## FACILITIES MANAGEMENT TRENDS FOR





Is your organization, facilities or campus on the forefront of the trends shaping the future of facilities management? Aramark has identified 20 leading trends impacting everything from how organizations build and maintain facilities to new approaches that meet and exceed occupant expectations. Take a look at the latest industry trends and how your organization can transform its facilities operation for 2020 and beyond.

## Facilities

## TREND 1 IT and FM Departments Will Become One

No function of an organization has the potential to leverage, capture and analyze data more than Facilities. Facilities has long been the physical bedrock of an organization's environment. However, technology is changing how facilities are managed. Through digitization, wireless communication, and sensors, almost every component of a facility can now be monitored constantly. The data and information created by such technology is a game changer for decision-making. The data provided will change the way administrations manage their largest asset expense behind people. Yet, the volume of information requires deep analytics to truly be advantageous. To do so most effectively will require the worlds of FM and IT to merge. Managing facilities will become less physical and more digital. Additionally, IT will become more challenged to develop information infrastructures that serve physical building components and user environments. The need for integration of these groups has never been greater. Note that traditionally, FM departments have been staffed by older generations that are less tech savvy, and IT departments staffed by younger generations who are less interested in physical building operations. As the skilled labor shortage continues, the need for these groups to integrate will be essential for success. It also potentially creates a challenge for organizations to integrate multiple generations into a single functional unit.



## TREND 2 Space Needs Will Shrink

With so many changes in higher education fewer enrollments, more virtual classes, less space needed to perform tasks, open office and learning environments—proper space utilization has suffered.

#### **DID YOU KNOW:**

A 5% error on a 2 million GSF campus could create excess spending of **\$450,000 to \$500,000** 

Understanding Space Date: Know Which Measure to Use

Space is often coveted and even hoarded by those in a constant battle to protect their turf. However, too often building space is simply underutilized. There are many problems surrounding space optimization. For example, many organizations don't truly know how much space they have, including its quality, condition and type. Classrooms are notoriously underutilized, particularly as faculty and staff strive to schedule classes Tuesday through Thursday only.

Compounding space management is the growth of virtual work and learning spaces. A growing number of employees and students are working and learning at home or in "third-spaces," such as coffee bars, lounges and other gathering spaces.

As a result, flexible spaces will be in high demand, and the ability to balance building retrofits to improve utilization will require careful consideration.

## Flex Space is Here to Stay



~30% of CRE Space Will be Flex by the End of 2030

aramark

## TREND 3 Buildings Must Become Revenue Generators

As an extension of shrinking space needs, organizations will seek ways to monetize their unused facilities. For most, razing unneeded space, or at best, decommissioning it, are not desired or easily executable options. Turning these assets into revenue generators will be essential. Just as institutions now use academic programs and camps to generate revenue from unused space in the summer, they must find ways to generate alternative revenue streams during the year. The utopian campus environment is an ideal venue to attract and nurture start-up businesses and their needed talent. The WeWork model is a good example of how unused space can be shared and monetized. Campuses could lease unused space throughout the year to businesses. Start-ups, small companies or even non-profits would welcome access to office or lab space. Classrooms could be a perfect setting for professional training.

## **TREND 4** "Keep-Up" Strategies Will Receive Renewed Investment to Guard Against Deferred Maintenance

Deferred maintenance remains the bane of every facilities manager and owner. Whether a facility is brand new or historically significant, an underfunded operating budget remains the primary driver for eventual capital exposure. More recently, organizations have targeted new sources of capital funding to "catch up" with their backlog. Energy performance contracts, P3 partnerships and the emergence of energy infrastructure and asset monetization structures are popular ways to secure needed capital. However, absent a corresponding investment in and attention to how facilities are managed and operated on a day-to-day basis, such capital investments will not be protected. Organizations run the risk of newly retrofitted spaces recoiling to their older state faster than intended. Renewed emphasis to connect the "keep-up" and "catch-up" approaches will emerge. Focus on funding strategies to "keep up" and protect limited investment capital will gain traction.



## **TREND 5** Strategic Partnering to Address FM Needs Becomes a Necessity

#### **DID YOU KNOW:**

Outsourcing across industries is growing by **8% annually.** 

<u>KPMG</u>

Few organizations are prepared for the demands of the future of facilities management — including R&D, skilled

staffing, training programs, leading-edge technologies and more. Delivering a high-quality physical environment in a cost-effective manner is not only increasingly technical in nature, but also beyond the core mission of most organizations. The ability to staff such a function, remain abreast of exponential change, and continuously innovate for competitive advantage is an expensive and unrealistic proposition for most organizations. The pace of technological change remains too great. Integrated Facilities Management (IFM) providers, whose sole existence is to meet these demands, will fill the void in most organization's operations. They must remain on the leading edge of innovation for their own survival. Partnering with such providers will be essential for organizations to remain competitive. **Benefits they can expect to receive include:** 

- Improved user experience
- Higher employee engagement
- Greater recruitment and retention
- Higher productivity levels

- Elevated staff skills
- Better-informed decisions
- Access to continuous innovation and best practices

For these reasons, partnering with strategic providers is becoming increasingly common with the global market for outsourced FM services expected **to exceed \$2 trillion by 2025**, according to a <u>2019 Global Market Insights Report</u>.



# Technology

**TREND 6** Preventive Maintenance Becomes Obsolete As Predictive Maintenance Drives Operations

With sensor technology growing, the ability to monitor virtually any component of a facility becomes expected. Such information will allow organizations to migrate away from traditional time-based preventive maintenance measures toward real-time, data-driven actions that predict when maintenance is needed. With sensors becoming ubiquitous, managers and owners will always know the status of their assets. Daily management will become less about knowing which assets are on a cycle for attention and more about which are nearing failure. Historically preventive efforts, generally applied throughout the entire asset pool, will now be targeted proactively to where the greater need is likely to occur. Preventive maintenance will still be important, but less so as technologies take the reactive nature of operations and maintenance out of the equation.

#### **DID YOU KNOW:**

Facilities management experts estimate there are approximately **seven sensors for every one person**.

#### **DID YOU KNOW:**

Facilities can save **3x-10x** more money with predictive technologies

> 6 MINUTES: Time it takes Vibration Analysis to identify mechanical problems

5 Innovations in Facilities Management



## TREND 7 Connected Devices Improve Efficiency and Reduce Costs

Just as homeowners can remotely monitor and schedule their heating, air conditioning, lighting, security and more, remote monitoring with connected devices is increasingly being used to manage facilities operations, saving businesses significant time and resources.

#### Remote monitoring is impacting four key areas:

#### **DID YOU KNOW:**

**\$20B:** Amount retail buildings consume in energy each year Resource Advisor

**10%:** Amount remote energy monitoring has reduced costs in some facilities

- Improved User Experience remotely controlling heat and air, reducing energy consumption and monitoring equipment for failures.
- Site Maintenance Assessing performance and quality control centrally at remote sites.
- **Telemetry** Monitoring equipment usage and productivity, and receiving proactive service notifications.
- **Data and Business Intelligence** Receive real-time data and insights collected from remote monitoring to make decisions and improve operational performance.



www.aramark.com

## **TREND 8** Robotics Improve Efficiency And Enhance The Campus Experience

#### **DID YOU KNOW:**

By 2030, up to **800 million** global jobs could be replaced by machines.

McKinsey Global Institute

No one likes jobs that are dirty, repetitive or dangerous -

which makes them perfect for robotic technology. Robots can perform certain repetitive tasks faster and safer, allowing humans to perform more interesting and engaging activity. But their applications go beyond just automation.

Improved sensor technology, lasers and 3D cameras will generate continuous information on repetitive tasks. Analyzing this data in real-time allows the machines to identify actions that deliver the best results. This "learned" behavior integrates continuous improvement into its daily operation. For example, autonomous cleaning devices achieve greater results by getting machines closer to the walls, improving their ability to operate in tighter spaces and handling dynamic environments more productively. In the future, robots could be used in partnership with Internet of Things (IoT) technology to improve student comfort (such as adjusting humidity and temperature controls during peak occupancy levels), manage building access and even create augmented reality. For instance, students could collaborate with virtual classmates or professors in an environment that is just as good as the physical one.



## TREND 9 Demand-Based Operations will Change Traditional Approaches to O&M



## **500 billion** connected devices by 2030 Cisco

If it has not been used, does it need attention? Such is the premise that FM organizations must adopt. Traditionally, cleaning, maintenance and other support services are provided daily across enterprise space under the impression that area or equipment was used. Similar to the guest bedroom in your house, why remake the bed if no one slept in it? The technology exists to understand which space was used on a daily basis, which restrooms are out of product and lightbulbs that are burned out. Imagine cleaning staff reporting to work each day and knowing exactly which space is in need of attention based on that day's activities. Cleaning and maintenance of space and equipment based on actual user demand, rather than assumption, will drive greater productivity and increase the user experience.

www.aramark.com

## TREND 10 Connected Devices Improve Efficiency and Reduce Costs

#### **DID YOU KNOW:**

**49%** of U.S. building owners expect to be using BIM for operations in 2019.

<u>McGraw Hill</u>

Building Information Modeling (BIM) is a planning, design, construction and operations management software application that collects data to create accurate 3D virtual

models of buildings and it allows teams to conduct in-depth data analytics.

While BIM has become standard in construction, it has yet to be fully embraced or leveraged by facilities management staff. It can offer significant benefits to operations teams, helping them maximize building efficiency and identify maintenance needs.

#### For building operators, BIM is expected to have the greatest impact in five main areas:

- Streamlining Maintenance Maintaining existing systems and installing new equipment.
- Improving Space Management Determining where to renovate, repurpose or replace buildings.
- **Improving Energy Efficiency** Maintaining the optimal environmental conditions while avoiding waste associated with inefficient operation.
- Economical Retrofits and Renovations Balancing investments in new versus existing building space.
- Enhance Lifecycle Management Creating comprehensive, informed deferred maintenance strategies.

As buildings become more equipped with the latest technology, BIM can offer even greater advantages. For instance, it can integrate with IoT sensors that measure real-time occupancy and energy usage. It could even be used to help owners and operators better visualize how buildings perform throughout their lifecycle, which can help them as they plan for future construction needs.



## **TREND 11** Data Analytics is a Required FM Skill Set

Facilities will reach an inflection point where they migrate from "resource takers" to "data makers." No industry is primed to generate more data and information than facilities. Traditionally seen as an expense—one that requires extensive labor and materials to maintain—facilities will now be seen as providing a wealth of information about asset stewardship, user behavior, cost, and even an organization's brand. Yet, extrapolating this data into solutions, or mining it

#### **DID YOU KNOW:**

**83%** of enterprises have pursued big data projects to seize a competitive edge

**79%** of executives say companies that do not embrace big data will lose their competitive position and could face extinction Accenture

for problems that weren't previously recognized, will remain difficult. The need for advanced facilities data analytics will become essential for managers and owners. Additionally, organizations must find other applications for the data they collect beyond their original intended purpose. Leveraging data in unanticipated ways is the surest way to secure a favorable ROI on the initial. Those who can harness and integrate data for broad-based decisions will prosper.

#### Facilities in all industries are seeing big data impact in three key areas:

- Integrated Work Management Systems (IWMS) A single cloud database connects multiple business processes, optimizing all resources and assets within one integrated platform.
- Building Information Modeling (BIM) Software creates digital models and visualizations of any space, building or equipment, allowing for faster diagnostics and easier decision-making.
- Geographic Information Systems (GIS) Spatial information systems capture acreage, square footage and asset locations, enabling faster response to service needs, improved staffing levels and accurate scheduling.





## TREND 12 A Renewed Commitment to Strategic Energy Management

Technology has made it possible to monitor and manage energy usage like never before. IoT sensors allow for real-time tracking, while intelligent building systems allow facilities managers to proactively adjust consumption. Thanks to artificial intelligence, the most advanced building systems can even predict usage based on

#### **DID YOU KNOW:**

**69%** of college applicants say having information about an institution's commitment to environmental issues would contribute to their decision to apply to or attend the school

**46%** of students say it's important for restaurants they frequent to be socially and environmentally responsible

#### <u>Technomic</u>

historical data and make adjustments accordingly. But with great power comes great responsibility. With the ability to monitor energy consumption at their fingertips, facilities leaders are facing increased pressure from board members, investors and the public to reduce their carbon footprint.

More than 90% of the largest companies now file sustainability reports, and a recent study from Oxford University found that more than 80% of mainstream investors consider environmental, social and governance (ESG) information when making investment decisions. Facilities leaders recognize they need to be better stewards of the environment by reducing energy consumption and using alternative energy sources whenever possible. Many also have written commitments to reduce carbon emissions and reach specific targets.

Global warming will be one of the main sustainability challenges impacting facilities management for the coming century. A growing number of businesses are looking for ways to become more energy- and carbon-efficient, including by revamping their infrastructure, operations and budgets. Sustainability challenges will have a number of consequences for the FM and services industry in the coming decade, affecting supply and value chains, as well as building design, management and maintenance.

An example of a proactive sustainability program is the Sustainability Tracking, Assessment & Rating System™ (STARS) implemented by some U.S. universities. It provides a transparent, self-reporting framework for campuses to measure their sustainability performance.

**\$100K** Typical annual energy use of a 50K-square-foot classroom building **<30%** Savings from cost-effective energy measures <u>MGE</u>



### TREND 13

Monetizing Infrastructure Assets as a New Twist on Public/Private Partnerships

Public-private partnerships in higher education have been popular for some time, particularly when they are tied to a new revenue stream, such as dining, housing or retail.

However, a new approach uses the P3 financing strategy to

#### **DID YOU KNOW:**

**\$1.015B:** The amount Ohio State University saved over a 50-year period in partnership with Ohio State Energy Partners.

<u>APPA</u>

monetize savings streams from facilities operations to generate upfront capital.

Monetizing campus energy assets helps higher education institutions pay for utility infrastructure with private funds, then repay them either as a lump sum or through a long-term revenue stream.

An infrastructure monetization investor relationship helps mitigate the financial problem of deferred maintenance, energy systems management and other campus improvements by creating revenue that did not exist before. Investors take over and pay for management of the energy system. The new innovative source of income can also help achieve many other facilities goals, such as building and grounds revitalization projects.





## **TREND 14** Flexible Building Design Focuses **On Delivering Experiences**

Room design is one of the most influential factors in increasing employee and student interaction and engagement. For example, the highest levels of information retention are reached through students doing and teaching others, while the lowest retention levels are from lectures. The right settings keep people focused, such as letting workers, managers, students and instructors move around freely and interact with one another. Important activities that demand flexible, collaborative space design that improve experiences in workplaces and classrooms are:

- **Dining** When it comes to dining, everyone wants flexible options.
- **Socializing** Allowing people options on where and how to socialize is imperative to ensure success, from clubs and events to lounges and coffee shops.
- **Studying** Students are increasingly comparing university experiences to the real world, and flexible study spaces are among the first area they will look to make that comparison.



PERCENT OF RESPONDENTS WHO REPORT

Source: Gensler 2019 U.S. Workplace Survey



Acknowledging how the physical environment impacts learning, productivity, engagement and wellness, facilities leaders will focus on creating multi-use spaces where students can enjoy a meal, study, socialize and even meditate. They are paying more attention to how these spaces engage the senses and rely more on technology to elevate them.

"A smart space is a physical environment in which people and technology-enabled systems interact in increasingly open, connected, coordinated and intelligent ecosystems. Multiple elements — including people, processes, services and things — come together in a smart space to create a more immersive, interactive and automated experience." — Gartner





## **TREND 15** Finding Innovative Ways to Attract, Train and Retain Critical Facilities Workers

#### **DID YOU KNOW:**

Every year, **10,000** electricians leave the workforce, but only **7,000** enter it.

U.S. Bureau of Labor Statistics and the National Electrical Contractors Association

The skilled labor shortage of key trade areas in America

continues to challenge facilities management in all industries. With an aging workforce, physically demanding work often leads to an earlier exit, creating a surge of staffing vacancies. The law of supply and demand is now working against facilities management as workers with critical skill sets are commanding starting salaries higher than their predecessors. This is one area where outsourcing partners can supply the quality workers organizations need in industries including healthcare, higher education, K-12 schools, industry and business.

#### According to the Bureau of Labor Statistics (<u>BLS</u>):

- **50%** of the skilled labor workforce is now over the age of 50
- **56%** of building, grounds, cleaning and maintenance labor left the industry between 2016 and 2017
- **47%** of construction-related labor left the industry between 2016 and 2017
- 10K Electricians exit the workforce and only 7,000 enter every year

A shortage of critical facilities professionals, coupled with an increasing demand for maintenance on campus, is prompting managers to explore new solutions. They are embracing integrated facilities management, redefining business processes and relying more heavily on strategic partnerships. The profession of facilities management is also being redefined, requiring a new approach to training and skill development. For example, today's facilities managers need a greater understanding of information systems and how to analyze data to make better business decisions. Learn more about how the facilities management profession is evolving and what campuses are doing to attract and retain top talent in this resource, <u>The Future of Facilities Management</u>: Why Higher Education Should Partner By 2020.



### TREND 16

Imal

## Succession Planning: Prepare for a Seamless Transition of Leadership Roles to Ensure Uninterrupted Operations

The FM industry faces an aging workforce. Leadership may soon be retiring or seeking employment elsewhere. The loss of their expertise could interrupt operations. As a result, organizations need to have a succession plan in place.

#### Planning for the future of FM includes multiple goals:

- Being able to both attract and retain talent
- Forming partnerships with key providers of talent
- Providing continuous career development programs for skilled labor
- Creating a formal skilled labor development curriculum
- Providing career management paths, including hands-on training, certifications and professional designations

Older generations are more familiar with the mechanical operation of campus systems, but less so on information technology. Younger generations are more adept at information systems, but less so on older mechanical systems that may be ubiquitous on a college campus. These skill sets and generations must blend together for the future operation of the physical plant.

#### **TREND 17**

Focus on User Experience: Use Technology Humans are Accustomed to Into the Workspace to Meet Expectations

#### **DID YOU KNOW:**

**55%** of corporate executives say they plan to add mobile apps that help employees better navigate the workplace and collaborate with each other.

CBRE Americas Occupier Survey, 2018

"User experience" has become a business goal in many

areas, such as marketing, social media, dining and learning. It's so ubiquitous that workers and students are now expecting exceptional experiences in the workplace and on campuses. When it comes to facilities and user experience, several factors lead to success: connectivity, room and space reservations, requesting services and receiving visitors (think: coworking spaces).

Facilities management teams are on the hook for delivering several key elements that can elevate user experience in buildings and on grounds, including technology, services and amenities that help employees and students be more productive.



## **TREND 18** Find Ways to Put Your Occupants' Well-Being Front and Center

Businesses are re-orienting to focus on **people** as a property's most valuable asset, giving employees more flexibility in terms of what they want in a workplace atmosphere. Employees want to work in healthy environments. Healthy facilities trends include increasing exposure to nature and outdoor views, constructing more stairs and fewer elevators, improving indoor air quality and providing more healthy dining options. Incorporating these health and wellness trends into your organization doesn't mean you need all new buildings.

## Organizations can create a healthy environment in many ways, big and small, including:

- Using non-toxic building materials for construction projects
- Implementing proper HVAC and recirculation of air
- Finding more opportunities for natural light for improved overall health of your students
- Deploying chemical-free cleaning and low-VOC finishes
- Recommissioning existing buildings to ensure air systems work as intended

Investing in the comfort and health of building occupants yields substantial returns.

Research funded by United Technologies found employees in green building environments scored **61% higher in cognitive function** than when breathing conventional building air. And while it costs an estimated \$40 per year to double a building's ventilation rate, improvements in productivity can range from \$6,000 to \$7,000 per person, per year.

#### **DID YOU KNOW:**

**46%** EPA estimate of all U.S. public universities with conditions that negatively affect the quality of the indoor environment

Harvard T.H. Chan School of Public Health

**12%** of students are more likely to fail an exam on a 90-degree day versus a 75-degree day

**46%** of all U.S. public schools have conditions that contribute to poor indoor environmental quality

**50%** improved performance on creative problem-solving tests by students after spending four days in nature

DIO.org

## **TREND 19** Facilities Leaders Will Take A Multifaceted Approach To Sustainability

As facilities leaders consider the impact their buildings have on occupants as well as the environment, they are routinely incorporating sustainable elements to drive Triple Bottom Line outcomes.

This includes reducing energy and water consumption through IoT sensors, relying more on alternative energy and using responsible sourcing and recycling.

#### Optimizing building systems can improve operations, reduce energy consumption and lower energy costs. A few examples include:

#### **DID YOU KNOW:**

Buildings account for **40%** of energy use. Alliance To Save Energy

A typical 50,000-squarefoot classroom building uses more than **\$100,000 worth of energy each year** 

U.S. Energy Information Administration

By implementing cost-effective energy efficiency measures, colleges and universities can reduce energy bills by 20% or more.

- Using outside air for cooling when outside temperatures are favorable
- Implementing building system controls to align heating and electric supply with demand
- Implementing a preventive maintenance program for building equipment, including using sensors to ensure systems are operating efficiently

Investing in new energy-saving systems, such as high-efficiency HVAC units, demand-controlled ventilation systems and LED lighting can further amplify savings.

More organizations are also turning to renewable sources of energy to minimize their carbon footprint. Within higher education, currently, more than 800 colleges or universities offset a portion of their energy costs with solar panels, according to <u>Renewable Energy World</u>.

Although the initial investment requires some planning, the savings can be significant. For instance, a 2.3-megawatt solar array at <u>Denison University</u> supplies enough power to reduce the university's use of conventional electricity by 15%.



## TREND 20 A Better Approach To Risk Mitigation

### Every building varies in size, location, function and need and has its own unique challenges.

Facilities managers must evaluate all variables without their building portfolio and establish a tailored approach to service delivery that is specific to each building. Variables include the building's purpose, geography, size, occupant needs and the complexity of building systems.

For instance, a building with aging infrastructure has inherent environmental risks and potential occupant hazards. It requires a tailored plan for handling preventive and deferred maintenance. Conversely, a more modern facility with a complex building automation system or state-of-the-art equipment would benefit from continuous commissioning and predicative maintenance approaches.

Identifying the environmental personas within an organization's building portfolio enables providers to deliver services specifically tailored to each site's goals while ensuring the same level of quality and consistency.







< 100,000 GSF Remote



< 100,000 GSF Favorable geo density

An integrated facilities management model acknowledges these variations among building compositions while providing the same level of service at every location. Yet, a flexible approach that recognizes these variations will ultimately mitigate risk by optimizing staff productivity, spending limited resources wisely, and assuring environments maintain the desired occupant experience. Aramark is already helping organizations in a wide range of industries meet the trends of the future today. Our facilities management experts have their fingers on the pulse of the industry in multiple ways, including our own studies, our clients' on-premises studies, working with leaders in the field and staying on the forefront of innovation — from non-toxic cleaning supplies to robotics and sensors.

With every organization partner, we go above and beyond traditional facility maintenance, custodial, landscaping and engineering services by combining both science and art to maintain cleaner and safer living and learning spaces. We deliver environments that support an organization's goals — including recruitment and retention, addressing deferred maintenance, saving energy and much more.

> Learn more about our trend-setting services, and contact us to discuss how we can help your organization achieve your goals.

> > DOWNLOAD NOW

