[i] Briefing

The new wave of workplace technology

The technologies that will transform the way we design and manage workplaces in the very near future

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"Understanding new technology takes time because it usually involves learning a combination of its intended uses and its unintended consequences"

The catalyst for practically every change in the way offices are designed and managed is technology. This has been true since the first offices appeared at the turn of the twentieth century. All that changes is the nature of the technology that is most influential and – frequently – most misunderstood. By its very nature each piece of new technology takes a while to enter our consciousness as we learn to understand not only what it is in itself but what it is all about. This involves a combination of its intended uses and its unintended consequences. The coming year will see technology for the workplace discussed as never before, not least in terms of how different technologies integrate to drive innovation in the way offices are designed and managed. Here are our predictions of which technologies we will be talking about most during 2013.

1. Unified communications

One of the most striking aspects of many of the technologies on this list is that they are not discrete pieces of technology but technological principles that define new approaches and new applications of technology. While this is useful in terms of giving these ideas labels, it does mean they are open to interpretation which can lead to some confusion about what each is and what it means.

Unified communications (UC) is a typical example of this. In simple terms, it defines the integration of a range of communication services in real time such as instant messaging, telephony (including IP telephony), video conferencing, data sharing as well as non-real-time communication services such as voicemail, e-mail and SMS. It is not dependent on a single product, but rather applies a range of products to provides a consistent

The future of the principles of unified communications will be defined by the growing role of videoconferencing. It will change the nature of the way we work and the structure of the working environment

user interface and user experience across multiple devices and types of media. Crucially, it is focussed on desktop delivery, making it accessible and intuitive for users.

From the perspective of the individual, UC allows them to send a message in one medium and have it received in another for example by accessing voicemail messages through email or text. It also allows the individual to access resources and facilities quickly and easily. Systems automatically detect online presence and will communicate in the most appropriate format or stored to be accessed later.

From the perspective of the organisation, UC offers the opportunity to integrate a wide range of business processes and optimise them according to the specific objectives of the business. By definition, this depends on a broad approach that will vary according to the needs and wishes of each organisation and evolve over time.

At its heart is the core principle of providing the organisation and its employees and other stakeholders with a single, common technological platform. Ideally, it should optimise the processes of the organisation and create a

culture that allows people to take full advantage of modern working practices and helps them to communicate more effectively and intuitively with colleagues, clients, suppliers and work in better ways with the physical and technological infrastructure of the business.

2. The Cloud

Much talked about but – like real clouds – hard to grasp, The Cloud has entered the collective consciousness without a great deal of understanding of what it all means. But this will be the year when Cloud computing reaches a tipping point as organisations continue to pursue its core benefits of lower costs, increased productivity and shorter project times.

The mainstream application of Cloud Computing is being driven to a large extent by its adoption by individuals through easily accessible services such as the ability to back up to the Cloud through Google Chrome or Apple's iCloud. The changing mindset of individuals that allows them to trust The Cloud and use it intuitively is driving its acceptance by their employers. At the same time, businesses are increasingly keen to take advantage of its flexible pricing and application.

Security remains a concern but vendors are seeking to reassure users on that score. It's also worth bearing in mind that there may be legislative issues that may affect your decisions. For example in the US, the Patriot Act, set up in response to the September 2001 terrorist attacks allows the American authorities to search business records. This contradicts the UK's data protection laws and so a UK based cloud provider will be exempt from this, if it's a concern.

"After years grappling with the problem of employees using social media and their own technology at work, organisations finally decided to go with the flow, but they needed a name so it looked like their idea"

3. Bring Your Own Device

Or – how we learned to stop worrying and love Generation Y.

After years spent grappling with the problems associated with employees using social media and their own technology at work, organisations finally came to realise they were fighting a losing battle and decided they needed to find a way to go with the flow, but needed a name so it looked like it was *their* idea.. The new approach not only allows them to give up on fighting a battle they were only ever going to lose, but also save them the costs of providing employees with hardware they didn't want because they already preferred their own piece of kit.

Of course there are problems with this approach. Not least in terms of the need to protect the data and privileged access to data that comes with it. So the practice has had to develop its own protocols including the use of The Cloud for data management and the ability to erase files remotely. Firms have also had to develop policies to partly fund the devices that employees use.

4. Energy Management Systems

As utility companies continue in their efforts to vie with banks for the position of the UK's most

despised business sector, they have only strengthened the need for organisations to reduce their bills by reducing their energy consumption. In part this will happen organically as firms continue to reduce their office space requirements – by as much as 20 percent by 2020 according to recent research from Citrix.

In part it will happen in response to higher energy prices and to government legislation such as the Carbon Reduction Commitment. When the Carbon Trust recently reported that around half of UK businesses are concerned about rising energy prices, it also had to acknowledge that many simply do not understand enough about product life cycles, their carbon footprint and what measures to take to minimise costs and protect the environment.

The message is taking longer to get across than most experts would like. This might be a little surprising given that most firms who address the issue intelligently and based on good information usually claim they wished they'd done it sooner. The Carbon Trust claims that even no-cost curtailment measures such as turning off computers that aren't in use or lights in areas where they are not needed can cut related costs by 15 per cent. Factor in proactive measures such as the use of building systems, sensors and energy saving light bulbs and businesses can see a dramatic fall in their energy consumption and hence costs. The Carbon Trust estimates that a fairly typical well-developed strategy of energy reduction can cut costs by as much as 30 per cent.

5. Datacentres

Now, of course, datacentres have been with us for a long time. They are the largely invisible hand that guides our technology, usually consigned to anonymous

windowless buildings on industrial estates so easily forgotten until we start to run out of the capacity to meet our endless demand for greater computational power. The traditional form of datacentres was both space and energy hungry. Traditionally, around 50p was spent on energy demanded by datacentres for every pound spent on hardware. These cost increases and the limitations of traditional approaches have driven managers to revisit the way datacentres are designed and managed.

Now a new generation of datacentres is emerging as the idea of building a new datacentre every few years to cope with changing technology has been dispensed with for an increasing number of companies. They are partly dealing with this by migrating data to The Cloud and partly by designing datacentres to be more modular, more flexible and much more accepting of new technology.

Datacentres are particularly susceptible to the age old challenge for facilities mangers of designing a building that last for twenty years as a home for technology that is obsolete in two. The new generation of datacentres will be better placed to resolve that conundrum.

6. Individual empowerment

While organisations have been banging on about empowerment for years, we are now well past the point where it is possible to conceive a world in which organisations try to micromanage the timing, location and nature of people's work. Human Resources magazine recently polled senior HR professionals on their ideas of what a head office of the future would look like, and found that by 2014 around 23 per cent of respondents hope for a more decentralised approach to head office power and 14 per cent hope for a 'virtual' head office, staffed by flexible workers, homeworkers or global workers. According to UK Government statistics, around a quarter of staff already work from home at least some of the time. And their experience during the Olympics has intensified the interest in flexible working in the public sector.

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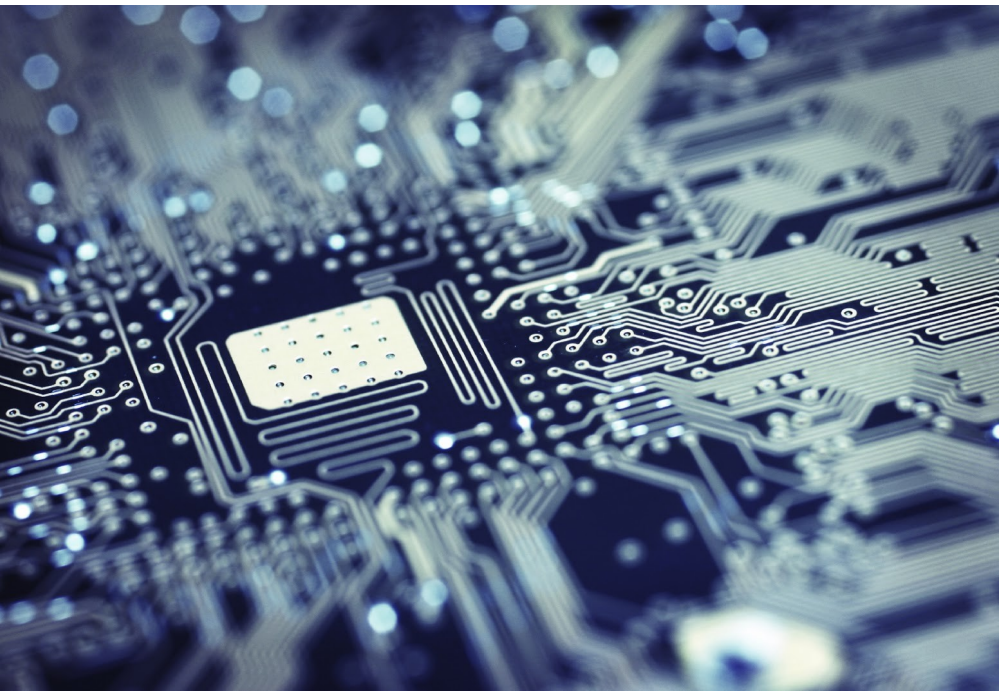

As a result offices will undoubtedly continue to get leaner, supporting more people from the same or less space, their essential relationship with people will remain. They will still provide the glue that binds people to the organisation.

However space will be and is being designed and managed more intelligently, with better, faster and more intuitive technology. There will be even more focus on social spaces and shared desks, in particular to support the needs of mobile workers and visitors to the building. There will be an ever greater emphasis on identity, both

for clients and employees as a way of securing their relationships with each organisation.

The workplace should be there to help people be more productive, not restrict and alienate them and make them less effective. So there should be plenty of space available to accommodate everybody who might need it.

People should feel a large degree of empowerment in the way that they control the space, even if they do not 'own' it as they may once have done. Technology will play a key role in empowering people to use the office in new ways, not least in applying the most intuitive forms of technology to book and manage space.

7. Virtual Networks

The world of technology is replete with terms that are misunderstood – either deliberately or accidentally. One of the most significant of these that may be clarified during 2013 is Virtual Network. In essence a virtual network is one that operates independently of the hardware running beneath it. After some time as a parochial concern of certain technology providers it is now attracting attention from the likes of Microsoft and Cisco.

For end users, virtual networking offers them the ability to communicate locally and remotely across similar and dissimilar networks via a simple and consistent user interface.

Although the idea has been with us for some time, the protocols for doing this are still being established. The next year will see that change so that organisations can enjoy the full benefits of virtual networks.

These include the fact the network is able to perform tasks that individual members might find difficult. It also allows solutions to be shared so that individuals have no need to develop their own. This makes collaborative work easier

and more efficient thereby reducing costs and project times, and allowing for ideas and information to flow.

8. Cheap tablets and hybrid computers

The launch of the mini iPad, the Apple that Steve Jobs never wanted us to have, is indicative not only of the bridging of a gap between the smartphone and the tablet computer, but also of a more general miniaturisation and commoditisation of technology that will continue to reshape the workplace.

The average laptop user still requires a worksurface and so still needs to pay lip service to the traditional concerns of computer users including knowing which desk is theirs or which they can use and the need for ergonomic seating and all the training that goes with it. Give that person a tablet which can be worked at while sitting in an armchair without cooking their thighs and things look very different indeed. The shape of the office and the shape of the person change.

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This inevitably brings with it a whole new set of problems, including those relating to ergonomics. We have recently been introduced to the ailment of 'iPad Neck'. Tablet PCs present their own unique ergonomic challenges because users typically hold them low down, creating an instantaneous poor posture. The problem has been labelled by a research team from the Harvard School of Public Health in the United States, in a study of how people use a tablet in a variety of different ways, then researchers measured the head and neck movements of each user.

We are likely to see a greater incidence of related issues as more

and more of us work on tablet computers. Market research firms IDC claims that worldwide tablet sales are expected to jump from 16.1 million in 2010 to 147.2 million by 2015. And while we are able to change the shape of the office in response to the tenfold increase in tablet users, it won't be possible to change the shape pf humans who must find new ways of taking care of themselves.

9. Building Information Modelling

Peter Drucker's famous maxim that 'what gets measured, gets managed' is one of the defining principles that underpins modern facilities management practices. It has been with us for many years but has now picked up a new aspect that is redefining the way we measure and hence manage the performance of our buildings and is also emphasising the overlap between the roles of facilities managers and the Chief Information Officer that many larger organisation now employ.

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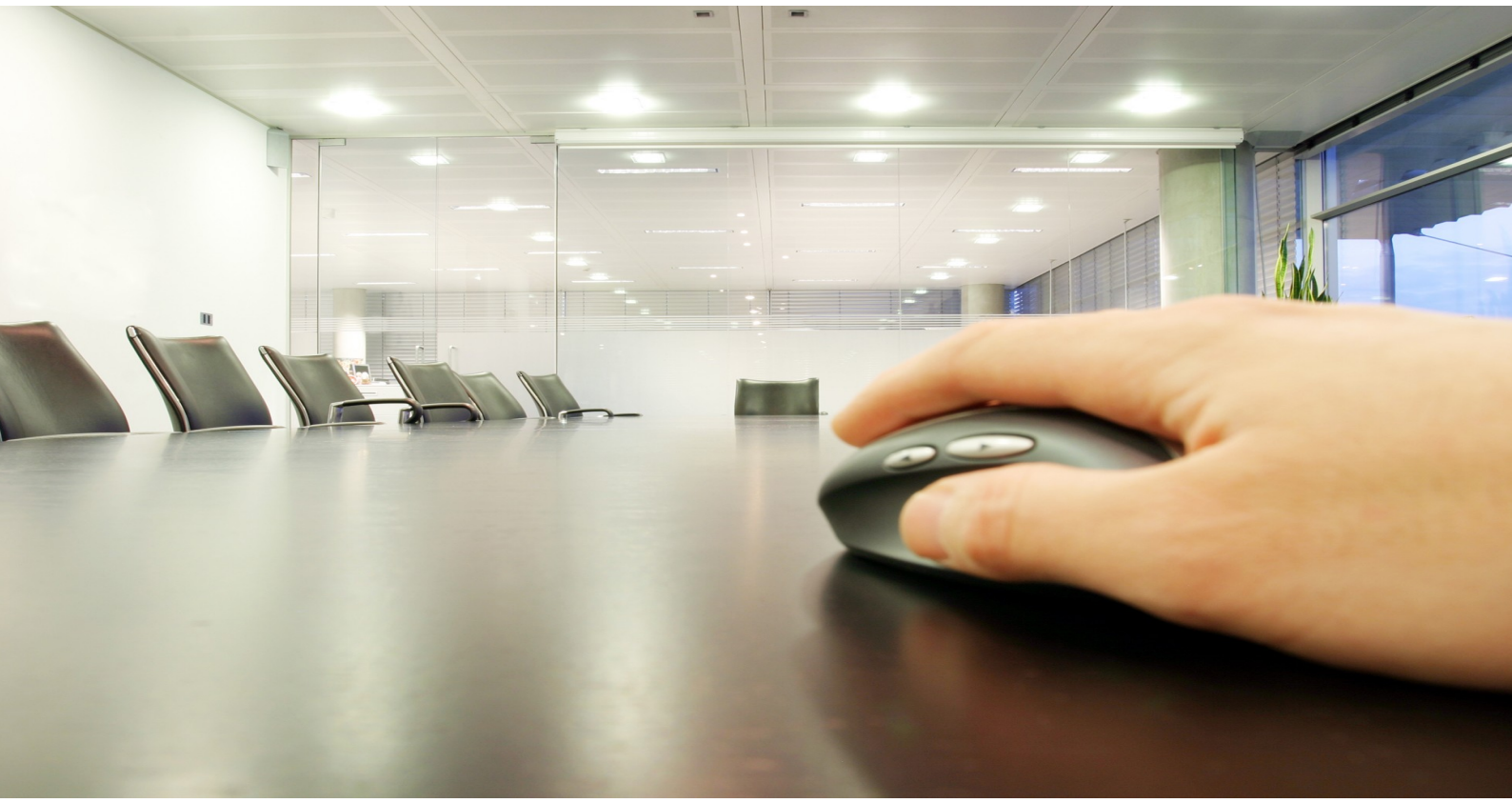
As with most of the terms on this list, BIM is less a specific technology than it is a defining principle. It transcends the traditional measurement of the workplace as a two dimensional space, into one that that includes ideas about how space is used, where people are and how the use of space changes over time. It is a direct response to the changing nature of work and seeks to make the most efficient use of a building and provide the individuals who use it with the most effective space for whatever task



they are doing. It provides the information needed to make informed decisions about the design and management of a particular building and to monitor how that changes over time.

10. Space utilisation

The broad application of all of these technologies will manifest itself in the most significant technological change of all – the ultimate paradigm shift that will see us measure offices not by the allocation of space as it has traditionally been measured by the British Council for Offices but by the utilisation of space. This will be particularly problematic for the commercial property sector which has always developed space based on the number of people it should house, but will now have to switch to developing space based on the number of people it should serve.

The consequences of this shift can be judged by recent research from Citrix which reported that: by 2020 organisations are set to reduce office space by almost a fifth; the workplace will provide just seven desks for every ten office workers, with each person accessing the corporate IT network from an average of six different computing devices; and a third of people will no longer work from their traditional office.

Within the BIM framework, this new approach will depend on measuring the way space is utilised by individuals, especially those empowered to make their own booking for desks, meeting spaces and other resources. The challenge for facilities managers lies in weaving together these disparate technological strands to make a coherent whole to serve the people who work for the organisation and to inform their own decision making and strategy.

About the author

Paul Statham is managing director of Condeco, a specialist in workspace management, space booking and utilisation solutions. Paul's views on the world of work and the design and management of workplaces haved helped to shape thinking on the relationship between real estate and technology, defined the nature of what we mean by 'workspace management'. Condeco remains at the forefront of innovation in its own right but maintains a clear focus on the influence all forms of technology have on property and the workplace.

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Condeco Limited is an enterprise software company dedicated to the development of workplace management software, services and business intelligence solutions. Its award-winning Condeco Workspace Management software suite provides large enterprises, SMEs and public sector organisations with the ability to maximise the potential of their real estate, reduce costs, improve efficiency and encourage a greener workplace.

Condeco offers a recognised and unique global workspace management solution that combines meeting room management, visitor management, desk booking integrated digital signage and business intelligence solutions within a single application.

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