



Whitepaper:
**Technology:
The Office
of the Future**



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Technology: The Office of the Future

It's not headline news that our working lives have dramatically changed as a result of technological advancements. Every day the cloud delivers greater choices about where we work, apps provide flexible ways to interact and offices have morphed from square boxes into 'smart' buildings. This seamless fusion of our physical and digital worlds and the data we collect inform the design of our offices, can increase our happiness at work, improve our productivity and reduce our impact on the planet.

A recent Overbury survey of 500 office workers revealed that only 37% felt their technology was good or cutting edge; however, the possibilities for innovation in the office of the future are infinite. Selecting solutions that provide the best fit for a business will depend

on its strategy, culture, size and budget. Most importantly, the choices we make must be about our people and their kaleidoscopic personal and professional requirements. As we often say in the office design industry – one size will not fit all.

For each of the following areas, we will look at technology that is available now as well as more ground-breaking innovations that will feature in our near future:

- Workplace design
- Wellbeing and culture
- The environment





Workplace design

The office of the future is a destination that derives value from 'social capital'. Its priority will be to draw us away from solitary working by providing a positive, activity-based environment to inspire innovation and collaboration. Integrating appropriate technology into the design will consolidate the success of the workplace, delivering an experience that is beyond the physical destination.

Our smartphones have become remote controls for our working lives which offer simple integration into office resources. Hassle-free parking becomes possible when we can pre-book spaces from home or check live availability of electric vehicle charge points.

Progress towards touch-free access into office buildings continues to accelerate. Our phones can grant us admittance via QR codes, infra-red sensors or near field communications (NFC) at all access points. Whilst controversial, the future lies in advanced biometric and even DNA profiling which incorporates touchless thumbprints, facial recognition, palm, vein and retina scanning.

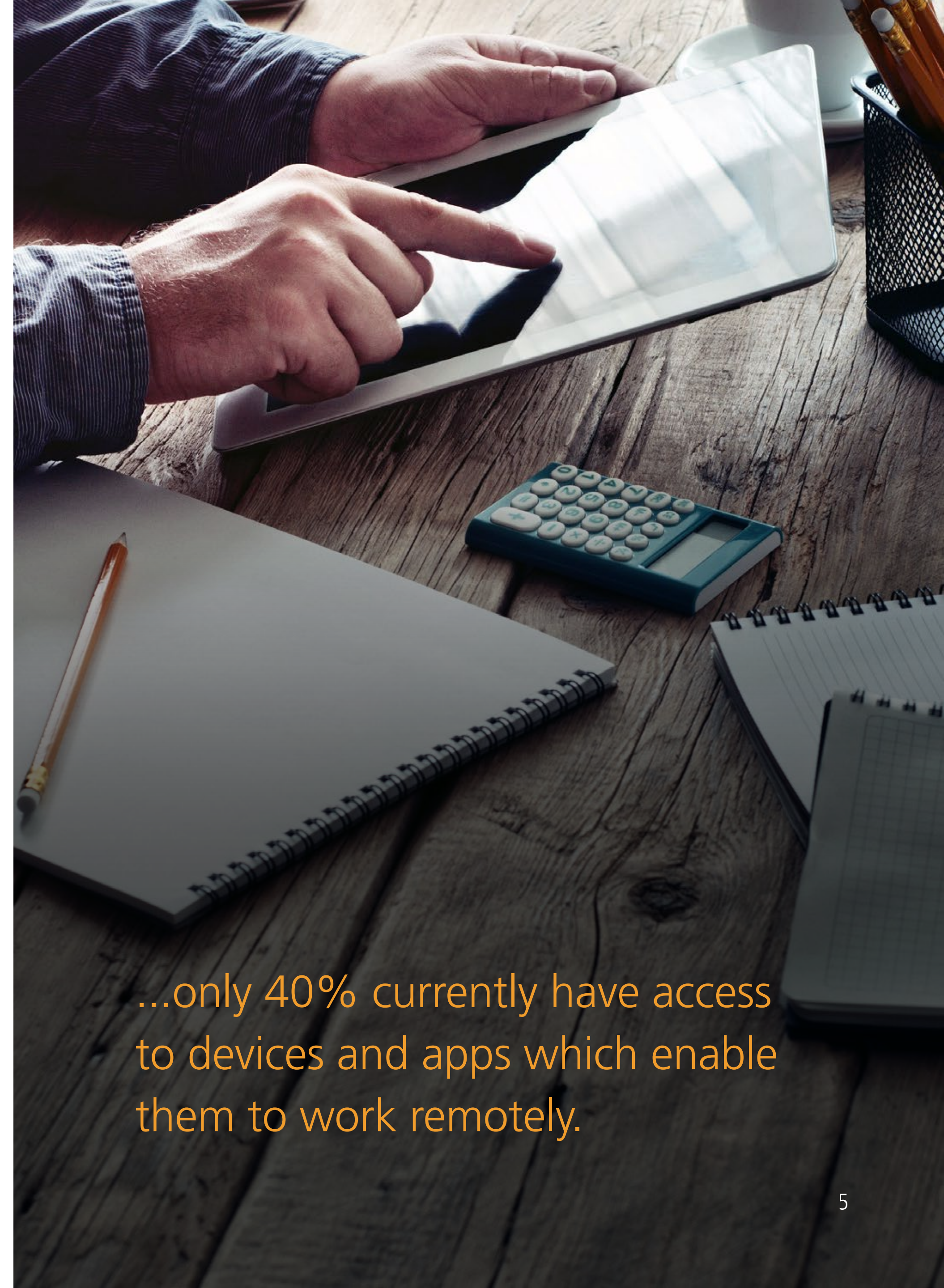
Depending on the task at hand we can reserve appropriate workspace in the office and see how many people will be there at any given time. Recording where, when and who is in the building helps speed up the flow in high traffic areas. A user's journey through the office can be made simpler with 3-D mapping, helping to locate a pre-assigned workstation, unoccupied meeting room, or a break-out

space with a low density of users. Our appointed location may be adjusted based on a need for team collaboration and we are able to find colleagues with specific expertise or working on similar projects.

The value we and our businesses derive from physically being together in the office is priceless. But as flexible working becomes more culturally accepted, technology can enable seamless connections to workers in satellite hubs, at home, and abroad. Unsurprisingly 53% of respondents in our survey expect to use digital communication solutions in their future workplace but only 40% currently have access to devices and apps which enable them to work remotely. Single person booths or dynamic group areas supported by turn-key hardware and software solutions make it simple to work side-by-side with remote workers. Teams can simultaneously share, upload, edit or track live documents on smart-screens within any

time zone - dramatically reducing email traffic. The experience is enhanced by overhead microphones, cameras and subtle lighting.

An amalgamation of the hardware that measures current activity, the boundless limits of Artificial Intelligence and the massive realm of cloud computing means the office of the future will collect vast levels of data. Tracking movement results in 'motion trail' data which allows facilities management to analyse behavioural and density patterns and will inform future design and space requirement decisions. Understandable fears of "Big Brother" from data gathering will wane as trust grows and users realise that it makes their working lives easier and improves office design.



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Wellbeing and culture

Our offices house people whose physical, psychological and social welfare is a primary concern for the workplace of the future.

So it's no surprise that new technologies are emerging every day to support and enhance our working lives and experience in the employee-centric offices of the future. Technology provides multiple responses to the question that is now being asked by business leaders and HR executives, "how can we enhance the working lives of our people?"

Even when we're not co-located as a team, technology can support our cultural and social needs, opening channels of communication, engaging remote communities and sharing values. A sense of cohesion and togetherness can be harnessed that would otherwise be absent without common technology. Measuring who is talking to whom can also help build beneficial communities.

The ongoing challenge of managing anxiety in the post-lockdown office is being addressed to some extent through technology solutions like thermal imaging, spray-on antiviral film and UV lighting. Providing stylus pens for shared touch screens reassure users and live feeds of occupation density also allays concerns around social distancing. The data that feeds through to facilities management acts as an accurate alert system for cleaning and sanitisation operations, advancing a sense of trust in the business management.

With a focus on enhancing our health and comfort, apps can connect users to their office delivering individual control over their preferred temperature, lighting and window blinds. The same software will encourage us to achieve movement targets, prompt us to adopt mindfulness techniques and offer the convenience of booking company sponsored virtual GP appointments.

Technology blends flawlessly with furniture of the future to enhance office workers' comfort and productivity. As in today's high-end cars,

ergonomic chairs can automatically adjust to a user's preferred height and comfort settings. Built in sensors link to the user's desk which can intermittently raise to encourage healthy periods of standing. The use of voice-activated technology which is becoming ubiquitous in our homes with Alexa, Google and Siri will continue to phase out keyboards and mice in our offices.

However, there is a wellbeing balance to be struck when we consider our use of technology in the workplaces. 'Digital overload' - the constant stream of messages, interruptions and 'always-on' culture can control us, impact our health and intrude into our home lives. So progressive HR executives will implement policies that insist on technology down-time with tech-free meetings and strict holiday procedures. Sensor technology already exists to map an individual's level of concentration and can support the required focus by preventing any interruptions and adapting the local temperature, air quality and lighting accordingly.





The environment

Every business increasingly feels the weight of social responsibility, environmental targets, a drive to reduce occupational costs and the need for people to work in a healthy building.

Our buildings are essentially becoming computers with a roof. They are 'growing brains' connected to the cloud by hundreds of thousands of micro-sensors and processors which will take automation to the next level, and respond without our intervention. Every light bulb, tap, water pipe and power outlet will have a sensor alerting facilities managers to problems. Sensors will measure the air quality, temperature humidity, occupancy and ambient light in different work zones. They can make adjustments to minimise power consumption, maximise energy production and maintain a perfect environment for the users' health and wellbeing.

Net-zero buildings designed to balance or redress carbon emissions, water consumption and ecological impact are becoming a possibility by leveraging smart technology and using alternative sources of power.

Intelligent LED lighting technology can reduce energy output by 70% by detecting movement and only activating when needed. They can also improve our working conditions by subtly synchronising with our natural circadian rhythms and providing natural lighting for people at the right time.

Smart solutions designed by the flooring industry convert footsteps into data by detecting movement, weight and pressure and can also generate energy, control intelligent lighting systems and reward the most mobile employees.



“Not-so-sci-fi” technology

Flying taxis aside, there are hosts of technological solutions emerging that may sound more like science fiction but may in a relatively short time frame become reality.

Robotics is rapidly making headway into the domain of white-collar work. Digitally intelligent workers can already interact and greet visitors, communicate arrivals and undertake repetitive tasks whilst processing vast levels of data. Video surveillance, swarm intelligence and facial recognition technology allow robots to take over workplace security patrols and menial tasks.

Offering the ultimate in collaboration, the boardroom in the office of the future will experience the most significant change. Our ability to present captivating information knows no future bounds when we consider the future of interactive tables and walls. Meetings will take place in digitally shape-shifting rooms using multimedia platforms such as Augmented Reality, 3-D projectors (allowing 360° views of participants), telepresence and holographic streaming. Already making great waves in healthcare, colleagues will meet as hyper-realistic, virtual characters, seemingly working in the same room on floating 3-D screens viewed through Virtual Reality headsets.

These advances make the ability to tour an unbuilt space or pitch ideas in a totally immersive environment from anywhere in the world an everyday possibility. Somewhat daunting, the extension of this concept involves the ability to teleport additional sensory experiences of touch and smell into the boardroom. Turning information into computer-readable data will be straight-forward with 'thought-reading glasses' implanted with an additional layer of sensors.

The impending driverless cars will extend to mobile office pods on wheels. These workspaces will transport you from home to the office in your own personal bubble, enabling you to work uninterrupted whilst you commute. Or you can park them anywhere as a comprehensively equipped, mobile meeting space.

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Technology driving the “Office of the Future”



Imagining a workplace where technology stands still is more challenging than trying to make sense of the myriad of technological transformations that will shape the office of the future.

The workplace technological ride ahead will be fast, furious and exhilarating and it is up to us to control the pace and direction. Used wisely, technology will inevitably improve workplace design. It will influence our choice of where to work and whilst we are in the office, it will enhance our health, our wellbeing and inspire collaboration. Technology can additionally support our collective aim to reverse damage that we have imposed on the planet – whilst simultaneously reducing how much our office costs to run.

The office of the future will be a destination and hand in hand with technology, this destination will become an experience.



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