

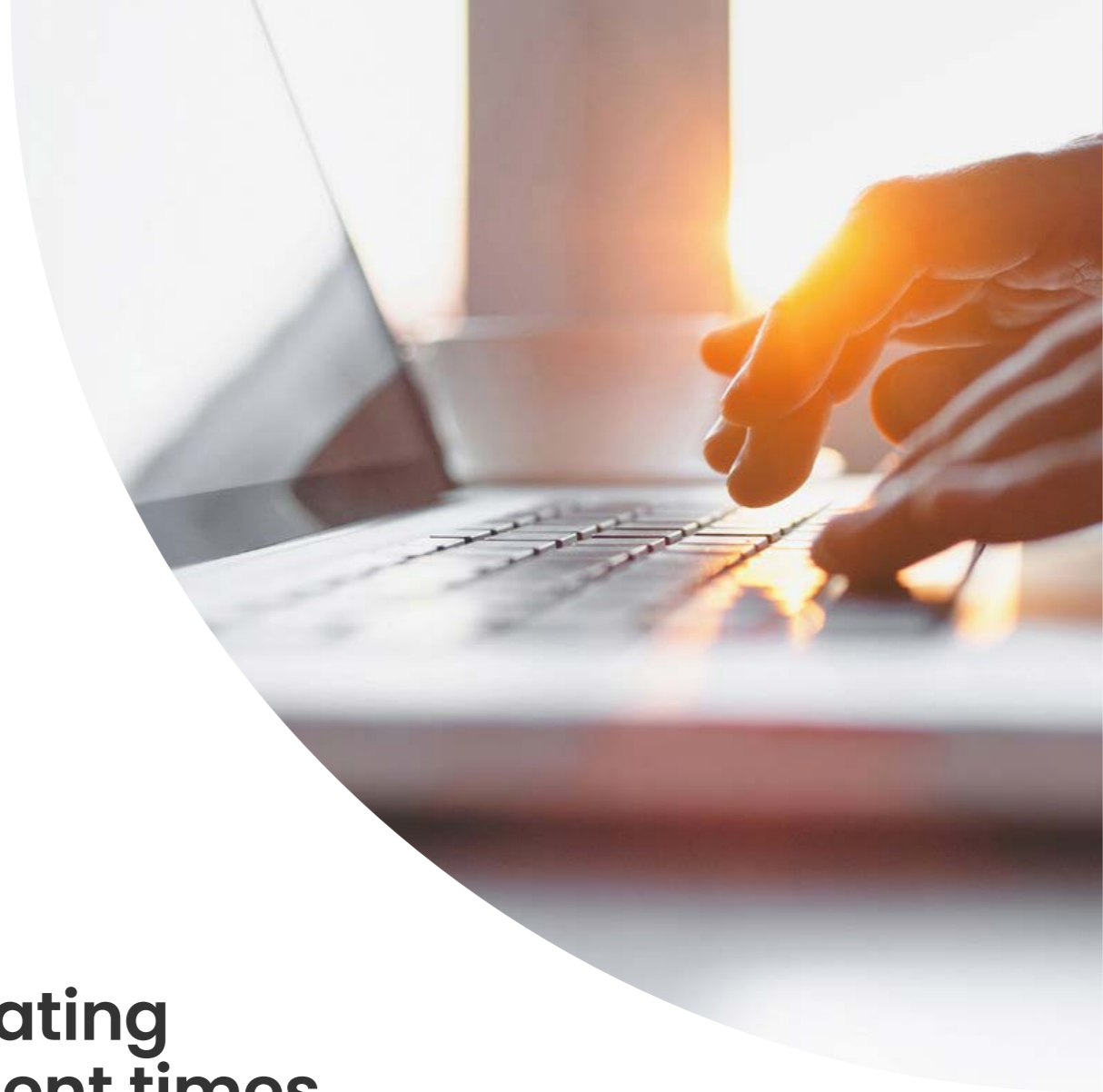
mega trends influencing the future of workplace and FM



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navigating turbulent times

**IWFM Conference,
virtual platform, 21st-25th September 2020**

The 2010's decade, will be looked back on as among one of the most turbulent in the modern age. Politically, economically, socially and technologically, times and trends continue to change at an unprecedented rate.

There is a sense that this rapid change is how it is meant to be; traditional lines are blurred and what were once distinct areas, now overlap and integrate.

As professionals, we must sharpen our resilience and be leaders of change within our organisations.

The latest mega trends impacting society also have a direct and demonstrable effect on the activities we workplace and facilities managers do every day.

so how do we respond to these challenges?

- ▲ Climate Change
- ▲ Technology
- ▲ The Future of Work
- ▲ Wellbeing

This year's IWFM Conference 2020 will examine these four mega trends evaluating how they are affecting our present and how they will shape our future. IWFM has brought together leading experts from diverse backgrounds to share their experience and knowledge. These are people like EMCOR UK providing insight and inspiration to our FM industry and profession to thrive in turbulent times.

We believe these mega trends, along with the other external forces impacting the FM sector, present us with a huge opportunity. As Insight Partner, we're delighted to produce this paper and hope its thought provoking content helps shape your response to the challenges we face.

Jeremy Campbell
Executive Director, Marketing
& Business Development
EMCOR UK



mega trends influencing the future of FM

The FM industry is going through a period of disruption and transformation, leading to opportunities for exciting new value propositions. Change is being driven by a host of mega trends including new business models, technology innovation, climate change, health and wellbeing, and a new vision for the future workplace.

More than ever we need new models and propositions to address the industry's transformation from a transactional people business based on problem solving and cost reduction, to become a strategic business based on client advisory services to drive up customers' productivity. And in today's world 'productivity' is not just about financial performance – it also incorporates many other outcomes such as sustainability, employee satisfaction and wellbeing, personal performance and user experience, all delivered with a personalised human touch.

Put simply, the FM of the future will be about improving every aspect of customers' business performance rather than simply the performance of assets and buildings. Increased awareness and publicity of climate change is forcing both customers and service providers to constantly review environmental performance and seek ways to make positive differences. Combined with an ever-changing legislative landscape, the role of FM organisations must evolve to deliver complete sustainability outcomes. Energy management, environmental services, compliance management and renewable energy integration are now core services not just 'nice to haves'.

What about health and wellbeing? Is it just another fad? The new mantra says that healthy employees are happy employees. And happy employees are more productive. FM organisations have a huge role to play in delivering outcomes that focus on the wellbeing of the users. The opportunities range from healthier food to safer, more comfortable and personalised working environments.



At the same time our labour forces, our workplaces and the technologies we use are all changing. A more diverse, mobile and flexible workforce will need to be supported in complex and varied settings.



We've seen a 17% drop in office space and 15% decline in desks per worker between 2010 and 2020.*

Choice, flexibility, and collaborative working have become key considerations in workplace design. Workplace optimisation has become a driver of productivity and a tool for attracting and retaining top talent.

Embedded in all these trends is the growing role of digital, smart and cognitive technology. This is changing the way we manage and control resources and transforming the relationship between buildings, equipment, systems and users. Software is moving to new levels to deliver optimised utilisation of resources and enabling new technology solutions and operating models.

Next, we'll start to see the impact of tools such as artificial intelligence (AI), indoor navigation systems, robots, drones, and virtual reality making an impact on the built environment. Cloud-hosted analytics will increasingly drive remote management for technical services and preventative maintenance. FM organisations must adopt these new technologies and service models to keep up with customer demands and advanced capabilities to drive efficiency.

With all these trends converging, the next five years will bring an exciting and challenging time. There will be new models, new offerings, new technologies and most importantly a new future.

*Source: Frost & Sullivan





climate change



With rising greenhouse gas emissions, climate change is occurring at rates much faster than anticipated and its effects are clearly felt worldwide. The world is now almost one degree warmer than it was in pre-industrialisation times and a vast number of countries saw their temperature records broken in 2019.

We must act now, and decisively to prevent catastrophic climate change! We must make the most out of precious resources, waste as little as possible and find ways of turning the waste we do create into new wealth.

Most sources suggest that the built environment accounts for around 40% of carbon emissions (and up to 80% in large cities) so the way we manage our facilities has a huge role to play in bringing things under control.

Both the public sector and businesses are grappling with the urgent need to focus on energy efficiency, carbon neutrality, circular economies, and resource optimisation.

Preventing catastrophic climate change cannot be achieved alone. Working with customers, supply chains and organisations like Business in the Community (BITC) will be key. Embracing campaigns like BITC: Waste to Wealth brings together business, government, academia and civil society to unlock opportunities to double the nation's resource productivity and eliminate avoidable waste by 2030.

 The built environment accounts for around 40% of carbon emissions and up to 80% in large cities 



Designed to encourage innovative and transformational change at the core of business, programmes like this focus on building a one-planet economy that delivers lasting prosperity through the UN Sustainable Development Goals (SDG's).

The UN SDGs are the blueprint to achieve a better and more sustainable future for all. They address the global challenges we face, including those related to poverty, inequality, climate change, environmental degradation, peace and justice. The 17 Goals are all interconnected, measurable, action orientated and in order to leave no one behind, it is important that - WORKING TOGETHER - we do as much as we can to achieve them by 2030.

Top companies no longer see sustainability as a competitive advantage, but the right thing to do and this change will drive the need for outsourced support on all manner of sustainability issues; this is a huge potential growth area for FM organisations.

Innovative FM organisations will need to pull sustainability to the centre of their own business and develop services to improve all elements of the 'triple bottom line' of their clients - economic, environmental, and social.

There are obvious areas like energy efficiency, performance contracting and renewable energy integration, and of course there is the added benefit that optimising energy leads to reduced costs. There is also the opportunity to go further and work hand-in-hand with customers, supply chains and local communities to design and deliver better environmental outcomes.

In buildings it's already common for BAS, BMS, and BEMS to be integrated with FM software to optimise energy usage; the management of energy resources can be just as much the responsibility of FM organisations as all other resources.

The trend towards sustainability is also driven by increasingly demanding and complex regulation and legislation. The outsourcing of regulatory compliance to capable FM organisations will become more commonplace, representing significant opportunity for the FM industry to position itself as a driver of sustainability management and contribute to a better climate in the future.

If we are to play our part in preventing catastrophic climate change, FM needs to move faster and with more determination to drive the sustainability agenda into the hearts and minds of the customers, supply chains and the communities we serve.





technology

The pace of change in the FM world has not always been impressive. Perhaps a bit too much focus on status quo or applying 20th Century thinking to solve 21st Century problems. Or we've been using out of date approaches to procurement which sacrifice innovation and user experiences in favour of cost saving.

The wave of Industry 4.0 is fast paced, changing the way goods are produced, services delivered, and companies organised. FM's must recognise that the future of work is not a distant entity; the future of work has begun. Companies must quickly wake up to the fact that services are converging with technology to create new and exciting pathways which are disrupting outdated thinking. If they don't then someone else will, because it's what workplace customers expect.

Today's multi-generational workforce have grown up in an increasingly mobile and connected world, and they expect workplace experiences to be immersive, intuitive and imaginative. Seamless communication, productivity tools, smart working and team collaboration are the norms.



Experience is now a big part of the talent attraction and retention equation. The conversation has moved way beyond a nice desk at work towards creating a blend of immersive experiences enabling people to feel engaged, empowered, and supported in their wellbeing.

Digital, smart and cognitive technology is totally redefining how the FM industry will provide services, value and maintain competitiveness. We're already starting to see connectivity, IoT and cloud services outcomes deliver greater efficiency, enhanced service, improved environmental performance and better user experience.

Networked sensors are being increasingly used for remote real-time asset monitoring. IoT solutions enable asset, environmental and performance tracking across facilities from mobile devices. Big Data supports the visualisation of energy savings and optimisation of building space.

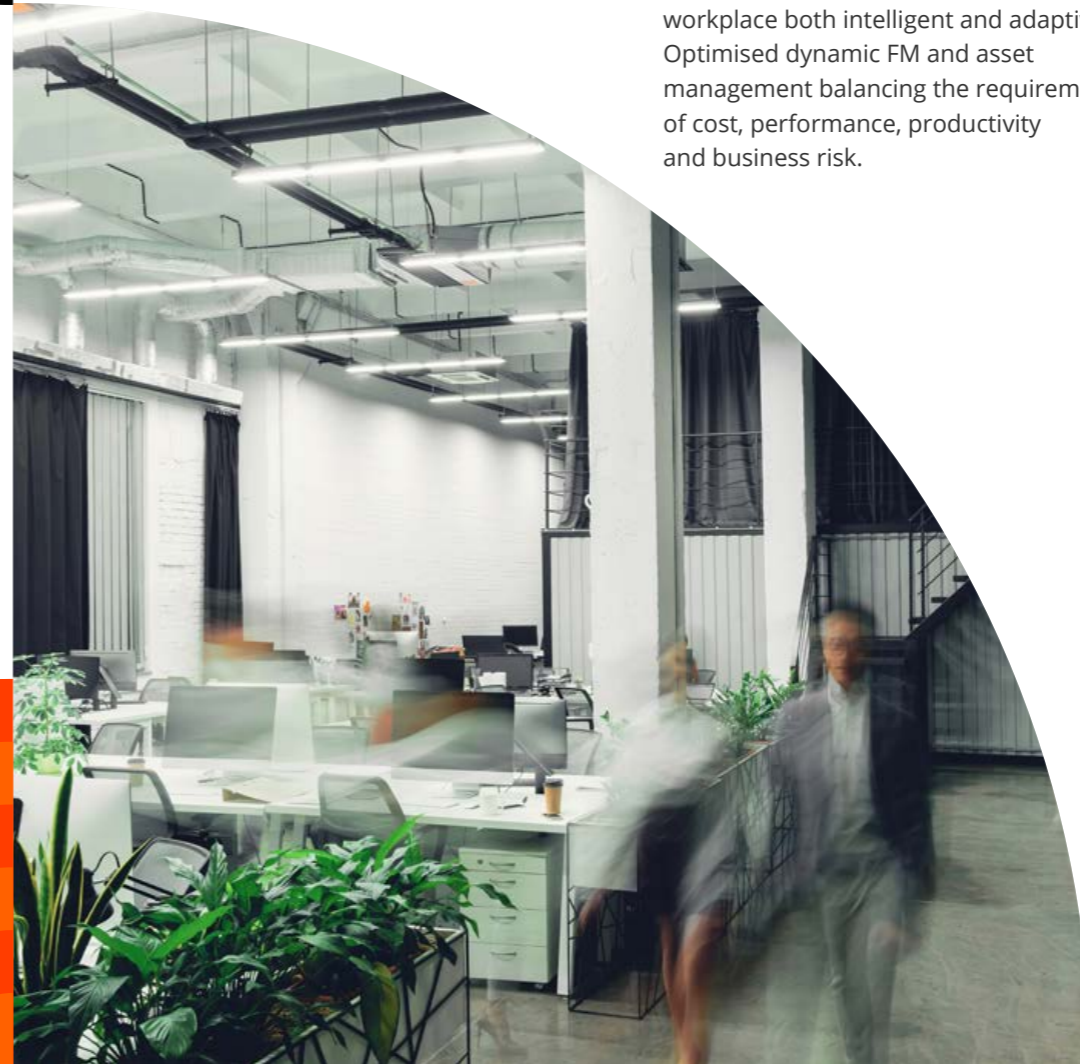
The benefits are realised by a spectrum of stakeholders. For FM organisations it includes data analytics for decision making, smarter job scheduling and environmental wellbeing. For building occupants it's navigation tools, nutrition apps, room booking, personalised climate control and employee engagement. And for leaders it's about creating sustainable business models where employees are motivated, happier and perform at their best.

Machine learning (ML), Augmented Reality (AR), Digital Twin (DT) and Artificial Intelligence (AI) are key technologies that are having a huge impact on facilities management and how assets are maintained.

Together along with cloud hosted data analytics services they will transform the role of FM, the user experience and total life cycle expenditure of buildings; not to mention achieving the global net zero carbon goal. AI excels at spotting patterns in big data sets essential for Workplace. AI can be used to create predictive models that forecast an asset's performance and energy usage over time. Calculating an expected asset failure in the next month, or forecasting its condition in three years, or optimising energy consumption is now possible with a high degree of accuracy.

Implementing these new technologies is heralding the dawn of a new era; the fully holistic and predictable automated workplace both intelligent and adaptive. Optimised dynamic FM and asset management balancing the requirement of cost, performance, productivity and business risk.

The digital transformation isn't going to slow down. If anything, it'll accelerate. FM organisations must engage now, put technology at the front end of their customer proposition and build the skills, partnerships and strategies to stay relevant to their customers.



future of work

The future of work represents an almost unparalleled opportunity in human history, but in this 'decade of change', the urgent imperative to create a sustainable world – for all – brings with it significant challenges.

Globalisation and convergence of technology drive 'Industry 4.0'. Demographic changes continue, our future energy needs remain un-resolved, and we must radically re-imagine the way we use natural resources. Everything is changing fast and this has a massive impact on society, labour markets, emerging skills and economies. All of this is impacting our workplaces and our expectations of how we want to work, where we want to work, when we want to work, and how we want to collaborate with others.



As an industry, we need to prepare today for a future few of us can define so that together we can attract, keep and motivate the talent that workplace and FM will need to grow and thrive.

Let's explore how far these changes can really go?

Industry 4.0 is driving continual business efficiency improvements; AI, Automation and AR are transforming the jobs of today, and will create new jobs tomorrow, as robots and machines will take over repetitive and predictive work. McKinsey estimate that 60% of all jobs today could be automated, and that by 2030 over 11% of the global workforce will be in roles which do not exist today.

Looking further ahead engineers will drive around smart cities in **autonomous vehicles** produced by a 3D printer. Smart transport will tackle traffic congestion and pollution – efficiently whisking talent in and out. Smart cars will travel seamlessly from A to B and intelligent transport systems drive through the city like trains. In 2050, we will wonder how we ever lived and worked without smart technology.

Employees will wear **nanotech clothing**; smart fabric optimised for human performance and wellbeing. Smart Clothing that automatically reacts to temperature, CO2 and humidity levels, which track the wearer's movement and interacts with them through touch. Clothing that is designed to measure the wearer's physiological activity, prevent injuries and monitor health to ensure optimal levels of cognitive performance. As you enter your future workplace, the temperature around your desk will adjust as the personal data from your smart clothes or microchip monitors your body temperature, pulse and cognitive performance.

 **60% of all jobs today could be automated** 
McKinsey

Smart devices will 'talk' to each other and algorithms will make much faster, better decisions, than humans can. Smart 3D printers will print almost anything while you wait. A complete car, engineering parts, a freestanding office – the list is almost endless.

New technology generates masses of information. Sensors, **RFID chips** (human chip implants) and GPS systems provide petabytes of data. Self-learning algorithms will make the best decisions at the highest speed. What skills will the FM of the future need? What might the long-term effects be on wellbeing?

Virtual and Augmented Reality will enable workers to have immersive digital experiences, supporting their daily workload. Augmented reality puts a layer of digital information over a real-life situation. For example, the technology already exists for engineers to make repairs, assisted by real-time digital coaching – all made possible with VR and AR headsets or – perhaps further into the future – special lens implants.

RFID Chips could become commonplace in the next decade. Once we overcome the inevitable ethical objections, once our implants are linked to augmented reality and connected devices, the advantages offered are indisputable.

Whether RFID is implanted or not, in its simplest of forms, this technology makes it possible to instantly verify a person and transmit our identity information enabling us to gain access to secure areas or sites much faster.



RFID chips
(human chip implants)

RFID chips combined with smart clothing will identify you as you enter your workplace, log you into your PC automatically, and even order your favourite coffee and lunch.

The 'self-repairing and self-servicing enterprise' is coming. Smart technology and smart algorithms will analyse the world around the company and prevent problems before they happen.


The full impact of technology on the FM industry is hard to predict. What we know is that it offers us an exciting future if we can adapt and change fast enough. If we don't, FM could face its very own 'Blockbuster Video' moment and become a fond memory to those who enjoyed working in it.





wellbeing

Wellbeing has seen a huge rise in importance, in both our private lives and at work. Quite rightly, workers expect their employers to care about their physical and mental health. There is however, quite often a disconnect between the good intentions behind the provision of Employee Assistant Programmes (EAP), healthy eating, and financial wellbeing campaigns and the design of the employees' office space and operation of buildings.



In progressive workplaces wellbeing incorporates wider outcomes, such as sustainability and employee satisfaction. It also needs to be about workspace design, user experience and health, all delivered with a personalised human touch. In reality, many offices are a long way off being optimised for workers' productivity – let alone their wellbeing.

FM organisations have a fundamental role in creating and fostering conditions that enable all employees to flourish and be the best version of themselves. This is "HOUSE" on the wellbeing bingo card! We cannot afford to ignore it. Consider the multi-generational workforce and the typical characteristics which our X's and Z's display; organisations must behave with integrity and a moral code, which addresses their multi-layered approaches to work. From a sustainability perspective, employers should adopt a holistic approach to supporting wellbeing activity.

The definition of sustainability is an important one, as it has been somewhat upstaged by the environmental agenda and this has meant that whilst the effect of climate change is a vital

topic, the more nuanced meaning of sustainability has not been trumpeted with such effect. Of the 17 UN Sustainable Development Goals (SDGs), six explicitly outline measures to support positive and progressive environmental activity. Of the remaining eleven SDGs, five are goals which could be adopted by organisations in relation to creating and maintaining a sustainable business and in goal eight – 'Decent Work' – there exists a statement relating to the organisational duty to actively protect and manage endogenous risk relating to all employees:

“**8.8 – Protect labour rights and promote safe and secure working environments for all workers, including migrant workers, in particular women migrants, and those in precarious employment**”

This comes at a time when companies are waking up to the fact that employee-based risk management is emerging from both a psychological as well as physiological standpoint. Traditional safety is combining with human resources and occupational health professionals in a 'whole person' approach.

This approach is in turn, perfectly synchronised with the holistic sustainable message of the SDG's and is a model of risk prevention and positive wellbeing promotion for business to apply in earnest.

Although contentious in some areas, the use of technology and proliferation of wellness apps is rising. Employers need to take a view whether the technology helps or whether its emergence as a wellbeing trend is counterintuitive to the mantra of switching off. Online resources, real-time analytics and instant messaging all have a part to play but should not interrupt the employee's social time. It's a delicate balance as argument and counter argument rage against a backdrop of flexible working, generational preferences and reducing travel challenges and environmental impacts.

Workplace design and office environments also have a significant impact on employee motivation, cognitive performance, staff productivity and wellbeing.

Remote workers and travelling staff also need supporting against isolation and loneliness.

Technology can play a key role with things like virtual companions, video communication for staying in touch with colleagues, mixed reality for virtually attending meetings, or mixed and virtual reality devices. It's a big subject, with many competing considerations. FM organisations needs to be part of the discussion as well as the solution and have the necessary expertise and insight to support its own employees as well and those of our customers.

Smart technology and automation can optimise environmental factors (light, ventilation, CO2 levels, temperature etc.) and have been shown to improve energy levels, cognitive performance, wellbeing and satisfaction.



find out more

Boosting productivity in the UK is continuing to be a huge challenge for business leaders and government up and down the country. EMCOR UK's Workplace Consultancy team produced this paper with Frost & Sullivan to help business leaders understand how mega trends will impact workplaces and the facilities management sector.

As the UK's leading integrated facilities management provider, the team at EMCOR UK has an enviable track record of maintaining high-performing, productive and sustainable workplaces for its customers.

We deliver facilities management contracts for our customers that continually achieve measurable results. With many of our relationships spanning more than a decade, our customers value EMCOR UK's collaborative approach and unwavering commitment to service excellence.

We have invested in innovative technology and developed bespoke software applications to support and enhance the service we deliver to our clients. The information and real-time data that our applications provide, enables us to expertly monitor and manage the facilities management services we deliver in workplaces.

Our reputation has been built on an award-winning, safety-first culture and a unique collaborative approach to facilities management. This, and an unrelenting commitment to customer-service excellence, delivers value to our customers across the UK.



For more information on EMCOR UK's workplace consultancy and facilities management services

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