The FM and CRE industries is undergoing a revolution. Over five ISS 2020 Vision white books, ISS and the Copenhagen Institute for Futures Studies (CIFS) have described the dynamics shaping the industries and their development. We have done this using valuable insights from IFMA and CoreNet members as well as dozens of subject-matter experts from the fields of FM, CRE, architecture, outsourcing service and workplace design.

The ISS 2020 Vision - Future of Work, Workforce and Workplace, capstone white book is the sixth and final book, in the ISS 2020 series. This book expands on the scope of the previous five white books and focuses on, how the workplace combined with human-centric service approach can provide a holistic workplace experience, where the workplace can be productive and drive gains in business performance.
Future of Work, Workforce and Workplace
“You can design and create the most wonderful place in the world. But it takes people to make the dream a reality.”

Walt Disney, Entrepreneur & film maker
1. Foreword

When we in 2010 discussed the initial idea of the ISS 2020 Vision white book series, we had a very clear view of both the purpose and the format – and we had a solid plan. Yet creating a plan is one thing but implementing it is another. Especially in a world that has become increasingly Volatile, Uncertain, Complex and Ambiguous (VUCA). Seven years and six white books later, we are very pleased and proud to see that our plan has in fact been implemented, almost exactly to its original intent.

Last year when we launched the fifth ISS 2020 Vision – The Future of Service Management white book, we believed that this would be the last book in the series. But due to high demand and the fact that the world has changed considerably since the launch of our first white book, we decided to close the ISS 2020 Vision series with a “capstone” book.

“Capstone” is a word used in architecture for when the last stone, or the finishing stone, in a building is set. We believe that this subheading is a fitting description for this culminating 6th ISS 2020 Vision – The Future of Work, Workforce and Workplace white book. A book that concludes on the previous 5 white books, challenges some of the assumptions made and updates some of the most critical models for the future of our industry.

Future studies is not an exact science. Working with scenarios and predictions is a subjective source of interpretations and point of views. Looking at predictions in hindsight especially, provides opportunity for clarification and discussion. As we move closer to 2020, we have taken the liberty of providing a new long-term perspective on the content to make sure that we follow the methodology and process provided by the Copenhagen Institute for Futures Studies.

We do feel that the 7 years dedicated research and analysis into the Facility Management (FM) and Corporate Real Estate (CRE) industry has provided us with unique insights, which has sharpened our predictions and understanding of the future.

In this book, we will assess the conclusions made previously and build on the scenarios for the future of the FM and CRE Industry, Workplace Management, Outsourcing and Service Management. On top of this, we will provide new perspectives on the way work and the workforce is changing and analyse how this will affect the workplace now and in the future.

At ISS, we hope, this “Capstone” white book will provide you and your organisation with relevant insight, inspiration and tools on how to adapt to the changes within the future of work, workforce and workplace.

Enjoy the read!

Peter Ankerstjerne
MBA, COP, FRICS, IFMA Fellow
Chief Marketing Officer/Head of Group Marketing
“Great things are done by a series of small things brought together.”

Vincent Van Gogh, artist
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2. Acknowledgements

At ISS, we are very grateful for our long and close partnership with the Copenhagen Institute for Futures Studies (CIFS). The journey, where we together have created six white books has been learningful, interesting and inspiring.

This project has indeed been unique for both organisations and I do wish to single out Director and Futurist Jeffrey Scott Saunders, who has been instrumental to the entire project and to the quality of the research and content. Over time there have been many great resources involved from CIFS in the ISS 2020 Vision series, but for this final report I would like to thank Futurist Manya Lind, for her dedication and hard work in conducting the research and writing the content for this white book. In addition, I wish to thank CIFS CEO Claus Kjeldsen for his support and commitment.

I wish to thank the International Facilities Management Association (IFMA), The IFMA Foundation, The International Association of Outsourcing Professionals and especially CoreNet Global for their positive and rewarding collaboration. At ISS, we are proud to be your partners and appreciate the opportunity to use your members for empirical studies related to the ISS 2020 Vision white book series.

For the research for the capstone white book, we collaborated closely with CoreNet Global and I would like to take the opportunity to thank Sonali Tare from CoreNet Global for her kind support in orchestrating the empirical surveys and sharing data. The survey results can be found in appendix one and two.

In this white book, we did not conduct any in-depth interviews, roundtable discussions or customer workshops. However as this has been the preferred method used in all previous white books, I would like to once again take the opportunity to thank all subject matter experts, customers, colleagues and other industry spokes persons involved over the years (please see page 9-11). We are very appreciative for your cooperation, interest and valuable input provided. As this report builds on the conclusions and discussions from previous white books, the quality of the content reflects the quality and breath of experts who has been part of the project from start to finish.

Finally, I would like to express my deep gratitude and appreciation to Group CEO Jeff Gravenhorst and Group CCO Andrew Price for believing in the program and allowing us to conclude the white book series. To my own team I wish to thank Content Marketing Manager, Pavla Schlägerova for her support in the editing and proof-reading process. Last but certainly not least I want to thank Event and Design Manager, Brian Borup, who has once again been responsible for the design and layout of this white book and for the previous five reports. Brian has been a strong anchor and a critical component for the consistency and professionalism for the entire project.

Thank you!

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THANK YOU!

Andrew Lewkowicz
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Missing pictures of Charlotta Jonegård, Mike Davis, Andrew Jones & Gunther Weber
“Choose a job you love, and you will never have to work a day in your life.”

Confucius, Philosopher
3. Executive Summary

ISS and the Copenhagen Institute for Futures Studies (CIFS) are proud to launch the sixth ISS and final book in the 2020 series: The ISS 2020 Vision - Future of Work, Workforce and Workplace, capstone white book.

This ISS 2020 Vision capstone white book provides an overview and expands the scope of the previous five ISS 2020 Vision white books:

- *New Ways of Working: The Workplace of the Future (2013)*
- *Future of Public Sector Outsourcing (2014)*
- *Future of Outsourcing and Perspectives for Facility Management (2015)*
- *Future of Service Management (2016).*

Over a seven-year collaboration, the CIFS and ISS:

- Conducted a meta-study of trends shaping the future of Facility Management, New Ways of Working, Outsourcing, and Service Management and identified their implications on the Facility Management (FM) and Corporate Real Estate (CRE) industry
- Surveyed over 4,500 FM, CRE, Outsourcing and Service Design and Management experts and professionals from CoreNet Global, IAOP, and IFMA networks.
- Carried out over 60 in-depth interviews with subject matter experts in fields of FM, Mobile Technologies, Outsourcing, and Service Design and Management
- Facilitated explorative workshops with 28 FM experts

The Vision capstone white book also presents the latest findings from the ISS and CoreNet Global Health & Well-being Survey (2017) plus the ISS and CoreNet Bridging the gap between HR and CRE & FM Survey (2017), which are presented in their entirety in the appendix.

The workplace is no longer viewed as the epicentre of an organization. Yet, physical workplaces are still essential to create and support organizational culture. A culture that in turn enables organizational strategy and business performance. To do so effectively, the physical frameworks combined with human-centric service must provide a holistic workplace experience, where the end-users can be productive and thrive.
To do so successfully, organisations will increasingly need a dedicated resource that can orchestrate these value-adding activities.

This can be realized through the role of a Chief Workplace Officer. A role that Facility Managers are in the unique position of supporting or assuming.

In partnership with IT, CRE and HR, Facility Managers are in the unique position of being able to act as workforce facilitators that can make marginal gains in performance in every employee - and facilitate a workplace environment that can bring together people, place and process to enable better business outcomes and secure a strong competitive advantage.

This requires creating environments that support collaborative and concentrative work, while ensuring the end-users’ well-being and engagement. Those Facility Managers, who together with HR, IT, and CRE, can balance and deliver on these requirements will be key to creating innovative and high-performing organisations.

Chapter 4 analyses how the FM industry has developed since the publication of the first ISS 2020 Vision white book, Scenarios for the future of the Global Facility Management Industry.

Chapter 5 describes how the future of work is transforming due to the accelerating pace of change caused by technological development and globalisation. Organisations will increasingly be looking for new collaboration models, and new ways of organizing a more mobile, contingent and remote workforce. The future of work will present a number of opportunities and challenges for organisations, employees and Facility Managers.

Chapter 6 examines how the future of work will affect the future workforce and the understanding of future talent. Technology development is displacing many workers while enabling others to compete against established organisations. In many regions, workers are ageing and will work later into life than previous generations. Talent attraction, integration and retention will continue to grow in importance as organisations increasingly rely upon a hybrid workforce consisting of full/time and contingent workers. Worker engagement and health issues remain a challenge; those companies that improve employee engagement by just a few points will improve their overall performance. All of these challenges will require new solutions and services from Facility Managers.

Chapter 7 analyses the trends impacting the future workplace and its role in enabling an organisation’s strategy and talent attraction. The office is losing its centrality in organisations’ value creation as workers increasingly work from other locations, including co-working facilities, home, and third spaces. Facility Managers will have to create more attractive workplaces centred around attractive experiences. This will require end-user focused workplace strategies and standards adapted to local requirements, so Facility Managers can identify and serve end-users at the most value adding touchpoints.
Chapter 8 describes how the aforementioned elements affect Facility Managers’ role in the future. Facility Managers are increasingly focusing on how they can create best-in-class workplace experiences that promote employee health and well-being via user-centric service design and management. Creating attractive workplaces in global organisations requires that Facility Managers make best use of new ways of working. This can be done through the utilisation of co-working, co-creation, application of user centric data analytics as well as a “glocalisation” approach that balances the need for global workplace strategies, while adapting to the particularities of the local culture.

By creating unique user journeys, Facility Managers can place end-users at the centre of the workplace experience and affect end-user behaviour through change management and nudging. Succeeding on these challenges will require the support and cooperation among HR, CRE, and FM, leading to the emergence of the Chief Workplace Officer.

This book aims to shed light on and address these opportunities and challenges. We hope that it inspires you to seek and deploy new solutions to improve the working lives of your colleagues!
“When something is important enough, you do it even if the odds are against you”

*Elon Musk, Business magnate, investor, and inventor*
4. Introduction

Over the last 7 years, the ISS 2020 Vision Series has highlighted the key challenges, debates, threats and opportunities facing the Facility Management (FM) and Corporate Real Estate (CRE) industry towards 2020. The series is designed to help FM and CRE professionals:

- Navigate the trends that will affect the future of work, the workforce, and the workplace
- Develop robust and resilient workplace strategies that are geared towards an increasingly complex business environment
- Design a service delivery system that creates value for organisations and stakeholders
- Create more engaging and healthier workplaces that improve end-user productivity and engagement while simultaneously controlling operating costs


Though physical workplaces no longer are viewed as the epicentre of an organisation, they are still crucial to create and support organisational culture. A culture that in turn enables organisational strategy and business performance. To do so effectively, the physical frameworks combined with human-centric service must provide a holistic workplace experience, where the end-users can be productive and thrive. Facility Managers are in the unique position of being able to act as workforce facilitators that can make marginal gains in performance in every employee - and facilitate a workplace environment that can bring together people, place and process to enable better business outcomes and secure a strong competitive advantage.

The research presented in this study was collected by the Copenhagen Institute for Futures Studies (CIFS) and ISS World Services A/S (ISS) over a seven-year period. CIFS and ISS:

- Conducted a meta-study of trends shaping the future of Facility Management, New Ways of Working, Outsourcing, and Service Management and their implications on the FM and CRE industry
- Surveyed over 4,000 FM, CRE, Outsourcing and Service Design and Management experts and professionals from CoreNet Global, IAOP, and IFMA networks. This study also presents the latest findings from the ISS and CoreNet Global Health & Well-being Survey (2017), which is presented in appendix 1.
- Carried out over 60 in-depth interviews with subject matter experts in fields of FM, Mobile Technologies, Outsourcing, and Service Design and Management
- Facilitated explorative workshops with close to 30 FM experts
The ISS 2020 Series

The following provides an overview of the six white books in the ISS 2020 series.


The Scenarios for the future of the Global Facility Management Industry book presented a set of global scenarios for the future of the FM and services industry and to bring awareness of the future trends, uncertainties and opportunities that may have the greatest impact on the industry. The scenarios focused on the two challenges that have shaped the industries over the past decade: Technology development and Sustainability.


The New Ways of Working book provides insights into the key trends, drivers, and means through which customers aided by FM can create workplace strategies that: fit their strategic needs and reflect their brands; empower their organisational cultures; enable the types of work that are necessary to deliver upon brand promises; champion better working lives for employees; reflect local requirements and cultural contexts; and reduce workplaces’ overall environmental impact.

Future of Public Sector Outsourcing (2014)

The Future of Public Sector Outsourcing helps public sector oriented FM providers understand the future challenges facing this sector. Asset management optimization and transformation can provide unparalleled opportunities for establishing new collaborative models with public sector customers. Tomorrow’s FM will play an increasingly important role in creating high-quality experiences and workplace management solutions for the public sector.

ISS 2020 Vision: Future of Outsourcing and Perspectives for Facility Management highlights some of the key trends which will be shaping outsourcing in the future. It also identifies the emerging, progressive concepts and approaches that can be employed to maximize the value of their operations, and the potential risks associated with these approaches. Outsourcing will pervade more regions globally by 2020, as the parameters of outsourcing are changing due to fundamental market shifts.

The Future of Service Management report focuses on the trends and drivers shaping Service Management including service design, operations, and innovation towards the future. Service Management is a critical competitive parameter for all organisations today. This report will help organisations develop a service delivery system and workforce that focuses on high-quality, personalized end-user experiences, creates a service culture that engages end-users and establishes a continuously increasing focus on service excellence.

The ISS 2020 Vision – Future of Work, Workforce and Workplace Capstone white book is the sixth and final book in the ISS 2020 series. This book expands on the scope of the previous five white books and focuses on how the workplace combined with human-centric service can provide a holistic work experience, where the workforce can be productive and drive marginal gains in business performance.
4.1 The ISS 2020 Vision - Future of Work, Workforce and Workplace Capstone

The following chapters will update many of the findings from the previous five white books. The remainder of Chapter 1 analyses how the FM industry has developed since the publication of the first ISS 2020 Vision white book, *Scenarios for the future of the Global Facility Management Industry*. Chapter 2 analyses how the future of work is changing and the opportunities and challenges this creates for organisations and employees. Due to the accelerating pace of change caused by technological development and globalisation, organisations increasingly need new ways to organise and collaborate with both internal and external stakeholders, including a growing reliance on contingent / freelance employees.

Chapter 3 focuses on the trends impacting the future workforce and the concept of talent. While technology development is displacing many employees, it is enabling others to compete against established organisations. In many regions, an ageing population will require organisations to develop new solutions that enable older employees to work later in life and past current retirement ages. As organisations increasingly rely upon a hybrid workforce consisting of full-time and contingent employees, they will be challenged with attracting, integrating, and retaining an increasingly more diverse workforce.

Chapter 4 analyses the trends impacting the future workplace and its role in enabling an organisation’s strategy and in attracting, integrating and retaining future talent. Due to increasing penetration of ever more powerful mobile technologies, the office is losing its centrality in an organisation’s value creation as employees increasingly work from co-working locations, home, and third spaces. Creating an engaging workplace centred around attractive experiences will be key. This will require a “glocalisation” approach and a framework that balances the need for global workplace strategies and standards adapted to local cultural requirements and user journeys. This way, Facility Managers can identify and serve end-users at the most value adding touchpoints.

Chapter 5 describes how the notion of work, workforce and workplace are coming together to create a stronger focus on the organisation’s ability to attract and retain talent. Health and well-being in the workplace is a critical challenge facing the organisation today. The workforce is increasingly suffering from a range of stress and lifestyle related illnesses, which negatively affect their productivity and performance. At the same time, advances in technologies are enabling innovative ways to monitor and intervene in promoting employee well-being, and blurring the boundaries between work and private life. These developments raise fundamental questions: how do we integrate work into our lives and to what degree should corporate interventions occur? This book aims to shed light on and address these questions.

This transition will occur using technology and the built environment as enablers. Using these enablers, FM professionals will increasingly need to offer user-centric service approaches that reflect, support, and improve core organisations’ strategic objectives, brand, organisational culture and productivity, while ensuring their employees’ long-term well-being.
Figure 1 Driving forces of the Facility Management and Corporate Real Estate market. This also illustrates the structure of the white book.
4.2 Revisiting the Scenarios for the future of the Global Facility Management Industry

The ISS 2020 Vision series builds upon the four scenarios developed in Scenarios for the Future of the Global FM Industry (2011). At the time of writing these scenarios, ISS experts and clients were of the strong opinion that sustainability would remain a top priority among core organisations towards 2020. As a result, their selections of the most likely scenario to shape the future of the global facility management industry fell between the “Sustainable Business” and the “Great Transformation” scenarios with the “Great Transformation” scenario – maintaining a strong focus on sustainability and on a high degree of automation of service work – getting the most votes. While the industry is trending towards the Great Transformation scenario, automation within the FM industry and sustained and prioritised focus on sustainability within the built environment has yet to materialise. The timing of the emergence of the Great Transformation could be closer to 2025 than 2020, as previously predicted.

Figure 2 Scenarios for the Future of the Global FM Industry
Source: ISS 2020 Vision, 2011
The four 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.

**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 is reinforced.

**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 optimizing the 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.

**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.
“No economy can succeed without a high-quality workforce, particularly in an age of globalization and technical change.”

Ben Bernanke, American economist, former U.S. Federal Reserve Chairman
Since the publication of the 2011 report, recent trends point towards a world where service industries are becoming increasingly automated. Estimates by McKinsey Global Institute “show that nearly three-quarters of work done by [US] employees preparing and serving food in restaurants, numbering more than 3m people, could be done by robots.”¹ These developments will have an impact on new ways of working beyond 2020 and will influence how organisations will plan for and shape future office development.

Sustainability and technological development are, however, still not fully prioritized by governments and businesses globally. Buildings are one of the largest end-users of energy, consuming a third of global final energy and creating a fifth of all greenhouse gas emissions. Population growth, urbanisation and household wealth are all rising, and energy use in buildings may double and possibly triple by 2050.² If widely adopted, current best practices and technologies could halve this amount by 2030. This will be necessary if the goals set by the Paris Climate Agreement are to be reached.³

With the Brexit and other political developments especially in the US, one could argue that the world has become more polarized and focus on especially economic growth has increased.

Within technology development, FM and other labour-intensive industries remain at the brink of an automation and cognitive revolution. New automation and cognitive technologies present many new opportunities to redesign knowledge-based work. That however, requires a concentrated effort to redesign work processes around their capabilities. To achieve the productivity and effectiveness benefits that these technologies offer, companies need to adopt, or readopt techniques from a variety of systematic approaches to process improvement and change.

Towards 2020 and beyond, the world will likely see a deep penetration of automated, sensor and predictive technologies leading to a transformational impact on the industry. Apple, Amazon, Google, Softbank, Microsoft, Tesla, and Uber are investing heavily in developing artificial intelligence software, and Global FM firms like ISS and many of their peers have launched partnerships with IT providers. For example, in 2016, ISS announced a collaboration with IBM Watson to roll-out IoT and sensor technology across 25,000 buildings around the world. The purpose of this partnership is to provide building owners and users with more intuitive and user-friendly FM experiences, such as predictive maintenance and service excellence.⁴

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¹ Fleming, Sam (May 2016) “Why robots are coming for US service jobs” Financial Times www.ft.com
ISS/IBM WATSON to leverage the workplace experience using IoT

For many years, the internet of things (IoT) has been recognised as a key piece in solving the puzzle of the connected building or workspace. Through the partnership with IBM Watson IoT, ISS has now made a commitment to realise the value of IoT in Facility Management.

Working with IBM’s Watson IoT platform, ISS will be able to integrate and analyse data from millions of devices and sensors embedded into buildings including doors, windows, chairs, meeting rooms etc. to optimise our service delivery and expand the understanding of how people use the workplace.

As a first step, ISS has already rigged up its Copenhagen headquarters, which serves as an innovation lab for the Group, with hundreds of sensors connected to IBM’s Watson IoT platform and TRIRIGA facilities management software to help improve room bookings and catering services for the 250 employees based in the building. The next phase will be the implementation of the cognitive IoT technology at selected customer sites.
5. Future of work

The business environment towards 2020 and beyond, is progressively more volatile, uncertain, complex and ambiguous (VUCA). A new era of business is emerging, defined by hyper-competition and bold collaboration, which is leading to the emergence of the “agile organisation.” Agility can be achieved by increasing organisational resilience. Resilient organisations, among other things, increasingly aim to be nimble and responsive to seize advantage of technological progress, work increasingly across cultures, and move quickly to market. Businesses are developing new forms of collaboration, more inventive and faster ways of delegating and sharing responsibilities, and better means for leveraging their surroundings to optimise performance.

This transformation is being driven by the following trends:

- Rise of the innovation society
- Increasingly mobile and remote employees
- Growing application of collaboration models

To support these new realities, FM will need to expand their role and bridge gaps with other supporting functions such as HR, IT, CRE. This will enable a realisation of the workplace as a collaborative eco-system that enables and supports organisational strategy and end-user needs through better workplace design and architected service experiences.

5.1 New Ways of Working

The workplace is becoming a place of shared experiences as much as it is a place where work is performed. As part of this experience, space, end-users – employees and customers – should be transformed by the organisations values and ambitions. The future Facility Manager will need to direct her employees as a director guides the actors in a stage plan to ensure that users’ needs and service expectations are not only fulfilled but exceeded. This will require mastering an increasingly complex backstage, consisting of internal and external service partners and systems. This will require mastering an increasingly complex backstage, consisting of internal and external service partners and systems.

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5 Aghina, Wouter et al. (December 2015) “The keys to organisational agility. The leaders behind McKinsey’s work on organisation design explain the importance of agility and how established companies can become more dynamic” McKinsey Interview www.mckinsey.com


It is no longer enough to be best-in-class in a region or country – leading service providers must aspire to be world class. This requires them to develop anticipatory thinking and agility to quickly seize opportunities and integrate new partners as they emerge. Facility Managers should actively seek out other winners in their respective categories to partner with to truly create value-adding experiences for end-users. Consequently, Facility Managers can either play the role of an orchestra conductor or a performer in the orchestra. Depending on the context, Facility Managers can alternate between these roles, and be ambidextrous.

The Facility Manager will need to motivate a shared purpose among end-user and non-end-user facing personnel through a fuller range of touchpoints. Enabled by data, these synchronised touchpoints will increase end-user engagement, well-being and improve service experiences. FM will have to shift from servicing a building to a people-centric focus, by implementing a workplace strategy, and by using a more complex array of partners and settings.

5.2 Rise of the innovation society

Towards 2020 and beyond, global markets are transitioning from an industrial and service society to an innovation society driven by transformative technologies. These transformative technologies – often called the fourth industrial revolution – are reorganising work processes and automating routine knowledge work, production, services and among other innovations, leading to the emergence of new digital platforms. This allows for the liberation of labour for work involving innovation, creativity, research, development, and similar tasks that currently cannot be easily automated or put into formulas. The successful harnessing of capacities will drive economic growth and progress for the foreseeable future.

The innovation society utilises the best of the industrial society, automation and specialisation of work tasks, while demanding more knowledge-work and collaborative mixing and matching of different specialisations. The harnessing of transformative technologies combined with a greater focus on developing new and often more effective ways of business are accelerating the pace of change in business operations by shortening business and innovation product life cycles and time to market.

As a result, the nature of work is continually evolving. This demands a reorganisation of talent, work processes and patterns in new ways. The nature of work is also becoming increasingly cognitively complex, and employees need to develop strong social and technical skills. This places greater demands on employees and the environment surrounding them.
“We thrive when we are pulled by the future, not pushed by the past.”

Crystal Kadakia, Consultant for Millennials & Modernizing the Workplace
Digitally enabled work and networks permit the organisation to work in new and more efficient ways through easier management of collaborative partnerships and the creation of value networks across geographies and time zones. New automation and cognitive technologies present a unique opportunity to redesign knowledge-based work. This requires a deliberate effort around work processes and capabilities, which is only just beginning to emerge.\(^8\)

An analysis by McKinsey Global Institute in 2017 estimated that about “60 per cent of all jobs in the US have at least 30 per cent of activities that are technically automatable, based on technologies available today.”\(^9\) McKinsey estimates that 49 per cent of the activities that people are paid to do in the global economy have the potential to be automated by adapting currently demonstrated technology, or 1.1 billion employees and $12.7 trillion in wages.\(^10\) Automation and digitisation will also change work processes and hierarchies (see page 36).

Automation and digitisation drive new, hyper scaling business models that disrupt traditional value chains. Disruptions have already occurred in retail (Amazon and AliBaba), services in transport, travel and hotel industries (AirBnB, Expedia and Uber), and the financial sector (Google Wallet and Apple Pay). The automotive and insurance industries seem to be next in line to be disrupted, with the emergence of players such as Tesla, and Google cars, and the trend towards “freedom from ownership,” where users prefer access rather than ownership of assets like automobiles. There is also the potential for distributed and additive manufacturing (3D printing) technologies to change the way we manufacture goods and services by empowering increasingly self-reliant consumers. These technologies could alter global or regional trade flows, integrate value chains and make them more agile at the cost of large scale manufacturing and transportation and logistics.

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8 Davenport, Tom (July 2017) “The rise of cognitive work (re)design: Applying cognitive tools to knowledge-based work” Deloitte University Press

9 Manyika, James (May 2017) “Technology, jobs, and the future of work. Automation, digital platforms, and other innovations are changing the fundamental nature of work. Understanding these shifts can help policy makers, business leaders, and workers move forward” McKinsey Executive Briefing www.mckinsey.com

5.3 Technology transforming work and Facility Management

Technology development, digitisation and automation will affect all areas of business and the labour market. They enable new and more efficient ways to collaborate, drive more flexible ways of working, and empower more impactful ways of collecting and transforming data into actionable insights to drive user performance.11

Organisations are applying technology to:

- Improve organisational configurations by
  - enhancing traditional business models and create new ones
  - improving network interoperability
  - making more effective organisational structures and processes

- Increase the relevance of offerings by
  - augmenting product and service performance
  - enabling complementary product and service systems

- Drive the end-user experience
  - create services that amplify value for customers
  - enhance end-user satisfaction at relevant touchpoints
  - drive customer engagement and brand value12

Due to the cumulative effects of technology development and business operations, technology will impact the workplace and its employees. The forthcoming wave of automation will be carried by progress in several technology areas - with artificial intelligence being the common denominator (see table below). As artificial intelligence becomes more developed and widespread, highly educated knowledge will be automated, and Facility Managers’ task will be fundamentally transformed.

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11 Unispace white paper (June 2017) “People, place and what really matters...”
12 Keeley, Larry et al. (2013) “Ten types of innovation: The discipline of building breakthroughs”
<table>
<thead>
<tr>
<th>Technology</th>
<th>Impact</th>
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<tbody>
<tr>
<td>Self-learning systems - machine learning and deep learning</td>
<td>Computer systems today, and in the future, can and will learn from their own experiences through processes such as machine learning and deep learning that mimic the way human brain learns. More and more of these self-learning systems have become better than human experts in a variety of complex tasks in law, accounting and medicine. In Facility Management, machine learning will assist in greater application of self-monitoring technologies, proactive and anticipatory facility interventions, and better data driven interventions.</td>
</tr>
<tr>
<td>Building information management – building information optimisation</td>
<td>Rapid progress in generative design, software algorithms, robotic construction, processes around building design, construction, and maintenance will change significantly over the next 10 years, transforming building information management to building information optimisation. For example, there will be less manual design and drawing of walls, doors, windows, furniture and other architectural elements and a shift towards rules- and algorithmic-based design. A computer will be fed “rules” instructing it to develop a design with a building’s optimal footprint, structural load capacity, and thermal performance. From this basis, designers will be able to do multiple design iterations, scenarios and simulations very efficiently for new designs as well as for redesign processes.</td>
</tr>
<tr>
<td>Blockchain technology</td>
<td>Blockchain is a distributed ledger. Instead of a single database or organisation holding transaction records (or other data), the records are available to millions of computers anonymously. Through massive distribution of these records, a nearly tamperproof data record is created. Blockchain technology makes it possible to replace intermediaries in transactions, improving operational efficiency by automating the execution of processes. Blockchain technology can be used in many industries and applications for the accounting of financial transactions, the conclusion of smart contracts and the exchange and interoperability of data. Blockchain is expected to revolutionize the financial sector as well as operations in facility management. Within facility management, blockchain will enable smart contracting (alleviating the need for paper based contracts), automation of warranties for defective equipment, tenant billing, etc.</td>
</tr>
<tr>
<td>Internet of things</td>
<td>The internet of things (IoT) is the network of physical devices, vehicles, appliances, and other items embedded with electronics, software, sensors, actuators, and network connectivity which enable these objects to connect and exchange data. Each object is uniquely identifiable through its embedded computing system but is able to inter-operate within the existing Internet infrastructure. Experts estimate that the IoT will consist of about 20-30 billion objects by 2020. Total spending on endpoints and services will reach almost $2 trillion in 2017. Within facility management, sensors are becoming cheaper, more capable, and more widely used. New connections are being forged between wearables, devices in a system, and among systems in a building and buildings in a portfolio. This is all leading to an explosion in the volume of data coming from buildings, which is being converted into useful information by sophisticated analytics.</td>
</tr>
</tbody>
</table>

Table 1: Intelligent sub-technologies

13 Allen, B. (2015) “The future of BIM will not be BIM and it’s coming faster than you think” Autodesk University
14 Aamidor, J. (2017) “Blockchain: Coming to a smart building near you?”
16 Sullivan, E. (2015) “For facility managers, the Internet of Things changes the game” Facilities Net
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<thead>
<tr>
<th><strong>Technology</strong></th>
<th><strong>Impact</strong></th>
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</thead>
<tbody>
<tr>
<td>Integrated workplace management systems</td>
<td>Integrated workplace management systems (IWMS) are software platforms that help organisations optimise the use of workplace resources, including the management of a company's real estate portfolio, infrastructure and facilities assets. Due to the emergence of the IoT, social media platforms, big and advanced analytics, new sensors, XaaS (everything as a service) and new development environments, future IWMS will enable new and more extensive enterprise integration, better 3D building visualisations and simulations, and better utilisation of staff and building resources.17</td>
</tr>
<tr>
<td>Big and advanced data analytics</td>
<td>Computers can collect large amounts of data from, for example, the Internet and the Internet of Things and analyse them in real time, finding patterns that people cannot find. IBM's supercomputer ‘Watson’, with its huge computing power, is better than a physician to diagnose cancer. In Facility Management, Big Data analysis can generate better awareness of resource utilisation (energy and water), benchmarking of facility performance, occupant behavior and service requirements,18 and better utilisation of human resources through robotic and assisted robotic process automation.</td>
</tr>
<tr>
<td>Natural language processing</td>
<td>Natural language processing (NLP) is the ability of a computer program to understand human language as it is spoken or written. Machine translation makes it possible to read and understand texts and speech for people who do not have language in common. It is likely that real-time machine translation is good enough for informal use within a decade. Voice-to-text e-mails are already possible with most smartphones today. In Facility Management, this would not only enable the management of a more diverse workforce, it would enable Facility Managers to predict the onset of and develop intervention protocols for flu epidemic and other diseases.19</td>
</tr>
<tr>
<td>Assisted Robotic Process Automation (ARPA) and Robotic Process Automation (RPA)</td>
<td>Robots can be programmed to handle more complex, yet still repetitive processes faster, with fewer errors and higher cost-efficiency. Any task that is time-consuming, monotonous, and that can be expressed in logical rules and workflows will be automated in any business within finance, administration, facility management, and HR. In the United Kingdom this could affect between 25 and 31% of business service sector jobs over the next 10-20 years.20</td>
</tr>
<tr>
<td>Automated decision making</td>
<td>Computers can in more and more areas make decisions that previously required human judgment, typically based on Big Data analysis and machine learning. Such automated decision-making systems include buying and selling shares on the stock exchange, directing city traffic, setting bail in criminal cases, etc. Among other interventions, in Facility Management, this includes automated and predictive purchasing, smart contracts and automated warranties.</td>
</tr>
<tr>
<td>Human-machine interfaces</td>
<td>Computers and robots become better at communicating and interacting with people in a more natural way. Common examples of human-machine interfaces include touch screens and graphical user interfaces. Emerging interfaces include virtual and augmented reality, gesture and voice based systems, and eventually emotionally intelligent systems that can sense emotion based on facial recognition and brain-machine interfaces. Social robots are already being tested in several contexts. For example, artificial agents can be programmed for jobs like virtual personal assistants, teachers, customer supporters, virtual job coaches, nurses, etc. As their abilities and interfaces improve, robots can participate in more complex social roles. This could lead to human-machine relationships between buildings and end-users, as systems learn, anticipate, and participate in shaping user behaviour.</td>
</tr>
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18 Frost & Sullivan “Unlocking the role of big data in facilities management”  
AI challenges work processes and notions of hierarchy

The growing pervasiveness of AI in the workplace could unveil potential challenges in our traditional understanding of hierarchies, task assignment and division. From the FM perspective, sensors, drones and maintenance robots could be used to identify issues in the buildings and send messages to the closest FM personnel – be it a manager or a technician. The AI solution would be to find the most efficient solution, rather than follow the hierarchical structure. In the future, both a manager and a maintenance employee could be reliant upon AI for task assignment and divisions, which brings into question hierarchies and job assignment.

Similarly, chatbots can act as virtual assistants, but they could also act as virtual job coaches, providing employees with real-time feedback at each stage of work. The bot would have some advantages over a manager – it would be available anywhere, anytime. It would also have greater capacity than a manager in terms of the number of employees it could coach and number of productive hours. The bot would likely also be powered by sophisticated analytics, and provide guidance and feedback that is accurate. Each bot interaction would help employees master new on-the-job skills, expand their knowledge and improve their productivity. While this would increase efficiency, it would challenge the role of the manager and underlying organisational hierarchy. The nature and quality of feedback, and who delivers it could radically change based upon who has access to the most data and better computational capabilities, potentially making human-managers’ roles and interactions as they are currently defined obsolete.
While these technologies will disrupt many organisations in the FM and CRE space, they also present several opportunities for organisational leaders to manage these changes and limit the implications of this shift on their employees. Managing this transition with minimal disruption to the employees, requires that CRE/FM, IT and HR departments align to plan organisational decisions and changes, and these technologies further enable the further convergence of support units (IT, FM, and HR) by allowing greater interoperability and transparency. These technologies provide the opportunity to use tools and solutions built for their expert processes and workflows, and share discrete pieces of data/workflows that affect other businesses in real-time. The final wave of convergence will allow the organisation to merge both financial and physical data from HR, IT, and FM units to act more holistically.

5.4 Organisational resilience

These changes will dramatically affect organisations in established industries. Organisations can address this paradigmatic shift and corresponding uncertainty by developing organisational resilience - a critical mindset and framework that helps organisations reduce risks and seize opportunities as they emerge by proactively adapting to a constantly changing environment. Resilience is the ability of systems and individuals to respond and positively adapt to changing circumstances before, during and after adversity through greater use of anticipatory processes, flexibility, agility, and organisational modularity. An organisation can become resilient if it can return to its original state after the unexpected occurrence, reconstitute its constituent components to adapt to changed circumstances or transform to something new - a new normal.

Resilient systems consist of a series of modular entities that can dynamically reorganise when circumstances require. Modularity allows a system to reconfigure when disrupted. This keeps failures in one part from cascading through the large whole, and ensures that the system can scale up or scale down as required. Competencies, assets and capabilities can increasingly be hired and contracted externally when needed and likewise, released when the situation calls for it.

In organisations, modularity implies an organisational ability to assemble around projects to pursue an innovation opportunity or to manage an acute crisis. The ability of self-assembly requires the active and skilled use of enterprise social networks across the traditional silos. In 2012, McKinsey estimated that the lion’s share of value created by social technologies came through cross-organisational leverage.

An uncertain global economy together with the threat of business model disruption, calls for using tools of futures studies and foresight (activating one’s radar), risk management (taking up the shield), and innovation (picking up the sword). These elements enable organisations to be resilient.

21 KPMG (2014) “Technology as an enabler of growth”
23 Saunders, Jeffrey (January 2015) “Skab resiliente organisationer igennem ejendomsportefølge” Kap
One of the most effective catalysts for knowledge transfer and innovation is employees working together (see chapter 4).\(^\text{26}\) Though innovation often occurs in response to an outside threat or a competitor, the foundation of innovation lies at the individual level.\(^\text{27}\) Organisational resilience can partly be build by strengthening cultures of innovation through the support of employee communication, engagement and experimentation.\(^\text{28}\) The workplace can support exchanges between people through workplace design, service, technology and thereby facilitate innovative processes.

Periods of disruption can cause unrest and stress for employees, which would negatively affect innovation and performance. FM can play an instrumental role in managing the transition to the innovation society. Through careful management of touchpoints, FM can create personalised experiences, motivate employees and assist them in navigating complexity in the workplace.\(^\text{29}\)

### 5.5 War for talent

The war for talent is driven by automation and demography. Automation affects the war for talent because the new jobs created in place of those disrupted will require greater technical, social or creative skills than the jobs that disappear due to automation. Currently, most societies are not structured institutionally nor financially to train and re-train the labour force on an ongoing basis to fulfil new jobs.\(^\text{30}\) Talent is therefore a competitive resource that organisations, public and private, will compete over. The most successful organisations are those who succeed in attracting, integrating and retaining talent globally.

Demographic changes are affecting the war for talent because a large age cohort, baby-boomers in OECD countries and China, are heading towards retirement, and will be replaced by smaller age cohorts. The global distribution of talent is also changing towards 2040 and talents from emerging economies are increasingly in demand at home and abroad.\(^\text{31}\)

On the other hand, the current challenge to find talent for low-skilled jobs in specific locations will be mitigated through automation. Facility Managers are facing challenges in fast-moving markets, such as South-East Asia to attract talent. In this context, automation will address a hollowing-out workforce and will solve a constant problem in the industry.

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\(^{27}\) Amir, Muhammad T. (2014) “The role of resilience in individual innovation” Edith Cowan University http://ro.ecu.edu.au

\(^{28}\) Westley, Frances (2013) “Social innovation and resilience: How one enhances the other” https://ssir.org

\(^{29}\) Ankerstjerne, Peter & Andersen, Morten (2014) “Service management 3.0” ISS White Paper

\(^{30}\) Fortune (2016) “Why Tech is Winning the War for Talent”

The war for talent will intensify globally. Many countries will experience increased talent shortages. On a global level, the war for talent towards 2020 and beyond will manifest itself predominantly in the need of developing countries to develop and retain talent, while developed regions will need to attract talent from outside their borders, find ways to automate tasks, and offshore functions.32

Individual, sought-after talents have become consumers of the workplace. They desire the jobs best aligned with their lives, leading to job hopping, freelancing opportunities and multiple careers. It has become the new norm for companies to steal talent by providing the best, most individualised packages – especially in more innovative industries. This is expected to continue and accelerate towards 2020 and beyond due to the demographics of the future workforce and technology development.

Businesses are starting to recognise that they need a data-driven approach (people analytics) to figure out what makes talent join, thrive, and become high-performers, and remain with an organisation. The Global Human Capital Trends survey by Deloitte shows that companies who build capabilities in people analytics outperform their peers in quality of hire, retention, and leadership capabilities.33 FM’s role in maintaining a satisfied workforce through an optimal experience is therefore, going to continue increasing in strategic importance.

5.6 Mobile and remote employees

Technology is enabling seamless mobility and remote work, including mobility within an office, across work settings, and among a number of firms through increasing freelance or contingency work. Technology continues to free work related tasks from a specific time and place.34 Due to the proliferation of increasingly powerful mobile devices, employees are enabled to conduct business ‘anytime, anywhere, anyplace’. An increasingly virtual and disaggregated workplace requires management to connect the dots and create an aligned vision and culture.35 The nature of work today and beyond 2020, is simultaneously team-based and collaborative, mobile and less dependent on geography.36 Therefore, to balance these often incongruous needs, the ability to communicate and the quality of communication is now more important than ever to ensure that productivity and performance remain unaffected.

34 Barber, Christine et al. (November 2010) “Workplace mobility. Comparing business models of early adopters in traditional businesses with consulting firms” Gensler www.gensler.com
35 Divol, Roxane et al. (November 2012) “The evolution of work: One company’s story. Symantec’s chief human-resources officer, Rebecca Ranninger, describes the security software company’s transition to a virtual workplace while reflecting on the promise-and perils-of new ways of working” McKinsey Quarterly www.mckinsey.com
36 Heerwagen, Judith et al. (May 2016) “The changing nature of organisations, work, and workplace” WBDG www.wbdg.org
One-third of the global workforce is already mobile. The US and Japan have the most mobile workforces (over 75 per cent), followed by European (50 per cent), and Asia Pacific employees (37 per cent). An increasingly large portion of the workforce is demanding the ability to work from home: 62 per cent of millennials prefer to work from home, 52 per cent of employees already work outside of a traditional office at least one day a week, and 18 per cent are working from a public location every week (see figure 3).37

![Figure 3 How often do employees work outside the office in an average work week, Source: PGi (2015)](image)

The introduction of new emerging technologies will further empower employees and their mobility in the future. Employees are increasingly prepared for changing models of employment. In 2017, 47 per cent of people agreed that we’ll be free agents in the future, up from 39 per cent in 2014.38 More and more employees can get inexpensive or even free software, tools, and services, including access to powerful AI and free online education from top universities. Perhaps the most important is access to online collaboration tools that allow employees to connect and collaborate with companies and colleagues anywhere in the world. These tools include professional online networks, cloud storage, cloud tools, video conferencing, product management tools, collaboration platforms, and even global markets for selling and buying products and services. With steadily improving real-time translation, language barriers will soon fade away, creating a truly global market for labour and collaboration.39

Consequently, employees are increasingly performing tasks that once were normally done at their assigned desk, at other specialised areas or at third place locations such as a remote work centre, in a client’s office, or at the airport.40 As a result, mobility programmes are becoming widespread, especially in knowledge intensive areas. This is driving the pursuit of mobile work and redefining our understanding of the workplace (see figure 4).41

37 PWC (2011) “Millennials at work: Reshaping the workplace” PWC www.pwc.com
38 PWC (2017) “Workforce of the future: The views of 10,000 workers”
39 CIFS (2017) “Working in the age of hyper-agility: The nature of work, the workforce & the workplace of the future” Members’ Report 2
40 CIFS (2017) “Working in the age of hyper-agility: The nature of work, the workforce & the workplace of the future” Members’ Report 2
41 Barber, Christine et al. (November 2010) “Workplace mobility. Comparing business models of early adopters in traditional businesses with consulting firms” Gensler www.gensler.com
Supporting employee mobility not only increases the innovative capacity of employees, it also improves their engagement and well-being. A study conducted by the Georgia Institute of Technology showed that 97 per cent of employees and 87 per cent of employers reported increases in productivity. Similar research from the Batton Institute found that telework can boost employee productivity by 10–50 per cent for individual businesses because of a reduction in employee absences and time lost to traffic delays.

The growth in mobility is accompanied with increased complexity, leading to increased demands for coordination. If managed poorly, it could lead to decreased productivity for mobile employees. Mobile employees rely upon a set of coordination mechanisms, such as IT systems and modularising processes that minimise the need for communication, and facilitate the development of tacit coordination mechanisms. These increase predictability and reduce the demand for communication.

Technological advances and a focus to simplify the workplace and its processes are leading to innovations that both aid mobility and increase efficiency of meetings through new meeting systems and digital assistants. For example, Google Moderator is a tool designed to optimise remote meetings, where questions are proposed in a meeting via an upvote system, allowing for a more efficient way of running meetings from a distance and allow for the anonymity of employees.

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44 Allenby, B. and Roitz, J. (2003) “Implementing the knowledge economy: The theory and practice of telework”, working paper, Batten Institute Center of Excellence at the University of Virginia, Charlottesville, VA.
45 Srikanth, Kannan et al. (June 2011) “Integrating distributed work: comparing task design, communication, and tacit coordination mechanisms” http://onlinelibrary.wiley.com
46 Chia, Alvin (May 2017) “How remote work will be the future of innovation” Huffington Post www.huffingtonpost.com

Figure 4 Evolution of the Workplace. Source: Work on the move 2 (2016)
The president of mobility technology firm, VisageMobile, opines that future mobility will be the “era of assistants.” Algo- rithms embodied as robots or avatars will provide solutions to problems, facilitate decision-making, measure performance, and in general, take care of most routine tasks. For example, the iRobot corporation together with Cisco, have introduced the first autonomous telepresence robot, the Ava500. The robot is designed to enable mobile visual access to manufacturing facilities, laboratories, customer experience centres and other remote facilities in a supply chain.

Similarly, Meta, a San Francisco start-up makes augmented reality headsets that overlay holographic images on the real world. This technology aims to replace monitors, keyboards and eventually even cubicles with augmented reality. Meta’s goal is to make augmented reality technology a seamless extension of the real world – enabling people to interact with holograms the way one interacts with real objects. Developments assisting mobility extend beyond video conference and computer based tools, and aim to create intuitive solutions where the remote experience has the same essence and efficiency as co-located work. For remote work to be successful, companies must create clear processes that support communication, coordination and culture to maintain employee engagement and well-being.

Despite its benefits, high mobility also implies potential risks. For example, most managers are ill-prepared to manage virtual employees. Virtual work tends to expose managers’ poor communication skills, as it requires more open and consistent communication than face-to-face communication. This presents an organisational threat for successful management and coordination of a virtual workforce.

Marginalisation of remote employees is another obstacle to overcome. Research by the London Business School and the University of California Davis shows that virtual employees are typically passed over for promotions, receive lower employee evaluations and receive fewer and smaller wage increases. Furthermore, remote or highly mobile employees face the tendency to lead longer working hours, create an overlap between paid work and personal life, and results in work intensification.

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47 Corsello, Jason “What the internet of things will bring to the workplace” Wired www.wired.com
48 Kite-Powell, Jennifer (June 2013) “iRobot's new ava 500 puts robotics in heart of the enterprise” Forbes www.forbes.com
49 Wang, Selina (July 2017) “This startup wants to replace your office with 3D holograms: Meta is testing the augmented reality technology on its own employees” Bloomberg www.bloomberg.com
51 Gratton, Lynda. (2013) The third wave of virtual work, HBR webinar
Productivity declines after a threshold, and constant connectivity can make it difficult for employees to separate work and home life. As a result, mobile employees face the risk of becoming disenfranchised if they experience being overworked and under-appreciated. Therefore, strategies such as cycling employees back into the workplace after periods of remote work could not only improve productivity but also increase employee engagement and well-being. Organisations should make proactive efforts to increase the integration of their mobile employees and develop special inclusion policies to include local and remote employees.

The complexity of a highly mobile workforce exists not only for organisations and end-users but also for FM, who need to navigate more interfaces and align them. FM need to ensure that the overall workplace will be attractive and can house virtual employees when, and if, they feel the need to come into the office. In addition, Facility Managers need to develop their own leadership competencies for managing virtual employees. As the office experience becomes more about a network of activities, people and places, and less about one or two central locations, the Facility Managers’ role evolves to become the orchestrator of integrated workplace services for more networked, distributed and global organisations. The availability of more sophisticated tools, technologies and processes makes it easier for FM to identify opportunities in relation to mobility, and prepare an organisation for a mobile work program. Towards 2020 and beyond, things are connected to ‘things’; and ‘things’ are working with humans in this smart connected ecosystem for planning, designing, constructing, operating, managing and optimising the built environment. The challenge for FM is to create a seamless transition where machine to machine (M2M) interaction can provide organisations and mobile employees with intuitive solutions.

5.7 Increase in collaboration models

Companies are seeking to reduce their exposure to increasing volatility by transferring many fixed costs – including employees – to variable costs. Companies are reworking their business models and technology deployment strategies, rethinking the human resources strategy (increasing usage of outsourcing, offshoring, partnering, and shifting an increasing number of employees from permanent contracts to short-term). Enabled by technology and high mobility, companies now leverage value networks instead of value chains as work is no longer bound to the organisation, to a specific location or to clearly defined value chains. Value networks include customers, suppliers, partners, competitors, volunteers, and freelancers. More companies than ever are investing in building good relationships, which will continue to be important towards 2020 and beyond.

53 Barber, Christine et al. (November 2010) “Workplace mobility. Comparing business models of early adopters in traditional businesses with consulting firms” Gensler www.gensler.com
55 Verhoef, P.C. “Understanding the effect of customer relationship management efforts on customer retention and customer share development” Journal of Marketing, 67, 4, 30-45
The ability to collaborate in networks is more valuable than raw individual talent for innovativeness.\footnote{Mohan Subramaniam and Mark A. Youndt, “The influence of intellectual capital on the types of innovative capabilities,” Academy of Management Journal, 2005, volume 48, number 3, pp. 450–63; Ronald S. Burt and Don Ronchi, “Teaching executives to see social capital,” Social Science Research, 36, 2007, pp. 1156–83.} The ability to collaborate also boosts employees’ overall performance and loyalty.\footnote{Dewar, Carolyn et al. (September 2009) “How do I drive effective collaboration to deliver real business impact?” McKinsey & Company} It is, therefore, increasingly important for companies to focus on relationships and network management to fully capitalise on the significant potential that value networks can yield. The benefits of collaboration combined with the growing tendency of hyper-specialisation indicates that collaboration among highly specialised individuals is essential to enhance competitiveness.

Ubiquitous technology, combined with the growth in contingent employees removes obstacles to collaboration within and among organisations as well as enables change and reconfiguration of businesses and industries. This leads to the creation of five emerging approaches to formalised collaboration and sourcing: crowd sourcing, solution sourcing, network sourcing, co-sourcing and mesh sourcing (see figure 5 below).

- **Crowd sourcing**: The process of obtaining needed services and solutions by soliciting contributions from a large group of people through third-party platforms, rather than from in-house employees or service providers.
- **Solution sourcing**: A form of business-to-business (B2B) crowd sourcing, where client organisations solicit solutions and select a partner from many external service providers, placing a strong emphasis on value-based business outcomes rather than cost.
- **Network sourcing**: An approach to obtaining and delivering needed services and solutions within and between value networks.
- **Co-sourcing**: A long-term, one-to-one business arrangement where a business function or functions are maintained through a combined effort by internal and external partners both with a mutually vested interest in the outcome of the collaboration.
- **Mesh sourcing**: A highly collaborative, networked ecosystem approach to outsourcing and service provision. Business interests and operations are meshed across several organisations or among a network of individual organisations, sharing mutual interest in profit, values and social change.
Collaboration networks create an opportunity for FM to help reorganise workplaces and make them more effective. The development of collaboration models is supported by online collaboration tools that allow employees to hook-up with and work with companies and other employees anywhere in the world. FM can realise the potential of these technologies, and create a seamless experience merging collaborators, companies and individuals. FM must be resourceful, creative and innovative, and maintain simultaneous focus on the customer, building and the employee. They will need to provide flexible, networked infrastructures that allow users from different companies to utilise networks and peripherals.
ISS & Accenture: A Vested outsourcing collaboration

The year of 2005 marked a beginning of a new outsourcing relationship between ISS and Accenture in the Netherlands. What started as an input-based single-service contract, evolved in 2012 into output-based Integrated Facility Services (IFS) and in 2017 grew to a Vested Outsourcing Collaboration. In 2017, the University of Tennessee officially recognised the Accenture and ISS contract as a fully Vested agreement. This is the first official Vested for ISS as a Group.

Vested® is a methodology for creating highly collaborative business relationships in which both parties are equally committed to each other’s success. Using the Vested methodology, business partners create a flexible outcome-based contractual framework designed to deliver on the parties’ mutually developed vision and desired outcomes.

‘This means that ISS today, has the complete freedom to improve, innovate and rethink their service delivery in whatever way suits the Accenture consultants best. All without concerning themselves with any contractual restraints.’ says Ricco Groeneveld.

From left: Vivian van Eijsden, Key Account Manager ISS, Frans van der Hoek, EMEA Procurement Lead Accenture, Herman Knevel, Director Strategy & Innovation ISS and Ricco Groeneveld, Workplace Lead Benelux Accenture
“Virtual working will have the single greatest influence on office design, and the way we manage workplaces.”

www.servicefutures.com
6. Future workforce

Towards 2020 and beyond, the war for talent and the need to attract, integrate, and retain talent is intensifying. Retention is of particular concern in Asia, where hiring levels and resignation rates are almost twice that in the West, and the churn rate of high-performance employees is also significantly higher. Integration and retention can take place through various mechanisms, for example, through focusing on employee engagement, well-being and satisfaction, which could decrease costs related to high turnover and result in long-term growth for businesses.

The attraction, integration and retention challenge in the future will be affected by a changing workforce composition, employee disengagement, growing diversity and a contingent labour market. Organisations and future offices will have to balance employees’ ever more granular needs and requirements to drive greater engagement, collaboration and well-being. FM will be faced with the challenge of balancing diverse requirements while maintaining a consistent corporate identity and culture.

6.1 The future workforce is becoming more diverse

The global workforce is becoming more diverse. Women’s role in the workforce will continue to grow in importance, as more than one billion women will enter the workforce over the next decade. Global companies already source their talents globally, and the workforce is becoming increasingly culturally and ethnically diverse with work teams including employees from Europe, Asia, the Middle East, the Americas and Africa. Global firms often face the challenge of balancing the different demands employees have in various parts of the world. For example, job security ranks top in Germany with 42 per cent picking that as most important and only 15 per cent focused on money. While in India, 34 per cent believe it is about taking every opportunity to maximise income. Consequently, the workplace needs to adapt to the growing, and more varied demands placed by a diverse workforce.

Multi-generational workforce

Managing the multigenerational workforce is often cited as a major challenge to businesses in the future. Currently, four generations are sharing the same workplace: traditionalists (pre-1945), baby boomers (pre-1965), generation Xers (pre-1980), and millennials or generation Y (post-1980). The global labour force will comprise approximately 3.85 billion people in 2025, with Gen X accounting for over one-fourth of the labour force and millennials almost half. Organisations need to develop strategies for recruiting new employees over the age of 45, as they will represent as much as 85 per cent of potential new hires towards 2025. With a changing workforce comes a change in workplace selection preferences, attitudes and expectations (see figure 6) that must be actively managed by organisational leadership and FM.

58 PWC “Talent mobility 2020: The next generation of international assignments” PWC www.pw.com
60 PWC (2017) “Workforce of the future: The views of 10,000 workers”
61 Azavoorian, Laurier et al. (2011) “The forces driving change” Work on the Move
Organisational talent strategies will have to balance the characteristics and requirements of the different generations. For example, millennials are reported to have lower loyalty, and lower retention rates compared to previous generations. A global study found that 38 per cent of millennials are always actively looking for opportunities, while 43 per cent are open for job offers even though they are not actively looking for new opportunities. This stands in a strong contradiction to the American baby boomers where 40 per cent stayed with their employer for more than 20 years. Millennials have lower patience and tolerance for boredom, demand flexible work schedules, nearly non-stop feedback and career advice from managers. This brings implications for managerial style and organisational culture. As a consequence, organisations must actively work to prevent higher turnover and improve retention through mechanisms such as annual pay raises, flexible work schedules, and upward visible career mobility.

People in the current workforce are working later in life for several reasons. They are healthier and have a longer life expectancy than previous generations. They are better educated, which increases their likelihood of staying in the labour force. Delaying retirement can also positively impact the health and quality of life of an older population. While there is mixed evidence on the health effects from early retirement; engagement and connections from a job, as well as income, can contribute to better health as work provides cognitive challenges and keeps the mind active and healthy. Some studies have found that being retired decreases physical, mental and self-assessed health and these adverse effects increase as the number of years

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64 Rigoni, Brandon et al. (January 2016) “Retaining employees: How much does money matter?” Gallup Business Journal www.gallup.com
65 Overfelt, Maggie (May 2017) “Millennial employees are a lot more loyal than their job-hopping stereotype” CNBC www.cnbc.com
spent in retirement increases.\textsuperscript{68} Employers can also benefit from retaining experience within the organisation, and older employees could benefit from tailored employment offerings, for example, part-time or phase retirement options.\textsuperscript{69} As a result, the portion of the workforce that is aged 65 and above is growing (see table 2). According to McKinsey Global Institute, the proportion of older employees (over 55 years old) in the global workforce is expected to reach 22 per cent by 2030.\textsuperscript{70}

<table>
<thead>
<tr>
<th>Group</th>
<th>1994</th>
<th>2004</th>
<th>2014</th>
<th>2024</th>
</tr>
</thead>
<tbody>
<tr>
<td>65 to 69</td>
<td>21.9%</td>
<td>27.7%</td>
<td>31.6%</td>
<td>36.2%</td>
</tr>
<tr>
<td>74 to 74</td>
<td>11.8%</td>
<td>15.3%</td>
<td>18.9%</td>
<td>22.8%</td>
</tr>
<tr>
<td>75 to 79</td>
<td>6.6%</td>
<td>8.8%</td>
<td>11.3%</td>
<td>14.4%</td>
</tr>
</tbody>
</table>

*Table 2 Labour force participation in the US. Source: United States Department of Labor: Bureau of Labor Statistics (2015)*

Though demographic shifts are often viewed as organisational challenges, for the agile organisation these changes present strategic opportunities. First, successfully retaining experienced older generations can provide employees in younger generations with on-going mentoring.\textsuperscript{71} For example, an organisational buddy system between older and younger employees (or master and apprentice system common in Central Europe) can be beneficial to swap skills and learn, increase socialising in the workplace and retaining tacit knowledge and skills in the organisation.\textsuperscript{72}

Second, retaining or recruiting older people for innovative projects and having them work with younger employees can be a very good idea, as they positively impact employee engagement and well-being by strengthening the sense of belonging in the workplace. A 2016 study from the University of Sydney Business School found that the most innovative companies are the ones where the age of employees does not matter. The study also found that younger employees were positive about learning from older colleagues. Companies can, therefore, utilise their existing workforce and harness the experience of their workforce to increase their attractiveness.

\textsuperscript{69} Adams, David (May 2017) “Why older people will need to work longer” Economia http://economia.icaew.com
\textsuperscript{71} Eversole, Barbara A. W. et al. (August 2012) “Creating flexible organisational culture to attract and retain talented workers across generations” Sage Journals http://journals.sagepub.com
\textsuperscript{72} Webster, Sandi (May 2017) “Millennials and boomers: Together in the workforce” C2G Partners https://c2gpartners.com
Third, despite millennials' intuitive understanding of technology, older generations display high willingness to learn and overcome limitations. A 2016 study from London Business School found that many typical assumptions about young and old people in the workplace are wrong: older people continue to invest in new skills, are positive and excited by their work, and don’t want to slow down. Older generations may not have nearly as updated academic or digital competencies as the younger generations. They, however, have significantly more experience and typically also greater practical and communicative skills.

FM are presented with the opportunity and challenge to develop a workplace experience that transcends age. The ideal work environment contains spaces that are social, flexible, comfortable, open, spacious, collaborative and environmentally conscious. There are, however, differences in how older people experience their surroundings. For example, older people are more sensitive to noise in the workplace and react negatively to it as compared to younger people. Older employees are more sensitive to heat, cold, light and acoustic change. The furnishings that are attractive in many popular office designs with hard surfaces, open offices and lounge furniture may not be stable or conducive to older employees, and could have the effect of making them feel excluded. Therefore, FM should offer work areas that are tailored to older employees’ needs (see BMW case below).

To create a truly inclusive workplace, FM need to be responsive and adaptive to changing demands and develop strategic solutions assisting an aging and multi-generational workforce. Through ergonomic adjustments the productivity of an ageing workforce can be enhanced. This requires end-user collaboration and management support to trial pilot projects. Creating inclusive spaces facilitates the kind of environment that brings multi-generational groups together. Given the power of workplace design and strategy, more companies are realising that high quality space design is an effective way to attract and retain talent.

6.2 A contingent workforce

A critical skills gap combined with the increasingly fluid and collaborative nature of work has given rise to a contingent segment of the workforce (see figure 7). Contingent employees are people who are not on the company payroll but provide services to an organisation, such as contractors, consultants, freelancers, temps and advisers. Companies use contingent employees to supplement internal talent capabilities as well as increase organisational flexibility. Access to specialised skills on an as-needed basis allows companies to streamline operations.
Research by McKinsey Global Institute reveals that 20 to 30 per cent of the working-age population in the United States and the EU-15, or up to 162 million individuals, engage in independent (freelance) work rather than in structured payroll jobs.\(^{76}\) While 70 per cent choose this type of work, 30 per cent use it out of necessity because they either cannot find a traditional job, or find one that meets their income and flexibility needs.\(^{62}\) The study finds that independent employees largely fit into four segments:

- **Free agents**, who actively choose independent work and derive their primary income from it
- **Casual earners**, who use independent work for supplemental income and do so by choice
- **Reluctants**, who make their primary living from independent work but would prefer traditional jobs
- **The financially strapped**, who do supplemental independent work out of necessity

The demand for contingent employees is expected to grow as it benefits both organisations and employees through increased flexibility. As companies shift from having ownership to buying access to employees, this allows for employers to have variable labour costs when demand fluctuates.\(^{77}\) In a McKinsey survey among US employers, more than one-third plan to increase use of contingent labour and part-time employees in the years ahead. McKinsey also see a range of new intermediaries emerging to supply high-skill and low-skill talent for short-term assignments.\(^{78}\)

The use of contingent employees could also impact the integration and retention of talent. Transferring fixed costs to variable costs using a contingent workforce implies a greater use of consultants and contract employees over regular employees. There are several risks involved in this strategy. First, it leads to higher short-term costs. Second, competencies may be lost to the company in the long-term because they are externalized. Third, it may lead to innovation becoming focused on adaptation at the cost of creation. Fourth, contingent employees may not be engaged in a company’s success in the same way as permanent employees.

Despite its growth, many organisations continue to face challenges in managing a contingent talent pool. Challenges include lack of an integrated workforce management strategy, poor data management and inadequate technology. The lack of an integrated solution can inhibit a company’s ability to make decisions about the type of talent to deploy.\(^{79}\)

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\(^{77}\) Hagel, John et al. (July 2017) “Navigating the future of work: Can we point business, workers, and social institutions in the same direction?” Deloitte University Press https://dupress.deloitte.com


\(^{79}\) Deloitte “Contingent workforce” www.deloitte.com
BMW’s journey to improve ergonomics for an ageing workforce

In 2007, managers at BMW’s power-train plant in Dingolfing, Southern Bavaria, were faced with the fact that the average age of the workforce was set to rise from 39 to 47 over the next ten years.

The plant had committed to guaranteeing employment to its extremely loyal employees, rather than forcing them into early retirement and replacing them with younger people. BMW, however, had planned for a period of ambitious productivity improvement, and it was believed that the demographic shift hindered these strategic goals. In 2007, the plant staffed an existing 38-person production line for rear axle gearboxes with a employee mix that reflected the projected age distribution. Management assigned older employees to operate the pilot ‘2017 production line’ and within three months, the productivity of the line increased by 7 per cent, and was at the same level as lines manned by the younger workforces.

The line’s initial absenteeism rate was halved, and the defect rate dropped to zero. This turnaround was achieved through inexpensive tweaks to workplace ergonomics for older employees – better seats, new workbenches that could be adjusted to an individual’s height, wooden flooring that provided better cushioning and insulation, custom shoes and easier-to-read computer screens. BMW is treating the Dingolfing 2017 production line as a model for how to manage the challenges of an ageing workforce.  

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FM must cater to a constantly rotating workforce with varying and inconsistent needs. While this presents a challenge in predictability, creating an innovative and intuitive workplace can benefit company performance by attracting talent.

6.3 The disengaged employee

Currently, the workforce is disengaged. The price of disengagement has significant implications for overall company performance through higher levels of absenteeism, presenteeism and turnover. Developing solutions that increase engagement levels will pose a significant challenge for organisations and FM over the next decade.

A survey of US employees by Gallup in 2015 found that 32 per cent of employees were engaged in their jobs (13 per cent worldwide), while 51 per cent were not engaged, and 17 per cent were actively disengaged. Another study focusing on millennials found that only 29 per cent of millennials are engaged at work, with the remaining 71 per cent either not engaged or actively disengaged.

Millennial employees are more likely, than previous generations, to change employment if they are dissatisfied. Currently, the millennial turnover due to lack of engagement costs the U.S. economy $30.5 billion annually, and with the continuing disengagement rates, these costs could rise even further towards 2020 and beyond.

Disengaged employees cost the organisation through absenteeism and presenteeism. The average rate of absenteeism globally ranges from 6.7 per cent in China to 11 per cent in Europe, and 8.1 per cent in the U.S. Presenteeism, on the other hand, costs 2.6 times that of medical costs, and 10.5 times that of absenteeism costs. The direct cost of lost productivity due to absenteeism is 4.1 per cent of payroll in China, 10 per cent in Australia, 8 per cent in Europe and 8.3 per cent in the U.S. To a large degree, these costs can be mitigated by reducing disengagement; employees with higher levels of engagement are absent 37 per cent fewer days than those with lower levels of engagement.

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“Don’t wish it were easier. Wish you were better.”

Jim Rohn, Author and motivational speaker
7. Future of the workplace

Work is no longer tied to a single workplace – the office. Employees work at the office, at home, in public settings (cafés, parks, libraries, etc.), on the go, and, increasingly, at co-working locations. As result, the role of the workplace is evolving to being an important, but no longer central, part of a complex ecosystem of physical and digital spaces that support knowledge employees’ value production. Workplaces should be places, where employees come - not because they have to - but because they want to. This requires a transition of the workplace from one that supports activities to one that support value-adding experiences.

Physical assets, including the workplace, represent the second largest capital expense behind employees and a sizable percentage of the organisations’ assets. According to a study by the International Facility Management Association (IFMA), these assets account for 10-19 per cent of business expenses and 25-50 per cent of business assets. FM are in a unique position to better align these two critical cost centres to better support the overarching goals of an organisation. If a facility effectively supports an organisation’s workforce this will directly contribute to operational cost control, productivity, employee retention and long-term organisational success.

This transformation necessitates that organisation use their workspaces strategically to support employees’ activities while at the same time shaping their experiences to drive employee performance, engagement and well-being.

Managing a workplace experience requires creating a workplace strategy (see figure 7) that achieves alignment between an organisation’s strategic objectives (what work needs to be done); people, brand and culture; (the set of values, assumptions, attitudes, behaviours and rewards that form the invisible code that makes one organisation soar and another one sink); and the right mix of supporting facilities, technologies, and service management systems. This will help organisations attract talents to their workplaces rather than loosing them to competitors or increasingly popular co-working locations.

Figure 8 Creating a workplace strategy

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83 IFMA; High Stakes Business: People, Property and Services (Facility Management Perspectives on Emergency Preparedness and Business Continuity in North America), 2014
To develop effective workplace strategies that enhance productivity and well-being, requires that Facility Managers understand the business realities and agility needs of the organisation.

To align strategic agility with brand and culture in the workplace strategy, companies will need closer cooperation among support functions: HR, IT, FM, finance, and CRE. The right combination of functions will be dependent on the approach towards the future workspace that companies take.  

<table>
<thead>
<tr>
<th>Advantages</th>
<th>Application of space</th>
<th>Disadvantages</th>
</tr>
</thead>
<tbody>
<tr>
<td>Privacy</td>
<td>Maintaining barriers</td>
<td>Reduces visual information</td>
</tr>
<tr>
<td>Status marker</td>
<td></td>
<td>Reduces collaboration</td>
</tr>
<tr>
<td>Confidentiality</td>
<td></td>
<td>Demotivation</td>
</tr>
<tr>
<td></td>
<td></td>
<td>No Feedback</td>
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<tr>
<td></td>
<td></td>
<td>Involves unpremeditated signals</td>
</tr>
<tr>
<td>Co-determination</td>
<td>Flexibility</td>
<td></td>
</tr>
<tr>
<td>Reduces organisational costs</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Status marker</td>
<td>Making it personal</td>
<td>Can give wrong first impression</td>
</tr>
<tr>
<td>Creates identity</td>
<td></td>
<td>Impression management</td>
</tr>
<tr>
<td>Participates in the layout</td>
<td></td>
<td>Produces stereotypes</td>
</tr>
<tr>
<td>Increases loyalty</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Job satisfaction</td>
<td>Making it natural</td>
<td>Is experienced in different ways</td>
</tr>
<tr>
<td>Gives a good impression</td>
<td></td>
<td>Can shift the focus from work to daydreaming</td>
</tr>
</tbody>
</table>

Table 3 Considerations in the use of workspace. Source: Space at work (2015)

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7.1 The evolution of the office and office design

The office has evolved from the 1900s to present day, and will continue to evolve towards 2020 and beyond. Offices were first organised around the scientific approach to labour and have slowly transitioned towards an end-user perspective through activity-based working. Recent trends point towards the emergence of an increasingly experience based office.

The Taylorist approach to office design derives from the first application of scientific management of labour. This approach focused on breaking every action, job, or task into small and simple segments which can be easily analysed and taught to minimize skill requirements and job learning and introduce time and motion study for optimum job performance, cost accounting, tool and work station design, making possible payment-by-result determinations.

Employees completed clerical tasks under supervision, resulting in a dehumanized workplace that was hierarchical, reinforced status, and separated people and functions. Building technologies of the time had a significant impact on building design. Elevators and escalators were in their infancy; artificial lighting was ineffective; and light and strong load-bearing structural systems had yet to be developed. Buildings were often narrow-plan, designed to access natural light. Interiors were often characterized by offices along double-loaded corridors and the serial repetition of desks in open plan areas.

Although the corporatist office continued the scientific based approach to management, emerging research into interpersonal relations and employee motivation showed that improving social networks enhanced staff morale, which in turn increased motivation and productivity. Workplaces began to offer spaces focused on the comfort of employees. Due to managerial changes, work was organised into task-based groups, and office space was structured around these clustered groups with individual workspaces. The separation between managers and employees continued, but glass partitions and offices increased visual contact. Technological breakthroughs in heating, ventilation, air conditioning, lighting, construction, etc., permitted the development of deeper floor plans.

The 1970s saw the introduction of unobstructed continuous deep plan floor plans called Bürolandschaft, or literally “office landscape.” The aim was to promote communication between employees by reducing hierarchy and status. Interior subdivisions and walls were eliminated, creating the first totally open-plan office areas, with maximum flexibility.
By the 2000s, rapid changes driven by technological developments especially in mobile communications transformed physical office environments. Offices became less hierarchical, and the physical barriers that were designed to reinforce hierarchy were removed to promote communication. Offices became increasingly designed around activity based (ABW) work principles. ABW operates under the premise that no employee ‘owns’ or has an assigned workstation. Rather, the broader workspace provides employees with a variety of predetermined activity areas that allow them to conduct specific tasks including learning, focusing, collaborating and socialising. Organisations often promote a workplace culture that encourages interactive, complex, open-ended teamwork. Up to 50 per cent of the area is often allocated to social and interactive space.

Towards 2020 and beyond, there has been an increasing focus on improving employee experiences due to increasing desire for belongingness, impacts of ubiquitous connectivity, and increasing mobility. The workplace has become a place where mobile employees can learn, seek inspiration, and work passionately to develop solutions to increasingly complex problems. The employee experience is the user journey of all the interactions an employee has with an organisation. It starts with when people first find and apply for a job and ends when they leave and includes everything in between. The increased focus on the employee experience is leading to a shift in organisations’ perspectives from streamlining all processes towards efficiency, to putting greater emphasis on how processes will improve the employee experience (see table 2 below). This focus goes beyond offering a wider range of amenities such as fresh fruit and a foosball table. It leads to organisations offering increasingly flexible digital and physical solutions for a wider range of working routines that fit into various life situations and needs, including working hours, remote working, working routines, etc.
7.2 The emergence of the experience-based office

The emergence of the experience-based office stems from the interplay of two megatrends, immaterialisation and technological development. While immaterialisation drives a growing desire among employees for experiences and a sense of attachment to their workplaces, the technological development is increasing a sense of isolation (primarily experienced by the mobile workforce), and employees’ ability to innovate successfully.

As people grow wealthier, immaterial goods, services and experiences play an increasingly significant role in business and in the workplace. Organisations no longer sell just a product or service; they sell a vision or purpose to customers and to their employees and stakeholders. Business, therefore, is increasingly becoming ideologically-driven and no longer primarily focused on intellectual property and competitive advantage. Ideology shapes the direction of an organisation, where customers buy into the product, technology, company, or service because of what it stands for – its vision and business-journey. This is equally important for work culture and current and potential employees, in that they align with the organisational direction ideologically. The workplace should also embody such ideological underpinnings and may come to dictate workplace location.86

Mobile technologies have enabled ubiquitous connectivity, and led to the emergence of a highly mobile and increasingly contingent workforce. These mobile employees, however, need spaces that not only support them, but also create a sense of belongingness and experience in the workplace. Although employees benefit from having the ability to work remotely, they also experience isolation and loneliness owing to a lack of social contact. This impacts their ability to perform and erodes their sense of belonging to the organisation, challenging an organisation’s ability to attract, integrate and retain talent. As a result, expectations towards the workplace are evolving. The workplace is becoming a destination for fulfilment, beyond routine work, as evidenced by the rise of co-working spaces, which are utilised by freelancers and remote employees.

Good experiences in the workplace are essential for innovation. In their book, Change your space, change your culture, Miller et al. argue that while many organisations have departments or teams devoted to innovation, they often lack an innovation culture because they “fail to recognise that innovation is tied to collaboration and collaboration is tied to engagement, and the first rung of an innovative culture is an engaging workplace, ‘the vital barometer and tool for creating that culture.’”87 So even if [organisations] go to great lengths to express a culture of teamwork, diversity, and empowerment, their designed spaces may express hierarchy, control, and fear.”88

87 Miller, Rex et al (October 2014) “Change your space, change your culture: How engaging workspaces lead to transformation and growth” John Wiley & Sons
88 Wagner, Julie (October 2016) “How office design can catalyze an innovative culture,” the Brookings Institution www.brookings.edu
As a result, FM need to understand the experiences that they need to create to drive end-user engagement, which involves asking a series of questions: How does a person feel when they walk into a building? Are they greeted with a smile and friendly face and someone who knows them and their coffee preferences? When they walk into a room is it cold and sterile or warm and inviting? Are they proximate to their family? If their child falls ill, is it possible to rush back home? These considerations are hugely influential when an individual chooses where and how to work.

7.3 Workplace strategy

Towards 2020 and beyond, office designers and FM will need to adjust their workplace strategies according to their core organisations’ strategic ambitions and requirements as well as identify organisations’ present culture and behaviours and where they need to be (ensuing change management requirements). The challenge facing organisational leaders and the FM who support them is that strategy-making processes need to match the demands of the core organisations’ competitive environments. Despite, executives still rely on approaches that are suited to predictable, stable, environments, even when their own environments are known to be highly volatile or mutable.89

The before core organisation’s needs for strategic agility vary by industry and according to:

- The predictability of the core organisation’s industry (How far and assuredly can executives confidently forecast demand, performance, competitive dynamics and market expectations?
- The organisation’s, or to the organisation’s competitors’, ability to mould the industry to its (their) ambitions.

As a result, there are five types of competitive environments that a core organisation could find itself in:

- **Classical**: The core organisation’s industry is predictable, but hard to change. The strategic needs for this company are to: set a goal, target a favourable market position, and build and defend its position. Quantitative and predictive planning models work well, and classical approaches to workplace planning, outsourcing and FM will be best suited towards these organisations. Moderate adjustments to the workplace strategy should be expected, but radical changes occur relatively infrequently.
- **Leader**: The core organisation can shape its industry, its future vision, and its path towards realising its goals. The core organisation places major bets, but these gambles are clear and deliberate. Entrepreneurs exemplify the thinking and leadership qualities in the Leader archetype. They create entirely new markets (as Edison did for electricity, Martine Rothblatt did for XM satellite radio, Elon Musk did for Tesla). In the leader organisation, execution is the priority, not agility. Office designers and FM need to ensure that the organisation can marshal its resources, plan thoroughly, if

and implement its strategy correctly. The workspace needs to ramp up activities to support these make-or-break projects. FM should prepare contingency plans for necessary actions if the projects succeed, succeed better than expected, or fail.

- **Adaptive**: Due to global competition, technological development, economic uncertainty and social feedback, the core organisation faces a dynamic, unpredictable strategic environment. The core organisation in such an industry needs to constantly refine goals and tactics. The ability to make long-term strategic plans is not helpful as long-term plans quickly become obsolete. The core organisation needs to shift, acquire, or divest activities and resources smoothly and promptly. The core organisation needs to transfer as many fixed costs into variable costs as possible. The strategic goal for office designers and FM is to engineer flexibility, internally in the organisation, and externally with suppliers and partners.

- **Survival**: Survival strategies involve two components. First, companies must act defensively, cut costs, reduce portfolios, and preserve critical capital and resources. Second, executives in firms in survival-mode need to focus on developing new growth strategies.

The FM will also have to understand what type of culture the organisation currently has – how do the employees work together – what aspects of the culture should be nudged or changed to help the organisation achieve success and fulfil its strategic ambitions in the future, and the role that the workplace can play in supporting this.

This will require a transformation of the FM role. The FM is typically responsible for the technical performance and maintenance of a space, and is involved in the functional and quantitative aspects of a facility. Increasingly, the qualitative aspects of occupant behaviour, user experiences, impact on health and well-being will also have to be supported by FM. Balancing the quantitative and qualitative measures of a building and the users within them will be more important than ever.

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91 Mishelle Oun. 2017. FMs as workplace allies. IFMA FMJ
There are four organisational cultural archetypes that can operate within the aforementioned strategic profiles. These organisational culture archetypes have been developed through the Competing Values Framework\textsuperscript{92}. The four archetypes are:

- **Control (Hierarchy)** – Do things right – The hierarchical organisation is a formalised and structured place to work. The hierarchical organisation is typically a large, bureaucratic structure where value is placed on smooth-running operations. Managers seek stability, control and dependable delivery. They possess a strong internal focus, and a well-defined authority and decision-making structure. Effective leaders are those that organise, coordinate, and monitor people and processes.

- **Compete (Market)** – Do things fast – The “Market” organisational culture is exemplified by a strong competitive nature. Internally, people are competitive and goal-oriented. Leaders in the market organisation are tough; they drive their employees hard; and they are extremely competitive. The organisation is held together by the desire to win. Market organisation are good at building external relationships with suppliers, customers, contractors, and Facility Managers that help them win. The Market organisation is concerned with productivity, competitiveness, partnerships, and positioning.

- **Collaborate (Clan)** – Do things together – The culture exemplified in a “Clan” organisation tends to have a strong inward focus that is led by a strong leader. These organisations tend to be friendly places to work, where people share a lot of themselves. Leaders are mentors. The organisation operates almost as a family, and boasts the values of loyalty, cohesion, and humane working environments. Within the organisation, teams are semi-autonomous, and they have the ability to hire and fire their own members and employees.

- **Create (Adhocracy)** – Do things first – Adhocracy organisational cultures emphasise flexibility and discretion. They use their external focus for differentiation. These organisations thrive in the uncertain, complex, and fast-paced business environments associated in technology fields. Success is determined in terms of innovation and creativity with future-oriented thinking\textsuperscript{93}.

By taking the time to proactively observe how occupants interact with the space, FM identify more subtle opportunities for improvements, both large and small. This process of observation and identification will not only demonstrate the FM provider’s commitment to constantly improving the facility, but will also place FM in an integral position within the organisation.

FM can be vital partners throughout the planning, design and construction process. The FM team often has a deep and nuanced knowledge that can enrich the design of a space and make improvements more successful. Furthermore, it is often FM that can address the universal themes of comfort – contact, visual, audial and thermal. FM managers, can therefore, play a key role in providing for the well-being of employees. FM can also spearhead and manage health and well-being programs. Such programs are beneficial to the overall


\textsuperscript{93} Steelcase (2010) “Brand, culture and the workplace” Steelcase WorkSpace Futures
Where workplace strategies go wrong

In her book, Innovations in Office Design, Diane Stegmeier identified several areas where workplace strategies typically go wrong. They can be misaligned with the core organisation’s strategic challenges; the organisation’s mission and vision; and organisational culture and values.

There can be challenges in application where the workplace is misaligned with a national culture’s requirements; a department’s business needs and processes; how employees are compensated and rewarded (i.e. are employees rewarded for collaboration or performance); or the technology required to support the desired level employee autonomy. Finally, a workplace strategy can go wrong when subverted by leadership behaviour, poor knowledge management and communication, and employees’ activities and behaviours.

Source: Quartz “The company behind WordPress is closing its gorgeous San Francisco office because its employees never show up” Quartz.com (2017)
productivity of the organisation - the U.S. national business group on health found that employers that have health and productivity programs can reduce disability days between 10 to 35 per cent, improve return to work rates by at least 6 per cent and experience a return on investment ranging from 3:1 to 15:1.⁹⁴

FM face the challenge of navigating an increasingly complex myriad of touchpoints (see figure 10). Though most FM are adept at dealing with physical, dynamic and fixed touchpoints; the virtual touchpoints can often pose challenges, as they are not controlled by FM. With regards to virtual touchpoints FM needs to liaise with IT (technology) and HR (inclusion and integration). Consequently, the role of FM is of a dual nature. On one hand, they are the conductor in an orchestra ensuring seamless communication and integration of processes in the workplace, while on the other hand they need to seamlessly transition to a performer to coordinate with other support functions to ensure an optimal end-user experience, with the overall goal of achieving elevated levels of engagement and productivity.

7.4 Location matters

The selection of a location is one of the most critical decisions an organisation can make. This decision is made relatively infrequently and affects an organisation’s fixed and variable costs. It also affects an organisation’s ability to attract and retain talent. Good locations with strong ecosystems that can be used to build experience and activity based clusters offer competitive advantages. They are becoming increasingly popular around the world because they allow for greater flexibility, access to talent, higher rates of innovation and creativity, and limit costs through shared services and amenities. Poorly selected locations can lock-in operating costs as well as limit organisations’ ability to adjust rapidly to changing employee demands.⁹⁵

Location is a key element in talent attraction as the location of the workplace and the amenities they offer are benchmarked by employees against what other companies offer through websites like Great Place to Work and Glass Door. Increasingly, organisations seek locations in or near areas that are most attractive to talent, i.e. urban areas. Some urban areas, naturally, will be more attractive than others, and urban areas’ attractiveness for companies seeking locations for their offices will depend on such factors as the type of city, educational attainment of the population, cost of living, the condition of existing infrastructure, and the degree of implementation of smart technologies. Employees seek locations that have a good combination of amenities, facilities that support how they will work, and where there are other talented organisations and people.

Younger workers want everything when it comes to location – cultural amenities – theatres, museums, fairs, concerts, live music, all forms of entertainment. They also want to live close to people similar to themselves. Companies know that and pay a lot of attention to that, so cities that have those features have a huge advantage.

Automattic closes San Francisco headquarters because no one showed up

Automattic, the company behind WordPress, has traditionally promoted a highly collaborative culture that focused on high degree of employee empowerment based on a philosophy of “overcommunication” via online platforms. Automattic has always given its employees the choice of working remotely, and employees often work from home without supervision, meeting-face-to-face only when needed. The company gives its employees a $250-a-month stipend if they want to use commercial co-working offices elsewhere; if they’d rather work at Starbucks, Automattic will pay for their coffee.

As a result, few employees turned up to its San Francisco office, as a result, they put the office on the market. As CEO Matt Mullenweg explained: “We got an office there about six or seven years ago, pretty good lease, but nobody goes in it. Five people go in it and it’s 15,000 square feet. They get like 3,000 square feet each… There are as many gaming tables as there are people”.
In its search for a second headquarters, Amazon received 238 proposals from:
- big cities like Boston, Chicago, and Atlanta;
- smaller hip cities like Austin and Portland;
- gritty, nouveau-hip sites like Detroit and Camden, N.J.,
- regional bids like ones from Central Indiana or a three-city package in Missouri;
- the Northeast hopefuls betting on proximity to the corridors of power, like Philadelphia, Baltimore and Washington, D.C.

Amazon's search has been dubbed the “Olympics of bidding”. Cities are tempted by the idea that Amazon may hire as many as 50,000 new full-time employees with an average annual compensation exceeding $100,000 over the 10 to 15 years following the commencement of operations. The project – which may eventually reach eight million square feet – is expected to have over $5 billion in capital expenditures. Amazon estimates that its investments in Seattle from 2010 through 2016 have added $38 billion to the city’s economy. Cities are also betting on the idea that the presence of a new Amazon headquarters “will attract more companies, and the business environment will exist on a larger scale. Their whole economic growth will benefit from that.”

Source: “The headquarters checklist: How do companies pick a location” Knowledge @ Wharton
For the workplace to be attractive it should be a place:

- with a strong reputation
- a critical mass of attractive employers and job offerings
- a liveable city with rich cultural offer
- good housing alternatives
- ease of travel
- safe and healthy climate
- world class public services
- open social climate
- ability to co-create with the community
- personal connection

Organisations located in clusters or ecosystems gain strength from creating a collaborative value-generating eco-system surrounding it. This enables them to access better quality service solutions on an on-going basis, control costs, leverage external experts on an as needed basis, generate economies of scale, and enable greater sustainability. It permits access to complex, specialised skills resources that could not be sourced on a full-time basis, and is a key element in the emergence of the co-working revolution (see section on co-working). The increased access to talent and competencies within the ecosystem enables them to hasten the process of identifying and attracting talent. Adopting this approach helps create a competitive organisation that can better position itself against others.

Technology supports the creation of such clusters and can be realised in the context of talent (contingent workforce), and space and amenities (co-working places, shared service solutions). The use of data and technology via apps like UpWork and LiquidSpace makes it possible to identify available talent and physical space, gives access to these resources, and allows organisations to monetise underutilised resources, enabling greater sustainability.

96 Andersson, Marcus et al (January 2014) “Tools and strategies for innovative talent attraction and retention” Tendensor
Company leaders are increasingly realising that creativity and innovation occur when their employees engage with interesting persons both inside and outside the organisation. The organisation that sees itself as part of an eco-system or cluster of partner organisations (including small and medium-sized suppliers, academic institutions, etc.) gain access to information, business ideas, and intellectual property that the core organisation can acquire and then leverage. As a result, the workplace is changing from having everything in house (as viewed in figure 10 below) towards an activity and experience based cluster, where organisations have shared front offices, diverse and flexible back offices and access to various hubs and networks:

*Figure 10 From all in-house to activity to experience-based clusters. Source: SIGNAL, 2014*
3M's workplace design strategy revolves around their designers' needs. “When you think about scientists, they need labs. In the same way, designers need creative space. There is no one-size-fits-all model for creative spaces, but we wanted to have optimal flexibility — a kind of adaptive space.” To address all the above, the project team developed a plan that balances openness and privacy via more intimate meeting rooms, prototype and brand labs, cocoons and private workspaces within the open floor plan, all with a decidedly industrial aesthetic.

The theme throughout the studio space is meant to evoke a ‘living-room’ atmosphere, enabling the designers to feel more at-home and secure to stimulate spontaneous creativity and collaboration. “We created the space by our designers, for our designers.”

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97 Kim, Sheila (December 2016) “Workplace Spotlight: A peek inside the 3M design center” Architizer <https://architizer.com>
7.5 The Workplace's role in innovation

The use of space can facilitate knowledge transfers and innovation in the workplace. Open, flexible spaces that support interaction and increase visibility enhance possibilities for communication and collaboration. Workplace design can create opportunities for spontaneous collisions and impromptu interactions, which often leads to the sharing of ideas. Open inspiring spaces as well as spaces for concentration work drive employee engagement, increase teamwork and reduce stress.\(^98\) Changes or adjustments to workplace design should however be aligned with organisational goals and not create unnecessary upheaval. The use of technology combined with desirable patterns of interaction can lead to changes which lead to a noticeable change in performance.

Workplace design plays an increasingly significant role in spurring innovation. The Leesman Index, which examines the effect workplaces have on employees, found that the highest performing workplaces create environments that capitalize on existing knowledge within the organisation, and facilitate internal knowledge transfers.\(^99\) Such organisations utilise diverse spaces such as atriums, open team space meetings, private areas to create communities, facilitate collaboration and create serendipitous encounters. Creating flexible and varied spaces within an organisation allows for a multitude of tasks to be performed in varying settings. Coupled with policies that encourage self-directed research, flexible spaces can lead to several innovations and inventions.\(^100\)

There are two factors that affect the knowledge transfers – movement around a building and co-presence (the number of people you can see from your desk).\(^101\) People in close proximity interact more because they bump or collide into each other more often. Whether by intention, or by coincidence, open plan offices provide an ideal environment for knowledge sharing. It also makes it easier to provide help.\(^102\) The knowledge of someone’s availability simply acquired by gazing across a room is especially useful for younger employees seeking advice from more experienced, but always busy colleagues.\(^103\)

Physically mixing people in space gives new reasons for people to communicate and connect, which are important precursors to any future collaboration. In an experiment by Sociometric Solutions, thousands of sociometric badges were deployed in workplaces. The badges captured interaction, communication, and location information. The experiment found that face-to-face interactions are the most important activity in an office.\(^104\) The probability for people in an organisation to communicate effectively dissipates beyond 10 meters, therefore,

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\(^99\) Morgan, Jacob (April 2016) "How to design physical spaces that encourage collaboration" <https://www.forbes.com
\(^101\) Joy, Andrew; Haynes, Barry (2011) “Office design for the multi-generational knowledge workforce” http://shura.shu.ac.uk
people have a greater tendency to communicate face-to-face when information is of a complex nature.105

Spontaneous collisions or impromptu conversations, chance encounters and unplanned interactions between knowledge employees, both inside and outside the organisation improves performance.106 Such collisions often spark innovations, and are referred to as the ‘water cooler effect’.107 When we bump into one another in shared offices or learning spaces we are inclined to chat, and it is through such interactions that knowledge is transferred and created.

Samsung recently unveiled plans for a new U.S. headquarters “designed to spark, not just collaboration but that innovation that takes place when people collide.” Samsung’s new building is designed to lure employees into public spaces, with the hope that engineers and salespeople will mingle.108

Spaces can be designed to produce specific performance outcomes - productivity in one space, increased innovation in another, or both in the same space but at different times. Architects at Cornell Tech have attempted to foster creative collision points. The architecture will create opportunities for students across disciplines to rub shoulders and allows for accidental and ad hoc kind of meetings to happen.109 From open learning areas inspired by artists’ studios to stairwells that encourage lingering and interaction – the design blurs the function of spaces and sparks innovation.109 By creating open, inspiring areas that support collaboration as well as designing quiet spaces for concentrative work, the workplace can drive sharing of ideas, employee engagement and a fostered sense of community. Forward thinking organisations are re-evaluating their workspaces by providing amenities and resources that support well-being and a sense of community to reduce stress and employee turnover, increase teamwork and strengthen the organisation’s vision and values.

Workplace design to inspire and facilitate creativity must however, be deliberate and strategic. Companies must design customised solutions, rather than adopting the latest trends in office design, which could have the opposite effect of the intended action. For example, to improve productivity and increase interaction, a large furniture manufacturer transformed its headquarters into an open plan office with unassigned seating. While interactions increased, the energy levels and the number of individual encounters during the day and team communication dropped. Once employees arrived at their workstation, they did not leave their spots. To find the most effective solution, organisations can combine digital communication patterns with physical space and increase the probability of interactions that lead to innovation and productivity. Once a company has identified the patterns it is trying to achieve and the how the pattern affects outcomes, it can design the workplaces to achieve

105 Wagner, Julie; Watch, Dan (April 2017) “Innovation Spaces: The new design of work” Brookings Institute www.brookings.edu
those outcomes. For example, to encourage sales staff interacting with colleagues from other departments instead of offering approximately one coffee station per six employees, Telenor built a larger coffee area to be shared between 120 employees and created a large cafeteria instead of several smaller ones. In the quarter after these adjustments were made sales rose by 20 per cent.110

7.6 The co-working revolution

The growth of a highly mobile and empowered workforce has contributed to the popularity of co-working spaces. Such spaces offer employees, especially freelancers, the opportunity to connect, collaborate, network and provide remote employees with a professional environment free from distractions. Co-working spaces can be highly motivational and a source of inspiration, and organisations are encouraging remote employees to utilise such spaces. While the communal aspect is an attractive feature, there is also a growing concern of privacy and intellectual property rights that can pose challenges for all end-users.

Co-working spaces are one of the fastest-growing workplace movements of the last decade and enable people from diverse backgrounds to work together in a common space (see figure 11). Co-working spaces cater to the constantly growing contingent and remote employee segment, and is challenging the traditional understanding of the workplace. Co-working spaces are particularly designed to encourage collaboration, creativity, idea sharing, networking, socialising, and generating new business opportunities for small firms, start-ups and freelancers. They offer fledgling enterprises flexibility and access to space without tying up much needed capital to a lease obligation and offer a low-risk, month to month fee, complete with wrap-around services. Such spaces provide access to a broad network for a diverse group of professionals, and provides the opportunity to work alone, together.

![Figure 11 Typology of co-working environments. Source: Making space for others, 2013.](https://hbr.org)

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WeWork – Data collection and a culture of collaboration

WeWork has and is changing the way organisations think and talk about their workplaces. Their ambition is to offer office space a service and to create workplaces where “you’re going to love going to the office. Everything you need to do your job effectively will present itself without effort… [Everything that you’ll need will just be there. And everyone attending remotely will already be invited]”111

Using data collected by its furniture, sensors and other devices and technologies, WeWork is using data to reorganise the office around employees’ (end-users’) experience. WeWork is betting on its data collection and service design capabilities. Because it is amassing so much office space and studying how thousands of different businesses and employees use it, it is positioning itself as the company with the most valuable first-hand knowledge about how people best get work done. They have been collecting data about how people work, where they are most productive, what they need to feel good, and how much space they require in the first place.

Data collection, however, is a means to an end. WeWork aims to connect people on a personal and social level and inspire them to do business together. The community director at WeWork focuses on helping member companies collaborate through a culture that is designed to connect people. WeWork’s yearly tradition of hosting a summer camp includes the entire global team and their members. It is a festival-esque getaway designed to offer the employees and members a break. Beyond offering their members physical space, there is a strong effort to establish a sense of community and orchestrate connections.

WeWork manages an entire building for IBM in Greenwich Village. It now runs Airbnb’s Berlin office as well as Amazon’s Boston office. WeWork has also established partnerships with Japan’s SoftBank.96

111 Hempel, Jessi (June 2017) “Why WeWork things it’s worth $20 billion” Wired www.wired.com
By 2020, as much as 40 per cent of the US workforce could be independent or freelance.\textsuperscript{112} The demand for such spaces is expected to continue to rise as a result. The effects of these trends can already be seen; research identified co-working spaces to be the fastest-growing type in the United States, amounting to 27-million-square feet as of 2016.\textsuperscript{113} WeWork, the current market leader in co-working spaces was founded in 2011, and is currently valued at $17 billion and is present in 149 locations.\textsuperscript{114} The exponential rise of WeWork demonstrates the demand for co-working spaces and the niche they fill - people look for the right blend of privacy and isolation to be productive, but still want to feel connected to the greater whole.\textsuperscript{115} The potential to interact with other users, and the opportunity to network are big motivators to work in a communal space (see WeWork case).\textsuperscript{116}

Co-working spaces have also been popular among mobile employees as many do not want to work at home in isolation. Remote employees often experience their wants and needs as less important than their colleagues who work in the headquarters and prefer working amongst other people, motivated by the energy, with limited distractions, benefiting from access to facilities, and freedom to focus on work in a non-domestic, professional environment. Being able to work in a place close to home radically improves people's work-life balance, job satisfaction and productivity.\textsuperscript{117} Physical workplaces provide opportunities for increased change encounters and collaboration, which is beneficial for individuals from a personal and professional perspective.\textsuperscript{118}

Organisations are also encouraging their own employees to work in co-working spaces as an alternative to their regular workspace to facilitate their interaction and knowledge sharing with others and to inspire creativity.\textsuperscript{119} The rise of co-working spaces is not just a reaction against home-working or serviced office suites, but is indicative of a new and fast-growing sector of the workforce that needs to be better understood and is no longer viewed as a fringe population. Appealing particularly to solo entrepreneurs, start-ups and younger employee, it is a reinvention of the former staid serviced-office model.

Despite the rising popularity of co-working spaces, there are some issues around intellectual property, knowledge leaks and privacy that could be detrimental to an entrepreneur or business. There is a danger that a co-worker intentionally or accidentally hears a conversation and steals the idea or claims ownership of the idea.\textsuperscript{120} The challenges of working in an atrium or open space, and the risk of creative eavesdropping as discussed earlier, is a possibility in a co-working environment where most people work for themselves and could benefit from an influx of innovative ideas. In collaborative working spaces, the vulnerability to intellectual

\textsuperscript{112} Neuner, Jeremy (March 2013) “40% of America’s workforce will be freelancers by 2020” Quartz https://qz.com
\textsuperscript{113} Wagner, J.and Watch, D (2017) “Innovation Spaces: The New Design of Work”
\textsuperscript{114} Lash, Herbert (June 2017) “WeWork CEO says revenue runs at $1 billion a year, no IPO details yet” Reuters www.reuters.com
\textsuperscript{115} Nenonen, Suvii (August 2016) “Does FM contribute to happiness in Nordic countries” CFM Nordic Conferences
\textsuperscript{117} Morin, Amy (December 2014) “Want to be happier? Change your commute or change your attitude” Forbes
\textsuperscript{118} Andersen, Gitte; Christensen, Peter Holtdt (2015) “Space at work” Signal
\textsuperscript{119} Nenonen, Suvii (August 2016) “Does FM contribute to happiness in Nordic countries” CFM Nordic Conferences
\textsuperscript{120} Reddy, Pranam “The challenges of running your own office space” BHive Workspace <https://bhiveworkspace.com>
property issues increases.\textsuperscript{121} Cyber security is a growing strategic challenge for organisations and effective co-working solutions need to help mitigate cyber security concerns. This concern can be amplified further by the prospect of potentially sharing space with competitors.\textsuperscript{122}

A commonly cited reason for joining co-working environments is fostering networking practices and social interactions enabling developing entrepreneurial activities. However, simple co-location of talents is not sufficient to facilitate interactions and cross-fertilisation. Community facilitators, such as Facility Managers, are needed to create different engagement modes to stimulate encounters and collaborations inside the trust-based community-oriented environments. While co-working spaces disrupt the traditional office, these spaces present the opportunity for FM to tap into a new niche. They are centred around providing a best-in-class end-user experience, which pose a challenge to FM working for core organisations. There is significant potential for FM and co-working spaces to form partnerships and develop unique and niche experiences for end-users.

\textsuperscript{121} Lingard, Tom; Sagar, Raveen (May 2016) “Protecting your IP in a co-working space” Develop www.develop-online.net
\textsuperscript{122} Julie Wagner and Dan Watch (2017) Innovation Spaces: The New Design of Work
“We cannot accomplish all that we need to do without working together.”

Bill Richardson, Politician
“Pleasure in the job puts perfection in the work.”

Aristotle, Greek philosopher
8. Key aspects driving the future of work, workforce and workplace

Global competition, the war for talents, and new technologies – among other factors – are having a profound impact on the 21st century organisation and the Facility Management industry. Using technology and the built environment as enablers, Facility Management Professionals will increasingly need to offer better designed and managed user-centric service approaches that reflect, support, and improve core organisations’ strategic objectives, brand, and culture, while ensuring and improving employees’ productivity and well-being.

To improve the working lives of employees through corporate interventions, FM professionals will need processes to better design, provide and manage services at the most value adding moments and touchpoints. The possibility to intervene in new ways will offer opportunities to improve employees’ work-life balance incl. health and well-being, while posing challenges for users and FM in terms of privacy and control.

Creating attractive workplaces in global organisations requires that FM make best use of new ways of working through the utilisation of co-working and co-creation empowered by applying user centric data analytics and a “glocalisation” approach that balances the need for global workplace strategies, while adapting to the particularities of the local culture. By creating unique user journeys in each country, region and facility, Facility Managers can identify and serve end-users at the most value adding touchpoints through new partnerships and ecosystems, where they can also affect end-user behaviour through change management and nudging. Succeeding on these challenges will require the support and cooperation among HR, CRE, and FM, leading to the emergence of the Chief Workplace Officer.

8.1 Service Experience as the enabler

As technology takes over more service delivery functions, the importance of service design and management will grow. So will the role of human interaction. Personalised service interactions – whether facilitated by technology, buildings or direct human contact – are where it is possible to create a real and genuine emotional connection with end-users, enabling the building of sustainable, long-lasting relationship between the organisation and its employees.

The future of Facility and Service Management will be less about the building and more about improving the quality of life for those in the building and helping those individuals to become more successful. The understanding of user needs, desires, challenges, anxieties and ambitions will play an increasingly important and integral role in the way Service Management is approached and managed. This will require facilitating the movement and interaction of people with objects and information, while creating a high-quality experience for employees and other end-users.123 The critical challenges these requirements pose for FM are discussed below.

Delivering value
Towards 2020 and beyond, FM and especially the FM provider will need to develop solutions towards three challenges: 1) understanding the end-user on an ever-granular level, 2), avoiding the commodity trap and 3) uncovering new economic value. As Facility Managers we need to challenge our self belief and secure that we fulfill the greater purpose of the organization. Making sure that we constantly question what FM is and what it should be now and in the future!

A critical challenge in delivering value towards the future is effectively mapping the user journey, which will enable providers to create favourable outcomes at the most relevant touchpoints. Similarly, the shift to a more outcome-based approach invariably requires new metrics that can accurately assess normative factors like employee satisfaction and worker integration within the broader scope of business success.

Positioning FM as a service of strategic importance requires moving beyond existing preconceptions of the industry and its services. Currently, FM services are often perceived as interchangeable commodities where only the cost matters. Much of this will involve establishing new service concepts in the market, as well as applying the service mindset in new contexts.

At the same time, service providers must avoid applying old business paradigms to new challenges. Complexity is increasing in all aspects of work and life, and as a response, the value of service in the future will reside in the reduction of complexity and pursuit of simplicity. Service providers will be required to manage the complexity and uncertainty facing end-users and deliver a simple, seamless experience.

Managing expectations
Service Management is as much about service delivery as it is about experience or expectation management. Service providers therefore must maintain an acute awareness of the expected outcomes of the interaction, while facilitating an experience perceived as positive.

To meet this challenge, service providers, especially within FM, will be forced to adopt smarter, more proactive measures that not only involve fulfilling user needs and expectations, but also anticipating them. The challenge here lies in continuously developing the skills of service employees and building the capacity to integrate new technologies in the service provision, such as sensor technology and precision data analytics that hold the potential to offer greater user insights.

Anticipating disruption
An increasingly complex global business-operating environment characterised by greater industry convergence means that competition is increasing. For service providers and service users alike, disruption must exist as an innovation paradigm – disrupt or be disrupted. This is a key component of service design and service management and service innovation lifecycle.

Figure 12 The work journey mapped out - Touchpoints@ISS

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While incumbents focus on improving their products and services for their core customers, the needs of other segments become secondary. Disruption occurs when new entrants target overlooked segments by delivering more suitable or cost-effective service solutions, before moving upmarket and attracting the incumbents’ mainstream customers. Entrants may also create entirely new markets.

The ability to maintain service standards without falling into a low-cost/margin trap in such an environment is more important than ever, as the duration of business cycles are being reduced by aggressive competition from emerging regions and adjacent industries. It is no longer enough to be best in class in a region or country. The future of efficiencies and savings are most likely not sufficiently found within the traditional definition of FM. We need to think more holistically and find new way of optimizing cost outside FM - in the way the work, the way we organize the workforce and in the way we design and use our workplaces.

As outlined in ISS 2020 Vision: The Future of Outsourcing and Perspectives for Facility Management, service providers will have to develop anticipatory thinking and agility to quickly seize opportunities and to integrate new partners as they emerge. As businesses enter an era of complex, global hyper-competition, “firms have realized that it is no longer possible for them to gain and maintain competitiveness in the global market on their own. Involving other firms via outsourcing has been a useful strategic tool to leverage globally dispersed resources, as it provides advantages in cost, capability and many other aspects compared to doing it alone.”

Applying the full-service innovation lifecycle model above consists of eight stages from conception through the complete service lifecycle, with each stage not a single activity but a series of processes that are occurring simultaneously. Service innovation can only be undertaken once the overarching service strategy is set. The end of one service lifecycle is when the market conditions, competition, technology or user needs change to the extent that the existing processes are obsolete and new designs are needed – thereby necessitating a new iteration of the service lifecycle.

Facility Managers can play a key role in fostering an innovation and disruptive spirit within organisations because good experiences and connections whilst at work are essential for performance and innovation. But we need to adapt a more strategic mindset to drive change and especially learn to think more like future “end-users” the millennials (and Gen Z) to fully understand and anticipate their needs and requirements to an ever changing workplace.

**Work-life integration**
The blurring work life and private life (due to growing mobility and work-on-the-move) has resulted in a wide range of expectations from organisations, which is leading to increasing

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demands on workplaces and facility managers who service them. From supporting employees creatively and professionally, to supporting diversity, health and well-being. Work-life integration is often an elusive ideal. Effectively integrating work with family and community can, however, yield favourable results. Overwork integration, recharging oneself, and avoiding the trap of overworking can improve overall productivity.

Overwork is often appreciated, and even rewarded in some workplaces. This however, leads to some counter-intuitive behaviours, for example, “presenteeism.” Overwork can negatively affect cognitive capacity and compromise emotional intelligence. Overwork and the resulting stress can lead to all sorts of health problems, including impaired sleep, depression, heavy-drinking, impaired memory and heart disease. It can also negatively impact interpersonal communication, making judgement calls, reading other peoples’ faces, managing your own emotional reactions – all the skills needed in the modern workplace.

8.2 Health, well-being, and engagement

The workplace is a critical part of the physiological and psychological performance of end-users. The workplace towards 2020 and beyond needs to better support the more diverse requirements of knowledge workers, strike a balance between collaboration and focus work, and offer a healthy working environment. Workplaces that can strike this balance can be effective tools to attract and retain talent and improve employee experiences and engagement, which will be critical for organisational success in the innovation society. The ISS and CoreNet Global Health & Well-being Survey (2017) identified that attracting and retaining talent, improving productivity and controlling costs were the strongest motivator for organisations’ adopting a health and well-being agenda (see figure 14).

Figure 14 Employer motivation for health and well-being agenda. Source: ISS and CoreNet Global Health & Well-being survey (2017)

Two major factors influence employee performance and retention: engagement and well-being. Gallup found that employees that score highly on the well-being index (see figure 13) are more likely to report higher engagement. The well-being index consists of 5 parameters – 3 out of 5 of these can be directly impacted by FM.

Adding well-being to the understanding of engagement has a beneficial effect on key outcomes.\textsuperscript{132} Compared with employees who have high engagement but other exhibit \textit{low levels of well-being, those who have high engagement and high well-being}, are 30 per cent more likely not to miss any workdays because of poor health in any given month. Employees that are engaged and have high well-being are 45 per cent more likely to report high-level of adaptability in the presence of change, 29 per cent less likely to look for a job with a different organisation in the next 12 months, and 18 per cent less likely to change employers in a 12-month period. Engagement and well-being reinforce one another, and employers miss important opportunities by either ignoring well-being or focusing on physical wellness programs alone.\textsuperscript{133}


\textsuperscript{133} Lister, Kate; Harnish Tom (2016) “Work on the move 2: Well-being in the workplace” IFMA Foundation
### Table 4 The Gallup Heathway's well-being index's five parameters and FM's ability to affect them. Source Gallup (October 2015)

<table>
<thead>
<tr>
<th>Parameters</th>
<th>Definition</th>
<th>Ability of FM to affect</th>
</tr>
</thead>
<tbody>
<tr>
<td>Purpose</td>
<td>Liking what you do each day and being motivated to achieve your goals</td>
<td>Low</td>
</tr>
<tr>
<td>Social</td>
<td>Having supportive relationships and love in your life</td>
<td>Medium</td>
</tr>
<tr>
<td>Financial</td>
<td>Managing your economic life to reduce stress and increase security</td>
<td>Low</td>
</tr>
<tr>
<td>Community</td>
<td>Liking where you live, feeling safe and having pride in your community</td>
<td>High</td>
</tr>
<tr>
<td>Physical</td>
<td>Having good health and enough energy to get things done daily</td>
<td>High</td>
</tr>
</tbody>
</table>

Globally, employee well-being has been on the decline due anxieties over job security and increasing stress.\(^{134}\) While health and well-being initiatives are on the rise, the cost of such programs and the difficulty of collecting and measuring their impacts has hindered the pace of their adoption, according to ISS and CoreNet Global Health & Well-being survey (2017) respondents. Almost 30 per cent of respondents do not have well-defined metric systems in place.\(^{135}\) Organisations with well-developed metrics have increased their employee engagement, retention and productivity measures, leading to decreases in absenteeism and health care costs.\(^{136}\) For example, a five-point increase in employee engagement is linked to a three-point increase in revenue growth in the subsequent year.\(^{137}\)

FM are in the unique role of initiating targeted interventions and nudging employees towards making healthier choices to improve their well-being. Incremental changes and adjustments in workplace design can address common complaints such as lower back pain and improve productivity and the overall workplace experience. In relation to health and well-being initiatives, also mental health plays an increasingly important role. A recent WHO-led study estimates that depression and anxiety disorders cost the global economy US$1 trillion each year in lost productivity.\(^{138}\)

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134 Scott, Ryan (2017) “Employee engagement is declining worldwide” Forbes
136 Scott, Ryan (2017) “Employee engagement is declining worldwide” Forbes
137 Scott, Ryan (2017) “Employee engagement is declining worldwide” Forbes
138 World health organization (2017) “Mental health in the workplace”
The World Economic Forum and Harvard School for Public Health project that the cumulative global impact of mental disorders in terms of lost economic output will amount to $16.3 trillion between 2011 and 2030.139

Most workplace risk factors contributing to mental illness relate to workplace interactions, the organisational and managerial environment, the skills and competencies of employees, and the support available for employees to carry out their work.

Workplaces need to break the stigma surrounding mental illness, create a culture of acceptance and a forum where employees freely can discuss the challenges they may be facing. Workplaces that promote mental health and support people with mental disorders are more likely to reduce absenteeism, increase productivity and benefit from associated economic gains.

Investing in health and well-being is an important element of talent attraction for permanent and contingent workers alike. Focusing on contingent workers' health and wellbeing could be a differentiator as these workers seldom receive health benefits,140 and are often an overlooked segment.141 Therefore, an inclusive and excellent employee experience for all workers, achieved by investing in people and in the workplace, can be a powerful tool for attracting and retaining top talent and lead to decreasing overall attraction costs.142

Employee satisfaction, motivation, engagement and well-being are interconnected - employees that experience high levels of engagement contribute positively to business performance. A sentiment shared by the majority of the ISS and CoreNet Global Health & Well-being survey respondents (see figure 15). Conversely poor engagement can cause organisations to have lower profit margins, poor customer service, high employee turnover, and decreased competitive advantage. Given the war for talent, challenges around attraction, integration and retention and decreasing employee loyalty among the younger generations, satisfied and engaged employees should be viewed as a key resource and a critical source for comparative advantage.

8.3 Change Management as the enabler

Change Management is a collective term for all approaches to prepare and support individuals, teams, and organisations in making organisational changes.

139 Candeias, V. & Bernaert, A. (2017) “7 steps to build a mentally healthy workplace” World Economic Forum
It includes methods that redirect or redefine the use of resources, business processes, budget allocations, or other modes of operation that significantly affect an organisation. Change management entails thoughtful planning and sensitive implementation. If change in the workplace is forced on people, it is likely to cause resistance. However, when employees embrace the change, they report improvements in productivity.

Often organisations enter transformative projects without educating their employees around the benefits of and the nature of the changes. A successful transition or workplace change requires a structured process, tools and communication. One such approach includes ADKAR - an acronym that represents the five outcomes that must be achieved for change to be successful: awareness, desire, knowledge, ability, reinforcement. Such approaches can prevent misunderstandings that occur from a lack of knowledge – such as employees believing that they will no longer have privacy in the new workplace – and build awareness of what employees will gain from a new workplace strategy.

Misconceptions and fears can lead to lower productivity, and consequently a failure for initiating changes. For example, if workers limit their mobility in the workplace to protect their desk out of fear of not having a place to sit, it is likely that this will foster dissatisfaction with the workplace changes. Involvement by top management in demonstrating how such spaces can be used is a crucial step in the change management process. If employees see leadership moving throughout the organisation it piques their interest and eventually leads to their adoption of new ways of working.

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Some practical suggestions around change management include144:

- Develop pilot projects and test cases. This will provide lessons learned and help tailor Activity Based Working (ABW) solutions to the organisation and employees’ needs, as well as hands on experiences for employees about future ways of working.
- Provide the right kind of training, and assist employees in making the right work area choices to support their needs.
- Visible involvement and sponsorship by management. The organisation will only change as far as the leadership is willing to.
- Acknowledge that employees are losing designated work spaces, and emphasise the gains such as team ownership and access to more and varied types of workspaces.
- Employee participation in the process.
- Recognise inputs from diverse employees and groups of employees who may have differing needs.
- Ensure the right technology is present and that it enables flexibility.
- Ensure the workspace provided supports workforce needs.
- Provide additional IT and HR support.
- Develop clear objectives and measures of success.
- Prepare a plan in case of resistance from employees.
- Recruit employees and leaders based on their ability to work in a complex world.

If managed poorly, organisational changes initiated to improve satisfaction, retention and productivity can have the opposite effect. They could lead to increasing employee uncertainty, anxiety and organisational paralysis. By placing employee well-being at the centre of all change management processes, organisations can not only prevent disengagement, but also help build loyalty and advocacy around the change.145

Creating a customised, user-centred workplace is likely to gain greater support than following generic trends in workplace design. Organisations should therefore carefully devise change management processes, initiating necessary changes in the organisation to gain acceptance.

**Nudging**

Nudging is based on findings from behavioural economists that found that psychological or neurological biases cause people to make choices that seem contrary to their best interests. Nudging is based on research that shows it is possible to steer people towards better decisions by presenting choices in diverse ways.146 Nudging are efforts to alter people’s behaviour in a predictable way without forbidding any options or changing economic incentives.147

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Some nudges can encourage workers to behaviours that workers know they should be doing, such as standing rather than sitting at work. Such nudges are made to help individuals respond to the knowledge they already have. Other nudges can encourage workers to certain behaviours on an unconscious level by reducing how much people eat by making plates smaller.148

Nudges can also be facilitated through space design. Different spatial layouts can encourage desired activities such as collaboration, innovation, socialization, communication and creativity. FM will need to expand the scope of influence and look at the bigger perspective for the organisation. When FM can impact the way people work it also change the impact and the influence on the HR agenda e.g. changing the meeting culture and drive for more effective meetings.

As the majority of interactions in the workplace are unplanned, creating spaces that facilitate conversations are related to increased knowledge sharing and face to face conversations can further build trust among colleagues.149 Workplace change can make a difference in the sharing of knowledge, it impacts the speed of communication, and speed of decision communication particularly.150 Effectively communicated workplace change has a signalling effect in communicating desired behaviours to employees. The workplace also provides a tangible way to shape culture, and gain employee advocacy regarding strategic and workplace changes.

8.4 FM providers as strategic partners

The strategic vision of FM should parallel that of the organisation they are working with to develop solutions that contribute to the organisation’s resilient future. Facility Managers can act increasingly as a strategic partner, since FM continues to transition from the operational level to the service level, and finally, to the strategic level.

For FM providers to better and more effectively address the needs of organisations, it is imperative to move beyond facility management and engage in a degree of strategic facility planning (SFP). SFP identifies the type, quantity and location of spaces required to fully support the organisations business initiatives and should be framed within the organisation’s vision. The SFP includes three primary components: “an understanding of the organisation’s culture and core values and an analysis of how existing and new facilities must manifest that culture and core values within the physical space or support their change, an in-depth analysis of existing facilities – including location, capability, utilisation and condition; and an achievable and affordable plan that translates the goals of the business plan into an appropriate facility response.” 151

148 Branche Fællesskab Arbejdsmiljø (2017) “Hvornår er et nudge et nudge”
149 Andersen, Gitte; Christensen, Peter Holdt (2015) “Space at work” Signal
150 Unispace white paper (June 2017) “People, place and what really matters...”
The process of strategic facility planning should be ongoing as facilities, real estate and infrastructure should be consistently evaluated to ensure that buildings and other real estate assets are optimised in a way best suited to match the vision, and obtain the objectives of the organisation. This requires life-cycle analysis which includes an evaluation of total ownership cost and life-cycle cost in contrast to the relative value output of building assets’ economic, social and environmental performance. This requires becoming business-oriented specialists, possessing critical new skills in areas such as:

- **Organisational networks**: Analysing, building and developing network capabilities and expertise
- **Employee engagement and culture**: Utilising the workplace as a tool to strengthen company culture, improve employee engagement and productivity
- **Design thinking**: Approaching problems as “experience architects”
- **Analytics and statistics**: Becoming evidence-based leaders who embrace behavioural economics and testing
- **Employee experience and Brand enforcement**: Crafting workplace experiences that communicate and reinforce the company’s value proposition and leverage its brand promise.152

**FM providers as consultants and educators**

The role of FM will further evolve into that of a consultancy, which will consult and advise on a range of issues from those of strategic importance to the organisation as well as to assist end-users. The value of FM in the future will be on knowledge, and not only technical knowledge at the operational level, but also in the creation, management, and optimisation of physical space, people, and information. FM have a unique advantage as they are onsite every day and can liaise with HR, IT and CRE functions.

FM providers are well situated to advise and consult on outsourcing and procurement practices. FM providers are some of the largest outsourcing companies in the world, and as a result, offer invaluable insights into the procurement process that help organisations optimise resources, and maximise outcomes. In this regard, FM providers act as knowledge providers, who can draw on their extensive experience in procurement, contract tendering, and outsourcing in order to educate and support the customer organisations on how to navigate complicated procurement processes, and build smarter contracts. FM providers will increasingly adopt a greater role as a co-creator since the demands of organisations will exceed their capacity to deliver in-house. Involving FM providers and other partners will help drive innovation, and thus help shape the future of organisations.

FM can play a role in educating end-users and their use of workspaces. The success of a workspace depends upon the behaviours of the end-users and whether space contributes to productivity. FM providers can play an active role in change management and prepare and support the end-users in making changes to the way they work and use spaces.

152 ISS World Services (January 2017) “The new role of FM: From service providers to experience managers”
Corporate interventions for health and well-being?

Is it acceptable for an employer to intervene with health promotion initiatives even though the employee can perform his job otherwise satisfactorily? The challenge lies in supporting and caring for the employee, without being perceived as interfering or governing. Corporate intervention can be an essential tool for companies in terms of making it more attractive to support employees in all stages of life. Some employers already monitor how many hours of sleep a senior employee gets. It is possible that in the near future, employers could require employees to engage in ‘brain doping’.

As the distinction between work life and privacy becomes more fluid, the boundaries of when and how much corporate intervention is considered acceptable will be pushed. For example, wearable technologies and chip implants can manage health in novel, but arguably intrusive ways. The future therefore holds virtually unmatched opportunities for corporate intervention, though organisations need to find a balance between intruding and assisting.
Investments in changing the workspace are most effective when accompanied by change management initiatives. For example, instilling an activity based workplace can often be met with fear and misconceptions. Employees can be concerned about not having a place to sit, and even bigger fears relating to their place in the organisation. By adopting a user centric approach, FM can educate end users around the workplace changes and prevent disengagement, but also build loyalty and advocacy around the change.\(^{153}\)

### 8.5 Bridging the gap between HR and FM/CRE

As the employee and workplace experiences have become the key to business success, a collaboration between HR and FM/CRE departments is needed to comprehensively understand employee needs.\(^{154}\)

![Graph showing the evaluation of collaboration between CRE & FM and the HR Function today.](image)

*Figure 16 How would you evaluate the collaboration between CRE & FM and the HR Function today?*  
*Source: ISS and CoreNet, Bridging the Gap: CRE, FM and HR survey (2017)*

Departments such as HR, IT, CRE function often operates independently, while making decisions that affect one another. For example, IT decides to invest in high-tech equipment for the workplace, HR implements mobile work policies that limit the impact of the IT department’s equipment acquisition. At the same time, CRE may be extending the lease for the office buildings, when they should be relocating the workplace. A Chief of Work officer can remove the boundaries that exist between these departments and increase transparency around the workplace. Companies like Airbnb, Ericsson and Decker Brands have created new roles such as a *Chief Workplace Officer* or a *Chief Employee Experience officer*.

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\(^{154}\) Unispace white paper (June 2017) “People, place and what really matters…”
for their organisations. The challenge, however, is creating a truly collegial model that encourages team members from various departments to work side-by-side to learn from one another and benefit from the experience. According to the 2017, ISS and CoreNet Global Bridging the Gap Survey, organisations have room for improvement in bridging the gap between the HR, CRE and FM departments (see figure 17).

Figure 17 What is the most important benefit of an integrated approach between HR and CRE & FM? Source: ISS and CoreNet, Bridging the Gap: CRE, FM and HR survey (2017)

80% of HR leaders interviewed foresee a greater HR ownership of the physical workplace. Engaging with employees is essential to create a shared understanding of needs, expectations as well as being part of the workplace strategy. A people centric framework can support decision making regarding the physical workplaces, and any planned changes. Bringing HR to the table enables the working environment to embody organisational values and contribute towards achieving strategy people-led business objectives, such as better staff retention and productivity.

Figure 18 If yes, which function is responsible for the company’s workplace strategy today? Source: ISS and CoreNet, Bridging the Gap: CRE, FM and HR survey (2017)

157 Unispace white paper (June 2017) “People, place and what really matters…”
158 Eltringham, Mark (October 2017) “HR directors turning their attention to workplace design and experience” http://workplaceinsight.net/hr-directors-turn-attention-workplace-design-worker-experience-response-changing-cultures/
Figure 19 In your opinion, which function will be responsible for the company’s workplace strategy in the future? Source: ISS and CoreNet, Bridging the Gap: CRE, FM and HR survey (2017)

Figure 17-19 does illustrate some variances in the way CRE and FM are working with the changes happening in the workplace. Especially Corporate Real Estate people seems more concerned about the asset whereas Facility Managers focus more on what is happening inside the building. This is best illustrated by the response (figure 17) on aligning physical environments to improve organisational performance where 30.6% of CRE agrees and only 15% of FM agrees - as opposed to the answer of creating a better fit between life-cycle of buildings and end-user demands where the trend is opposite. Both CRE’s and FM’s seems fixed on their own responsibility in deciding who should be responsible for the company’s workplace strategy. Here 41% of CRE answer themselves and 24.7% of the FM believe in their own ability to get this responsibility. Interestingly the number of CRE’s and FM’s pointing...
at the CEO or the HR function for this important question is surprisingly low.

Facility Managers keen to pursue the role of a Chief Workplace Officer in the future, should focus on:

- Understanding FM’s changing mandate, mission and role
- Rethinking the FM structure and ensuring there are enough specialists in the FM team
- Upgrading to include data-based technologies that enable a better understanding of the workplace and employee experience
- Rethinking FM capability development

The future workplace will be more user centric than ever before, and will involve the seamless functioning of several organisational departments. Predicting and understanding the end-users requires departments such as HR and FM, who are on the frontline and engage with the end-users daily, share their knowledge (and potentially merge) with the CRE department, who traditionally have been involved in the strategic and long-term planning of facilities. Organisations will need to continually alternate between meeting the short term demands of end-users, while not losing sight of the long-term goal.

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The cost of well-being in the workplace: Hilti wellness journey

Hilti’s wellness journey began with the goal to reduce the number of employees at risk for coronary artery disease, stroke and type 2 diabetes. Together with its FM provider, ISS Guckenheimer, Hilti tracked participants from 2008 till 2012, and found a significant decrease of those participants who have three or more risk factors from 23.6 per cent to 19.5 per cent.

Hilti partnered with ISS Guckenheimer, a food service partner to promote wellness efforts and nudge employees towards making healthy choices. The employees perceived this partnership as a benefit and helped develop an overall win-win atmosphere for the employee and the company regarding the overall wellness initiative. Employees were also able to use a personalized and confidential website to access personal wellness information. Test results, recommended medical tests, records of the wellness programs that each employee had utilised and identification of resources for follow-up. This website became a straightforward way for employees to track progress and get information.

Health benefits
The dramatic improvement in metabolic syndrome occurrence in the Hilti workforce resulted in significant improvement in costs as well. As people were diagnosed earlier, their health issues could be treated at earlier stages, which resulted in cost decreases. The annual treatment costs for employees with diabetes decreased by 26 per cent. Similar improvements were seen for high blood pressure, heart disease and high cholesterol. Early successes inspired further wellness programs and Hilti is now focusing on early detection of cancer with a program called Health Prompt.

Financial gains
Hilti managed to significantly slow the rate of increase in their health care costs and estimate that they have saved over $1.5 million in health care since they started their Wellness program. The savings come from identifying employees who have health issues and giving them help with tools to get healthier and access to care to get treatment early, and experienced a 4:1 return on their wellness investment.

160 Guckenheimer (2017) ”An integrated approach to wellness: The Hilti story”
Over six ISS 2020 Vision white books, ISS and CIFS have described the dynamics shaping the FM and CRE industry through valuable insights from members of the International Facility Management Association, CoreNet Global and the International Association of Outsourcing Professionals as well as from over 60 subject matter experts from the fields of Facility Management, Technology, Corporate Real Estate, Architecture, Outsourcing, and Workplace Design.

The industry is increasingly shifting from a building focus to a people focus, seeking to provide value-adding and more holistic workplace experiences conducive to the brand of the organisation.

To do this successfully, requires Facility and Corporate Real Estate professionals to deliver on four often competing objectives:

1. Achieving increased efficiencies by adopting best practices and optimising processes;
2. Making greater use of standardised solutions through scalability, automation and pay-per-use pricing;
3. Gaining business improvement through efficiency, speed and agility by leveraging FM services in a shared environment through one-to-many or many-to-many relationships; and

### 9.1 The workplace is a place of shared experiences.

Over the past decade, the physical workplace and its components have lost their position as the centre of value creation. The workplace and its components have become one of many critical touchpoints that define an organisation and its brand. As a touchpoint, the workplace is becoming a place of shared experiences just as much as it is an environment where work is performed. In this experience space, users – employees and customers – should be transformed by being vested in the organisation’s values and ambitions and supported in settings that promote well-being and engagement.

The future Facility Manager will be a manager of user experiences and transformations as much as a maintainer of buildings. Successful Facility Managers will be those who master creating spaces and experiences that employees love. Experiences that bind the end-users closer to the organisation.

The ultimate goal is to create and maintain workplaces that establish virtuous cycles or feedback loops that attract, empower, and retain people willing to go the extra mile for their employers. FM providers will therefore need to develop well-defined service strategies and a service culture that are grounded in user needs that sets a service quality that exceeds customers’ ever-increasing expectations.
9.2 New business realities require HR, CRE, FM and IT to work together

As workplaces become places where organisations shape end-user experiences, the next several years presents FM with the opportunity to truly become the “integrator of processes to support the core business”.

This will require FM, CRE and especially HR to shift their mindsets beyond thinking of the office environment as a cost-centre that needs to be managed.

Instead, they should begin to articulate the role that their services play in improving the creativity and productivity of employees across a range of settings - not only those found in traditional office environments. This could include, for example, traditional offices, clusters, shared offices or co-working spaces.

To do this successfully requires that we break down the silos and secure a closer collaboration between the FM, HR, IT and CRE functions.

A Chief of Work Officer can remove the boundaries that exist between these departments and increase transparency around the workplace.

9.3 Improving facility operations through IoT, Data and Analytics

Bridging the FM / CRE gap can not only enhance and improve the end-user experience, but with the support of IoT drive business performance, transformation and efficiency. IoT, smart building/smart workplace sensors and monitoring are dramatically changing the way facilities are imagined, planned, developed, used and managed. The use of sensors and real-time updates enables building issues to be addressed in almost real-time. This ultimately frees up time from FM providers who have the possibility to take a more strategic role within the organisation.

Using technology and data and analytics (D&A) as tools, FM / CRE can improve facility operations but also take on a more strategic role in extending the purpose of the building and its role in the end-users’ lives. There, however, is currently a gap in the application of data and analytics (D&A) – only 34% of businesses are confident in applying D&A for business operations. FM / CRE can identify gaps, integrate these gaps into operations and develop measurement systems to measure performance impact. FM / CRE have significant insights regarding facilities, and translating these insights into actions through D&A can enable ensure long-term financial benefits, ensuring a pivotal role for FM / CRE in organisations in the future.

Bridging the gap between FM and CRE, combined with the successful application of IoT will lead to cost savings in running a workplace. Real time monitoring can ensure a rapid response to failures in any critical equipment, or any failures due to power outages. Similarly, if an end-user identifies a fault, they can report it through an app. The FM provider can
either fix the problem remotely or by dispatching relevant personnel. Real-time reporting reduces the lag time, identifies the correct person for the job and minimises the disruption to the customer. This allows for buildings to operate virtually problem free, reduces the costs of maintaining and running the building, and decreases the negative interactions with the client. For example, a broken coffee machine may not be a significant functional flaw but can trigger employee complaints and reduce productivity, which in turn creates a negative attitude towards the FM provider. If the FM provider can identify the problem even before the end-user, it increases the reliability of the workplace and creates higher engagement among employees.

We hope that you have enjoyed reading this and the other books in the ISS 2020 Vision series and that they have inspired you to develop new, value-adding service solutions for your organisations and end-users.

Collectively we all got a lot of thinking to do about the future of our function, business, industry - and our own personal future. There has never been a more exciting time to be in FM/CRE and the change that will happen over the next few years will be dramatic. At ISS, we will look forward to continue to monitor the trends and developments, which are happening around us - and we will continue to share this insight. Maybe not under the ISS 2020 Vision headline - but in other programs and channels. Who knows, maybe we will even launch another vision project about the future...
Appendix A - Health & well-being survey

The workplace is a critical part of the physiological and psychological performance of end-users. Towards 2020 and beyond, the workplace needs to better support the more diverse requirements of knowledge employees, strike a balance between collaboration and focus work, and offer a healthy working environment. Workplaces that can strike this balance can be effective tools to attract and retain talent, and improve employee experiences and engagement, which will be critical for organisational success in the innovation society. The ISS and CoreNet Global Health & Well-being Survey (2017) identified that attracting and retaining talent, improving productivity and controlling costs were the strongest motivator for organisations’ adopting a health and well-being agenda.

![Pie chart showing employer motivation for health and well-being agenda.]

Which of the following best describes the motivation for your health and well-being agenda

- Meet legal requirements: 24.7%
- Managing liabilities: 24.7%
- Reducing costs: 33.3%
- Reinforcing brand and reputation: 8.7%
- Attracting and retaining talent: 4.7%
- Reducing absenteeism by enhancing employees’ well-being: 2.7%
- Improving profitability through enhanced productivity: 2.7%
- Other (please specify): 3.3%

Figure 20 Employer motivation for health and well-being agenda. Source: ISS and CoreNet Global Health & Well-being survey (2017)

The primary drivers of employers’ well-being initiatives are increasing productivity through reduced presenteeism (being at work but not doing your best because of poor health or well-being), reducing absenteeism and increasing engagement. For example, someone who suffers from depression is absent for an average of 26 more days a year than a healthy employee, but they lose another 36 days’ worth of annual productivity due to presenteeism.161

Two major factors influence employee performance and retention: engagement and well-being. Gallup found that employees that score highly on the well-being index (see figure below) are more likely to report higher engagement. The well-being index consists of 5 parameters – 3 out of 5 of these can be directly impacted by FM. Adding well-being to the understanding of engagement has a beneficial effect on key outcomes. Compared with employees who have high engagement but otherwise exhibit low levels of well-being, those

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161 Lister, Kate; Harnish Tom (2016) “Work on the move 2: Well-being in the workplace” IFMA Foundation
who have high engagement and high well-being, are 30 per cent more likely not to miss any work days because of poor health in any given month. Employees that are engaged and have high well-being are 45 per cent more likely to report high-levels of adaptability in the presence of change, 29 per cent less likely to look for a job with a different organisation in the next 12 months, and 18 per cent less likely to change employers in a 12-month period. Engagement and well-being reinforce one another, and employers miss important opportunities by either ignoring well-being or focusing on physical wellness programs alone.

<table>
<thead>
<tr>
<th>Parameters</th>
<th>Definition</th>
<th>Ability of FM to affect</th>
</tr>
</thead>
<tbody>
<tr>
<td>Purpose</td>
<td>Liking what you do each day and being motivated to achieve your goals</td>
<td>Low</td>
</tr>
<tr>
<td>Social</td>
<td>Having supportive relationships and love in your life</td>
<td>Medium</td>
</tr>
<tr>
<td>Financial</td>
<td>Managing your economic life to reduce stress and increase security</td>
<td>Low</td>
</tr>
<tr>
<td>Community</td>
<td>Liking where you live, feeling safe and having pride in your community</td>
<td>High</td>
</tr>
<tr>
<td>Physical</td>
<td>Having good health and enough energy to get things done daily</td>
<td>High</td>
</tr>
</tbody>
</table>

Table 5 The Gallup Heathway’s well-being index’s five parameters and FM’s ability to affect them. Source: Gallup (October 2015)
Globally, employee well-being has been on the decline due to anxieties over job security and increasing stress.\textsuperscript{162} While health and well-being initiatives are on the rise, the cost of such programs and the difficulty in collecting and measuring their impacts has hindered the pace of their adoption, according to ISS and CoreNet Global Health & Well-being survey (2017) respondents (see figures 21 and 22). For example, almost 30 per cent of respondents do not have well-defined metric systems in place.\textsuperscript{163} Organisations with well-developed metrics have increased their employee engagement, retention and productivity measures, leading to decreases in absenteeism and health care costs.\textsuperscript{107} For example, a five-point increase in employee engagement is linked to a three-point increase in revenue growth in the subsequent year.\textsuperscript{107}

<table>
<thead>
<tr>
<th>What challenges do you face in implementing health and well-being initiatives (check all that apply)?</th>
</tr>
</thead>
<tbody>
<tr>
<td>30,1%</td>
</tr>
<tr>
<td>19,6%</td>
</tr>
<tr>
<td>65,7%</td>
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<tr>
<td>56,6%</td>
</tr>
<tr>
<td>71,3%</td>
</tr>
<tr>
<td>21,0%</td>
</tr>
<tr>
<td>9,8%</td>
</tr>
<tr>
<td>1,4%</td>
</tr>
</tbody>
</table>

Figure 21 Challenges faced by organisations implementing health and well-being initiatives. Source: ISS and CoreNet Global Health & Well-being Survey (2017)

\textsuperscript{162} Scott, Ryan (June 2017) “Employee engagement is declining worldwide” Forbes www.forbes.com

\textsuperscript{163} ISS World Services (2017 “)ISS 2020 Vision: Health and Well-being survey”
FM are in the unique role of initiating targeted interventions and nudging employees towards making healthier choices to improve their well-being. Incremental changes and adjustments in workplace design can address common complaints such as lower back pain and improve productivity and the overall workplace experience.

Investing in health and well-being is an important element of talent attraction for permanent and contingent employees alike. Focusing on contingent employees’ health and well-being could be a differentiator as these employees seldom receive health benefits, and are often an overlooked segment. Therefore, an inclusive and excellent employee experience for all employees, achieved by investing in people and in the workplace, can be a powerful tool for attracting and retaining top talent and lead to decreasing overall attraction costs.

Employee satisfaction, motivation, engagement and well-being are interconnected - employees that experience high levels of engagement contribute positively to business performance. A sentiment shared by the majority of the ISS and CoreNet Global Health & Well-being survey respondents (see figure 23 below). Conversely poor engagement can cause organisations to have lower profit margins, poor customer service, high employee turnover, and decreased competitive advantage. Given the war for talent, challenges around attraction, integration and retention and decreasing employee loyalty among the younger

generations, satisfied and engaged employees should be viewed as a key resource and a critical source for comparative advantage.

![Chart showing the percentage of employees who feel fulfilled at the workplace, helps them in personal development, or all of the above.

Figure 23 What does health and well-being mean to you. Source: ISS and CoreNet Global Health & Well-being survey (2017)

The employee experience is a construct of two independent factors: job satisfaction, which encompasses intrinsic factors that arise from the work itself, including achievement and advancement; and job dissatisfaction, which stems from external factors, including workplace and physical comfort, company policy and supervision. Based on Herzberg's motivation-hygiene theory (see figure 24), hygiene factors (such as the workplace and physical comfort) are necessary, but not sufficient conditions. The upper part of the pyramid is critical to fostering well-being, and employee engagement. Findings by Steelcase have shown that engaged employees experience a greater degree of control over where and how they work, including access to privacy when they need it.

But, if hygiene factors, at the base of the pyramid are unmet, then it is likely that the employees will be dissatisfied and disengaged. For example, if employees are sitting in uncomfortable chairs, need to wear their coat indoors because the office is too cold, or if they are unable to concentrate because of high noise levels, then they’re not going to be motivated to think about how to improve their performance and enhance productivity.

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168 Lister, Kate; Harnish Tom (2016) “Work on the move 2: Well-being in the workplace” IFMA Foundation
Work has changed significantly in the past half-century since Herzberg first published his ideas, but his general findings are likely still relevant, the main difference is in how they can be applied. With the ways that the nature of work is changing, employees tend to gain more responsibility, a greater sense of achievement, more interesting work, and good opportunities for personal growth. Hence, achieving the motivating factors may not be a problem, shifting the focus to hygiene factors. In an increasingly competitive environment, with increasing pressures on performance and reducing costs, organisations may overlook the relevance and integral role of hygiene factors, which are the stepping stones towards well-being and employee engagement.

Employees’ well-being is in decline around the world with increasing challenges posed by working conditions and work-life balance. Back pain, musculoskeletal disorders, mental health issues and poor work-life balance are the most common health issues employee experience within their workplace. Viewing well-being in the workplace as an investment decision, and calculating the losses incurred as a result of a non-existent well-being program strengthens the decision to implement such programs in the workplace. For example, if employees lose just six minutes of productivity as a result of their office environment, it could negate the hoped-for savings. In response to these trends, wellness initiatives, are on the rise (see figure 20 below), and aim to significantly boosts employees’ productivity and engagement at work.

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Figure 25 Percent of 1,600 employers using wellness as a differentiation strategy. Source: Work on the move 2 (2016)

Widespread adoption of such initiatives is challenged by the cost of implementation and lack of measurement. The ISS and CoreNet Global Health & Well-being Survey found that a minority of respondents had a well-developed health and well-being program, which included structured methods for collecting and analysing targeted metrics. A finding that is supported by studies elsewhere. In the UK, over three quarters of employers do not measure return on investment for health and well-being initiatives. The absence of high quality data on the different types of interventions, how widely they are used, by which employees, and their impact on participants and more broadly on the workplace is a significant hindrance to the implementation of such programs. Viewing health and well-being in the workplace as an investment, supported by metrics, can play a pivotal role in identifying the return on investment of health and well-being initiatives.

Organisations with well-developed metrics, found that they more than recouped their costs of implementing well-being programs. For example, Tim Munden, chief learning officer at Unilever, estimates that across its European businesses, the consumer products group recoups 6 for every 1 invested in health programs. Nomura International, topped the British Healthiest Workplace rankings among large employers in 2016. They estimate their program — which include free annual health checks for all staff — have saved it nearly 3,000 working days that would have been lost to sickness and hospital appointments.

170 Jack, Andrew (September 2016) "Health lifelines for wellbeing in the workplace" Financial Times <https://www.ft.com
When a company takes a proactive approach to employee health and well-being, employees take notice of this positive stance on their wellness. They report higher levels of job satisfaction and show higher commitment levels. When employee health and wellness is managed well the percentage of engaged employees increased from 7 per cent to 55 per cent and self-reported creativity and innovation increases from 20 per cent to 72 per cent. Employees’ positive reaction to this demonstrated care for their health yields a variety of benefits, such as decreased turnover rates, better work quality coupled with improved output and employee engagement. When employees are more committed to a company, they are more productive and display more initiative and effort in the tasks performed. Organisations with higher employee engagement, satisfaction and productivity, could also be more successful in attracting and retaining future talent. (see Hilti case on page 96).

FM are in the unique situation of being present at the workplace every day. They can structure data collection and analyse activities on an ongoing, or even a real-time, basis. They can identify areas for intervention and adjust workplace design accordingly to enable a healthier workplace. FM can identify areas, where interventions can be enacted to ‘nudge’ employees to make healthier choices. This includes strategies such as changing the way options are presented, or altering the physical environment to make it more likely that a particular choice becomes the natural or default preference.

Nudging is based on findings from behavioural economists that found that psychological or neurological biases cause people to make choices that seem contrary to their best interests. Nudging is based on research that shows it is possible to steer people towards better decisions by presenting choices in different ways. Nudging are efforts to alter people’s behaviour in a predictable way without forbidding any options or changing economic incentives.

Some nudges can encourage employees to behaviours that employees know they should be doing, such as standing rather than sitting at work. Such nudges are made help individuals respond to the knowledge they already have. Other nudges can encourage employees to certain behaviours on an unconscious level by reducing how much people eat by making plates smaller.

Others include designing specific spaces such that they encourage activity, or relocating break areas or the pantry can also promote movement around the space. These types of efforts reflect the prioritization of the occupant’s health, comfort, safety and security are often only achievable through careful observation by someone like an FM. If employees change aspects of their behaviour as a consequence the way choices are presented (choice architecture) then it can be said that the employees have been nudged. Another example of nudging is

174 The Economist (2012) “Nudge nudge, think think”
176 Branche Fællesskab Arbejdsmiljø (August 2017) “Hvornår er et nudge et nudge?” www.kropogkontor.dk
soap dispensers that begin blinking when an occupant is using the toilet in an effort to remind the occupants to utilise the soap dispenser. Using data collected from the ISS headquarters this particular nudging effect has been successful in improving hygiene.

According to ISS and CoreNet Global Health & Well-being Survey respondents, FM should be involved in the early design phase of buildings so they share their insights into how space can be used to affect users’ current and future health and well-being (see figure 26). Interventions include biophilia, natural light, lighting, and ergonomics. These types of efforts reflect the prioritization of the occupant’s health, comfort, safety and security are often only achievable through careful observation. Other interventions require the involvement of HR, IT, and CRE, among others.

![Figure 26 Most important aspects of health and well-being in terms of workplace design towards 2025. Source: ISS and CoreNet Global Health & Well-being survey (2017)](image)

Incremental changes and adjustments in the workplace can save organisations and the economy quite significant sums of money (in the billions of dollars in the United States). For example, long hours sitting at a desk can lead to lower back pain, which is the second most common reason for long-term disability. Adjustments such as electrically-operated tables and computer workstations allow employees to change their seating position throughout the day, moving from a seated position to a standing position at the touch of a button and can reduce the risk of injuries and adverse health effects.
ISS and CoreNet Global Health and Well-being Survey

The survey was conducted amongst CoreNet Global members between March and May 2017 and 150 people completed the survey.

The aim of the survey was to derive insights into the future of health & well-being and the requirements it places on workplace services, technologies, and buildings by unfolding the latest trends and drivers that will shape customer health and well-being needs in the future towards 2020 and beyond.

1. What is your role in the industry?
2. What is your company’s primary market?

- Western Europe: 66.4%
- Eastern Europe (including Russia): 18.1%
- North America: 12.8%
- Central and South America: 1.3%
- China: 0%
- Asia/Asia Pacific (Including Australia and New Zealand): 0%
- Africa and Middle East: 1.3%

3. What is the size of your company?

- 100,001+ employees: 34.2%
- 10,001-100,000 employees: 28.9%
- 1,001-10,000 employees: 16.8%
- 501-1,000 employees: 13.4%
- 1-500 employees: 6.7%
4. Where are you personally based?

- Western Europe: 21.5%
- Eastern Europe (including Russia): 15.4%
- North America: 57.0%
- Central and South America: 4.7%
- China: 3.4%
- Asia/Asia Pacific (including Australia and New Zealand, not including China): 1.3%
- Africa and Middle East: 0.7%

5. What is your role in the industry?

- C-suite: 19.3%
- Director or VP (top management): 16.7%
- Facility Management Director/VP: 12.0%
- Corporate Real Estate Director/VP: 11.3%
- FM/CRE Professional: 9.7%
- Service Provider: 7.3%
- Operations: 6.0%
- Knowledge worker: 5.0%
- Support Function: 4.7%
- Other (please specify): 0.0%
6. **What does health and wellbeing in the workplace mean to you?**

- I don’t get injured at the workplace: 52.7%
- I feel fulfilled at the workplace: 18.2%
- Helps me in my personal development: 4.7%
- My workplace is my extended family: 8.8%
- Helps me give back to my community: 0.0%
- Helps me manage my stress: 5.4%
- Helps me manage my finances: 7.4%
- All of the above: 2.7%
- None of the above: 0.0%

7. **Which of the following best describes the motivation for your health and well-being agenda?**

- Meet legal requirements: 33.3%
- Managing liabilities: 24.7%
- Reducing costs: 20.0%
- Realigning brand and reputation: 8.7%
- Attracting and retaining talent: 4.7%
- Reducing absenteeism by enhancing employee well-being: 2.7%
- Improving profitability through enhanced productivity: 2.7%
- Other (please specify): 3.3%
8. How do you measure the impact of health and wellbeing initiatives (check all that apply)?

- Improvement in health screening results: 21.3%
- Reduction in absenteeism: 43.3%
- Increase in employee retention: 44.7%
- Improvement in employee engagement: 51.3%
- Increase in employee satisfaction: 54%
- Per employee health care costs: 18.7%
- A well-developed program with targeted metrics and feedback mechanisms: 26%
- Do not have a measurement system in place: 29.3%
- Other (please specify): 3.3%

9. On a scale of 1 to 5, 1 being ‘Ad hoc or non-existent’ and 5 being ‘a well-developed program with targeted metrics and feedback mechanism’, where would you rank your workplace’s health and well-being program?

Your workplace: 2.0
10. Which of the following health and wellbeing amenities are offered at your workplace (check all that apply)?

11. Which of the following health and wellbeing amenities have the employees requested (check all that apply)?

12. Which of the following health and wellbeing amenities does the organisation consider reasonable (check all that apply)?
13. What are the most important aspects of health and wellbeing in terms of workplace design (check all that apply)?

- Improvement in health screening results: 89.3%
- Technology: 73.2%
- Thermal comfort: 81.2%
- Acoustic privacy: 71.1%
- Collaborative spaces: 77.2%
- Aesthetics: 55.7%
- Ability to work remotely: 66.4%
- Healthy workplace: 85.9%
- Social spaces: 68.5%
- Health monitoring: 30.2%
- Other (please specify): 4.7%

14. What do you think will be the most important aspects of health and wellbeing in terms of workplace design towards 2025 (check all that apply)?

- Improvement in health screening results: 73.8%
- Technology: 77.9%
- Thermal comfort: 68.5%
- Acoustic privacy: 59.7%
- Collaborative spaces: 69.1%
- Aesthetics: 45.0%
- Ability to work remotely: 75.8%
- Healthy workplace: 77.2%
- Social spaces: 68.5%
- Health monitoring: 49.7%
- Other (please specify): 7.4%
15. On a scale of 1 to 5, 1 being ‘I want my workspace to be serviced by well-trained service personnel’ and 5 being ‘Self-service is the best service’, where would you rank your expectations from the service provided by your workplace?

16. Which of the following health and workplace trends do you expect to encounter towards 2025 (check all that apply)?

- Aging of your workforce: 81.9%
- Rise of chronic disease: 28.2%
- Rise of healthcare costs: 75.2%
- Rise of burnout: 63.1%
- Other (please specify): 3.4%
17. Which of the following amenities do you expect to provide towards 2025 (check all that apply)?

- Advanced lighting: 65.8%
- Biophilic air treatment (exposure to natural light): 51.7%
- Advanced water purification: 32.9%
- Cardiovascular equipment: 31.5%
- A wellness concierge: 34.9%
- Personalized health: 40.9%
- Robots as personal assistants: 19.5%
- Stress monitoring bracelets: 34.9%
- None of the above: 12.1%
- Other (please specify): 4.0%
18. Select your top 5 employee health and well-being priorities in order of importance (1 being of highest importance):

- Health insurance
- Opportunity to exercise
- Availability of healthy food options
- Flexible working to improve work-life balance
- Health monitoring technology
- Stress monitoring technology
- Ergonomic equipment such as adjustable desks
- On-site amenities (e.g. child care, dry cleaning, banking)
- Medical advise from doctors, check ups from nurses
- Health advice on matters including diet and ergonomics
- Being serviced by trained service professionals
- Programs that help me manage my stress
- Programs that help me manage my finances
- Other
19. Select your top 5 employee health and well-being priorities towards 2025, in order of importance (1 being of highest importance):

- Health insurance: 1.68
- Opportunity to exercise: 2.68
- Availability of healthy food options: 3.22
- Flexible working to improve work-life balance: 2.30
- Health monitoring technology: 3.14
- Stress monitoring technology: 3.86
- Ergonomic equipment such as adjustable desks: 3.35
- On-site amenities (e.g. child care, dry cleaning, banking): 3.97
- Medical advice from doctors, check-ups from nurses: 3.75
- Health advice on matters including diet and ergonomics: 3.70
- Being serviced by trained service professionals: 3.45
- Programs that help me manage my stress: 4.00
- Programs that help me manage my finances: 4.21
- Other: 5.00
20. Which of the following health and workplace trends do you expect to encounter towards 2025 (check all that apply)?

- Resistance from top-management: 30.1%
- Legal reasons/limitations: 19.6%
- Difficult to measure impact: 65.7%
- Expensive to implement: 56.6%
- Budgetary constraints: 71.3%
- Not demanded by employees: 21.0%
- Not our responsibility: 9.8%
- Other (please specify): 1.4%

21. What key health and wellbeing related challenges do employees experience (check all that apply)?

- Work-related stress: 88.5%
- Burnout: 62.2%
- Absenteeism: 35.1%
- Presenteeism (being at the workplace longer than required): 42.6%
- Sickness: 29.7%
- Decreased productivity: 58.1%
- Ergonomic problems: 52.0%
- Other (please specify): 0.0%
Appendix B - Briding the gap between FM, CRE & HR survey

About CoreNet Global and ISS Survey

Between August 24th and October 14th, ISS and CoreNet Global surveyed 218 CoreNet Global members about the barriers and opportunities in bridging the gap between HR, CRE and FM – and where this issue is headed.

Between October 11th and October 30th, ISS Surveyed 93 Industry Professionals in relation to IFMA’s World Workplace 2017 about the barriers and opportunities in bridging the gap between HR, CRE and FM and where the issue is headed.

1. What is your role in the profession?
2. In which region are your headquarters based?

- North America: 68.8%
- Latin America: 0.9% / 1.1%
- Western Europe: 19.3% / 21.5%
- Eastern Europe: 0% / 2.2%
- Middle East & Africa: 0.5% / 2.2%
- Asia/Asia Pacific: 4.3% / 10.5%

3. In which region are you personally based?

- North America: 68.2% / 70%
- Latin America: 0.9% / 1.1%
- Western Europe: 16.1% / 17.2%
- Eastern Europe: 0.9% / 3.2%
- Middle East & Africa: 0.9% / 1.1%
- Asia/Asia Pacific: 5.4% / 12.9%
4. How many employees are employed by your company in total?

- 1-100: 12% (ISS / CoreNet), 10.7% (ISS / IFMA WW)
- 101-500: 6.4% (ISS / CoreNet), 19.3% (ISS / IFMA WW)
- 501-1000: 8.6% (ISS / CoreNet), 5.1% (ISS / IFMA WW)
- 1001-5000: 16.6% (ISS / CoreNet), 12.9% (ISS / IFMA WW)
- 5001-10,000: 11.1% (ISS / CoreNet), 15.1% (ISS / IFMA WW)
- 10,001-50,000: 19.3% (ISS / CoreNet), 19.3% (ISS / IFMA WW)
- >50,001: 23.5% (ISS / CoreNet), 14% (ISS / IFMA WW)

ISS / CoreNet (Sept. 2017)
ISS / IFMA WW (Oct. 2017)
5. Which line of business is your company in?

- Building/Construction: 4.6%
- Electrical/electronics or computing: 6.9%
- Engineering (all forms): 4.1%
- Brewers, food manufacturing: 1.1%
- Stores, food retailing: 0%
- Transport, distribution or communication: 1.4%
- Local government: 7.5%
- Energy & Water supply: 4.3%
- Financial sector incl. banking and insurance: 19.8%
- Corporate Real Estate Management incl. lease and admin.: 15.2%
- Facility Management and Services: 24.7%
- Printing, Publishing, Advertising or Media: 5.1%
- Trade associations or trade unions: 2.1%
- Education/research: 7.5%
- Catering, Hotels & Leisure: 1.1%
- Chemicals, Plastics, Pharmaceuticals or Toiletries: 4.1%
- Other: 31.3%
6. Which title best describes your position within your company?

- Board or C-level: 6.9%
- SVP or VP level: 25.7%
- Director level: 31.6%
- Expert/Specialist: 12.9%
- Senior manager: 16.1%
- Manager: 24.7%
- Advisor: 4.3%
- Individual Contributor: 3.2%
- Other: 4.3%

ISS / CoreNet (Sept. 2017)
ISS / IFMA WW (Oct. 2017)
7. In your company, who is responsible for managing Corporate Real Estate (CRE) and Facilities Management (FM)?

- CEO (Chief Executive Officer): 10.6% (ISS / CoreNet) vs 18.3% (ISS / IFMA WW)
- CFO (Chief Finance Officer): 6% (ISS / CoreNet) vs 19.3% (ISS / IFMA WW)
- COO (Chief Operations Officer): 6% (ISS / CoreNet) vs 22.1% (ISS / IFMA WW)
- CHRO (Chief Human Resources Officer): 3.2% (ISS / CoreNet) vs 31.2% (ISS / IFMA WW)
- CCO (Chief Commercial Officer incl. Marketing): 1.1% (ISS / CoreNet) vs 1.4% (ISS / IFMA WW)
- CSO (Chief Strategy Officer incl. Corp. Affairs): 1.1% (ISS / CoreNet) vs 1.1% (ISS / IFMA WW)
- CIO (Chief Information Technology Officer): 1.1% (ISS / CoreNet) vs 1.4% (ISS / IFMA WW)
- Other: 24% (ISS / CoreNet) vs 24.7% (ISS / IFMA WW)
8. To which level has your organisation outsourced the CRE & FM function?

- All or most is outsourced: 9.6%
- The majority is outsourced: 29.8%
- A minor level is outsourced: 33.9%
- We do not outsource: 18.3%
- We are an outsourcing provider: 28%
- Don't know: 1,8%

9. Does your organisation currently have a workplace strategy?

- Yes: 73.4%
- No: 21.1%
- Don't know: 5.5%
10. If yes, which function is responsible for the company’s workplace strategy today?

- Executive officer: 22.7%
- Finance: 2.7%
- Operations: 16%
- HR: 8.8%
- Commercial (incl. Marketing): 1.3%
- Strategy (incl. Corp.Affairs): 5.3%
- IT: 0%
- Corp. Real Estate independently: 42.7%
- Facility Management independently: 33.3%
- Other: 10.9%

ISS / CoreNet (Sept. 2017)
ISS / IFMA WW (Oct. 2017)
11. In your opinion, which function will be responsible for the company’s workplace strategy in the future?

- Executive officer: 31.5%
- Finance: 2.1%
- Operations: 16.1%
- HR: 14%
- Commercial (incl. Marketing): 1.1%
- Strategy (incl. Corp. Affairs): 7.5%
- IT: 0%
- Corp. Real Estate independently: 41%
- Facility Management independently: 24.7%
- Other: 10.1%

ISS / CoreNet (Sept. 2017)
ISS / IFMA WW (Oct. 2017)
12. How would you evaluate the collaboration between CRE & FM and the HR function today?

- Excellent: 10.5%, 10.7%
- Good: 34.9%, 37.6%
- Neutral: 35.5%, 39.4%
- Negative: 12.8%, 11.8%
- Very negative: 0.9%, 1.1%
- Don’t know: 1.4%, 3.2%

13. What are the top 3 barriers to bridging the gap between HR and CRE & FM? (Please select three.)

- Organisational barriers (silo mentality) 52.5%
- Current definitions of roles and areas of responsibility 53.8%
- Lack of understanding of distinct roles 32%
- Level of maturity and core responsibility 36.6%
- Differences in perspectives - i.e. one focuses on short term, while other on the long term 25.1%
- Differences in end-user requirements 29%
- Perception that CRE & FM cannot move from a support service to a strategic function 24.7%
- Fragmented data initiatives within the organisation 15%
- Difficulty connecting across functions 20.4%
- Lack of C-level support 23.3%
- Managerial differences 18.3%
- Bridging HR with CRE & FM isn’t a priority 24.2%
- Low priority 21.5%
- Don’t know 15%
- Other 7.8%
14. What is the most important benefit of an integrated approach between HR and CRE & FM?

- Align organisational structure and work processes: 22.6%
- Align physical environment to improve organisational performance: 30.6%
- Focus on retaining/attracting talent: 8.6%
- Focus on making the workplace more aligned to new generational values and ways of working: 16.1%
- Making the workplace more aligned with the future of work agenda: 16.1%
- Create a better fit between life cycle of buildings and end-user demands: 8.6%
- Reduce running costs and performance in subsequent phases: 1.1%
- Making the workplace more effective: 10.7%
- Making the workplace more technologically enabled: 0%
- We do not see a benefit in integrating HR and CRE & FM: 4.3%
- Don't know: 3.2%
- Other: 3.2%
15. What are the top 2 shared key issues in HR and CRE & FM? (Please select two.)

- Strong focus on the end-user experience (42.5%)
- Growing demand for integrated workplace solutions (39.8%)
- Growing demand for more creative and collaborative space (39%)
- Growing demand for more individual work styles and work modes (35.8%)
- Growing demand for Activity Based Working (34.3%)
- Seeing the workplace as an experience hub (32.9%)
- More focus on people performance (32.5%)
- Moving from input to outcome focus (30.7%)
- Growing demand for mobile and agile work (29.7%)
- Growing demand for co-working environments (either internally or externally) (29.4%)
- Organize the ownership and management of resources (insourcing, outsourcing, centralization and decentralization) (29.3%)
- Organize the ownership and management of services (insourcing, outsourcing, centralization and decentralization) (29.3%)
- Devising new concepts for service delivery (29.3%)
- Don't know (29.3%)
- Other (1.1%)
16. How can HR and CRE & FM become more aligned?

- **Shift to a long-term planning focus**: 14.2% (ISS / CoreNet (Sept. 2017))
- **Communicate total cost of ownership in relation to building lifecycle**: 8.6% (ISS / IFMA WW (Oct. 2017))
- **Capture property diagnostics**: 4.6%
- **By better understanding the changes within work, workplace and workforce**: 24.8% (ISS / CoreNet (Sept. 2017))
- **Align portfolio strategy and workplace design**: 6.4% (ISS / IFMA WW (Oct. 2017))
- **By a better understanding of each other's KPI's, expertise and work processes**: 12.4%
- **By making a workplace experience a strategic priority for the overall business**: 16.1%
- **Enhance building performance**: 0.9%
- **Don't know**: 1.8%
- **Other**: 1.8%

ISS / CoreNet (Sept. 2017)
ISS / IFMA WW (Oct. 2017)
17. In your organisation, what efforts have been made towards aligning the HR agenda with CRE & FM priorities? (Select all that apply.)

- Integrating HR with CRE & FM teams to provide a strategic approach to real estate decisions
  - ISS / CoreNet (Sept. 2017): 26,15%
  - ISS / IFMA WW (Oct. 2017): 16,13%

- Introduce best practices, measuring results and adjusting accordingly
  - ISS / CoreNet (Sept. 2017): 27,52%
  - ISS / IFMA WW (Oct. 2017): 18,35%

- Create a mandate to govern and coordinate HR and CRE & FM activities across the enterprise
  - ISS / CoreNet (Sept. 2017): 26,15%
  - ISS / IFMA WW (Oct. 2017): 18,35%

- Create common operating processes and standards
  - ISS / CoreNet (Sept. 2017): 26,15%
  - ISS / IFMA WW (Oct. 2017): 17,20%

- More focus on the end-user
  - ISS / CoreNet (Sept. 2017): 26,15%
  - ISS / IFMA WW (Oct. 2017): 17,20%

- Seeing the bigger perspectives of people performance
  - ISS / CoreNet (Sept. 2017): 26,15%
  - ISS / IFMA WW (Oct. 2017): 18,28%

- Getting a better work/life balance
  - ISS / CoreNet (Sept. 2017): 26,15%
  - ISS / IFMA WW (Oct. 2017): 19,35%

- More focus on people performance
  - ISS / CoreNet (Sept. 2017): 26,15%
  - ISS / IFMA WW (Oct. 2017): 23,66%

- Integrated technology platform to capture real estate data, manage the portfolio, and plan and implement the system
  - ISS / CoreNet (Sept. 2017): 27,06%
  - ISS / IFMA WW (Oct. 2017): 16,97%

- Integrated technology to combine behavioral data with building usage
  - ISS / CoreNet (Sept. 2017): 9,68%
  - ISS / IFMA WW (Oct. 2017): 11,93%

- Develop a comprehensive portfolio-wide strategic plan for long-term real estate and facilities asset optimization
  - ISS / CoreNet (Sept. 2017): 27,06%
  - ISS / IFMA WW (Oct. 2017): 12,90%

- Don't know
  - ISS / CoreNet (Sept. 2017): 16,06%
  - ISS / IFMA WW (Oct. 2017): 16,06%

- Other
  - ISS / CoreNet (Sept. 2017): 5,50%
  - ISS / IFMA WW (Oct. 2017): 3,23%
18. Which type of analytics will be most beneficial to HR and CRE & FM? (Select all that apply.)

- Data that deals with physical portfolio data and workplace function to improve productivity: 60.27%
- Occupancy data planning: 60.27%
- Behavioural data: 53.88%
- User generated data (opinions): 30.11%
- Financial modelling: 21.51%
- Advanced visualization (new types of graphical representation): 21.51%
- Predictive analytics: 33.33%
- Don't know: 10.75%
- Other: 1.08%
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Future of Work, Workforce and Workplace

The FM and CRE industries are undergoing a revolution. Over five ISS 2020 Vision white books, ISS and the Copenhagen Institute for Futures Studies (CIFS) have described the dynamics shaping the industries and their development. We have done this using valuable insights from IFMA and CoreNet members as well as dozens of subject-matter experts from the fields of FM, CRE, architecture, outsourcing service and workplace design.

The ISS 2020 Vision - Future of Work, Workforce and Workplace Capstone White Book is the sixth and final book in the ISS 2020 series. This book expands on the scope of the previous five white books and focuses on how the workplace combined with human-centric service approach can provide a holistic workplace experience, where the workforce can be productive and drive gains in business performance.

Copenhagen Institute for Futures Studies (CIFS)
The Copenhagen Institute for Futures Studies (CIFS) supports better decision making by contributing knowledge and inspiration. CIFS' objective is to advise public and private organizations by raising awareness of the future and emphasizing its importance to the present. CIFS identifies, analyses and explains the trends that influence the future through research, seminars, presentations, reports and newsletters.

Our work methods range from statistically based analyses and the identification of global trends to classifying the more inferential, subjective and emotional factors of the future. The Institute’s work is interdisciplinary and the staff represents various fields of academic and professional competences, including economics, political sciences, ethnography, psychology, public relations and sociology.

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