. There's much more to facility management than just ensuring equipment runs well. Challenges arise when dealing with environmental health and safety, sustainability, corporate social responsibility and other such factors.

### Creative thinking

There's a fine line between complying with a company's financial goals and making sure there is enough money to cover facility expenses. Not only does an FM have to plan for budget cuts, there will always be unexpected costs and situations. Even the best budget is one unforeseen incident away from being overrun. Thus, in a budget preparation it's important to be as realistic as possible, but with a little sugar on top. Adding buffers throughout the budget help alleviate those external influences that may unduly affect the funds available for operations. One option would entail adding extra funds in each line item; this would allow for some latitude at a subtle level, where the ability to make up for shortcomings in one area could be covered from somewhere else. Another, more visible tactic would be to pad the budget with one lump sum for general, unexpected expenses.

An FM may not be able to see the future, but if they are up on workplace trends, it could be the next best thing. One of the best budgeting tips for facilities managers

is looking closely at workplace and facility management trends and budgeting for them. Taking advantage of information resources such as IFMA has available is a sound strategic and tactical decision.

### Short term vs. Long term

From an accounting standpoint, there are two types of budgets: operating and capital. Operating budgets deal with day-to-day expenses which an FM must manage to effectively run their facility. General ledger lines will encompass money needed for expenses like maintenance, utilities, supplies, furniture and fixtures, environmental quality and security. Capital budgets are more strategic in nature, looking at larger expenses that will serve the facility over time.

When informal conversation in a company turns to the budget, the term usually refers to the operating budget. Facility managers are responsible for control of the operating budget more than the capital budget. The operating budget is also far more likely to be the subject of intense scrutiny and cost-cutting efforts. An FM can expect a closer examination of line items, disproportionate to dollar value, than they would experience with capital budgets. Operating budgets deal with more immediate expenses and impact the bottom line in real time, so they demand more attention.

Planning the operating budget can take two different routes. One way to set the budget is through historical analysis, or incremental budgeting. The second is zero-based budgeting. Historical budgeting takes last year's actual figures and (ideally) adds a percentage to derive this year's numbers. It is the most common method of budgeting as it deals with real costs and reflects any anticipated increase in commodities, utilities, labor costs and the like. It also works to an FM's advantage as the opportunity to grow the budget allows for continual improvement in the facility.

Zero-based budgeting is a technique that allocates funding based on efficiency and necessity rather than budget history. An FM must start from scratch and develop a budget that only includes operations and expenses essential to running the



business. No expenses are automatically added to the budget. This process works on the assumption that all department budgets are zero and must be rebuilt from scratch. FMs must justify every expense, with no expenditures automatically approved. Zero-based budgeting is very tight, aiming to avoid any and all expenditures that are not considered absolutely essential to the department's successful (cost-efficient) operation. This kind of bottom-up budgeting can be a highly effective way to evaluate all expenses and is not the friendliest approach for FMs. Zero-based budgeting is best suited for addressing discretionary costs rather than essential operating costs. The challenge for FMs is that the majority of their expenses are non-discretionary, or fixed costs.

## Proper preparation

What is difficult to plan for are unforeseen costs. However, there are a few ways to make the unexpected more predictable. Using historical data for things like routine maintenance costs, an FM can look at budgets from years past and extrapolate costs based on those expenditures. Also, when planning an operating budget, some things to take into consideration would be how changes in the weather affect costs, either on a monthly or quarterly basis. This will help highlight overlooked costs, such as seasonal facility fees. Utility costs differ as the seasons change. Usually, there is a need for more landscaping in the warmer months and snow removal when the cold hits. Similarly, if there are renovations planned during the more temperate months, they can be forecast and reflected during those periods.

It is important to plan for future events or circumstances which are possible but cannot be predicted with certainty, as well as any exigencies, the more urgent needs or demands that may arise. Anything outside of the normal scope of operations will come at a cost. The key to creating an inclusive budget is to continually look ahead.

An FM should make the most of every opportunity where funds must be spent. Performing a lighting retro-fit may seem like a good idea, but is that a better idea than researching a more comprehensive

lighting solution? An FM should always be cognizant of the impact of activities on the cumulative elements of the workplace.

## Capital planning

Capital budgeting in facility management is the process in which an FM determines and evaluates potential large expenses or investments. A capital expenditure or investment could include projects such as building a new plant, computer equipment, office equipment, furniture and fixtures, machinery or vehicles. Capital planning or purchases are based on need and are primarily different than OPEX due to their cost and utilization. Compared to operating budgets, capital budgets are more static: they involve fewer cost types, less scrutiny, and longer terms and do not necessarily fall into the category of day-to-day expenses.



Determine capital needs by establishing a priority system for facility projects. Mandatory projects to satisfy government requirements and replacement of certain equipment usually take priority, followed by discretionary investments. The distinction between mandatory and discretionary is not always clear and may depend on the nature of the business strategy, can be simplified as a need vs. a want. For instance, expenditures to meet legal compliance or personal safety or to complete ongoing projects would take top priority over the replacement of equipment or modernization of work processes. Initiatives that in-

involved upgrading or creating new capacity in the workplace would have to have, at the least, a high expected ROI.

Although capital operating budgets are classified separately, they are interrelated. Proper and preventive maintenance will have a long-term beneficial impact on capital projects by extending the useful life of those assets.

Capital projects and investments will require ongoing maintenance, care, and operation after they are purchased or built, adding cost to the OPEX budget. It is important to understand how capital expenditures will have ongoing costs on the operating budget and that these effects are reflected in the expense budget. A life cycle cost (LCC) analysis, will account for the costs associated with an item over its expected life. This would include the purchase, operation, maintenance, and disposal of an item. Valid and convincing arguments for large capital investments are based on an LCC analysis and report that can prove operating costs can be reduced.

## Tracking progress

Creating realistic budgets are part of the FM function needed to run a facility, not only well, but better. This means the budgets must be managed and controlled to stay within the defined parameters. Not only is this important for being held accountable in the current year, it also sets expectations and precedence moving forward. This entails measuring and monitoring to evaluate progress and creating a baseline of trends. Variances must be monitored and reported to track expenses. Differences between discretionary and non-discretionary costs must be highlighted. Supply costs getting out of hand is controllable: utility rates going up is out of an FMs control. There are many variables and an FM must be able to justify spending at any point in time.

Maintenance expenses are a normal and an expected facet of facility management. These costs can be minimized through a comprehensive preventive maintenance (PM) program aided by applicable diagnostic tools. Lack of an effective PM program results in reactive management as repair becomes the normal business




activity. This creates unnecessary costs that take ever-increasing amounts of the maintenance and operating budgets. Consequently, maintenance can be deferred, leading to accelerated deterioration and failure. This, in turn, means more money spent on replacement...usually unbudgeted expenses. Managing a budget means managing equipment and systems. The more an FM can do to circumvent spending on fixes, the more good can be done in other areas of the facility.

### The bottom line

Perhaps the most challenging part of FM budgeting is receiving approval. Facility department budgets are generally viewed as pure expense — FM is typically not a revenue producing department. Therefore, cost avoidance and operational savings must be highlighted, not only when the budget is presented, but on an ongoing basis. Value should be illustrated wherever possible and expenses balanced by the benefits derived.

If an FM has taken the time to budget well and responsibly account for contingencies, they won't have to defend their budget so much as explain it.

Budgeting is never easy, no matter the profession. For FMs, there's a lot to consider including the unknown. A budget may be complex, but that doesn't mean it should be convoluted. The more an FM can account for their variables, recognize trends, and build in a buffer, the more comfortable they can feel in presenting and maintaining their final budget.

The FM profession is of extreme significance to organizations of all kinds. Through its evolution over the years, it has become the focus for the important issues of best value and customer satisfaction within the management of support services. The most effective FMs are visionaries. In order to realize their plans, FMs must consider everything related to the built environment and budget accordingly. After all, a vision without financial back-up is just a pipe dream. 



**Bill Conley, CFM, SFP, FMP, LEED AP, IFMA Fellow**, is a 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 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 70 FMJ articles.



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# Saving funds, headaches with the right subcontractor

BY GABRIEL PINCHEV



Hiring subcontractors is often a way of life. After all, the average residential home requires between 11 and 30 subcontractors to complete, according to the National Association of Home Builders.

Add a few more to that number for commercial contracting.

**A**nd managing those subcontractors? Sometimes, it's the hardest part of the job. In addition to managing the work using contractor software for small business, here are a few ways to make managing subcontractors easier.

## The Hiring Process

"Hire slow, fire fast," as the adage goes.

Companies or general contractors should scrutinize potential new hires as carefully as they review any project plan. Look at their work history, make sure they have the appropriate licenses and insurance, investigate their processes, and visit their job sites.

If the scope of work is going to affect the reputation of the business, scrutiny becomes even more important. The effects of bad work or a massively delayed schedule cannot be put back in the box.

One question that may arise: "But what about when I win a big bid and have to scale up fast?"

Sure. It's a competitive business. But it's still better to take a little extra time and eat a bit of margin to find the right subcontractor than rush to fill a job site with unsafe or unreliable workers.

## Fire Fast

This doesn't mean that businesses should fire any subcontractor the second they mess up. People make mistakes and projects sometimes suffer unforeseen complications. It's just a fact of life.

What it does mean is that businesses should be pragmatic about letting go of subcontractors that aren't working out without guilt. Maybe they were hired because they are cheap. Maybe the business has worked with them before but their skill set isn't quite up to the task of the current project.

Whatever it is, make the determination fast and then move on. Businesses cut their losses all the time when it comes to projects and materials — an underperforming subcontractor no different.

## Set Clear Expectations

Here are a few questions FMs should ask when setting those expectations for contractors:

- » **Do they understand the scope of work they're being asked to perform?**
- » **Do they understand the quality and standards they're expected to meet?**
- » **Are they fully aware of, and in agreement about, the timeline of deliverables?**
- » **Do they know exactly which aspects of the overall project, from safety to materials, they're expected to manage?**
- » **Do they know who to talk to if they have any questions about the job?**

That last point is especially important. Construction work is fraught with unexpected variables. Contractors and subcontractors need to know who to talk to when they have a question, who they can get the correct answer from — and that person needs to be available the entire time are on site.

**FINALLY:** Get all these expectations and agreements in writing. Nothing says accountability like a written and signed contract.

## Be Meticulous with Scheduling and Subcontractor Time

Companies have a schedule for their jobs. Subcontractors may well also have their own schedules. Everyone's running their business.

That means to have an effective job site, companies must be precise in the way they schedule crews and subcontractors. To do that, it's a good idea to bring subcontractors into the total scope of the project as well as their individual piece of it. When the jobs are assigned into individual tasks and milestones, it makes sense as a part of a complete, moving mechanism.

This is also where a software solution comes in handy. Software that uses Gantt-based/timeline-based scheduling tools and granular task management can make the job of assigning and tracking all of the moving parts of the job — including subcontractors — an easier part of the overall process rather than a massive headache.

Software can also enable FMs to ask subcontractors to maintain status and update logs to a central system that can be tracked anywhere, so those who need to can stay on top of their progress from any location.

## Provide Detailed Assessments So Subcontractors Can Grow

A good subcontractor is an investment in relationships and time. Managing subcontractors today is also setting up for managing subcontractors tomorrow.

It's crucial to put the time in to do a detailed review and analysis of their work. Even great subs have room for improvement, and mediocre ones sometimes just need a nudge to become great. The best outcome of working with good subcontractors is that they can be relied on again and again.

Eventually, with a stable of outstanding, reliable subs, you can capture projects of increasing size, difficulty and financial reward.

## Get Client's Input

This is a small, but important detail not to forget. The assessment of subcontractors is going to be based on their performance and relationship that is built. It's also important to ask the client about their evaluation of subs. It's critical to get a second opinion. They might reveal a side to a subcontractor or job that was not obvious. **FMJ**



**Gabriel Pinchev** is the founder and CEO of FieldPulse, a field service software that allows clients to run an entire contracting business from a single app. They help contractors go digital with tools to handle everything from customer management (CRM) and estimates/invoices, to scheduling and dispatching, team timesheets (and GPS location), and much more — available in the office or on-the-go.



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# ADDING VALUE

## Through Cost Saving

BY NAIJU ANSELAM

**Facilities management companies are faced with more challenges than ever before. Buildings are bigger and more complex, while customers and tenants are demanding better services with a limited budget. Even though organizations outsourcing as a strategy to increase profitability, access new skill sets, re-focus on their core business and improve competitiveness, various surveys show that cost reduction remains on the top of the agenda.**

Cost savings continue to be the most important reason behind outsourcing decisions. Companies need innovative tools and solutions that would help them make operational decisions and ultimately show savings for their clients.

FMs are charged with management and control of buildings with the aim of minimizing operating costs in connection with the established quality standards and maximizing buildings value. Therefore, the FM service provider must have technical abilities and entrepreneurial approach so that all managing responsibilities can be integrated.

There was a time when FM was seen as an additional cost to a building's maintenance. However, this notion is changing as more people are effectively managing the maintenance budgets. Showing savings to clients has become a prime focus for any FM company.

However, most businesses tend to focus on the bottom line, with no consideration about what's going to happen further on down the road. This rush to the bottom line of price, can pose to be a huge challenge as it prevents both parties from ever understanding each other's needs or creating a partnership that produces the value lasting relationship for all involved.

No matter how tight the maintenance budget gets, FMs are respon-

sible for completing a host of essential tasks. Well-planned maintenance is the cornerstone of a cost-effective facilities management and maintenance program.

So how is this ongoing challenge solved? One approach to cost savings is very simple — use of minimum resources with maximum effort.

Develop a strategy based on the client purposes and needs, which allows having the highest achievement from property assets, taking always the philosophy of Full Quality and Constant Improvement as a starting point.

Here are few strategies that can help in achieving savings for clients:

Through successful implementation of FM service delivery and innovative contract models, most stakeholders have been able to achieve significant savings and an upgrade to service standards. The integrated model can reduce a third of costs as FM frameworks work in coordination to improve efficiencies and bring in cost transparency, which is critical for stakeholders searching for cost rationalization.

Even though allocating indirect costs is very important for FM companies — it is also difficult. A popular and robust method is Activity Based Costing (ABC), which allows an organization to gather data about its operating costs and assign them to each activity.

Activity Based Costing can be used in various ways, but the simpler time-driven ABC method may be the best as it only requires two inputs: 1) cost per time unit to supply resources to this activity and 2) how much time each activity takes.

Preventive maintenance is an essential component of successful facilities management and maintenance, as it pre-

## ONE APPROACH TO COST SAVINGS IS VERY SIMPLE –

## USE OF MINIMUM RESOURCES WITH MAXIMUM EFFORT.


vents the risk of system or component failure. Preventive maintenance tasks are performed on a regular schedule or frequency and consist of many checkpoint activities on equipment.

Reap benefit from technology. Technology and automation of equipment are creating new levels of cost optimization and benefitting all stakeholders. It is something the FM market cannot ignore and should invest in to receive better savings. It is also important to reduce energy costs. Total utilities, including electricity, chilled water, steam, and natural gas comprises approximately 25 percent of Total Operating Costs, according to the Institute of Real Estate Management (IREM).

Facility managers can achieve operating cost reductions of 3 to 6 percent from energy use reduction projects. Installing energy effective equipment in the building for smooth functioning is highly recommended. However, it is equally important

to take further steps to ensure that these components are not increasing the energy cost. Minor things such as unnecessary use of fans, air conditioners or lights should be discouraged. Motion-detecting technology can also be installed to automatically turn off fans, air conditioners, lights and vending machines at night.

Considering FM at the early design stage could potentially reduce the efforts for maintenance during the operational phase of facilities. Few efforts in construction industry have involved facility managers into the design phase. It was suggested that early adoption of facilities management will contribute to reducing the needs for major repairs and alternations that will otherwise occur at the operational phase. There should be an integrated data source providing information support for the building lifecycle. It is envisioned that Building Information Modelling (BIM) would fill the gap by acting

as a visual model and a database throughout the building lifecycle. A case study of using BIM to design facility managers' travelling path show that early adoption of FM in design stage with BIM can significantly reduce life cycle costs. 



**Naiju Anselam** has over 16 years' of experience in North America, Middle East and Africa with facilities management, asset management, engineering, design and construction, quality, projects and business management. He is also a motivational speaker, author, life coach and previously volunteered at RISE International. RISE builds primary schools in rural Angola, Africa, to educate children, empower communities and contribute to the rebuilding of the country.



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Chino Hills, California

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Tallahassee International Airport  
Tallahassee, Florida

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Los Angeles Unified School District  
Los Angeles, California

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Los Angeles Unified School District  
Los Angeles, California

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Los Angeles Unified School District  
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Los Angeles Unified School District  
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Modon  
Jeddah, Saudi Arabia

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Comcast  
Foxboro, Massachusetts

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MEEM Facility Management  
Riyadh, Saudi Arabia

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SunDT Construction Inc.  
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Ohio Housing Finance Agency  
Columbus, Ohio

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Wendy's  
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**Saeed Mobin, FMP**  
Angus Consulting Management Ltd.  
Toronto, ON, Canada

**Anna Coe, FMP**  
A<sup>3</sup> by Airbus  
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NIOSH  
Morgantown, West Virginia

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Enterprise  
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Neighborhood Healthcare  
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BGIS  
Barrie, ON, Canada

**Rohan Lindsay, FMP**  
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Kingston, Jamaica

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BGIS  
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Command and General Staff College  
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City of Saskatoon  
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Doha, Qatar

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Doha, Qatar

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Aerospace Corp.  
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Hines  
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JM Family Enterprises  
Deerfield Beach, Florida

**Mervin Salazar, CFM**  
Queensland Investment Co.  
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Tulsa Federal Credit Union  
Tulsa, Oklahoma

**Dan Citra, CFM**  
Cervo Brain Research Centre  
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ISS Facility Service  
Hong Kong, China

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City of Loveland  
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**James Cressman, CFM, FMP**  
Facility Engineering Associates  
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CBRE  
Beaverton, Oregon

**Ryan Ngo, SFP**  
Department of Veterans Affairs  
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**Carmen Miller, SFP**  
Aspen  
New York, New York

**James Miller, SFP**  
Los Angeles Unified School District  
Los Angeles, California

**Jim King, SFP**  
Los Angeles Unified School District  
Los Angeles, California

**James Freeman, SFP**  
Seminole Casino at Coconut Creek  
Coconut Creek, Florida

**John Garner, FMP, SFP**  
Los Angeles Unified School District  
Los Angeles, California

**Jennifer Teague, FMP, SFP**  
Spotify  
Somerville, Massachusetts

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Equinix  
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Port of Seattle  
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The Ohio State University  
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Meggitt Safety Systems, Inc.  
Simi Valley, California

**Brady Clark, FMP**  
Interstate Batteries  
Urbandale, Iowa

**Sophie Séguin-Guindon, FMP**  
BGIS  
ON, Canada

**Richard Wells, FMP**  
Peoria, Arizona

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Scottsdale, Arizona

**Win Maung, FMP**  
County of San Mateo  
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Comcast  
Philadelphia, Pennsylvania

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Effective Facilities  
Canterbury, United Kingdom

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The Boeing Co.  
Bangalore, India

**Giles Appeadu-Mensah, FMP**  
Ghana Airports Company Ltd.  
Accra, Ghana

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Electronic Arts Games India  
Hyderabad, India

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Radisson Hotels Group  
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Technopark  
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Sheikh Zayed City  
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RA International  
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BGIS  
Toronto, ON, Canada

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Al Yamama Company for Trading and  
Contracting  
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**Jennifer Lafontaine, FMP**  
BGIS  
Markham, ON, Canada

**Zaib Khan, FMP**  
Sudler Property Management  
Chicago, Illinois

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Oceanering  
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Sandia National Laboratory  
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RedHat  
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Scottsdale, Arizona

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Maple Ridge, BC, Canada

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Warri, Nigeria

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Johnson Controls Inc.  
Milwaukee, Wisconsin

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United States Department of Veterans  
Affairs  
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National Park Service  
Middlesboro, Kentucky

**Lori Hellein, FMP**  
Bureau of Fiscal Service  
Parkersburg, West Virginia

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Synopsis  
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CBRE  
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BGIS  
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BGIS  
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Muehel Facilities Management  
Jeddah, Saudi Arabia

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Fanelli McClain Inc.  
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Google  
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**Hayk Houlder, FMP**  
JLL  
Toronto, ON, Canada

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Equinix  
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Airbus  
Bangalore, India

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Cushman & Wakefield  
Bolingbrook, Illinois

**Alisa Dickey, FMP**  
Sony  
San Mateo, California

**Ronald Ostoyic, FMP**  
Gulfstream Aerospace Corp.  
Brunswick, Georgia

**Stephen Amakye, FMP**  
Ensign College of Public Health  
Akosombo, Ghana

**Anton Fourie, FMP**  
Turnkey Management Solutions  
Windhoek, Namibia

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JM Family Enterprises  
Jacksonville, Florida

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Pune, India

**Dru Garcia, FMP**  
Sony  
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Sodexo  
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**Kevin Hart, FMP**  
WeWork  
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Wilson Sonsini Goodrich & Rosati  
Palo Alto, California

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**FMJ:** *Tell us a little bit about yourself.*

**SCOT WHALEY:** I retired from the US Navy after 24 years. I got into FM after not really liking the shipyard industry. I've been on the Midway for six years. I'm an IFMA member and recently earned my CFM.

**FMJ:** *What's the day-to-day life like on the ship?*

**WHALEY:** It's always busy because there is always something going on. Our mission is to preserve, inspire, educate and entertain. To do that, we have a facilities staff of 25-30 people who work around the clock to attend to every need of the ship. That would be any kind of daily operations duties to pipefitters, welders, painting staff, cleaning staff and event staff. In addition to welcoming 1.5 million visitors on board every year, the Midway also hosts 700 private events annually.

We do everything we can to put on the best experience for our visitors while keeping water out.

All of our staff goes through various safety training and my FM staff has been through OSHA 10 Marine, Hazardous Waste Operations and Emergency Response, Hazardous Waste and various other schools that the ship yard offers.







**FMJ:** *How much space do you manage?*

**WHALEY:** It's the whole ship. The flight deck alone is four acres and the hangar bay is three acres.

**FMJ:** *What do you like best about what you do?*

**WHALEY:** I really love what I do. I have the best job on the ship and the best view. I also love working with the volunteers, and the staff. Our guests are a big hit for me. I walk at least 6-10 miles a day.

The job is so fun and exciting, being in charge of this massive ship, and its thousands of square footage, thousands of spaces, control of 250 tons of air conditioning – and adding 200 more by January.

We preserve the ship while inspiring, educating and entertaining and ensuring that the museum is operating as it should from opening to closing, staffing for events, staffing for cleaning more than 100 tour route areas.

On top of that, we're planning and overseeing major renovations and new construction.

I love using what I have learned taking all my FM classes and putting it to use, bouncing ideas off of other FMs and asking how they did something or what would they do. I can't wait to go to work in the morning. **FMJ**

ALL PHOTOS COURTESY USS MIDWAY MUSEUM





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# RE-ENERGIZING THE WORKFORCE: a grassroots effort

BY CHRISTIAN PELLECCIA

The IFMA Silicon Valley Chapter is an education-centric chapter with a mission to advance the facilities management profession through excellence in education, innovative programs and social connection. Since its inception in 1991 it has certified 58 FMPs, 18 SFPs and 34 CFMs. Most of this has been done through Larry Morgan, distinguished IFMA member and master instructor. He is a facility director for SAP, former IFMA board member, and FM expert who has made education of FM his passion. With his guidance, the Silicon Valley Chapter has proven to advance the profession FM for those already in the field.

Several years ago, Morgan encouraged chapter leaders to also become more involved in the Global Workforce Initiative (GWI). After years of hard work and diligence, there is now a robust workforce development program that has reinvigorated the chapter and helped it become more relevant within the FM community. The task was difficult, but through much trial and error, the Silicon Valley Chapter has found success in making FM a career of choice.

IFMA members have most likely learned there is a shortage of trained FM professionals throughout the world. An untrained professional in any occupation can be both dangerous and costly, but it is particularly troubling for this profession in the new era of the built environment. Within the next five to 15 years, half of the existing FM workforce will retire, and there is a lack of qualified individuals to take their place.

One of the major roadblocks to making FM a career of choice is the lack of accredited degree programs in FM throughout the world. The US for example, has only 17 accredited FM degree programs in a handful of states, which is astoundingly minuscule considering the amount of existing FM positions and the amount that will soon be available. IFMA Foundation leaders have taken it upon themselves to fill this talent gap and make FM a career of choice through GWI. They seek to accomplish this by making connections to a broader range of students and individuals about the profession, help to educate them, and invest in new opportunities.

The first step in creating a workforce development program is to establish a workforce development committee. While many chapters have an education committee, the common focus of these committees is to create awareness of the IFMA certifications, and to encourage FMs to become certified. However, the primary focus of the workforce development committee is establishing degree programs in FM within the schools close to the chapter, while also creating awareness of the profession outside the IFMA community and encouraging individuals to explore this vocation further. The Silicon Valley Chapter does this by offering IFMA's best kept secret, the *Essentials of Facility Management* workshop series. It is an introductory course about facility management that provides a high-level overview of the profession and teaches the students the basic language of FM.

Developing a new degree program at a college is a painfully arduous endeavor. It is a process that takes years and requires a multitude of factors to come together at the right times. One of the first steps in establishing a degree program for FM is to create a curricu-

lum. This curriculum would then need to be approved by the department that will house the program, and from the college itself. One would also need to find an instructor or instructors that can teach the courses full time.

What makes an FM degree more challenging than others is that many of the decision makers at educational institutions are unformed about the profession, and there isn't much of a demand from students. Therefore, there is the added challenge of creating a demand from students in order to sustain a viable program. This

will require consistent outreach with students, parents, teachers, community organizations, government agencies and the like, as part of an awareness campaign. Volunteers of this effort will have to regularly attend activities such as local career fairs, business expos, high schools and academic competitive events in order to promote the profession. While all of this may seem daunting, there is a way to get programs started immediately while simultaneously creating awareness of the profession.

IFMA Silicon Valley has discovered that there are two prominent ways to establish FM instructive programs relatively quickly. The first model is to offer the *Essentials of Facility Management* workshops at adult and/or Career Technical Education schools. These institutions are a great fit for this program as many of them are craving variety within the classes they offer. FM is a high paying, middle skills job that is attractive to the types of students that attend these schools. Furthermore, the schedule of the classes and minimum number of students needed to run this program are far more flexible than the college level, making it easier for volunteers to contribute and for working students to attend.

The other model is to establish a certification program at local community colleges. The certification would include the *Essentials* course, but it would also be coupled by other classes the college already offers, such as: project management, business administration, financing and the like. If the certification of FM

becomes popular, a degree program would be likely to follow. The Silicon Valley Chapter has been successful at both models and are offering them concurrently.

The basic structure of the *Essentials* class goes as follows: The *Essentials* is a 10-module workshop series that provides a brief overview of the FM profession by offering an outline of IFMA's 11 core competencies, while also covering several of the main components of the occupation, (e.g., health and safety, measuring productivity, maintaining building systems, etc.). The Silicon Valley Chapter

## First steps involved with establishing a workforce development program:

1. Establish a committee.
2. Decide what colleges, adult schools and CTE programs you would like to target and begin discussions.
3. Research workforce development programs in your area to partner with.
4. Divide the committee into four groups:
5. One group of the committee focuses on the content of the course and distribute teaching responsibilities based on expertise.
6. Another will focus on sponsorships from vendors for whatever resources may be needed.
7. The third group will focus on campaigning and outreach efforts.
8. The last group helps students find jobs or internships.
9. Create mentoring and young professional groups.

has added three more requirements to this curriculum. First, it included another class to the 10 modules that focuses on resumé writing, soft skills and the importance of networking. Second, students must attend a minimum number of IFMA events to reinforce those skills and network with potential employers. Finally, there are two half-day building tours where seasoned FMs may show a day in the life of an FM. In turn, with only a few months of instruction, students will have learned the basic language of FM, what the occupation entails, and the importance of professional organizations such as IFMA to further their careers and find support when needed. Below are a few more lessons we have learned that may benefit the program in your area and help students become more prepared for their newly found career.

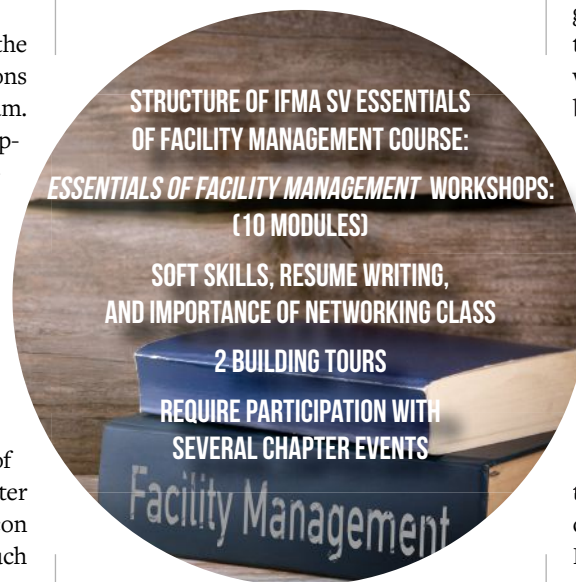
The first series of discussions for the committee should entail what institutions will be targeted to house an FM program. Then, research what workforce development programs exist in the area for possible partnership. A simple search on Google should reveal many prospects, but chambers of commerce and government officials in economic development are also good resources. Next, divide into four groups to strategize implementation of goals and define needed resources.

The focus should be on the content of the workshops and recruit subject matter experts to teach each section. The Silicon Valley Chapter discovered that it is much easier to ask professionals to teach one or two sections of the course every time it is offered rather having one teacher responsible for the whole program. For example, ask an FM who is an expert on health and safety to teach that section of the course, and another who is an expert in measuring productivity, i.e., metrics and KPIs, to teach that section. Be sure to also recruit vendors to participate and teach the sections on maintain building systems. For example, ask an HVAC vendor to teach HVAC maintenance, and a general contractor to teach about building foundations, structures and building envelop, etc.

The second group of the committee should recruit sponsorships from vendors based on the resources needed. Offer the vendors a substantial amount of exposure from the program and remind them that

they are supporting the next generation of FMs that one day might hire them. The third group will focus on outreach. They are responsible for recruiting students from local career fairs, business expos and schools. This group should have an ample supply of handout material from their own chapter and from the IFMA Foundation. The last group will reach out to the facilities departments of local companies and inform them of the workforce development program that you are offering. Ask if they are willing to participate by providing internships or entry level positions for the newly IFMA-trained employees.


Once the program builds momentum the benefits far outweigh the efforts. It will create a situation where everyone involved



wins. Firstly, IFMA chapters will benefit by becoming stronger and more relevant in their areas. It is important for all IFMA chapters to get their members involved in chapter activities; especially when it is for a noble cause. Getting members active in the chapter equals retention and therefore, the chapter becomes stronger. Also, if local FMs realize that the local chapter is recruiting and training individuals to be the next generation of professionals, the chapter becomes more relevant within the community as a consistent source for new employees. FMs outside of the IFMA community may discover IFMA resources and will be more likely to join. Secondly, the students of the program will benefit from discovering an exciting and fulfilling career

that they might not have otherwise known about. At the same time, these students will also realize the importance of professional development organizations such as IFMA, and they too will most likely join. Thirdly, the profession of FM as a whole will benefit from having more trained professionals entering this career path as a career of choice rather than the typical “I just happened to fall into FM” story. Lastly, vendors will benefit because they will receive maximum exposure from financially supporting this program. FMs will remember those vendors that supported them, and it will most likely create business for the vendors down the road.

There a few more elements that may support the longevity of the workforce development efforts. Start a mentoring program for professionals new to the field. Pair them with those seasoned professionals who may want to contribute to the chapter but have little time. Also, create a young professionals group and have them meet regularly. Young professionals may feel more comfortable with their chapter if they had the opportunity to network with individuals that are like minded and are working through similar circumstances. Finally, recruit vendors to take the *Essentials* course. It is important for them to better understand the profession of the clients they serve. FMs always enjoy speaking to vendors that understand their language, and vendors can perform better knowing what the FM profession entails.

IFMA’s Silicon Valley Chapter has benefitted greatly from the workforce development program. It has reinvigorated the chapter and helped it become more engaged with its members, community and the FM profession. 



**Christian Pellecchia** is a former High School Biology teacher from Brooklyn New York. He is currently in Construction Management in Silicon Valley. Christian serves as the VP of the IFMA Silicon Valley chapter and Secretary of the IFMA East Bay chapter. He is also the recipient of the IFMA Associate of the Year award in 2017 and teaches the “Essentials of Facility Management” course at the College of San Mateo in California.



**COMPANY NAME** Planon Corporation  
**EXPERTISE** FM Software  
**CSP LEVEL** Silver  
**CSP SINCE** 2006  
**WEBSITE** <https://planonsoftware.com>

**FMJ** What research or product innovations is your company working on that will help facility managers be more successful in their roles?

**PLANON** Providing innovative, integrated solutions for real estate and facility management is at the heart of what we do at Planon.

Every year Planon invests 20 percent of its revenue back into Research & Development to provide continuous improvement and innovation that will support our clients in their work.

Some current innovation initiatives that will have direct impact on our clients includes the development of Planon as a Platform, which allows our clients and partners to develop their own applications on the Planon platform for their particular use or to share with the Planon community. The same idea is applied to our new mobile platform. Both of these innovations will provide our community of users with continuous access to new features and functionalities that will allow them to be successful in their roles.

In addition, Planon provides domain-specific product offerings, focusing largely on several industries, including higher education, to help real estate and facility management departments tackle challenges and needs that may be unique to their industries.

We have recently completed the Planon Blue Ribbon Panel research project, which brought together prestigious higher education institutions and professionals to focus on campus management challenges, including facility management needs, from all different perspectives.

Planon is also focused on providing our clients with improved and innovative ways to utilize their real estate and facility management data.

Enhancements to our product, including Planon Connect for Analytics, allows our clients to integrate their Planon data with their existing BI tools to improve data analysis and reporting, in order to generate better insight to their operations and potential needs to improve and evolve their organization.



**COMPANY NAME** SpaceIQ  
**EXPERTISE** FM Software  
**CSP LEVEL** Silver  
**CSP SINCE** 2017  
**WEBSITE** <https://spaceiq.com>

**FMJ** What research or product innovations is your company currently working on that will help facility managers be more successful in their roles?

**SPACEIQ** For many SpaceIQ enterprise customers, stacking a building or campus seems simple: identify workplace locations for departments or teams and you're done.

But stacking becomes fiendishly complex as business preferences and constraints surface. Marketing needs to sit near sales and requires promotional materials storage. Engineering wants lab space and additional power for cooling equipment, plus work near the quality team. Legal can't move. It needs secure storage and an area where conversations won't be overheard. Preferences, requirements, and limitations quickly add up, creating immense complexity that's impossible for humans to handle—given the countless possible configurations for space allocation across multiple floors and buildings.

Space planners do their best using manual processes, spreadsheets, and printouts. But finding the right configurations from infinite sets of options is nearly impossible. When a practical option is found, there's no way to evaluate whether it's the best option, or merely "good enough."

SpaceIQ will soon release an AI-driven stacking optimization engine called StackIQ™. This unique technology integrates with space data residing in SpaceIQ, accepts preferences and constraints from space planners, and uses sophisticated, cloud-based machine-learning algorithms to evaluate millions of possible configurations. StackIQ™ identifies the best restacking target in seconds instead of days or weeks.

**FMJ** What has been the most positive feedback you've received from clients?

**SIQ** Every quarter our expansion was in need of fulfilling space for about 250 employees. With SpaceIQ, we were able to spread a few of the workstations by mimicking scenarios. At one point we had 6 ft workstations, we created a scenario with 5 ft workstations, giving us more we space vs. me space and that helped us alleviate need for adding additional sq. footage in existing buildings and or looking for satellite locations to accommodate. SpaceIQ helped us defer leasing additional space for five years. —*Evelyn Guerra, Instructure*



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For almost a decade, we have used sensors and software to understand how offices, conference rooms and entire workplaces are used. The best sensors can offer is a snapshot of what was happening at a point or points in time in one a given place or set of places.

# THE FUTURE OF WORKPLACE EXPERIENCE — TYING IT TO BUSINESS OUTCOMES

BY KATE LISTER & DEBRA MORITZ

For almost a decade, we have used sensors and software to understand how offices, conference rooms and entire workplaces are used. The best sensors can offer is a snapshot of what was happening at a point or points in time in a given place or set of places.

We've used surveys and focus groups as a way of capturing employee attitudes, likes, dislikes, wants and needs. While these tools can offer great insights, low participation rates and survey overload can limit their value.

Recently, we've embarked on a mission to optimize the workplace experience. However, we struggle to measure our progress or tie it to business outcomes.

Using these traditional methods to prescribe workplace design and work practices is like trying to coach a football team when all you have to go on is a few game photos, interviews with a few of the players, and the ending score at their most-recent game. All that is about to change.

Sensors have become so small they're almost invisible, so cheap they're practically free, and so unobtrusive they're easy to forget. They're increasingly embedded in the things we use and wear, and even where we live and work. These sensors talk not just to us, but with one another. When combined with other hardware and software, they can learn from experience, predict outcomes, prescribe solutions and even take corrective action.

If you think about this network of sensors as a kind of peripheral nervous system with the information they collect being stored in and analyzed by a virtual brain, you can begin to imagine where all this is going. The places and spaces where we live, work, and play will all be connected. They will learn from us and we from them. They will respond in real-time, more accurately predict and prevent problems, and allow us to collect feedback from occupants without the risk of survey bias.

Hardware and software solutions have taught us a great deal about where people work, what they do, and how they work best. We've learned that almost any type of workplace can be effective, if the occupants have a variety of spaces from which to choose. We can predict what size conference rooms are needed most, we can reduce maintenance costs by only cleaning the rooms that were used, and much more.

We've also made good progress in applying neuroscience to workplace design. We know individuals and teams need places for both contemplation and interaction if creativity and innovation

are to flourish. We know that lighting can be used to alter our natural body rhythms. We know that playing a quick game can quickly build trust between strangers. And we know that exposure to nature can soothe the soul.

Wearables and other technologies already allow us to track location, sense movement, and detect whether the wearer is sitting or standing, working on a computer, or talking on the telephone. Sensor technologies are already able to provide information about who talks to whom, how often, how energetically they're speaking, whether they're stressed, and even their gender and ethnicity. These and similar advances are helping us answer questions such as:

- Are people collaborating more after a workplace change initiative?
- Does the succulent wall improve air quality?
- Is everyone in the meeting being heard, or just those with the biggest voices?

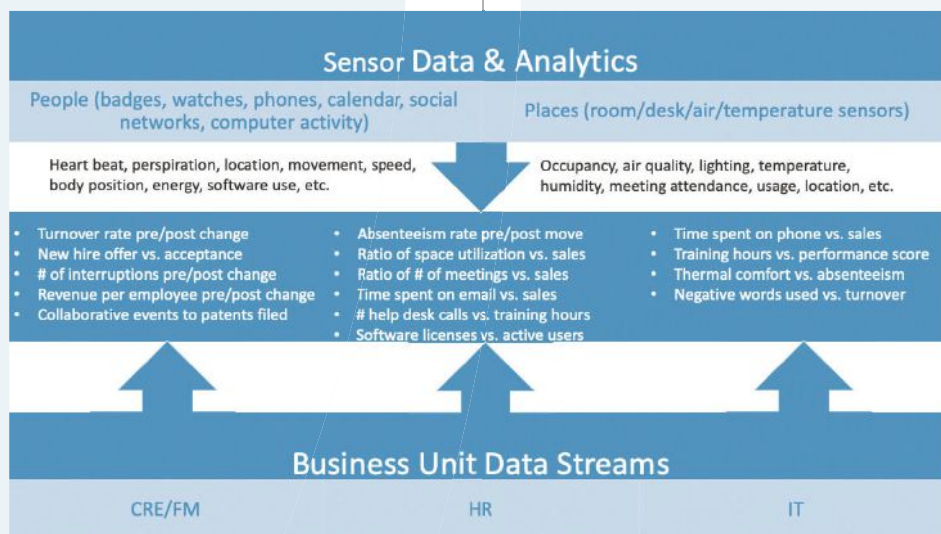
The critical question, one that few organizations can answer today, is whether the changes we make to our workplaces and work practices help attract and retain talent, increase productivity, foster creativity and innovation, reduce costs, boost revenue, or help achieve other business goals. This is where the real opportunity lies. If we expect to

create workplace experiences that optimize outcomes, we need to correlate what the sensors and analytics tell us about how people perform in various environments with business results.

## CREATING THE WORKPLACE EXPERIENCE: TODAY VS. TOMORROW

The "Workplace Experience" is an amalgamation of every interaction a person has with the work they do, the people they work for and with, the places they work, the company's brand, and more. It begins even before someone is hired based on all they have experienced with the organization as a customer, shareholder or observer. It never ends in some cases. Even after someone leaves, they will talk to other people, potential customers, vendors, and even perhaps reporters about their experience. Some may even return as contractors or employees.

FM/CRE, HR, IT and other organizational units are scrambling to enhance the employee experience, but their efforts are primarily



aimed at removing barriers to success. They are reactive, rather than proactive. They address extrinsic, rather than intrinsic motivators — the ones that have the biggest impact on employee engagement.


As new data sources emerge, existing ones are unlocked, and data streams are combined, we will finally be able to easily measure the impact of workplace change on business and privacy notwithstanding, even personal outcomes. The primary focus for change initiatives will be to enhance performance. They will be proactive, rather than reactive and will foster intrinsic vs. extrinsic motivation.

The nervous system and virtual brain envisioned earlier will grow in complexity (more connections between sensors and data streams) and knowledge (from data analyzed over time and under different conditions).

## NEW GAME FOR A NEW DECADE

We still have much to learn about human behavior and motivation, about how people perform in various environments, and, in particular, about measuring outcomes in an age where it brains, not brawn, that create organizational value.

As employee privacy issues are resolved, new datasets will become available. They will include information about how people work, what frustrates/delights them, what work they should be doing more of or less of, where training is needed, and more. They will inform leadership of flight risks, manager effectiveness, and unwanted behavior. They will identify opportunities for outsourcing and in-sourcing.

They will identify high-potential employees, reveal underperformers, and uncover reskilling and upskilling opportunities. And, together with rapidly evolving tools and technologies, they will allow us to measure the impact of the workplace environment on an organization's most important asset, its people. 

### Let's Talk Privacy

We live in an age when lights can hear, watches can record sleep patterns, and conference software can gauge attention levels. Employees blithely give up the right to privacy with a stroke of a pen their first day on the job. That means their online activity, phone conversations, location, and even keystrokes are fair game for employers to use as they like. Some countries have passed regulations to protect employee privacy, but in the U.S. and elsewhere, these protections do not exist or are easily waived, often unknowingly.

Interestingly, research shows employees are willing to share private data provided there's something in it for them; it makes their job easier, provides a learning opportunity, or offers some other benefit. But any organization that cares about its reputation must be completely open and transparent about how the data will be used and protected, and include only those employees who have explicitly opted in.

## Workplace EX 1.0 vs. Workplace EX 2.0



**Focus:** Remove barriers to success vs. enhance performance

**EXAMPLE:** Ability to book meeting space from phone vs. Meeting space is book and provisioned automatically based on individual calendar and personal preferences



**Perspective:** Reactive vs. proactive

**EXAMPLE:** Headphones to reduce noise vs. Automatically assign space or set sound based on known preference or type of work scheduled



**Type Motivator:** Extrinsic vs. Intrinsic

**EXAMPLE:** Thermal comfort vs. Sense of purpose

**Kate Lister** is a highly regarded speaker, writer, and thought leader on the future of work. She is president of Global Workplace Analytics, a research-based consulting organization that helps employers and communities understand and communicate the people, planet and profit business case for a wide range of workplace strategies. She has co-authored three business books, contributed chapters to two others, and written scores of articles for major media outlets. She is a member of IFMA's Workplace Evolutionaries (WE) Leadership team where she heads up research initiatives and curates the WE Brief, a favorite member-only benefit.

**Debra Moritz** is the Head of Strategic Consulting for Cushman & Wakefield, Inc. where she oversees an integrated delivery platform designed to improve client business performance by reducing cost, increasing revenue, and mitigating risk. With more than 25 years of experience and a successful track record of advising business clients on the strategic management of their assets and portfolios, Moritz has developed an in-depth understanding of the complex and unique challenges businesses face in ensuring that major real estate decisions are aligned with and support core business objectives.

### About IFMA's Workplace Evolutionaries

Workplace Evolutionaries is a global Community of Practice within IFMA. Its nearly 1,000 members are workplace strategists, change managers, facilities managers, architects, designers, office furniture experts, IT managers, HR experts and academics who are changing the world, one workplace at a time.

WE offers its members monthly WE:binars, a bi-monthly WE:brief with important news and the latest workplace research/member-only research papers, as well as a full agenda of exciting WE content at Facility Fusion, World Workplace and World Workplace Europe. WE has more than two dozen WE Hubs around the world to help members engage in local conversations and add to its global intelligence.

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3. LinkedIn Group: <https://www.linkedin.com/groups/4891376/>



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## Innovative Products & Services



### Designtex introduces the Bauhaus Project

With the Bauhaus Project, Designtex pays tribute to the women weavers of the Bauhaus, the short-lived but influential German design school celebrating its centennial this year. Substantial in scope and depth, the Bauhaus Project comprises eight upholstery textiles and eight digitally printed wallcovering designs by Gunta Stölzl and Anni Albers, two of the most talented and significant textile designers of the Bauhaus school.

Within the framework of the Bauhaus Project, Designtex has launched two separate textile collections: Designtex + Anni Albers and Designtex + Gunta Stölzl. Each collection represents a carefully selected, meaningful cross-section of the artists' work. Whether previously executed or based on design drawings, the patterns maintain the integrity of the originals in design and color, while adapting fibers and yarns to the demands of present-day contract use.

The Bauhaus attracted many female students who hoped to develop careers in diverse artistic fields and expected to thrive in an environment that embraced progressive thinking and hands-on creativity. But upon arrival, they were offered limited options: weaving or ceramics. Disappointed at first, many of the students soon discovered the possibilities of the loom, immersing themselves in the craft – experimenting with industrial materials, construction and color, and incorporating functional requirements into their designs. Weavers such as Albers and Stölzl defined the principles of contemporary textile design.

Designtex develops, designs and manufactures applied materials for the built environment. For more than 50 years, Designtex has provided innovative materials to customers around the world. Throughout each step of product development and manufacturing, Designtex strives to ensure their textiles, wallcoverings and digitally imaged materials have a reduced environmental impact. Designtex is a Steelcase company, headquartered in New York City, with more than 100 national and international locations.

**VISIT** [designtex.com](https://www.designtex.com)

### Johnson Controls' Choice rooftop units exceed 2023 DOE efficiency regulations

Johnson Controls has reimagined economical comfort cooling with the release of Choice 15-27.5 rooftop units. Units exceed U.S. Department of Energy (DOE) 2018 guidelines by up to 25 percent and already surpass future DOE 2023 part-load standards by almost 10 percent. An optional four-stage IntelliSpeed™ fan control further enhances efficiency by enabling Choice units to deliver 15 percent higher IEER ratings than many competitive high-efficiency units, all within the value of a standard-efficiency rooftop unit.



Choice is enhanced with multiple airflow strategies, including constant-volume, IntelliSpeed multi-speed fan control, variable air volume and Continuous Reset Single Zone control to offer flexibility to meet the demands of diverse applications. Units are Smart-Equipment enabled with a prepackaged control platform that maximizes control and efficiency, while extending equipment life and reducing operating costs. Smart Equipment seamlessly integrates with leading building controls systems, including Verasys®.

Choice 15-27.5 rooftop units are designed, engineered and assembled in the state-of-the-art Johnson Controls Rooftop Center for Excellence in Norman, Oklahoma, USA. Units are supported with factory-backed warranties, including a standard 1-year parts warranty, 5-year compressor and electric heat limited warranties, 10-year aluminized heat exchanger limited warranty, and a 15-year stainless steel heat exchanger limited warranty.

**VISIT** [johnsoncontrols.com/choice](https://www.johnsoncontrols.com/choice)

## Fire-resistant floor protector and seam tape protect job sites

According to the National Fire Protection Association, U.S. firefighters respond to more than 10 fires a day at buildings under construction\*. Taking steps to prevent fire-related incidents before they happen is the best way to keep fires from starting and keep them contained if they do.

“Keeping a job site protected and lowering accident rates starts with prevention,” said Elliot Piltzer, director of business development for Surface Shields. “Cover Shield paired with Seam Tape FR creates an unrivaled fire safety system that can be used in applications ranging from medical, nautical, industrial, government projects, universities and restoration.”

Cover Shield’s new material can withstand high impact, fire and liquid. It lays flat and is tear-resistant, while its embossed pattern adds traction and reduces slippage. Designed with strong adhesive and flexible backing, Seam Tape FR makes seaming and repositioning easy. It includes a pinked edge for a smooth tear, making it ideal for any kind of fire-rated operation.

Cover Shield and Seam Tape FR went through rigorous testing to meet fire-rated standards. Both meet NFPA-701, and Cover Shield has an ASTME-648 Class 1 rating.



**VISIT** [surfaceshields.com/flame-retardant-floor-protection](http://surfaceshields.com/flame-retardant-floor-protection)

*\*Campbell, R. (2017, April), Fires in Structures Under Construction Undergoing Major Renovation or Being Demolished (Rep.), bit.ly/2lMF4RR*



## An effective blend of chemistry and creativity

Serving the aviation, industrial and janitorial markets, global chemical company Mirandy Products LLC is focused on product development for cleaning, maintenance and odor control.

For more than 45 years, Mirandy has provided customers with high-quality, effective, safe and cost-sensitive cleaning products. Their line of aviation products is used in lavatories, plane interiors and exteriors, and on airport runways. Products include Boeing and AMS specification-tested and approved aircraft lavatory anti-corrosion, anti-freezing and fragrant fluids, as well as a line of runway derubberizers and degreasers.

Mirandy products deodorize and clean upholstery and carpets throughout the interior of the aircraft cabin. An incomparable exterior airplane wash is also available.

A woman-owned, small, disadvantaged business, Mirandy often works with airlines, aircraft OEMs, airports, FBOs, hotels, hospitals and transport authorities to develop new products.

**VISIT** [mirandy.com](http://mirandy.com)

## 2019 Awards of Excellence Recipients



In 1982, discussions took place among the association's founding members to establish an awards program recognizing significant contributions to IFMA and the facility management field. The following year, the first Awards of Excellence were presented to:

- » **Frank Becker, Ph.D.**, Educator's Award
- » **Dave Armstrong**, IFMA Fellow, Distinguished Member Award
- » **George Graves**, IFMA Fellow, Lifetime Achievement Award

The program quickly expanded to include chapters, corporate partners, authors and FM achievement awards. Over the past 37 years, IFMA's Awards of Excellence has showcased the outstanding accomplishments of individual members, chapters, councils, communities and partners. Each year, awards are presented at IFMA's World Workplace Conference and Expo, providing global recognition for the exceptional contributions of recipients.

On the closing day of World Workplace in Phoenix, Arizona, USA, IFMA announced its 2019 Awards of Excellence recipients. Winners were recognized in 12 categories, with judging panels comprised of industry experts scoring nominees individually across a variety of category-specific criteria. IFMA chair John Carrillo, CFM, IFMA Fellow presented the following awards:

### ASSOCIATE MEMBER AWARD

Tim Burdge, MSFM, FMP, Senior Associate, Syska Hennessy  
New York City Chapter of IFMA

### DISTINGUISHED AUTHOR AWARD, RESEARCH PAPER

Dr. Audrey Schultz, Associate Professor, Pratt Institute  
"Built Environment Project and Asset Management"

### DISTINGUISHED AUTHOR AWARD, BOOK

Geoff Williams, FMP  
"The Facility Manager's Guide to Information Technology, 2.1 Edition"



### CHAPTER AWARD OF EXCELLENCE IN PROFESSIONAL DEVELOPMENT

Boston Chapter of IFMA

### CHAPTER AWARD OF EXCELLENCE IN WEB COMMUNICATION

New York City Chapter of IFMA

### FM INNOVATION AWARD

Five-chapter SFP® Collaboration: Denver, Greater Phoenix, Dallas/Fort Worth, Capital and Richmond Chapters of IFMA

### SHEILA SHERIDAN AWARD FOR SUSTAINABLE FACILITY OPERATIONS AND MANAGEMENT

Burj Khalifa - Emaar Sustainable Facility Management

### DISTINGUISHED EDUCATOR AWARD

Phyllis Meng, CFM, SFP, IFMA Fellow

### STUDENT CHAPTER OF THE YEAR AWARD

Chaffey College Student Chapter of IFMA

### COUNCIL/COMMUNITY OF THE YEAR AWARD

City and Country Clubs Council of IFMA

### SMALL CHAPTER OF THE YEAR AWARD

Chesapeake Chapter of IFMA

### LARGE CHAPTER OF THE YEAR AWARD

New York City Chapter of IFMA

The IFMA Foundation's annual Trustees Awards are presented to those whose outstanding achievements advance the aims of the organization. Foundation Advisor Erik Jaspers and Chair Joe Archie recognized the following individuals and groups at the Oct. 18 Awards of Excellence luncheon:

## 2019 IFMA Foundation Trustees Awards



**Darin Rose** for reinvigorating the Foundation Ambassador Program; presenting Foundation programs to IFMA chapters, councils and communities; and for providing constructive feedback to help improve the Foundation.

**The Airport Facilities Council of IFMA** for their support in funding the scholarship program; their assistance in improving Foundation scholarship processes and forms; and for providing best practice advice on engaging student FMs at World Workplace and among the IFMA community.

**Ferris State Student Chapter of IFMA** for their social media promotion of the Foundation; their participation in the IgniteFM! Student Challenge at Facility Fusion; and for their participation in fundraising.

**IFMA Silver-level Corporate Sustaining Partner Sodexo** for their support and promotion of the Global Workforce Initiative through World FM Day and other events; their participation in IgniteFM!; and for their pro-bono work in developing an FM Ambassador Program to market the field of FM to students, veterans and community organizations.



Foundation Chair Joe Archie presented a special **Chairman's Award to Bob Dills** for his dedicated service as a volunteer and Trustee; for creating new Global Workforce Initiative programs and developing new funding sources; for his financial support and efforts raising funds through his vast network; and for providing leadership and mentorship to Foundation staff.

**Winners of the IgniteFM! student competition were also announced.** Five teams of students worked to solve an FM-specific scenario created by Global Workforce Initiative Advisors Sodexo, ABM and FM Systems in collaboration with FM professors and FM student Doug Postema from Ferris State. Teams presented their proposals to a panel of judges on Oct. 17. The winning Green Team of Mohammad Aldaaja, Cailyn Poschner, Victoria Smikowski and Yujin Kim received a prize of US\$1,000 to be split between the students.

## IFMA Fellows recognized for their contributions to IFMA and FM

IFMA Fellows form an elite core of respected leaders who serve as advisors and ambassadors for the association. For close to three decades, the collective impact IFMA Fellows have had on the profession and the association is immeasurable.

A tribute to Fellows past and present was shown on screen prior to the opening general session at World Workplace on Oct. 16, in Phoenix, Arizona, USA. To provide perspective on the sustained involvement and leadership of all IFMA Fellows, recent contributions to the advancement of IFMA and FM were highlighted in the screen presentation. Our appreciation and admiration on behalf of the entire IFMA community to these individuals.

### At the executive/advisory level:

#### CEO SELECTION COMMITTEE:

Peter Ankerstjerne, John Carrillo, Jon Martens, Kathy Roper

#### IFMA GLOBAL 2019-20 BOARD OF DIRECTORS:

Peter Ankerstjerne, John Carrillo

#### IFMA FOUNDATION 2019-20

#### BOARD OF TRUSTEES:

Nancy Sanquist, Pat Turnbull

#### IFMA 2019-20 AMERICAS ADVISORY BOARD:

Rick Corea



*A time-honored tradition, Joachim W. Hohmann, CFM, M.Sc., Ph.D., IFMA Fellow receives his Fellowship pin from nominator Bill Conley CFM, SFP, LEED AP, IFMA Fellow at World Workplace 2018.*

### **In support of IFMA Fellowship Program:**

#### **FELLOWSHIP PROGRAM 2019 NOMINATING COMMITTEE:**

Bill Conley, Alana Dunoff, Rich Fanelli, Phyllis Meng, Dave Wilson

#### **2019 FELLOWSHIP PROGRAM SELECTION PROCESS TASK FORCE:**

Mary Gauer, Kathy Roper, Sheila Sheridan, Melissa Van Hagan, Cheryl Waybright

#### **IFMA FELLOWSHIP PROGRAM 2019 JURY:**

John Carrillo, Mary Gauer, Kathy Roper

#### **IFMA FELLOWS MEETING COORDINATION:**

Pete Winters

### **Professional development champions:**

Over the past year, these Fellows have dedicated countless hours toward the Certification Commission (CFM<sup>®</sup>), FMP<sup>®</sup> and SFP<sup>®</sup> Scheme Committees, FMP and Online CFM Practice Exam content review, IFMA continuing education, course and instructor development:

Bill Conley, Alana Dunoff, Chris Hodges, Jim Loesch, Barry Lynch, Jon Martens, Phyllis Meng, Kirt Miller, Patrick Okamura, Ed Rondeau, Mark Sekula, Teena Shouse, Guy Thatcher, Meredith Thatcher, Fred Weiss

### **In support of the future of FM:**

#### **ISO Standards Committee:**

Jim Whittaker

#### **IFMA Instructor Sub-committee:**

Patrick Okamura, Teena Shouse

#### **Chaffee College Student Chapter & FM Instructor:**

Phyllis Meng

### **In support of IFMA components:**

#### **IFMA U.K. Chapter Development:**

Dave Wilson

#### **Operations & Maintenance, Health & Safety Strategic Advisory Group:**

Patrick Okamura

#### **WE Strategic Advisory Group:**

Pat Turnbull

#### **ESUS Members:**

Sheila Sheridan, Eric Teicholz

#### **IT Community:**

Rick Corea

Past chairs of IFMA's global board of directors include these IFMA Fellows: **Jim Whittaker, Jon Seller, Marc Liciardello, Kathy Roper, Francis Kuhn, Tom Mitchell, John McGee, Gary Broersma, Teena Shouse, Sheila Sheridan, Richard Pierce, Doug Aldrich, Kit Tuveson, Lanny Felder, Richard Cooper, Bill Gregory, Diane MacKnight, Sam Johnson, Christine (Neldon) Tobin, Bob Gross, Ed Rondeau, Dave Cotts, Art Hahn.**

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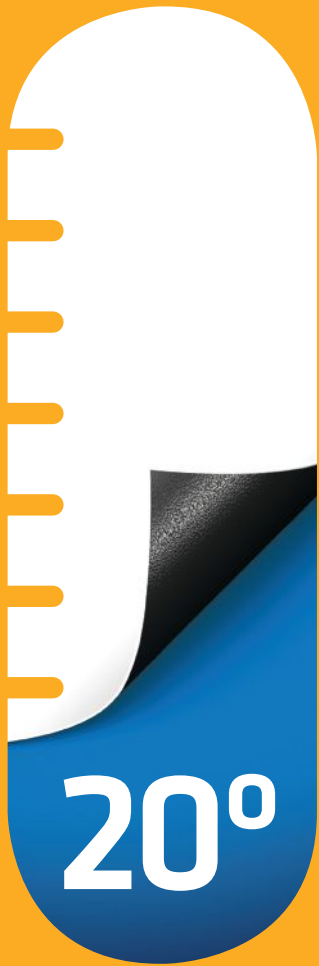
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- 066** **Ask the Experts**  
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BUDGETING

# Ask the Experts

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 **"Budgeting."**

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CONTRIBUTED BY



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."

## As the fiscal year winds down, facility managers begin their review of the year's FM activities. What are the most important and telling aspects of the financial performance of the FM organization that an FM should consider when planning for the future?

**A** FMs know facilities are typically a company's second most expensive asset. They understand it's important for FMs to be intimately familiar with the cost of providing efficient and effective facilities and to continually monitor those costs. But it's not the most important thing.

We live and work in the age of the "Shiny Object Syndrome." We are bombarded with so much information that it is easy to stray off onto tangents. But FMs must keep their eye on the target because the target is constantly moving. They must move from a reactionary mode to proactive focus.

There are many things FMs must be concerned with in the course of managing buildings. Urgent matters are usually visible. Urgent means it requires immediate attention. Urgent issues press on us: they insist on action. They are often popular with others. They are usually right in front of us and often they are pleasant, easy, fun to do. They are often unimportant.

Importance, on the other hand, has to do with results. If something is important, it contributes to your mission, your values, your high priority goals.

We react to urgent matters. Important matters that are not urgent require more initiative and more proactivity. We must act to seize opportunity, to make things happen. If we do not have a clear idea of what is important or the desired results, we are diverted in responding to the urgent.

Yes, it is important that FMs be intimately aware of the cost of providing FM services. But it is far more important for FMs to first figure out what the priorities are and then do them right. Focusing on the right things, the things that support the company's mission, vision and strategy will have a positive impact on the organization and help build the facility manager's influence as a strategic partner and to help the company succeed.

---

### **Mark Sekula, FMP, SFP, LEED-AP, CFM, IFMA Fellow President (Retired), Facility Futures, Inc.**

*Mark Sekula is President of Facility Futures, Inc. a global facility management consulting firm in Milwaukee, Wisconsin, USA. He is a certified IFMA instructor and has taught classes in facility management internationally. He has served on the adjunct faculty at the University of Wisconsin-Milwaukee and Northern Illinois University. He has also served as a long-time SME for IFMA in a variety of areas. In 1999, Mark founded the IFMA Facility Management Consultants Council.*

**Msekula1@wi.rr.com**

### **Do you have a question for Ask the Experts?**

---

#### **Mark Sekula**

IFMA Fellow, CFM, FMP, LEED AP

President of Facility Futures, Inc.

**msekula1@wi.rr.com**

**A** For my lab responsibilities, I kept two sets of books: internal FM and external stakeholders.

Every year, we analyzed/documented each building (no commonalities of size, design, age and function) for costs of energy, operations, maintenance/repairs and changes. We looked for dollar opportunities (up and down) or points of diminishing returns. Our reviews by FM staff and invited support personnel (usually engineering) determined how we were really doing and what should be the efforts/expectations for the following year or two. With our statistical tracking efforts, we avoided the "squeeze costs more" syndrome. The consensus sessions helped with commitment and schedules by support staffs as well.

We also provided annual reports to R&D directors and executives as to how we were affecting their operations from three cost standpoints: technical staff time, (generally) small support projects, and error minimization. For example, our "one stop shopping" ensured lab people performed their duties while FM, engineering, procurement and safety took care of equipment installations, lab change-outs, office moves, lab automation and other similar operations. We also tracked request dates up to request completion, and how successful we were the first time with the process. Our drivers were saving time (85 percent of R&D budgets is people) and delivering services competitively. Those were the fiscals our executives wanted to hear while we were stewards of the back room.

---

### **Dr. Doug Aldrich, CFM, IFMA Fellow**

*With five decades of industry experience and FM consulting, Doug is a strategic leader, laboratory expert and globality advocate. He was IFMA chair, co-founded the R&D Council, served on advisory boards, communicates in word/print and helps non-profits.*

**doug.aldrich@comcast.net**

# Getting a Handle on PropTech

BY ERIC TEICHOLZ

The year 2019 will probably be known as the year of the Something-Tech. Whether the something relates to finances (FinTech), construction (ConTech), geography (ChinaTech) or smart buildings, cities and real estate (PropTech), the -Tech buzzword has traction and will increasingly be part of our vocabulary. Like all -techs, PropTech is an evolving concept and has innovative products that can be categorized as disruptive, even 'game changers' for FMs.

All of these Something-Tech products are based on innovative technologies such as AI, machine learning, IoT, blockchain, deep learning, computer vision or big data analytics which tend to disrupt and then fundamentally change how core tasks are carried out in any field to which they are applied.

It can be expected that Prop-Tech companies will have a similar impact on the management of buildings, cities and real estate. The digital transformation of many industries has already taken place. There are numerous examples attesting to this disruption and revolutionary transformation brought about by companies such as Google (peer to peer information flow); Uber (transportation); Bitcoin (capital); WeWork (space as a service); Airbnb (lodging); and Amazon (transaction of goods). This trend will continue and will most certainly accelerate.

Three major drivers contribute to this acceleration of interest and in development of products and new business models related to PropTech. First is the fact that real estate is the world's largest asset class<sup>1</sup>. Second, Corporate Real Estate (CRE) and facility management (FM) have not yet been fundamentally disrupted by current technology in a manner like the corporate sectors mentioned above. Thirdly the needs of CRE/FM companies, their employees and their customers are evolving in areas such as energy conservation and resilience pushing them toward new capabilities based on using the latest technologies. While these drivers have resulted in the development of many exciting new products, they have thus far had little impact (i.e., disruption) on the FM profession.

By contrast, the venture capital (VC) community, because of these same drivers, is pouring funds into companies that are developing products or services to disrupt the way CRE/FM is practiced. The VC groups are not only providing financial resources to the start-ups, but also access to management and partners capable of implementing new business models resulting in a record \$12 billion in investments in PropTech start-ups in 2017<sup>2</sup>. This represents a growth rate of 133 percent over 2006 in New York<sup>3</sup> (a hot-bed of PropTech companies). Finally, we are seeing larger, innovative CRE/FM

companies developing innovative products for their customers that are either spinning off new products and services or setting up internal VC companies and co-investing in product development.

## What is PropTech?

In its simplest terms, PropTech is the deployment of innovative technologies related to all aspects of facility management and corporate real estate. But this definition is over-simplistic especially from the scope of revolutionary new products, services and processes. Viewing some of the 2,000 or so products and services announced within the last couple of years, other characteristics of PropTech emerge:

- Most products, new business models and services relate to CRE but are applicable to smart buildings and smart cities as well and cover the entire lifecycle of buildings — design, build, operate, manage, use and transact information;
- PropTech companies are typically start-ups rather than mature companies;
- The PropTech phenomenon is global in nature (the term originated in the UK and Australia);
- Most of the start-ups attempt to rethink and reevaluate business processes from scratch, using new technologies and the evolving needs of consumers and customers.

## A Few Trends and Profiles

The list of emergent PropTech products and services is extensive. KPMG, a global network of professional firms providing audit, tax and advisory services, produces an annual report of new global products and services related to PropTech. Their June 2019 report, titled “Real Estate Innovations Overview,” contains more than 200 innovations including names, description, country of origin, founding year and contact information.

Let's look at three technology trends with examples of PropTech companies that have developed related building products. The first trend relates to BIM/FM Platform integration, the second to blockchain and the third is the recent availability of mi-

croweather data and its potential impact on CRE/FM.

### 1. BIM/FM Integration: VueOps

Building Information Modeling (BIM) has been around for several decades and has been widely accepted and used by the AEC industries. More recently, BIM models are increasingly being integrated with computerized maintenance management systems (CMMS) and other systems used for FM. This integration has helped to overcome the reluctance of facility managers to use or trust the BIM database because the data is obsolete, does not contain useful FM data, or the FM lacks the training to work effectively with BIM models.

The Construction Operations Building Information Exchange (COBie) somewhat improved this situation. The COBie standard provides a standard format for extracting the FM related data (equipment, piping, etc.) from BIM models and transferring it to the CMMS database used for FM. This data then resides in the CMMS and does not have to be manually entered, which is expensive, slow and often inaccurate.

COBie is a big step forward but still leaves some significant problems. Additional data is needed to assess how various asset components connect to form a complete system -e.g., which ducts form a particular HVAC or heating system; which electrical outlets are controlled by a given electrical panel; who has management responsibility for the asset; and what data is required to manage a particular system.

To overcome these issues, facility managers must get involved in the BIM process at the offset of a project. Optimally, an integrated project team consisting of FM, architect, engineer, contractor and subs will develop a BIM execution plan (BEP or BXP)<sup>4</sup> to resolve some of the data issues noted above. Ideally the owner as well will understand the role of BIM and ensure that data is current and accurate from inception through project turnover. The BIM model must be updated when any changes that are made to the building and its equipment.

VueOps, a wholly owned subsidiary of DPR Construction, offers service expertise in project documentation and turnover as well as BIM for FM standards and process-

<sup>1</sup>Representing a global estimated total value of US\$228 trillion in 2016.

<sup>2</sup>According to RE:Tech, a RE research/product company.

<sup>3</sup>NY Times, “A Tech Revolution in Managing Properties,” p. B5, May 8, 2019.

<sup>4</sup>The BEP or BXP defines what, how, who and when the information is to be entered in the BIM model. It is the road map of how BIM will be used by each member of the project team. The FM team needs to be included in the BEP since they will depend on the information entered into the BIM model for the starting point of the CMMS and other systems that they use.

## WHAT DOES FM REALLY NEED FOR IMPROVED BUILDING PERFORMANCE, AND WHY DO DESIGN AND CONSTRUCTION BIM AND CURRENT DATA EXCHANGE STANDARDS GENERALLY NOT MEET FM NEEDS?

### What does FM need to efficiently manage a complex building?

- Equipment identification: itemization of the equipment managed in the building such as valves, HVAC equipment, electrical units, fire protection, etc.
- Equipment location
- Where and how are these items installed: what rooms and zones do they serve, and where are they behind walls and ceilings
- How are these items connected as members of systems
- What data is needed to manage and analyze the equipment and systems
- What is the warranty status of each item
- What is the repair history of each item
- How are the spaces in the building being used
- Who (what department) is responsible for each area
- What is the performance of each system (temperatures, pressures, etc.)
- When there is a problem (temperature too high or low, loss of pressure, leak, electrical fault, etc.), what systems are impacted, who and what spaces will be effected, what are the impacts of a shutdown

es. Their data integration platform includes a data qualification, extraction, validation, and update framework that transforms project information into data that helps FMs maintain and manage buildings. The platform integrates turnover documents, facility location and equipment data, and provides viewers for documents, images, video, and 2D/3D models to assist FMs manage information specific to locations and assets installed in buildings. The platform is designed to facilitate its integration with existing systems and will roll out a 3D viewer that integrates with IBM's Maximo CMMS in late 2019.

The first large-scale use of VueOps was on the new Mission Bay hospital for University of California San Francisco Health. UCSF's FM technologies team worked with VueOps to define and prioritize use cases<sup>5</sup> as well as to design and test the new software. The software-as-a-service (SaaS) platform provides an integrated view of the Revit 3D models with documentation available from UCSF's existing Maximo CMMS in an Integrated Project Delivery (IPD)<sup>6</sup> contract that specifies their needs for downstream data. A BIM Execution Plan was written and incorporated into the contract with both contractor and subs. The collected data was checked for accuracy and timeliness at milestones over the design and construction process. After building turnover, the VueOps mobile viewing platform was used to access all the data from the integrated database accessing the

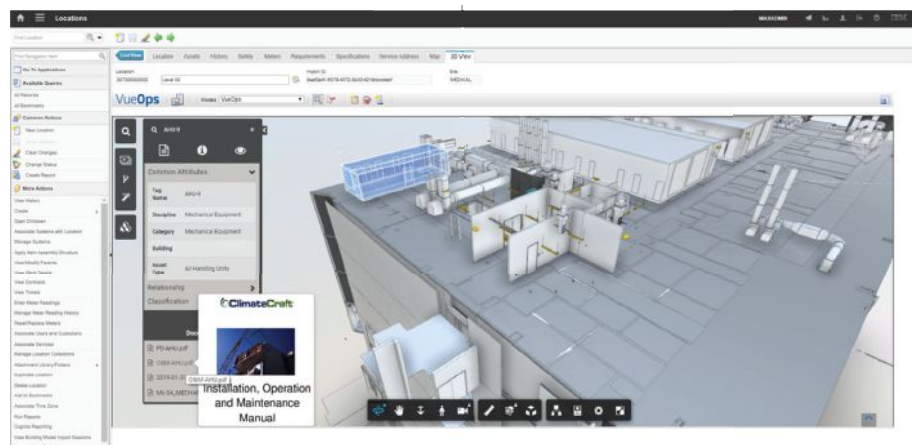


Figure 1: Visual image from BIM with linked data about this equipment from the Maximo CMMS

BIM and CMMS files. This system allows rapid access to 3D views for all equipment, systems and spaces (see illustration above).

### 2. Blockchain: Ubitquity

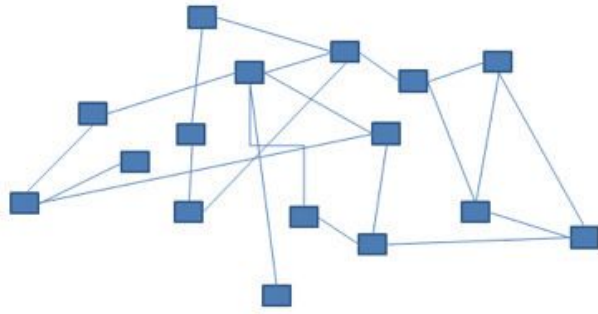
Blockchain is a 10-year-old technology that has its roots in Bitcoin cryptocurrency. In 2016, it received a great deal of attention, leading to widespread recognition that the control of data by a government or a few giant technology companies such as Facebook or Google was dangerous. The collecting of data by a single entity could and did easily lead to misinformation and exploitation. In its simplest terms blockchain can be thought of as a distributed database that records transactions on a distributed peer-to-peer network. The blockchain database therefore does not reside on any single computer but on multiple computers and

is pretty much unhackable because of there being no central computer. The blockchain database acts as a distributed ledger that contains records of transactions, called blocks, that are linked to form a chain. Blocks are also automatically timestamped and cannot be changed after they are recorded. Each block must refer to the previous block to be recorded.

Networks, either open to anyone or closed to a limited number of participants, can be viewed by all participants. However, the blocks are encrypted with a unique hash fingerprint so that only the person with the key can add a new record to a specific chain. In this manner, the distributed ledger of transactions is not managed by a single entity that can change data contained within the network. This generates the database because it is transparent, cannot be modified, and is

<sup>5</sup>A use case describes how a user deploys the software in order to accomplish a specific goal. It includes the definition of features that the user wants to implemented and how errors that might occur are to be resolved.

<sup>6</sup>IPD is a collaborative process between stakeholders to define and optimize all project phases.



*Figure 2: Blockchain Blocks and Chains. A blockchain is digital decentralized distributed ledger. There is no central database in this peer-to-peer network. Each chain consists of linked time-stamped blocks which are immutable data records managed by the participants' computers.*

both secure and accessible. The trust is based on the network's integrity and on the fact that no single outsourced entity controls the content of the data. It also results in smarter workflows and reduced transactional costs, because transactions take place digitally and without intermediaries.

Problems remain in the adoption of blockchain technology include open systems' lack the transactional capacity for large numbers of users and the cultural change necessitated by smart contracts involving digital financial transactions. This technology seems ideal for corporate real estate applications that involve several intermediaries such as brokers, title and escrow companies, attorneys, banks, and assessors — to name a few. Having a trusted, immutable digital distributed transparent ledger for contracts and other transactions all but eliminates fraud and reduces errors that often occur in new transactions. As such blockchain should result in reduced costs for title insurance; more reliable permanent property records; and faster, cheaper, more secure land governance.

Ubitquity is a SaaS (Software as a Service) company that has created several products built on top of blockchain. The basic platform is blockchain agnostic and sits as a layer between blockchain and the client's data. Their thus links to existing client databases and the software creates a tracking and recording registry that runs in parallel with those of the client's legacy systems.

Ubitquity offers two products: BlockDRS, a middleware document reporting tool for service property records and titles, and Blockstract which checks for liens or encumbrances against properties. When liens are found by abstractors and attached to a property, they are entered into the blockchain. Their software integrates with Qualia, a cloud-based title, es-

crow, and closing platform; and soon it will integrate with several American title insurance companies.

### 3. MicroWeather: ClimaCell

The data bases for most national climate and specific weather are derived from government data sources such as the National Oceanic and Atmospheric Administration. ClimaCell's goal is to produce benefits from such weather reporting.

The availability of such data on a micro scale could have a potentially dramatic impact on cities and buildings. At an urban level, it would improve the prediction of extreme events, provide air quality data, and deepen understanding of how weather affects transportation systems, drought magnitudes and climate sensitive diseases. At a building level, it would likewise improve the ability to mitigate the impact of extreme events as well as the prediction of how weather will affect the operational capabilities of buildings.

Costs related to energy, environment, safety, security, HVAC, structural, IT and electrical systems are all affected, and can be better managed using microweather. For example: the availability of more current and detailed weather data would enable HVAC systems to automatically adjust to pending weather condition or lowered air quality. In general, the FM will be empowered by having building specific data to allow for more informed operational decision making.

ClimaCell develops its weather model by collecting data using what they call a "Weather of Things" approach which incorporates virtual weather sensors to collect data from multiple sources including cellular towers. For example by partnering with wireless carriers ClimaCell is able to reverse-engineer the location and inten-

sity of precipitation from the attenuation or weakening that happens to the signal. This micro-level data collection capability provides the company with observations needed to model weather and provide minute-by-minute, street-by-street forecasts and alerts. Output reports can be accessed via their HyperCast dashboard – an operational user-interface used by airlines and construction firms today – or integrated digitally by the client from an API.

ClimaCell is working with several utilities supplying asset level data. Applications include:

- 1. Grid Management:** supply and demand for power depends on whether parameters including temperature, solar radiation and wind. ClimaCell's data equips power traders with accurate, high-resolution and high-rate cycling weather forecasts with a regional resolution of hundreds of meters (vs. 3-27 kilometers available from traditional weather sources) to facilitate better decision making.

- 2. Asset Management:** Utility assets such as power lines, transformers and sub-stations are highly weather exposed and adverse events can trigger risks ranging from power outages to wildfires. MicroWeather data enables utilities to visualize their assets over-laid against perils such as wildfire and high winds, allowing for proactive and targeted asset management as well as targeting and managing of vegetation risk areas and assisting in the allocation of crew resources.

These are just three PropTech products and services related to CRE/FM. Many of the hundreds of new companies that appear annually can be creatively disruptive. There is no way to predict which companies will be successful. However, the future of the industries will be disrupted and will do business in a manner very different from current practices. FMJ



**Eric Teicholz, IFMA Fellow** is the author/editor of 17 books on IWMS, GIS and FM. He is past chair of ESUS, past member of IFMA's global board of directors and Trustee of the IFMA Foundation. He was educated as an architect and was an Associate Professor at Harvard's Graduate School of Design.

## Components in Focus



### Wichita Chapter building bridges to FM's future

As part of its membership development strategic plan, IFMA's Wichita Chapter has implemented a mentor program. Chapter leaders hope the program will grow membership while engaging current members. According to the chapter, mentors can leave a legacy that expands beyond FM. On the other hand, mentees can learn from seasoned professionals, increase their networking and career growth opportunities and gain value through membership and participation.

Also, the program can be used as a training ground for future IFMA members and leaders which can lead to long term membership retention. Participants hope the program will help fill the potential gap created by retiring professionals while increasing the talent pool for future hires.

The program lasts six months. So far, the young program has five mentors and one mentee.

## WANT TO SHARE YOUR MEMBER OR COMPONENT NEWS?

Reach out and share your chapter news with other members and FMJ readers. Send details and photos (if available) to [bobby.vasquez@ifma.org](mailto:bobby.vasquez@ifma.org) with the subject line: Components in Focus.

**We look forward to featuring your chapter in an upcoming issue!**

### TODD GOSS



Todd Goss is director of construction and has been active in the construction industry for 15 years, specializing in industrial real estate development. A resident of Macomb Township, Michigan, USA, Goss says his role is on the CapEx side and it is exciting to be part of an industry that is innovative and cost-conscious, driving value for our ownership. His construction expertise is not just limited to FM. Goss designed and built his own home. He said it was a rewarding process and recommends it to anyone who has the ability and wherewithal to do so.

**LinkedIn:** <https://www.linkedin.com/in/toddgoss/>

### WILLIAM SMITH



William Smith is the director of fleet and facilities maintenance at a warehouse distribution center. The Winchester, California, USA, resident has been in FM for 30 years. He says he chose FM because he truly enjoys the challenges, accomplishments and satisfaction that come with FM leadership. Smith's life doesn't stop at FM. He says his family is his chi and his secret to staying young is three daughters.

**LinkedIn:** <https://www.linkedin.com/in/william-smith-7b8a8240>

### SARAH PALMER



Louisville, Kentucky, USA, resident Sarah Palmer earned her way to her property manager position after 11 years. She was previously an administrator for a commercial landlord, working closely with the previous property manager. When he left, she was offered the position and has not looked back. Palmer has been in FM for three years. A native of England, Palmer has lived in Louisville since 2002.

### VALERIE THOMPSON



Valerie Thompson is a vice president and workplace strategist at her Houston, Texas, USA, firm and focuses mostly on corporate design. An 11-year veteran of FM, she says she loves the specialty of workplace strategy within FM because it combines her passion for design with her fascination with psychology and human behavior. Along with her FM and design expertise, Thompson is also a professional organizer because she loves organizing so much.



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