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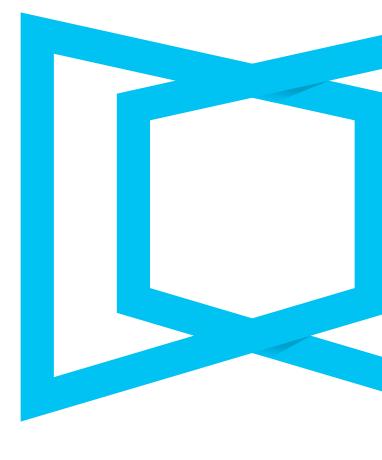




As anyone involved in the world of facilities management knows, this is not a static industry. As corporate strategies change, consumer preferences evolve and everyone's expectations grow, the modern facilities manager needs to adapt as well.

One of the more recent trends is the growing importance, if not outright requirement, to systematically capture and store data from an FM program into a modern FM software system. Only by knowing what's happening across a range of locations (e.g. stores, restaurants, buildings, facilities) can anyone truly gain transparency and understand performance of all the elements involved in maintaining operations and brand standards.

FMs with true visibility into their program can gain actionable data, identify problems and deliver superior performance. However, as pressures continue to increase, transforming facilities management into a more strategic domain that can drive substantive business impact will be an imperative.



Ready To Be A 2020 FM?

Within the next few years, there will be real opportunities to "get a seat at the table" and demonstrate how the FM function can deliver shareholder value. But to do this will require a forward thinking approach, collaboration with both internal peers and external partners, and most importantly, creative and unique ideas on how to tie repair and maintenance (R&M) operations into an organization's broader based strategy.

So, what is the FM of the future planning for and learning about today to position his/her career - and company - for the highest likelihood of success? What follows are a number of **specific ways to start thinking about your business now to get yourself ahead of the curve** because the future's coming up fast - and it's not waiting for you.



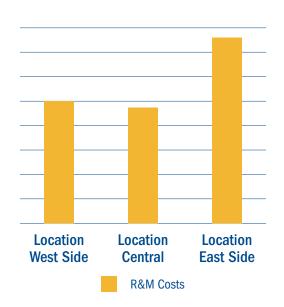


Repair & Maintenance & Traffic

Most FMs today track their R&M expenses by contractor, trade and location or geography. A geo-based focus is important to identify, for example, how much individual stores or clusters of stores are spending on repairs, cleaning or HVAC services. Only by doing so can you discover the

outliers in your portfolio, and learn which stores are over budget - and get them in line with the rest. But is that right?

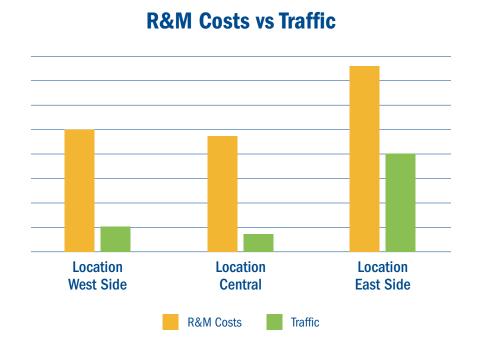
Looking at your R&M costs will show you that one of your East Side stores' maintenance costs are 50% higher than all the others. Clearly there's some overspending going on, right? Not necessarily. What happens when you bring each store's revenue stats and/or traffic numbers into the picture?



1 Repair & Maintenance & Traffic

Now, things can look quite differently. Let's say your comparably-sized 'outlier' store has sales that are 2x its peers, or sees 4x the foot traffic. A corresponding 50% higher maintenance expense may actually show a **more optimized facilities spend** when looking at it from this perspective.

Changing the picture from simply 'costs per store' to 'costs per sales' (or costs per traffic metric) can change a negative outlier to one in line with the others - or even a positive outlier that has practices that could be shared with others.





Eco-Friendly FM Practices

Whether you call it being 'green' or 'environmentally conscious' or 'eco-friendly,' it's no longer a nice to have buzzword for a company's brand. More and more, it's becoming part of any company's strategy. Customers will not only look for it but increasingly demand it from those with whom they'll do business. And not surprisingly, facilities can be, should be and need to be a key driver of these initiatives.

Facilities can be, should be and need to be a key driver of these initiatives.

There are a number of ways that FMs can both demonstrate and put into practice any organization's commitment on this front. FM systems will be able to better **monitor resource usage and waste, and track eco-friendly product deployment**. Reporting likely will become key for both consumer and regulatory audiences on everything from compliance to meeting recycling standards.





2 Eco-Friendly FM Practices

Technology will be able to **provide each facility an 'eco-grade'** across various eco factors for both internal and external use: how eco-friendly and in compliance you are. For example, restaurants will be able to track a number of related activities:

- Waste disposal
- Recycling
- Water filtration
- Energy efficiency
- Hazardous material handling
- Composting
- LEED certification

Other types of companies will be able to analyze and ideally reduce their carbon footprint with the requisite data available.

Facility Eco-Performance
Report Card

Energy Efficiency

Waste Disposal

Recycling

A

Hazardous Material Handling

Water Filtration

B

As more companies have dedicated 'green' departments, facilities groups will need to support the rest of the organization to better track and monitor their activities, record that they're doing things properly and identify environmental outliers and areas for improvement. This will be another new domain that requires the FM to broaden both knowledge, capabilities and integration with the rest of the company.



3 LoT vs IoT

A big part of many facilities management groups' responsibilities is ensuring the maintenance and upkeep of all types of assets and equipment. Those operating stores, restaurants, buildings and other facilities rely on these 'lots of things' (LoT) to work properly to support their businesses.

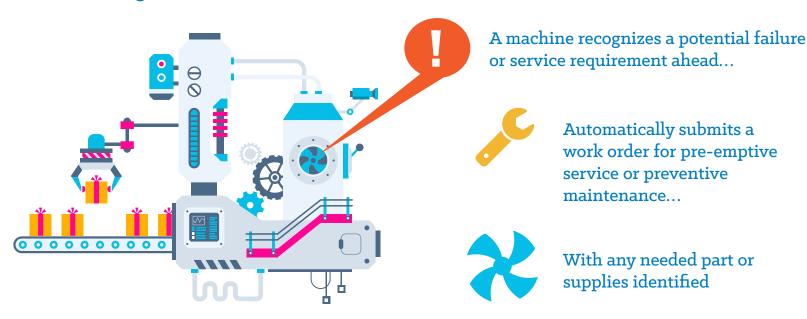
But what happens when there's a problem, when a piece of equipment breaks? Well, often no one immediately knows, until the problem appears or damage occurs or worse, when a customer reports it. Then someone investigates and reports it, typically by submitting a work order (maybe immediately via a mobile device or later when back in an office).

Eventually a contractor is notified and arrives to fix the problem. Sometimes, then a needed part is identified which can necessitate a second trip. This all negatively impacts the company's brand (harming its "brand uptime"), revenue and quality of service.



3 Lot vs Iot

But this world is changing. Equipment and assets are becoming internet-enabled, allowing communication from all sorts of devices so they may report on their own condition and needs. Imagine this:



That way,

- a contractor arrives promptly before any problem or service deterioration occurs
- with whatever's needed, and
- the equipment has its service performed



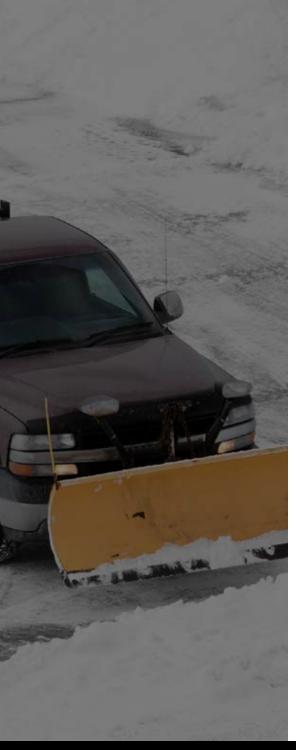
3 Lot vs Iot

This scenario is not far fetched at all. These aware, connected and communicative devices are what's known as the 'Internet of Things' (IoT) and it promises to bring dramatic changes across both business and consumer landscapes. McKinsey estimates that the **IoT will have** a \$4 trillion economic impact by 2025. While it's not quite *Skynet*, the **IoT will be far** reaching, and dramatically change the world of facilities management.

All this new data will provide much greater visibility into one's equipment and maintenance ecosystem. FMs will make more informed repair/replace decisions. These preemptive maintenance 'strikes' will result in lower costs (via smaller problems and fewer service calls) and eliminated service interruptions. Importantly, there'll be less impact on on-site personnel (e.g store, restaurant or other customer-facing staff) as they'll no longer need to identify, report and/or try to remedy/troubleshoot issues themselves.

Facilities teams prepared to take advantage of the IoT will realize **tremendous productivity gains** from a vastly expanded coverage area. **With self-monitoring assets now working "for" them**, they'll in a sense, "be everywhere at once." With everything from HVAC equipment to lighting to food/beverage dispensers reporting on their respective needs ("time for a refill...need a replacement"), FMs will be able to **identify seasonal trends, take proactive actions and deliver greatly improved quality of service**.





Repair & Maintenance ...& Weather?

Facilities expenses can often fluctuate day-to-day or week-to-week, causing unforeseen problems due to budget overruns or simply unprepared locations. How? A prolonged heat wave drives up HVAC costs or worse, overtaxed equipment then fails, driving traffic away and harming sales. Or a winter storm catches a region off guard without enough sand or salt, or priority plowing services, and a store can't open.

But what if there were a way to see what's coming and prepare accordingly.

But what if there were a way to see what's coming - and prepare accordingly - by seeing what's happening at your other stores, and identifying historical spend patterns across your locations?



4 Repair & Maintenance... Weather?

Smart users of FM systems will be able to **not only simply track weather but be able to act based on its likely impact**. With smart use of historical facilities spend data, trend analysis, weather records and real-time expense capture, FMs will be able to know:

- What happened in specific locations and regions with similar weather before
- What's happening with other locations 'upstream' that will likely impact them

Let's say you know a heat wave is spreading from region to region across your coverage area. With both facilities and weather data integrated, you can discover that in previous scenarios you had A/C compressor problems, and make sure to preemptively perform maintenance services.

You can also make sure that funds are budgeted, potentially needed parts are available and service techs are ready **based on what weather is occurring elsewhere**. Knowing the problems you faced in the past will enable you to ensure you do your best to avoid such problems going forward.





5 Data-Driven Equipment

Equipment costs are an increasingly important part of a facility's expenses. Inefficient, malfunctioning or outdated assets can impact budgets as well as harm the customer experience and company brand image. FMs need to be able to measure not only the maintenance costs but the effectiveness of their assets to understand their underlying long term value.

Should an investment be made in a higher quality HVAC unit? The better model may cost more but should save money during its useful life because it uses less electricity.

Systems that can track utility usage per asset will be key so decision tradeoffs can be made: for example, should an investment be made in a higher quality HVAC unit? The better model may cost more but should save money during its useful life because it uses less electricity. Capturing this type of data and having the tools to analyze it are crucial to make such decisions.





5 Data-Driven Equipment

Smart sensors and self-monitoring equipment will also come into play. Other devices will enable techs to not only measure equipment health but even make predictive recommendations as to future servicing and preventive maintenance needs.

At some point, it always becomes more expensive to fix a piece of equipment but how can an FM hundreds of miles away know whether to replace a broken HVAC unit without being there? Smart technology to measure and report unit energy consumption and performance output combined with historical data will inform the FM in weighing alternatives.

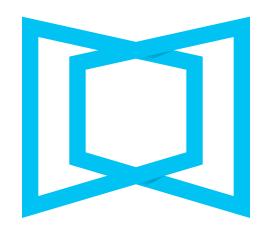
Effectiveness rather than simply repair costs will become the key metric when it comes to repair/replace decisions and facilities budget planning. Measuring energy efficiency, tracking maintenance costs for specific models and asset categories, and understanding issue history all need to be considered when optimizing a facilities program.

Astute FMs are realizing the ways 'big data' is driving all facets of their companies as well as their own departments. Understanding the data behind all of one's work orders, contractors, invoices, locations, etc. are now part of the standard process. However, all the data surrounding asset usage, costs and performance is not always readily available.



5 Data-Driven Equipment

As more equipment is able to monitor and report its own data, the key new element is to have it integrated into the other aspects of the FM program. This way, new **asset-based insights** will become available that will lead to both lower costs and improved efficiencies and quality of service.









New Technologies

New and emerging technology will continue to push facilities management - and facilities teams - into new yet related domains. One of the hottest topics today, drones or unmanned aerial vehicles, will become a common tool for facilities in the near future. Monitoring a facility's roof and structure (especially those tough to reach spots) or the property as a whole will become much easier, quicker and safer with drone technology.

FMs will need to always stay abreast of the latest technologies.

With such comprehensive and on-demand visibility, **pre-emptive warranty** and maintenance work can be scheduled before any substantive and costly problems arise.



6 New Technologies

Video and chat technologies also hold out promise of bringing FMs closer to their internal customers, vendors and the problems themselves, all without having to always go on-site. Connecting with the people already on-site, **FMs can dramatically increase their reach and actual visibility**, and hence their range of responsibilities. Unnecessary trips by both FMs and contractors can be eliminated when everyone knows exactly what the problem is.

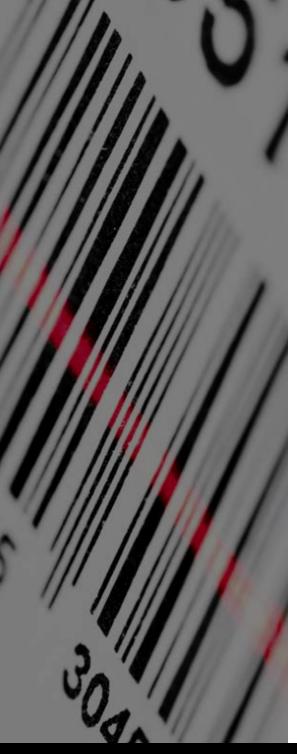
Even emerging trends like augmented and virtual reality have the potential to revolutionize the sector, from training to site audits to issue resolution by displaying exactly how a store, restaurant or facility should look or how a piece of equipment should operate.

Other technologies will also play a larger FM role in the near and not too distant future:

- Radio frequency identification (RFID)
- 'Smart buildings'
- Building information modeling (BIM)
- Biometric systems

- Facial recognition
- Motion detection
- Video surveillance
- Automatic guided vehicles

While they don't need to always be technical experts, FMs will need to always stay abreast of the latest technologies as many can and will have impact on their profession. Those who don't stay on top of how they can leverage the latest technologies risk being outmoded well before their time.



Optimizing Supply Management

Not only are parts and supplies a requisite component of any FM program but their availability and use are important when optimizing such a program. To start being smart about managing your parts and supplies, it's important to **integrate all planned maintenance services and warranty work into your FM platform**. Such services are key drivers of when and where parts and supplies are needed.

Local staff can end up buying parts that can jeopardize warranties at costs well outside of corporate negotiated rates.

By being on top of your scheduled services, you can understand a big part of what you regularly need, especially if you're tracking how items are used for warranty and to which assets they're tied. For example, when you purchase a part it can be automatically tagged and added to the location with the asset's warranty information so you can track the entire lifespan of the product.





7 Optimizing Supply Management

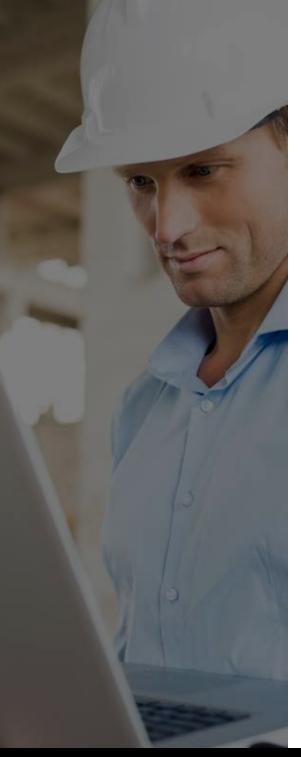
Tracking parts-to-equipment usage can give **insight into asset efficiency** and help guide timing for planned maintenance services. Major repairs and downtime can also be avoided by automatically creating preventive maintenance work orders based on supplier recommendations.

Optimizing the supply chain across a multi-location chain can often prove challenging. With thousands of parts across hundreds of locations, local staff can end up buying parts that can jeopardize warranties at costs well outside of corporate negotiated rates.

With approved purchasing options and customized online product catalogs easily available across the company, facilities managers can ensure **proper parts are used and costs controlled**. Such e-procurement systems will connect with both purchasing systems to track payments properly and with facilities management systems to sync purchases with asset tracking and work order management.

Barcode scanning will further integrate assets with their required parts and supplies. Tracking this way will enable **deeper visibility across both the supply chain and assets' lifecycles**. Planned maintenance services will have **more accurate scheduling based on parts usage and ensure warranties remain in compliance**, eliminating risk factors.





Trust But Verify

Facilities management has often been a relationship-driven world where contractors and FMs work together because of history and trust. But today, the environment is moving from a 'handshake' world to one ripe with risk and compliance issues. For better or

It's become imperative to ensure that anyone coming on-site to do work has met all your requirements.

worse, potential litigation is something that needs to be factored into most decisions and business processes.

Most FMs have a story of how a contractor relationship deteriorated, leading to unforeseen trouble. And as facilities management becomes more data-driven, it's **essential that vendor relationships be based on objective**, **quantifiable performance metrics**. With facilities work having a powerful impact on a company's brand (by driving one's "brand uptime") there'll be no excuse not to have the best performing contractors doing your work.



8 Trust But Verify

Whereas tracking tradesmen arrival and on-site work time had simply been self-reported, pressures are such that this can no longer be left to the contractor. Actual data's required for accurate invoicing validation. Work verification via mobile GPS-based check-in and check-out tools will become standard practice for any third party vendors.

On top of performance measurement are issues related to insurance, certification and other credentialing. It's become imperative to ensure that anyone coming on-site to do work has met all your requirements. You can't have workers coming to your locations to perform any services without 100% visibility into their credentials. The risk of something happening - and then finding out you have a problem (e.g. that your contractor's insurance expired) is simply too great. Facilities teams must make sure they are not the cause of any type of corporate non-compliance.

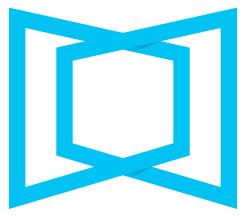
FMs will need to **own the responsibility for contractor compliance** and within their world, essentially become corporate risk managers. They'll need **compliance tools that can provide them real-time visibility** into the status of any vendor coming on-site and the work they're performing.



8 Trust But Verify

While wearing this risk manager hat, FMs will also need to be cognizant of possible financial risks. When managing hundreds of contractors and being responsible for delivering a specified quality of service, staying aware of each one's financial health is key. A vendor's continued ability to deliver the services without interruption for which they're contracted directly impacts your own ability to deliver services to your company.

For example, financial issues can result in a contractor's ceasing operations and thus unable to provide needed maintenance services, leading to non-serviced equipment. **Credit risk** and **financial health management** will become another required task for the FM group. Only with the capabilities to monitor and assess your partners' financial condition can you ensure no surprises occur on your watch.







Big Data Keeps Getting Bigger

There's not any facilities manager that's not become more data-oriented over the last several years. As the rest of your organization is likely becoming more quantitatively focused and there are more FM tools to support your own function, expertise with metrics and measurement has become a required practice.

FM data will help drive marketing promotions and other direct revenuegenerating efforts.

But what we've seen so far is only just the beginning. The trend towards making more data-driven decisions is not slowing. Every company needs to be smarter about everything they do, regardless of function. Accountability is being pushed deeper and those who can't back up decisions and plans with numbers will find that the old school ways simply won't cut it anymore.

9 Big Data Keeps Getting Bigger

Increasing competition across every sector will lead to tighter margins. This will force ever increasing cost controls and justifications for most any kind of spend. Understanding all facets of a facilities program will be the only way to ensure that quality service can continue to be delivered within tightening constraints.

But being smart about data isn't simply having a lot of data. **Big data's only useful if it's smart data and actionable data**. FMs will need to work with both data-savvy analysts and business intelligence technology to dig into the details across an organization and uncover the key data points that drive real changes in the business.

As touched on earlier, **facilities data will get connected with non-facilities data** (from revenue to traffic to real estate to weather metrics) to inform both facilities and non-facilities operations. FM data will help drive marketing promotions and other direct revenue-generating efforts. Only by tracking historical patterns, seasonality and projected sales will a company's facilities and equipment be in a position to support these.

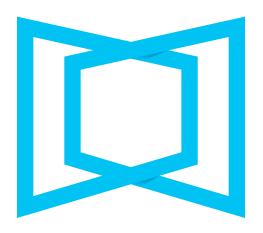




9 Big Data Keeps Getting Bigger

Many companies are building massive data warehouses where they store everything they know about their business and what impacts it. Facilities data will need to be part of this. In addition, **facilities software itself will offer more and more analytical capabilities**.

As more data is captured around work orders, contractor services, assets, payments, etc., the tools themselves will need to be smart about identifying the salient points. Various audiences will need to be supported from analysts and their BI tools to C-level and operating executives who'll need summary dashboards and actionable KPIs.









Contractor Reliance and Risk

Typically, facilities managers are responsible for a specified number of locations, often static in count or certainly with plenty of advanced knowledge of any change. Geographies are also pretty much stable as well. FMs usually have a proven set of contractors or vendors, often established through multi-year relationships across their regions for their known, existing locations.

Not only is finding a qualified contractor quickly important, but minimizing the potential risk from new contractors is even more so.

More and more however, a company's location footprint is changing rapidly and expanding more broadly. Pop-up stores often are planned quickly and appear in new areas. While smaller, they can have the same requirements to build and maintain as existing sites. And as different types of locations, there can be additional and unique requirements.



10 Contractor Reliance and Risk

Acquisitions and other corporate transactions can also suddenly expand the locations to be maintained and brand standards to update. With less lead time, **FMs can be strained to find properly qualified and insured contractors when needed**. In this environment, contractor sourcing will be increasingly important.

On top of this, with a world of never ending regulations and litigation, **contractor compliance remains critical to the sourcing process**. Not only is finding a qualified contractor quickly important, but minimizing the potential risk from new contractors is even more so. FMs will **need the tools to know the background and credentials of exactly who's showing up at their locations** and to manage all the certifications, insurance and other company-specific standards that must be met.

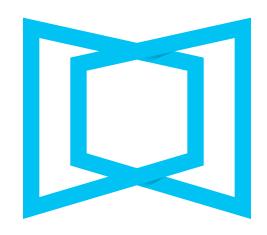
Facilities management will also become important to those organizations that previously didn't need to focus on it. Many previous online-only companies serving a growing and dispersed customer base are moving to a hybrid model that includes physical locations. And as more companies expand globally, these **new markets also will need the same level of service and compliance** from its expanded contractor base.



10 Contractor Reliance and Risk

Whatever the nuances of one's own company, FMs likely will **need to support a much broader geography**. These companies will need ways to rapidly build their own network of contractors.

As service requirements increase both in volume, geography and type, facilities managers will need to move from a "whom you know" model to a **more comprehensive approach to contractor sourcing and contractor compliance**. Taking a systematic approach to those doing the work will be the only way to ensure service levels and brand standards are met while corporate risk is minimized.







Mobility Brings FM Everywhere, to Everyone

There's not an industry that hasn't gone mobile, including facilities management. Companies today can enter work orders via mobile devices, check issue statuses, validate when contractors check-in via GPS, conduct on-site facility audits and more. If you're not running a mobile-based FM program, you should be.

Impact the essence of how facilities management is practiced and what it means to be a facilities manager.

But these steps are just the start. Soon, **virtually every aspect of a modern facilities management program will be mobile-enabled**. Beacons connected to customers' smartphones via bluetooth will enable not only offers to be pushed to them while in-store but enable data like traffic patterns to inform FM software so predictive maintenance requests

can be made.





11 Mobility Brings FM Everywhere, to Everyone

Contractor and asset tracking can be enhanced with 'mobile everywhere.' Knowing what contractors to call for a given work order based on their site proximity, so arrival time can be monitored, will improve both sourcing and visibility. **Bluetooth-enabled mobile devices will also connect with 'smart' equipment** to monitor what's specifically being worked on, resulting in much **improved asset maintenance history data**.

All this technology will not only increase the range of functionality but will also impact the essence of how facilities management is practiced and what it *means* to be a facilities manager.

Mobility will eliminate the silo from which facilities management can find itself. More will be done without direct FM involvement as staff across the corporation will gain easier access to what was previously solely under the purview of the FM department. Anyone will be able to report facilities issues relatively effortlessly and find that many of these service requests are handled without human (i.e., a facilities professional) intervention.

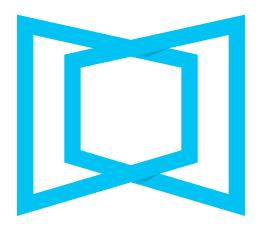
FMs will need to be comfortable with more of a hands off approach. This will increase efficiencies but will also require a different mindset. **FMs will increasingly have more of a strategic focus** than a reactive, tactical one.



11 Mobility Brings FM Everywhere, to Everyone

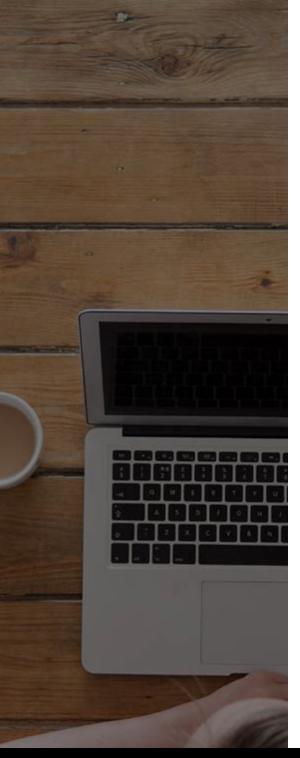
Progressive FMs will see their world expanded as more will be accomplished but with less hand-holding from them. Responsibility for everything from reporting issues to troubleshooting to validating that work's done will be dispersed across the organization, specifically to many local staff, and outside the facilities group itself.

Basically, everyone will have a **powerful**, **data-driven facilities management system in his/her hands**. Thus, the keepers of this technology will need to manage more technology and service more of the organization while doing less of what's typically done today.









Getting Smarter by Getting Smarter

With all the changes impacting the practice of facilities management, from emerging technologies to new regulations to environmental factors to organizational mandates, there's more and more to learn and know. Any FM looking to stay on top of his/her game will need to become adept at much more than his/her predecessor:

- What type of lighting needs to go into a facility and what are its environmental impact and costs?
- How do self-monitoring devices tie into existing operations and report back?
- What upcoming 'green' regulations and corporate mandates are coming and what will be needed to support them?
- What types of data not currently collected can drive improved decision making?



12 Getting Smarter by Getting Smarter

Unfortunately, it'll be up to facilities professionals themselves to stay abreast of these changes and get up to speed across an ever expanding array of topics. The number of FMs that are proud of their "I don't need a computer or a software platform" approach to run the facilities department will quickly - if not already - become a relic of the past.

Beyond the topics that will need to be addressed, there'll be new educational approaches that will have to be mastered. Knowledge sharing among colleagues will become paramount. E-learning will become a big part of this process. There'll need to be more options from online education. From bite-sized videos on new technologies to web-enabled

Emerging Technologies

Facilities Management

New Regulations

Organizational Mandates

coursework on emerging best practices from professional organizations, it'll be on every FM to seek out this new content, share and engage with peers, and **become part of a new generation of multi-disciplinary facilities experts**.





Commanding the Facilities Ship

Whatever your course, one of the overarching themes that will drive facilities management's evolution is visibility. Knowing what's going on is a prerequisite to optimizing what you're doing. Sounds obvious. But true visibility in practice is much harder than it sounds and a never ending endeavor. And if visibility is a challenge now, it's only going to get more complicated with data-hungry requests and internet-enabled devices.

There's not a single facilities department that doesn't need to increase the visibility and transparency into its program, regardless of business model.

There's not a single facilities department that doesn't need to increase the visibility and transparency into its program, regardless of business model.

13 Commanding the Facilities Ship

Whether you're using an outsourcer, relying on subcontractors or self-performing contractors, doing the work with internal staff or some combination thereof, it's critical to have the proper vision into the work performed, the health of your facilities and equipment, and however the outside world is *or could* affect your operations.

The FM leader of tomorrow will need to be like the commander of a modern ship. **A comprehensive information-rich command center will be a must**. Like on a naval bridge today where there's a range of electronics to track inbound threats, current ship status, weapon readiness, etc., you'll need to do the same on your bridge.

You'll need automated technologies to track the greater universe of contractors, staff, assets, work orders, service requests, locations, environmental conditions, service level requirements and more. This wealth of data simply cannot be monitored with emails, spreadsheets and phone calls. Events are moving too fast and responsibilities are too broad.

To steer your program, your company and career effectively, it's **imperative you have complete transparency and visibility into the full range of operations**. Only that way can you ensure you have the proper information to guide you to the right decisions and actions.



Tracking most of these metrics, deploying all these technologies or following many of these practices is not easy or even entirely possible today. Not all FM software systems can even address the more common measurements of today and don't have the necessary analytics and BI tools to truly understand them.

Traditional computerized maintenance management systems (CMMS) simply don't support the full range of capabilities to run your operations the way you need to. That's why it's **critical to partner with the leading service automation providers today** as they are the ones best positioned to not only be ahead of the game in knowing what the metrics, technologies, best practices and business processes of tomorrow are but importantly **have the platforms, expertise, technology and vision** to bring these to market.





Learn how you can boost performance and reduce costs across your locations

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