WORK SMART.
WORK MOBILE.

A **WHITE PAPER** REVIEWING MOBILE WORKING AND THE TOOLS REQUIRED
TO SUPPORT THE MOBILE WORKER OF TODAY – AND THE FUTURE.

⊘LEITZ®

INTRODUCTION TO WHITE PAPER

Two years ago, office products company Esselte published a white paper on the 'Future of Work'. Today, its Leitz brand is launching the first of a series of papers and discussions to address a specific aspect that we have seen become increasingly relevant over the last two years – the rapid growth in mobile working.

Leitz has commissioned one of the original authors of 'Future of Work', Andrew Crosthwaite, to review the opportunities and challenges posed by mobile working.

He is a former Head of Planning at Euro RSCG London and in recent years has focused on scenario planning, in partnership with the author Richard Watson, through their company Futures House.

INTRODUCTION TO WHITE PAPER

Unlike the previous paper, this is accompanied by proprietary research from a panel of over 800 management level workers across four countries in Europe: the UK, Germany, France and Italy. As well as representing the four largest economies, they also represent different attitudes to work.

Northern and southern Europe are often associated with stereotypical attitudes and behaviours. We often think (erroneously) that southern Europe has a more laissez-faire attitude to work – but according to OECD data, Greece, Spain and Portugal all work longer hours per week than the EU average.

The series of papers will focus on the mobile worker and, over three documents, address three core areas:

Part one

We talk about the smart worker, differentiating between the business traveller of the past, and the mobile worker of today, and discussing the massive increase in mobile devices and the challenges they provide.

Part two

To be published in the Spring, it will focus on the environment we provide for these workers and how the growing focus on knowledge work and the different ways in which fixed location and mobile workers will interact.

Part three

This part will look at how companies are adapting – from the challenges facing established multi-nationals to entrepreneurial start-ups, exploiting the breaking down of geographical boundaries.

INTRODUCTION TO PART ONE

The workforce of 2015 and beyond will be increasingly specialised and virtual. They will be more likely to be working flexible hours, or part-time, and to be based outside 'head office' for most or all of their time – in other people's offices, on the move, at home and often on short-term contracts for project-based work.

A PWC survey of HR professionals shows nearly half expect at least 20% of their workforce to be contractors or temporary workers by 2022. Short-term contract work is popular with employers as they only pay for hours worked, are able to reduce their fixed costs and can call on pools of specialised talent.

The Freelancers Union, a national organization in the USA, released a survey in September 2014 showing that 34% of the country's workforce are freelancers – higher among millennials at 38%. The organisation describes this as "the new normal".

New types of worker do new types of work. And they do it in new ways.

In the past, being a mobile worker didn't always connote high status or influence. In fact, it was often the direct opposite. The classic image of the travelling representative, immortalised in Arthur Miller's play, 'Death of a Salesman', was often a negative one: on the road, isolated, rarely going home, out of touch with head office – both physically and culturally.

This is changing radically. More of us are probably far more mobile than we realise – even those who self-classify themselves as 'office workers'. For instance, $^2/_3$ of all office workers carry out some work-based activity remotely in the course of any month.
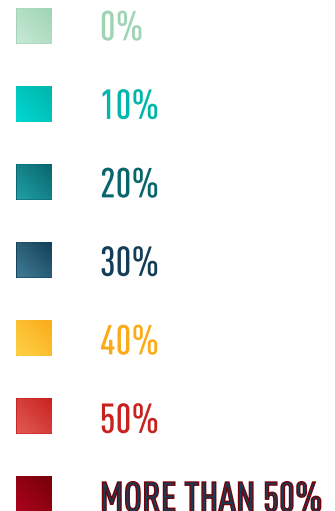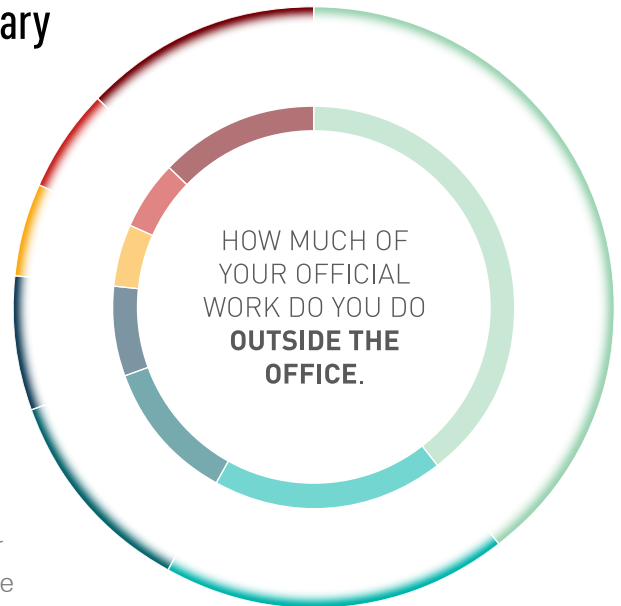
FREELANCE NATION 2015

To be more precise, our proprietary research shows that a third of our sample do 30% or more of their work outside the office. Less than one quarter only work at their main fixed base. Conversely 1 in 5 are doing at least 50% of their work elsewhere.

8 out of 10 of those surveyed are taking their work home to do in the course of the average month. (so it's hardly surprising that nearly 60% of our sample say "My home life suffers a lot because of the pressure of work".)

Forrester's 2013 survey, "Mobile Workforce Adoption Trends", classified 29% of the global workforce as 'anytime, anywhere information workers'.

Their criteria for this is using three or more devices and working from multiple locations. This rose six percentage points from the previous year – and so we could easily envisage this descriptor applying to half of everyone reading this, by 2020.

And clearly, in different countries, at different stages of development, the concentration of mobile workers will be greater.

HOW MUCH OF YOUR OFFICIAL WORK DO YOU DO **OUTSIDE THE OFFICE**.

- 0%
- 10%
- 20%
- 30%
- 40%
- 50%
- MORE THAN 50%

FREELANCE NATION 2015

Increasingly, specific industries have a large proportion of their workforce away from 'head office' at any one time. Utilities, telecoms, transport and consulting, are all areas where taking work to where the customer is has always been embedded in the job function. As working becomes more cross functional, more collaborative, with companies teaming up on project work, this is increasing in all industries.

Innovations in personal data management will transform the life of workers on the move. Purchases will be digital, via smartphone rather than credit card or cash. Your device will log and manage what you buy and where and when you bought it. Portable tachographs will monitor your mileage for you and send it to head office. Sifting through expenses receipts will be a thing of the past.

THE NOMADIC WORKER

Just as mobility was not a prized attribute in the past, nor was contract working. A demand for flexible hours could be seen as a lack of commitment to the job. Contract working carried overtones of casual labour and uncertainty of tenure. Being a temporary worker meant that, in the past, you never really became involved in the company. A nomad with limited commitment. This perception is changing rapidly.

The International Flexible Working Survey carried out among HR professional by Bakker Elkhuizen in 2013 showed that 64% of UK organisations had implemented flexible working, with Germany close behind with 57%. Research by Orgatec shows that project work now accounts for 35% of all the working hours spent in offices. Half of all companies now continuously put together new teams consisting of employees from different functions, consultants, and external service partners.
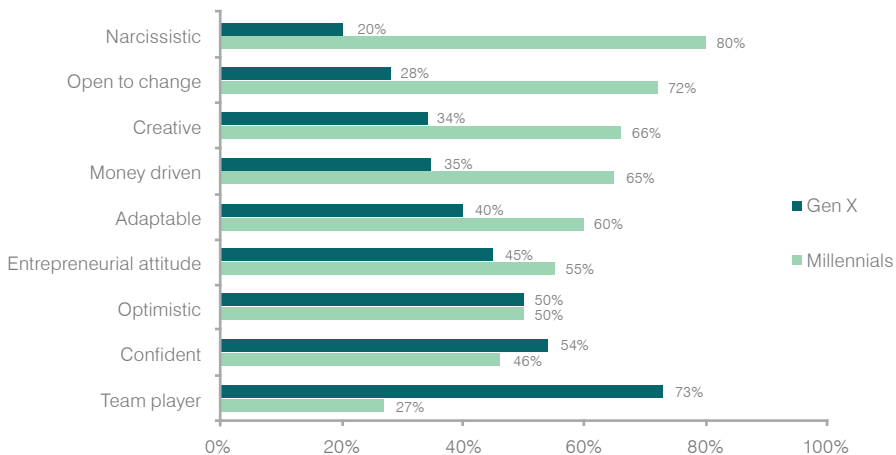
Rather than working in 'departments', smart working involves cross-functionality, and also people are more exposed to new ideas, new ways of thinking and, are more task and project focused.

As our workplaces become more 'multi-generational', different attitudes to work and working will emerge. Different people will adapt to this in different ways. Age and lifestage throw up diverse points of view.

The 2015 Millennial Majority Workforce Study, published in 2014 by Elance-oDesk, and focusing on Gen Y, found that 58% of millennials expect to stay in their jobs fewer than three years. The study contrasts this with previous generations, with Gen X leaving a company in five years on average and Baby Boomers leaving in seven years on average.

THE NOMADIC WORKER

Qualities each generation is seen as more likely to possess

(according to hiring managers)

Quality	Gen X	Millennials
Narcissistic	20%	80%
Open to change	28%	72%
Creative	34%	66%
Money driven	35%	65%
Adaptable	40%	60%
Entrepreneurial attitude	45%	55%
Optimistic	50%	50%
Confident	54%	46%
Team player	73%	27%

The hiring managers in this sample saw radical differences in personalities, skills and expectations, as the chart above graphically illustrates.

Management surveys across the globe have identified Gen X and Y characteristics that will impact on the future of work. More technologically attuned, they are far more inclined to multi-task, having grown up used to switching between devices.

The smarter you are, the more in demand you are, the more power you wield, the higher your status. This is nothing to do with traditional measures based on hierarchy or time served. This is simple supply and demand of the best. The greater their desirability to employers, the more they will be able to adjust their working conditions to their own needs.

And if their working conditions don't fit their needs and aspirations, they will move and find ones that do.

THE NEW MOBILITY

The advent of portable devices – initially the laptop, but then the tablet, the smartphone and potential new hybrids, such as the 'phablet' and Apple's recently launched iPhone 6 Plus, initiating yet another size configuration – are transforming the way we are doing, and more crucially will be doing, business.

The speed of adoption of mobile devices has been extreme. The take up of smartphones and tablets occurred 10 times faster than the acquisition of PCs 20 years earlier.

Given this rate of technical advancement, allied to our evolving ability to adapt, especially in younger workforces, the tools we use in the future will increasingly have shortened lifespans. In our personal and business lives, we will be in a constant state of accelerated 'upgrade' (there are already more mobile phones than people in the world as old models are discarded).

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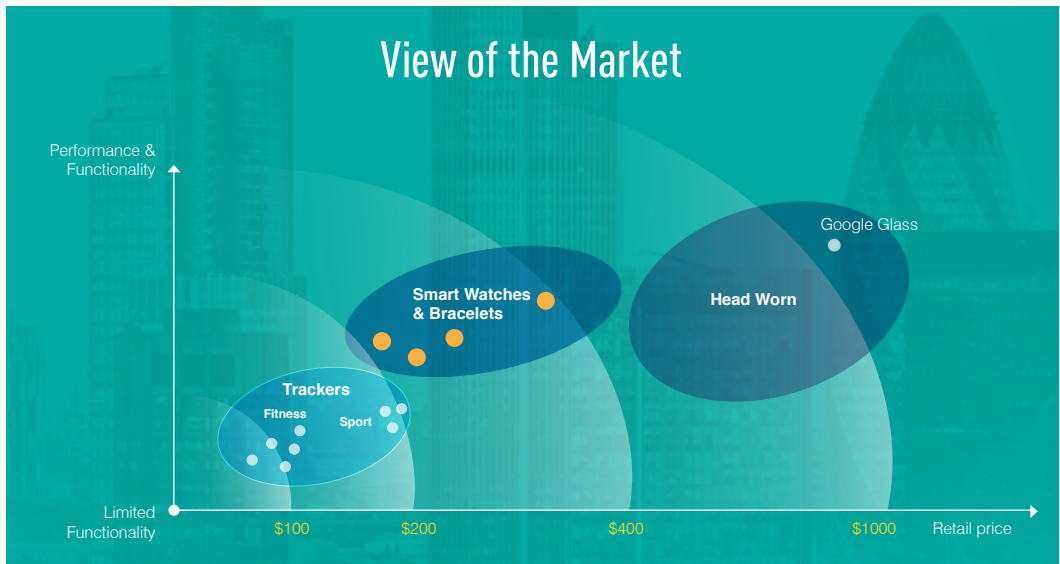
But envisaging mobile purely in terms of phones and web-related devices potentially blinkers our thinking. Mobile working is more than just another way of accessing the web – although as business people also wear a consumer hat, that is how we all tend to think of it.

Instead, it offers a set of new tools, and new means of connectivity. It's a huge step forward from where we were just a couple of years ago, and as revolutionary as the web was to fixed internal network computing.

THE NEW MOBILITY

Wearables have gained a lot of attention in the past few years but, in the business world, uptake has been slower than anticipated – this is despite 19% of the sample in Forrester's 2014 Business Technographics Telecom & Mobility Workforce Survey, saying they'd be interested in using smart glasses for personal use in future and a further 28% saying they'd be interested in them for personal and work use. (A shy 3% would wear them at work, but not otherwise.)

Intel is one of many companies taking a bullish view of the future potential of wearable technology. In a connected world, characterised by the ubiquitous Internet of Things (IoT), Intel expects there will be 50 billion IoT devices in use by 2020, and 400 million of those will be wearables.

View of the Market

Performance & Functionality

Google Glass

Smart Watches & Bracelets

Head Worn

Trackers

Fitness   Sport

Limited Functionality

$100 $200 $400 $1000   Retail price

Above: Intel's view of wearables
Image credit: Intel

THE NEW MOBILITY

But wearables as a term is very broad. There is a world of difference between, say, a smart wristband, discreet and unobtrusive, and a helmet-style headset like Oculus Rift, aimed at the gaming market by Facebook.

The challenge is to create adoption and retention through price, utility and actual wearability.

The challenge is to create adoption and retention through price, utility and actual wearability. Currently led by fashion, rather than functionality, the market is likely to be catalysed by a number of factors:

1. The likelihood of large companies teaming up together to bring their combined skills and brand equities together (Google & Samsung, IBM & Apple, for example).

2. The growth of telemetry. With wider publicity and access around doing things remotely from a wearable (turning on the lights at home, changing TV channels, locating the cat), the home market will expand and the business market will surely follow if there is evidence of a positive smart benefit, and wearables are seen as more than just the latest toy for senior management.

3. An iconic 'must have' device, which will accelerate adoption, in the same way that the iPhone gave impetus to smartphones – blending science and technology.

THE NEW MOBILITY

As this paper was being written, Apple and Samsung were both planning to introduce a hands-free payment facility into their watches. Tesco is using wearable devices in their warehouses to help employees pick up orders in the most efficient sequence. Kapture, an audio-recording wristband, has the potential for workers to take notes on a site without paper and pen, or replay pre-recorded instructions.

In the travel market, Japan Airlines announced in 2014 its intention to test the impact of new technology on customer experience and staff efficiencies, using location finding with smartwatches.

In addition, there are many skilled and unskilled work applications for people who are doing complex manual tasks – from surgeons to gas fitters or with wearable camera technology for police, army and security personnel.

KEEPING IN TOUCH IN THE SMART WORLD

Many people reading this will remember a time when being away from the office meant you were not contactable – for good and bad. In future, the 'always on' needs of the smart worker (and the smart customer) will have to be accommodated, wherever they are.

In 2014, there were 48 million Wi-Fi hotspots globally, double the 2013 figure, according to a survey by iPass, who predict that by 2018 there will be nearly 350 million – or approximately one for every 20 people in the world.

Inevitably, these will not be equally distributed – one for every four people in the USA, for every seven in Europe, but still only one for every 40 people in Asia.

GLOBAL WIFI HOTSPOTS

2018

2014

ESTIMATED
350 MILLION

2013

48 MILLION

22 MILLION
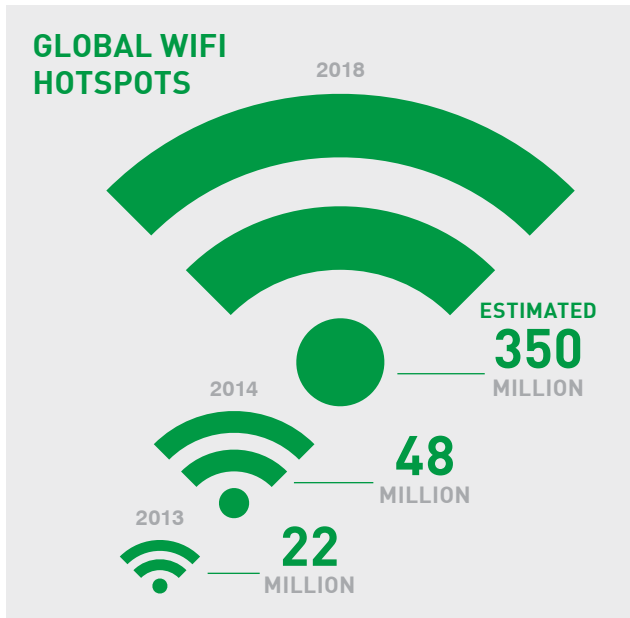
These will not just be fixed locations – the expectation will be for 15,000 Wi-Fi enabled planes by 2020. In December 2014, Air France and Orange announced they will offer Wi-Fi access on-board two Airbus A320s on short and medium-haul networks during a three-month trial phase, from Summer 2015.

This has profound implications for telecommunications. The relatively slow shift from 3G to 4G will be suddenly overtaken by Wi-Fi on demand.

KEEPING IN TOUCH IN THE SMART WORLD

Smartphone providers will offer Wi-Fi audio and visual calling as a matter of course – with improved connectivity and reduced prices. And naturally, ubiquitous Wi-Fi will mean that the smart worker will have instant access to essential work information and equipment, on demand, wherever they are.

As remote online security becomes an issue, there will be increased importance of brand name recognition and trust. Sending information via cellphone networks will generate a greater feeling (although not a 100% delivery) of safety, rather than through Giovanni's coffee shop Wi-Fi.
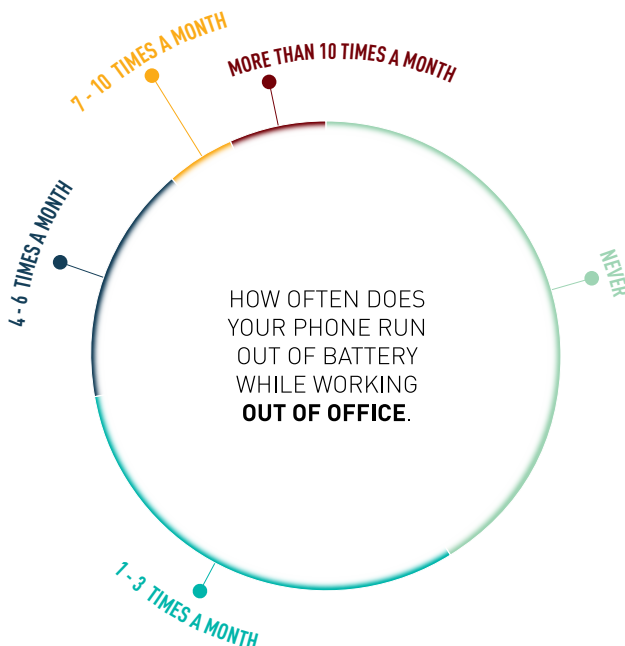
The broader issue of device security will be explored later in this paper as we examine the implications of Bring Your Own Device (BYOD).

STAYING POWERED UP

There's no point in having the capability to be connected, if we are always running out of power away from the office. Poor battery life is the perennial complaint of smartphone users – regardless of the device they own.

While the computing capability of mobile devices has increased exponentially, battery power has lagged. The battery power of the iPhone 5 was only about 15% more than the original model – and Apple is not the worst offender, simply the most high profile one.

Research commissioned by Leitz shows that 60% of business people totally run out of battery power at least once a month, and also 60% have to restrict their phone usage at some stage each month to conserve power.

MORE THAN 10 TIMES A MONTH
7 - 10 TIMES A MONTH
4 - 6 TIMES A MONTH
NEVER
1 - 3 TIMES A MONTH

HOW OFTEN DOES YOUR PHONE RUN OUT OF BATTERY WHILE WORKING **OUT OF OFFICE**.

From July 2014, all passengers flying into or out of the UK were advised to ensure electronic and electrical devices in hand luggage were sufficiently charged to be switched on, as part of increased security measures. Having to leave your phone or laptop behind is not something most of us would ever contemplate.

Battery technology is already at its limits, and so as a 2014 article in Wired magazine put it, "Future progress depends not on sharp increases in battery capacity, but on a diversity of techniques to extend battery life".

STAYING POWERED UP

Just as in the automotive industry, the race is for fuel efficiency, and so mobile device companies will increasingly focus on low power or power-efficient computing.

Portable devices will make more use of 'typical use energy efficiency', with better management of idle states, giving peak performance for shorter periods and very low power idle states (thinking again of cars, mirroring engines that cut out when the car isn't moving).

It will be easy and intuitive for the device to switch into low power configuration, depending on intensity of use, with devices learning and anticipating their users' likely behaviours.

Methods other than electrical charging do exist, but are currently sub-optimumal for a number of reasons.

Some phones have wireless charging as a feature, but the power output is limited and currently the device needs to be within a couple of centimetres of the emitter. You might as well use a wall plug!

Battery technology is already at its limits, and as a 2014 article in Wired magazine put it, "Future progress depends not on sharp increases in battery capacity, but on a diversity of techniques to extend battery life".

Solar energy charging from leaving the device in the sun or near a light source is another technology already in use. However, current products on the market will often not deliver a full charge, or take several days to do so – not ideal if you need a quick burst of power.

STAYING POWERED UP

Other future possibilities could include kinetic energy (just as we power the batteries in our watches as we move our wrists). The bad news is that we are probably 10 years from this being a commercial possibility and looking even further into the future, energy derived from sound – voices, traffic and music.

Leitz's own research shows that nearly three quarters of our sample carry a charger with them. And in the course of any month, nearly half are forced to borrow someone else's charger.

Devices in the future will be also be able to 'piggy back' energy from others – like the 'buddy' system of shared air when diving. As with diving, however, it depends on someone else being willing and able to sacrifice their own precious resource.

For the foreseeable future, the majority of our re-powering on the move will still come from the electrical mains – and so pocket-sized chargers or enabling desk-top accessories with charging capabilities will remain crucial tools. Speed of electrical charging will improve dramatically. Laptop chargers have traditionally been the size and weight of house bricks. In future, products like Dart from Finsix, which claims to be four times smaller and six times lighter than conventional chargers will become the norm.

One of the biggest challenges facing the international mobile user is the sheer variety of plugs – meaning you always need an adapter. Barring a radical overhaul of global standards, this is unlikely to change. The frantic appearance at hotel reception, pleading for an adaptor, will still be a familiar experience.

CONTROLLING SMART INFORMATION

In the past, companies often operated as stand-alone units. They had relatively stable workforces. They knew that their employees were 'theirs' and not also working for other people – perhaps their competitors – on a contract or freelance basis.

Information was kept on site – because that's where the majority of workers were based. Access was tightly controlled, whether through lockable filing cabinets or protected layering of security systems. It was often duplicated and finding the most up to date versions of reports and paperwork could often be a challenge.

Information now is a different commodity – nearly always digital (even if paper still has a strong grip on the way we work); constantly updated; more freely available to people on demand. This is true regardless of hour and location – whether you are a multi-national with a workforce at different time zones around the globe, or a loose alliance of independents in a start-up sitting in a serviced office or a motorway.

Managing increasingly mobile, transient, self-sufficient workforces will bring new challenges for organisations – and the equipment that people use to do their work will increasingly facilitate this.

BYOD is increasingly the rule rather than the exception.

Forrester's report on Mobile Workforce Adoption Trends shows that over half of knowledge workers are using laptops, tablets and smartphones specified by themselves – and of these, the majority are also paid for themselves.

CONTROLLING SMART INFORMATION

Gen Y and Z in particular don't want to work with mobile equipment that is less advanced than they use in their personal lives – especially as they are likely to be using the same devices for both. Some commentators have said it is like asking senior people to wear clothes that the company has chosen for them.

If people are specifying their own devices, they will be doing the research and possibly the transaction as well, with implications for acquisition and retailing. For personal electronic devices, the old model of central procurement from larger retail suppliers is likely to decline.

Instead, personal office equipment is turning into an impulse purchase, with outlets like airports, large stations and motorway service stations becoming increasingly important.

Managing increasingly mobile, transient, self-sufficient workforces will bring new challenges for organisations – and the equipment that people use to do their work will increasingly facilitate this.

With Amazon introducing same-day delivery on millions of products online, plus the ability to pick up anywhere through Pickup and Locker, likely to be emulated by other online retailers, the average smart worker is very unlikely to take the time to go to an out of town retailer to buy new equipment.

BYOD can be another accelerator. Rather than using a centralised IT hub, people will be in a state of continuous upgrade, rather than taking big technological steps, separated by long timeframes.

While centralised procurement may decline, there will be an additional burden on management and IT to ensure devices work (even if self-selected), are run cost-efficiently and do not compromise company security.

CONTROLLING SMART INFORMATION

With BYOD, the issue of security becomes problematic. As the devices are the employees' property, what control can companies exercise over them?

While 50% of IT professionals believe employees obey policies on personal use of work-provided mobile devices, in contrast 70% of employees say they don't. This disparity isn't surprising when 50% of large companies don't even know how many devices they have and three quarters can't track costs in real time.

It is estimated that 10 million devices go missing each year with commercially sensitive data on them. The mobile phone overtook the umbrella as the most lost item on the London Underground some years ago. We generally hear about this when a government employee leaves the tax records of 20 million people in a coffee shop. Companies feel they have a responsibility to protect sensitive data, therefore.

Security isn't just an issue in the digital space. The prevalence of remote working means that, increasingly, people are looking at sensitive materials on their screens in public places.

CONTROLLING SMART INFORMATION

Remote wiping of lost devices is one option, but this can have unexpected consequences. According to a 2013 survey by data protection firm Acronis, 20% of US companies perform a remote wipe of a worker's device when they leave the firm, which obviously is erased on the cloud as well and will include more than just work-related data. It's all very well having your emails wiped, but what about your child's birthday photographs?

Security isn't just an issue in the digital space. The prevalence of remote working means that, increasingly, people are looking at sensitive materials on their screens in public places.

While serviced offices frequently offer 'pods' for the individual workers, many people find themselves working in open plan in a library type of environment.

And with the pressure to be productive on the move (a by-product of the connected world, where instead of, for example, filling in sales reports at the end of the day, people are now expected to deliver them in near real time), how often do we glance up from our work and find the person next to us on a train, plane or in a coffee shop rapidly looking away and wonder how much they've seen?

Leitz's research shows that over half of our business sample have noticed someone looking over their shoulder to read their confidential information on tablet or laptop. And a quarter say this happens frequently or all the time. (We tactfully refrained from asking them how often they do this themselves …)

CONCLUSIONS OF PART ONE

The smarter worker isn't coming. They are here right now and if they aren't quite senior enough to be making major buying decisions yet, they are already at the very least influencing them.

We know these workers will carry multiple devices, some of which they own themselves and some their employers own.

We know they will be mobile – not necessarily formal business travellers, travelling business class and staying in hotels, but in different ways, such as mobile working in coffee shops, railway stations and on trains, at home or even in a bar on a Tuesday night.

We know they will expect to use all their devices simultaneously wherever they work. They will need, and expect, their employer to provide if not the tools themselves certainly the facilities and infrastructure to support their work.

We know that this flexible style of 'always on' working will require different levels of support and most importantly will require much higher levels of security.

We know that the world is changing fast and we all need to keep up.

INTRODUCTION TO PART TWO

In the first part of this series we looked at the worker of today and tomorrow - how they work, where they work and some of the tools they use. This threw up obvious issues about how to support them and provide the infrastructure they need.

In this section we focus on the areas where knowledge work takes place. We are all familiar with the ubiquitous coffee shop culture but the shift is far more complex than that.

Knowledge workers need different things, they need time (and space) to think but they also need to come together for collaboration – in informal interchanges or more structured larger forums.

So, is there any such thing as the ideal workplace?

THE CHANGING WORKPLACE

Office design began by reflecting the workflow in a business – taking its cue from factories for which the office was often a 'bolt-on'. Fixed desks and then the much-mocked cubicle became the staple of most workplaces throughout the 20th Century – and offices became to all intents and purposes simply 'paper factories' where the currency was data and records as opposed to information and knowledge.

The end of the century saw the evolution of 'hot desking' as a familiar concept. But at that time, the technology wasn't available to make it more than an internal 'timeshare' model whose primary benefit was to save space.

With more and more people working remotely – from home, from customers' premises or ad hoc on the road, as freelancers, or for themselves – the role of the traditional office will change. Having been originally designed for isolated, desk bound individual workers, the new era of smart working will see smart offices to cater for them.

THE CHANGING WORKPLACE

Fixed desks will still remain in many places and with the focus of innovation on mobility, it is worth remembering that a large proportion of workforces still spend a majority of their time at a fixed base.

The Leitz survey, carried out across 4 major European markets (UK, Germany, France, Italy) showed that 40% of workers do all of their work in an office – but at the same time, of the others whose jobs involve mobile working, nearly a fifth spend more than half of their working life away from the office.

Many of those fixed desks are once again hosting hot desking thanks to improved communications systems, the gradual demise of desktop computing and the growth of mobile workers – as well as continual pressure on the cost of office space in most cities.

As Knight Frank reported in September 2014, "Premium pricing for real estate is found in those cities with the most high value knowledge workers, which consequently attract the world's leading corporations".

So when we're in the office – as a permanent base, or simply passing by – how do we behave? Personal connectivity within the workplace will surely lead to better results. In the context of increased mobile, out of office working, this seems like a paradox, but there is emerging evidence that proximity and structures that encourage physical 'accidental encounters' benefit outputs – and this is equally true of mobile as fixed location workers.

Communal areas, zoning and places where people can simply get together informally are not simply designed to give people a less rigid environment. They are catalysts to a smarter approach to working – greater creativity and greater productivity – often stifled in formal meetings, following fixed agendas or influenced by hierarchy.

CONTROLLING SMART INFORMATION

According to the research 67% of office workers feel that formal internal meetings are much less productive than the informal last minute and 'corridor' meetings that drive collaboration.

A 2014 study in the Harvard Business Review, 'Workspaces that move people' showed that offices designed to allow mingling between people from different functions raise levels of innovation. Samsung's new US headquarters is designed to 'spark not just collaboration but that innovation you see when people collide'.

The Leitz research panel would suggest that many companies have some room for improvement here – only 15% rate their offices as 'Very good' in providing flexible space for project teams and 16.5% as 'Very good' in offering informal areas for ad hoc meetings.

From the traditional office we are moving to a new working ecosystem – fixed base, mobile, hubs and home.

The original concept of the worker going to work is evolving to work coming to the worker.

From relatively low flexibility, geographically tied, to a freer, more flexible way of operating. Different people will adapt to this in different ways and personality, outlook and life stage are key determinants.

Whether offices will reach the extreme of this conceptual "experimental work landscape" (by Rietveld Architecture Art Affordances and Barbara Visser in the Netherlands), is open to debate.

Photo courtesy of: Jan Kempenaers, 'The End of Sitting' by RAAAF.

CONTROLLING SMART INFORMATION

Formerly the domain of creative industries, many cities are seeing the growth of hubs – communities of like-minded businesses coming together – Generators, Incubators etc. Just as with the accidental connections in single business office spaces, diversity leads to creativity.

Hub Raum in Berlin is one example – as well as an incubator program (seed-investment, etc.) they offer co-working space, workshops, mentoring to selected startups.

Startupbootcamp is a global network of industry-focused accelerators taking start-ups global by giving them direct access to an international network of the most relevant partners, investors and mentors in their sector.

With so many businesses in a state of dynamic change, commitment to a fixed office environment often doesn't make commercial sense.

Photo courtesy of **www.hubraum.com**

CONTROLLING SMART INFORMATION

Serviced office spaces are showing rapid growth. A 2014 report by the City of London Corporation has shown that since 1995, the amount of serviced office space in the City of London has quadrupled to nearly 2 million sq ft, with an average tenure of 18 – 24 months.

Office space in the City of London has quadrupled to nearly 2 million sq ft.

Regus, one of the leaders in this area has grown in 25 years from a concept to 1,800 offices across 100 countries, providing serviced offices, virtual offices meeting rooms, and videoconferencing to clients on a short or long-term contract basis.

29% of our research sample work at a serviced office at least once a month and for the smart worker on the move, the next stage will be smaller pop-up workspaces at airports, stations, and motorway services, where individual or two person pods can be hired by the hour.

CONTROLLING SMART INFORMATION

Working in the car currently is often uncomfortable – and if you're driving, illegal. Driverless car technology will make the car a further extension of the office for smart workers on the move.

The navigation and driving will be done for you, freeing up valuable time for chauffeured work.

Smartness will increasingly be built into the infrastructure of offices – from equipment to fixed materials.

To that end, personal ergonomics for example will become increasingly important. This isn't simply about having comfortable chairs and supports to prevent Repetitive Strain Injuries (RSI), but combining aesthetics and utility, making the workspace more pleasant and efficient.

The new $5bn Apple building designed by Norman Foster is a classic example of the new approach to office work.

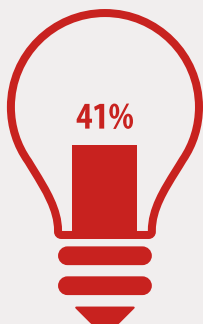# CONTROLLING SMART INFORMATION

In the past we only had fixed networks and only computerised devices were Internet connected. Now there are over 2 billion Internet-enabled devices in the world and this is set to grow nearly 10 fold by 2018.

Office equipment will be intelligent and capable of being personalised. So we will see heating and lighting remotely adjustable – app-controlled and able to detect the mood of the individual or the meeting or respond to voice or face recognition.

In the Leitz proprietary research, we asked how many have or would like lighting at their personal workspace where they can adjust the brightness or the mood and colour tone themselves; 41% and 33% respectively say they want it. So there is a real unmet need here.

Internet-enabled machines like copiers will increasingly communicate when they are running low on paper stocks, will be able to order more themselves and detect and even self-repair emergent problems. So the angry queue at the copier or the panic stricken call to the service engineer will be things of the past.
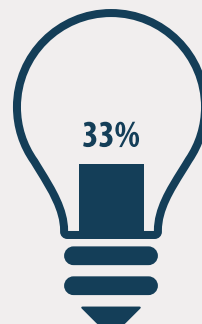
WHAT WOULD YOU LIKE FROM THE LIGHTING IN YOUR PERSONAL WORKSPACE?

41%
ADJUSTABLE BRIGHTNESS
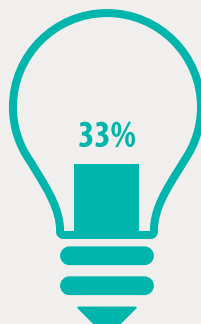
33%
ADJUSTABLE MOOD/COLOUR TONE

33%
STYLISH AND MODERN LOOK

CONTROLLING SMART INFORMATION

In the future office, everything will be capable of being turned into a screen, from a wall, to a tabletop to a car windscreen. Furthermore, innovations like Windows HoloLens mean that images can exist as holograms overlayered onto surfaces – or even in the air.

We will see the advent of robotics to carry out simple tasks – from stapling to lunch deliveries. But the emphasis is on simple. Forget the 'Turing Test' of developing a machine with intelligence equivalent to a human being – no one has yet built a robot with the dexterity to work on a supermarket checkout.

With the much-discussed 'Internet of Things' our world of work and home will be truly intelligent and connected. In January 2015, Samsung announced that 90% of the products it sells will be Internet-enabled by 2017. "The Internet of Things is not about things, it is about people", said Samsung Chief Executive Yoon Boo Keun.

The key question is when does the physical work space become smarter, more knowledgeable than the person working there?

MEASURING SMARTNESS

As the modern workplace evolves from being purely desk focused to an holistic environment, as more and more people work remotely for all or part of the time, presence at the desk becomes a very poor measure of productivity.

Unilever has embraced agile working as a concept and has a declared strategy to judge performance on results rather than hours worked.

We've seen the differing expectations of different generations and lifestages in a previous section and this is still a determinant in how people believe their input should be evaluated. The Cisco Connected World Technology Report in 2011 showed that office workers in their 20's believe that they should only be expected to be physically present in an office for specific meetings.

There are cultural issues bound up with new working practices. The companies that succeed will be those that put trust in their employees and give them the opportunity to make decisions. And that includes the ways in which they work – how and where.

MEASURING SMARTNESS

From the traditional 'time and motion' approach where the stopwatch measured industrial productivity, smart working calls for different metrics, including how people interrelate, their creativity, and the quality of thinking they achieve.

Management will still want to measure results – including "Smartness Quotient" of the company (likely to become a metric in its own right, with European standards codified).
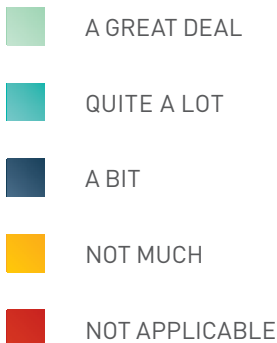
The more digitally connected we are, the more that companies will, in theory, be able to monitor the effectiveness of their people – whether full time or contractors. The risk is that the same 'stopwatch' mentality will apply, but with greater precision.

Controversy will surround how, in future, management monitor their workforces.

In theory it is perfectly possible to measure output by logging keystrokes. GPS enabled devices will enable companies to track their staff geographically. Are they really working at home, or walking the dog?

The Leitz research panel was encouraging on this point. When asked how much trust their company puts in them to manage their own time productively when they working remotely, 28% said 'A great deal' and a further 44% said 'Quite a lot'.

WHEN YOU ARE WORKING REMOTELY, HOW MUCH TRUST DO YOU THINK YOUR COMPANY PLACES IN YOU TO **MANAGE YOUR TIME PRODUCTIVELY?**

- A GREAT DEAL
- QUITE A LOT
- A BIT
- NOT MUCH
- NOT APPLICABLE

BUSINESS (SOCIAL) NETWORKING

For many people, the most important measure of their worth is not just salary or title (although these will always be status definers), but their reputation.

As people become more self-sufficient and self-oriented, they are more likely to change jobs in future, not just switching companies but switching careers. Then their personal reputation in the wider world of work will grow in significance.

Tom Peters wrote back in 1994, "Your power is almost directly proportional to the thickness of your Rolodex, and the time you spend maintaining it".

The principles will remain the same, but the means are being, and will continue to be, transformed. In the past we have tended to have a small number of strong ties – people we see and interact with regularly.

Changing working structures and business orientated social media increasingly develop 'weak ties' – a concept first put forward by Mark Granovetter 40 years ago.

These benefit careers and the ability to do a job more effectively, by exposing more of us to wider varied contact networks. Although we may never see these people other than virtually, making the classic 'good first impression' remains an imperative.

BUSINESS (SOCIAL) NETWORKING

Social media is still a challenge for many employers, who too often see its usage by their employees as a distraction – or a symptom of someone looking for a new job. The former is increasingly outmoded; the latter is simply something they will have to get used to – the connected landscape means that the smartest workers will always be in demand, updating their worth as they updated their CVs in the past.

More than ever, individual workers will become 'brands' – using work based social media to market themselves – inside and outside companies. Your skills, your values, your experience, your business social media prominence will all become essential signals of who you are; how well prepared you are for the world of smart working.

Mobile tools will make it easier for independents to find project work, team up with like-minded partners (e.g. social media and shared interests). The more connected and in touch companies are, the smarter they will be. Mobile workers will be more in touch with customers and the supply chain – in reality and virtually.

New apps, just as in the world of social media now, will contain proximity alerts – allowing smart workers to identify potential clients who are in their vicinity, responding to real time demands and meet them face-to-face.

Even the traditional head-hunter and recruitment agency role is likely to decline as individual 'branded' workers take command of their own destiny.

KEEPING SMART

In the past, a set of skills, occasionally updated, could equip you for a lifetime career. Now the speed of change means that knowledge is always decaying – potentially out of date as soon as we have assimilated it.

To quote Tom Peters again, in 'Welcome to the Age of Homework' back in 1992 (a lifetime ago in modern business), "In an age of brains, those who don't develop their full, above-the-shoulders potential, and then keep adding to it, are losing out".

The old paradigm was that you employed people to do the job – and that on the whole jobs don't change. Now not only are new skills constantly demanded, but there is a rapid and changing emergence of functions that simply didn't exist just a few years ago, including data scientists, app developers, sustainability directors – even in-house yoga teachers.

Charles Handy's visionary concept of over 20 years ago, 'The portfolio worker', is becoming a reality as we will increasingly discard and take on new roles and new information – which in turn give us more freedom and potential marketability as individuals.

This doesn't mean we have to carry all the information we need around in our heads. Smart working doesn't mean you have to know everything; simply to have access to knowledge and having the ability to know what to do with it.

To do this the smart worker will need products to ensure they can be 'always on'.

KEEPING SMART

Increasingly knowledge workers will be assessed by their ability to communicate their knowledge. Like the old adage amongst academics to "publish or die' so today and tomorrows knowledge worker may well be asked to present or die.

You are judged, not just on your ability to draft reports and white papers but to create and deliver engaging presentations – not just PowerPoint decks, but the use of engaging infographics and filmic materials.

We asked our panel how important they felt the ability to present was for their business leaders of today and tomorrow. 62% felt it was 'important' but 31% felt it was 'essential', so anyone planning to be a business leader of tomorrow will need to be able to create and deliver world class presentations, often at the drop of a hat.

Smart presentations will require smarter tools. The old days of an expandable pointer to highlight a feature on a flipchart are long over. Multi-functional devices will emerge that are not simply wireless, but have other functionality built in – carrying the digital presentation with them, being a projector in their own right (or, like the Leitz Complete Pro Presentation Stylus Pen, an all in one presentation device with USB, pen, stylus, remote presentation clicker and laser pointer). Here technology could provide the cutting edge, differentiating between the 'good' and the 'outstanding'.

KEEPING SMART

There has always been a market for individual and tailored products.
Mass customisation is a familiar term but this will be an area of future growth in the world of business. More agile systems, easy access to 3D printing will mean that style and functionality will be more easily individualised.

So we will be able to design and specify our own products to suit our needs and changing roles. It's not just about colours – but layout, configuration, materials. You want a personal, customised Leitz stylus for left-handed use, with a blue laser and a pen with purple ink? No problem (well, no problem in 2020 – Leitz isn't quite there yet)!

IT will become internally collaborative for smart mobile workers.
As an example, Deutsche Bank run internal "Genius bars" for remote staff.

Smartness will be on tap as people at work will be able to more easily access 'virtual experts' or internal communities (think of the way that a huge amount of Apple's technical help is effectively sub-contracted out to a community of users).

So we will see the structure of information transfer changing – less top down, more transverse, with accessibility on demand, allowing people to connect and collaborate, both internally and with customers and others in the supply chain.

Knowledge is power. Relevantly shared knowledge is more powerful still – because it raises the capability of everyone we work with – internally and externally.

CONCLUSIONS OF PART TWO

With more and more people working remotely, the role of the traditional office will change. Having been originally designed for isolated, desk-bound individual workers, the new era of smart working will see smart offices and smart products to cater for them.

The workspace of tomorrow will need to cope with the flexibility of their occupants. At an extreme some have even declared the corporate office to be more like a club where 'members' drop in when they are in town to enjoy the facilities and meet up with like-minded people. These workspaces will transform into places that the smart worker wants to go to. Colourful, fun and flexible, the office of the future will boost creativity and productivity, becoming centres of 'bleisure', a blending of business and leisure.

Meetings are on the rise but more informal and ad hoc. Buildings and spaces will be adaptive with more 'casual meeting places' and mobile work may well mean mobile around the office as much as mobile around the world.

Office equipment will be intelligent and capable of being personalised – app-controlled and able to detect the mood of the individual or the meeting or respond to voice or face recognition (or, like the Leitz Style Lamp, a fully adjustable product, allowing you to control the mood and tone of lighting on your desk).

An offshoot of the increase in meetings will be the need for knowledge workers to present more and better with more tailored and innovative design. Everything will be capable of being a screen. Graphic and multi-media, immersive presentations will be the norm. Death by PowerPoint will no longer be tolerated.

To ensure out of sight isn't out of mind, companies will develop new ways of monitoring the effectiveness of people. As more freelance and contract work takes place, this will be an increasing challenge.

Individuals will start to think of themselves as personal brands, needing to constantly keep themselves high profile in their chosen line of work. Business based social media – not just for self-promotion, but for the exchange of ideas and knowledge development, will be increasingly used and companies will need to adapt to this.

INTRODUCTION TO PART THREE

In part three of the "Work Smart. Work Mobile" series of papers we look at business organisations themselves and how they are changing to meet the new world of technology.

As well as the history of organisations we will examine how technology has allowed the creation of startups that go from zero to a global business in a matter of months (and sometimes back down again).

We will also look at tools in the near future that will make smart working more fulfilling and also examine the increasingly important issue of how smart working can be combined with fulfilling personal lives.

THE CHANGING COMPANY

The profile of companies is changing as we move further into the 21st Century. On the one hand, there is the growth of global corporations, swallowing up competitors and wielding the power that comes from critical mass.

In supermarkets for example, 10 companies – Coca-Cola, General Mills, Johnson & Johnson, Kellogg's, Nestle, Mars, Mondelex, P&G, PepsiCo, Unilever – account for the majority of the goods we purchase.

Similarly, some 90% of the media that Americans consume is in the control of just 6 organisations - GE, News-Corp, Disney, Viacom, Time Warner, and CBS. In 1983 it was 50 companies - and we are likely to see similar convergence in the rest of the world as digital and social media operate increasingly globally.

But it's not just about having scale and power – it's what you do with it. Large organisations are not always 'built to last' (as share and bond holders are increasingly aware).

232 MEDIA EXECUTIVES
CONTROL THE INFORMATION DIET OF
277 MILLION AMERICANS

That's 1 media exec to 850,000 subscribers
An audience the size of San Francisco

THE CHANGING COMPANY

In its 2013 report, "The Burdens of the Past" Deloitte notes that the average life expectancy of a Fortune 500 company has declined from around 75 years in the 1960s to less than 15 years today. Buyouts and mergers are partially responsible – but so are built-in complacency and inertia, leading to a failure to adapt to new circumstances in an accelerating world.

The history of business is littered with examples of dominant organisations that lost their pre-eminence by taking their eye off the ball, becoming laggards, rather than established smart leaders.

So smarter ways of working must be future differentiators – however large you are.

A 2014 report by PwC, "A New Vision for Growth", calls for a greater emphasis on smart working in larger corporations, rather than simply looking for economies of scale and cost savings.

"Businesses should be making full use of the tools and information available to better manage their workforce, whether that is managing performance, offering flexible working, encouraging internal moves and mobility or improving incentives to drive performance."

AGILE WORKING

The concept of 'Agile Working' is one way in which larger organisations have attempted to combine scale with speed and deliver greater efficiencies.

The "Agile Future Forum", an organisation set up to champion and disseminate agile working practices, identifies four critical dimensions: time (when do people work?), location (where do people work?), role (what do people do?) and source (who carries out work?).

Rather than simply seeing it as another abstract management theory, companies embracing it see it as 'transformational'.

In the UK, BT, the telecoms giant claims to have eliminated 1 million face-to-face meetings and saved 197 million travel miles by making the most of the benefits of mobile technology – from home and offsite working to virtual meetings.

Unilever have gone on record saying "Agile working is critically important, it's all about raising performance, providing our employees with the tools, the technology, the environments to be able to work anywhere, anytime" and have the goal of having a third of their roles location-free by 2015 with the goals of cutting office space, unnecessary business travel and increasing productivity.

AGILE WORKING

To some extent we can interpret this as big companies adopting the fluidity, informality and nimbleness of smaller organisations. Combining critical mass with a management philosophy which is (and has to be) more trusting and empowering of its people.

Change of this nature is totally dependent on company culture. A culture which, as Peter Drucker famously told us, "Eats strategy for breakfast".

It's far easier for a SME to be agile – because there are fewer people to convince. But when influencing hundreds or thousands of people across geographies, the task is far more complex. Which, of course should not be an excuse for not doing it.

Meanwhile, at the other end of the size scale we are increasingly seeing the growth of smaller, entrepreneurial companies, taking advantage of the new types of reverse economies of scale that digital communication provides.

So the business playing field is becoming more level: big organisations are arguably starting to act with the mind-set of smaller, more agile companies. And small companies can compete on a far larger stage than ever before.

START-UPS

Start-ups, regardless of industry, are now capable of more accelerated growth than has ever been possible in the past.

They benefit from a number of recent changes to how and where business is done – no wonder that the increasingly successful Internet provider, Relish, has stated that 86 new businesses are born in London every hour.

And importantly, these types of new businesses are not dependent on established economies.

An article in the Financial Times in October 2014, titled "Technology start-ups in central and Eastern Europe blow away stereotypes" cited Microsoft's investment in innovation centres across Eastern Europe, who claim that "Entrepreneurship is at the forefront of igniting economic growth across Central and Eastern Europe".

These types of companies can take advantage of flexible, short-term office space, as they are less likely to be dependent on proximity of production (or indeed do not produce anything tangible or physical at all). They have less need for IT infrastructure or they can access it cheaply and remotely. They often don't need full time staff with fixed overhead costs. They play by the rules of guerilla businesses.

They nearly always have younger, less traditional outlooks. They work harder because they have an entrepreneurial spirit. They work smarter, because they are starting from a zero base and don't have outmoded legacies – either in the way they think or in the equipment they use.

START-UPS

As the Economist noted in 2014, "Thanks to things such as cloud computing, which lets young firms buy vast amounts of cheap computing capacity, entrepreneurs can create globe-spanning businesses on shoestring budgets".

While some still argue that technology makes us less efficient, citing time spent dealing with email, preparing repetitive presentations and being submerged in seas of complex data, our own business sample is in no doubt of its positive effect, with over 90% saying technology makes them more productive (whether it gives them more leisure, more relaxation or more happiness is another story).

Smart, mobile working is at the heart of these changes, regardless of company size. Companies need to keep reinventing themselves with a continuous focus on being agile, proactive and responsive.

Effectively, every company needs to have a start-up mentality, asking themselves, "What would we do now if we were starting from scratch?".

MEETINGS, MEETINGS, MEETINGS

So we're convinced of the need to be agile and responsive. How does this affect the way we communicate, both as companies and as employees or independent workers?

In a nutshell we are having more contact of all sorts. Partially facilitated by the seepage of the working day into the evenings and the weekends that we discussed in an earlier paper, partially facilitated by the opportunity to interact virtually and frequently, ad hoc and on demand.

The important thing is to tailor the 'medium' of the meeting to both the audience and the objectives and content, without a rigid "either/or" approach.
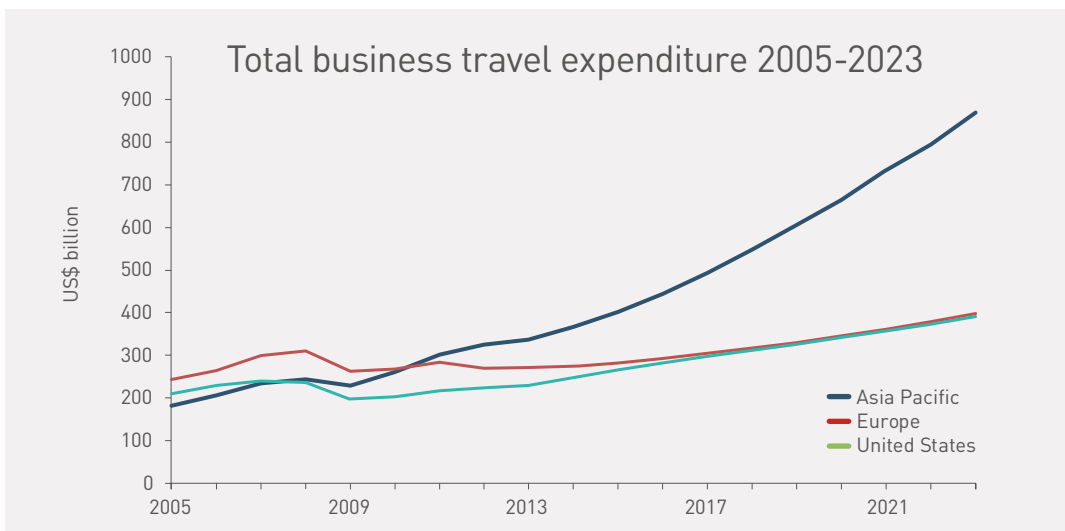
MEETINGS, MEETINGS, MEETINGS

Writing in July 2015's Harvard Business Review, Nancy Dixon takes the view that the way to satisfy the need for a sense of purpose and the creation of relationships is "to blend sophisticated virtual tools with periodic face-to-face meetings" in what she calls the "oscillation principle," which tapping in the best attributes of both virtual work and face-to-face convening.

Research by Bain in 2014 showed that 15% of an organization's collective time is spent in meetings, and this amount has increased every year since 2008.

Much of this meeting time is internal – but a growing proportion is virtual and also long distance. The advent of videoconferencing was supposed to spell the end of face-to-face meetings. However, the advent of virtual meetings has not diminished business travel. Oxford Economics predict strong future growth with Asia Pacific (and especially China) as the engine of growth – and as the chart below illustrates.

Total business travel expenditure 2005–2023

US$ billion

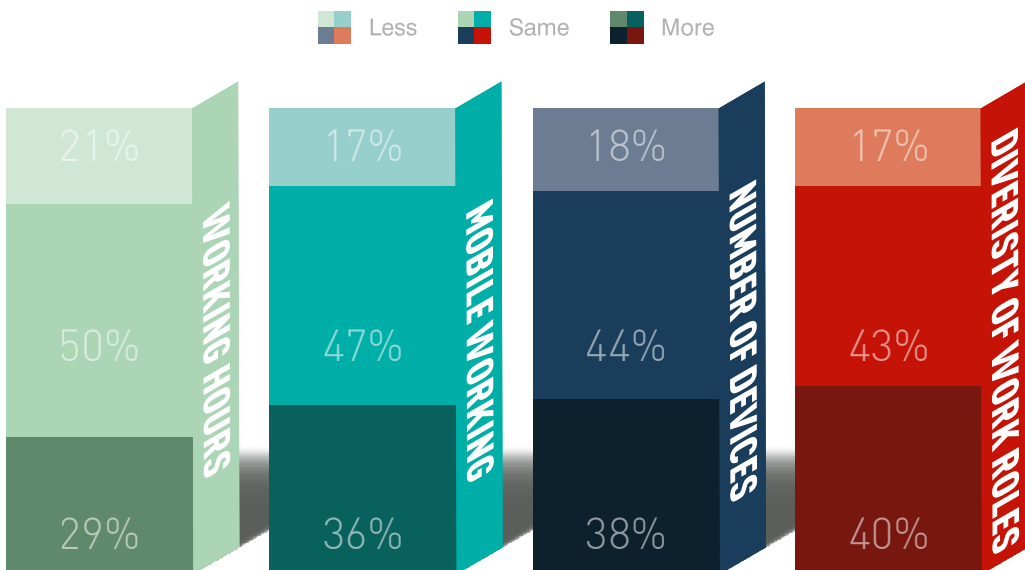— Asia Pacific
— Europe
— United States

MEETINGS, MEETINGS, MEETINGS

Just as multi-media means we're consuming more media, often simultaneously (watching TV, browsing your tablet and messaging on your phone at the same time), so at work we will be meeting and interacting with more people, in more ways – but still much of it will be face-to-face.

This is responsible for the apparent paradox of more business travel, but also more video conferencing and more virtual contact.

In fact, Leitz's proprietary research showed that more than 4/5 people see their work becoming more or equally diverse, mobile, international, device and app-based in the future.

How different will your job be in 5 years?

Less Same More

	WORKING HOURS	MOBILE WORKING	NUMBER OF DEVICES	DIVERISTY OF WORK ROLES
Less	21%	17%	18%	17%
Same	50%	47%	44%	43%
More	29%	36%	38%	40%

IT'S BETTER TO TRAVEL
THAN TO ARRIVE

The more we're on the move, the more lightness and size of our work tools will matter – and that includes what we carry them in. Some small US airlines like Spirit are now charging for cabin luggage. This will almost certainly expand globally.

From August 2015, British Airways are restricting the size of allowed hand luggage. So assuming that business travellers are allowed to carry any hand luggage at all in future (and the airline that initiates a ban on this will probably be the next to go bust as business people baulk at being separated from their briefcases), size and weight will be critical.

In the research Leitz carried out among mobile workers, having too much to carry around was seen as the first or second most important issue by over 20% of the sample.

We can anticipate lighter, smarter materials in travel equipment in general as materials like graphene move into mainstream use.

IT'S BETTER TO TRAVEL
THAN TO ARRIVE

Luggage and cases will be areas of development, taking advantage of new technologies and materials. A graphene case would weigh a fraction of its typical plastic or leather equivalent today and be dramatically stronger.

We will see the design of modular luggage and cases, where individual parts can be carried separately and the rest left in the car, hotel or back at the office.

Next generation hand luggage will be a mini office in its own right, with charging capability for devices, be even more ingeniously compactable, be even lighter and have built in tracking, so if it's lost or stolen it can easily be recovered. Leitz's proprietary research has highlighted all of these as key factors, with the highest interest in luggage that can charge devices – nearly 50% aspire to own these.

An example of this is Bluesmart – a suitcase introduced in 2014 that can be unlocked by using your phone and automatically locks itself when its built-in proximity sensors detect it is a certain distance away. In the event of it going missing, it can be tracked online.

TOOLS FOR THE SMART WORKER OF THE FUTURE

We are fast becoming three or more device users. Our research showed that over 80% of business people frequently charge more than one device at any one time.

But juggling different pieces of hardware is inconvenient – as we travel smarter we want to travel lighter. Smartphones will become gradually lighter – but the current barrier is the battery. Innovations such as the Samsung Galaxy Round and the LG G Flex will ultimately lead to devices that can be stretched and reshaped to the user's personal requirement – for example really fitting the palm of your hand.

As battery consumption becomes more efficient and screen sizes grow, it's quite likely that tablets and smartphones will eventually just converge into one single, pocket-sized device rather than two devices with a large degree of usability overlap.

We may see the development of modular devices – phones and tablets that can be uncoupled from each other, or from a laptop. Together they have more power and functionality, apart they are more convenient and portable.

We are already seeing smaller devices without keyboards. Laptop power with functionality and tablet dimensions and portability.

BUSINESS (SOCIAL) NETWORKING

HP's Sprout, launched late in 2014 combines a 23-inch touchscreen display with an interactive touch mat – in place of a standard keyboard and mouse.

We are already seeing virtual keyboards that can be projected onto any surface, such as a desk or table, from companies like Celluon.

The next step will be the loss of a keyboard altogether, with totally voice-activated devices which are trained to recognise their user's speech – for convenience and security.

We are seeing this already with Google Now, Microsoft's Cortana and Apple's Siri, which are designed to recognise voice commands to send messages, schedule meetings and make hands-free calls.

BUSINESS (SOCIAL) NETWORKING

Some commentators are already raising security issues – with hackers potentially able to infiltrate systems to cause chaos from changing when your central heating comes on to making unauthorised bank transfers.

(Not to mention the same risks of being overheard in an unsecure environment, such as the ubiquitous coffee shop, as on your phone).
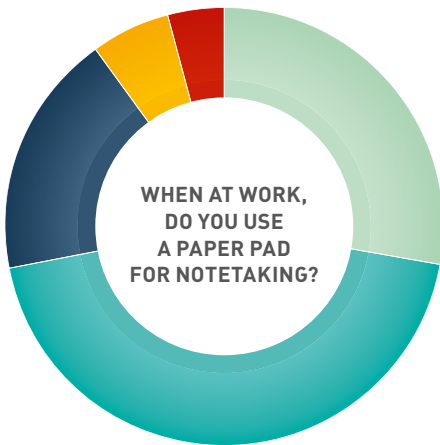
In an earlier paper we discussed the rise of wearables. Since the publication, Google withdrew their Glass, arguably the iconic and best known piece of wearable workware, and in July 2015 Wired reported on the launch of a new version aimed at industry only.

So we shouldn't under-estimate the ability of the largest and most insightful developers to temporarily get it wrong - and also realize that in the world of hi-tech development there are no certainties and that test and learn will characterize innovation of all kinds.

'OLD TECHNOLOGY' IN A MOBILE WORLD

While considering smart working and mobility, we should remember the enduring qualities of 'old technology' and how they are adapting. The paperless office was first mooted in 1973, but paper remains key to how we do work.

WHEN AT WORK, DO YOU USE A PAPER PAD FOR NOTETAKING?

- DAILY
- MOST DAYS
- SOME DAYS
- HARDLY EVER
- NEVER

The average worker in the USA, Europe and Australia still generates around 10,000 sheets of A4 annually. In our research of 800 mobile workers across Europe, 94% of people said they use paper pads for notetaking. Only 6% say they never use paper. So the concept of the fully digital worker still lies some distance in the future and Leitz will be tracking how, and how fast this develops.

Mobility will make demands on the paper industry, which will have to adapt to new needs.

Many people prefer to use pen and paper as their primary thinking tool – and with good reason. Studies among audiences as diverse as junior school children, university students and aging baby boomers show that writing, rather than typing onto a screen produces more thoughtful, coherent pieces, and increases mental retention of the information captured.

'OLD TECHNOLOGY' IN A MOBILE WORLD

An example is from Virginia Berninger, professor of educational psychology at the University of Washington. A study among grades two, four and six children wrote more words, faster, and expressed more ideas when writing essays by hand compared with using a keyboard. And a study by Andrews University in the USA shows that given the choice, students will still choose books over e-books.
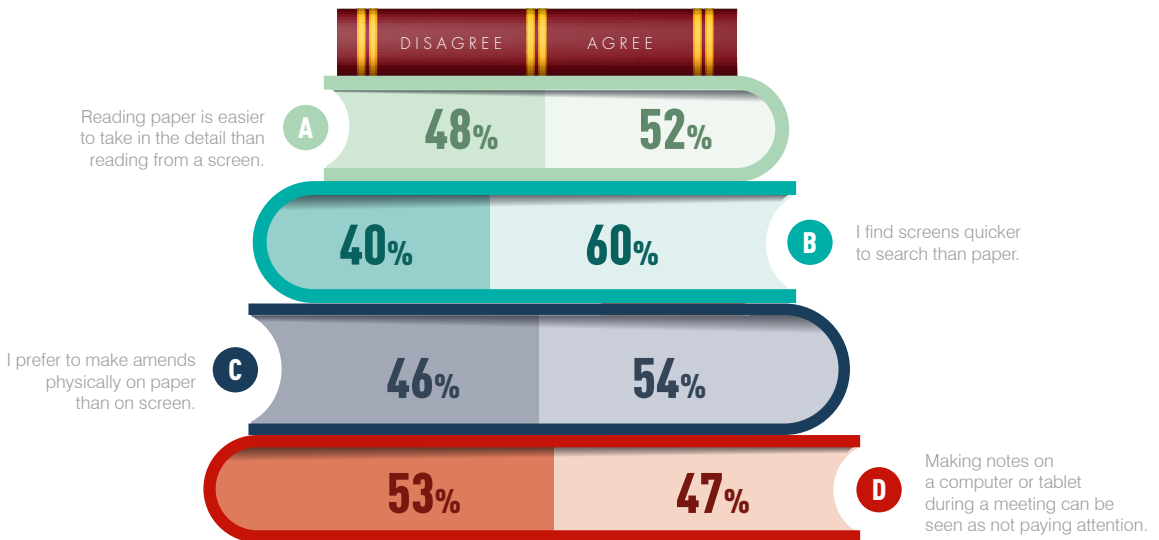
Rather than thinking of either/or, perhaps our attitude to paper should be more flexible. Different tasks require different sorts of thinking.

Deep, immersive study lends itself better to the printed text, where close understanding and concentration are called for. Digital screens are best for rapid browsing and swift assimilation.

'OLD TECHNOLOGY' IN A MOBILE WORLD

As an article in Wired magazine in 2014 put it, 'Maybe it's time to start thinking of paper and screens another way: not as an old technology and its inevitable replacement, but as different and complementary interfaces, each stimulating particular modes of thinking'.

DISAGREE   AGREE

Reading paper is easier to take in the detail than reading from a screen.

A   **48**%   **52**%

40%   **60**%   **B**   I find screens quicker to search than paper.

I prefer to make amends physically on paper than on screen.   **C**   **46**%   **54**%

53%   **47**%   **D**   Making notes on a computer or tablet during a meeting can be seen as not paying attention.

Our research panel of business people would certainly bear that out. At the moment, findings suggest that the issue is in balance – 52% believe it is easier to take in detail when reading from paper than the screen, while 48% believe the opposite. Similarly, 54% prefer to make amends physically on paper, while 46% take the converse view.

For now, there is clearly a role for both and personal preferences will vary.

Instead of assuming that smart or mobile workers will want paper removed from their lives, it's perhaps better to think about how the format can be adapted to meet their needs.

'OLD TECHNOLOGY' IN A MOBILE WORLD

We will see the advent of 'smart' notebooks – a blend of digital and paper devices. They will be RFID enabled, so they don't get lost. They will be digitally searchable, so we can get easy access to notes we have made. New scanners will enable the quick and easy transposition of our writing to digital text, having learned our handwriting and the inevitable variations that occur in different circumstances. Nearly 40% of our business panel found this an appealing feature.

Paper is cheap, convenient, but also heavy and relatively inert. But from being a passive medium, paper is becoming increasingly intelligent – effectively allowing smarter, mobile workers to enjoy the best of both worlds.

'Interactive paper' is being worked on by a number of manufacturers and universities with the aim of to creating printed publications using 'smart' paper that responds to the human touch. New apps like the Post-It-Plus app will allow users to photograph, digitise, organise and share hand written notes.

And amid all of the excitement around digital technology, let's not forget that it was reported in 2013 that Russia's agency responsible for Kremlin security put in a €12,000 order for typewriters - apparently prompted by WikiLeaks and Edward Snowden and intended to expand the practice of creating paper documents.

WORK/LIFE BALANCE

As we've seen in this series of papers, we're working harder, meeting more often, travelling more, giving up an increased amount of our evenings and weekends to catching up or do incremental work.

When do we have time to sleep or relax?
The exhausted worker isn't a smarter worker.

Remember the old saying – no one ever went to their grave wishing they'd spent more time in the office. There's a clear 'burn out' risk for mobile workers – A 2014 Gallup poll in the USA found that workers who 'frequently email for work outside of normal working hours' were almost 40% more likely to be stressed 'a lot of the day' when compared to those who did not.

60% of Leitz's international mobile worker panel agreed that "My private life suffers a lot due to work". As work intrudes into what used to be our personal time and space, this is likely to grow. Our survey found that over 4/5 people find themselves working unproductively in the office; whereas only 3/4 find themselves doing the same working outside of the office.

CONCLUSIONS OF PART THREE

Smart and mobile workers are exposed to more stress in the workplace as they have to confront a broader range of data and communications and create corporate or personal strategies to manage them all.

How the future will develop is uncertain. There are implications of potential government legislation or changes to limit working hours at a corporate level like Volkswagen in France. We're increasingly seeing companies reframing their own policies, such as the much publicised ban on home working by Yahoo in 2013 – arguably done for the perceived benefit of the company, rather than for people working there.

The assumption that the technology age will give us more leisure time has clearly been shown to be false. So a key challenge for companies is not to change the world of work – but to develop products that make life easier and more comfortable, environments, whether a base or mobile workplaces that make people not just more productive, but happier.

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