

# THE FUTURE OF WORK

How businesses can and should adapt to new employee behaviours and technologies



White paper



**SAMSUNG**

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At the heart of our approach is our mission to help, to be approachable, responsive and focused on your business issues and to provide pragmatic and actionable advice and recommendations.



## OVUM VIEW

The massive growth of the smartphone market, the emergence of tablets, laptops becoming thinner and lighter, the development of hybrid touch screen devices, and new technologies for meetings such as low cost flat panel displays, are all creating new behaviours and expectations in the consumer space. And in turn – given that all employees are consumers first and foremost – these behaviours and expectations are being brought into the workplace, providing opportunities for new more agile and flexible modes of working.

Enterprise IT now has to adapt to this new multi-screen, mobile, nomadic reality and enable employees to make the most of these technologies and work in new ways. The benefits will be a more engaged and agile workforce, which in today's dynamic and fast moving markets is vital to enable businesses to innovate and adapt at the requisite speeds.



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# MOBILE COMPUTING ENABLING NEW BEHAVIOURS AND AGILE WORKING LIFE

The proliferation of smartphones and tablets (the global installed base of smartphones alone is set to hit 3 billion devices by 2017) has led consumers to adopt new behaviours, and develop expectations around what experiences mobile computing can offer.

Coupled with the increasing adoption of cloud services and applications, there is simply an expectation that the content we want – be it music or video, communications and social media applications, or the tools we need to work – should be available on whichever device or screen we have in front of us at that particular moment.

It is common to see consumers in many western, developed markets now owning or using at least three connected devices on a regular basis: usually a PC (desktop or laptop), a tablet and a smartphone. They provide different experiences and capabilities that we can tap into at different times of day, in different locations, or for particular tasks. More immersive, creative tasks are left to the larger screen of a PC, for example (although the emergence of hybrid, touch screen tablet / laptops is challenging this concept), but simple browsing is easy on a tablet and anything requiring a very quick or instant interaction is left for the smartphone. Preferences for different interfaces and user experiences are built up according to the different devices that we use on a constant basis, and we now have very high expectations over the quality of applications and devices that we use – quite simply, if anything does not work quickly and easily or has various bugs and glitches, we stop using it.

### Consumerisation changes the way that we work

It is no surprise that these consumer expectations and behaviours are having an impact in the workplace. If consumers can be mobile and flexible in terms of the devices they use and content that they access in their personal life, the obvious question is: why can those principles not be applied to work?

That prevailing attitude has translated into “Bring Your Own” behaviour, with employees using their own devices and finding their own applications to help them be more flexible, and work while away from the office. Ovum’s research among full-time employees across the world tells us that almost 57% are using a personal smartphone or tablet to access corporate data in some way, no matter whether such usage is approved by corporate IT or not. This is a widespread behavioural trend that can’t be ignored, and indicates a general desire for increased agility around working practices.

The BYOA (Bring Your Own App) trend is also indicative of the desire from employees to use multiple screens or devices for work. 22% of full-time employees are finding their own file sync and share (FSS) applications to use at work (the common example being Dropbox). This may not be a particularly safe way of working as the business then has no way of tracking where its data is, but for the large majority of workers it is not malicious activity – they are simply looking for ways to help them do their jobs better. If enterprise IT can’t provide the tools that makes workers’ lives easier, they are increasingly able to source their own. When asked why they chose to use a self-sourced FSS application, the key motivation for these employees was clear: as shown in Figure 1, 57.4% of employees who use their own FSS applications do so in order to share data between their different devices, versus only 41.4% who did it to communicate and collaborate with their colleagues<sup>2</sup>.

**The equation is simple:** employees now have access to range of devices of different sizes and form factors, whether personally owned or provided by their employer; they want to be able to use these different devices for work; and cloud-based sharing and collaboration applications allow them to do so easily.

## THE KEY MESSAGES

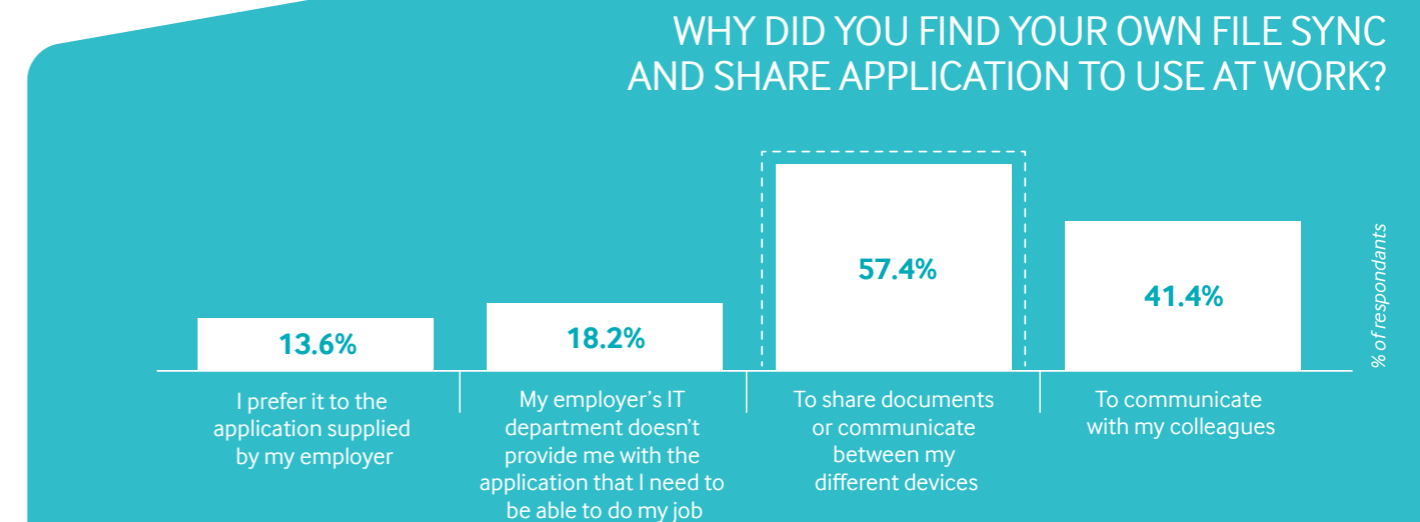
- New connected screens are providing users pervasive access to services that are enabling new modes of working. Smartphones and tablets are the key enablers for cloud services and applications.
- The raw scale of the smartphone market, set to reach a global installed base of 3 billion devices by 2017, is driving consumerisation of IT and making the workplace the point of convergence for multiple device types, irrespective of whether they are owned by the individual or corporately provisioned.
- The new IT environment is complex and requires management and security of a new range of devices and applications, which businesses are finding it tough to get to grips with: for example, 62% of those employees who use their own devices at work do not have a corporate IT policy governing that behaviour<sup>1</sup>. But tools such as Samsung Knox are available to simplify this complexity and help businesses release the value from greater levels of employee engagement.
- Meetings are evolving, and boardrooms are now becoming more dynamic and efficient as real time collaboration technologies evolve, enabled by personal screens and communal screens such as flat panel displays.
- The workplace is becoming a truly “mobile first” environment, moving away from the more traditional notion of providing fixed workstations for every employee. Wherever possible, employees are spreading their working time across multiple devices, not just relying on a PC to get their job done.

“Preferences for different interfaces and user experiences are built up according to the different devices that we use on a constant basis, and we now have very high expectations over the quality of applications and devices that we use.”



<sup>1</sup> Source: Ovum Multi-Market BYOD survey 2013, N = 881 from 4371.  
<sup>2</sup> Source: Ovum Multi-Market BYOD survey 2013, N = 881 from 4371.  
 Figure 1 Source: Ovum Multi-Market BYOD survey 2013, N = 881 from 4371

Figure 1: The desire to share data between different screens drives BYOA



# MULTIPLE DEVICES CONVERGE IN THE ENTERPRISE

So, employees are using multiple screens to get their jobs done, making use of PCs, tablets, and smartphones, and they don't necessarily care whether that device is personally or corporate owned.

Having their tools, applications, and services available so that they can work wherever is convenient is the most important issue: multi-screening means that people are no longer tethered to their desk. Employees are increasingly gaining the power to choose the right device for the right job, at the right time, in the right place. A typical day for a knowledge worker might involve:

- Checking email on a smartphone while still at home,
- Getting a view of team performance through an analytics application on a tablet while on the train into the office,
- Spending the morning writing up reports on a laptop in the office,
- Going to a client meeting in the afternoon and taking a tablet to present data and take quick notes,
- Participating in a team conference call when back at home, either as a voice call on the phone or as a video conference on the tablet or laptop.

Further evidence of this multi-screening trend can be seen in the Ovum survey data taken specifically from workers who have been given three types of device by their employer: a PC, a tablet and a smartphone.

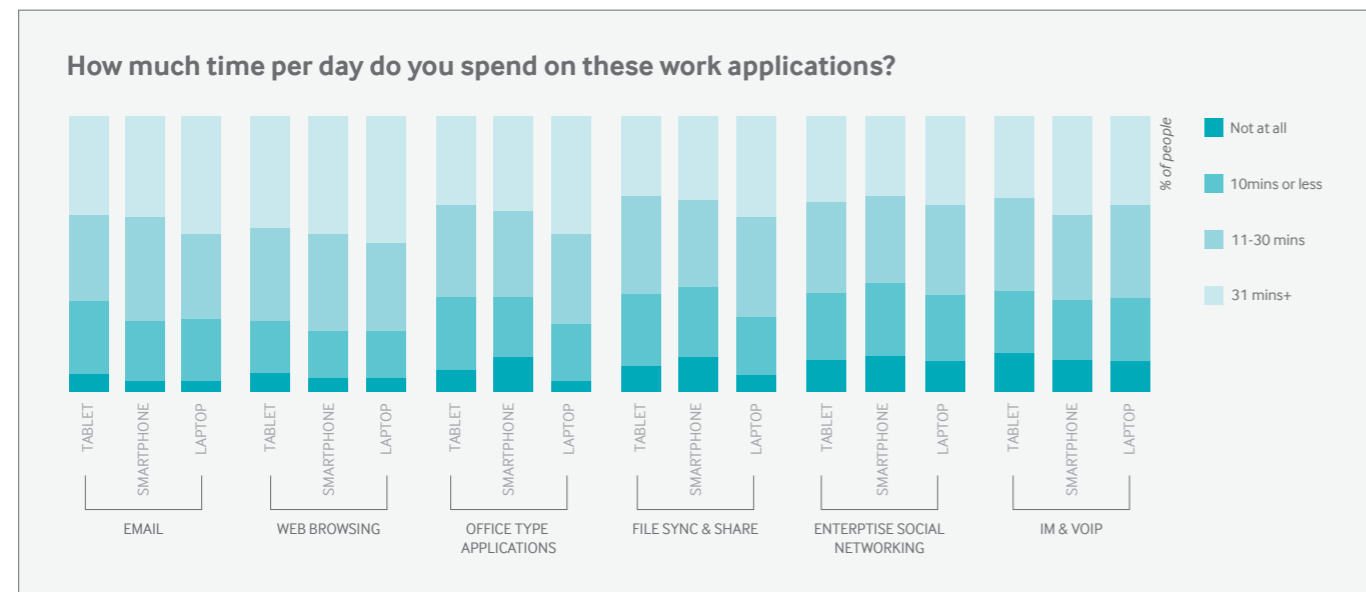
Having these corporate-provided devices indicates that they are largely the primary such device used for work by that employee, even if they also use their own occasionally.

As shown in *Figure 2*, the amount of time spent working on applications on these different devices is remarkably evenly spread, contrary to the idea that the PC is the primary computing tool used at work and minimal time is spent on smartphones and tablets. Here, we've found that while laptop usage is slightly higher across most applications, people spend a significant amount of time on smaller devices. Even on Office applications such as word processors and spreadsheets, where laptops might be expected to dominate time spend, around 33% of respondents spent half an hour or more per day using these applications on a smartphone or a tablet (versus 43% spending that amount of time on a laptop).

The laptop is not necessarily being replaced by tablets or smartphones, but they are increasingly important, complementary devices.

**33%** of respondents spent half an hour or more per day using applications such as word processors and spreadsheets on a smartphone or a tablet.

**Figure 2:** Time spent working on different types of corporate-provided devices is evenly spread



Source: Ovum Multi-Market BYOD survey 2013, N = 458 from 4371



## NEW TYPES OF DEVICES EXPAND HORIZONS EVEN FURTHER



New types of devices and form factors are also now adding a little extra complexity to this situation, adding capabilities for users.

Hybrid or convertible tablet / laptops go some way toward making tablets a realistic replacement for laptops, as they combine the touch screen, ease of use and portability of a tablet with the processing power and performance of a PC. While the early models of these types of devices have some limitations and appeared to be a little too much of a compromise between tablet and PC, the genre is developing quickly and we are already starting to see cases where workers are able to abandon their laptops in favour of these more flexible and lightweight hybrid devices.

At the same time, Machine to Machine (M2M) technology and the Internet of Things is enabling a new market for wearable devices to take off in the consumer space. While there are no mainstream productivity applications yet in place for smart

watches such as Samsung Gear, sensors such as Jawbone, or heads-up displays such as Google Glass (any applications in existence have very niche use cases) it can be expected that applications will be found in the workplace.

Just as smartphones, tablets and mobile apps all reached a mass consumer market before finding importance in the workplace, the same can be expected of wearables over the coming years.

**“Employees are increasingly gaining the power to choose the right device for the right job, at the right time, in the right place.”**

# MANAGING COMPLEXITY WITH A SECURE DEVICE AND APPLICATION MANAGEMENT MODEL

This new, complex multi-screen enterprise IT environment presents a large security and management challenge for IT in terms of keeping track of data, and securing against malware.

There are always three main points at which data is vulnerable – the network, the endpoint and the application – and the spread of consumerisation multiplies the number of these points of vulnerability.

Businesses are finding it tough to get to grips with this environment – for example, 62% of those employees who use their own devices at work do not have a corporate IT policy governing that behaviour – and are looking for solutions that help make it easier to manage, securing and monitoring all different devices and applications from a single pane of glass. This has been a difficult task in practice, with mobile devices requiring different management systems to those used to manage the range of PCs and servers that businesses have traditionally used.

62% of those employees who use their own devices at work do not have a corporate IT policy governing that behaviour.



A fast growing market has sprung up around the need to manage and secure mobile devices, offering features such as remote lock and wipe and application provisioning, but the goal for most vendors in this space will be to work toward a solution that manages the whole endpoint estate within an organisation.

Some of the vendors coming from a more traditional ITSM background are edging towards this goal, combining mobility management features with PC and server management, but it may still be several years until there is widespread usage of single solutions that allow IT administrators to manage all devices and applications from a single pane of glass.

## Out of the box device security makes life easier

Part of the challenge for enterprise IT in managing this multi-screen environment is that each operating system and device type has different capabilities, features, and methods of management. Many devices built with consumers in mind are also unequipped with the security features that are required in an enterprise context, for example the ability to encrypt data on the device and communications over the air, or remote tracking, lock and wipe capabilities.

So, if employees are buying and using devices that have security features built in out of the box, such as a secure container or separation of work and personal profiles, such as Samsung Knox or BlackBerry Balance, it answers a significant part of the IT management challenge. Businesses would have to consolidate on a single type of device for it to provide the whole answer, and in a world of huge consumer choice that is an unlikely scenario in most organisations, but the more employees using these pre-secured and manageable devices the better.

In addition, the ability of smartphones, tablets and laptops to capture biometric data such as iris scans or fingerprints, create new opportunities for authentication factors that can help make data security stronger, but also create a less disruptive and time-consuming experience in the workplace for employees.



## THE CHALLENGES AND BENEFITS OF ENABLING ANYWHERE, ANYTIME WORKING



As various devices, online services and applications become an integral part of daily life for consumers, the workforce as a whole is becoming more tech savvy and able to find or suggest their own ways of working.

Employees and their line of business managers naturally have a more intricate knowledge of their everyday working processes and how they might be improved through mobile, flexible practices. This means that the fundamental role of the IT department has to change: it is now about embracing innovation from around the organisation and enabling it as far as possible, while maintaining the required levels of security and central management. IT must align with lines of business to establish which devices and applications will improve business processes and make employees more efficient and productive – it is getting harder simply to centrally mandate which applications every worker should have access to.

For enterprise IT, failure to adapt to this new role will lead to increasing irrelevance within the organisation, but it is also symptomatic of an organisation without joined-up thinking around how it efficiently manages business processes. IT should be enabling business owners as far as possible, not constraining them or dictating processes. If IT is seen as a hindrance, individual employees and their line managers will increasingly seek ways to work around it, opening up an alternative Shadow IT environment that is difficult to manage, leads to risks around data security and is inherently inefficient, as different departments create silos of their own data and applications without any thought to interoperability.

### Creating business agility

Considering the risks of not enabling anywhere, anytime working is one form of motivation for enterprise IT to change its way of thinking – but of course it is also important to consider the positive aspects of what gains agility can bring to the business.

Enabling agile and flexible working can lead to happier workers. Not tying them to the standard 9-5 day can have numerous benefits: less stringent working hours means enabling people to fit work around personal issues and commitments for instance, without cutting down on efficiency. It means they can work when they are at their most productive – if someone is most switched on early in the morning or late at night for instance, or if they are tired in the middle of the day and need to take a break before catching up after normal hours.

Employees that work with clients, colleagues and partners across international time zones can also make use of flexible working to make calls outside of the usual 9-5 working day, staying touch more easily with their key contacts. And mobility makes employees more efficient and productive while travelling. Added to this flexibility around working hours, people with access to mobile email and other apps also tend to spend more time working, which is a bonus for the employer – as long as this culture is managed and does not lead to employee burnout. An expectation that people will answer calls and emails at all hours will not usually be seen as bonus, and can lead to high levels of stress – but giving people the opportunity to stay in contact in order to deal with urgent issues can be seen as a benefit.





## THE NEXT GENERATION BOARDROOM AND BLURRING BOUNDARIES BETWEEN THE PHYSICAL AND THE VIRTUAL

Within the office, technology is helping practices to evolve, and nowhere more so than in the meeting room. Real time collaboration applications, personal screens such as tablets, and high definition flat panel display communal screens are making the boardroom more dynamic and efficient.

The cost of all this equipment may hold it back from being used in every meeting room in every business, but at the C-Level it is making meetings more efficient and helping board members to make decisions in real time. Colleagues, partners or clients that cannot make the meeting in person are able to do more than just dial-in – video allows them to both see everyone in the room and be seen by them, giving them a virtual presence. The boundaries between physical and virtual are being blurred: near field communications (NFC) technology allows for data and documents to be transferred between devices in real time, enabling users to literally swipe information to each other as they would a piece of paper. Combined with real time sharing through cloud-based services, this means that meeting attendees can have a vast range of information at their fingertips, enabling better collaboration and decision-making.

All of this interactivity between devices, data and people, combing real world and virtual activity, points to the future of working practices – it makes life easier for all those involved and speeds up the process of sharing and acting on the growing amount of information that business leaders and workers across the business all have access to.

### Moving to a truly “mobile first” workplace

For many workers, the idea of sitting in the same place at the same workstation every day is becoming out of date – and dropping sales of desktops to businesses are an indication of this trend. There is no longer a need to be tethered to a particular location or terminal, as tools, content and services are more easily accessible through the cloud and from multiple device types. Laptops, tablets and smartphones pack enough processing power to make them perfectly viable tools for everyday use, and allow employees to be more flexible – whether they are in the office or not. There is an increasing trend towards workstations simply being a docking terminal, where users can plug their mobile device into a larger screen when they happen to be in the office.

### The end of the desktop pc era

Undoubtedly, there will continue to be a need for desktop PCs in certain scenarios, but the overwhelming trend is for a range of more mobile computing devices to take over in the workplace. Some people work sat down, others work while standing up, and some work while on the move. A mobile first approach enables easy transition between the different modes of working. Mobile access to corporate applications is also changing the way that office space is configured, enabling flexible working whether employees are at home, travelling or in the office, making them more efficient as well as helping the business to cut costs.

### The transformation of the physical workplace

For the majority of businesses, the need for office space is not going away. It is possible to conduct more meetings remotely of course, but face to face contact and interactions with clients and colleagues is, and will continue to be, an important part of doing business. Having a central hub to meet and work makes sense, even if not all employees are based there all the time, and as travel is expensive it does of course make sense to work from a single location.

As remote working means that not every employee will be in the office every day, businesses can make better use of the space that they would previously have filled, and simply make sure that there is adequate room for the average number of employees in the office at any one time – rather than basing it around individual, fixed workstations for every employee. Mobility allows us to cut the ties to the desk, and forward-looking organisations are already making office space much more open to enable better employee collaboration. This means that employees and guests can be mobile while in the office, moving around to find the right people to talk with or to find a quiet spot when they need to concentrate. And such flexibility also has an impact on the costs of hiring office space, with businesses able to downsize offices while maintaining the same number of workers.

As the manner of office working changes and employees become more mobile, there will be heavy demands placed on the campus WLAN. The increasing number of mobile devices used by both employees and guests creates a bandwidth and access challenge, slowing down the network – and if this trend continues networks will not be able to cope with the demand, drastically reducing the efficiency of every worker in the office. Meeting this challenge requires several steps:

- Firstly, upgrading the campus WLAN is a priority in order to provide the required extra bandwidth.

- Secondly, there will likely be a need for some kind of traffic management, as personal devices used in the workplace will also be used for personal applications.
- Thirdly, the increasing number of mobile devices accessing corporate data and applications across the WLAN will require an accordant level of network security. Strong network access control (NAC) features are important in terms of dealing with any threats at the network layer, before they get close to any devices, applications or data.

Looking ahead, biometrics and face recognition will also have the potential to transform not just digital security in the workplace, but also physical security. Smartphones, tablets and laptops are increasingly capable of sophisticated biometrics through integrated finger print or iris scanners, and facial recognition is possible with any connected device with a high resolution forward facing camera. These new authentication factors create the potential for a workplace that is not only physically more secure, but also creates a less disruptive flow through the workplace for authorized personnel.

Smartphones, tablets and laptops are increasingly capable of sophisticated biometrics through integrated finger print or iris scanners.



## SUMMARY

The future of work is going to be shaped by the tools we use, and these tools are becoming ever more mobile, smart and inter-connected. New connected screens keep us constantly connected to cloud services, meaning that it is becoming possible to do work anytime, anywhere – as long as there is a connection. This flexibility and agility offers a step-change in terms of making the average worker more productive and efficient, both inside and outside the office. But it also creates a range of challenges for enterprise IT – which must proactively embrace the pace of innovations and engage with lines of business to make the most of the opportunities that these new technologies provide around improving or completely transforming business processes. Becoming a truly mobile first business is a huge challenge, but will ultimately give a huge competitive edge to those who make the move first.



#### **Author**

Richard Absalom, Senior Analyst, Enterprise Mobility  
richard.absalom@ovum.com

Adrian Drury, Consulting Director, Ovum IT  
adrian.drury@ovum.com

#### **Ovum Consulting**

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## **SAMSUNG**

Samsung House, 1000 Hillswood Drive  
Chertsey, Surrey KT16 OPS

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