

www.future.2020: Work, Worker, Workplace of the Future—Are You Ready?

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A crystal ball would be the one of the best tools for a Facility Manager (FM'er). How great would it be to know what is going to happen in your buildings and work environment and be able to plan accordingly?! You would look like a super hero and everybody would wonder how you pulled it off!! Well we can all dream, can't we?

Crystal balls unfortunately do not exist, but there are genuine ways to 'see' and plan for the future. There are concepts that are currently being discussed in various industries that will have a big impact on the future of our workplaces – and therefore FM'ers.

The title for this article, "www.Future.2020," was selected because we need to understand the Work, Worker and Workplace of the future. The focus is how these three factors will change and impact each other and how we as FM'ers can be prepared.

We have structured this paper in six sections. The first three sections are a discussion of the predictions and trends affecting the worker, work and workplace. Section 4 identifies practical concepts related to the nine IFMA (international Facility Management Association) competencies. Section 5 discusses the melting pot of ideas and approaches. The last section provides tips and tricks on evaluating emerging trends for their probable impact.

Section 1 – Worker

We all know there is a generational shift occurring in the workplace. As a result of our personal experiences with the multi-generation workforce, over the next few years we will have a clearer understanding and have made adjustments based on lessons learned.

There are four commonly recognized generational cohorts: Traditionalist, Boomer, Gen X and Millennials. We believe the fifth is around the corner, that for now is called the “i Generation” (iPhone, iPod, etc.). It has been greatly discussed as to what the Millennial workers will bring to the workplace and how we need to be prepared. What about the “i Generation”? How will they impact the global economy? How will the future “i Generation” work? What will they like or dislike? What will they need or demand of their workspace? How much more will you as an FM'er need to provide?

With the expectation that the workforce will become more fluid, along with the arrival of the multi-worker (multi-cultural, multi-linguistic, multi-skilled, multi-faith), there will need to be new tools in place to support these shifts. Examples of the characteristics are listed below.

Fluid workforce characteristics:

- Expect higher worker turnover
- Workers will have more options for alternate employment
- Workers are choosing location as a priority driver. According to a New York Times article on 6 September 2007, workers' choices are focused on clean, safe and green cities
- Focus on the opportunity of the 'brain exchange', and not on the threat of the 'brain drain'

Multi-worker characteristics:

- We need to resolve the ease and speed of recognizing professional certifications and education from other countries. Ideally, these would be standardized globally.
- Europe's mobile workforce crosses borders much more easily than in North America – this has to be resolved
- Organizations have better means to find the perfect employee, no matter where they are in the world

Virtual Social technologies (LinkedIn, Facebook, bebo, RSS, DIGG IT...)

'Virtual Social Technologies' provide access to new communities and sources of information, as well as provide a faster way to bring people together with common interests. Virtual Social Technologies will continue to provide expanded capacity for cooperation, knowledge transfer and knowledge sharing.

Information overload

The change in the amount of information that we have access to in the past few years is staggering. It's hard to imagine this increasing, isn't it? Well, by almost all accounts it will. We will have more information to track; we'll need to be able to evaluate its validity, and respond even more quickly to issues and questions. With the rapidly changing work force there will be much knowledge that needs to be documented and absorbed to maintain corporate knowledge, let alone enhance it.

One of the most important lessons, with all this information available, is understanding the process we need to undertake to ensure that the information is valid and useful. Most people, whether they realize it or not, usually follow the four step process listed below. The challenge, however, is many take information at face value.

Evaluating information¹

- **Information type** – convincing data shows cause and effect action
- **Relevance of the data** – sufficient methodological rigor and validity
- **Source of the data** – people believe people – 'hierarchy of belief'
- **Alignment with attitudes and values** – may reject if it doesn't match personal values

For example, a survey by Piper Jaffray & Co. found that 2/3 of teenagers never wear a watch. Does this mean that they are all using their cell phones? Does this mean that they don't value time? Does this mean that someone else manages their daily schedule? Does this mean they won't ever wear a watch? Does this mean that there are enough public timepieces, that they don't need a personal one? Who knows, but it could be an important trend for watch makers to monitor. What if you are the FM'er for Timex – what would this mean for you?

Section 2 – Work

What will the work be like – and how could it possibly change from the work of today? The nature of the job probably won't change too much – but the tools you have at your disposal will be different. Technology will enable many improvements – but how will you keep up and can you get ahead of the change? Will your work environment be able to support future workers who will be working differently? Can you plan for the unknown?

There has been much published about what the work of the future could be. The predictions that seem to be the most discussed are:

- We will move from a knowledge economy to a design economy
- Knowledge will be more shared and less contained
- Upcoming technologies that will affect our work:
 - virtual and interactive
 - nanotechnology
 - new materials
- automated processes

¹ Source: The NEXT Sustainability Wave

- Global – competition will continue to come from areas never considered before
- Speed will be critical – to be faster and better than competitors

Imagine having access to full-featured applications (i.e. CAD) being delivered via the Web instead of being installed on a specific computer. What if you had total untethered access to entire libraries of documents? These are just some of the changes that will affect what we accommodate in our workplaces.

Section 3 – Workplace

We know the Work will change. And we know the Workers will change. The Work environment will have to change in concert.

WORKPLACE

- Supported in distributed environments
- Movement out of urban centres
- Work from anywhere
- New energy types and new sources for existing types

Technology is likely to be the biggest change that you will need to accommodate. It's hard to keep up now; imagine what the future will bring. Expanding server rooms and increasing power load are contradictory to the sustainability movement.

Already, Sun has created Project Blackbox, a portable datacenter which can support 10,000 simultaneous desktops without requiring an administrator or facility space. Imagine what will happen by 2020.

RFID (radio frequency identification) in today's world is most recognized in warehouse management. In the future, likely everything will be tagged. Your challenge will be protecting the security of the information as there could be billions of customizable tags – imagine the amount of information that hackers could have access to.

What is truly exciting is watching and learning about the application of nanotechnology. The applications are tremendous – from managing occupant comfort, to allowing companies to monitor and control processes and systems for increased efficiency and enhanced profitability, to detecting structural damage in buildings and vehicles, to the treatment of cancer

GREEN PRINCIPLES

As the environmental awareness of all global inhabitants grows, so will their demand to have it be a key factor that is considered in all workplace decisions. Air, land, water and power are all going to be your newest 'clients' and their needs will have to be well thought-out.

Sustainability will be commonplace, and 'carbon neutral' won't be good enough because corporations may be expected to give back to the grid.

Over the past 15 years, energy consumption worldwide has increased at about 1.5% per year; forecasts for the next 20 years suggest energy consumption will grow by 2% per year. At this rate, the world would double its current consumption of energy in only 36 years.

Projected CO₂ levels

- Current – 384 ppm
- 50 years – 550 ppm if emissions stabilize
- 50 years – 850 ppm if we double energy use

If at 384 ppm, we are already causing noticeable climate change, it is reasonable to assume that double those levels will be worse. While the values are controversial, even if significantly off they still paint a picture of a dramatic need for not only more but also cleaner energy supplies.

Plan for ‘mega-events’

No matter how quickly we attempt to lessen our impact on the natural environment, ‘mega-events’ will continue to occur.

Remember:

- Autonomy will be essential
- Expect increased quantity and severity of natural disasters
- Back-ups will remain a critical requirement
- Be able to disconnect from interconnectedness
- During your planning don’t forget the partners that you rely on.

Section 4 – The Nine Competencies

While no one can truly say what is going to happen, some changes are more likely to occur than others. The next sections will highlight some points to keep in mind; to keep it structured, we sorted by the nine IFMA competencies.

Operations & Maintenance

- Build time and budget allowances in for training on new building systems and new types of sensors
- The lifecycle of new equipment, which meets sustainable principles, will be less known
- Organizations will require more storage space for items such as recycling assets, and waste management
- Water will be managed differently as there will be a mix of potable and gray, including looping back
- HVAC systems will take advantage of natural venting, as well as providing more filtering and treating of indoor and outside air

Real Estate

- There will be a continuing decentralization of urban centres
- Consider negotiating longer and more flexible leases
- Boundaries of tenant spaces may be less defined
- More efficient buildings (rentable to usable) will be required, which will in turn provide more space for occupants and less for building systems.
- Criteria for evaluating buildings will include social conscience elements

HUMAN AND ENVIRONMENTAL FACTORS

- Workers will have much broader experience of how others are managing their environments
- There will be increasing regulations re: healthy buildings
- There will be a push for 'carbon neutral' buildings, especially as carbon taxes become the norm
- FM'ers must understand the on-going changing use of and integration with the work environment
- Be prepared for increasing number of 'mega-events' not just in your region, but in other regions that indirectly will affect you

PLANNING AND PROJECT MANAGEMENT

- Project teams will be comprised of transitory members
- The tools we use will be different
- Project timelines will continue to shorten
- Space will need to be more flexible and adaptable – less demolition and reconstruction
- Fewer skilled people and trades will be available

LEADERSHIP AND MANAGEMENT

- Expect to negotiate partnerships with other organizations for shared access to skilled personnel
- There will need to be smaller, more efficient FM teams
- Establish mentoring opportunities now
- Standards and processes will be critical – fewer people doing the work means they won't have time to recreate the wheel
- Have the guts and authority to implement change – and do it faster!

FINANCE

- Cost cutting will still be expected
- Attracting and retaining people with financial skills will be of high importance to executive management
- Learn how to prove that FM contributes to revenue generation of your organization

QUALITY ASSESSMENT AND INNOVATION

- Regular occupant evaluations will be necessary to make sure you understand occupants' changing expectations and demands
- Delivery of quality environments will be necessary to attract and retain
- Large leaps in innovation will enable better service delivery
- Intellectual property rights will need to be negotiated

COMMUNICATION

- Just do it!
- Communicate your organization's culture
- Take advantage of social networking to establish your personal brand

TECHNOLOGY

- Anticipate aggressive disruption (viruses)
- Due to the rapid changes, some competitors who yesterday were way behind you may leap-frog your technology position by investing in state-of-the-art technology – don't get caught unawares!
- Security – what more can we say!

Section 5 – Convergence

The only thing we really know about the future is that convergence will be a large part of our experience. We are seeing a merging of global markets, there will be mutual dependencies between organizations, personal and business life continues to blend, technology is combining with biology and power and data will be merging and overlapping.

In the table² below, what do you predict will be in the column for 2025?

• **Period Effects**
Trends and events that will change the world and influence how people age

	1995	2005	2025
Cell phones in use	25,000	195 million	?
PC penetration	8%	58%	?
Internet hosts	<2,000	394 million	?
5-yr survival rate for:			
Prostate cancer	76%	98%	?
Ovarian cancer	40%	53%	?
RFID tags (% of products)	-	<1%	?

Period effects from last 20 years point to the magnitude of possible changes.

Section 6 – How do you become a futurist?

Some tricks to use when thinking about future trends:

- What are the implications – what would happen if this occurred?
- Are there early indicators – what are signs that this is probable?
- What to watch – are they events that might be a trigger?
- Can you identify the enablers/drivers – is this an enabler or driver, are there other related enablers or drivers?
- Who are the leaders – any surprises here?

Once you have identified likely trends, evaluate them:

- When: how many years to market
- Where: global or local
- How fast: will this occur in years or decades
- Likelihood: high, medium, low
- Impact: high, medium, low
- Controversy: high, medium, low

² http://www.iff.org/docs/IFTF_Boomers.pdf

What we *think* we know for sure is scheduled to happen in 2020 – but even these could change...

- Super Bowl LIII to be held
- November 3 — Presidential election and 117th Congressional election in the United States
- XXXII summer Olympic Games to be held
- Last nuclear power plant in Germany to be shut down
- March — Yahoo! Inc.'s 25th birthday; opening of the Yahoo! Time Capsule

Keep in mind what could be coming your way and start the evaluation process to determine what possible trends and technologies you want to watch as they evolve, grow and become mainstream.

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