

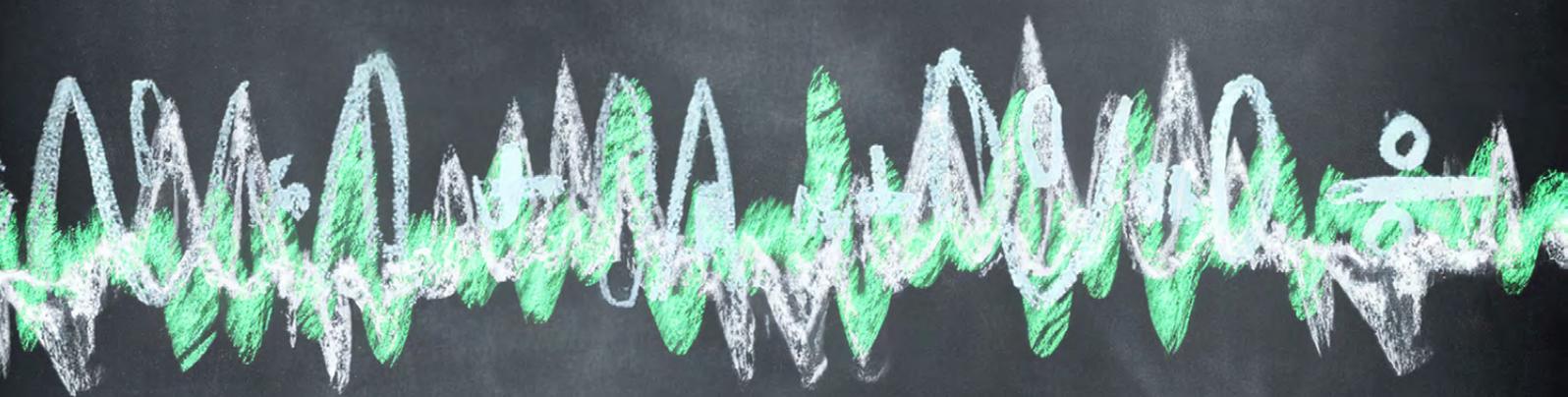
WORKTECH™ ACADEMY

Trend Report

Q3 2023

The Science of Work

Top technology drivers for
workplace transformation



Prepared for

area

Executive Summary for AREA



Technology will play a key role in shaping the future workplace, as our Trend Report for Q3 2023 demonstrates. Taken in combination with workspace design, an approach dubbed 'The Science of Work' opens up significant opportunities for AREA to position itself at the cutting edge of user engagement, cultural responsiveness, data analysis and design creativity. These opportunities can translate into competitive advantage and be summarised as follows:

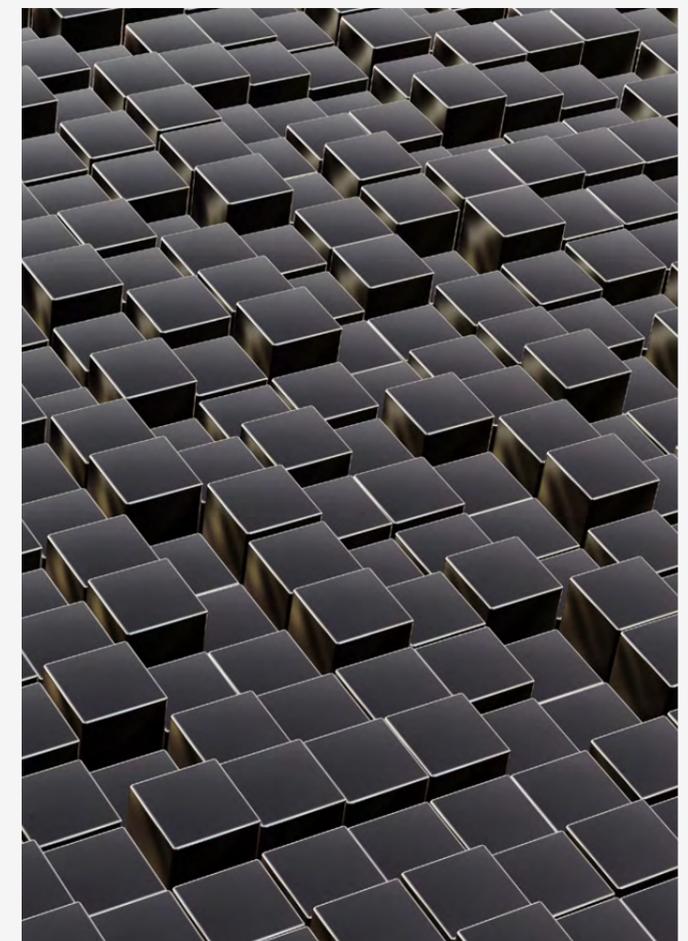
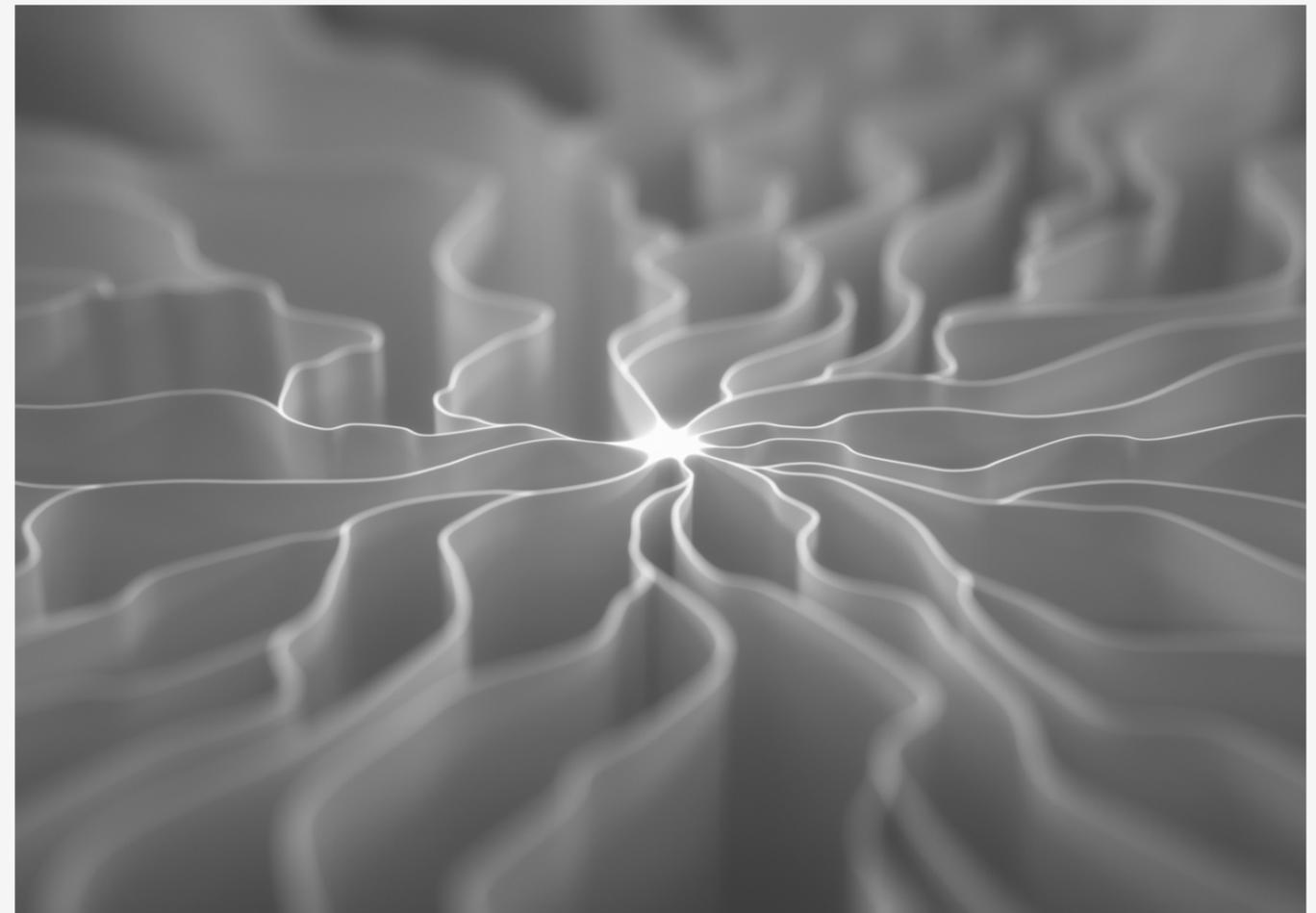
Connection and collaboration: Insights on collaboration derived from such tools at Microsoft's Viva Insights, and advances in AV equipment with AI capability, will change the nature of hybrid meetings. This could lead to demand for a new type of meeting room with the design of different types of spatial settings high on the business agenda.

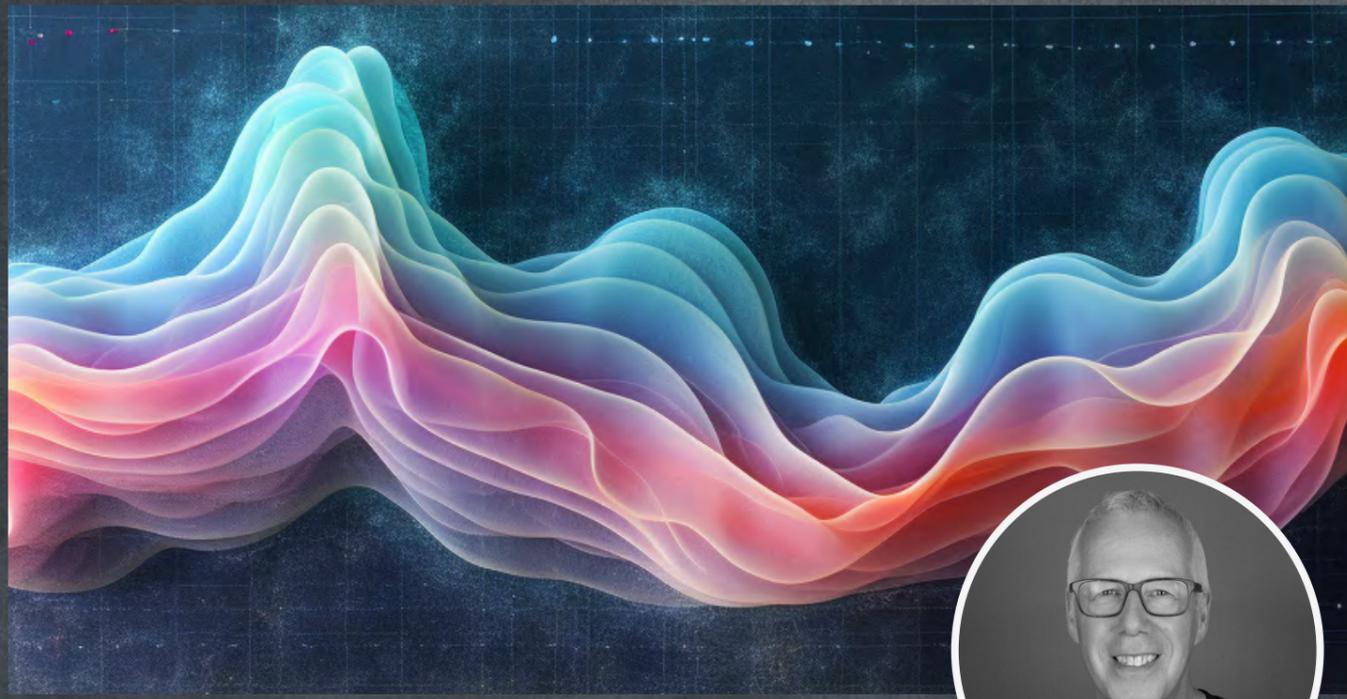
Learning and development: This arena will become more crucial over the next few years as organisations look to manage the upcoming skills crisis that is being hurried along by advances in technology. New types of spaces will be needed to encourage learning in a hybrid work setting. New workplace strategies will be needed for companies to stay agile and prepared for change. AREA can utilise its experience in design and placemaking to support companies through this learning transition.

Recruitment and onboarding: Spaces for in-person interviews, for onboarding and for mentoring are back on the agenda as staff want to work in a hybrid fashion but still require face-to-face support. AREA can find opportunities here as organisations utilise new tech tools while also looking to build a better culture and sense of place for new staff.

Workplace experience: AREA is already immersed in workplace experience through its workspace design and strategy work, as our autumn 2022 creative workshop with WORKTECH Academy demonstrated. But AREA might further explore the integration of AI into its thinking. Expertise in placemaking and branding will position the firm to capitalise on the current trend for these processes to become more mainstream.

Design and construction: Workplace design and construction processes are shifting within a data-led ecosystem. New ways of constructing buildings with more collaborative floorplates, safer processes and more informed decision making through use of digital twins will transform the built environment — and offer not just AREA but the whole Fourfront Group opportunities to showcase its knowledge and experience with a new generation of design and construction tools.





The Science of Work

Welcome to your Q3 2023 Trend Report from WORKTECH Academy, which explores the technology trends that are transforming the workplace.

Everyone engaging with the transition to hybrid working knows that investment in technology will be critical to making it a success.

At WORKTECH Academy, we've talked about 2023 being a breakthrough year for a more scientific approach to the future of work that might be termed the 'Science of Work'. So it is turning out to be the case. This is becoming the year of data-led decision-making in the workplace, of digital integration and of experimenting with generative AI tools. Few predicted the speed at which artificial intelligence would open new doors.

Fittingly, we devote our Q3 Trend Report to discussing the top technology drivers of workplace transformation, showing its impact on collaboration, learning, recruitment, experience and the design process itself.

Our sister companies UnWork and Cordless Consultants have contributed to this piece, and we have also drawn on the wider WORKTECH Academy network. Lead writer Echo Callaghan introduces the key themes opposite.

For Academy members, this piece of research is issued alongside our latest WORKTECH Technology Guides, presenting vendors in a number of tech categories from visitor management to workplace apps.

As we head deep into autumn 2023, we welcome your feedback on this Trend Report, and we look forward to discussing it with you in our quarterly online Trend Report Briefing.

Professor Jeremy Myerson, Director, WORKTECH Academy



Which technologies will affect change?

Firms in the technology sector can dominate the news cycle 24 hours a day as they flip-flop between giving their employees choice, imposing strict mandates and shedding jobs. But it's not just their high media profile that matters – it's the impact of the technologies they produce on the future of work.

In this Trend Report we ask the question 'which technologies will really affect change?' We explore how companies can prepare themselves for these seismic shifts in workplace practice and base our commentary on five key areas where the workplace is being reshaped by emerging technologies. These are:

Connection and Collaboration: The hybrid working world has given rise to many opportunities, but it has also left people feeling isolated and disconnected. What technology solutions are on the horizon that can ameliorate some of this isolation and bring back a sense of physical connection?

Recruitment and Onboarding: Access to generative AI tools such as ChatGPT is changing the recruitment game and emerging technologies are set to have a big impact on the jobs market. How can we navigate these changes to benefit both employers and employees?

Learning and Development: As AI is integrated into all parts of our working lives, the skills that employees will need to learn in the future are

shifting and it is up to employees to offer new types of learning and development tools to keep up with demand.

Workplace Experience: A seamless workplace experience is increasingly mediated by technology, allowing us to enter the office, find our colleagues and collaborate effectively, but where is workplace experience technology going next? We investigate the future of workplace apps and AI tools.

Design and Construction: How we design and build offices is also undergoing a transformation, led by increased data collection and access to an interconnected digital network. How will office buildings change as development teams use technology to reduce risk and speed up delivery?

Working practices in these identified areas are being shaken up by the introduction of new technologies from wellness apps to cameras with built-in sensors, and from data analysis to generative AI. The 'Science of Work' is unfolding at pace as companies compete in the race for talent by upping the ante on workplace experience, collaborative practices and work-anywhere connectivity. Technology is a definitive part of the formula, offering exciting opportunities and increasing challenges to the workplace in equal measure.

Echo Callaghan, Writer and Researcher, WORKTECH Academy



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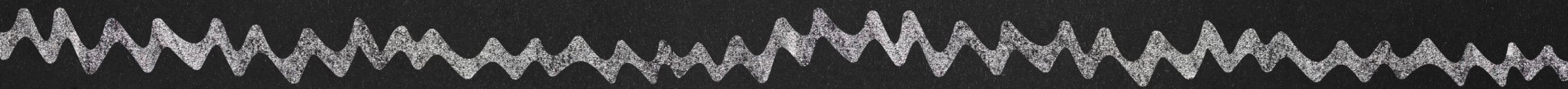
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CONNECTION & COLLABORATION

Digital systems have struggled to replicate the human connections of face-to-face office collaboration. But innovators are moving fast to meet the challenge

As hybrid working extends across the knowledge-led economy, many businesses still have major reservations about how to maintain social connection and professional collaboration in the workplace. This explains why so many company CEOs want their people back in the office on a permanent basis.

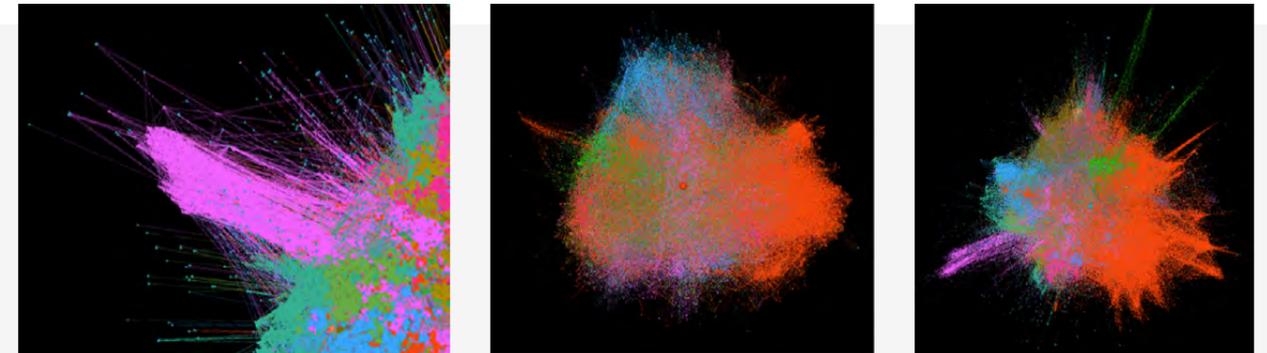
Higher-value collaborative activity suffered in the pandemic as the communication technology on which we all relied showed its limitations, and social isolation became a problem affecting the mental wellbeing of employees. These issues have not gone away. Can new technology bridge the gap between employer demands for a return to the office and workers' desire for greater flexibility?

When the Royal Society for Public Health (RSPH) investigated the impact of working from home during Covid-19 on the mental wellbeing of employees in 2021, it discovered that two-thirds of workers felt less connected to their colleagues. This was a significant finding, suggesting that digital technology was struggling to accurately replicate

face-to-face office working when it came to building relationships.

Two years on, the tech sector is pushing hard to fix this challenge. This section looks at where technology for connection and collaboration at work might be heading. Data analytics is one key direction, using valuable tools such as Viva Insights from Microsoft which can identify collaborative clusters and communities inside organisations. Innovations in AR, VR and holograms (by Google, Apple, Logitech and others) is another.

However, things are not currently heading in the direction of the metaverse, as many predicted in 2022, despite massive investment. According to *The Wall Street Journal*, Meta's flagship consumer metaverse Horizon Worlds is not even close to reaching targets for the number of users. The graphics of the metaverse appears to be offering more escapism from real life than true connection with others in the workplace. On the agenda right now: less glitzy and more practical digital connections that feel real.



Data maps from Viva Insights

Viva Insights: identifying patterns of connection

Who is collaborating with who in your organisation? Where are the clusters, connections and networks of practice that contribute most to your business? In the increasingly digital-first world of work, these questions are now uppermost in the minds of senior leaders – and the technologies of data analytics are set to provide some answers.

Viva Insights, for example, offers companies data analysis on how their employees spend time at work, using data gathered from the Microsoft 365 suite. Taking information from meetings, calendars, team calls, emails and messaging, it can reveal the preferences, habits and experiences of employees, showing through data graphic displays how different teams are interacting with each other.

The system retains the privacy of individuals within the company while examining broader organisational patterns of connection and collaboration. The data that is provided by Viva Insights can help address a variety of pain-points in the office as well as better understand current levels of productivity and efficiency.

Arraz Makhzani, who leads analytics at management firm Unwork, has used Viva Insights to conduct organisational network analysis for number of clients: 'This is an incredibly powerful tool that shines a light on the inner workings of the organisation, identifies clusters and communities within it and provides an evidence base for making improvements in office design.'

Research suggests that when the demands for collaboration are too great, it can cause employee burnout which increases costs and reduces performance. In contrast, having effective meetings can improve productivity by up to 70 per cent. Using data from Viva Insights, companies can pinpoint effective meeting behaviours as well as identifying which teams work most closely together. This knowledge can therefore support a redesign of office space to create closer and more effective collaboration within an organisation.

Source: [Unwork](#)

The new game-changers arriving now

As the hybrid model becomes the norm and more people work remotely for at least part of the working week, the race is on to find technologies that simulate the power of face-to-face connection in the office. Can new advances in VR, AR and even hologram technologies transform the collaborative and relationship-building experience for the next generation of flexible workers?

Project Starline, Google

You've heard of Google Meet, but what if you could look and feel like you were having that online meeting in person without the need for a clunky headset? That's the concept behind Google's latest workplace invention [Project Starline](#). The new technology looks like a standard meeting pod, but instead of offering room to rest your laptop, there is what Google calls a 'magic pane of glass' through which you can see your work colleagues.

Of course, it isn't actually them. Your collaborators are seated in a similar pod somewhere else and what you can see is a hologram-like 3D rendition of whoever you're talking to. This makes it look like they are in the room with you, recreating that responsiveness and familiarity that is missing from a 2D image on a screen.

Currently only available to a certain group of Google employees, is this technology the future of meetings? If it can be rolled out over a larger scale, this could get interesting.

Vision Pro, Apple

With the slightly fishbowl-like headset required to use the new Apple augmented reality headset, it would be easy to laugh at its users. But the [Apple Vision Pro](#) offers a new approach to the workplace that could impact how we connect and collaborate together. Not only does the headset allow you to project your desktop onto the environment around you, so you interact with your digital workspace in new ways, it also lets you conduct meetings differently.

Using FaceTime, you can see your colleagues as individual screens in front of you which you can resize to make them feel real. Their voices will even be projected from the direction they're speaking to you from, making it feel like they're in the room. You can even share your other screens with participants, helping meetings run more smoothly. Whilst the current price tag on these headsets is high, it could spell the beginning of augmented reality tools that can re-create the kinds of connection that we crave in the hybrid era.

Project Ghost, Logitech

In collaboration with Steelcase, Logitech has come up with a way to create the right environment for an online call. A new take on the role of the meeting room, these pod-like spaces allow for greater connection between colleagues – as long as you each have your own pod to chat from. It might not have all the bells and whistles of the VR projects, but this sleek approach to video conferencing is going to hit the mass market much sooner.

Like Project Starline, the aim of the tech is to make you feel more like you're in the room with someone, which is achieved by projecting the image of the person you're communicating with onto a glass pane opposite your own seat in a specially designed booth. The camera is positioned at eye-level, making it easier to seem like you're making direct eye contact with the other person, who could be sat in their booth thousands of miles away. Another perk of the Logitech approach is that it will work with Google Meet, Zoom and Teams, allowing you to communicate with clients and colleagues over whatever software works best for you.



Project Starline, Google



Vision Pro, Apple



Project Ghost, Logitech



'Integrating AI with meeting and video conferencing technology will open up exciting new possibilities...'

Nigel Miller, Cordless Consultants



Sensing technology to make meetings better

In the recent past, collecting data on how your meeting spaces were being used required investment in expensive sensors as well as meeting room equipment. But with advances in video conferencing technologies, your cameras, microphones and video conferencing software can use artificial intelligence to give your technology its own sensing capability.

Cameras that use AI to determine the number of people in a meeting room can tell you if your allocation of space is being used inappropriately, for example if your smaller meeting rooms are crammed with meeting participants while larger spaces stand empty. These types of insight can be invaluable to facilities management teams who are looking at space optimisation.

But data collection doesn't stop there. Microphones can measure the amount of reverberation or background noise in a meeting, giving valuable information about working conditions within an office and allowing organisations to optimise their space for productivity.

Zoom's announcement of a new feature that will allow people who have missed a meeting to be sent an AI-generated summary of the meeting, condensing the conversations into bite-sized chunks, is a sign of things to come.

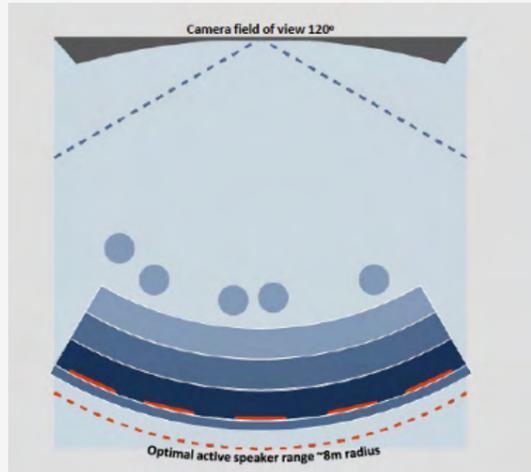
Integrating AI with meeting and video conferencing technology will open up new possibilities for where AV technologies go next, says technology expert Nigel Miller, managing director of Cordless Consultants. It could also make a big contribution to improving digital equality in meetings.

Miller explains: 'Remote participants get a roving camera moving from speaker to speaker, not just one static shot down the length of the conference table. Audio will improve as well, eliminating background noise such as your dog barking. Any recorded material will be of a better quality.'

To make meetings more effective, there should be consistency of operation so that people get the same AV experience with the same set-up tools within meeting room whatever their size and wherever they are. Technology should also be integrated earlier in the meeting room design process, says Miller.

Currently, technology integrators are brought in too late, when architects and designers have already completed their layouts. Miller comments: 'When there is lots of glass and hard surfaces making the acoustics terrible, and screens have been put in areas where the sun is brightest, no amount of clever technology can solve these problems.'

Source: [Cordless Consultants](#)



An opportunity to rethink spatial design

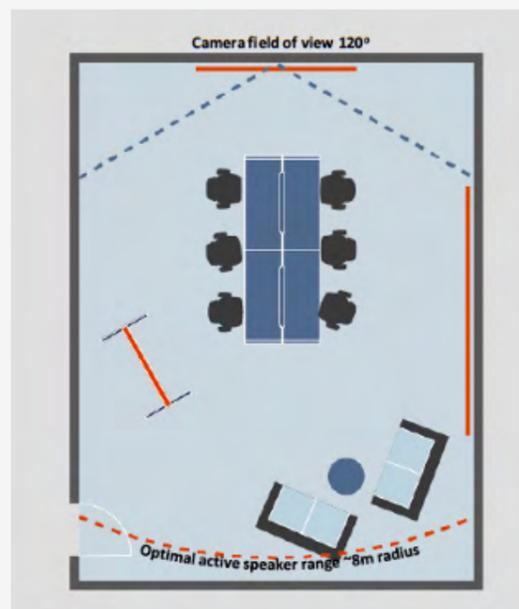
The application of technology typically comes right at the end of the process rather than being developed alongside the spatial design – even though it should drive spatial requirements.

When consulting firm Unwork explored new spatial concepts for hybrid working in partnership with Poly's suite of collaboration technology, it adopted a more integrated approach and proposed a number of new spaces. These don't replace the traditional conference room format, which still has a place when supplied with high-quality technology, but they do start to fill important gaps in the hybrid workplace.

Source: Unwork/Poly (2023)

These spaces include:

- A semi-open space for presentations, small town halls or team gatherings with a mix of fixed and flexible seating offering a high-quality hybrid experience.
- Enclosed or semi-enclosed project space that a team can use for varying periods of time, typically offering a mix of informal collaboration furniture with some touchdown working and the ability to dial-in remote colleagues.
- A social space that is enabled with video technology so that it can host hybrid social events and make video collaboration more than just transactional.



Key Links

[Four Tips for Effective Virtual Collaboration](#)

[Apple's Vision Pro headset has made the metaverse feel outdated](#)

[Immersive meetings: a hybrid solution easier said than done](#)

[Survey reveals mental and physical impacts of home working](#)

RECRUITMENT & ONBOARDING

The jobs market is being upended by the rise of technologies such as AI. But as recruitment takes a new approach, there is plenty of promise ahead

Hybrid working may have moved some of the pieces on the board, but the game remains the same – attract and retain is as central a priority for organisations today as it was before the pandemic. The big difference now is the impact of new technologies, such as AI, that are fast reshaping the job market and playing a growing role in supporting the recruitment and onboarding processes.

Mark Zuckerberg of Meta probably did little for the cause of remote technology in the talent agenda when he pointed to an internal data analysis in March this year and publicly admitted that engineers who had joined his company in-person were performing at a higher level than those who had been onboarded remotely. Nevertheless, it is a reality that in the new world of work people are recruited and onboarded without ever meeting their recruiters and colleagues face-to-face.

Some companies are smarter at this than others. Accenture, for example, has rolled out an immersive experience called ‘the Nth floor’ which uses metaverse technology as part of

its onboarding process. This creates virtual counterparts of physical offices with the aim of giving new recruits some orientation and improving hybrid collaboration and networking.

Not all organisations have Accenture’s deep pockets and levels of foresight. Nevertheless, as this section of our Trend Report explains, all companies will be affected by the transformative impact of new technology. The news is not all bad. AI may not destroy jobs at the feared rate, according to a new report from the World Economic Forum; digital tools may provide much-needed support for mental wellbeing, according to a study by AXA Health. Maintaining better mental health is a key consideration for prospective employees.

Already companies are looking at reskilling programmes for existing employees and special spaces for onboarding new ones. As job hunting is upended by new technology, there may even be a return to innovative testing and face-to-face interviews because generative AI is currently giving virtual applicants too much of a leg-up.

AI and the future of jobs

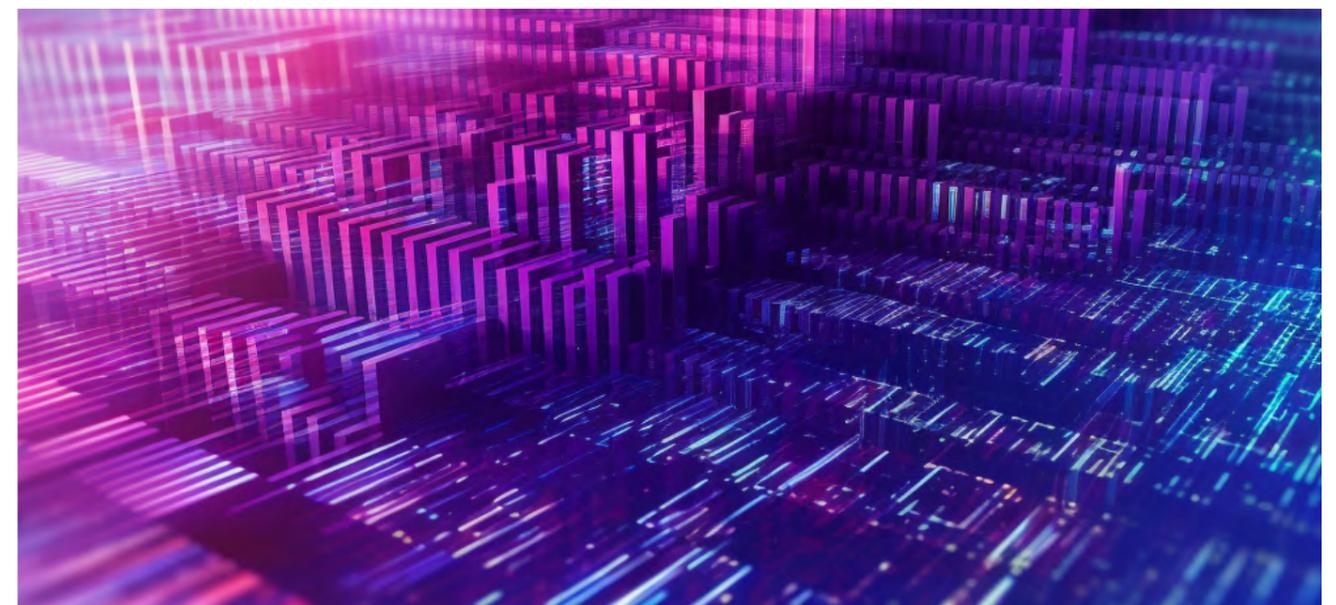
As an impact of the development of emerging technologies and their integration into the workplace, nearly a quarter of jobs (23 per cent) will experience change in the next five years according to ‘The Future of Jobs 2023’ report from the World Economic Forum.

When broken down, this shift equates to a 10.2 per cent increase in jobs and a 12.3 per cent decline. As three-quarters of organisations surveyed by the World Health Organisation said they’d be looking to integrate some form of AI into their workplace in the next five years, the World Health Organisation is predicting that AI will only result in a small contraction of jobs. This is a forecast that suggests that fears that AI will completely replace the current workforce are overblown.

However, the report also draws attention to the fact that 44 per cent of the core skills that employers will look for in employees will also shift. This could mean the requirement for mass re-education programmes to develop the level of technological literacy required in the workforce to work alongside AI.

Organisations will have to put effort into upskilling their current workers and providing on-the-job training to meet demand for tech-savvy employees. Companies may also have to look at how they transition their employees from roles that are declining in usefulness into roles where new jobs are being created. These shifts will require long-term strategic thinking and planning that should sit alongside plans for digital transformation.

Source: [‘The Future of Jobs 2023’, World Economic Forum](#)

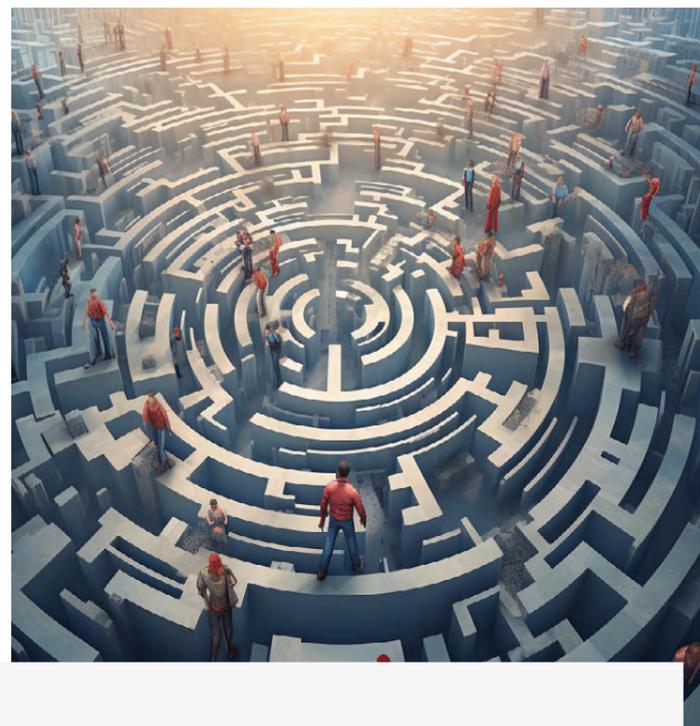




Hiring and firing: the tools transforming the recruitment game

How will technology transform job hunting? And how will HR departments need to adapt in order to ensure they are accessing the best and brightest talent? Since the release of tools such as Chat GPT 3 and Bard gave the whole world access to generative AI, asking these questions has never been quite so pivotal. Here are the top three ways that AI is set to transform job seeking and hiring:

1. Demise of the cover letter and the rise of innovative testing: With job seekers using generative AI to draft their cover letters and improve their CVs, it will become more challenging for HR to accurately evaluate the true skills and abilities of applicants. In response, HR departments will need to work with different departments to develop a range of innovative tests that can be undertaken by applicants to showcase their appropriateness for a specific role. These will likely entirely replace the cover letter in time.



- 2. A return to face-to-face:** Whilst online applications and interviews were helpful during the pandemic, they also mean that job seekers have access to such a wide range of support at the click of a mouse. This might wear away the trust that interviewers have in their candidates and therefore spark a return to face-to-face testing and interviewing.
- 3. Wider range of applicants:** It's not all doom and gloom, AI tools like Chat GPT 3 can also be used by applicants to find out what kinds of roles their skills could be suited to. This will be as helpful for new grads as it will be for those considering a career change. HR departments may find that they have a wider, more diverse pool of applicants to pick from as job seekers are encouraged to think more creatively about their skillset and opportunities.

Ready for workplace transformation?

Whilst workplace professionals may be excited about the opportunities and efficiencies that AI can offer, the change towards an AI-driven workplace is a massive one and anxieties around the role of AI in the future still abound.

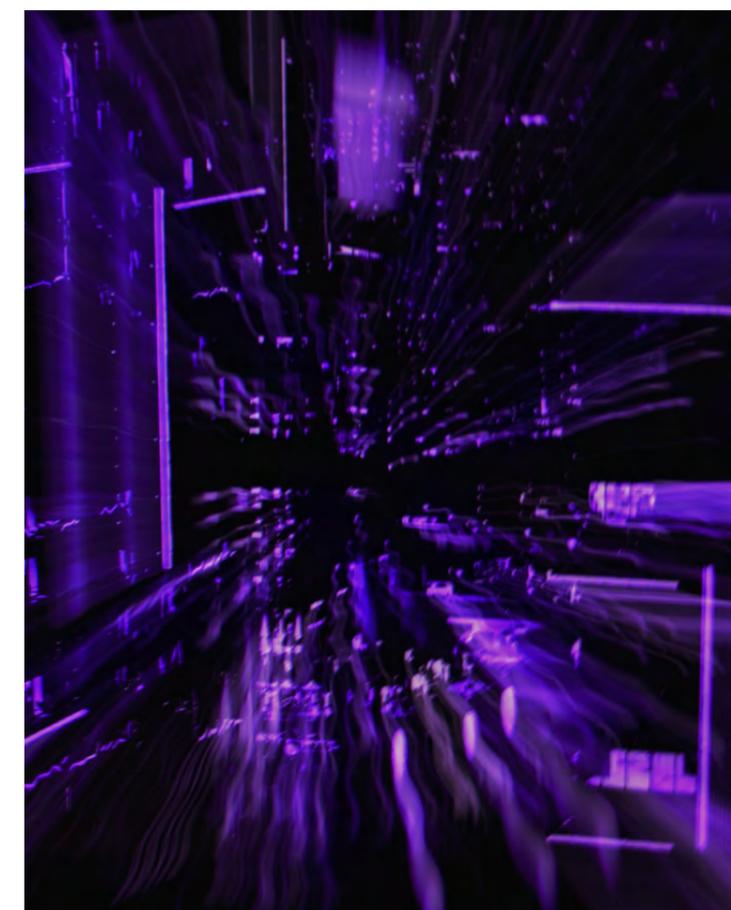
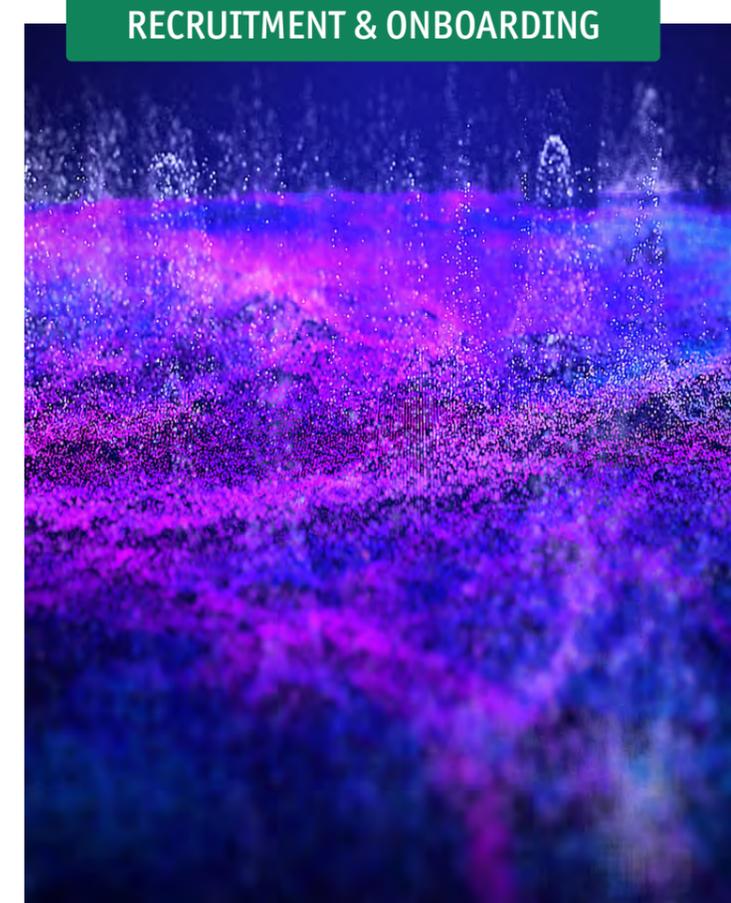
Introducing AI into your workplace without doing the groundwork could have destabilising consequences and risk raising employee stress levels. Research by an international research team led by Yuliani Suseno of the Newcastle Business School, Australia, highlights the correlation between an employee's high levels of anxiety around AI and their level of change readiness.

The study suggests that without efforts to address concerns that employees have about new technologies, organisations can face inertia or even crisis. The researchers suggest that taking steps to provide education and resources on AI, and providing reassurance that AI skills increase employability and job security, can have a positive impact on reducing employee anxiety around AI and helping teams ready themselves.

Leaders should also be aware that the move towards AI integration will affect different workers in different ways. Dr Sajia Ferdous of Queens University, Belfast argues that AI has the potential to impact older workers more negatively as they are more likely to be discriminated against by AI recruitment tools, experience more job insecurity and receive less protection from contemporary policy frameworks that address threats to job security from automation.

This means that more efforts are needed to ensure that the older generation of workers are brought along by the next technological revolution instead of being left behind.

Sources: *Beliefs, anxiety and change readiness for artificial intelligence adoption* (2021), Suseno et al; *'Are older workers ready for an AI takeover at work?'* (2023), S. Ferdous



Tech solutions to support mental health

The UK has been found to have poorer mental health in the workplace when compared to other countries, despite an overall increase in employees reporting good mental health since 2022, according to a new report from AXA Health, entitled 'UK Mind Health 2023'.

The report shows that there are growing disparities in the workplace with women, minority groups, line managers and young people being the most likely to have poor mental health at work. This has an impact on recruiting and retaining talent.



So, what's the solution? AXA Health interviewed a series of top HR professionals, many of whom were turning to technology to provide better mental health support. Some of their technological interventions included:

- Having access to a virtual emotional wellbeing therapist through an online platform who could help staff access the support they need – be it psychiatric help or counselling.
- A series of online events that staff were able to attend anonymously where well-known figures shared stories of struggle and took on big topics in order to kick-start the conversation around mental health at work.
- Provision of online education resources around the menopause and its impact on the workforce helps increase knowledge within the company about challenges employees may be facing and helps ensure that all employees are supported.
- Provision of a healthcare app that offers guidance on topics such as the menopause, fertility and baby loss, with one-to-one support from highly trained menopause experts via chat and video calls.
- Apps that can immediately connect an employee with a GP as well as supporting employees to track their own health and wellbeing.

Sources: 'UK Mind Health 2023', AXA Health

Designing space for onboarding

Onboarding can be a nerve-wracking experience, especially when new staff have to navigate large corporate office spaces and get to know an endless line of new faces. To tackle the challenges of onboarding in large corporate environments, some companies have introduced new spaces that allow staff to access support or aid in the onboarding experience.

At the Slack HQ in San Francisco there are technology bars dotted throughout the space. At these bars are the technology experts, ready to give advice, help repair your device or, for new staff, take you through your technology onboarding process. Having spaces where staff know they can get support and even a bit of reassurance if they get lost can have a significant impact on the experience of new employees in their first few weeks in the office.

Meta has adopted an innovative approach to onboarding. Its London offices at Canal Reach boasts a bootcamp area. Here, all new employees spend their first few weeks doing their onboarding and training activities. By putting all the new recruits together in one space, they are able to make connections and feel more like cohort that can support each other. It also helps with socialisation and creating connections between teams.

Meta also offers a mentorship programme where time and space is allocated specifically for new staff to book time with more experienced employees. This is particularly important for new engineers to go through code together and work out any specific issues.



Key Links

[Future of jobs 2023: how technology is changing every workplace](#)

[Mental health at work](#)

[20 Essential Changes To Make To Your Remote Onboarding Processes](#)

LEARNING & DEVELOPMENT

As trends in educational technology suggest, employees will increasingly learn and develop their skills in the workplace using an array of new digital tools

Opportunities for learning and development are close to most employees' hearts. Research suggests that [59 per cent](#) of millennials think that development opportunities are an extremely important factor when considering whether or not to apply for a new role and 41 per cent of all employees believe that development opportunities are a large contributor towards their career satisfaction.

Learning and development in the workplace is clearly a critical issue, especially at a time of such rapid and disorienting change, but there are still many barriers to participation. Can emerging technologies provide greater access?

This section suggests that technology can offer new opportunities to increase and maintain engagement with learning programmes through gamification and nudge-theory as well as boosting employee wellbeing and offering new insights into the ways in which we work.

One impact of disruptors such as AI on workplace learning is the urgent need for major, large-scale reskilling programmes as the jobs market is upended. Here, ironically, technology is both the root of the problem and the potential solution. Trends in education, in particular the use of mood-gauging apps for student classes, smart furniture, virtual reality and chatbots, suggest how the workplace can shape up for the learning and development challenge.

As with hybrid working, so with hybrid learning there is increasing opportunity to use an array of new tools to create spaces and systems which support a mix of face-to-face and virtual interactions within the workplace, helping mould a new generation of upskilled employees.

Edtech: the next wave of innovation

How are approaches to education shifting as a result of technological innovation? Online education platform Future Learn has set out the four main transformations that learning and development will undergo as a result of new technologies:

- AI and machine learning tools to recommend other courses according to learner's preferences or to tailor the structure of a course to the learner's needs based on their previous behaviour
- Augmented and virtual reality technology to help people learn on more practical courses
- Gamification technology to keep learners engaged and entertained for longer
- Chatbots to help coach learners and offer support and tuition online

These changes can speed up the process of learning and offer more individualised support according to each learner's ability and speed of learning. Within the workplace, they have clear applications: access to online learning with tailored support can help all employees reach their own targets for development without anyone feeling left behind or unsupported.

Those with more practical jobs can get to grips with new equipment using augmented reality,



allowing them to explore new ideas in a safe environment before they go out in the field.

Workplaces can also incentivise learning around specific areas of interest to the company through the gamification of certain learning and development courses, helping them reskill their workforce to better serve the company.

The message is that digital learning and development tools are here to stay and can be utilised by companies to increase access to opportunities for all employees.

Source: [The Future of Learning Report 2022](#), Future Learn

Reskilling for the workplace revolution

One-third of all jobs will be transformed by new technologies in the next ten years, the OECD has predicted, and the World Economic Forum (WEF) has estimated that 133 million new jobs will be created in response to technological change. But in the context of all this, employees and employers must ask: are we ready for these seismic shifts within the workplace?

The BBC has reported that 40 per cent of workers are concerned that their job will become obsolete within the next five years. With so much uncertainty and transformation on the way, individuals need reassurance that they will be able to access reskilling programmes and organisations need reassurance that employees with the right skills will be available. Reskilling and increasing access to learning and development programmes is crucial for the next phase of the workplace revolution, otherwise we risk entering a skills crisis.

But despite shifts in the workplace being brought about as a result of technology, it is not just highly technical skills that we will need to develop. Skills that technology can't offer, such as creativity, collaboration and interpersonal skills, will also be in increased demand, alongside more need for people in sales, HR, healthcare and education according to the WEF.

Companies already thinking about how they can help their employees develop new competencies will be ahead of the game in keeping up with the changing workplace market and attracting new talent.

Source: [Why we need a global reskilling revolution](#), World Economic Forum



CoLab: furniture supporting technology for learning

How can we create the right environment to complement new hybrid and remote approaches to learning and development? This is the question that design firm Pearson Lloyd, working in collaboration with manufacturer Senator, sought to answer with its new [CoLab](#) furniture collection for next-generation learning.

The collection was preceded by a two-year investigation into modern learning and a deep dive into the incorporation of technology into learning environments. The result is a collection of flexible furniture that's non-hierarchical, integrates with technology commonly used in education, and which promotes in-person collaboration.

Users can sit, stand, lean or lounge according to preference and seating options have side tables to rest a laptop or workbook when needed. Power sockets are integrated throughout the collection, offering the opportunity for a laptop to be in use

at all times. The collection also has a high level of circularity, with units able to be replaced or repaired when needed.

Whilst this project was made with schools and universities in mind, the way in which it engages with a hybrid approach to learning suggests that there is much more that can be learned by the workplace sector. Learning and development programmes today are often a mix of online and in-person learning. Without the creation of the right environments for learning, workplaces run the risk of employees dropping out and becoming disengaged.

New approaches to space are needed to facilitate learning in the digital age and companies engaging with how to offer a great workplace experience in all areas of their organisation will benefit from a more engaged and appreciative workforce.

Source: Pearson Lloyd 2023



Apps to create a 'mood landscape' in the workplace?

Teachers in Danish schools have taken to using apps to audit students' moods and make recommendations about how they could change their behaviour to better support their own wellbeing. The app, called Woof, presents them with a 'mood landscape' and a score for the overall group, offering analysis on their self-reported sleep hygiene as well as other wellbeing elements. Data collected on Woof is anonymised so offers only a snapshot of the whole classroom rather than singling any individuals out.

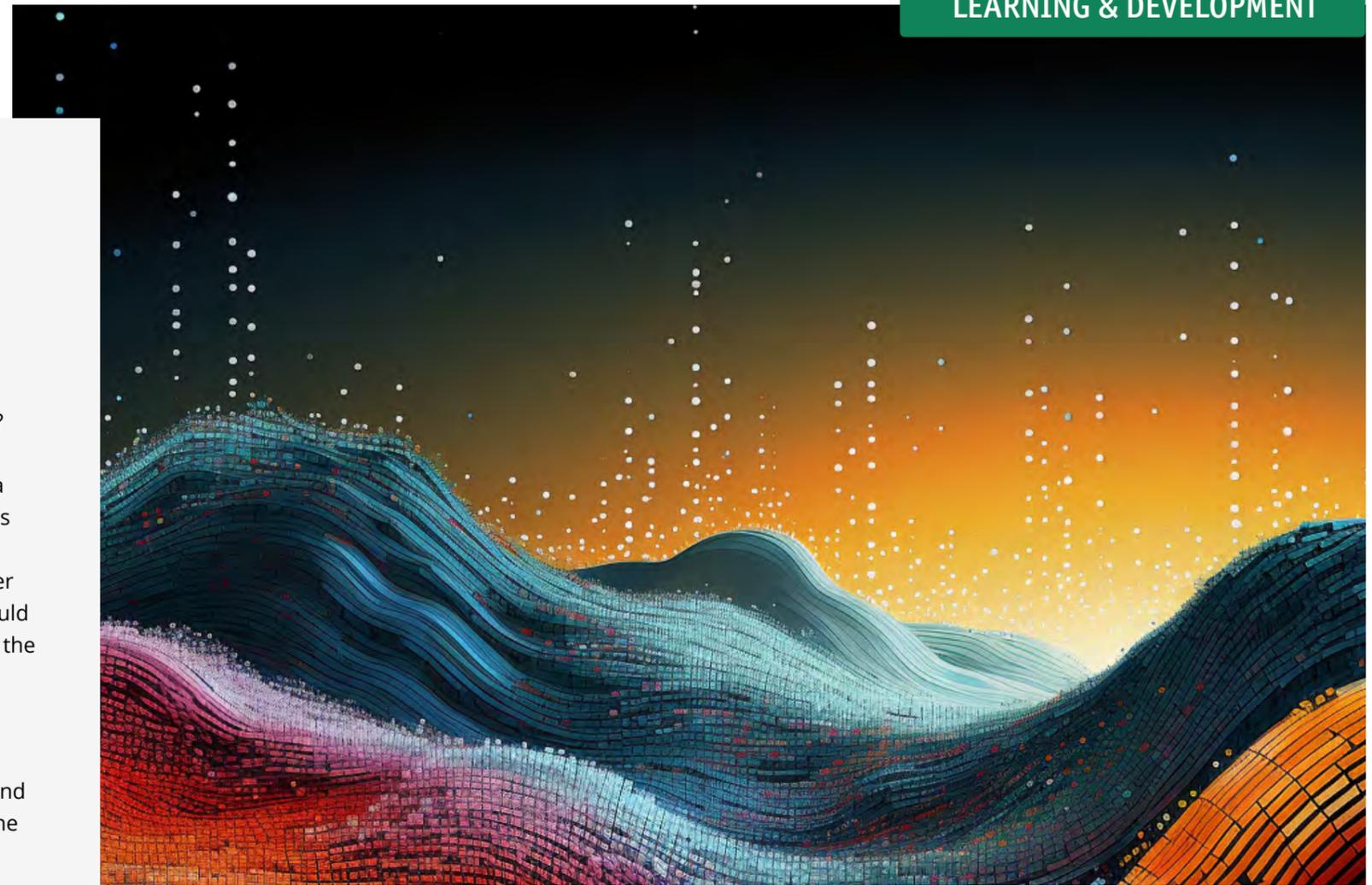
Approaches like this are becoming more common as Denmark works to tackle a mental health crisis in young people and whilst there is some uncertainty about whether it is useful for very young children, there are lessons to be learned from this approach to wellbeing. The workplace is also undergoing a wellbeing crisis and levels of burnout and disengagement are high.

Many companies have simply stuck their head in the sand or used apps to offer external support to their staff, like apps that offer counselling or access to a doctor. Whilst such interventions are clearly positive, they are unresponsive to the current sentiment or mood within the company at any one time and may even be seen as impersonal within the workplace.

Source: MIT Technology Review (2023)

So, what can workplaces learn from education? It's uncertain whether workplace mood apps will take off but certainly using tools to create a more tailored response to maintain wellbeing is on the cards. Offering an afternoon off across the company or sharing advice on getting better sleep when everyone is feeling badly rested could make a difference to employees and therefore the whole company.

By building trust and creating environments where employees feel able to self-report their mood, companies can curate a more tailored and responsive approach to wellbeing and follow the current trend in education.



Key Links

[Rapid Reskilling Is The Future Of Fulfilling Work](#)

[How to Gamify Your Workforce](#)

[How to Design Spaces for Flexible Learning](#)

WORKPLACE EXPERIENCE

A wealth of technologies from super apps to AI-driven software will transform key aspects of workplace experience. But are companies ready to adapt?

One of the key shifts of hybrid working is the growing realisation by employers that the workplace today is no longer a place or a process but a set of experiences which can be good or bad depending on how companies plan the many different touchpoints and interactions of the working day.

This explains why new job functions are springing up, such as Chief Experience Officer (CXO), as organisations adapt their management structures to address this issue – and why HR and IT departments are increasingly joining forces.

Technology and services have a crucial role to play in making the workplace experience more welcoming and streamlined, with fewer drains on employee time. However, developing the right user-centric strategy to enhance workplace experience is not easy. As this section explains, property services company JLL has identified 15 anchor technologies to create a hybrid working experience, but companies on average have adopted only four of them.

So, there is much work for companies to do in order to meet the new expectations of the digital-savvy employee.

One place to start is with a workplace app that can give the individual more control over many critical aspects of the working day and meet the widest spectrum of needs; here, we explore the rise of the ‘super app’ which consolidates all services and functions into a single mobile app. Using cloud-based mobile access technology to manage entrance to the office building is another key starting point, combining ease of use with better security.

The introduction of AI in workplace software is opening up new vistas in user experience and we highlight Microsoft 365 Copilot and Microsoft Places in this section as pioneering a way forward. But to really get a grip on workplace experience, we advocate the practice of experience mapping so that companies can gain a more holistic sense of how their workplace is operating and how employees are feeling about it.

Playing catch-up on hybrid technology

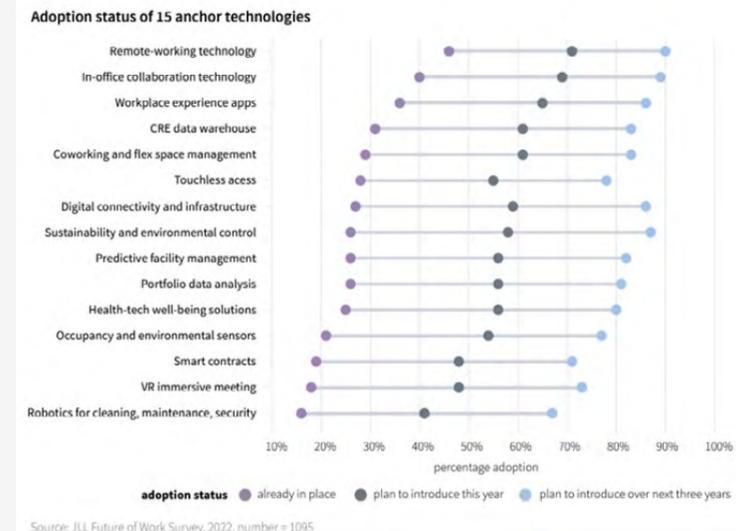
The hybrid working experience is undeniably guided and enabled by technology, but are we using the right technologies to optimise the workplace for everyone?

That’s the question posed in a report from commercial real estate services company JLL, entitled ‘Technology and Innovation in the Hybrid Age’. Here, JLL identifies 15 anchor technologies that are core enablers of a positive hybrid work experience. Ranging from workplace experience apps to robotics for maintenance and security, they address each aspect of the workplace and highlight how smart tech decisions can transform hybrid working.

The good news is that, by 2025, 78 per cent of companies plan to incorporate more than 10 of these technologies into their workplace and workforce practices. However, the report says that companies on average have adopted only four of these 15 anchors, leaving companies trailing behind in the race to provide a great hybrid experience.

But what can these technologies really offer in terms of workplace experience?

Workplace apps, touchless access and environmental controls can all make a major contribution as anchor technologies for hybrid.



The report also identifies health-tech wellbeing solutions, with JLL suggesting that these tools are on the rise. Apps that give employees access to medical care, fitness classes, mental health resources and counselling are important for creating a healthier workplace.

Some of these apps even have algorithms to tailor programmes to an individual’s needs and make recommendations for them. The report suggests that 71 per cent of employees want to work somewhere that prioritises their health and wellbeing, so why not use tech to facilitate those wishes?

Currently, some of JLL’s anchor technologies are on the periphery of the workplace experience, but as companies begin to invest in tech that boosts employee wellbeing and streamlines complicated processes, they could find themselves ahead in the race for talent.

Source: ‘Technology and Innovation in the Hybrid Age’, JLL (2022)

Hierarchy of workplace needs

Tempting employees back into the office has been an uphill battle for many organisations. But a mobile-first approach with workplace apps playing a key role could make the office a more compelling destination.

A report by CXApp and WORKTECH Academy sets out the role that workplace 'super apps' can play in ensuring that the office is a place which suits the needs of all employees.

At a time when there is evidence of 'app overload' and employees are struggling to switch between a proliferation of different apps on different platforms, a workplace super app consolidates the services and functions of a company's tech stack into a single mobile app.

Based on Maslow's famous pyramid-structured Hierarchy of Needs, the report highlights how all our workplace needs can be met with one simple tool.

The message is that if companies address the fullest spectrum of employee needs through workplace apps, the more valuable the employee experience and the smoother the ride to hybrid working. The five tiers of employee experience are:



Physiological needs: These reflect the most basic needs for comfort and control over our work environment and could be as simple as the ability to control the temperature in a meeting room.

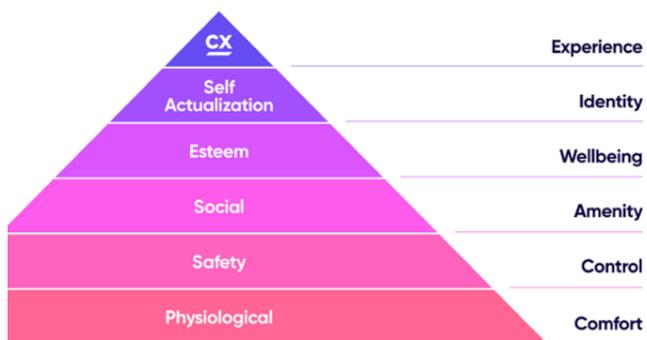
Safety needs: Data collected via a workplace app can help avoid hazards such as overcrowding and congestion around lifts.

Social needs: Apps can coordinate team collaboration and social interaction, including room and food booking, wayfinding and event scheduling.

Esteem needs: Reflecting our need to be treated with dignity and have our work acknowledged, workplace apps can give access to prestige amenities and make employees feel welcome.

Self-actualisation: These needs are about reaching your potential and succeeding in your goals — apps for learning and development can be used to support personal identity and wellbeing.

Being able to achieve these goals and support employees across a spectrum of different needs is critical to attracting and retaining talent, as well as making the office a vibrant, social and attractive place to be.



Where next for workplace apps?

With workplace apps gaining in popularity, how will they develop in the coming years?

According to Renee Tordjeman, Director of Digital Transformation at Unwork (above), 'In the ever-evolving landscape of workplace app technology, we're witnessing a dynamic shift that holds significant promise for the future of work. However, it's crucial to acknowledge that the app industry is still in its early stages.'

One prominent trend, says Tordjeman, that will shape the future of work is the pursuit of a unified workplace app: 'Companies are striving to create a single gateway that seamlessly integrates with various disparate systems, serving as a one-stop-shop for enhancing the workplace experience. This aspiration reflects the growing need for improved productivity, collaboration, and employee engagement.'

Renee Tordjeman says that companies face hurdles in achieving this vision. Many vendors in this space are still maturing, grappling with complexities related to information security and integration capabilities, especially in highly regulated global organisations.

As a result, they may struggle to deliver on their scopes of work within expected timelines, or struggle to deliver the full scopes at all.

She adds: 'In some instances, large global companies have found themselves partnering closely with these app vendors, effectively becoming collaborators in the development process. This collaboration often involves significant R&D time and resources from the client side. Some clients joke they should be compensated for their contributions, essentially aiding these vendors in bringing their products to market.'

The future of workplace app technology holds immense potential, says Tordjeman, with the aim of creating a comprehensive, integrated solution for enhancing the workplace experience. However, she adds that 'challenges related to vendor maturity, integration complexities, and collaborative efforts between companies and vendors are still prevalent and need to be addressed for the industry to reach its full potential'.

Access control: the first step towards a streamlined experience

The entryway into your office gives that first impression of your organisation to clients, visitors and prospective employees. Getting this experience right therefore sets the general image and tone for your company right off the bat.

This is particularly important in a hybrid working context where people are entering the building at different, less predictable hours and companies need to provide reliable access at all hours for employees without compromising security.

Hybrid working offers more room for error in terms of access. The personal connection between security staff and distributed teams working remotely for some of the week is weaker than in the past. This can increase incidents of tailgating – if someone claims to have forgotten their pass and asks security to let them in, how can individuals tell if they're a stranded colleague or a potential threat?

So, what are the options for employers looking to offer a streamlined experience to all those

who are welcome in the office building, whilst keeping a high level of security?

There are a variety of approaches companies can take. Biometrics is the flashiest option, allowing companies to use biological identity markers to let people in the building, from retina scans to fingerprint recognition. This has its own challenges – not everyone wants their employer to have access to their biometric fingerprint so companies looking into this option should consider employee uptake and change management processes very carefully.

More commonly, companies are looking at a mobile-first approach, using apps or digital wallets to issue credentials to people on their smartphones in advance of their office visit and replacing the need for plastic access cards to be issued and inevitably lost and reissued.

In short, offering a straightforward and swift form of access control can open the door to offering a great workplace experience, setting visitors and staff off on the right foot when they enter the office.



Experience mapping: a key tool for companies

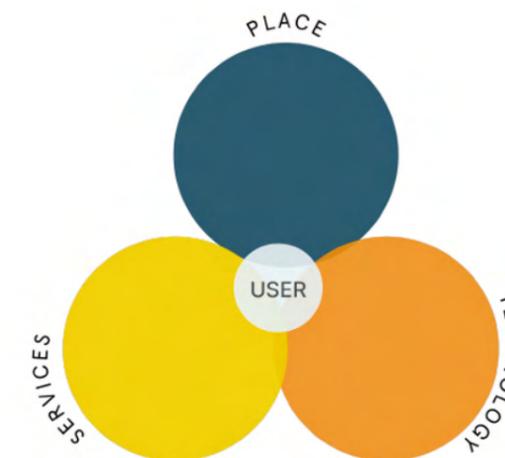
As more companies recognise that the provision or lack of services and technology can play a big part in shaping workplace experience and the attitude of employees, so the practice of experience mapping is on the rise.

This approach can both create value and reduce risk at the same time, says Dr Imogen Privett, who leads the Workplace Innovation team at consulting firm UnWork, and has worked with a range of large clients on experience mapping projects.

Privett describes the first phase of experience mapping as about understanding how the existing system operates and achieving a solid understanding of all interactions within the workplace.

She explains: 'This discovery phase outlines the whole system in detail, helping us to understand what is working well and where the opportunities and challenges are.' The second phase is about closing problematic gaps in the user experience, through the design of new and improved experiences and interactions.

Source: [UnWork](#)



This involves co-creating future scenarios and testing new use-cases, which allows organisations to continuously develop new services on a customer-orientated basis.

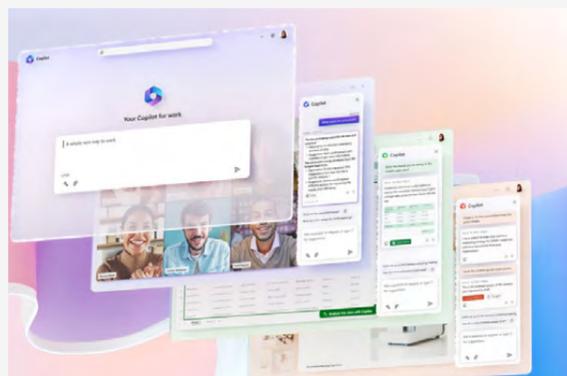
Experience mapping enables employers to visualise what is actually going on in terms of: events and behaviours; user context and emotion; user insight and evidence of unmet needs; touchpoints; interactions; frontstage processes and backstage processes.

The advantage of an experience map, says Privett, is that it is developed holistically, spanning all of the different elements and services that might impact on the experience of a single user.

This 'day in the life' approach also allows for consideration of aspects of user experience which take place outside typical working hours, but which may still impact their quality of experience — for example, the commute and being able to prebook a carparking space, or needing to change a meeting space booking for the following day while on the way home.

Can AI transform the workplace experience?

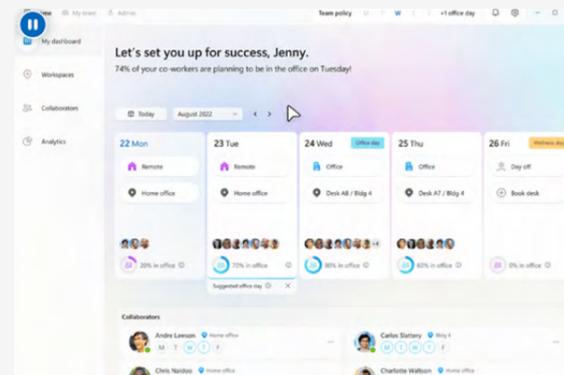
Many of us are reliant on software such as Microsoft 365 when we are at work, using it to control our diaries, contact our colleagues, set up video calls and access documents. But now AI tools are being integrated into our workplace software, making it easier for us to perform our roles efficiently without having to put in extra work. Two new releases by Microsoft may pave the way for this becoming the norm: Microsoft 365 Copilot and Microsoft Places.



Microsoft 365 Copilot

Microsoft 365 is the go-to software package for many companies who are reliant on its programs such as Word, Excel, Outlook and Teams. With its new copilot tool, it can take all the data collected from you accessing its programs and, using large language models, it can automate tasks and complete them on your behalf.

Want it to automate calculations on Excel for you or write you a proposal based on research you've already done? No problem, simply ask and it shall be done. It can also send out notifications and emails in your voice, offer suggestions to make your writing more concise or summarise entire meetings for you. Is this the future of workplace productivity? It just might be.



Microsoft Places

Balancing working in-person and remotely can be hard, with people not coordinating the days that they're in the office or not having access to the spaces they need when they are there to collaborate with others. This can make hybrid feel like it's the worst of both worlds, but a new tool from Microsoft aims to change that.

Using intelligent technology, its workplace program can tell you when your closest collaborators will be in the office, allowing you to schedule your week; it can also advise you on where the most appropriate spaces for your meeting are – guiding you towards options which offer the best combination of technology and space for in-person and remote participants.

Microsoft Places can also provide space optimisation insights for facilities management teams, helping to make the data collected accessible and responsive. This new approach to hybrid management prompts people to use spaces at times that suit them and where they can get tasks done. It may go a long way towards removing much of the frustration around hybrid working patterns.



Key Links

[Seven tech solutions corporate leaders can use to make sense of return-to-office](#)

[How to improve the employee journey in a hybrid workplace](#)

[Why neither space nor tech can really solve hybrid meetings](#)

DESIGN & CONSTRUCTION

It's not just the construction and management of office buildings that is being disrupted by new technology – the design process itself is being transformed

Our final theme of this Trend Report on the 'Science of Work' looks at the role of technology in the design and construction of office buildings. Like much else across the landscape of work, this too is changing at speed.

Deloitte's report on the future of construction, which is highlighted here, presents a picture of trends such as smart operations, data analytics, strategic sourcing, the future of work, and prefabricated and modular construction converging as part of an interconnected digital approach.

Some well-rehearsed technologies are set to make an impact such as the digital twin, which was once science fiction but is now market fact. Digital twins allow design, build and facility management teams to plot and analyse scenarios in an exact virtual copy of the real scheme before they start pouring the

concrete. Smart robotics is making a growing contribution to construction site safety and data collection.

Then there are the completely new technological solutions featuring artificial intelligence: this report highlights the mixed-use building designed by architects Hickok Cole using ChatGBT and the giant floorplates generated with AI by Zaha Hadid Architects that can optimise the innovation networks within companies.

It is not just how office buildings are constructed or managed that is changing in the fast-expanding era of the 'digital ecosystem'. How these structures and spaces are designed is being upended too. Traditional architectural skills in designing workspace could be in retreat as fast, precise, computational methods driven by technology force their way into the field.

The future of construction: where will offices go next?

How will technology transform how we build offices and reimagine the future of workspace?

The construction industry has experienced much uncertainty in recent years with supply chain disruption and increased economic uncertainty. A report from Deloitte suggests that to combat these issues, it is important that construction companies invest in an interconnected digital landscape. But what does this drive towards digitised construction mean?

Deloitte sees investment in tech transforming construction in numerous ways, but for facilities management teams and those looking to invest in new office space, the biggest change predicted is an increase in data collection from across the supply chain being brought together in command centres.

Command centres can provide end-to-end visibility, giving all stakeholders a clear view over the entire construction process by collating data collected from all areas of the building process from prefabrication to on-site construction.

Source: ['The future of construction: The fundamental capability shifts needed for long-term success'](#), Deloitte (2021)



This data can then be assessed and, using machine learning, potential issues can be flagged and solved, making the process smoother and more streamlined.

This has the potential to reduce costs, increase safety on-site and ensure that deadlines are met. Investors and clients are given more control and information, and the collection of data can increase the agility of a project, helping flag problems early and allowing teams to develop new responses to avoid any unwanted surprises.

In this way the process of building an office can be streamlined, client anxiety can be reduced and the standard of the finished project can be increased – giving us all better, more tailored office spaces.

Bigger is better? The drive to make floorplates larger

What is the most efficient design for an office space? And how can we use office design to increase productivity? These are the questions that have absorbed workplace designers for decades, but now architects and designers are turning to AI to provide the answers.

At Zaha Hadid Architects, researchers and designers have been utilising AI tools to create more agile and innovative designs for office spaces with one major trend emerging from the use of these tools – bigger floorplates.

Research suggests that as cities increase in size, their level of innovation increases as they are able to facilitate larger social and creative networks. The most successful cities are those that create the most connections between people and amenities. Offices are really no different to cities, says Ulrich Blum, Senior Associate at Zaha Hadid and Professor of Architecture at Münster School of Architecture.

He suggests that larger social networks can be created within a company through use of larger floorplates and smart design.

Artificial intelligence is also able to generate thousands of potential floorplates and assess which would create the largest and most interconnected social network, thereby far exceeding the power of a small group of project



Infinitus Plaza, Guangzhou, China. Photo: Liang Xue, Zaha Hadid Architects

architects who are racing against the clock to offer up a floorplate design.

Here new technologies offer the chance to assess more possibilities at speed, and develop more efficient and productive spaces for people to work and interact. When it comes to the perfect design for an office, Blum says that the atrium tower may offer the most exciting typology for an office space, with research showing that 'due to its size it has large floorplate but it also has this incredible visibility through the atrium so you see a large proportion of the building's population spread out in front of you and the level of co-presence and awareness is probably higher than in any other building type'.

How AI tools will transform office design is yet to be played out but emerging trends towards atrium towers and larger floorplates appear to be the front-runners of tech-enabled design.



Infinitus Plaza, Guangzhou, China
Photo: Felix Amiss, Zaha Hadid Architects



Infinitus Plaza, Guangzhou, China. Photo: Liang Xue, Zaha Hadid Architects



ChatGPT, build me an office...

Zaha Hadid Architects isn't the only firm experimenting with AI design tools. The Hickok Cole architecture studio has been experimenting with creating buildings using ChatGPT. The results? A 24-storey mixed-use building with a combination of retail, residential, office, hotel and library space with a rooftop garden and pool.

To help create images based on ChatGPT's design, the text-to-image tool Midjourney was utilised, bringing the design to life.

Throughout the process, project architect Jack Lynch said that he took the standard approach to supporting a young designer when interacting

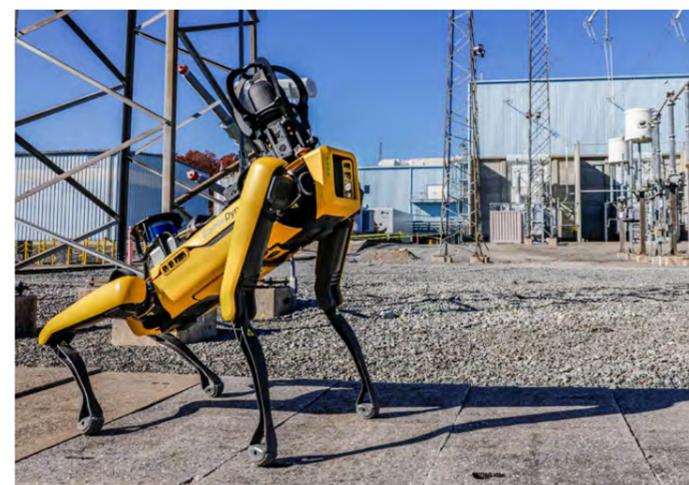
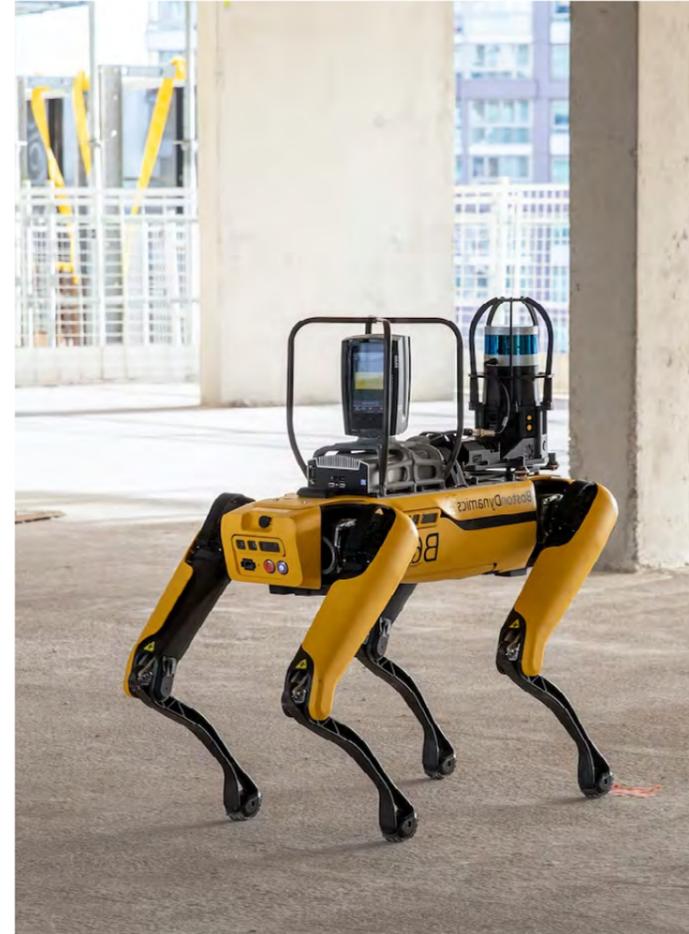
with the ChatGPT tool, building off the ideas that it generated and pushing it to add detail to the design.

The tool illustrated some level of awareness around important architectural features, introducing double-height spaces to increase natural light in certain areas. However, it won't be taking architects' jobs any time soon as it made multiple errors that common sense alone would have corrected.

Interestingly, the AI tool showed a capacity to 'remember' when it was corrected which prevented it from making the same errors over again. This suggests that the quality of AI tools available to architects will increase with use as the tools can be trained out of making simple errors.

Hickok Cole predicts that the tool will eventually be integrated with architectural software, allowing architects to streamline processes and access advice, without putting them out of a job. This might help cut the costs of hiring an architectural firm by reducing the man-hours that designers have to spend on a project. So, do you want your office designed by an AI-supported architect? The possibility is not far away.

Source: [Dezeen](#) (2023)



Spot the dog: the faithful hound making sites safer

A robot dog might not be your first thought when you think of how to make building sites safer, but Boston Dynamics's Spot is changing the game when it comes to technological solutions in the construction industry.

Spot was originally designed to carry out reconnaissance missions, collecting large volumes of data. This might include conducting regular checks of equipment, doing a security scan of an area or other checks. For example, Foster + Partners utilised Spot to make [regular site surveys](#) during its work on the Battersea Power Station redevelopment in London.

However, Spot was unable to make recommendations based on the data that it collected. Now, it has a 'brain' powered by ChatGPT and the ability to respond to voice commands. People on site can ask Spot questions, direct it towards a new target and gain insight into the data collected.

This means that the robot itself is safer – no longer exclusively reliant on a remote operator to control its every movement – and it can help decrease any risk or misunderstanding during the interpretation of the data it has collected by interacting with people on site.

Source: [The Missing Link in Your Digital Transformation](#), Boston Dynamics

Digital twins: the future of infrastructure?

How do we know if an office will be safe for its inhabitants or will meet specific user needs? Historically we've been reliant on the mathematical equations and measurements that architects and designers have used to construct buildings for years. But these calculations can only tell us so much and still leave room for human error.

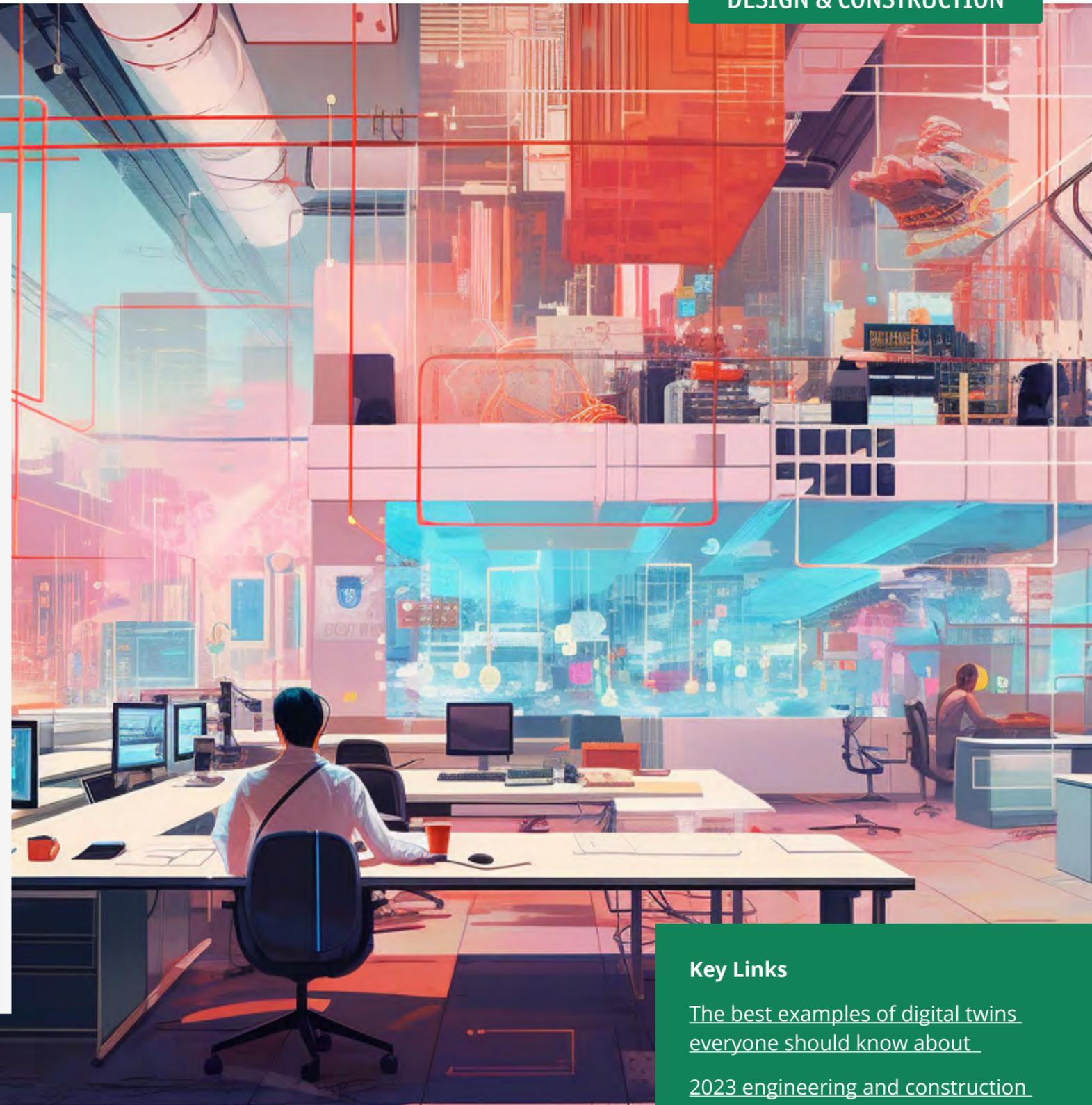
So, what's the alternative? Well, tech-heads across the globe have been singing the praises of digital twins for years but only recently have we started to think that they could become a commercially viable option.

A digital twin is very much what it sounds like – a sophisticated 3D computer model of a building or piece of infrastructure built on an online platform to copy the intended real-life version exactly. Digital twins can be utilised to collect and model data on a specific structure, offering more insight into both the use and deterioration

of a building. This information can then be used to alter conditions in that building or even build more efficient buildings in the future based on the data collected.

This is because, rather than simply being an image of a building that you can look at, digital twins are designed to respond to stimuli exactly like their real-world counterparts. Digital twins allow their users to interact with them, to trial potential scenarios and see what a building might be like for its future inhabitants. This helps architects to troubleshoot challenges, trial innovations and avoid dangerous miscalculations.

Currently the downside of a digital twin is the expense – for many companies, they are still out of reach as they require an enormous amount of expertise and effort to create. However, with research teams working to make them more economically viable, we might see more digital twins emerging in future workplace projects.



Key Links

[The best examples of digital twins everyone should know about](#)

[2023 engineering and construction industry outlook](#)

[Largest office in the world: are office-cities the future?](#)

On Our Radar

Here is a selection of external links to articles, podcasts and books on subjects that are on WORKTECH Academy's radar this quarter:



Four-day Workweek Trial

The biggest trial of a four-day work week was a resounding success – or was it? This BBC Worklife article offers a deeper dive into the companies who ditched the idea and why it didn't work out.

[Read more](#)



Your Face Belongs to Us

This book by Kashmir Hill takes a look at artificial intelligence, facial recognition software and how these new technologies may come to haunt us as we continue to invest in biometrics without thinking about the dangers.

[Read more](#)



The Case for Good Jobs

Too many people have jobs that are poorly paid and highly stressful, but what's the alternative? Zeynep Ton offers a different vision of the workplace which allows everyone room for growth without hurting the bottom line.

[Read more](#)



AI Anxiety

AI offers companies many opportunities to grow, but for a lot of the workforce the introduction of AI can look like the end of their career as they know it – how can a balance be struck?

[Read more](#)



WorkWell

Balancing your wellbeing and your career can feel like a challenge, but Deloitte's podcast WorkWell is here to offer advice from a range of experts including psychiatrists and lawyers.

[Read more](#)



'Working' Review

In this Netflix documentary Barak Obama visits different workplaces in the USA to see how real people spend their everyday lives at work, highlighting fundamental inequalities in the workplace.

[Read more](#)



Large language models aren't people

ChatGPT is both feared and adored in equal measure but how we think about large language models may be getting in the way of developing a wider understanding around how they work.

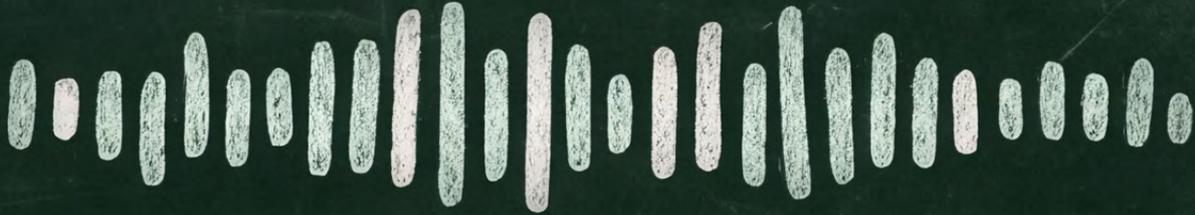
[Read more](#)



The Future of Everything

Will we all transition to using electric cars? Will robots take over? How will we adapt to extreme weather events? This podcast answers all the science and tech questions we could possibly hope to ask.

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