

# ISS 2020 Vision

## Scenarios for the future of the Global Facility Management Industry

The Facility Management (FM) and services industry is professionalizing while new technologies and customer requirements reshape the industry. The industry in 2020 will be very different from what it is today.

The objective of the ISS 2020 Vision study is to develop a set of global scenarios for the future of the FM and services industry and to bring awareness about future trends, uncertainties and opportunities that could have the greatest impact on the industry.



Copenhagen Institute for **Futures** Studies  
Institutet for **Fremtids**forskning

White Book





“The best way to predict the future  
is to invent it.”

*Theodore Hook, writer.*

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Design: Group Marketing, ISS

Print: October 2011

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# 1. Foreword



The next decade is likely to be as turbulent and unpredictable as this one, presenting new challenges and opportunities for our society, our industry, our customers and our company. Maintaining a competitive edge in the future marketplace will require vigilance, imagination, and the willingness to take decisive action.

The ISS 2020 Vision study does not present our predictions for the future. It presents an assessment of the trends that will be shaping the industry between now and 2020. These assessments were gathered through surveys and expert interviews. Furthermore, the study presents external expert assessments from the Copenhagen Institute for Futures Studies of the trends that will most likely shape the industry's future. While there will be developments and major events that will surprise us over the coming decades, there is much that we can say about the future of our society and industry.

For example, global society is rapidly changing, with economic growth introducing a culture of consumerism to new regions. In high-income countries, despite experiencing a period of reduced growth, consumers' expectations of the service industry and service provision will only grow.

The emergence of a middle class in countries as populous and diverse as India, Brazil, Indonesia, and China will strain our economic system's ability to provide necessary resources without fundamentally altering the global ecosystem.

Responses to these challenges will combine with the accelerating pace of technological development, creating new and previously unimagined technologies, as well as services to support them. It will also provide new ways to provision services in established industries. As a result, the nature of work is changing, creating new demands and needs. In some industries, changing the nature of work could even lead to new service concepts, as well as new organizational designs.

As a vigilant, imaginative and decisive actor, ISS will continue to be the market leader in developing new tools and concepts to meet these needs and to help ISS customers maximize the value of their operations by better meeting their clients' and employees' needs.

The Vision 2020 report presents four images of the future, which constitute a future map. Each of these visions poses its own opportunities and challenges for the global facility management and services industry. As with any other map, it is our collective challenge to plan our path and future direction. Once that that has been established, we must collectively execute those plans to reach our strategic ambitions.

I hope that this study will serve as an inspiration for creating your organization's own visions, strategies and plans.



Jeff Gravenhorst  
CEO



“ I am inspired by building people, as much as maintaining property.”

*Catharina Smith, ISS Facility Manager*





## 2. Acknowledgements

At ISS, we are very grateful for our collaboration with the Copenhagen Institute for Futures Studies and especially Senior Researcher, Julie Kronstrøm Carton, and Jeffery Scott Saunders, Director, who have been the driving force behind this research study.

Also, we wish to express our gratitude to the 308 ISS Top Managers who took the time and effort to answer our questionnaire and who have been enthusiastic advocates of the final report. Based on the input from these individuals, we would like to thank the following workshop participants, who provided tremendous assistance in the process by analyzing and discussing both feedback from the questionnaires and the Megatrends analysis – these ISS executives are:

- Regional CEO David Openshaw, North America, UK, Ireland and the Middle East
- Regional CEO Martin Gaarn Thomsen, Western Europe
- Regional CEO Troels Bjerg, Nordic and Eastern Europe
- Head of Group HR, Dan Brennan
- Head of Group Strategy and Development, Todd O’Neill
- Head of HSE and CR, Joseph Nazareth
- Head of Regional Strategy and Development, Marcus Kristiansson, Nordic region

Apart from the internal participants in this project, we would also like to extend our gratitude to Global FM and the IFMA Foundation for their role in this research and for letting ISS access their members. We are especially grateful to the 50 external industry experts who took the time and effort to answer the external questionnaire, which was an essential part of the study. The conclusions would not have been as strong and influential without this group.

Finally, we wish to thank our six external industry spokespersons, who participated in hour-long in-depth interviews and follow-up discussions. These experts are:

- Teena Shouse, Former Chairman of IFMA Board of Directors and current Chairman of Global FM Association.
- Professor Cathy Roper, IFMA Fellow, Chairman of IFMA Board of Directors and Association. Professor and Chair Integrated Facility Management, Georgia Institute of Technology.
- Dr Dean Kashiwagi, Director of the Performance-Based Studies Research Group, Arizona State University.
- Stan Mitchell, CEO Key Facilities Management Int., Former Chairman of British Inst. of FM (BIFM) and founding chairman of the Global FM Association.
- Stephen Ballesty, Immediate past chairman of the IFMA Foundation, Director, Head of Advisory at Rider Levett Bucknall, Australia.
- Dr Keith Futcher, Former ISS Regional Director for Greater China, Strategic Advisor to ISS.

I am very grateful for the co-operation and interest of the above FM experts, who took part in this research. It would not have been possible without their contribution.

Cordially



Peter Ankerstjerne  
Group Marketing Director  
ISS 2020 Vision – Project Responsible

“The future is not  
something we enter.

The future is  
something we create.”

*Leonard I. Sweet, writer, teacher & preacher.*



### 3. Executive summary

The objectives of the ISS 2020 Vision Study are to develop a set of global scenarios for the future of the Facility Management (FM) and services industry and to bring awareness about the future trends, uncertainties and opportunities that may have the greatest impact on the industry.

The dimensions relevant for the scenario planning exercise are; Sustainability and Technology, where the technology axis primarily focuses on manpower substituting technologies. The scenario dimensions have been developed by the project group based on input from the two surveys where respondents prioritised key uncertainties which will have the highest impact on the industry towards 2020.

- **The technology dimension:**

New technologies, regulations and customer requirements are professionalising and reshaping the FM and services industry. The key factors influencing the development of the industry up to 2020 are; the convergence of nanotechnology, biotechnology, materials technology, and information and communications technology. In addition, there is also the acceleration of technological development and the growing information exchange between developed and developing countries, where developing countries are expected to be participating much more in the technology development in the industry.

New materials, technologies, increasing usage of autonomous robotics, the creation of the Internet of Things – where physical objects and humans are connected and communicate virtually, creating ambient intelligence – and improved data collection, storage, mining and analysis will also help shape the development of the FM and services industry.

- **The sustainability dimension:**

Sustainability will continue to be an important trend over the next decade. Environmental challenges and resource scarcity remain topics of great interest for many stakeholders. Sustainability challenges include energy, water, waste management and indoor ecology.

Sustainability and technological development are strong trends and have potentially transformative roles in labour markets and in how the FM and services industry is organised. The extent to which societies will prioritise sustainability, how fast technological developments will emerge and how quickly societies will adapt new technologies are highly uncertain.

The Copenhagen Institute for Futures Studies (CIFS) and ISS have identified four scenarios that describe possible futures for the global FM and services industry. The scenarios are developed on the basis of the uncertainties involving sustainability and technological development. The scenarios are “Capitalism Reinvented”; “The Great Transformation”; “Sustainable Business”; and “Fragmented World” (see next page).

## The four future scenarios



### **Capitalism Reinvented**

*This is a world where markets and money dominate. Governments seek market stability and free trade. Business is driven by a focus on gaining a competitive advantage on price and efficiency. There is widespread dislocation of the workforce as service jobs are increasingly being automated. Social unrest is common because many cannot keep up with the fast pace of change and growing economic polarization.*



### **The Great Transformation**

*This is a society moving towards a situation where environmental, social and economic challenges are solved through technological solutions and resource efficiency. Focus is on optimising use of resources through automation. There are many private-public partnerships with the purpose of developing sustainable solutions. There are distinct advantages for private enterprises to develop sustainable solutions. These include retraining affected workforces to find alternative employment, "sustainable" development projects through "R&D" clusters etc.*





### **Sustainable Business**

*A deeply rooted understanding of the importance of solving the sustainability challenge has emerged and is leveraged to solve complex environmental challenges. Governments are enforcing sustainability initiatives and have assumed a proactive role in protecting their citizens. Innovation is focused on the challenges that have emerged from resource scarcity, including maximizing air and water quality and preserving reserves of fossil fuels. The challenge is to increase efficient use of resources, which is creating new business opportunities. Holistic health care, care of the elderly and traditional educational institutions are being reinforced.*



### **Fragmented World**

*Local societies are in control of their spheres of influence and are going their own ways. Business values are emphasizing productivity, volume and measurement-focused methods, yet many people still prefer the personal touch. They are sceptical about technological solutions. Wealth is concentrated in a small elite. New labour-saving technologies have not penetrated the market yet as wages remain low.*

### *Executive summary (continued)*

The ISS 2020 Vision Study illustrates that “Capitalism Reinvented” and “Fragmented World” are environmentally unsustainable scenarios. If action on sustainability challenges is delayed, governments and industries may be forced to enact stricter regulations to mitigate potential consequences for delayed action. “Sustainable Business” provides a scenario where NGOs and governments will play a more active role in defining industry standards which inevitably will influence private enterprise.

“The Great Transformation” is perhaps the most interesting scenario as it puts private enterprises in the driver’s seat. In this scenario companies have an opportunity to influence their own destinies which includes managing the supply chain according to high technological and sustainability standards as well as caring for the employees as an integral part of the delivery system. In this scenario there is a licence to act and an incentive to develop and embrace the sustainability and technology challenges.

Today, the sustainability challenge is a moving target for most companies. The technological development will introduce new ways of working and promote entirely new collaboration models which will provide a dramatic effect on the global FM and services industry.

If these four scenarios represent the trajectory of global socio-economic development, they will give the industry and its stakeholders a chance to anticipate changes in public opinion and the government action which will inevitably follow. Given the rapid developments in the level of scientific understanding of the technological and sustainability challenges, public attitudes and government policy will eventually catch up. It is just a matter of time before one of the scenarios is realised – naturally it is a personal belief which one of the scenarios is most likely to happen, but each industry player has an opportunity and to some extent an obligation to influence the development and capitalise on the challenges.

## **3.1 Recommendations for the FM and services industry**

The recommendations for the FM and services industry, that can be drawn from the ISS 2020 Vision study are:

- Promote convergence on regulations and seek avenues for creating voluntarily developed regulations and standards with relevant regional and global associations. Monitor the latest science on sustainability challenges for evidence that will force politicians to act faster than anticipated.
- Monitor technologies’ impact on the development of work and work processes. New trends will impact building design and requirements for FM and services.
- Look beyond corporate boundaries and examine how buyers and suppliers can improve their sustainability and innovation capabilities along the value chain.
- Encourage more sustainable business practices by motivating employees to live closer to their workplace and provide remote office technologies where applicable.

- Identify ways to improve data usage for supporting sustainability goals through improved facility design and better workspace usage.
- Integrated services providers can use their position to assist customers in identifying partners that can share resources and find collaborative uses for byproducts in their business processes.
- Data collection, storage and analysis will become critical features of the FM and services industry, leading to new business models. Those companies which can best analyze their data will gain competitive advantages.
- Develop with customers scalable recycling policies for synthetic products and composting plans for bio-based products. These policies should be sensitive to fluctuations in oil prices and the introduction of carbon taxation.
- The global FM and services industry will have a central role in helping people adapt to the effects of greater pollution and climate change in high-, middle- and low-income countries.
- As vector-borne illnesses spread to regions where they were once eradicated, demand for new building designs and innovative add-ons to existing infrastructure will increase (for example, retrofitting buildings in Europe and cooler climates with air conditioning systems and screens on windows).
- The FM and services providers should develop transition plans for the integration of renewable materials in the supply chain.
- Customers need common standards to make informed decisions. Co-ordinate the development of ratings and communication standards that ensure the development of consistent performance and a culture of sustainability throughout the industry.
- Engage with non-governmental organizations (NGOs) and major customers to anticipate new demands in terms of the quality and safety of FM and services industry offerings from quasi-regulators and the general public.
- Employ environmental scanning to monitor the emergence of new technologies and production techniques that could circumvent standard FM and services industry practices.



## 4. Introduction

FM and services industry managers and personnel must go beyond maintaining the physical infrastructure and focusing on controlling costs. FM and services industry managers and personnel must contribute to the bottom line by maximizing the value of their organizations' core operations. This will include developing the infrastructure of buildings to optimize the flow of persons and objects through a building, improving the internal quality of life, and increasing the safety – both physically and virtually – of a building's occupants.

ISS wants to assist its customers by providing a tool systematically to assess the trends shaping the future of the FM and services industry and to present alternative visions for the future of the industry. In order to provide the best offer in an industry with a continually changing value proposition and to run successful organizations, managers must think more systematically about the different circumstances they may encounter in the future and the implications of those future possibilities for decision making.

This document aims to help managers by providing a tool for challenging assumptions about the future FM and services industry and a basis for testing an organization's strategy. This tool is scenario planning. The scenarios presented in this report are designed to challenge FM and services industry managers and their understanding of current business models.

The document then analyzes the trends or "driving forces" that are shaping the industry. These driving forces include exogenous forces, "megatrends", and those industrial trends that are specific to the global FM and services industry.

The business decisions that we make today are rooted in our assumptions of what the future will look like. In these highly uncertain times, it is imperative that we challenge our assumptions and, as a result, our strategies, so that we may be as well prepared as possible for any eventuality.

“ It was never easy to look into the future, but it is possible and we should not miss our chance.”

*Andrei Linde, professor of physics.*

## 4.1 Objectives of the study

The main objectives of the ISS 2020 Vision study are to develop a set of global scenarios for the future of the FM and services industry and to bring awareness about the future trends, uncertainties and opportunities that could have the greatest impact on ISS and its customers.

The scenarios can be used to assist ISS managers and customers to investigate the impact of potential developments on their business areas and to elaborate plans and strategies to deal with challenges.

### The process

During the winter and spring of 2010-2011, CIFS and ISS identified the key uncertainties that experts believe could have a significant impact on the global FM and services industry using the following tools:

- Workshops with ISS executive group.
- Surveys of ISS Top Managers and external global facility management experts conducted in January 2011.
- In-depth interviews with experts.




## 5. Scenarios for the future of the FM and services industry

Scenarios are designed to assist organizations develop plans and elaborate strategies to seize upon opportunities early and mitigate future challenges in the following ways:

- Business managers anticipate and investigate the impact of external developments on the industry.
- Business developers cultivate new business models, processes and services to promote value in their organization and among customers.
- Facility managers anticipate changes in technology and customer demands.
- Human resource managers anticipate the companies' future skills requirements.

ISS experts and CIFS facilitators identified two uncertainties highlighted by the survey of global FM experts and ISS managers. The following uncertainties form the scenario matrix's axes (see Figure 1) and span the full range of uncertainty:

- Technology axis – breakthrough v. “still a people’s business”.
- Sustainability axis – prioritized or not prioritized.



“ We make the world we live in and shape our own environment.”

*Orison Swett Marden, writer.*

## 5.1 Technology axis

Technological development, its pace of advancement and its potentially transformative role for the industry are key issues for which ISS managers show great concern. Technological development is intricately linked with labour deployment. Technology development increases productivity, while increasing skill requirements for many FM and services industry jobs.

Technological development and its impact on labour form the vertical axis of the scenario matrix. The axis was chosen owing to its potentially transformative role in labour markets and how the FM and services industry is organized.

All interviewed experts agree that technological development will have a great impact on the industry, possibly leading to radical change within the next decade. Some of the key transformative technologies experts cited were:

- Building Information Modeling and Virtual Building Environments.
- The application of radio frequency identification (RFID) technologies and the development of the Internet of Things that will permit the real-time monitoring of environments, buildings, automated resources, and workers to permit the more efficient utilization of resources.
- New materials technologies.

Technology will continue to be a driver of change across the world in the future – at both ends of the axis – but the precise trajectory of technological innovation is highly uncertain. For example, will technological development be focused on automation and robotics or will we see the development being focused on green and clean technologies? It is also uncertain how fast society will adapt technology and how quickly these solutions will penetrate markets. Could the global FM and services industry become heavily automated by 2020?

The analysis focuses on three key areas of technological development. The degree of importance of the three different technological dimensions in the four scenarios will vary dependent on the requirements of the horizontal axis:

- 1) Labour-saving technologies
  - Automation: robotics, building automation systems.
  - Resource optimization: intelligent planning tools and mobile systems via RFID technologies.
  - Materials and equipment (nano-, bio-mimicking, and smart materials, for example).
- 2) Knowledge-based advisory services
  - Knowledge-based benchmarking.
  - Customer resource optimization.
  - Prevention and cost savings.
- 3) Incremental innovations in knowledge services
  - Process optimization.
  - Time-flow management.
  - Service logistics and route-based services.

## 5.2 Sustainability axis

ISS and external global FM experts are uncertain as to the impact that sustainability will have on the global FM and services industry, necessitating further analysis. The need for sustainability poses a series of transformative challenges for the industry.

The challenge for the next decade will be to assess how deep the concern for creating a sustainable society goes and how rapidly a shift could occur. Will societies choose to prioritize sustainability, or will sustainability fade in and out of the consciousness of policy makers, business leaders and the general public?

Sustainability covers four different dimensions, and the dimensions' importance will vary dependent on the effects of the vertical axis:

- **Green:** Natural resource preservation, climate change (energy efficiency and reduction), pollution.
- **Health issues:** Environmental and workplace health hazards.
- **Social:** Unemployment, marginalization, inequality.
- **Economic:** Sound and ethical business and regulation practices.

The development of the four dimensions will be influenced by megatrends and sector-specific developments and will be described in the next chapter.

**The four scenarios are:**

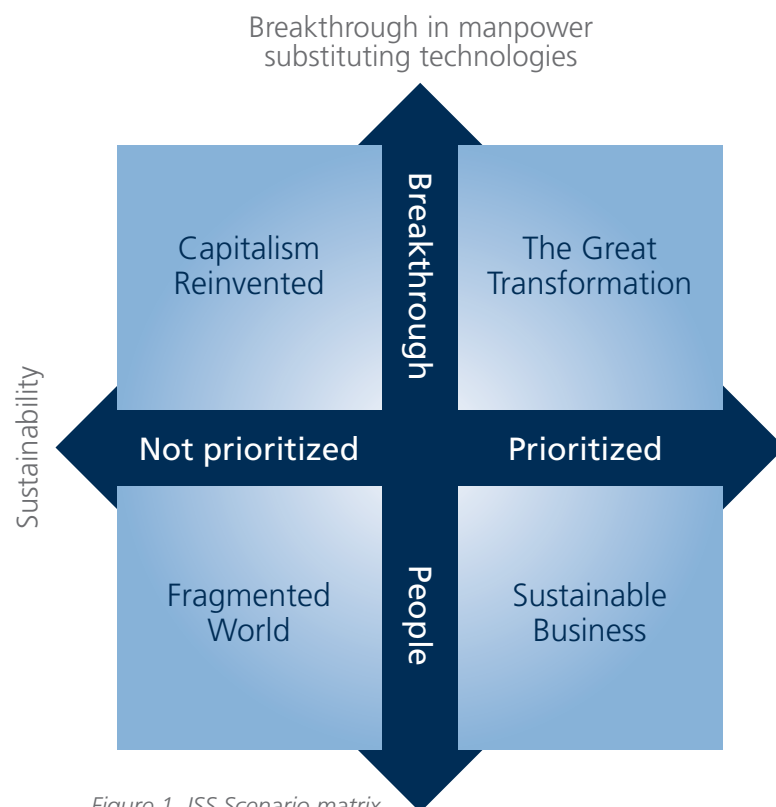


Figure 1. ISS Scenario matrix

## 5.3 Scenario 2020 Grid

Indicators	ISS Scenario 2020 Grid			
	Capitalism Reinvented	The Great Transformation	Sustainable Business	Fragmented World
Era	A polarized high-tech world with little concern for sustainability	A focus on high-tech development with a drive towards sustainability	Revivalism, local production, volunteerism and aid	Nationalism and protectionism. Rising income inequality. Instability
Governance	Global competition. China and US as main driving economies	A multi-polar world. Global co-ordination through global & regional institutions	Glocal over global solutions	Local conflicts. Regional and bilateral regulations
Key market drivers	Price and effectiveness	Triple bottom-line & ethical codes of conduct. Renting access over ownership	Triple bottom-line & ethical codes of conduct. Renting access over ownership	Price and effectiveness
	Economic crisis fosters technological change	Volatile oil prices and natural catastrophes foster change	Medium to high prices for fossil fuels drives desire for new solutions	High volatility in raw materials prices
Economy	Market liberalism	New welfare models challenge the political system	Social welfare model	Protectionism and regulation
Economic growth	Relatively high global economic growth	Slow growth at the beginning of the decade; more balanced by 2020	Medium global economic growth	Low global economic growth
Sustainability	Resource optimization and automation	Demand for new solutions on all levels. Concentrated efforts towards increasing sustainability	Activism, NGOs and local governments main drivers for agenda	Regional, national, and local actors support issues close to home.
		Global collaboration on various goals without global treaty	Localization of production and close to market	Lack of concern for the environment
Business	Cross-border consolidation, Global corporations growing in size and number	Transparency a business requirement	MNCs are unpopular, local business favoured	Local companies preferred over global corporations
Technology	+++ Labour-saving technology + Knowledge-based advisory +++ Incremental innovation	+++ Labour-saving technology +++ Knowledge-based advisory +++ Incremental innovation	+ Labour-saving technology ++ Knowledge-based advisory +++ Incremental innovation	+ Labour-saving technology + Knowledge-based advisory +++ Incremental innovation
Labour market	Regional labour shortages, strong wage growth in high-growth areas and high R&D propels digitalization of service industry	Shortage of qualified labour in rich countries and city centres. Automation transforms labour market	Labour shortage in rich regions. Unemployment still high in low-income areas	High unemployment. Labour-intensive services supported by subsidies
Migration	Skilled migration is high. Low mobility of low-skilled labour	High-skilled and urban migration	Low-skilled labour market. Employer-driven migration	Poverty migration
Values	Consumerism	Ethical values	Localism and activism	Economic nationalism
	Jobs, growth first	Intelligent approach	Volunteerism and community belief and tradition	Focus on security and control



## 5.4 Capitalism Reinvented

**Summary:** *This is a world where markets and money dominate. Governments seek market stability and free trade. Business is driven by a focus on gaining a competitive advantage on price and efficiency. There is widespread dislocation of the workforce as service jobs are increasingly being automated. Social unrest is common because many cannot keep up with the fast pace of change and growing economic polarization.*

The **driving forces** affecting this scenario are:

- Global competition based on functionality and price.
- Increased market liberalization and outsourcing.
- Strong global economic growth and competition from emerging markets.
- Strong cross-border consolidation in many industries.
- Small and weak governments and economic polarization.

Global capitalism has made a huge comeback over the last decade. *The Economist's* 3-D HD report provides a retrospective on how capitalism has overcome existential, demographic and economic challenges with an explosion of new technologies and business models and markets. While the report boasts of all the successes, the retrospective also points to a new period of global hubris by highlighting the number of alarming challenges for business and political leaders across the globe. The impact of global warming is increasingly felt around the world. Water shortages are common, leading to food shortages and price spikes. Labour unrest is common, as a large proportion of the population cannot find jobs as they do not possess the skills necessary to compete in the 2020 marketplace.

Despite the impacts of the global economic downturn lasting for much of the first half of the decade, global and multinational corporations emerged from the crisis stronger than ever owing to the widespread competition and focus on value generation as well as price and cost efficiencies. The focus on value generation, greater efficiency, productivity and economic growth has led to an emphasis on free trade and competition, leading to a drive among the major powers to harmonize and reduce regulations at the global level.

Sustainability, while important to many, remains a buzzword and a secondary concern compared to price and other considerations. This is particularly the case in energy generation and consumption. Although oil prices remain “high” and “volatile”, gas prices are low and have taken a greater share of energy production, reducing the economic impacts of high oil prices on the economy.

Outsourcing and labour-saving technologies are quickly and ruthlessly applied throughout the value chain as soon as cost-benefit and NPV analysis show a favourable value proposition. Companies from mature markets justify this to overcome declining productivity in their home markets. Companies from emerging markets had to make similar actions to remain competitive.

In the private sector, businesses adopt a number of strategies dependent on their needs. Automation and do-it-yourself solutions continue to penetrate further and further into service industries. Mobile payments and transactions have replaced a number of service activities, including automated teller machines and counters at airports, cinemas, and at grocery stores.

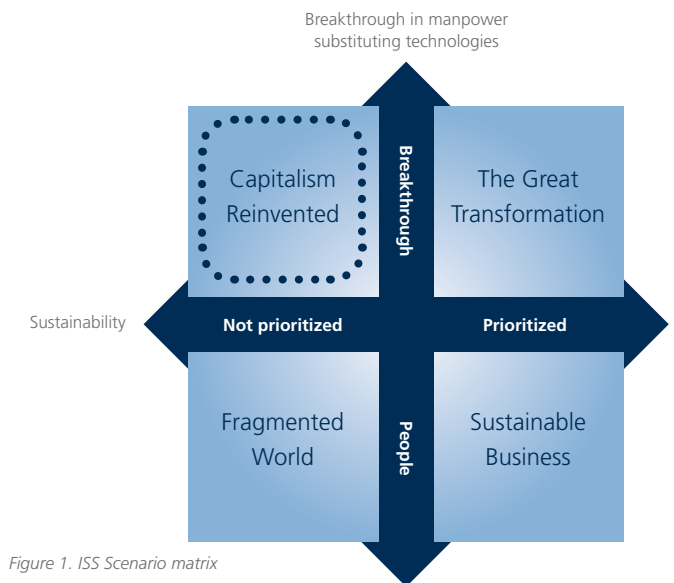


Figure 1. ISS Scenario matrix



“Drive your business,  
let not your business  
drive you.”

*Benjamin Franklin, US president.*



Remote monitoring and resource optimization are becoming increasingly centralized to reduce labour and maintenance costs. The dispersal of RFID technologies, breakthroughs in battery technologies and the pervasive Internet have created whole new building monitoring services, which are located where labour costs are cheapest, dispatching service personnel to conduct maintenance when machines are unable to repair themselves.

The large amounts of collected information have created an information analysis war between a number of service providers. Companies which can successfully collect, analyze and exploit the data concerning how people are actually interacting in their environments are becoming the most successful companies. Mobile service providers, RFID “chip makers”, and construction and facility operators are competing and partnering to provide the best value to their users.

Governments have also played a key role in the dissemination of technologies. The need to improve the efficiencies of public services in order to counteract the effects of an aging population has led to a number of radical innovations in resource optimization through intelligent planning and mobile systems in government services. Often, governments apply private-sector breakthroughs; other times government funded programmes have led to the

**Table 2: Pace of Technology Development in Sustainable Business**

Labour-saving technologies	+++
Automation: robotics, building automation systems	+++
Resource optimization: intelligent planning tools and mobile systems	++
Materials and equipment (nano, etc.)	+++
Knowledge-based advisory services	+++
Incremental innovations in manual and knowledge services	+++

*(note: +++ [full priority], ++ [medium priority], + [lowest priority])*

**Table 3: Priorities on Sustainability in Sustainable Business**

Green: Natural resource preservation, climate, pollution	+
Health issues: Environmental and workplace health hazards	+
Social: Unemployment, marginalization, inequality	+
Economic: Sound and ethical business and regulation practices (fair competition)	+++

*(note: +++ [full priority], ++ [medium priority], + [lowest priority])*

creation of whole new business areas, which governments are keen to allow companies to develop and export, seeing this as a way to create desperately needed new jobs.

While governments are keen to promote technological breakthroughs and free trade, sustainability challenges have led to a great deal of regulatory fragmentation. Sustainability is a buzzword; it fades in and out of the public's consciousness. There are periods of alarm when local events occur, such as alternating periods of drought and flooding in China, Brazil, and the US Mid-West. These events still have not elicited a broad international effort to regulate climate change.

Sustainability only comes into focus in an economic sense, meaning that business must ensure sound business practices. The environment, health and social challenges only come to the forefront when they represent a clear and present danger to a community's or company's future viability. Global sustainability targets, when enacted, are weak and ineffectual. Governments are keener on ensuring access to a number of essential resources than they are on curbing domestic consumption of them.

The focus on efficiency has outpaced many communities' ability to keep pace with the changes, which is alarming a number of analysts. The World Bank and the Chinese and Indian Development Banks warn of the destabilizing impacts that the global talent mismatch is having on the global economy. The low-skilled employees are squeezed, creating whole sectors of unemployable labour that governments are struggling to activate. Many wonder if they can ever be successfully integrated into the labour market, and retirement savings are considered a private matter. Talent is a key notion and whole value chains are now developed around where the talent and technology can be found. Those in possession of strong talent-technology capabilities are price-setters, but the vast majority of workers have to accept what they are offered in labour negotiations.

Wealth has become concentrated in fewer hands, as globalization favours only those who can keep up with the accelerated pace of change. Businesses are finding it increasingly easy to source services globally, and consistently apply tax arbitrage, privatization and outsourcing. "They would be stupid not to" is the classic refrain from agenda-setting business reporters and market analysts. Protests are common in many economies. Bio- and nanotechnologies continue to make significant breakthroughs in the marketplace, especially in the development of new materials. These breakthroughs creates whole new challenges, as well as opportunities, and neither regulation nor consumer advocacy can keep up. Each breakthrough leads to new forms of pollution and unintended consequences that must be both mitigated and remediated. In many industries, this means whole new demands on cleanliness in the form of purer air, water, and indoor ecology.

The Global FM and Services Industry in Capitalism Reinvented	
Market Drivers	Characteristics
Competition	<ul style="list-style-type: none"> <li>Flexibility and price will be the two main drivers in this industry.</li> <li>The market will bifurcate between the scale providers who can provide solutions cheaply through economies of scale and niche providers that are highly focused.</li> <li>Wage costs will affect prices.</li> <li>Companies that can self-deliver and cover a wide geographical area and also offer a wide range of services will have a competitive advantage.</li> <li>The principal challenge that the global FMs will face will be getting labour at the right price.</li> </ul>
Regulators	<ul style="list-style-type: none"> <li>As global corporations grow, so will international requirements for integrated facility services providers increase. International standards will consequently come more into focus (minimum age, maximum working hours, living wage, etc).</li> <li>The large-scale producers will be affected more deeply than boutique providers who service medium and smaller enterprises.</li> <li>Economic and social considerations will drive regulators.</li> </ul>
Workforce	<ul style="list-style-type: none"> <li>Highly skilled employees will have an advantage that will also raise pay scales; front-line employees for low-skilled tasks will be squeezed.</li> <li>The key drivers will be wages, turnover rates and supply.</li> </ul>
Suppliers	<ul style="list-style-type: none"> <li>Flexible and innovative suppliers will be the key drivers.</li> </ul>
Investors	<ul style="list-style-type: none"> <li>Driven by profit motive, whether companies' innovations plans are aligned to ensure future profitability.</li> <li>Profitability is under pressure due to increased cost focus.</li> </ul>
NGOs	<ul style="list-style-type: none"> <li>As consumerism is high and sustainability is very low, the voice of NGOs is not a deciding factor.</li> </ul>
Clients	<ul style="list-style-type: none"> <li>Customers need flexibility and innovation as there are high wages in the labour force.</li> <li>There is limited collaboration between customer and supplier as this is driven by price and effectiveness.</li> </ul>

## 5.5 The Great Transformation

**Summary:** This is a society moving towards a situation where environmental, social and economic challenges are solved through technological solutions and resource efficiency. Focus is on optimising use of resources through automation. There are many private-public partnerships with the purpose of developing sustainable solutions. There are distinct advantages for private enterprises to develop sustainable solutions. These include retraining affected workforces to find alternative employment, “sustainable” development projects through “R&D” clusters etc.

The **driving forces** affecting this scenario are:

- High and volatile commodity prices.
- Desire to push society towards sustainability.
- Demands for transparency.
- Lower economic growth as adjustments take time to work through the system.

After tough negotiating sessions in the early 2010s, global policymakers were unable to agree to any binding climate change treaty, despite the demand from the world’s population. In 2012, negotiators at COP 18 agreed to let Kyoto lapse. There is, however, a broad consensus that the concentration of CO<sub>2</sub> in the atmosphere must be stabilized at 450 parts per million (ppm), but the international community has not been able to reach an agreement on how to set targets and who should sacrifice what.

Through the negotiations taking place at the global institutions against the backdrop of a deepening economic crisis in 2010-12, the growing multi-polarity of the global economy is recognized, mainly in the strong BRIC countries. The Western world can no longer set the agenda.

Global society’s stakeholders and non-profits are decentralizing sustainability goals and implementing solutions on a local basis. Volatile oil prices, together with natural disasters, continue to wreak havoc on the global economy. Global value chains work to stabilize resources and transactions. The demand for new solutions comes from all levels, from corporates to society to NGOs, cross-disciplinary think-tanks and local councils. The sense of urgency is forcing the global stakeholders to collaborate on various common goals and other solution-based groups emerge and network around other goals. There is no lack of challenges and no time to wait for an institutional agreement at the global level.

With multi lateral co-operation for stability on the agenda, a reinvigorated WTO has developed a security role to “strengthen world trade”. WTO rulings defeat a number of attempts by governments, companies and emerging networks to impose green protectionist measures, keeping free trade alive.

Numerous regional trade and collaboration agreements have emerged during this period. Defining what sustainability is and the proper technological response truly means, however, remains a point of contention for businesses, governments, and NGOs. Sustainability is a moving target and there is an ever-increasing demand for new solutions.

Profound structural changes have been required to meet the sustainability challenges; the way we organize ourselves, the way we live, work and conduct business. There is a smart

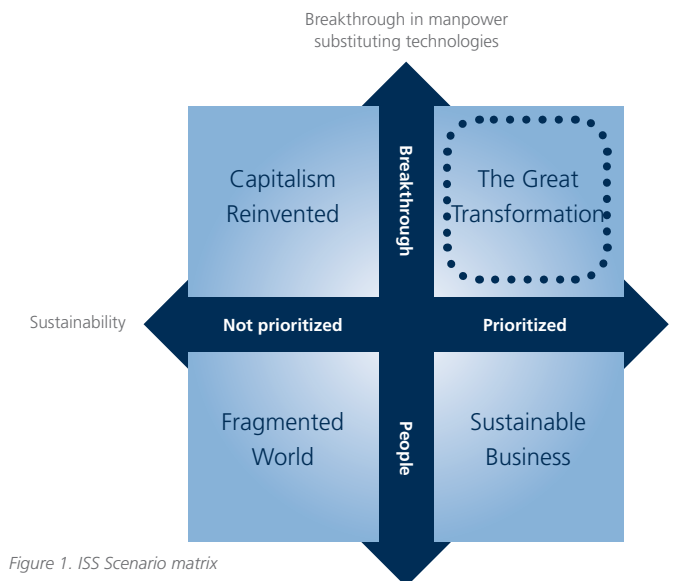


Figure 1. ISS Scenario matrix

“The future will soon be a thing of the past.”

*George Carlin, stand-up comedian.*



approach to life and close integration with technology, with increasing dependence on advanced machines.

It takes time for structural changes to work through the system. Hence, economic growth has been slow in the beginning of the decade. The mature economies have struggled to get back on their feet after the financial crisis in 2008-09, while China and other high-growth economies have brought some stabilization amid the turbulence. The structural changes take time to manifest because of the higher investment costs in a climate of public budget austerity. Towards 2020, high and balanced global growth makes a comeback.

Sustainability is a principal agenda item in local politics, which shape urban development. Air quality, waste disposal, and ensuring the adequate supply of potable drinking water are the challenges for local governments worldwide. Buildings are developed and built to be recyclable. Efforts are being made to prevent too much traffic, and to supply enough electricity. Most of the urban populations live in tall apartment buildings and increasingly use public transportation and electric cars, scooters and bicycles.

Well-educated people desiring a higher quality of life are moving to sustainable cities. City planning turns “green” to attract talent. Value is placed on spacious and green recreation areas, while city centres are increasingly dense, yet efficient, to combat urban sprawl.

Table 5: Pace of Technology Development in Sustainable Business	
Labour-saving technologies	+++
Automation: robotics, building automation systems	+++
Resource optimization: intelligent planning tools and mobile systems	+++
Materials and equipment (nano, etc.)	+++
Knowledge-based advisory services	+++
Incremental innovations in manual and knowledge services	+++

(note: +++ [full priority], ++ [medium priority], + [lowest priority])

Table 6: Priorities on Sustainability in Sustainable Business	
Green: Natural resource preservation, climate, pollution	+++
Health issues: Environmental and workplace health hazards	+++
Social: Unemployment, marginalization, inequality	++
Economic: Sound and ethical business and regulation practices (fair competition)	+++

(note: +++ [full priority], ++ [medium priority], + [lowest priority])



While urban migration remains a major dilemma in many middle-income and low-income countries, local governments around the world are busily testing new methods for creating more sustainable cities by controlling the flow of migrants and building safe and more densely populated urban centres. Several local governments have followed Shanghai and Beijing's lead by banning outward-oriented development. The goals are to build up, to promote the use of public transportation and to dissuade the use of private transportation.

The expected high economic growth from 2015 will lead to shortages of workers in the service industry in rich countries and city centres, something that increases the need for automation and smart solutions. Also, this trend will lead to a transformation of the labour market. The global high-skilled labour pool will be increasingly mobile and a sought-after resource for high-tech-driven corporations.

Technological convergence is booming across many fields. Researchers from robotic, information and materials technologies and nano- and biotechnologies increasingly integrate their research, accelerating breakthroughs in manpower-replacing technologies. The first offices in energy-producing buildings have just been taken into use, and high-tech transportation systems are on the verge of a breakthrough.

The majority of technological innovations come from Asia, but the exchange of knowledge and progress is global and is driven by multinational corporations (MNCs) with large R&D budgets and business models that are adaptable and favour high-tech solutions.

New welfare models have emerged because traditional models have proved to be too inflexible. Investments in different types of welfare technologies have been highly prioritized and are becoming an integrated part of care systems. Different kinds of robots have become an integrated part of social services and care; they naturally provide hygiene services, resource provision and status services through advanced sensors for human maintenance, but also serving as companions and conversational partners in the absence of humans. Self-service and independence (with robotic assistance) become valued social characteristics.

Governments and consumers increasingly expect that large corporations operate within an ethical code of conduct and demonstrate value in the triple-bottom-line results. In many societies around the world, the Corporate Social Responsibility (CSR) agenda is a high priority. In high-income countries, CSR programmes have been enacted through regulation or on a voluntary basis, but low- and middle-income countries are also seeking to promote the business agenda in their own countries. Some of the CSR programmes that have received a lot of attention during the last decade have addressed living wages, child labour, working hours and minimizing attrition rates at work. NGOs, activists and the media regularly shame organizations that are not promoting sustainable business conduct and production practices, which can easily affect investors and market opinion.

The development of inexpensive, fast, and well-functioning communication technologies has spread the Internet to almost everyone with electricity and has created an explosion of more transparent, interest-oriented activism. Transparency is the new norm. Information about the products we consume and their impacts on the environment and our health is easier to find. Well-functioning translation software, searchable images and video have created increasingly anarchic social, political, and economic environments.

Employees increasingly use social networks to provide new platforms for connecting and for joint efforts. This fosters numerous employee initiatives, many on a voluntary basis.

Corporate branding is primarily done through the communication of sustainable practices to the regional society where the company conducts business, but also to potential clients and future employees in the global workforce. In high-income countries, a product's cradle-to-cradle impact on the environment is becoming a major deciding point for consumers. When given a choice, they choose products that have demonstrated lower environmental impacts than products that have little or no environmental credentials.

Likewise, there is an enhanced vigilance for "greenwashers", and companies are closely monitored for truth in advertising. As in 2011, global industries are not monitored by the home region when operating abroad, but held more accountable for their actions in local regions.

Outsourcing is a natural part of the specialization of societies. As the technical requirements grow and the FM and services industry becomes responsible for more technical areas, it requires a higher competence level and new business models. Focus is on the value that the outsourcing provider can add to the client. A highly skilled and technology-savvy outsourcing partner is crucial.

The Global FM and Services Industry in The Great Transformation	
Market Drivers	Characteristics
Competition	<ul style="list-style-type: none"> <li>• Price will be important, but it's not the deciding factor, as customers take more holistic views on outsourcing and in choosing their FM/Service provider.</li> <li>• Important to demonstrate risk management and regulation compliance as means of differentiation. Brand protection, credible risk transfer, effectiveness and an ability to take over outsourced employees will be deciding criterias.</li> <li>• Flexible delivery models and an ability to deliver consistently across borders will be high in demand.</li> <li>• Hyper-flexible competitors appear out of locally based networked platforms, delivering just-in-time services with dynamically tailored solutions.</li> </ul>
Regulators	<ul style="list-style-type: none"> <li>• More regionally focus which means, there could be differences in global operations.</li> <li>• In the EU, there will be stringent rules regarding labour and the environment.</li> </ul>
Workforce	<ul style="list-style-type: none"> <li>• Difficult to get low-skilled, low-wage labour in cities.</li> <li>• Employees will demand more responsibilities and better technology.</li> <li>• More employee-centred, empowering opportunities.</li> </ul>
Suppliers	<ul style="list-style-type: none"> <li>• Suppliers with good CSR will be at an advantage.</li> <li>• New niche suppliers emerge, expressing new capabilities.</li> </ul>
Investors	<ul style="list-style-type: none"> <li>• CSR performance is important.</li> <li>• Smart solutions will require investments to encourage fast time to market.</li> </ul>
NGOs	<ul style="list-style-type: none"> <li>• NGOs' voices are being heard and considered.</li> </ul>
Clients	<ul style="list-style-type: none"> <li>• There is growing partnership with the client to find sustainable solutions.</li> <li>• FM and services providers seen as deeply integrated strategic partners that generate value and are key to reaching triple-bottom-line goals.</li> </ul>



## 5.6 Sustainable Business

**Summary:** A deeply rooted understanding of the importance of solving the sustainability challenge has emerged and is leveraged to solve complex environmental challenges. Governments are enforcing sustainability initiatives and have assumed a proactive role in protecting their citizens. Innovation is focused on the challenges that have emerged from resource scarcity, including maximizing air and water quality and preserving reserves of fossil fuels. The challenge is to increase efficient use of resources, which is creating new business opportunities. Holistic health care, care of the elderly and traditional educational institutions are being reinforced.

The **driving forces** in this scenario are:

- Ethical code of conduct and triple bottom-line.
- Local solutions over global.
- Global climate events and resource challenges.
- NGOs driving players.
- Polarization of service provision.
- Services/experiences are preferred to products.

The 2010s have been a trying decade, fraught with many disputes over how to solve the number of sustainability challenges facing global society and deal with those who break negotiated agreements.

In 2012, politicians, business leaders and NGOs finally agree that global society's unsustainable growth trajectory must be rectified. It is commonly accepted that there are four prioritized areas for action: environmental; health; social; and economic. Sustainability issues are being dealt with without delay, even if it hinders economic growth in the near term. Global leaders have accepted the logic that drove the analysis behind the 2006 Stern Report on Climate Change. Inaction is only postponing and exacerbating the inevitable.

The key challenge is in implementation and enforcing conditions on countries and companies who break global agreements. Ideological debates remain largely unresolved, but there is widespread optimism and pragmatism is in the air because there is so much at stake. There is a general willingness to act, yet while progress is slow and frustrating, human activities are beginning to change course. Companies, local communities and NGOs witness a revival in volunteerism and interest in their local communities. Local solutions and the locally adapted mass-produced solutions and brands have a much easier time gaining customer trust.

Corporate social responsibility (CSR) is no longer handled in separate business departments. CSR departments have largely been absorbed and the ideologies are dispersed throughout the organization. Adherence to triple-bottom-lines statements and benchmarking among competitors are now requirements for all listed companies and are essential entry requirements for participating in the world's major economic zones. The emergence of XBRL triple-bottom-line reporting in easily analyzable formats is fundamentally altering transparency in accounting operations.

Up- and downstream companies continuously analyze their value chain and seek to improve their sustainability practices. The first few years of action produce surprising results as the marginal benefits from attacking easy targets with high returns remained abundant. After

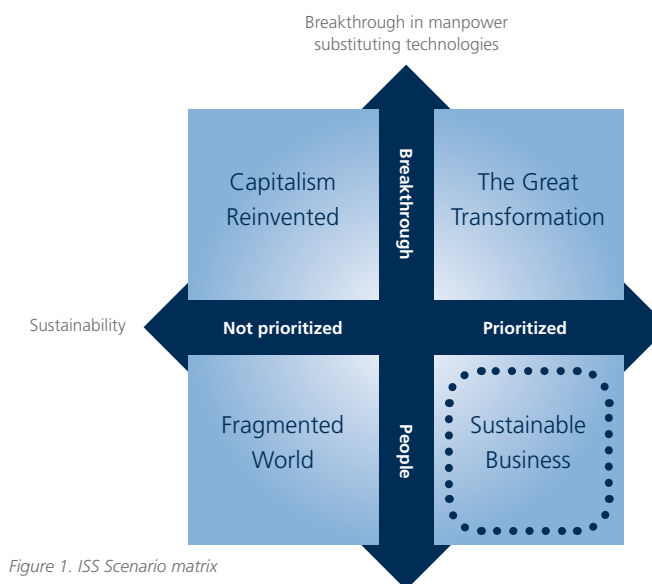


Figure 1. ISS Scenario matrix

“The future belongs to those who prepare for it today.”

*Malcolm X, human rights activist.*



five years of concerted action, these once-easy solutions are growing increasingly difficult. A new innovation race is beginning to emerge.

The principal focus for the past decade and the decade to come is to apply all technologies that can improve short-term sustainability. This turned into a huge opportunity for the construction industry. Many of the most attractive solutions are available off the shelf. Now that the focus, willingness and the financial backing exists, more and more companies are seizing the opportunity and implementing these solutions in planned and existing building stock. Improving insulation receives first priority, followed by improving lighting solutions, air-conditioning and water heating systems.

Improvements continue in information modeling, automation and robotics, although the pace has been slower than many experts anticipated in 2010. Creating the business cases for some technologies for the Internet of Things has proven more challenging than previously anticipated. RFID pollution has created whole new challenges for data management and manipulation, creating a concern that investments would generate too large costs for either public or private investment.

Despite advancements in information technologies, new materials, smart buildings and infrastructures, services remain a people business. Renewing building stock takes time and labour. The economic downturn in the US and Europe reduced local willingness to invest in stagnating assets. Governments had difficulties driving transformation, as many – particularly in Europe – focused on their 2020 targets of increasing the energy efficiency of their building stock by 30% before taking on other obligations during tight fiscal times.

**Table 8: Pace of Technology Development in Sustainable Business**

Labour-saving technologies	+
Automation: robotics, building automation systems	+
Resource optimization: intelligent planning tools and mobile systems	+
Materials and equipment (nano, etc.)	+
Knowledge-based advisory services	+++
Incremental innovations in manual and knowledge services	+++

(note: +++ [full priority], ++ [medium priority], + [lowest priority])

**Table 9: Priorities on Sustainability in Sustainable Business**

Green: Natural resource preservation, climate, pollution	+++
Health issues: Environmental and workplace health hazards	+++
Social: Unemployment, marginalization, inequality	+++
Economic: Sound and ethical business and regulation practices (fair competition)	+++

(note: +++ [full priority], ++ [medium priority], + [lowest priority])

New business models are emerging that promote the sharing of resources rather than pure ownership. These flexible models offer new solutions to fulfil market needs in more flexible and sustainable ways, by increasing access and decreasing unnecessary duplication. The use of remote monitoring solutions allow for better co-ordination and operation of transportation, shared office environments and shared supply chain delivery. Companies look increasingly to partners and consultants to help them manage these tools.

Shortages in qualified labour remain a primary challenge in Europe, the US, and Japan, leading to greater labour turnover as employees search for the best available terms from employers. Global outsourcing, while still favoured from a cost perspective, is generally disfavoured by many politicians, labour unions, and customers, leading to a paradoxical confrontation between efficient economic development policy and employment need. Local welfare needs trump global operations, making it increasingly challenging to operate global organizations.

The Global FM and Services Industry in Sustainable Business	
Market Drivers	Characteristics
Competition	<ul style="list-style-type: none"> <li>Companies that have invested in technologies to be more sustainable will have an advantage. These companies will be able to offer their customers ways to reduce their impact on the environment and at the same time save resources, reducing costs.</li> <li>Companies that have a clearly stated purpose and are seen as attractive employers are successful. Employee welfare programmes includes continuation programmes for aged workers, new ways of working and integration of a multi-ethnic workforce etc.</li> <li>Price will be important, but not the deciding factor, as customers will take a more holistic view in choosing their provider.</li> </ul>
Regulators	<ul style="list-style-type: none"> <li>Regulators will try to encourage sustainability by also encouraging local sourcing to help deal with unemployment.</li> </ul>
Workforce	<ul style="list-style-type: none"> <li>It will be difficult to get low-skilled, low-cost labour in cities.</li> <li>In (low-income) outlying areas, high unemployment will provide a source of workers.</li> </ul>
Suppliers	<ul style="list-style-type: none"> <li>Responsible procurement is a key driver where suppliers will be required to fulfil corporate responsibility requirements.</li> </ul>
Investors	<ul style="list-style-type: none"> <li>Socially Responsible Investors (SRIs) will look at FM providers with a good CSR performance as part of their investment decision.</li> </ul>
NGOs	<ul style="list-style-type: none"> <li>NGOs are focused on sustainability and on human development.</li> </ul>
Clients	<ul style="list-style-type: none"> <li>FM providers that can demonstrate their CSR efforts will make preferred partners.</li> <li>Close collaboration with the client to find sustainable solutions.</li> </ul>





## 5.7 Fragmented World

**Summary:** Local societies are in control of their spheres of influence and are going their own ways. Business values are emphasizing productivity, volume and measurement-focused methods, yet many people still prefer the personal touch. They are sceptical about technological solutions. Wealth is concentrated in a small elite. New labour-saving technologies have not penetrated the market yet as wages remain low.

The **driving forces** affecting this scenario are:

- Prices and efficiency.
- Global and regional conflicts (between and within countries) in a multi-polar world.
- Other challenges supersede sustainability.
- Low competition in services across borders.
- High economic polarization is common.

The 2010s have been a period in disarray. Nationalism and protectionism have wreaked havoc on global markets and impeded global consensus from emerging. The quest to ensure energy security and financial stability has led to escalated diplomatic, financial and military conflicts. The democratization waves in the Middle East and North Africa (MENA) have failed, and only Egypt has experienced real system changes.

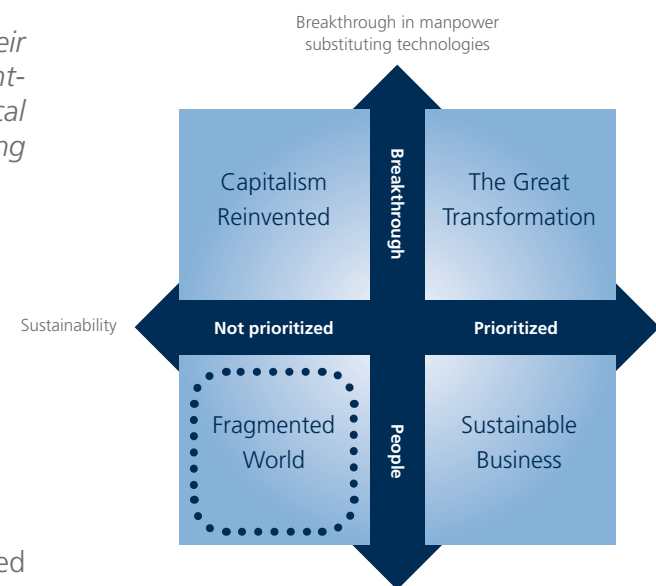
The Internet-based dissemination of information has fallen short of universal coverage, creating large imbalances in developing societies. Economic growth is low and commodity prices fluctuate as conflicts and shifting economic conditions impact global supply and demand. There are few agreements on a global level concerning environmental, financial, trade, or security reforms. The UN has divided into various infighting factions. Some support the League of Democratic nations, others prefer the Shanghai Cooperation Organization (SCO), to name a couple.

There is a general lack of concern for the environment, which creates large problems with pollution, clean water and air and high levels of CO<sub>2</sub>. Atmospheric concentrations of CO<sub>2</sub> are increasing dramatically. The consequences are beginning to look severe, floods and droughts are increasingly influencing the environment.

**Table 11: Pace of Technology Development in Global FM and services Industry in Fragmented World**

Labour-saving technologies	+
Automation: robotics, building automation systems	+
Resource optimization: intelligent planning tools and mobile systems	+
Materials and equipment (nano, etc.)	+
Knowledge-based advisory services	+
Incremental innovations in manual and knowledge services	+++

(note: +++ [full priority], ++ [medium priority], + [lowest priority])



“The future always arrives too fast, and in the wrong order.”

*Alvin Toffler, writer and futurist.*



**Table 12: Priorities on Sustainability Global FM and services Industry in Fragmented World**

Green: Natural resource preservation, climate, pollution	+
Health issues: Environmental and workplace health hazards	++
Social: Unemployment, marginalization, inequality	++
Economic: Sound and ethical business and regulation practices (fair competition)	+

(note: +++ [full priority], ++ [medium priority], + [lowest priority])

The sustainability agenda is defined in local-community terms. Sustainability and environmental issues are not ranked highly unless they pose an immediate threat. Floods, lack of potable drinking water, and local pollution problems lead to action by national and local leaders, politicians, NGOs and businesses. Abstract, global or long-term problems, such as climate change and biodiversity loss, are considered intractable and are ignored.

Global politics have reverted to a zero-sum game based on cold, hard calculation. Will our country benefit from joining this organization? This does not mean that countries cannot co-operate. They can and they do on a bilateral or regional multilateral basis that provides direct benefits to participating countries. When national governments fail to act, many regional governments participate in international agreements and collaboration to benefit their constituencies. This has led to a rising economic inequality between countries and regions and an increasing global instability.

Strong regional and national regulation and protectionism make technological development slow and imbalanced. Because of high unemployment in the developed world, labour-intensive sectors have been more or less supported by subsidies and regulation in order to preserve jobs, keeping wages low. New and potentially labour-reducing technological inventions have had difficulties breaking through because they have not been price-competitive, nor have they been supported by the political system. Tight migration policies in high- and middle-income countries have been a hindrance for knowledge dissemination and dispatching global talents to relevant markets.

Global corporations have not been able to drive technological development. They have had to allocate time and resources to comply with local laws and conditions in lieu of developing new solutions. Cross-border operations become more difficult because local labour markets favour small and low-tech companies. There is a low degree of competition in services across borders and informal quasi-monopolistic competitive structures have emerged.

There is increasing economic inequality owing to polarization between high-productivity and low-productivity sectors of the economy. In middle- and low-income countries, political and economic instability has led to volatility and insecurity. Social insecurity and rising crime rates are also problems in many high-income countries.

A way to respond to the increasing feeling of insecurity in many high-income countries has been to tighten immigration rules. As a result, companies in Europe, the US, and in Asia have experienced difficulties finding employees with the desired qualifications, causing



companies to relocate to regions that have more lax immigration policies or already have the required employee skill sets.

Global corporations are distrusted and perceived as “foreign”. The proliferation of global corporations from middle- and low-income countries into high-income countries has led to a backlash against “foreign” takeovers of vital domestic industries in high-income countries and has increased political tensions between countries.

To overcome local resistance, global and multinational corporations have adopted a “local” business approach, sourcing and manufacturing locally as much as possible. While this may not be efficient, it is necessary to obtain a licence to operate in many markets.

Technological development has now entered a period that raises new ethical questions. The solutions to these ethical questions are bound up in the cultures and social norms. As a result, technologies that might be perfectly acceptable in South Korea are not permissible in the US or Europe and vice versa. Knowledge of local markets has become vital. Regulatory fragmentation makes compliance more difficult and distorts economies.

Scepticism towards new technologies has halted or slowed the development of a number of new technologies and enhanced products. In energy sectors, it has blocked the exploitation of energy resources in deep waters and in harsh climates. There has been an almost complete global halt for new nuclear power plants since the disaster in Fukushima, Japan. In the service sector, automation has been held back because there is a belief that “the human touch” cannot be replaced by robotics. People still want to get services from other people. Incremental innovations have taken place primarily in the technical fields, and local players compete on price and effectiveness.

The majority of citizens expects companies and organizations to behave sensibly and within the limits of locally defined customs and law, but otherwise it is convenience, price, and quality that drive consumer decisions. A broader focus on sustainability has become fashionable among the rich, as it signals wealth and status.

Consumers have been slow to adopt products that have genetically modified organisms (GMOs) and nanotechnologies integrated into them. Local authorities have on several occasions taken products out of the market owing to undocumented postulates about potential dangers and despite assurances by the scientific community that these products are safe. Companies have little recourse against such action, and, in some countries, corruption is rife in judicial systems.

Consumers are sceptical of products that they believe could jeopardize their health and are deeply concerned by the impacts that chemicals in plastics, perfumes and other products have had on their immune systems. They are unwilling to use products that they deem to be “unnatural”. Nanotech-enhanced synthetic products and genetically modified bio-based products are banned or severely restricted.

Owing to the international political climate, local inequality and polarization, increases in organized crime, and new and perceived problematic technology, there is a general focus on security, control and risk assessment at all levels of society.

The Global FM and services Industry in Fragmented Worlds	
Market Drivers	Characteristics
Competition	<ul style="list-style-type: none"> <li>Local companies will have an advantage over global corporations.</li> <li>Customers look for efficiencies and financial certainty when choosing provider.</li> <li>Price competition will be severe owing to fragmentation. Pressure for national and local governments to give their outsourcing contracts to local vendors.</li> <li>Local vendors organize themselves in networks where they can develop the right FM package for the client.</li> </ul>
Regulators	<ul style="list-style-type: none"> <li>Protectionistic environments as they try to give local companies the advantage.</li> <li>Local providers get benefits / subsidies to preserve jobs.</li> </ul>
Workforce	<ul style="list-style-type: none"> <li>Owing to high unemployment, labour is abundant.</li> <li>Values driving the workforce are having a job and getting a steady wage.</li> <li>Social networks, leisure and work experience motivate.</li> </ul>
Suppliers	<ul style="list-style-type: none"> <li>Low prices will be the key driver.</li> </ul>
Investors	<ul style="list-style-type: none"> <li>Profit is the key.</li> <li>CSR is not a consideration.</li> <li>Local investment will be important.</li> </ul>
NGOs	<ul style="list-style-type: none"> <li>NGOs find it hard to catch public awareness.</li> </ul>
Clients	<ul style="list-style-type: none"> <li>There is very little collaboration with the customer.</li> <li>Low interest in outsourcing services.</li> </ul>

## 5.8 Conclusions drawn from ISS scenarios

There are three main considerations to keep in mind when drawing conclusions from the ISS 2020 Vision scenario process. First, the consequences of each scenario should be taken into account in the strategy development process, even though experts have given their opinions as to the most likely scenario for the future of the industry. Second, the sustainability challenge addressed in the scenarios will have to be addressed at some point; the question is a matter of priority and timing. Third, experts from a July 2011 workshop believe that the industry in 2011 most resembles “Fragmented World”, but they believe that the industry will develop towards the one represented in the “Great Transformation” scenario 2020.

*All scenarios should be taken into account*

To be successful in the services industry, companies must be vigilant as regards to changes in their business environment, imaginative in developing new responses to needs, and be decisive in action. The scenarios present provocative and plausible accounts of how global society and the services industry could develop, given certain interactions of key external forces towards 2020.

The scenario matrix should be used as an analytical framework for discerning patterns and insights that emerge and can be used to set long-term goals within the FM and services industry.

All four scenarios should be taken into account in the decision-making process and when developing, testing and selecting a future strategy. The many developments over the last decade show that the future holds many surprises for experts in all industries.

The ISS 2020 Vision scenarios are designed to assist ISS and its customers in maintaining awareness to external challenges and opportunities, developing strategies and monitoring systems to cope with future developments.

The sustainability challenge will play a role in the industry’s development – the question is degree and timing.

Two of the scenarios represent major postponements of decisions and actions on sustainability that could have much higher costs associated with them in the more distant future. Given rapid developments in the level of scientific understanding of sustainability challenges, public attitudes and government policy will eventually catch up to the science. The question is to what degree and when.

For example, “Capitalism Reinvented” and “Fragmented World” are environmentally unsustainable scenarios. If action on sustainability challenges is delayed, governments and industry may be forced to enact even stricter regulations to mitigate eventual consequences of delayed action. If these two scenarios represent the trajectory of global social and economic development, they give ISS and its stakeholders a chance to anticipate changes in public opinion and the government action that will likely follow, presenting a window of opportunity through which ISS and its customers can gain strategic advantages over competitors.

According to ISS experts “Fragmented World” best represents the world in 2011, while the “Great Transformation” represents the most likely future.

### Assessing the scenario matrix

At a customer workshop hosted by ISS in London in July 2011, ISS asked participants to assess the position of the global FM and services industry in 2011 in the overall scenario framework. They asked which scenario mirrors most closely the world as they experience it 2011 and which is most likely to be the case in 2020.

The participants – by and large – agreed that “Fragmented World” best represents the world in 2011.

When looking into the future, workshop participants all believe that sustainability would increase in importance towards 2020. Its importance would, however, only grow moderately.

The pace of technological development and its impacts on the global FM and services industry gave workshop participants pause. Most experts in the workshop do believe that breakthroughs in technological development will happen towards 2020, but they do not believe that they will be as groundbreaking over the next ten years as many technology enthusiasts opine.

The industry will evolve over the coming decade. The sustainability challenge is a moving target and will include new challenges that we cannot anticipate. For example, technological development will introduce new sustainability challenges into the global FM and services industry through the introduction of new chemicals and nano-particulates into the environment and greater expectations towards physical infrastructure.

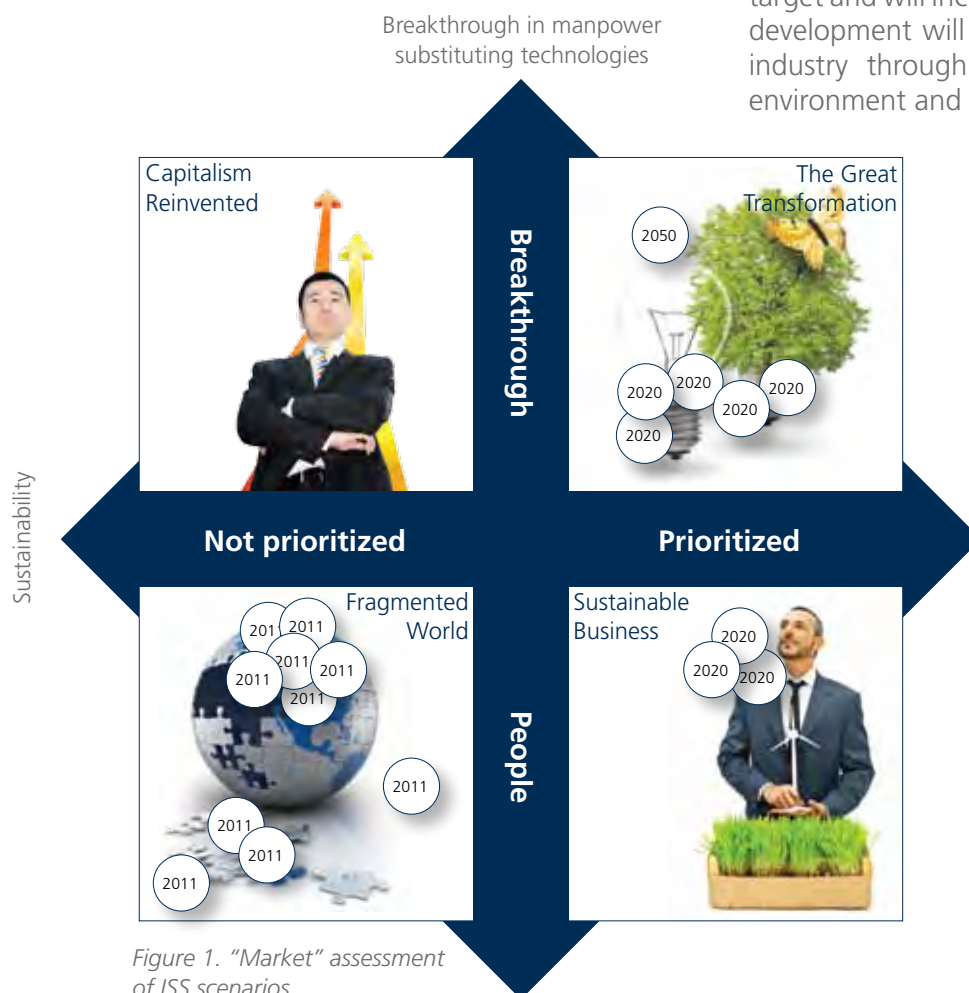


Figure 1. “Market” assessment of ISS scenarios.

## 6. A view from FM and services industry experts

During spring 2011, CIFS interviewed the following experts from across the global FM and services industry. These industry experts offered their professional assessments of what would shape the global FM and services industry towards 2020.



*"...indoor ecology is a moving target subject to changing tastes, quality of life issues and assessments of value"*



*"People and technology will be the key drivers of innovation."*



*"...promote greater transparency in the global FM industry"*



*"...performance measures will better link FM performance to customer organizations' core competencies"*



*"...the way people work and how they use work spaces will change"*



*"...improve the work environment"*



# Stephen Ballesty

Director, Head of Advisory at Rider Levett Bucknall and Immediate past Chairman of IFMA Foundation

The FM and services industry will polarize between large integrated service providers and agile niche boutique specialists. The industry development over the next decade will be shaped by the forces of economic rationalism, sustainability, a focus on value and risk management, workplace productivity and by increasingly sophisticated, individualistic and demanding customers. Sustainability will be the key driver for the next decade and beyond.

Sustainability is a catch-all phrase, but includes four factors: energy; water; waste and indoor ecology. The first three are easiest to measure, control and eventually reduce. Indoor ecology is a moving target, subject to changing tastes, quality-of-life issues and assessments of value.

Technology will also change the FM industry. New ways of working will be introduced, changing building requirements and design. Buildings will become easier to maintain. The Internet of Things and improved Building Information Modeling (BIM) and virtual designs will improve building designs and FM applications and management. Taken to its most extreme, the Internet of Things, virtual building design, will lead to integration of building systems to improve the efficiency of local urban designs.

The penetration of these new technologies and designs will be dependent on local conditions, including age of building stock, demand for new capacity, and conditions for financing terms. Building replacement rates vary from region to region. Some newer regions and emerging markets could integrate these technologies faster, as their building design culture has focused on creating more flexible and adaptable buildings suited to the shorter life spans of a changing world.



*"...indoor ecology is a moving target subject to changing tastes, quality of life issues and assessments of value"*

# Dr Keith Futcher

Former ISS Greater China Regional Director, Advisor to ISS



*“People and technology will be the key drivers of innovation.”*

The evolution of the FM and integrated services is towards providing Total FM, including any, and all, non-core services, for clients, in bespoke solutions that change dynamically over time in accord with the emerging business needs of the client organization. The key to success for the providers of global FM and integrated services is to help customers excel in their increasingly specialized or niche markets, whilst operating at a higher level of performance than can be achieved in non-core functions.

The measure of success will be the extent to which services providers add value to the customers’ business, brand, sustainability, social conscience, and end-user experience, as much as the degree to which they increase the efficiency of their operations.

Technological development will be the cutting-edged tool of service providers, who will be distinguished by their ability to initiate a radical change in the client industry that will replace all that is commonplace today in the way of tools, equipments, consumables, and how people and services are deployed – the intention will be to replace labour with sustainable systems and technologies that do more for less, and more intelligently, with fewer people than before.

People and technology will be the key drivers of innovation within the industry throughout 2020. It will be critical to balance the attributes of quantity and quality within the services industry. Labour costs are rising in all major FM and services industry markets. The introduction of new and increasingly integrated technologies is squeezing lower-denominator-labour out of the market. As we have already seen in the evolution of management throughout the 20th century, decision-making will continue to progress further down the organization structure, whereby the blue-collar workers of today will inherit the decision-making responsibilities of yesterday’s managers.

Management practices in the industry must evolve to match these developments. Contingency management and problem-solving capabilities will be the essential skill sets for the coming decade. Management and personnel must continually educate themselves in order to become solvers of tomorrow’s problems. If companies focus too much on rigid structures, these will become out of sync with the rapidly changing needs of their clients.

# Dr Dean Kashiwagi

Director of the Performance-Based Studies Research Group, Arizona State University

Despite having highly trained managers and personnel, the FM industry's current paradigm places too much focus on cost-cutting, rather than value generation. The current FM paradigm is challenged by several industry forces: the aging FM workforce; the lack of succession plans and successors for the current workforce; FM outsourcing; cutting of FM resources; and the focus on price in FM practice.

The future FM industry will be headed by individuals and organizations that can seamlessly integrate in-house and outsourced services to generate the maximum value for the customer. In order to do this, FM managers will have to become more proactive, anticipating the needs of their customers.

The new FM paradigm will allow the vendor to control contract performance, promote value creation and reduce risk. Technologies – such as BIM and The Internet of Things, for example – will promote greater transparency in the global FM Industry.



*“...promote greater transparency in the global FM industry”*

# Stan Mitchell

CEO Key Facilities Management International UK  
Founding chairman, Global Facility Management Association

The volatile economic climate is a strong market driver for the FM and services industry. In such market conditions, many companies are outsourcing non-essential operations to cut costs, as well as improve operational efficiencies. As FM is still a relatively young discipline, there is a danger of those within the sector not delivering on its full potential to drive down those operational costs and efficiency opportunities. The sustainability agenda also presents a great opportunity for FM to show its ability to improve resource usage, reduce waste and improve the health and safety of the building occupants.

The trends shaping the FM and services industry will differ according to regional and local conditions and development. Construction in some regions, like Asia and the Middle East, has a strong emphasis on new project development, whereas in Europe and the US there is a greater focus on refurbishing and renewing existing facilities. In both cases, FM should be involved at the beginning of the design process to improve building management, operation and maintainability.

Professionalization and technological development, including computing and automation, have the potential to elevate facility management by making its impact more visible to customers through measurement, management and communication. New performance measures will better link FM performance to customer organizations' core competencies, leading to better work environments, performance and productivity for the client organizations and the people who work within them. For many companies within the industry, training and education will be needed to raise the profile of facilities management to a profession with strategic importance.



*“...performance measures will better link FM performance to customer organizations' core competencies”*

# Professor Kathy Roper

IFMA Fellow, Associate Professor and Chairman Integrated Facility Management,  
Georgia Institute of Technology, 2011-12 Chair, International Facility Management Association Board of Directors

Outsourcing over the coming decade will be shaped by a reliance on specialists to deliver high-quality support and performance in non-core operations and activities. Consolidation within the FM and services industry will continue as a response to the customers' demands for a single service provider to increase procurement efficiency.

Over the next ten years, the way people work and how they use work spaces will change. Remote-working solutions will be a preferred option for an increasing number of workers, owing to the emergence of powerful mobile broadband computing services. The need to provide flexible work solutions, both for the employee and the employer, will drive the development of alternative workplace strategies.

Life-cycle assessments and life-cycle building management will become increasingly important from a sustainability\* and cost-cutting perspective. It also improves building performance and working environment during occupancy and operation.

Technological development will lead to a high degree of automation in building systems. BIM and smart systems will change and improve facility management. These systems will require worker re-education and employees with new skill sets. The need for more skilled workers will create a major staffing challenge.

*\* Life-cycle assessment is a methodology for assessing the environmental performance of a product over its full life-cycle.*



*"...the way people work and how they use work spaces will change"*



# Teena Shouse

Former Chairman of IFMA Board of Directors and current Chairman of Global FM Association



*“...improve the work environment”*

Two major trends that will shape the global FM and services industry in the next decade are sustainability and cost-cutting. While agendas will often depend on local challenges, sustainability's transformative role will increase globally. Cost-cutting, optimization and conservation of resources will be a strategic issue in many organizations and a way to achieve sustainability goals. This will lead towards increased contract governance and a higher involvement in day-to-day operations.

Professionalization of the FM and services industry will continue as buyers become savvier and demand proof of the value added by the outsourcing partner. This will drive the development towards increased transparency, as the buyer wants to understand:

- the true value of FM and its effect on the bottom line;
- how it can improve the work environment: and
- how it contributes to making the organization more efficient.

Professionalization of the FM and services industry and the higher degree of expertise needed to meet the technological development and the increasing demand for resource optimization and conservation will pose a staffing and talent challenge.

BIM as a construction and project-management tool will have a great impact on the construction and operations processes leading to more efficient buildings. Improvements on the “skin” of the facility are also expected to take off in the coming decade, making them smarter, longer-lasting and renewable. Occupants are going to stay longer in the facility and therefore are interested in longer-term solutions.



# 7. Survey results – the trends shaping the industry

The global FM and services industry is young and professionalizing. New technologies, management techniques, customer requirements, and value-chain approaches will transform the industry greatly over the coming decade.

CIFS conducted a survey of ISS managers in January 2011 to gain their assessment of how the global FM and services industry could develop over the coming decade, receiving 305 responses. The findings from the ISS survey will be compared with results from the survey of 53 external global FM and services industry experts. ISS managers are largely in agreement across regions.

## **ISS Survey conclusions:**

### **Key trends as seen by ISS managers**

- Flexibility and quality of service will become more important in the FM and services industry.
- Innovation and differentiation will become more important in the FM and services industry.
- Centralization of procurement and contracts will lead to increasing standardization of service delivery.
- Globalization will favour large companies over small companies.
- Speed and agility will become more important in the global FM industry.
- Outsourcing will increase and will be driven by cost savings from both businesses and governments.
- Human resources will become a key competitive parameter for companies.
- Health and well-being will grow in significance.

### **Key trends as seen by global FM and services industry experts**

- Innovation and differentiation.
- Speed and agility.
- Fewer people will be working from traditional office environments.
- Cost-saving requirements among governments.
- Growing importance of health and well-being.
- Growing importance of flexibility and quality of service.
- Increasing importance of open books and transparency.
- Increasingly strategic role for human resources.
- Centralization of procurement and management of international facility services contracts, which will lead to an increasing standardization of the service industry.

While ISS managers are largely in agreement on the key competitive parameters facing the future global FM and services industry, there are regional differences among ISS managers.

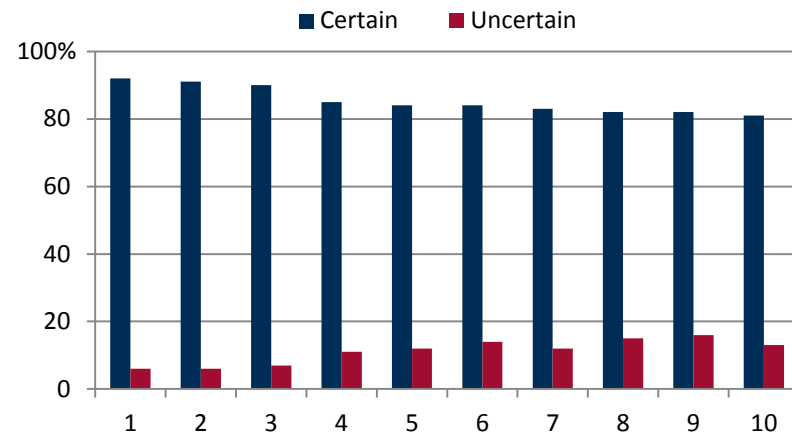
Figure 2: Explanations

- 1) Flexibility and quality of service in the FM and services industry will become more important.
- 2) Innovation and differentiation will be more important for the FM and services industry.
- 3) There will be a centralization of procurement and management of international facility services contracts, which will lead to an increasing standardization of service delivery.
- 4) Globalisation will particularly favour big companies.
- 5) Speed and agility will become more important.
- 6) Companies will outsource much more than today.
- 7) Cost-saving will be a more important driver for outsourcing from governments.
- 8) Cost-saving for companies.
- 9) Human Resources will become a key competitive parameter for companies.
- 10) Health and well-being issues will grow in significance.

Figure 3: Explanations

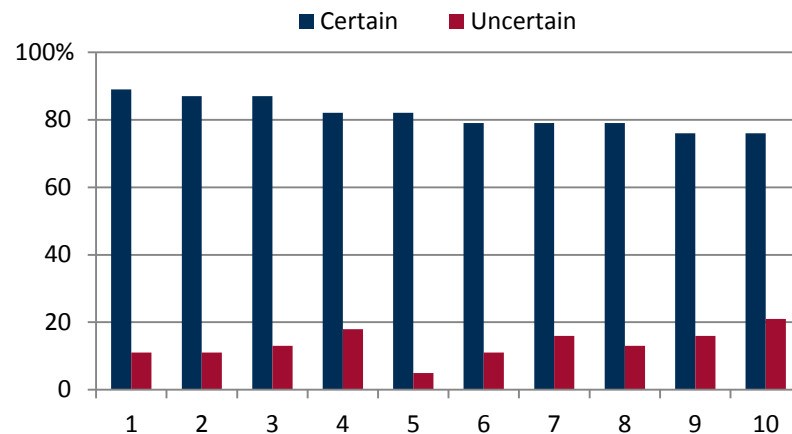
- 1) Branding becomes more important and a key competitive factor in the FM and services industry.
- 2) Flexibility and quality of service in the FM and services industry will become more important.
- 3) Human Resources will become a key competitive parameter for companies.
- 4) The high growth rates in the BRIC countries and other emerging economies will continue.
- 5) Health and well-being issues will grow in significance.
- 6) Shortage of labour will be a limiting factor for the FM and services industry.
- 7) Globalisation will particularly favour big companies.
- 8) Cost-saving will be a more important driver for outsourcing from companies.
- 9) Innovation and differentiation will be more important for the FM and services industry.
- 10) Companies will outsource much more than today.

Figure 2: ISS Top 10 Certainties Globally



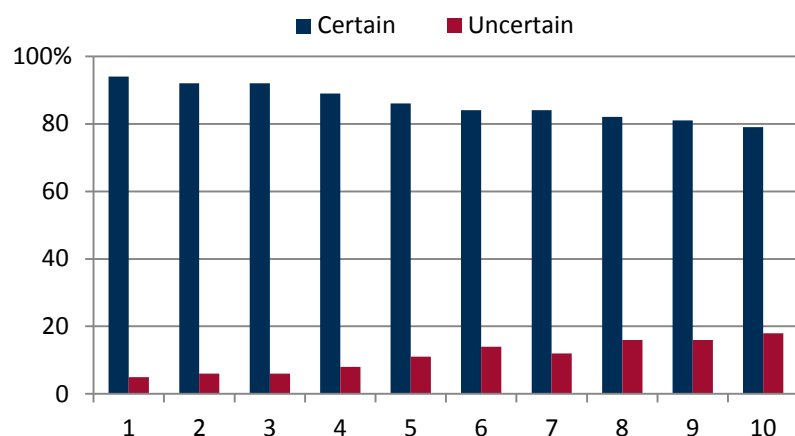
**Asia:** ISS managers in Asia opine that the key competitive parameters that will shape the industry for the next decade are those focusing on people and “soft” issues, such as branding, human resources, health and well-being, and the availability of labour.

Figure 3: ISS Top 10 Certainties Asia



**Western countries:** ISS managers from Western countries see price and quality of service as the key competitive parameters shaping the industry. These two goals will be enabled through centralization of procurement, innovation, provision of faster services, cost-savings and increased outsourcing.

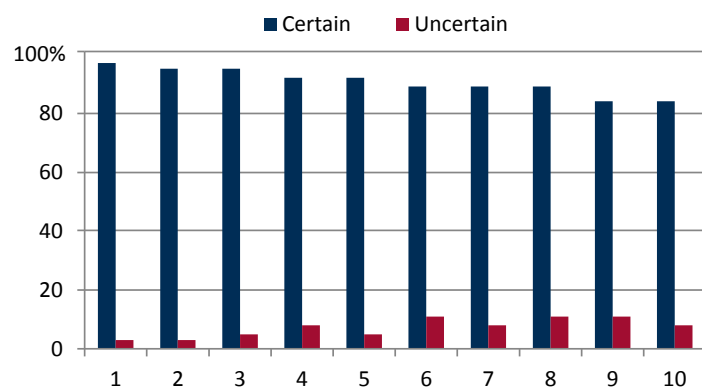
Figure 4: ISS Top 10 Certainties Western



The ability to provide these services will depend on the ability to source labour, which ISS managers working in Western countries also identified as their tenth-most important competitive parameter towards 2020.

**ISS managers from Rest of the World (RoW):** ISS managers working in RoW are more certain that innovation and service delivery will be the key competitive parameters, followed by speed and agility in service provision.

Figure 5: ISS Top 10 Certainties RoW



Just as managers in Asia, ISS RoW managers see human resources and health and well-being as important competitive parameters for the global FM industry. ISS managers in RoW and Asia are highly certain that the BRIC and other emerging markets will continue their high growth rates, meaning that they will be more important markets for the global FM and services industry over the coming decade.

Figure 4: Explanations

- 1) There will be a centralization of procurement and management of international facility services contracts, which will lead to an increasing standardization of service delivery.
- 2) Innovation and differentiation will be more important for the FM and services industry.
- 3) Flexibility and quality service in the FM and services industry will become more important.
- 4) Cost-saving will be a more important driver for outsourcing from governments.
- 5) Globalisation will particularly favour big companies.
- 6) Companies will outsource much more than today.
- 7) Speed and agility will become more important.
- 8) Cost-saving will be a more important driver for outsourcing from companies.
- 9) Governments will outsource much more than today.
- 10) Human Resources will become a key competitive parameter for companies.

Figure 5: Explanations

- 1) Innovation and differentiation will be more important for the FM and services industry.
- 2) Flexibility and quality service in the FM and services industry will become more important.
- 3) Speed and agility will become more important.
- 4) Human Resources will become a key competitive parameter for companies.
- 5) Health and well-being issues will grow in significance.
- 6) The high growth rates in the BRIC countries and other emerging economies will continue.
- 7) Globalisation will particularly favour big companies.
- 8) Companies will outsource much more than today.
- 9) Environmental regulations will positively impact the FM and services industry.
- 10) There will be a centralization of procurement and management of international facility services contracts, which will lead to an increasing standardization of service delivery.

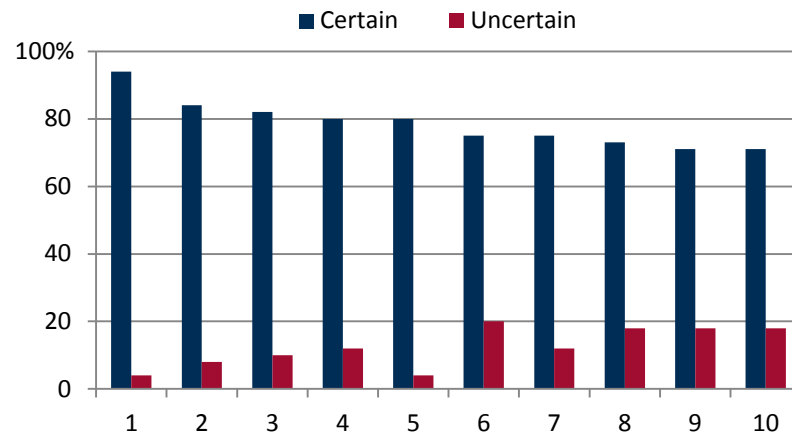
The RoW is the only regional grouping where ISS managers are highly certain that environmental regulations will play a positive role in the industry's development.

**External global FM and services industry experts focus on the importance of innovation and speed as key driving forces in the industry.** External experts are very certain that the nature of work is changing and that this trend will impact the future industry. The nature of work could develop in a way that reduces the demand for FM and services and could eventually depress commercial real estate prices.

Figure 6: Explanations

- 1) Innovation and differentiation will be more important for the FM and services Industry.
- 2) Speed and agility will become more important.
- 3) Cost-cutting will be a more important driver for outsourcing from governments.
- 4) Fewer people will be working from traditional office environments.
- 5) Health and well-being issues will grow in significance.
- 6) Flexibility and quality service in the FM and services industry will become more important.
- 7) Human Resources will become a key competitive parameter for companies.
- 8) Open books and transparency will become a key competitive parameter for FM and services industry.
- 9) Globalisation will particularly favour big companies.
- 10) Companies will outsource much more than today.

Figure 6: External FM and services industry experts' top ten certainties drivers for the future global FM and services industry



“We are what we repeatedly do.  
Excellence, then, is not an act,  
but a habit.”

*Aristotle, philosopher and polymath.*





# 8. Megatrend Analysis

## 8.1 Factor Megatrends

Megatrends are fundamental external driving forces that impact every level of society with a high degree of certainty. They have shaped the world and will continue to shape our future for decades to come. This section will briefly describe the megatrends and will outline how their development will impact the global FM and services industry towards 2020.

Megatrends are aggregations of trends and tendencies and help us frame our understanding of future scenarios. They help us structure our assumptions regarding the future.

There are nine megatrends and two trends with consequences for the FM and services industry, and they will be presented one at a time. In practice, megatrends cross over domains to interact in unpredictable ways, while influencing each other's developments.

The megatrends are organized into three groups, in addition to which we have the two industry-specific trends:

### Factor megatrends

- Economic growth
- Globalization
- Demographic trends
- Sustainability

### Knowledge megatrends

- Technological development
- Increased knowledge

### Social megatrends

- Individualization
- Commercialization
- Growing focus on health

### Trends and tendencies of consequence for the industry

- Natural catastrophes in densely populated urban areas
- New ways of working

### **Results from the surveys:**

*There is great uncertainty attached to the question of whether the West will lose its position and no longer be the innovative driving force in the FM and services industry. 62% of ISS's top managers and 69% of the industry experts are uncertain of this development.*

## **8.1.1 Economic growth**

Global economic power will likely continue its shift eastwards. According to International Monetary Fund (IMF) figures, developing Asia should by 2020 rival the G8 in economic power measured in purchasing power parity (PPP). There is a possibility that the West will lose its leadership position in many knowledge and technology development areas, as these are given high priority in many emerging-market economies.

Western economies are currently facing a number of structural challenges that will impact their capacity for strong growth over the next decade. The IMF estimates that Western economies will grow by around 1% annually over the next five years. Even if we assume that economic growth returns to 2% on average for Western economies by 2015-20, they will likely average 1-1.5% annually in 2020.

Owing to the likelihood of strong growth in low- and middle-income countries, the global middle class will likely become the most important consumer group by 2020. In the FM and services industry, a key market will develop for those companies that service these markets. Many innovations that provide maximum value at lowest cost could revolutionize service provision in high-income markets as well.

### **Consequences for the FM and services industry**

Most construction activity will occur in emerging markets.

Increasing competition coming from new players in emerging markets will force companies to allow for greater differentiation and to be innovative in how they adjust their business models and deliver extra value to clients.

Access to capital in the US and Europe will be subject to stringent return on investment (ROI) requirements for much of the next decade, limiting construction and building stock investments to only those with the best business cases.

The economic downturn has caused many FM managers to defer maintenance for building stock. FM and services industry managers in developed markets will make a determination as to when it is best to maintain, upgrade, downgrade or demolish existing buildings and associated infrastructure. Building stock in many Western companies will be pushed beyond its intended life expectancy. Competition for available capital will be intense once deferment is no longer an option. The decisions concerning facility condition will have consequences for customer organizations' sustainability profiles.

The remuneration offered by FM and global service industry companies will change to match the emergence of the global middle class. Global economic growth will also bring hundreds of millions into the global middle class. Economic growth will lead to changes in the relative political strength of nations. The citizens and employees of the global middle class will increasingly demand high-quality products and services, and companies will engage in fierce competition for share in these markets. Employees in countries in Asia will become increasingly discerning about where they work, looking for jobs that provide them with status and benefits and a chance at social mobility.

Service innovations developed for global middle-class markets could prove a hotbed for FM and services industry innovation that are applicable in high-income countries.

Figure 7: Regions as % of global middle class

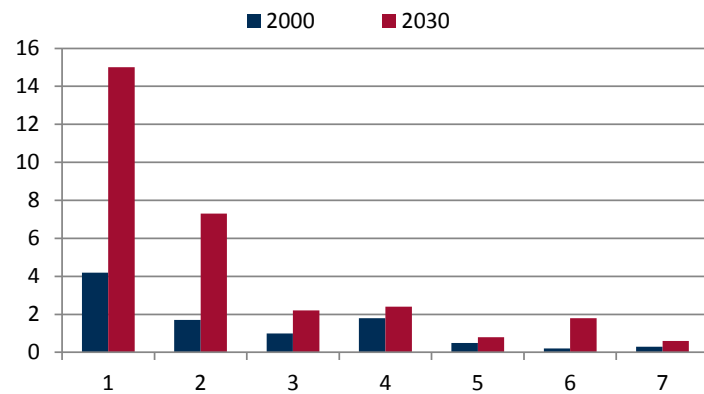
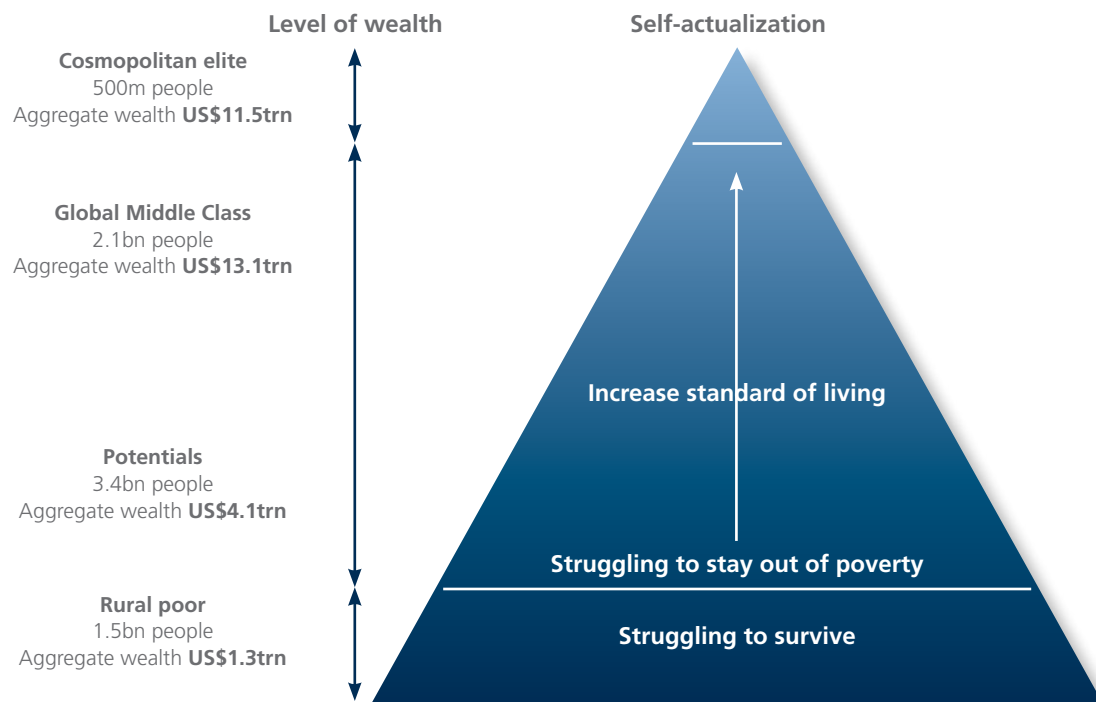


Figure 7: Explanations

- 1) Middle class in low-income countries.
- 2) East Asia and Pacific.
- 3) Eastern Europe and Central Asia.
- 4) Latin America and Caribbean.
- 5) Middle East and North Africa.
- 6) South Asia.
- 7) Sub-Saharan Africa.

Figure 8: Global Wealth Pyramid 2020<sup>1</sup>



<sup>1</sup> Figure 7+8: Abraham Maslow, IBM, Meeting the demands of the smarter consumer (2010), World Resources Institute and International Finance Corporation, "The Next 4 Billion: Market Size and the Business Strategy at the Base of the Pyramid" (2007), World Bank, 2007.

### **Results from the surveys:**

*Eighty-five percent of ISS managers state that globalization will favour big companies, and it is ranked as their 4th most important trend. Among the industry experts, 71% find it certain that globalization will favour big companies, and it is only ranked as the 10th most important trend.*

## **8.1.2 Globalization**

Globalization is the growing global interconnectedness between countries reflected in the flows of people, capital, products, services, knowledge, information, technologies, and cultures. Globalization expands the markets for products and the opportunities for companies with a global outlook. Much of this is attributed to decreasing transportation and communication costs and better Information Communication Technologies (ICT). ICT expand to a larger proportion of the global population, and professional and user-developed content will flourish and proliferate, increasing business exchanges, knowledge transfers and cultural interactions.

Globalization makes us more alike; at the same time, it makes us more aware of local differences. A growing number of multinational companies have therefore begun to adapt their products and marketing to local markets. This is commonly referred to as the “Glocalization” strategy. Companies that are able to navigate between emerging markets and with different cultures can look forward to a prosperous future.

### **Consequences for the FM and services industry**

The global FM and services industry will witness the emergence of new global challengers from East Asia, South Asia and Africa over the coming decade. Global competition will increase among brands, products, beliefs, opinions, management philosophy, and corporate culture.

A key uncertainty moving forward is how companies, governments and regulatory institutions will evolve in response to global challenges, particularly sustainability and demographic ageing. Will governments develop common sustainability targets, or will global corporations set the agenda? The choices that these major actors make will impact the business solutions and processes as well as the size of the available talent pool that the FM and services industry can employ over the coming decade.

## **8.2 Demographic Megatrends**

### **8.2.1 Aging and urbanization**

Attracting, recruiting and retaining the best possible workforce will be increasingly complex and challenging for companies around the world, as the interests and motivating factors for workers from various generations are different. In Europe, the US, Japan and China, the four-generation workplace will become increasingly common. It will be an essential factor for all FM and services industry companies to understand the motivational factors for each age cohort.

Today, 3.2bn people live in urban areas, and according to UN projections, almost 4bn people will be living in urban areas by 2015. If this trend continues, that number will increase to approximately 5bn 25 years from now. McKinsey Global Institute expects that the 600 largest cities will be responsible for 60% of global GDP by 2025. Within the global 600, the vast majority of cities will have populations under 10m, and over two-thirds will be in low- and middle-income countries. The urbanization trend will be particularly strong in Asia and Africa, as these are regions where the urban populations are still smaller than the rural



ones<sup>2</sup>. For example, demographers expect that 300m people will migrate to Chinese cities by 2020 – one of the largest urban migrations ever.

### **Consequences for the FM and services industry**

#### **Aging and talents**

The competition for talent will increase over the coming decade. The talent competition, combined with other factors (increasing focus on sustainability, brand values and individualization), will change how companies attract employees. Prospective employees will scrutinize how an employer's brand, image and values reflect their own. As a result, a company's approach towards sustainability and social responsibility will impact their ability to attract certain employee profiles.

The four-generation workplace will become increasingly common in the US, Europe, China, and Japan. Companies should devote attention to how to attract, recruit, retain and motivate workers from different generations and backgrounds. Training programmes will have to be tailored to help workers with differing degrees of educational and technological sophistication keep up with the pace of technological development.

Difficulty in recruiting the right talents will foster technological development, outsourcing and innovation to find alternative solutions to solve the talent shortage problem.

#### **Urbanization**

Urbanization will place enormous strains on local environments and global commodity resources. The FM and services industry will develop more complex building systems to cope with the challenge. Buildings will be increasingly seen as part of more complex systems that cover geographic entities (district heating and cooling solutions, for example) as well as organizational realities (value chains).

FM and services industry strategies will have to be adaptable to the needs of the local environment. Sustainability challenges will vary from region to region, and the building's role in the local infrastructure and supply chain will have to be taken into account. In some regions, energy use will be most important, while in others, water usage or disaster preparedness will have greatest priority.

A number of new systems will become increasingly common. Such systems include: computer-aided facility management; building automated systems; computer-maintenance management systems; integrated workplace management systems; and infrastructure lifecycle management systems.

### **8.2.2 Sustainability**

The sustainability challenge includes energy usage, materials usage, water and waste management, and indoor ecology. In order to meet environmental and scarcity challenges, building construction, operations, management and disassembly will have to become more efficient in energy and materials usage. Global warming will be one of the main sustainability challenges for the coming century.

*Among ISS managers in Asia, branding was the single most important trend shaping the future of the industry towards 2020.*

<sup>2</sup> [http://www.mckinsey.com/mgi/publications/urban\\_world/pdfs/MGI\\_urban\\_world\\_full\\_report.pdf](http://www.mckinsey.com/mgi/publications/urban_world/pdfs/MGI_urban_world_full_report.pdf)



*Even though many Asian countries have large labour forces, 79% of ISS managers from Asian countries believe that “Shortage of labour will be a limiting factor for the FM and services industry.” The statement ranks as the 6th most important trend facing the industry. The statement doesn’t make it to top 10 in other surveyed regions.*

To become more energy- and carbon-efficient, societies around the world may be forced to restructure their economies and infrastructure. Individuals will have to change their diets, travel and work habits. Buildings throughout the world will have to be completely renovated, as buildings and corresponding infrastructure are responsible for as much as 40% of energy usage. In Denmark, one of the world’s leaders in energy efficiency, the Engineer’s Association recommends that by 2015, 75% of all poorly insulated walls, floors, windows, and roofs should be refurbished or replaced and that buildings’ energy usage be reduced by 25%<sup>3</sup>. From 2020, all newly constructed buildings should meet the Building+ code and be energy-positive (producing more energy than they consume).

The challenge will be even greater in middle- and low-income countries, where urbanization trends are strongest. In China, housing and workplaces will have to be created for more than 300m urban migrants. The critical challenge will be to create energy, water and waste-efficient structures as cheaply and quickly as possible. Chinese authorities are implementing alternative building codes to deal with the challenge. For example, Beijing and Shanghai have banned the autonomous building of housing to prevent the development of urban sprawl.<sup>4</sup>

### **Consequences for the FM and services industry**

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. Systemic design will become more important. Building information modeling could lead to a merging of the value chain between building design and maintenance, creating new business models and partnering opportunities. Building designers will seek to improve building designs and inputs to their models by analyzing how people actually move through and use work spaces.

The impact of sustainability challenges will impact the FM and services industry according to regional conditions and challenges. Global warming will have different regional impacts, with African and Asian economies bearing the brunt of the impacts according to currently available information. The quality of construction tends to be higher in mature markets than in emerging markets. Many buildings in Asia are built with life expectancies ranging from 10 to 15 years, compared to upwards of 30 years in more mature markets, according to Stephen Ballesty.

Keith Futcher opined that sustainability challenge impacts will depend on governments and the economic approaches they take towards energy, water and waste management. Some countries – if they choose to follow the Scandinavian example – could impose high costs on energy usage to achieve greater efficiencies with a local economy.

<sup>3</sup> IDA, *The IDA Climate Plan 2050*, (2009), 125.

<sup>4</sup> Woodrow Wilson Institute, 2009.

Global warming will require mitigation as well as adaptation solutions from the FM and services industry. For example:

- Rising sea levels will become a real problem in many coastal regions. This challenge will grow in importance, as many of the world's fastest-growing cities are located in the areas most at risk from flooding.
- Malaria and other vector-borne illnesses are emerging or re-emerging in many high-income countries. The threat of vector-borne illnesses will lead to a number of adaptive solutions in Europe and North America.
- Weather events are becoming more unstable and powerful with larger downpours, storms, floods, blizzards and droughts, which will challenge buildings' infrastructures and preparedness.

The upgrading of older technology and innovative leaps will lead to greater efficiency in resource and energy usage. The question is the degree to which organizations are making investments. Examples of changes can range from small to large:

- **Small:** Investments in new low-energy light bulbs; motion sensors; video conferencing equipment; installation of low/no-flush toilets; electric hand dryers; etc.
- **Medium:** Refurbishing of company property; changing operating systems; changing windows; Technology-embedded materials, for example, sensors in painting and wallpaper; space reorganization (working/office arrangements).
- **High:** Replacement of cooling towers; generators; boilers; insulation; installation of waste-heat recovery facilities; heat traps; changing of smoke stacks; vehicle tailpipes; etc.

## 8.3 Knowledge-based Megatrends

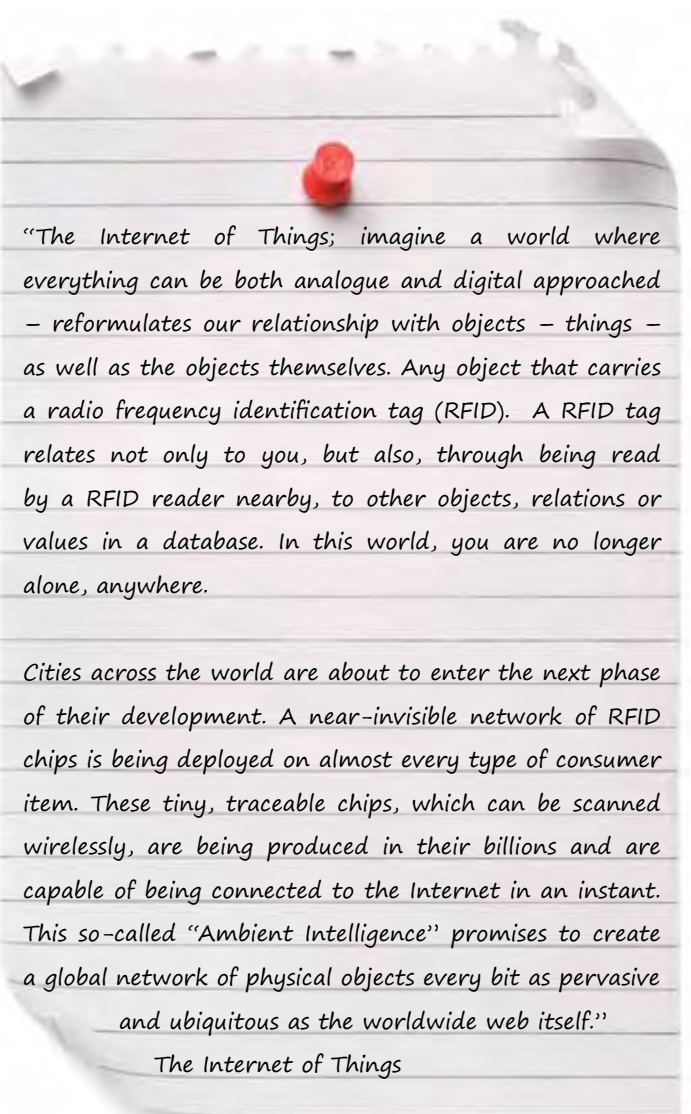
### 8.3.1 Technological development

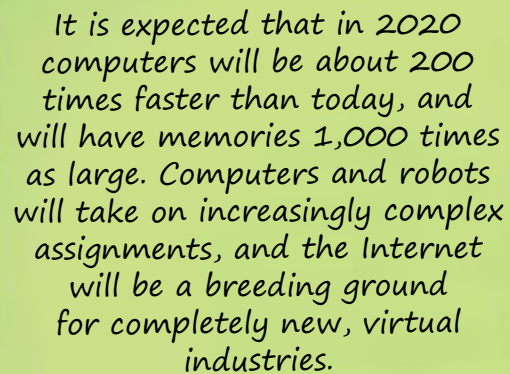
Technological progress and economic progress are intimately intertwined. Technological progress increases productivity, leads to the development of new industries, income growth, and reduced poverty. Technological developments, high-tech innovation, increased business activity, as well as products and services, enter a country via foreign trade, foreign direct investment (FDI), and frequently are disseminated through migrant populations. These avenues permit the diffusion and adaptation of technology to larger parts of the global population.

Towards 2020, technological development will be shaped by the force-multiplying effects of:

- The convergence of nanotechnology, biotechnology, materials technology, and information and communications technology.
- The acceleration of technological development.
- Growing information exchange between developed and developing countries.
- Developing countries participating in technology development.

Over the next decade, the FM and services industry will be shaped by developments in





*It is expected that in 2020 computers will be about 200 times faster than today, and will have memories 1,000 times as large. Computers and robots will take on increasingly complex assignments, and the Internet will be a breeding ground for completely new, virtual industries.*

new materials technologies, increasing usage of autonomous robotics, the creation of the Internet of Things – where physical objects and humans are connected and communicate virtually, creating ambient intelligence – and improved data collection, storage, mining and analysis.

### ***Consequences for the FM and services industry***

Towards 2020 we expect to see major progress in intelligent technology, such as near-field communication (NFC) sensors, smart surveillance and security applications and smart robots, which will enable automation of more activities. Technology will take over more domains and functions as robot technology improves in quality and stability and prices for advanced technologies decline and labour costs increase.

Global ICT will continue to transform the way we communicate, as the “social” and “collaborative” networking platforms increasingly push web development. Future communications technologies will increasingly bridge the gap between the physical and digital worlds, creating a mixed and augmented reality that offers new communication opportunities for consumers, governments, businesses and employees.

Breakthroughs in technology will change the way buildings are operated and maintained. These new technologies will create skills gaps that FM and services industry companies will have to address to maintain the optimal level of business performance.

New technologies will lead to new risks from chemicals, nano-particulates, and require new cleaning techniques, filtration, and FM standards and requirements. There is a blind spot towards understanding the potential health and environmental impacts of an organisation. There will be new uses for new FM techniques and new classes of filtration products and standards. According to the UK’s safe nanocommunity, we are living in a post-chemistry world. According to their researchers, we have for the most part grown used to assessing materials risks by considering their chemistry alone.

The convergence of technologies will have many effects. It will lead to increasing blurring of lines between technologies. Nanotech will lead to highly specialized filtration usage for clean rooms in high-tech manufacture and medicine and for producing clean water, including nano-filtration for desalination.

The development of the Internet of Things and ambient intelligence will allow managers to develop a much better understanding of how people are using buildings, leading to new maintenance approaches, better designs, and more productive spaces. This development will also lead to a number of ethical and security challenges, for which FM and services industry managers should develop contingency plans. For example, which data are you permitted to store, and for how long? Who owns the data collected from individuals moving through the building? Who is responsible for securing and protecting these data?

According to Keith Fatcher, CEO ISS Facility Services Asia, the cost of labour is increasing in all markets, including those in labour-abundant maturing markets. Other labour challenges, including the mismatch between needs and qualifications, will also drive technological development in the global FM and services industry. These challenges will lead to a number of labour-reducing breakthroughs in remote monitoring through RFID technologies and

the Internet of Things, self-cleaning materials, and mobile labour management, among other solutions.

Technological development is squeezing low-quality labour out of the market and creating new demands for skill sets. Cleaning, for example, is no longer an issue of “elbow grease”. Security is much more than a pair of eyeballs. New technologies require that people work in more intelligent ways. New materials require precise knowledge about cleaning practices that balance the correct application of chemicals in the right proportions on the allowable surfaces using the proper application methods. New defensive mechanisms need ongoing training. Employees have to be more technically savvy. According to Keith Futcher, organizations are flattening to such a degree that even the lowest levels of the company are now making decisions that were once the sole purview of managers and senior executives.

According to Dr Dean Kashiwagi, technological development will help transition the FM industry from its technical paradigm towards new strategic approaches.

### 8.3.2 The growth of a knowledge society

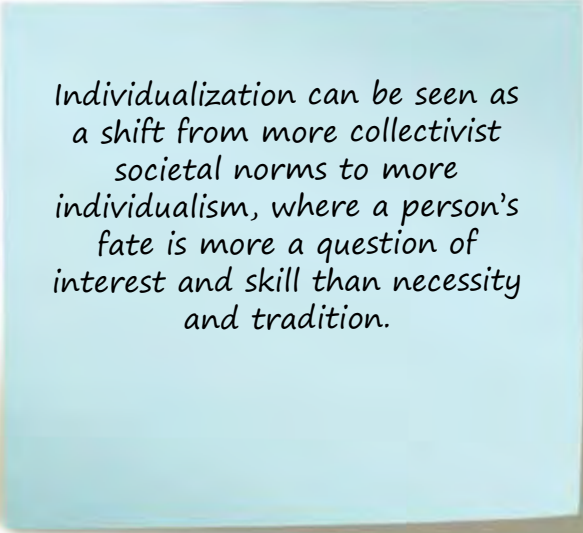
The communication revolution is creating an explosion in the creation and dissemination of information. New reporting, collection and control technologies are creating a mountain of data that needs to be collected, stored and analyzed<sup>5</sup>. The successful FM and services industry companies towards 2020 will be the ones that can efficiently collect, store, secure, analyze and operationalize data to generate value and maximum benefit for customers. To standardize data collection and make it cross-comparable, ISO standardization will be required before the maximum benefit of data collection and the knowledge society is realized.

#### ***Consequences for the FM and services industry***

The increase in the level of scientific knowledge in all FM and related services will increasingly rely on specialists. The demand for better-educated labour with degrees in FM specialty topics will change how business is conducted and will drive greater professionalization while expanding the knowledge base within FM and related services.

Interviewed experts described the professionalization trend occurring in the industry, which in their opinion is driven by the major corporations. The large multinationals are becoming more sophisticated as to determining and deriving value for customers through benchmarking and other types of research.

Professor Kathy Roper points out that one of the major labour-market focus areas for managers towards 2020 will be the need to obtain quality labour and find capable staff at all levels of the organization. The average employee will have higher skill-set development and training requirements owing to the top-down integration of new technologies and higher expectations of service from the buyer. This will require higher training and better internal knowledge-sharing management culture.



*Individualization can be seen as a shift from more collectivist societal norms to more individualism, where a person's fate is more a question of interest and skill than necessity and tradition.*

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<sup>5</sup> *The Economist*, Special Report: Data, data everywhere (25<sup>th</sup> February 2010) <[http://www.economist.com/specialreports/displayStory.cfm?story\\_id=15557443](http://www.economist.com/specialreports/displayStory.cfm?story_id=15557443)>



## 8.4 Social Megatrends

### 8.4.1 Individualization

A central goal of modern life is to distinguish oneself from others and obtain a higher position in a social hierarchy based on shared norms and values. This is achieved by focusing on and promoting individual over collective goals. Individualism has made branding one of the key aspects of modern sales and marketing. It is a key element of professional advancement and is becoming a central element of service and manufacturing with the development of mass customization.

Individualization will continue to impact organizations and social relations, especially in low- and middle-income countries. First, individualization can be seen in the gradual dissolution of traditional market segments. Even today, marketing-segment models are being abandoned because people can no longer be divided into internally consistent groups. Customers increasingly expect tailored products and services. Second, companies will experience increasing employee turnover. Third, individualization will be felt as employees and customers increase their demands for individual attention.

#### **Consequences for the FM and services industry**

People and organizations expect tailored products, services and solutions. Companies expect their FM and services industry providers to supply individualized services that maximize their value proposition. The development of computer-assisted facility management will allow companies to offer increasingly individualized offerings for facility customers. The mantra that will drive this development will be: How can individualized FM and services industry offerings improve workplace productivity?

Employees will increasingly expect their employers to help them achieve their professional and private goals. If companies are unwilling or unable to provide the appropriate mentoring or training programmes, employees will switch to the companies that will, which could result in higher employee turnover.

#### **Increasing focus on health and well-being**

You can never be too healthy, and an increasing amount of personal and public resources will be spent on health and longevity, including regulation and awareness campaigns that will focus on preventive measures. The health megatrend focuses not only on the prevention of disease, but also on the perception of wellness. The increasing focus on health is fueled by individualization, the advancement of science and an increasing access to information, an ageing population, affluence and technological developments in the medical industry.

Over the coming decade, an increasing focus on health will permeate more aspects of private and business life. More lifestyle-related disorders and diseases will emerge. The focus on health and a better life will lead to artificial and technologically enhanced human capabilities.

*81% of the top managers from ISS believe that health and well-being issues will grow in significance; it ranks number 10 among the most important trends for ISS. In the Asian region it ranks number 5.*

*The experts rank it as the fifth most important trend.*

## Consequences for the FM and services industry

The focus on health will have a major impact on the global FM and services industry. In Europe, over 30% of integrated FM revenue is generated by the healthcare sector<sup>6</sup>. As budget cuts in Europe affect service provision, governments will likely outsource more activities. Increasing pressure on public budgets will alter healthcare institutions, driving service provision towards decentralized delivery. Quality and specialized services will be available at a premium, driving healthcare providers and consumers from a cure-based delivery demand to a prevention-based one. Frost & Sullivan<sup>6</sup> expects that the FM and services industry revenue CAGR from the healthcare sector will grow by at least 5% annually in the UK – the most advanced FM market – and by as much as 11% in France.

While the healthcare industry itself presents a large opportunity for the FM and services industry, the focus on health goes beyond solely focusing on the healthcare industry. The doubling of the prevalence of lifestyle-related diseases, like diabetes, will lead to new incentives in building designs to promote healthier and more productive lifestyles among company employees. Buildings will be assessed and designed to promote more active, comfortable, and productive lifestyles.

The increasing level of specialization within the health arena means more advanced demands from FM and services industry customers. Competitors and agencies focusing on emerging niches in the health and food industries could achieve market success over large-scale service providers as the demand for advanced services reaches a critical threshold.

These changes will provide new opportunities for different kinds of services that can be integrated with the FM and services package (but only if they are quick to spot opportunities and leverage existing structures).

Figure 9: Labour models undergoing radical change<sup>7</sup>

Over the next three years, more than half of CHROs worldwide plan to inject a higher dose of flexibility into the composition of their workforces.

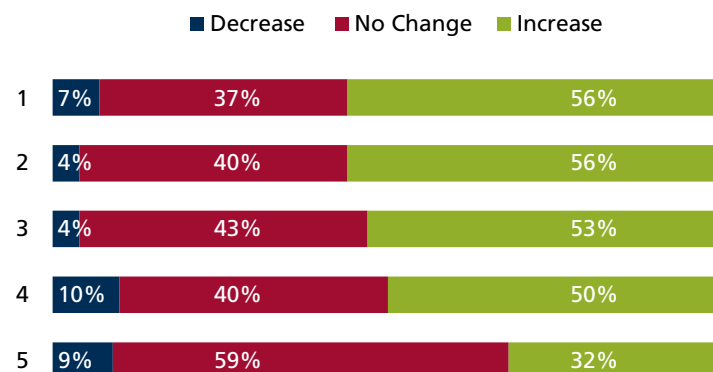


Figure 9: Explanations

- 1) Outsourcing (moving work to another company).
- 2) Offshoring (moving work outside your country, but within your company).
- 3) Hiring part-time workers.
- 4) Using temporary/contingent workers.
- 5) Bringing back retired workers.

<sup>6</sup> Frost and Sullivan, *European IFM Market*, 2009.

<sup>7</sup> *Working beyond borders*, IBM Institute for Business Value, 2010.



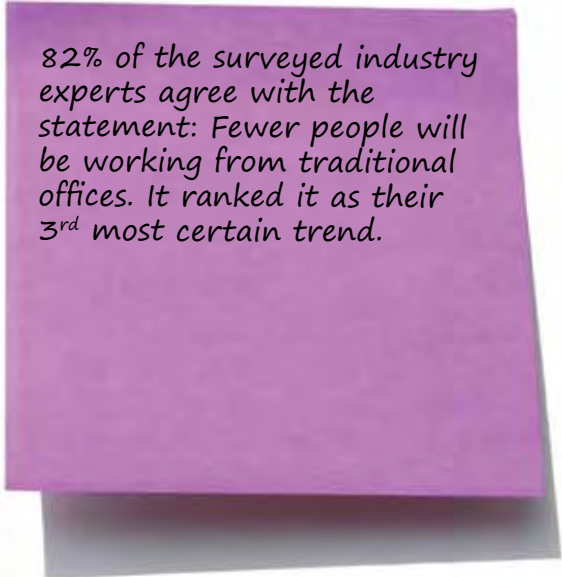
## 8.4.2 Commercialization

Commercialization is the satisfaction of more human needs through the private market. It is the driving force behind the outsourcing phenomenon, which since the 1980s has been focused on generating better bottom-line results. It is closely linked with the other megatrends: globalization; economic growth; individualization; and digitalization. Digitalization has made it much easier to reach consumers globally, and the Internet has advanced commercialization by making it both cheaper and faster for companies to market increasingly complex products globally.

### *Consequences for the FM and services industry*

Commercialization means faster competition, shorter product lifecycles, and increasing specialization, differentiation and innovation. FM and services industry companies will have to find ways to help their customers stay competitive and maximize value. To do this, managers will have to understand the key business indicators that promote value in an organization and how FM and services industry can help their customers improve performance. This could be achieved by understanding their strategic plans and objectives. It could also be achieved by employing lean management techniques to cut waste and use six-sigma<sup>8</sup> strategies to increase quality.

Even though business and consumer investments may be constrained in high-income countries over the next five years in the wake of the recent financial crisis, outsourcing and offshoring will remain a strong trend in both the public and private sectors. Surveys of global CEOs show that more than half expect to increase their use of outsourcing and offshoring in the next several years. New companies will emerge, offering increasingly specialized products and services. Improving efficiencies will dictate that advanced methods of integration among the value chain become increasingly important to bottom-line results. This integration will become increasingly complex, as exemplified by the modern hospital laboratory.



82% of the surveyed industry experts agree with the statement: Fewer people will be working from traditional offices. It ranked it as their 3<sup>rd</sup> most certain trend.

## 8.5 Trends and Tendencies specific to the FM Industry

### 8.5.1 New ways of working

Corporations are implementing alternative workplace practices and new ways of working to promote corporate identity and foster more efficient collaboration, knowledge-sharing, flexibility, speed, innovation and productivity. The traditional workplace will become the alternative workplace. The alternative workplace is a combination of non-traditional work practices, settings and locations that supplement or replace traditional offices. Successful “alternative workplace practice” programmes incorporate human resources, information technology and corporate real estate (CRE) practices<sup>9</sup>.

The global economic downturn, technological development and sustainability challenges will

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<sup>8</sup> [http://en.wikipedia.org/wiki/Six\\_Sigma](http://en.wikipedia.org/wiki/Six_Sigma)

<sup>9</sup> Based on a Global survey: *Alternative Workplace Strategies in the Current Economy: A 2009 Global Benchmarking Study*, by New Ways of Working, 2009. The study includes 103 organizations including Fortune 100 companies, representing more than 4.5m employees. <http://www.nxtbook.com/nxtbooks/corenet/theleader0111/#/22>

foster the development of the alternative workplace as companies look towards reducing costs, optimizing their resources and capacities, and increasing flexibility of workplace practices. The alternative workplace will remain an important tool on the strategic level, as it is a way for companies to reduce expenses on travel and real estate.

Increasingly powerful and portable productivity technologies and the emergence of social media will create more flexible working relationships. The flexibility that once was the sole privilege of the knowledge worker will increasingly expand to more workers through the emergence of more powerful mobile and smart systems. Remote work will become a viable option for many FM and services industry workers.

### ***Consequences for the FM and services industry***

Several of the experts interviewed for this study also point out that alternative workplace practices and strategies will be one of the influences that shape the global FM and services industry over the coming decade.

According to Kathy Roper, the alternative workplace is not only about working from remote locations, but it is about the way companies create and deploy their workspaces, leading to significant changes in the FM and services industry.

To realize the full potential that the technologies surrounding the alternative workplace offer, companies need to be better able to track and understand the use of the company workspaces and the use of alternative workplaces, pushing the limits of FM and services industry managers' data-analysis capabilities.

More companies will switch to 24/7 operations or work across multiple time zones. The demands for flexible and alternative work times will require flexibility from FM and services industry managers. Managers will be expected to develop more flexible FM policies that allow personnel greater control over acoustics, air quality, lighting and other aspects of the work environment. Managers should be proactive in their policy design.

FM managers will increasingly have to make use of online facility reservation and management tools that also pinpoint underutilized facilities, leading to better facility management and eventually to better building design.

### **8.5.2 Preparedness and populations at risk in densely populated urban areas**

According to the United Nations Population Fund (UNFPA), climate change and rapid urbanization occurring in middle- and low-income countries will expose the FM and services industry to new challenges and lead to a greater emphasis on contingency and continuity planning.

Towards 2030, urban poverty and a youth explosion will create challenges for FM and services industry managers in middle- and low-income countries. Facility security will remain a primary focus for the next several decades. One out of every three city-dwellers - 1bn people - currently lives in a slum. More than 90% of slum dwellers live in the developing world, in South Asia, Eastern Asia, Sub-Saharan Africa and Latin America. China and India account for 40% of slum inhabitants. Towards 2030, 60% of populations living in these cities will be 18 years and younger.

According to the US Council on Foreign Relations, recent studies suggest a strong correlation between countries prone to high rates of crime and civil conflicts and those with burgeoning youth populations. The relative size of the youth population is a good indicator for potential increased criminal and civil unrest in many countries.

Climate change and the emergence of more powerful weather events will lead to a higher likelihood of natural catastrophes. According to the United Nations Environment Programme (UNEP), between 1980 and 2000, 75% of humanity lived in areas affected by natural disasters. There were more than 700 major natural disasters in 1999, causing more than US\$100bn in economic losses and thousands of victims – more than 90% of the losses of life occurred in developing nations.

### ***Consequences for the FM and services industry***

The next wave of urban development will occur in areas already prone to natural disasters. FM and services industry managers should prepare contingency and continuity plans for a number of challenges. According to the IFMA facility management forecast, FM managers should “participate in risk management assessment, develop plans, lead rehearsals and drills, and ensure appropriate materials are on hand” (such as supplies, fuel, food, etc).

“Change is the law of life.  
And those who look only to  
the past or present are certain  
to miss the future.”

*John F. Kennedy, US President.*

## 9. References

- Andersen, Morten Kamp and Ankerstjerne, Peter "Working with Change Management in Service Outsourcing" 2010.
- Carmody & Trusty "Life Cycle Assessment Tools" Newsletter: Implications vol. 05 issue 03, 2005// [www.informedesign.umn.edu](http://www.informedesign.umn.edu).
- Copenhagen Institute for Futures Studies "10 Tendencies Towards 2020" members' report no. 2, 2010.
- Copenhagen Institute for Futures Studies "Anarconomy" members' report no. 3, 2009.
- Copenhagen Institute for Futures Studies "Opportunities in crisis" members' report no. 1, 2009.
- Copenhagen Institute for Futures Studies "Strategic futures studies" members' report no. 2, 2008.
- Copenhagen Institute for Futures Studies "Strategic Issues" members' report no. 1, 2008.
- Copenhagen Institute for Futures Studies "The New Age of Thrift?" members' report no. 4, 2009.
- Copenhagen Institute for Futures Studies "Towards New Horizons" members' report no. 1, 2011.
- Corbet, Michael F "Outsourcing and the New Global Economy" IAOP, 2010.
- The Economist*, Special Report "Data, data everywhere" 2010 [www.economist.com/specialreports/displayStory.cfm?story\\_id=15557443](http://www.economist.com/specialreports/displayStory.cfm?story_id=15557443).
- Frost and Sullivan "European IFM Market Opportunity Analysis" by Vertical Customer Sector, 2009.
- Frost and Sullivan "World's Top Global Mega Trends To 2020 and Implications to Business" Society and Cultures, 2010.
- Hammond, Allen, and others "The Next 4 Billion: Market Size and the Business Strategy at the Base of the Pyramid", World Resources Institute and International Finance Corporation, 2007.
- IBM Institute for Business Value "Working beyond borders, Insights from the Global Chief Human Resource Officer Study" 2010.
- IDA "The IDA Climate Plan 2050" 2009.
- IFMA "Exploring the Current Trends and Future Outlook for Facility Management" 2011.
- ISS World Services A/S "ISS Way Strategy" 2008.
- ISS World Services A/S "The ISS Way - Value Chain" 2010.
- Kashiwagi, Dr Dean "FM of the future" from "Concepts Tools & Techniques for Managing Successful Projects, Performance-Based Studies Research Group (PBSRG)" Arizona State University (ASU).
- Lanley College, Project Synopsis "Current Situations and Trends In Buildings and Facility Operations" 2010.
- Mason, David. "Tailoring scenario planning to the company culture" *Strategy and Leadership*, Vol 31, no.2 2003, 25-28.
- Ouye, Joe "Alternative Workplace Strategies in the Current Economy" A 2009 Global Benchmarking Study, by New Ways of Working, 2009, [www.nxtbook.com/nxtbooks/corenet/theleader0111/#/22](http://www.nxtbook.com/nxtbooks/corenet/theleader0111/#/22)
- Radlein, Dr Alexander and Poglich, Reinhard "Trends and developments within Facility Management" ISS World Services A/S, 2010.



Roxburgh, Charles. "The use and abuse of scenarios." McKinsey Quarterly (November 2009): 1-10.

Schaefer & VanTine "Meeting the demands of the smarter consumer" IBM Institute for Business Values, 2010.

Schoemaker, Paul J.H. "Scenario planning: a tool for strategic thinking." Sloan Management Review 36, no. 2 (1995): 25-40.

The Mckinsey Global Institute "Urban world" 2011 [www.mckinsey.com/mgi/publications/urban\\_world/pdfs/MGI\\_urban\\_world\\_full\\_report.pdf](http://www.mckinsey.com/mgi/publications/urban_world/pdfs/MGI_urban_world_full_report.pdf).

Van der Heijden, Kees "Scenarios: the art of strategic conversation" John Wiley and Sons, Ltd. 2005.

Wilson, Ian "Subtle art of strategy" Praeger. 2003.

Woodrow Wilson Institute, 2009.

[www.ifma.org](http://www.ifma.org)

[www.worldbank.org](http://www.worldbank.org)



# 10. List of Abbreviations

BIM	Building information modeling
BRIC	Brazil, Russia, India and China
CAGR	Compound annual growth rate
CIFS	Copenhagen Institute for Futures Studies
COP	Conference of the Parties (UN Climate Change)
CRE	Corporate real estate
CSR	Corporate Social Responsibility
FDI	Foreign direct investment
FM	Facility management
GDP	Gross domestic product
GMO	Genetically modified organisms
HVAC	Heating, ventilation, and air-conditioning
IMF	International Monetary Fund
IFMA	Integrated Facility Management Association
ISO	International Organization for Standards
MENA	Middle East and North Africa
MNC	Multinational corporation
NFC	Near field communication
NGO	Non-governmental organization
NPV	Net present value
PPP	Purchasing power parity
RFID	Radio frequency identification
R&D	Research and development
ROI	Return on Investment
ROW	Rest of the world
SCO	Shanghai Cooperation Organization
UNEP	United Nations Environment Programme
UNFPA	United Nations Population Fund
WTO	World Trade Organization
XBRL	eXtensible Business Reporting Language



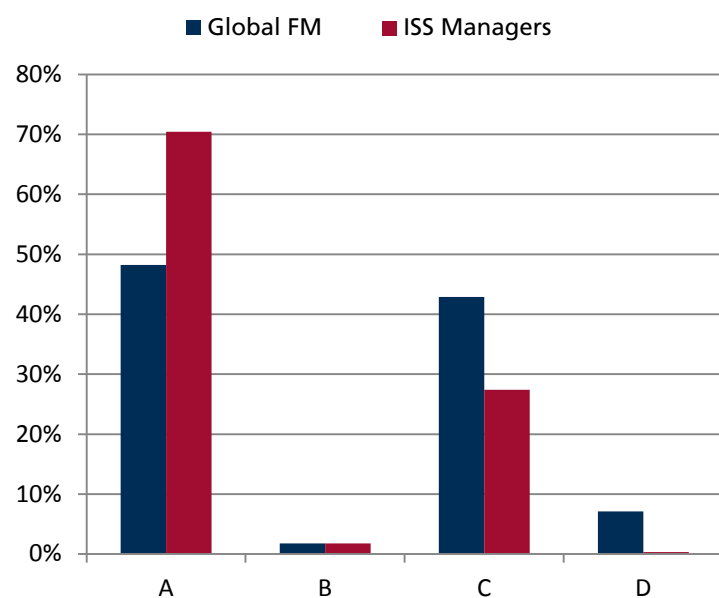
“If you don't think about the future, you cannot have one.”

*John Galsworthy, novelist and playwright.*



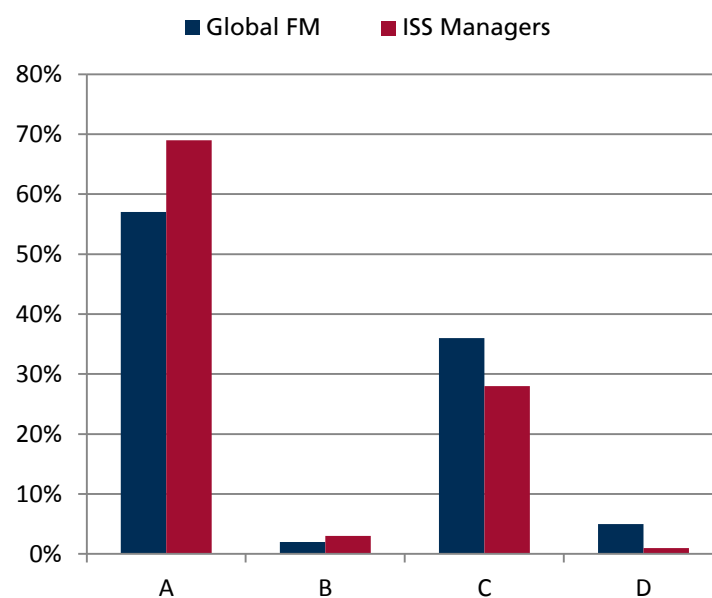
# 11. Appendix I Survey Results

## 1. The economic downturn in the West will create positive business changes in the global FM and services industry



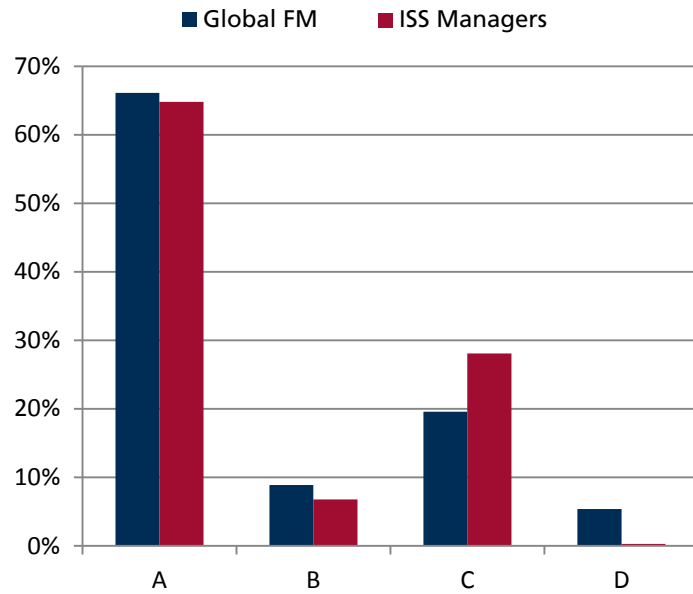
Summary		
Value	Global FM (%)	ISS Managers (%)
<b>A</b> I am almost certain that it is correct, and it is important for the global FM & services industry.	48.2%	70.4%
<b>B</b> I am almost certain it is correct, but it is not important for the global FM & services industry.	1.8%	1.9%
<b>C</b> I am not sure that it is correct. If it is correct, it is important for the global FM & services industry.	42.9%	27.3%
<b>D</b> I am not sure if it is correct. It is anyway not important for the global FM & services industry.	7.1%	0.3%

## 2. The economic crisis has created a long-term opportunity for the FM and services industry



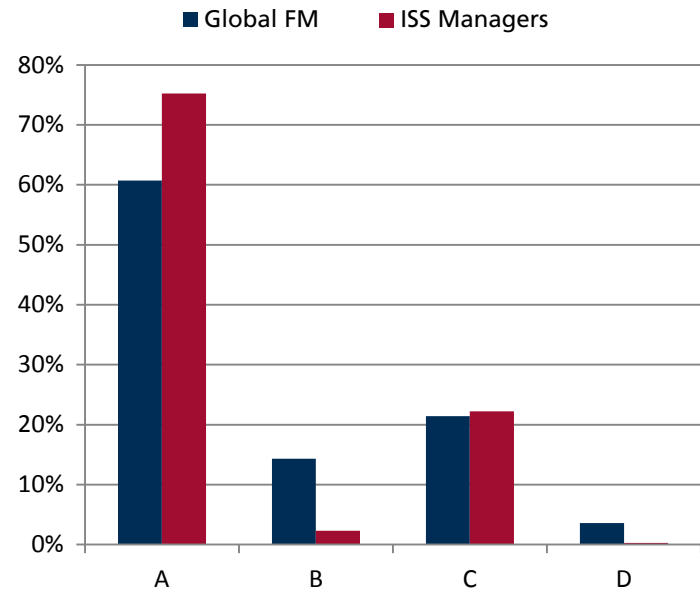
Summary		
Value	Global FM (%)	ISS Managers (%)
<b>A</b> I am almost certain that it is correct, and it is important for the global FM & services industry.	57.1%	69%
<b>B</b> I am almost certain it is correct, but it is not important for the global FM & services industry.	1.8%	2.3%
<b>C</b> I am not sure that it is correct. If it is correct, it is important for the global FM & services industry.	35.7%	28.1%
<b>D</b> I am not sure if it is correct. It is anyway not important for the global FM & services industry.	5.4%	0.7%

### 3. The economic crisis will lead to consolidation in most industries



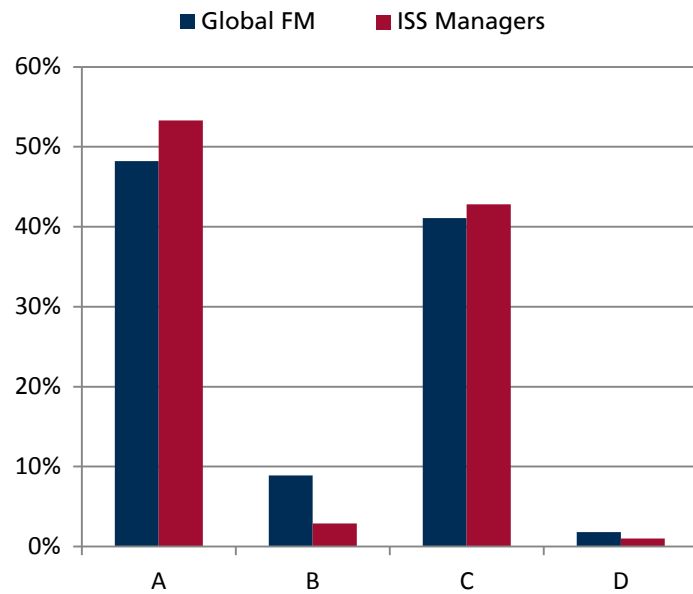
Summary		
Value	Global FM (%)	ISS Managers (%)
<b>A</b> I am almost certain that it is correct, and it is important for the global FM & services industry.	66.1%	64.8%
<b>B</b> I am almost certain it is correct, but it is not important for the global FM & services industry.	8.9%	6.8%
<b>C</b> I am not sure that it is correct. If it is correct, it is important for the global FM & services industry.	19.6%	28.1%
<b>D</b> I am not sure if it is correct. It is anyway not important for the global FM & services industry.	5.4%	0.3%

### 4. The high growth rates in the BRIC (Brazil, Russia, India and China) countries and other emerging economies will continue



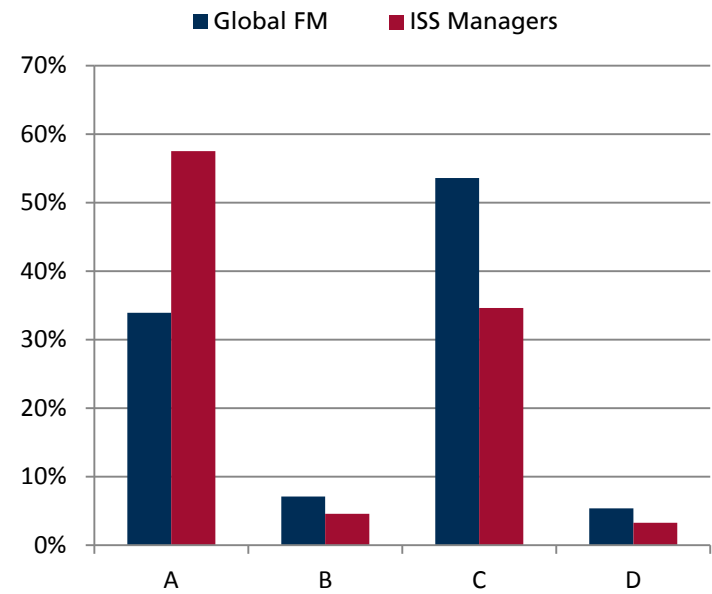
Summary		
Value	Global FM (%)	ISS Managers (%)
<b>A</b> I am almost certain that it is correct, and it is important for the global FM & services industry.	60.7%	75.2%
<b>B</b> I am almost certain it is correct, but it is not important for the global FM & services industry.	14.3%	2.3%
<b>C</b> I am not sure that it is correct. If it is correct, it is important for the global FM & services industry.	21.4%	22.2%
<b>D</b> I am not sure if it is correct. It is anyway not important for the global FM & services industry.	3.6%	0.3%

**5. There will be a major consolidation in the FM and services industry**



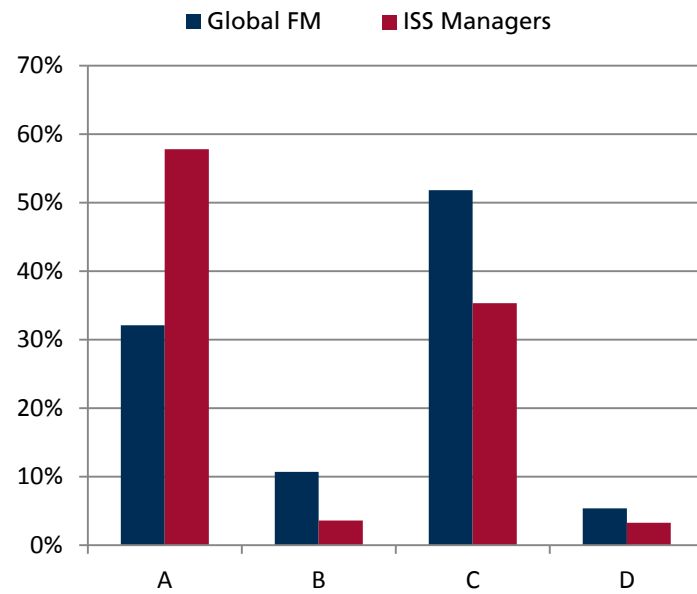
Summary		
Value	Global FM (%)	ISS Managers (%)
<b>A</b> I am almost certain that it is correct, and it is important for the global FM & services industry.	48.2%	53.3%
<b>B</b> I am almost certain it is correct, but it is not important for the global FM & services industry.	8.9%	2.9%
<b>C</b> I am not sure that it is correct. If it is correct, it is important for the global FM & services industry.	41.1%	42.8%
<b>D</b> I am not sure if it is correct. It is anyway not important for the global FM & services industry.	1.8%	1.0%

**6. The regulation of the FM and services industry will become more regional (that is, EU; US; ASEAN; or LAFTA)**



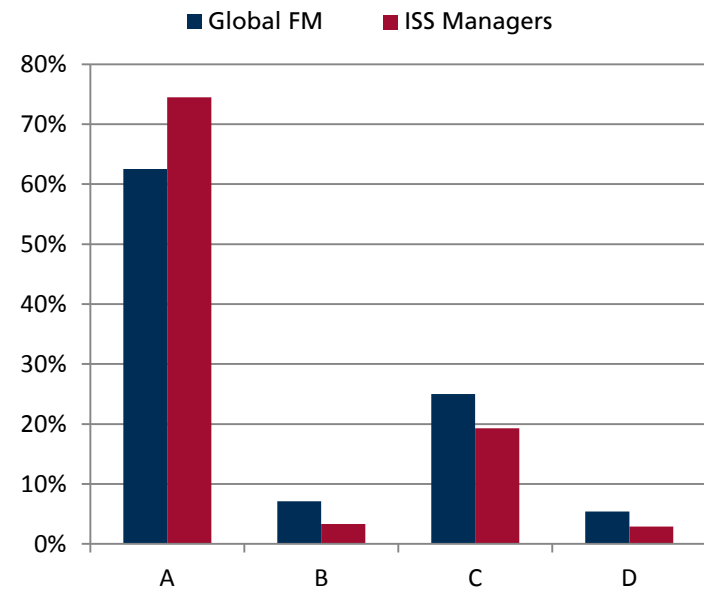
Summary		
Value	Global FM (%)	ISS Managers (%)
<b>A</b> I am almost certain that it is correct, and it is important for the global FM & services industry.	33.9%	57.5%
<b>B</b> I am almost certain it is correct, but it is not important for the global FM & services industry.	7.1%	4.6%
<b>C</b> I am not sure that it is correct. If it is correct, it is important for the global FM & services industry.	53.6%	34.6%
<b>D</b> I am not sure if it is correct. It is anyway not important for the global FM & services industry.	5.4%	3.3%

## 7. There will be an increase in international standardization of labour laws



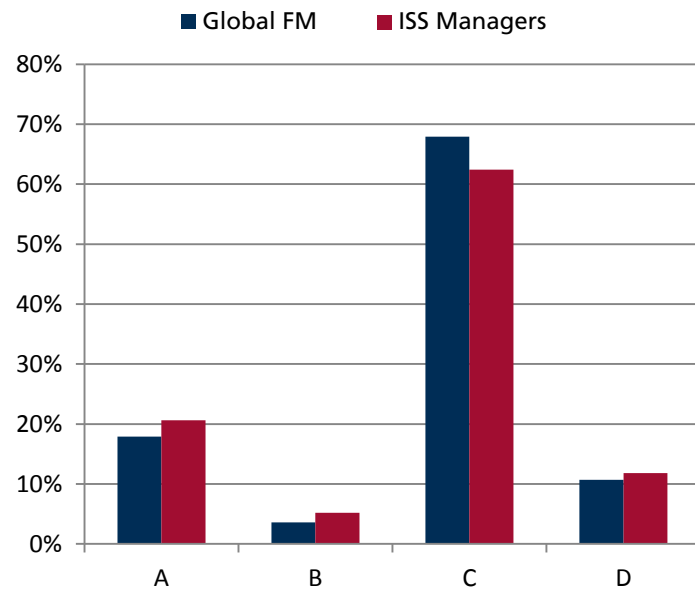
Summary		
Value	Global FM (%)	ISS Managers (%)
<b>A</b> I am almost certain that it is correct, and it is important for the global FM & services industry.	32.1%	57.8%
<b>B</b> I am almost certain it is correct, but it is not important for the global FM & services industry.	10.7%	3.6%
<b>C</b> I am not sure that it is correct. If it is correct, it is important for the global FM & services industry.	51.8%	35.3%
<b>D</b> I am not sure if it is correct. It is anyway not important for the global FM & services industry.	5.4%	3.3%

## 8. Environmental regulations will positively impact the FM and services industry



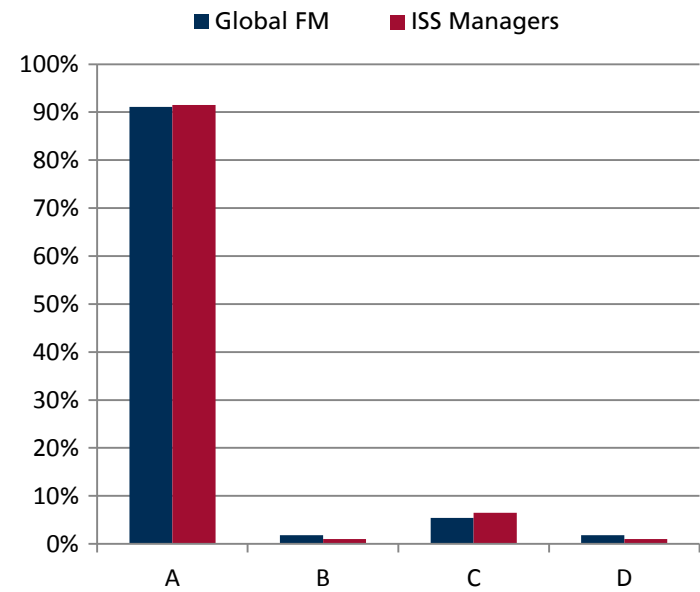
Summary		
Value	Global FM (%)	ISS Managers (%)
<b>A</b> I am almost certain that it is correct, and it is important for the global FM & services industry.	62.5%	74.5%
<b>B</b> I am almost certain it is correct, but it is not important for the global FM & services industry.	7.1%	3.3%
<b>C</b> I am not sure that it is correct. If it is correct, it is important for the global FM & services industry.	25.0%	19.3%
<b>D</b> I am not sure if it is correct. It is anyway not important for the global FM & services industry.	5.4%	2.9%

### 9. The West will lose its position and no longer be the innovative driving force for the FM and services industry



Summary		
Value	Global FM (%)	ISS Managers (%)
<b>A</b> I am almost certain that it is correct, and it is important for the global FM & services industry.	17.9%	20.6%
<b>B</b> I am almost certain it is correct, but it is not important for the global FM & services industry.	3.6%	5.2%
<b>C</b> I am not sure that it is correct. If it is correct, it is important for the global FM & services industry.	67.9%	62.4%
<b>D</b> I am not sure if it is correct. It is anyway not important for the global FM & services industry.	10.7%	11.8%

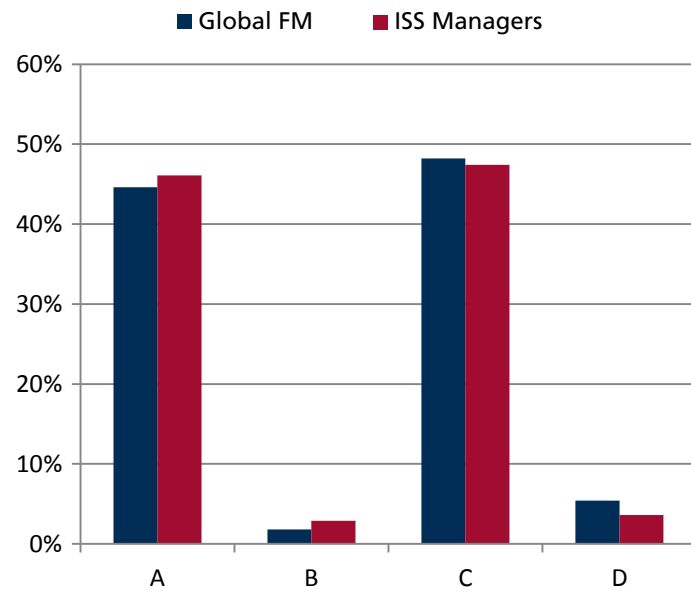
### 10. Innovation and differentiation will be more important for the FM and services industry



Summary		
Value	Global FM (%)	ISS Managers (%)
<b>A</b> I am almost certain that it is correct, and it is important for the global FM & services industry.	91.1%	91.5%
<b>B</b> I am almost certain it is correct, but it is not important for the global FM & services industry.	1.8%	1.0%
<b>C</b> I am not sure that it is correct. If it is correct, it is important for the global FM & services industry.	5.4%	6.5%
<b>D</b> I am not sure if it is correct. It is anyway not important for the global FM & services industry.	1.8%	1.0%

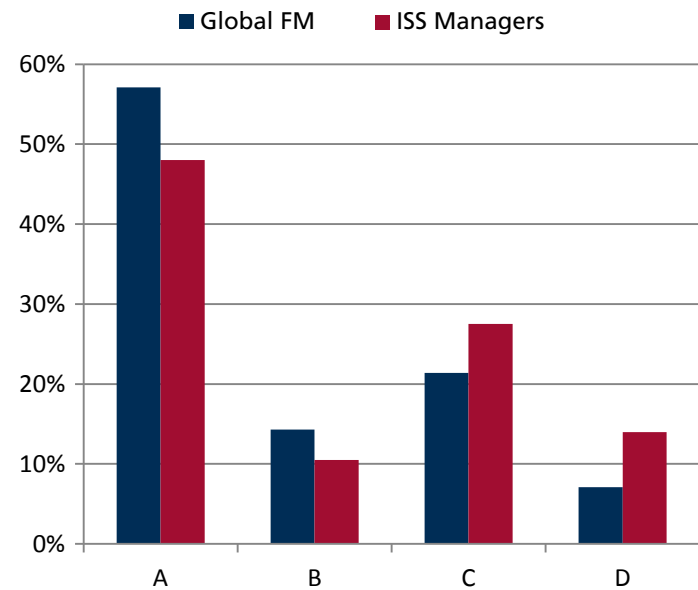


### 11. Shortage of labour will be a limiting factor for the FM and services industry



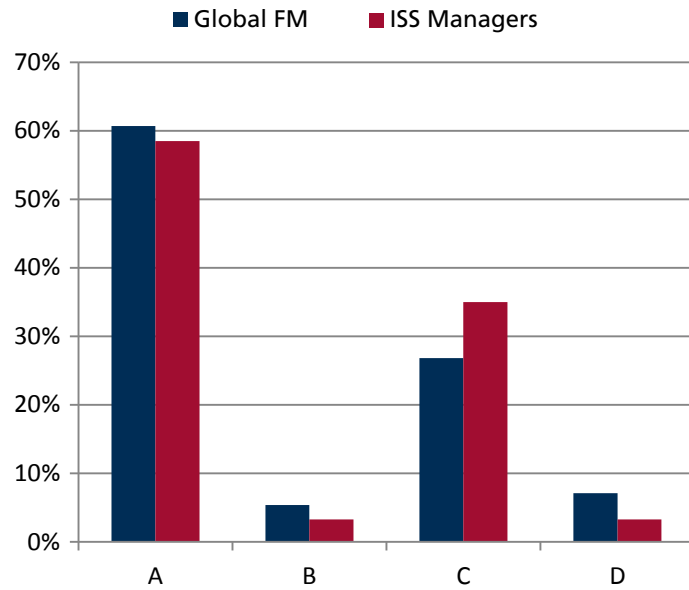
Summary		
Value	Global FM (%)	ISS Managers (%)
<b>A</b> I am almost certain that it is correct, and it is important for the global FM & services industry.	44.6%	46.1%
<b>B</b> I am almost certain it is correct, but it is not important for the global FM & services industry.	1.8%	2.9%
<b>C</b> I am not sure that it is correct. If it is correct, it is important for the global FM & services industry.	48.2%	47.4%
<b>D</b> I am not sure if it is correct. It is anyway not important for the global FM & services industry.	5.4%	3.6%

### 12. People will generally become more individualistic and have more individualized needs and demands



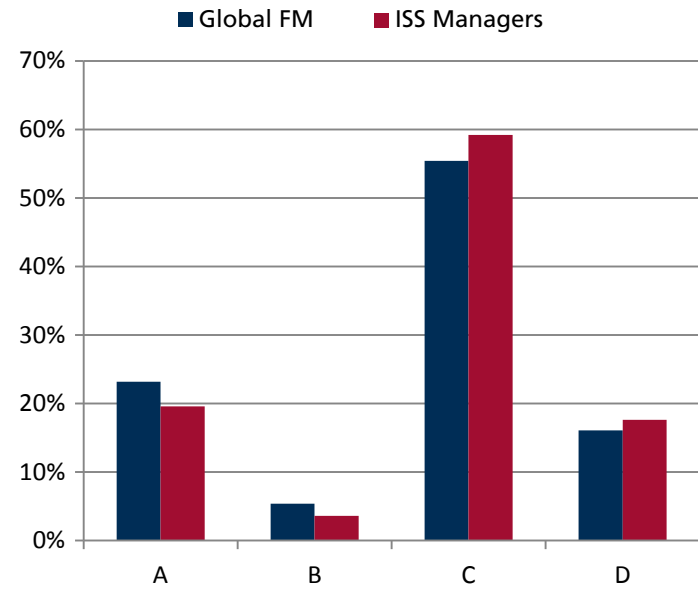
Summary		
Value	Global FM (%)	ISS Managers (%)
<b>A</b> I am almost certain that it is correct, and it is important for the global FM & services industry.	57.1%	48.0%
<b>B</b> I am almost certain it is correct, but it is not important for the global FM & services industry.	14.3%	10.5%
<b>C</b> I am not sure that it is correct. If it is correct, it is important for the global FM & services industry.	21.4%	27.5%
<b>D</b> I am not sure if it is correct. It is anyway not important for the global FM & services industry.	7.1%	14.0%

**13. There will be an increase in employee influence on workplace decisions and conditions**



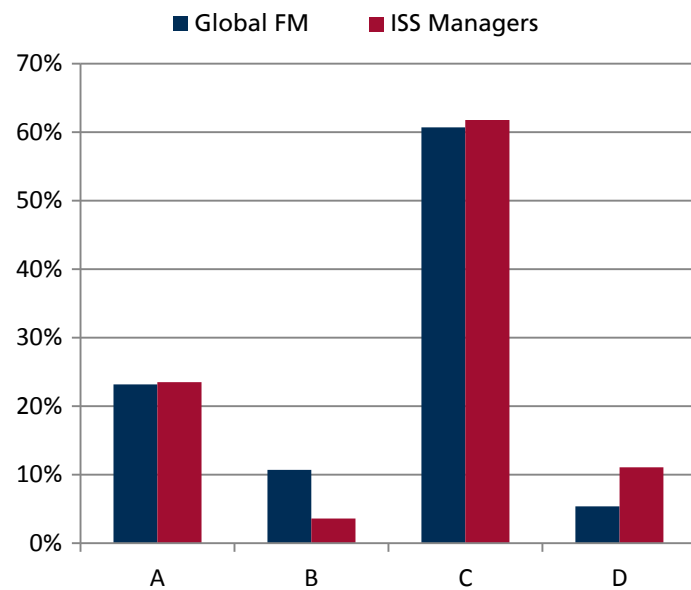
Summary		
Value	Global FM (%)	ISS Managers (%)
<b>A</b> I am almost certain that it is correct, and it is important for the global FM & services industry.	60.7%	58.5%
<b>B</b> I am almost certain it is correct, but it is not important for the global FM & services industry.	5.4%	3.3%
<b>C</b> I am not sure that it is correct. If it is correct, it is important for the global FM & services industry.	26.8%	35.0%
<b>D</b> I am not sure if it is correct. It is anyway not important for the global FM & services industry.	7.1%	3.3%

**14. Robots will become a real alternative to humans in many service jobs**



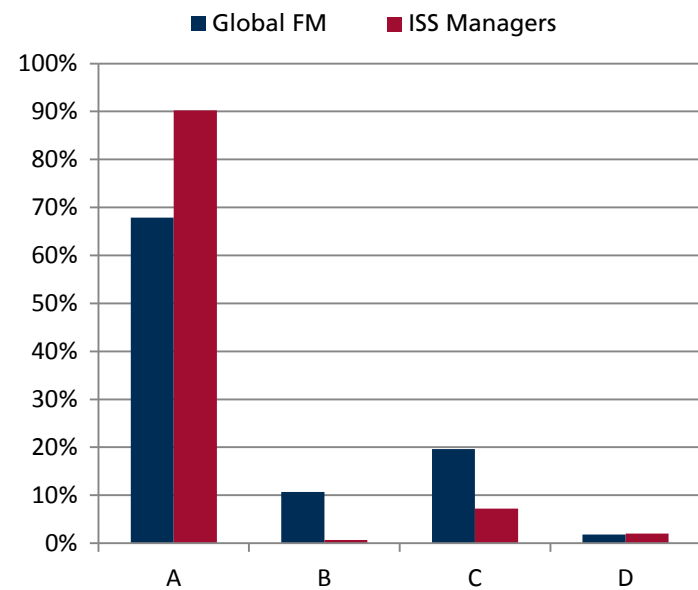
Summary		
Value	Global FM (%)	ISS Managers (%)
<b>A</b> I am almost certain that it is correct, and it is important for the global FM & services industry.	23.2%	19.6%
<b>B</b> I am almost certain it is correct, but it is not important for the global FM & services industry.	5.4%	3.6%
<b>C</b> I am not sure that it is correct. If it is correct, it is important for the global FM & services industry.	55.4%	59.2%
<b>D</b> I am not sure if it is correct. It is anyway not important for the global FM & services industry.	16.1%	17.6%

**15. Other technology for example, nano- and biotechnology will significantly reduce the need for maintenance and service on buildings and FM-sites**



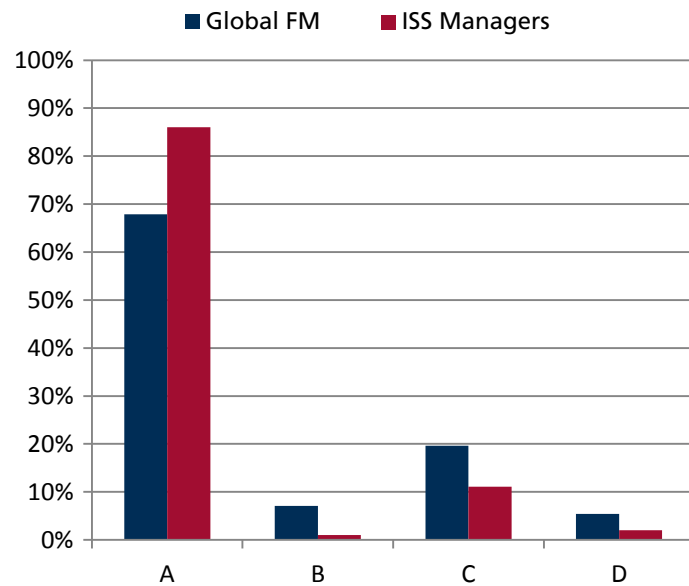
Summary		
Value	Global FM (%)	ISS Managers (%)
<b>A</b> I am almost certain that it is correct, and it is important for the global FM & services industry.	23.2%	23.5%
<b>B</b> I am almost certain it is correct, but it is not important for the global FM & services industry.	10.7%	3.6%
<b>C</b> I am not sure that it is correct. If it is correct, it is important for the global FM & services industry.	60.7%	61.8%
<b>D</b> I am not sure if it is correct. It is anyway not important for the global FM & services industry.	5.4%	11.1%

**16. There will be a centralization of procurement and management of international facility services contracts, which will lead to an increasing standardization of service delivery**



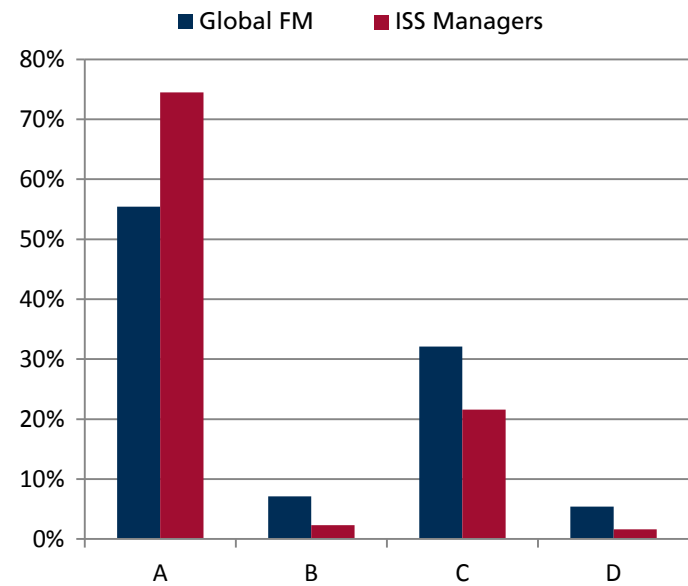
Summary		
Value	Global FM (%)	ISS Managers (%)
<b>A</b> I am almost certain that it is correct, and it is important for the global FM & services industry.	67.9%	90.2%
<b>B</b> I am almost certain it is correct, but it is not important for the global FM & services industry.	10.7%	0.7%
<b>C</b> I am not sure that it is correct. If it is correct, it is important for the global FM & services industry.	19.6%	7.2%
<b>D</b> I am not sure if it is correct. It is anyway not important for the global FM & services industry.	1.8%	2.0%

### 17. Globalization will particularly favour big companies



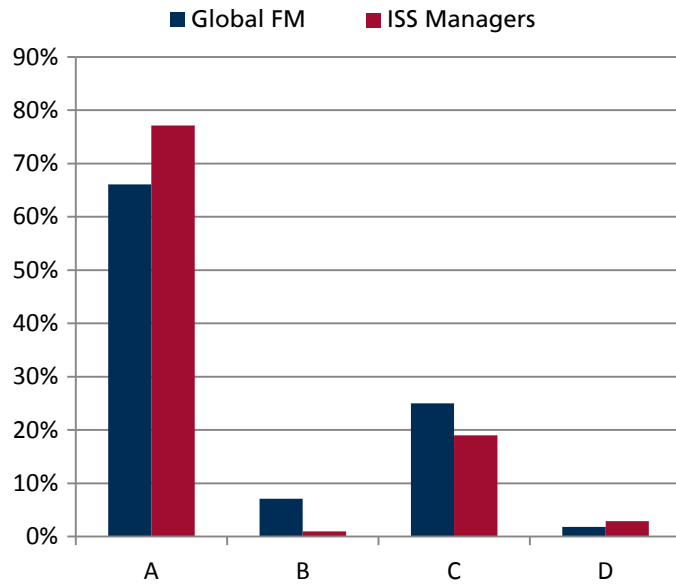
Summary		
Value	Global FM (%)	ISS Managers (%)
<b>A</b> I am almost certain that it is correct, and it is important for the global FM & services industry.	67.9%	86.0%
<b>B</b> I am almost certain it is correct, but it is not important for the global FM & services industry.	7.1%	1.0%
<b>C</b> I am not sure that it is correct. If it is correct, it is important for the global FM & services industry.	19.6%	11.1%
<b>D</b> I am not sure if it is correct. It is anyway not important for the global FM & services industry.	5.4%	2.0%

### 18. A major business trend will be companies outsourcing tasks closer and closer to their core business



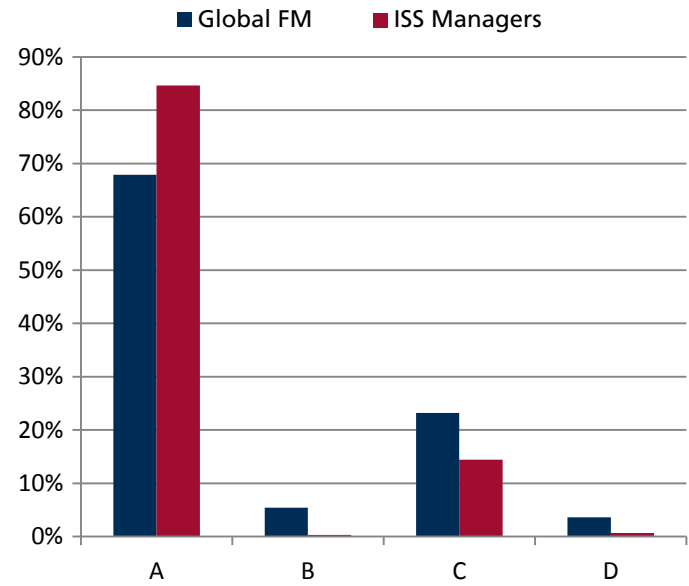
Summary		
Value	Global FM (%)	ISS Managers (%)
<b>A</b> I am almost certain that it is correct, and it is important for the global FM & services industry.	55.4%	74.5%
<b>B</b> I am almost certain it is correct, but it is not important for the global FM & services industry.	7.1%	2.3%
<b>C</b> I am not sure that it is correct. If it is correct, it is important for the global FM & services industry.	32.1%	21.6%
<b>D</b> I am not sure if it is correct. It is anyway not important for the global FM & services industry.	5.4%	1.6%

## 19. Governments will outsource much more than today



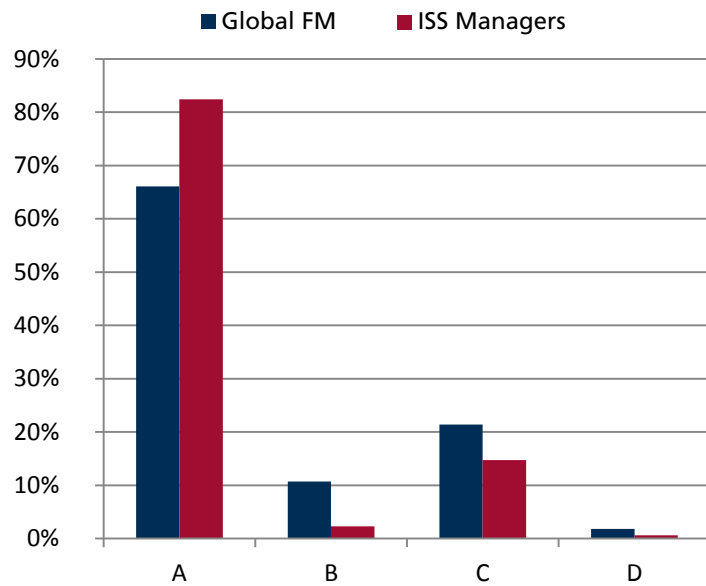
Summary		
Value	Global FM (%)	ISS Managers (%)
<b>A</b> I am almost certain that it is correct, and it is important for the global FM & services industry.	66.1%	77.1%
<b>B</b> I am almost certain it is correct, but it is not important for the global FM & services industry.	7.1%	1.0%
<b>C</b> I am not sure that it is correct. If it is correct, it is important for the global FM & services industry.	25.0%	19.0%
<b>D</b> I am not sure if it is correct. It is anyway not important for the global FM & services industry.	1.8%	2.9%

## 20. Companies will outsource much more than today



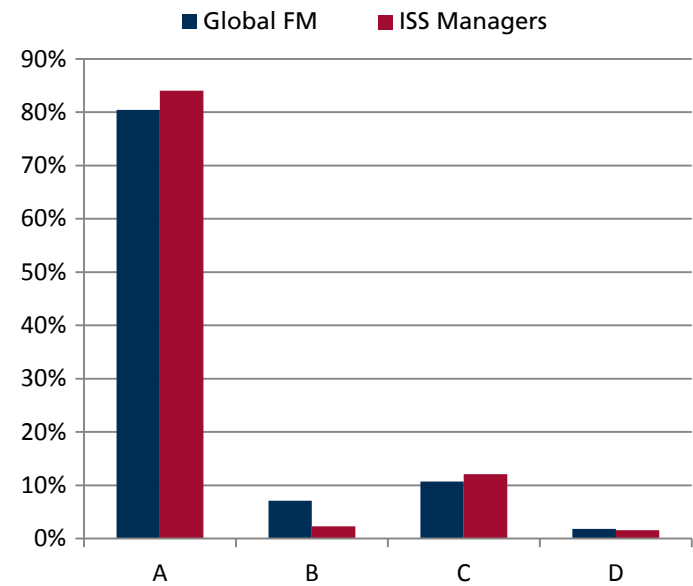
Summary		
Value	Global FM (%)	ISS Managers (%)
<b>A</b> I am almost certain that it is correct, and it is important for the global FM & services industry.	67.9%	84.6%
<b>B</b> I am almost certain it is correct, but it is not important for the global FM & services industry.	5.4%	0.3%
<b>C</b> I am not sure that it is correct. If it is correct, it is important for the global FM & services industry.	23.2%	14.4%
<b>D</b> I am not sure if it is correct. It is anyway not important for the global FM & services industry.	3.6%	0.7%

## 21. Cost-saving will be a more important driver for outsourcing from companies



Summary		
Value	Global FM (%)	ISS Managers (%)
<b>A</b> I am almost certain that it is correct, and it is important for the global FM & services industry.	66.1%	82.4%
<b>B</b> I am almost certain it is correct, but it is not important for the global FM & services industry.	10.7%	2.3%
<b>C</b> I am not sure that it is correct. If it is correct, it is important for the global FM & services industry.	21.4%	14.7%
<b>D</b> I am not sure if it is correct. It is anyway not important for the global FM & services industry.	1.8%	0.6%

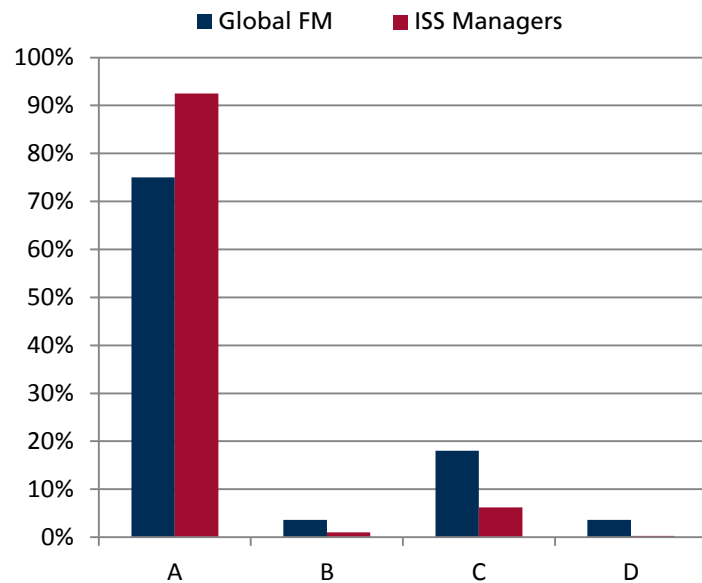
## 22. Cost-saving will be a more important driver for outsourcing from governments



Summary		
Value	Global FM (%)	ISS Managers (%)
<b>A</b> I am almost certain that it is correct, and it is important for the global FM & services industry.	80.4%	84.0%
<b>B</b> I am almost certain it is correct, but it is not important for the global FM & services industry.	7.1%	2.3%
<b>C</b> I am not sure that it is correct. If it is correct, it is important for the global FM & services industry.	10.7%	12.1%
<b>D</b> I am not sure if it is correct. It is anyway not important for the global FM & services industry.	1.8%	1.6%

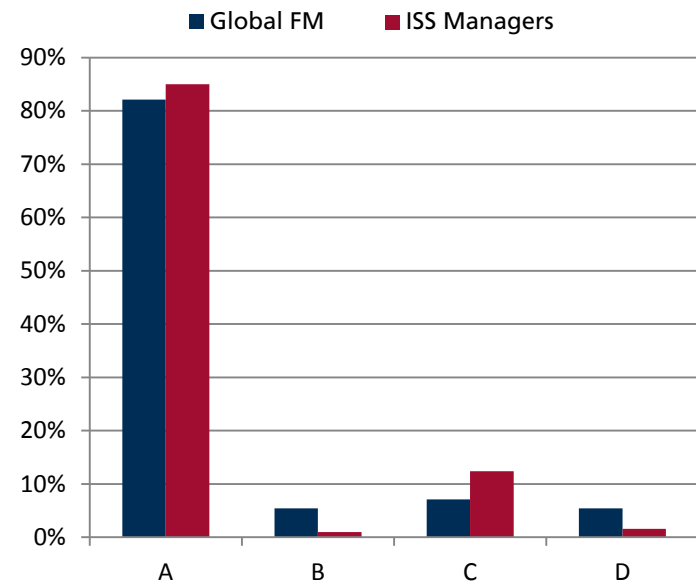


### 23. Flexibility and quality of service in the FM and services industry will become more important



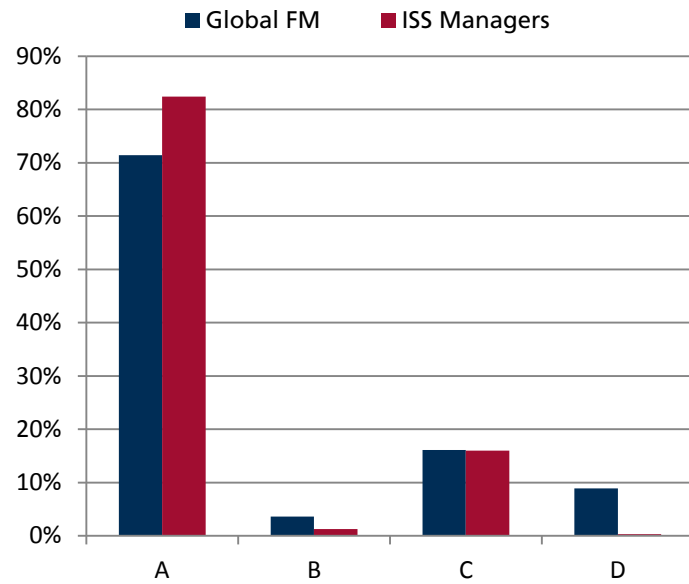
Summary		
Value	Global FM (%)	ISS Managers (%)
<b>A</b> I am almost certain that it is correct, and it is important for the global FM & services industry.	75.0%	92.5%
<b>B</b> I am almost certain it is correct, but it is not important for the global FM & services industry.	3.6%	1.0%
<b>C</b> I am not sure that it is correct. If it is correct, it is important for the global FM & services industry.	18.0%	6.2%
<b>D</b> I am not sure if it is correct. It is anyway not important for the global FM & services industry.	3.6%	0.3%

### 24. Speed and agility will become more important



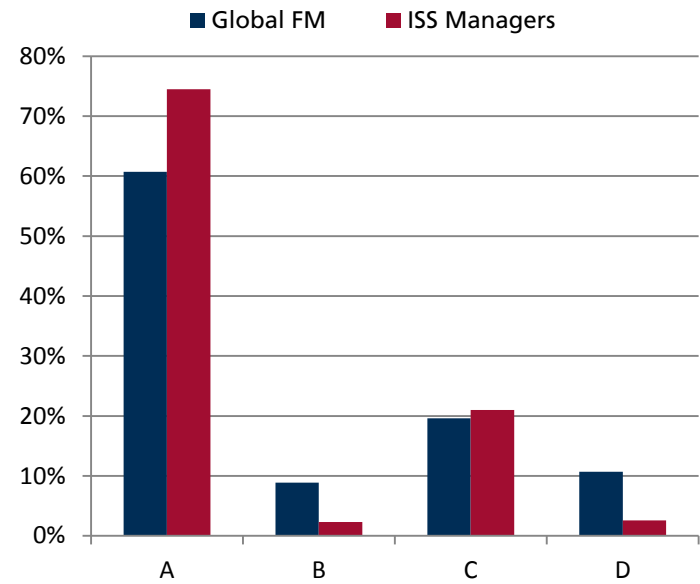
Summary		
Value	Global FM (%)	ISS Managers (%)
<b>A</b> I am almost certain that it is correct, and it is important for the global FM & services industry.	82.1%	85.0%
<b>B</b> I am almost certain it is correct, but it is not important for the global FM & services industry.	5.4%	1.0%
<b>C</b> I am not sure that it is correct. If it is correct, it is important for the global FM & services industry.	7.1%	12.4%
<b>D</b> I am not sure if it is correct. It is anyway not important for the global FM & services industry.	5.4%	1.6%

## 25. Human Resources will become a key competitive parameter for companies



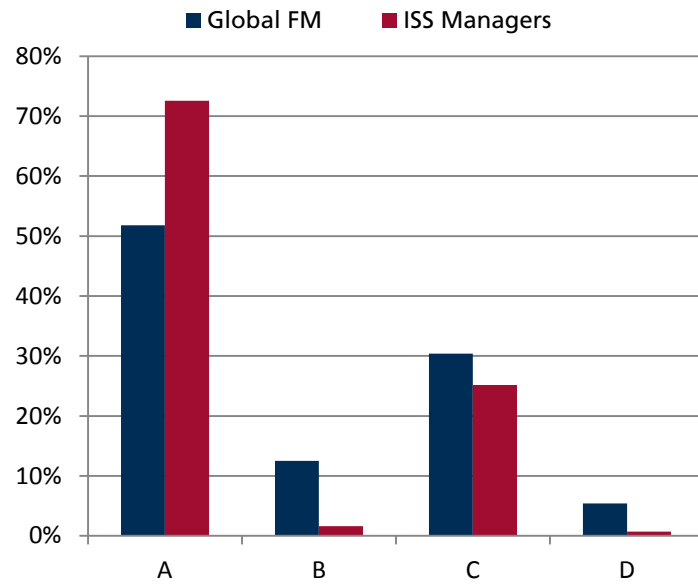
Summary		
Value	Global FM (%)	ISS Managers (%)
<b>A</b> I am almost certain that it is correct, and it is important for the global FM & services industry.	71.4%	82.4%
<b>B</b> I am almost certain it is correct, but it is not important for the global FM & services industry.	3.6%	1.3%
<b>C</b> I am not sure that it is correct. If it is correct, it is important for the global FM & services industry.	16.1%	16.0%
<b>D</b> I am not sure if it is correct. It is anyway not important for the global FM & services industry.	8.9%	0.3%

## 26. Corporate social responsibility will become a key competitive parameter for companies



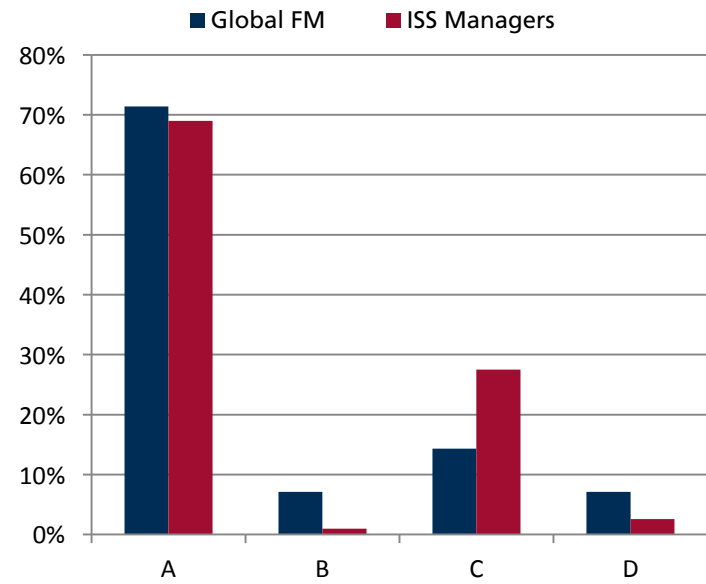
Summary		
Value	Global FM (%)	ISS Managers (%)
<b>A</b> I am almost certain that it is correct, and it is important for the global FM & services industry.	60.7%	74.5%
<b>B</b> I am almost certain it is correct, but it is not important for the global FM & services industry.	8.9%	2.3%
<b>C</b> I am not sure that it is correct. If it is correct, it is important for the global FM & services industry.	19.6%	21.0%
<b>D</b> I am not sure if it is correct. It is anyway not important for the global FM & services industry.	10.7%	2.6%

**27. Branding will become more important and a key competitive factor in the FM and services industry**



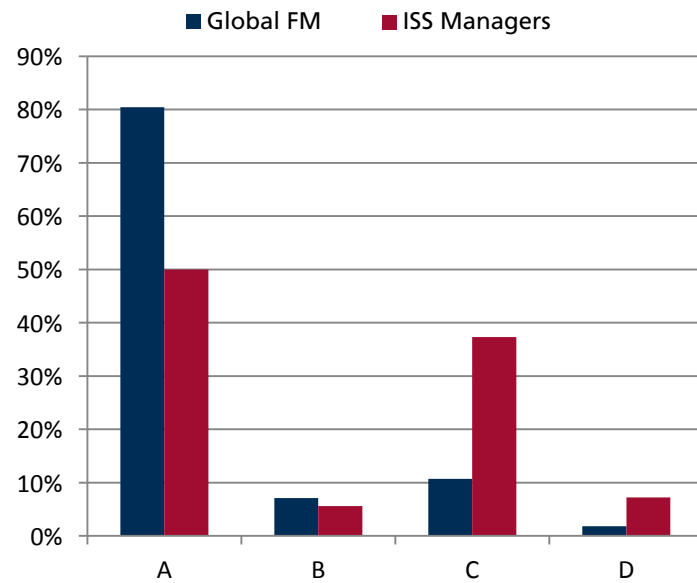
Summary		
Value	Global FM (%)	ISS Managers (%)
<b>A</b> I am almost certain that it is correct, and it is important for the global FM & services industry.	51.8%	72.6%
<b>B</b> I am almost certain it is correct, but it is not important for the global FM & services industry.	12.5%	1.6%
<b>C</b> I am not sure that it is correct. If it is correct, it is important for the global FM & services industry.	30.4%	25.2%
<b>D</b> I am not sure if it is correct. It is anyway not important for the global FM & services industry.	5.4%	0.7%

**28. Open books and transparency will become a key competitive parameter for the FM and services industry**



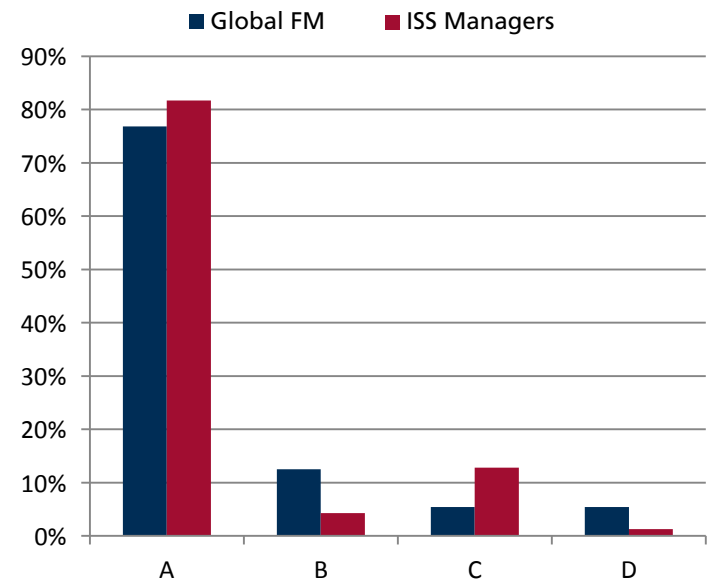
Summary		
Value	Global FM (%)	ISS Managers (%)
<b>A</b> I am almost certain that it is correct, and it is important for the global FM & services industry.	71.4%	69.0%
<b>B</b> I am almost certain it is correct, but it is not important for the global FM & services industry.	7.1%	1.0%
<b>C</b> I am not sure that it is correct. If it is correct, it is important for the global FM & services industry.	14.3%	27.5%
<b>D</b> I am not sure if it is correct. It is anyway not important for the global FM & services industry.	7.1%	2.6%

### 29. Fewer people will be working from traditional office environments



Summary		
Value	Global FM (%)	ISS Managers (%)
<b>A</b> I am almost certain that it is correct, and it is important for the global FM & services industry.	80.4%	50.0%
<b>B</b> I am almost certain it is correct, but it is not important for the global FM & services industry.	7.1%	5.6%
<b>C</b> I am not sure that it is correct. If it is correct, it is important for the global FM & services industry.	10.7%	37.3%
<b>D</b> I am not sure if it is correct. It is anyway not important for the global FM & services industry.	1.8%	7.2%

### 30. Health and well-being issues will grow in significance



Summary		
Value	Global FM (%)	ISS Managers (%)
<b>A</b> I am almost certain that it is correct, and it is important for the global FM & services industry.	76.8%	81.7%
<b>B</b> I am almost certain it is correct, but it is not important for the global FM & services industry.	12.5%	4.3%
<b>C</b> I am not sure that it is correct. If it is correct, it is important for the global FM & services industry.	5.4%	12.8%
<b>D</b> I am not sure if it is correct. It is anyway not important for the global FM & services industry.	5.4%	1.3%



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