ENTERPRISE MOBILITY
& COLLABORATION

73% of millennials would prefer a new financial services offering from Google, Amazon, Apple, PayPal or Square than from their own bank*.

Stop with the excuses...before it's too late.

It's not just banks that are affected, it's any organization or industry that doesn't provide a modern, mobilized engagement experience for customer acquisition and retention. Today's consumer wants to self serve. Unfortunately, yesterday's systems are way too complex to enable it. Until now.

Capriza's end-to-end simplification platform enables you to mobile-enable critical business workflows in a matter of days without any business disruption. Whether your workflows are customer-touching, core line of business focused or corporate-wide, Capriza can help you simplify and mobilize in a matter of weeks.

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Taming a multi-headed business monster

Such is the vast array of technology on offer, organisations are spoilt for choice, but to succeed they must select the best business tools which connect staff, customers and suppliers

◆ **OVERVIEW**

● **DAN MATTHEWS**

In 2015 businesses of all sizes have access to an extensive range of communications systems. Mobile and cloud infrastructure, using lightning-quick broadband capabilities, have inspired countless inventions in hardware and software, all coming together to create a vast and varied landscape.

But "comms 2.0" remains in its infancy. The cloud, for example, has been a recognisable business tool for just a few years, and the services that help companies benefit from it are fragmented and often conflicting.

There is a long list of providers, manufacturers and developers at work, only a handful of whom are consciously collaborating, while many are actively plotting the destruction of the rest. Creating a system bringing these together is a bit like trying to unify magnets when they are poles apart.

Meanwhile, adding to the complexity for businesses, employees everywhere have shunned enterprise technology in favour of simpler and more attractive consumer grade solutions, some of which fail to prioritise top business challenges such as security and interoperability.

It means building a fluid communications network incorporating fixed line, mobile, data and other dimensions is far from plain sailing. In fact, it is the corporate equivalent of breaking up a mass brawl and then asking the perpetrators to shake hands.

And that's just getting the technology mix right. Companies have to adopt the right combination of tools for their own unique DNA and integrate the package seamlessly to optimise workflows without alienating groups of employees.

Cost is of course a factor, but then so is return on investment, the latter being a notoriously difficult thing to calculate when assessing the way people talk and write to each other. For instance, just what is the monetary benefit of giving everyone a smartphone?

The prize for getting the answer right is huge, especially in a 24/7 business environment where the workforce is increasingly mobile and "always on". Communications were so much easier when working hours were predetermined and everyone sat at the same desk day in day out.

Many in the communications business are frustrated by the seeming inelegance of various channels, despite the tantalising technology available.

"The communications business is still not what it should be – a single seamless solution to cover all mobile and fixed line, data and voice services," says

> ❝
> **The need to bring together various technologies in sophisticated deployments has never been more real**

Paul Leybourne, head of sales at Vodat International.

"Sure, there are some solutions that cover aspects, but not seamlessly without compromises. Put another way, there is no unified solution on the market that covers best of breed in all areas. As a result, businesses still procure solutions from different vendors."

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Nevertheless, a growing number of businesses are adopting a strategic communications approach. It's not just about individuals being able to contact each other, but what this means more broadly for the organisation.

Organisations have stopped thinking about efficiency among individuals and moved on to "business process efficiency" with a close eye on what it means for the bottom line.

Graham Bevington, executive vice-president at Mitel, says: "Businesses are increasingly focused on improving the efficiency of their business processes, to the same degree that mobile technology has given individuals tremendous efficiencies and conveniences, such as personal banking, calendar and e-mail on the go, and mobile video-conferencing with family and friends.

"The key to process efficiency is applying an open-integration approach that allows a variety of third-party applications to be integrated easily and quickly. Some industry players are looking to build an 'uber-client', where efficiency has more to do with everyone working from one interface."

A snippet of positive news on this score is that the industry is waking up to business concerns and working to create solutions that fit easily into portfolios. Over the next few years the focus will be on better integration, as well as increasingly powerful tools.

"Communications products are getting better across the board. They continually offer better user experiences and are easier for the IT function to deploy," says Mark Furness, chief executive of essensys.

Yet Mr Furness adds that organisations will continue to rely on their people to put thought into procurement, consider the pros and cons of each integration, and devise an umbrella strategy for future changes to the communications mix.

"The onus is generally on the IT function to educate users and decision-makers on the benefits of a unified communications strategy and the products they recommend," he says.

With increasingly powerful technology out there and many businesses scrambling to find the most appropriate solutions for their requirements, the need to bring together various technologies in sophisticated deployments has never been more real.

Companies adopting mature approaches will be able to reap the benefits before their rivals, while those taking a head-in-the-sand stance will find themselves at the mercy of a multi-headed communications monster.

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◆ **COLLABORATIVE WORKPLACE**

● **CHARLES ORTON-JONES**

Jenkins Steel is a curious member of Firstlight PR. He's short, at just 4ft 7ins. He's seriously skinny and terrible with stairs. Jenkins is, in fact, a robot made of an iPad attached to a two-wheeled, self-balancing Segway vehicle.

Firstlight employees can control Jenkins through an online system, using the camera in the iPad to navigate. A two-way feed means Jenkins can be driven to find fellow employees and facilitate a "face-to-face chat".

Bristol-based Sabrina Lee, an account director, uses Jenkins every day to talk to her London colleagues. She says: "I find that people respond differently to communicating via Jenkins versus the phone or Skype. Perhaps it's because it feels more natural as the robot moves around the office and isn't merely a face on a wall.

"It's much easier to collaborate with the team in meetings and brainstorms as you can feel the energy from the room – so I'm more integrated and impossible to ignore."

Pat Pearson, managing director of Firstlight, says: "There was no way I was going to lose such a valuable member of the team just because they were no longer able to commute. Sabrina is as much a part of office life as anyone else thanks to Jenkins – it's absolutely worth the investment to have that real connection between colleagues".

> "
> **Software and hardware can bring teams together – and it can give them futuristic interfaces to play with**

Bonkers? Maybe. But Jenkins is a sign of the hunger in companies for ever-closer collaboration.

Meeting that demand is big business. There is an abundance of collaboration tools. For document-sharing there's Dropbox, Box, Egnyte, Google Drive and Microsoft One Drive.

For sharing messages Slack, Yammer, Salesforce Chatter and Huddle are mainstream tools. Slack is so popular an article in tech journal *The Verge* accused it of killing e-mail.
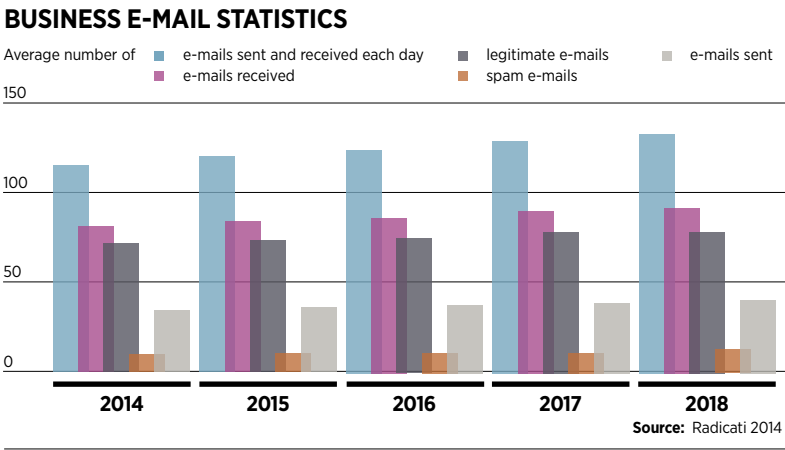
And what of the new tools?

Quip is worth a look, if only because of the people behind it. Bret Taylor was the chief technology officer of Facebook, forever famed as the man who invented the "like" button. His co-director is Google App Engine founder Kevin Gibbs. These guys could go to the cinema and investors would get excited.

In Quip, the duo has created a rival to Google Docs. It allows multiple users to work on the same files online – spreadsheets, word documents and to-do lists. Quip has got one over on its rival by of-

Making sci-fi science fact unites employees

Connecting people with innovative technology can not only increase return on investment, it boosts staff morale

BUSINESS E-MAIL STATISTICS

Average number of:
- e-mails sent and received each day
- e-mails received
- legitimate e-mails
- spam e-mails
- e-mails sent

Source: Radicati 2014

fering an offline work-mode too. When the user goes back online the changes are instantly updated to the master version. Quip is the new kid on the block, but can cite CNN, Al Jazeera and Facebook as users.

Here's another new product launched by a star name. Remember the film *Minority Report*, starring Tom Cruise? It was a sci-fi thriller. Cruise scanned through video and photos by swishing his hands around. Frankly, the interface was more memorable than the film. The inventor of that interface was MIT Media Lab's John Underkoffler. Now he has created a comprehensive collaboration tool for enterprises called Mezzanine. It's a collaboration tool with a big nod to his most famous creation.

Mezzanine uses HD screens and cameras to pimp your meeting room. You get banks of HD screens, combined with cameras – fancy video-conferencing rather like Cisco TelePresence. Then Mezzanine adds in voice, image and data-sharing across almost any device. Participants can display presentations on a screen, move it to another screen, then bring in video-conference footage from a team in another part of the world. The way different video streams can be summoned and dragged around is like a more practical version of the interface used by Cruise. Ad agency Dentsu Aegis Network is an enthusiastic user.

One of the merits of collaboration is that it keeps employees happy. No one likes working on their own for too long. WorkAngel takes this to a new level. It's a social network for business, with praise hard-wired in. Employees can chat and work on projects together though WorkAngel. The real unique selling point is the ability to give a "virtual pat on the back" to colleagues. This recognition for good work translates to points and prizes. There are discounts for retailers such as Apple, Groupon, Marks & Spencer and 6,000 UK restaurants. Points can

be tailored for each company, so they reflect corporate values.

Eccentric? Well, Tesco, Capita and payroll provider Ceridian use WorkAngel. Doug Sawers, managing director of Ceridian UK and Ireland, says: "While technology has provided a plethora of solutions for most aspects of business, to date very few have directly addressed the costly problems of staff retention and productivity. What WorkAngel is doing is incredibly innovative, and we're very pleased to be able to use it within our own company and offer it to all our customers."

Fleep is a new rival to Slack as an e-mail alternative. It's produced in Estonia by some former Skypers. It claims to have an advantage over rivals – the ability to message people outside the organisation, who may not have the platform installed, and include them in the Fleep chat. Subjects are grouped by person, not topic, which is unusual.

With such a wide range of tools and services, what should you use? Here's a bit of advice from outsourcing company Genpact. Gianni Giacomelli, head of the Genpact Research Institute, says: "The starting point to understanding and improving collaboration is establishing how teams communicate and collaborate. One method to do this is to use network analytics to decode hidden communication signals between people and larger groups within and outside the organisation. For example, it is possible to analyse the exchange of e-mails rather than the content of what is being written. We ran an analysis of our own employees and on average our employees receive 40 e-mails a day, an annual increase of 15 per cent."

Mr Giacomelli says this data will tell you which teams are talking and the ones that ought to be working more closely together. The human element is so often overlooked. Software and hardware can bring teams together – and it can give them futuristic interfaces to play with. But working together well isn't something you can buy off the shelf.

TECH BOOSTS BUSINESS

40% improved collaboration through using more business technology, according to senior managers

37% greater business efficiency

34% improved sharing of resources among employees

70% of managers say miscommunication via e-mail is the biggest source of conflict in business

Source: YouGov/O2

Source: EF

TRULY GLOBAL COLLABORATION: A MISSION IMPOSSIBLE?

Despite the hype, many global businesses haven't adopted unified communications because of complexities of managing different communication platforms. The break-neck speed of innovation means that today's technologies will be incompatible with tomorrow's solutions. So what should companies do?

TATA COMMUNICATIONS

TATA COMMUNICATIONS FACTFILE

#1   World's #1 wholesale international voice provider

24%   of the world's internet routes travel over Tata Communications' network

240+ countries and territories

60%   More than 300 of Fortune 500 companies use Tata Communications' state-of-the-art cloud, mobility, network services

99.7%   Tata Communications enables enterprises to reach 99.7% of the world's GDP

50%   Through Tata Communications' IZO cloud enablement platform, enterprises are able to connect to Microsoft Azure, Google Cloud Platform, Amazon Web Services and Salesforce.com – who account for almost 50% of cloud computing

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Let's be honest, unifying communications is one of the toughest jobs out there. The dream is to offer a single platform for voice, audio, web, video and messaging across all devices, in all locations. Staff should be able to talk to each other no matter what platform or hardware they use.

It's a simple objective. Yet for many chief information officers (CIOs) it is mission impossible. So what goes wrong?
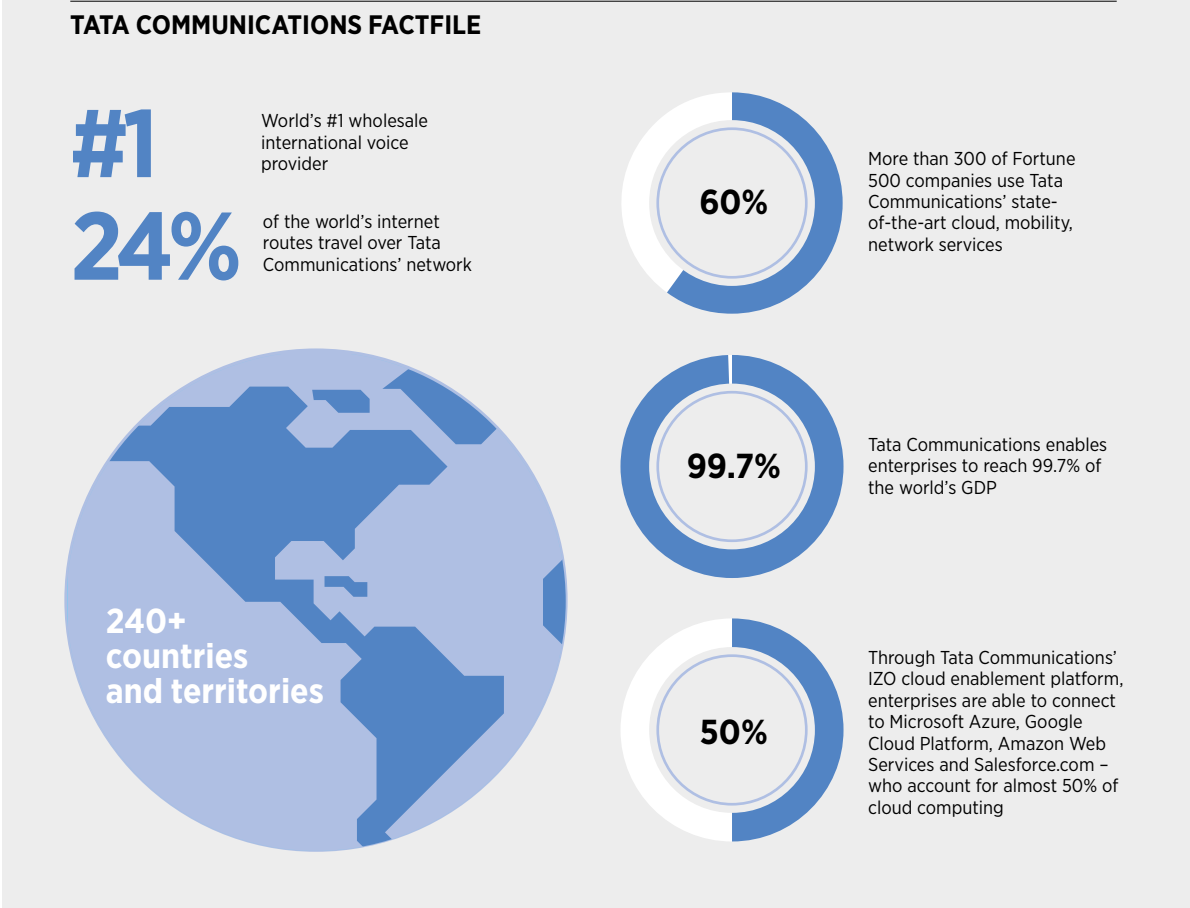
The difficulties are rooted in history. Year after year companies buy what they need when they need it. They acquire handsets and PBXs (private branch exchanges), video and web-conferencing systems, and messaging software. With each new round of procurement, the mix of technologies gets a bit more complicated. Integrating the latest acquisitions with the legacy systems becomes a full-time job.

Companies try and solve this by sticking with just one vendor. In theory, that vendor should sell interoperable equipment. A sure-fire way to guarantee unified communications? If only. Vendors innovate and suddenly a new generation of kit is released which doesn't quite mesh with the old stuff. Or there is vendor acquisition and the line is discontinued. Sometimes the enterprise wants a new vendor, who naturally promises to solve all these problems. In truth, the single-vendor strategy is proven not to work.

The complexity of communications gets worse as companies grow. A merger can bring in a raft of incompatible systems. The communications situation is rarely considered during mergers and acquisitions – it's just something the CIO needs to handle without grumbling.

Global expansion can mean entering a market where current vendors don't operate. There may be competing standards. Welcome to an entirely new communications set-up. The CIO will have fun inte-

> ## "
> Only a truly independent partner can offer unbiased advice and help you transition to Unified Communication as a Service (UCaaS) at your own pace while managing risk

grating those new technologies with his legacy infrastructure.

Sitting still isn't an option. Staff want the latest collaboration tools and with good reason. The quality, security and reliability of communications increases all the time. Workers want to be connected with the best tools on the market.

As for the international angle, will a firm abandon an export drive because of a communications issue? It is not realistic.

So what's the answer? The first step is to cut down on annual rounds of capital expenditure. Blowing a fortune on hardware and licences which depreciate is counter-productive. Instead move to the subscription model, known as Unified-Communications-as-a-Service or UCaaS. This slashes capital expenditure, freeing up money for core activities such as research and development or sales drives. The UCaaS model means an end to overprovisioning. You only pay for what you use, so the era of expensive PBXs sitting idle is over.

The second step is to steer clear of vendor lock-in and platform lock-in. Embracing one solution to the exclusion of all others is a dead-end. No vendor can provide all UC tools. And no platform will stay at the cutting edge forever.

Your enterprise needs the latest communications technologies no matter who provides them. This requires a vendor-independent and platform-independent partner. This partner will guarantee you always use the best devices and services on the market. And only a truly independent partner can offer unbiased advice and help you transition to UCaaS at your own pace while managing risk.

Third, find a partner who has global reach. Even startups must consider the likelihood that they will want to expand overseas at some point. A partner limited to just one region can't help with those ambitions. When you globe trot, your unified communications strategy will unravel. So pick a partner with an established presence across continents.

Naturally this partner will have solutions to achieve the goal of true unified communications. Staff should be able to collaborate via audio, video or messaging, across devices and platforms, with a uniform interface.

Tata Communications is built to meet all these needs. It is a vendor-independent, platform-independent partner, supplying UCaaS to enterprises of all sizes, globally.

With Tata Communications you can get the most out of your legacy systems. If one office runs Cisco Telepresence and another has WebEx or Lync, no problem. Tata Communications' platform makes them interoperable. If a staff member wants to join video chat using their mobile or tablet, that is straightforward. Skype for Business with enterprise voice ensures the problem of expensive PBX hardware is a non-issue.

Worried about fragmentation when moving abroad? Tata Communications is one of the very few truly global partners. Almost a quarter of the world's internet routes travel over the company's network which enables enterprises to reach 99.7 per cent of the world's GDP, with connectivity to more than 240 countries and territories. This 710,000km fibre network enables truly global unified communications. It also connects four out of the world's five mobile subscribers and carries 53 billion minutes of wholesale voice traffic annually.

More than 300 of Fortune 500 companies use Tata Communications' state-of-the-art cloud, mobility, network services. Through Tata Communications' pioneering IZO cloud enablement platform, enterprises are able to connect to the giant clouds of Microsoft Azure, Google Cloud Platform, Amazon Web Services and Salesforce.com, who account for almost 50 per cent of cloud computing.

Tata Communications' systems integrate with 1,600 partners, 785 mobile operators and 700 VoIP (voice over internet protocol) operators. The company is the 2014 Frost & Sullivan Asia Pacific data communications service provider of the year and, for the second year in a row, a leader in Gartner's Magic Quadrant for global network service providers.

By partnering with a vendor-independent, platform-independent unified communications specialist, the entire communications challenge melts away. With Tata Communications' UCaaS offering, companies get a simple monthly price per user and a single service level agreement (SLA), which is a genuine benefit for CIOs accustomed to juggling dozens of SLAs from service providers across multiple territories.

Staff will be free to travel from zone to zone using a standard interface for communication on any platform of their choosing. This will erode territorial silos and cliques. All divisions and geographies of a company can collaborate with no barriers to hold them back.

"Unified communications is a journey, and building a global UC strategy across multiple platforms and legacy systems is complex", says Anthony Bartolo, president – enterprise mobility and collaboration, Tata Communications. "If you become tied to a platform or a vendor, it limits your ability to move fast on that journey. We are an independent partner, offering help to our customers as they grow across the globe. No matter what technologies emerge, we can make sure you leverage your existing assets to execute on a globally consistent and vendor-independent UC strategy that successfully survives the future."

Staff demand unified communications. With the right approach, CIOs can give it to them pain free – no matter what challenges the future throws up.

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UK is on the cusp of an app revolution

Mobile apps for smartphones and tablets keep a workforce connected, but also bring together business functions in potentially lucrative new ways

◆ ENTERPRISE APPS

● JAMES NIXON

No one doubts the public's appetite for apps. In June Apple announced that downloads from its App Store had reached 100 billion. Google's Play Store for Android is set to achieve a similar figure later this year.

But while consumers almost instinctively grasped the appeal of apps right from the launch of the iPhone in 2008, enterprise took a little longer to warm to them. Now, however, with more organisations realising the power of apps to streamline internal processes, drive cost-savings and propel businesses forward, we're on the brink of an enterprise app revolution.

The spark that began the process was consumerisation. As Matt Hunt, chief executive of Manchester-based developer Apadmi Enterprise, puts it: "People started to think, 'We've got this great computing platform in our hands. We use it in our consumer life, why can't we use it in our business?'"

Mobile apps help to keep the workforce connected, increasing employee engagement. Beginning with basic tools, such as mobile e-mail, messaging and calendars, many businesses are now realising the ability of apps to mobilise their business-critical data in new and exciting ways.

By connecting together previously isolated functions within businesses, apps can create new opportunities and revenue streams. Alongside technologies such as the internet of things, apps can not only connect a company's employees but its assets too, enabling businesses to do things that previously were not possible.

"We're engaged in a very diverse eco-system," explains Juan Pablo Luchetti, consultancy director at Bristol-based app developer Mubaloo. "There are three different types of application: built-in applications for a particular operating system, for example, a calendar; then there are off-the-shelf solutions you can download from an app store; and bespoke applications.

"In practice, a good strategy combines all three. One of the key challenges is to understand where off-the-shelf fits, where custom comes in and how to use as much as you can from those built-in solutions."

The key to a successful enterprise app strategy, he says, is to identify clear objectives, whether that's to streamline the existing processes within a business or innovate and drive opportunities.

The rewards for getting it right are substantial. A custom app developed with Mubaloo helped student accommodation provider Unite boost the productivity of its service engineers by 30 per cent. The app replaced a paper-based process for managing maintenance tasks and reduced the time it took the company to invoice for work from more than 45 days to fewer than 15.

Unlike a paper system, the app also gathered data on how and where work was carried out. This helped to predict when common tasks – changing a light bulb, for instance – would need to be carried out and enabled these to be devolved to staff, such as receptionists, already in the building, avoiding the cost of an on-site engineer visit.

The role of enterprise apps differs markedly from sector to sector. In transport, mobile applications enable operators to improve customer service and avoid regulatory penalties as a result of delays. In other sectors the emphasis is on collaboration, with all members of a team having access to the right information at the right time.

Family-run business SD Sealants replaced the cumbersome paper-based system used by its field salesforce with an app. The resulting streamlining of the company's processes helped boost its turnover year on year by 25 per cent.

Although bespoke apps have been seen as the preserve of large enterprises, the trend is trickling down to smaller business. According to Apadmi's Mr Hunt, size isn't an accurate predictor of the maturity of a business's approach.

"It's not that the big companies are doing it well and the smaller companies aren't," he says. "The times we see success stories are when decision-makers understand technology, are good at finding the right suppliers and are willing to listen to those suppliers rather than simply directing. It's not always about big budgets, it's about a mindset."
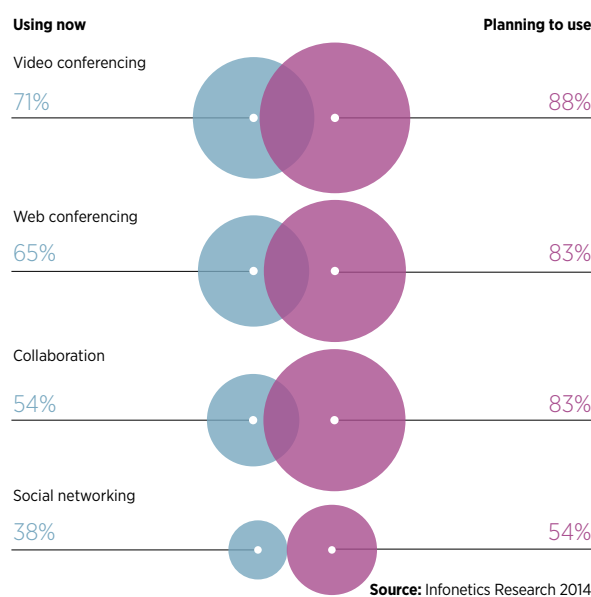
One pitfall, he says, is trying to achieve too much, too soon. Good development starts with a "minimum viable solution", often available in as little as a few weeks or months, to which features are added incrementally, often based on feedback generated by users and by the app itself.

The biggest hurdle to overcome, for businesses of all sizes, is integration, in particular ensuring their existing back-end systems are ready for the leap to mobile.
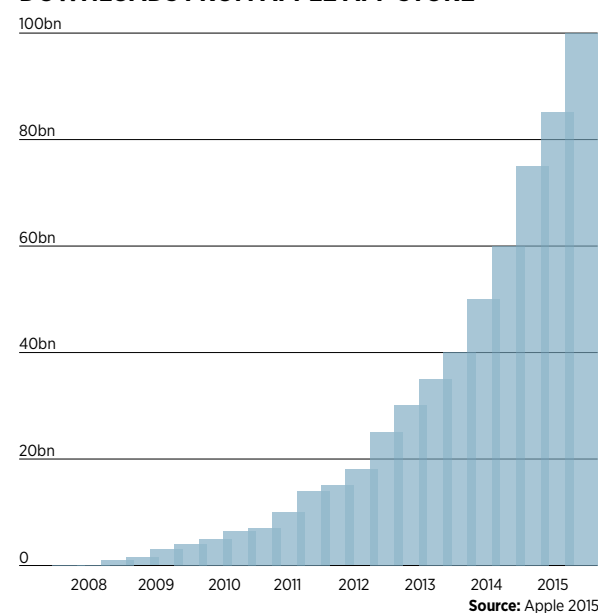
"Organisations may have the ideas and see the opportunities, but they need to start by looking at their legacy systems," says Mr Hunt. "Mistakes are made when companies go ahead with developing mobile, without having those integration points ready. Before we look at a mobile solution, we'll always ask what it's integrating with."

As the demand for apps grows within

> ❝
> Apps can not only connect a company's employees but its assets too, enabling businesses to do things that previously were not possible

business, they're set to become easier and less costly to develop.

"While many organisations allocate large budgets to one or two consumer-facing apps, they may need many internal apps, but the budgets for those are much smaller," says Burley Kawasaki, senior vice president of products and strategy at Kony, a leading supplier of app development platform tools.

The answer will come from customisable template apps. "Mobile applications will become more of a buy-and-configure eco-system," he says.

One aspect of this will be a trend towards "micro-apps". Mr Kawasaki predicts we'll see a proliferation over the next five years of simple, often single-task, apps.

App management will become simpler too, with more companies set to host their own internal app store using a wide range of off-the-shelf solutions. According to research from analyst Gartner, 25 per cent of enterprises will follow this route by 2017.

Wearables and the wider availability of wi-fi and fast mobile connections such as 4G, could see streaming video and augmented reality brought into the mainstream for business.

For some, such as Mike DeNoma, chief executive of hotel group GLH, the future of apps is connectivity. With wi-fi running at up to 197 megabits a second – more than eight times the UK domestic average – installed in a number of the group's London hotels, staff now collaborate primarily using off-the-shelf Google Apps on mobile devices. Mr DeNoma hopes to move 100 per cent of the company's systems into the cloud by the end of 2015.

GLH employed what he calls a "ship alongside" strategy, sidelining the company's existing infrastructure and rebuilding it from the ground up on a mobile, cloud-based model. Soon wearable cameras could allow hotel staff to report problems on the spot and even offer virtual guided tours to customers. This could become the blueprint for a radical departure in mobile strategy – with apps at its heart.

35% of apps share personal information

37% perform suspicious security actions

85% expose sensitive data

Source: Veracode 2015

FASTEST-GROWING UNIFIED COMMUNICATIONS APPLICATIONS

Using now		Planning to use
Video conferencing		
71%		88%
Web conferencing		
65%		83%
Collaboration		
54%		83%
Social networking		
38%		54%

Source: Infonetics Research 2014

NUMBER OF CUMULATIVE APP DOWNLOADS FROM APPLE APP STORE

100bn
80bn
60bn
40bn
20bn
0
2008 2009 2010 2011 2012 2013 2014 2015

Source: Apple 2015

COMMERCIAL FEATURE

THE ENTERPRISE MOBILITY REVOLUTION

A digital revolution is taking place in workplace culture, with people working faster, more efficiently and productively than ever before – and empowered to do so by enterprise mobility

30x faster internet connection **speeds** for enhanced user experiences at a public behavioural health agency

1 gigabit speed delivered to the network to support anywhere, anytime connections at one of New Zealand's largest universities

Increase speeds

High-bandwidth connecting to support medical images and video output, and multi-tenant collaboration at a leading medical research institute

30–40% reduction in calls for technical **issues** with Skype for business at a Netherlands-based vocational institution

287 million **287m** minutes of voice services consumed at a leading IT company

300% increase in the number of **internal customers** served daily with Skype for business access by IT for a public behavioural health agency

$2,400 10% rise in profits per employee a year, with 10% increased investment in staff engagement
Source: Workplace Research Foundation

147% Engaged employees / Talented managers — average rise in earnings per share, compared with competitors, when companies increase their number of talented managers and double the rate of engage employees
Source: Gallup

Traditional wired UC phone network tethered to desk **$897 per user**

Lync 2013 over Aruba 802.11AC wi-fi free to roam and collaborate **$197 per user**

Save costs

$.37 saved per minute on conferencing for a multinational corporation

Millions of dollars saved annually for a global company

50%+ employee engagement **80%+ retained customers** — 80%+ of customers retained by organisations with more than 50% employee engagement
Source: Demand Metric

Enterprise mobility is a term that describes a shift in work habits, where people spend more time working away from the office, and use a range of mobile devices and cloud services to do their job. What enterprise mobility is really about is creating productive work environments, empowering people and transforming business processes.

For the Ubers and Airbnbs of the world, companies that epitomise the digital economy, innovation is the norm. Among more traditional firms there is a growing awareness of the need to embrace this new culture and make the transition, and many are doing so by partnering with industry giants such as HP that can help them implement their own enterprise mobility strategy.

No longer just a great-to-have work perk, adoption is fast becoming a necessity for the entire business world. And a key driver of this revolution is the gap that exists between the digital experiences that employees have at home and the desk-based technology they are forced to use at work.

"Employees increasingly expect the same functionality and use of technology at work as they do in their personal lives, and in many organisations that simply doesn't happen," says Jordan Whitmarsh, worldwide workplace and mobility strategist for HP's Technology Services Consulting. "For some employees, when they go to work it feels as though they are stepping back in time, using old computers and non-intuitive applications that were written years ago. The delta that exists between this and their personal lives is huge."

It creates frustration that leads to demotivation and disengagement, and in the current climate, people have few qualms about switching companies for a role that does fulfil their expectations.

Therein lies the clearest business case for enterprise mobility. Companies that want to be seen as employers of choice need a competitive edge in the talent

stakes. To hit ambitious growth targets, they need employees who are engaged, motivated and productive.

The logic behind enterprise mobility is simple. By providing better access to the information and tools that people need to do their job, meeting targets becomes infinitely easier and quicker. They can also get more work done in a shorter period, so employees are happier and so are their bosses. This in turn drives organisational efficiency and productivity, and makes the business more competitive and ultimately more profitable.

Enterprise mobility changes the dynamics of collaboration within communities, within and between organisations, allowing employees to self-select instant communities of interest to self-organise and solve problems, just as they would in their personal lives.

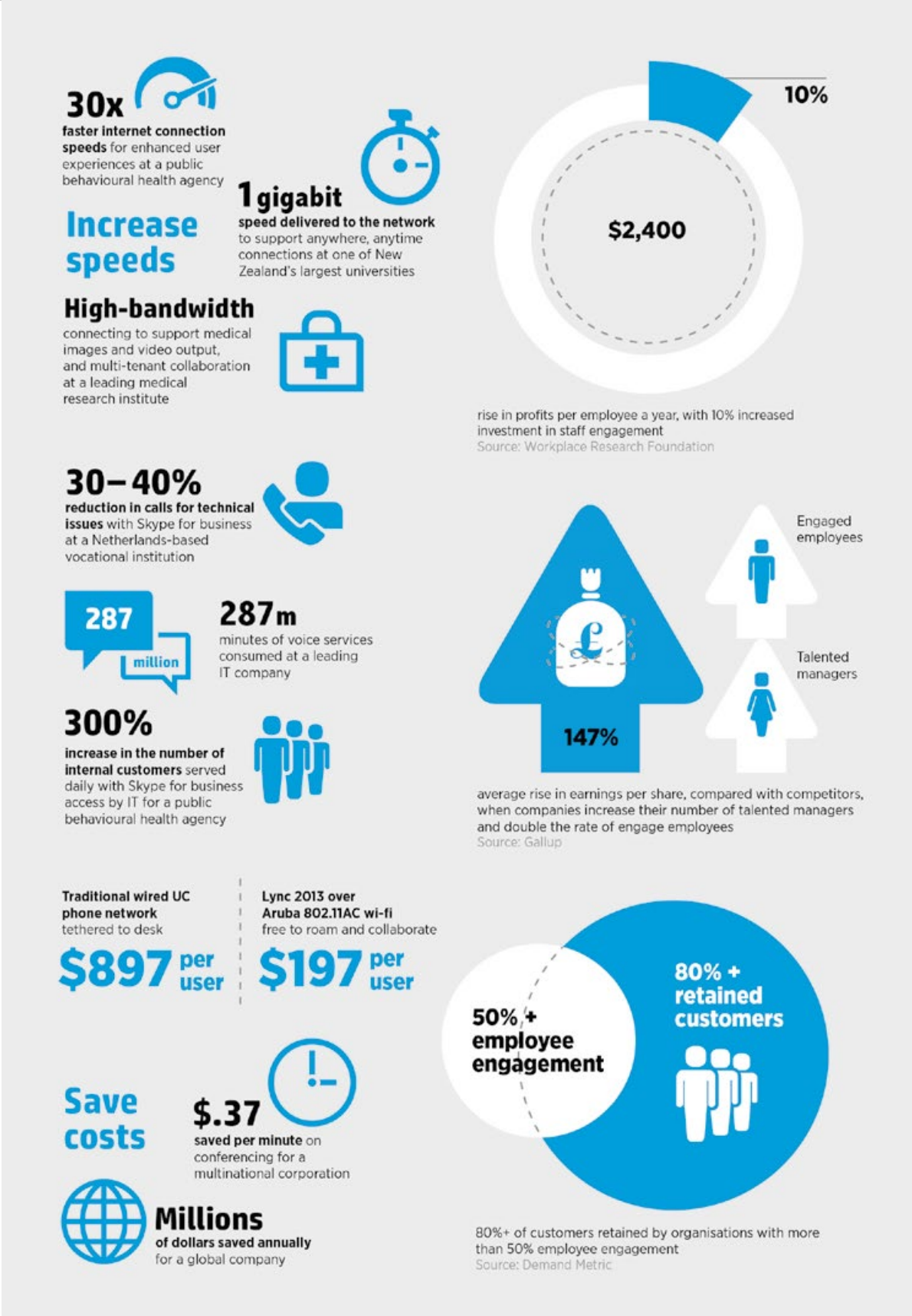It is an irresistible proposition that companies cannot afford to ignore.

The scale of transformation is daunting, particularly for organisations naturally resistant to cultural change.

"It's clear to us that we are moving in the right direction towards enterprise mobility adoption, but there are challenges," says Mr Whitmarsh. "For large companies, the move to digital is really testing them."

But it is achievable. HP itself overcame the trials and tribulations of adapting its communications network to embrace mobility, and now runs its entire global operations, comprising 300,000 employees, on unified communications solutions.

However, some of the biggest challenges are less to do with radical changes to IT infrastructure and more to do with human capital. People are naturally wary of change, even when it promises to enrich their working lives.

Changing workplace age demographics that have seen four generational workforces become commonplace can test enterprise mobility strategies to the limit.

"In many ways this is the most difficult time to be adopting enterprise mobility," says Mr Whitmarsh. "You have new employees coming into the business, digital natives who have never known anything else, and long-serving employees who have adapted to the status quo and see little value in changing something which isn't broken. For those employees, the digital transition is a harder sell. It is a challenge, but at HP we know how to do it."

The key lies in employee empowerment and encouraging a shift of mindset. Lessons learnt from the customer-experience world have also proved invaluable.

"Treat your employees as customers, equip them with the same tools as the customer world to motivate and engage them in a way that can affect their experience and the bottom line. This virtuous circle perfectly illustrates the empowerment of people through enterprise mobility," says Mr Whitmarsh.

Ultimately change is inevitable and organisations are seeing the business benefits of investing in enterprise mobility to motivate a workforce that, as it turns out, prefers to work this way.

> **Enterprise mobility is an irresistible proposition that companies cannot afford to ignore**

The return on investment (ROI) is measurable. Increasing investment in employee engagement by 10 per cent can increase profits by $2,400 per employee a year, according to the Workplace Research Foundation.

But as Mr Whitmarsh points out, with enterprise mobility, even conventional ROI models are being challenged.

He says: "There are companies that really understand enterprise mobility, and recognise that investing in the digital experience for customers and employees alike must be the norm. Others are still looking through the old lens and need convincing. But we are seeing people view ROI more subjectively and they are the ones who are quietly winning."

And that really underlines what the ethos of enterprise mobility is about – not just changing technology, but changing behaviours, mindsets and patterns.

"One thing we do know is that business models and employee behaviour are rapidly changing in all industries. Embracing digital in business and the workplace is essential," Mr Whitmarsh concludes. "This will enable business processes to be more accessible and intuitive, while creating experiences that engage and inspire employees to be their most productive."

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COMMERCIAL FEATURE

CREATING THE OFFICE OF THE FUTURE

The office of the future has much to learn from the hospitals of today with cutting-edge video technology not only saving lives, but also saving money

Marco Landi
President
Europe, Middle East
and Africa

Polycom®

Evelina London Hospital, which treats 100,000 sick children a year, including 6,000 with heart problems, has set the standard for its use of collaborative technology in treating patients.

Commercial businesses, although not dealing with the hospital's life-threatening issues, can identify with the need to handle high levels of customer queries quickly and efficiently. They can learn from their counterparts in healthcare to adopt and employ collaborative technologies to keep their customers satisfied.

A key diagnosis tool in cardiac surgery is the echocardiogram. It uses ultrasound to produce moving, real-time images of the heart, revealing the structure of the organ and how well it is functioning.

Evelina London uses video collaboration to enable cardiologist consultants to examine diagnostic-quality scans during operations without having to be in the surgery room. Images are beamed to one of several review stations within the hospital. Consultants use the video link to confer with the surgical team.

Dr John Simpson, professor of children's cardiology at Evelina London, explains: "In our practice to date, if a senior cardiologist is required for real-time review of intraoperative scan images, then the on-service consultant needs to scrub, change into theatre clothing and view the scan images in the operating theatre. This takes around 90 minutes and may compete with other clinical commitments on the ward, intensive care unit or talking to parents.

The new method, provided by Philips Ultrasound combined with a Polycom RealPresence Group Series solution, cuts review time to five minutes. The hospital calculates 1,300 hours a year are saved in surgeon and consultant time.

It is a perfect example of how the right collaboration tools can transform productivity. In Liverpool, Alder Hey Hospital has its own challenge. It serves children across the region. Many live with chronic conditions needing regular attention from medical staff. So in

2013 the hospital embraced telemedicine.

"We often find that when dealing with children and families, you can't just do the consultation with one person on the other end of a mobile phone," says Dr Ram Kumar, a paediatric neurologist at Alder Hey. "There may be a father, a mother, grandparents or a teenager you need to talk to directly; you are essentially in a conference."

Video means the doctors and nurses can talk to a patient and their family directly, but without the need to travel. On one occasion, Dr Kumar was able to make a remote diagnosis to save the vision of a child. "I was able to give the proper advice without admitting her to Alder Hey," he says, adding that telemedicine is now an essential part of the medical toolkit for staff at Alder Hey. "Telemedicine has allowed us to improve the speed at which a valid assessment of the child can be performed."

> "
> Companies that use video to improve their workflow have a huge advantage over those that don't

These two hospitals adopted remote working by necessity. A body of evidence shows that businesses are also benefiting by using similar technology. But there is some way to go.

A poll across the UK, France, Germany and Russia shows two thirds of business leaders believe flexible working has a bigger impact than cutting operation costs. Investing in more efficient processes beats retrenching.

And what are the key technologies? No one would dream of trying to work without e-mail or telephone, but how about video? More than half of business leaders expect video to be their preferred collaboration tool by 2016. Even emerging technologies such as the Apple Watch have big potential. A recent survey revealed 56 per cent of people would

use wearable technology if they believed it would improve their productivity.

Employees want to use the new tools. More than three quarters of millennials, born between the early-1980s and early-2000s, says access to the technology they like to use makes them more effective at work. A quarter of all employees would be willing to take a lower salary in return for flexible working. The appetite from staff is there. And the benefits are clear.

TIME TO CHANGE

As Evelina London and Alder Hey hospitals show, using collaboration tools means rethinking the way work is done. This revolution will stretch across the entire enterprise.

"Companies are realising what video can be used for," says Marco Landi, Europe, Middle East and Africa president of Polycom, the global leader in collaboration technologies. "We help doctors save lives, educators teach students, governments operate more efficiently, managers mentor their colleagues, executives connect with their teams and product teams bring innovation to market faster.

"Companies that use video to improve their workflow have a huge advantage over those that don't."

The rise of new work practices means offices will change. "Google, Microsoft and Apple are already designing new offices which challenge the way people look at space," observes Mr Landi. "They have open space with no cubicles. You don't need to trap people behind a desk when they can work from anywhere."

There is a dark note. The distance between market leaders such as Google and Apple and companies stuck in the pre-inter-

net era is stark. In the UK, just 13 per cent of companies actively encourage people to work anywhere on any device, one of the lowest take-ups in the world. We are behind Russia, India and China. In the United States, half of workers are given the authority and tools to work flexibly.

To catch up, companies need the right solutions. "A chief executive has higher requirements than a consumer for video," says Mr Landi. "They need a secure connection. Better picture quality. And stability. You can't talk to clients and cut them off mid-deal."

Simple interfaces will help tech-shy staff make the most of new tools. "If you give people the ability to make a video call with one click, and the interface is the same across PC, tablet and mobile, usage will increase. This is a crucial consideration," he says.

The workplace of the future will liberate staff to engage with whomever they need, on whatever device they want. "I live this lifestyle," says Mr Landi. "I work in airport lounges, in client's offices, at home in the English countryside or at the Polycom office in London. When I go to Scandinavia I see workplaces designed around this flexible thinking. They are true minimalists. So beautiful. The staff love it and their productivity reflects this."

When Polycom was founded 25 years ago, the office of the future was a subject for speculation. Today, the debate has shifted to how best to implement the very best of collaboration tools for all firms, not just the market leaders.

The office of the future is within our grasp. We just need to make it a reality.

www.polycom.co.uk

9 out of 10 millennials identify flexibility in the workplace as a top priority, further driving the trend
Source: Department for Business Innovation and Skills, July 2012

78%

78% of millennials say access to the technology they like to use makes them more effective at work
Source: PwC

3,000h
£250,000

Buro Happold engineers equipped more than **90%** of its staff with video collaboration to allow them to work remotely, resulting in **3,000** hours a month gained in productivity and **£250,000** a month in savings
Source: Polycom, September 2012

Get work done – virtually

Benefits of staff working remotely from home may be beginning to tip the balance of corporate opinion as improved technology brings people closer together

◆ **VIRTUAL WORKPLACE**

● **GUY CLAPPERTON**

Over the last few years there has been a turning point – virtual working has become acceptable. Not that it hasn't been technically possible for a while; it's just that culture has changed. People understand better and they can see the economics adding up.

The numbers are framed nicely in a recent KPMG report, *The Virtual Workplace*, by David Knight. Virtual working is happening at the margins of the enterprise only so far, with 26 per cent of human resources (HR) directors and 36 per cent of C-suite executives saying they were using it in 2014. More than 70 per cent of them said it was only going to increase slightly this year.
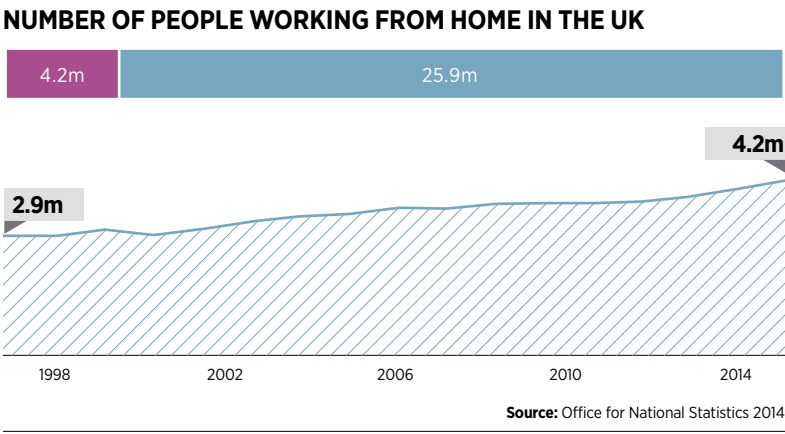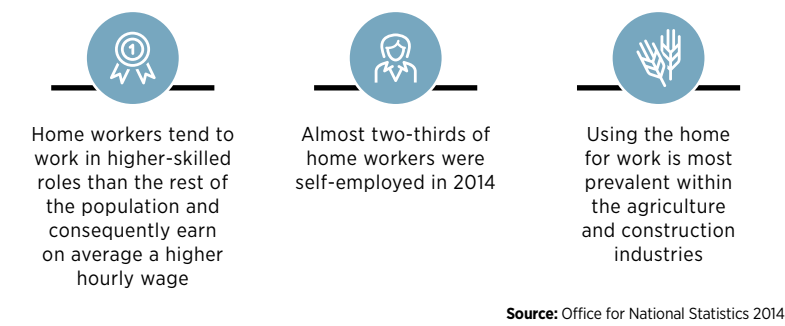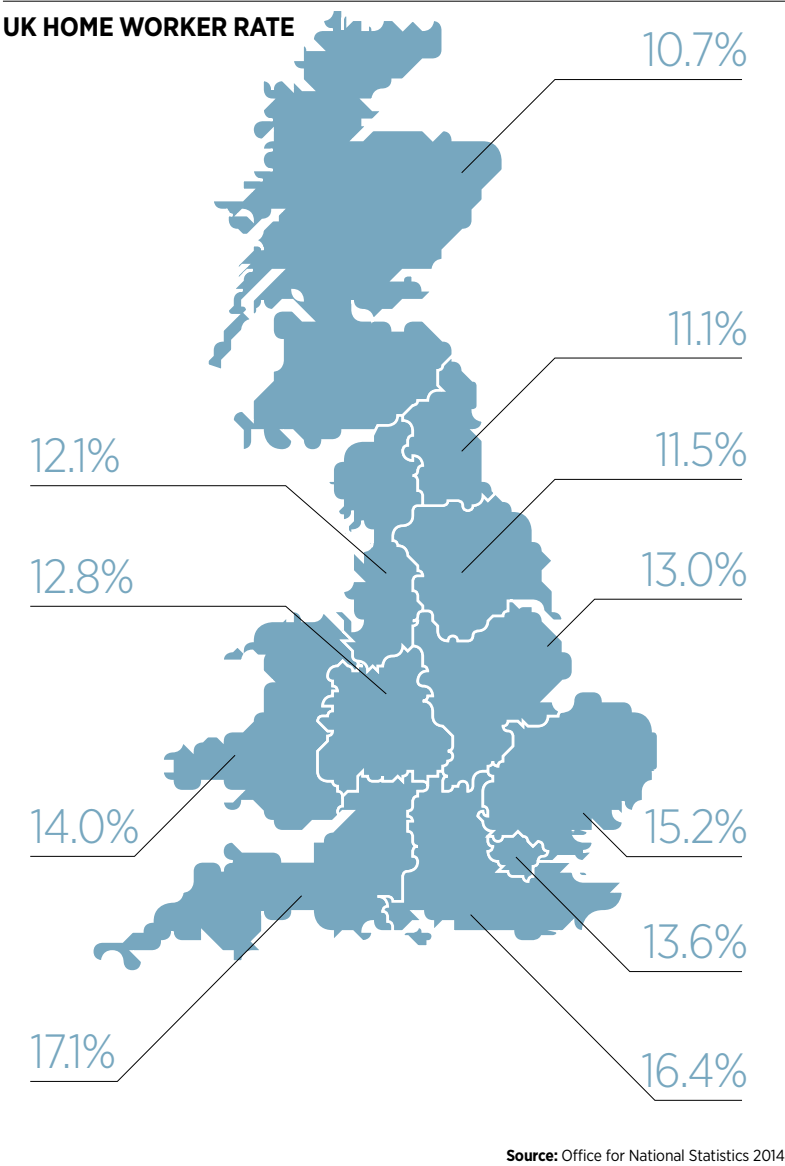
Barriers are many, says the report, including a loss of management control, loss of employee cohesion and "plain tradition", which means the virtual model is unlikely to work for everybody.

Which is a shame as the benefits can be considerable. Steve Mosser is founder of Sensée, which supplies home-working talent to work in virtual contact centres for UK brands, but also works internationally and very much practises what it preaches in terms of using a lot of remote employees. Mr Mosser says: "We're a virtual outsourcer – we do what a traditional outsourcer would do." In other words, whereas an outsourcer would send someone to a client's premises to work in, for example, the client's IT department, Sensée does the same for call centres without moving any bodies around.

"What we've had to do is to virtualise recruitment, training and remote management," he explains. "The entire employee life cycle is developed remotely." It seems to work as the company is about to hit around 800 employees in the UK and is supported by an internal team that also works from home – IT, helpdesk, client resource, everybody works from home. There is a very small office with two and a half desk-based people, for HR and some paperwork.

Costs were a powerful determinant in setting the business up to work virtually, but by no means the only one. "The biggest saving is not in the overheads, it's the productivity and utilisation – the optimisation of the resource," says Mr Mosser. "I spent years flogging the horse of trying to convince the corporate market that you could manage what you couldn't see – the real driver for me, though, was a social driver."

He started the company with a background as an engineer and the belief that the bricks-and-mortar model of business in contact centres was flawed. "In contact centres, you have a very variable workload of customer demand, e-mails, chat sessions, whatever," he says. "The contact centre space is good at forecasting what that customer demand is going to be; however, by bringing people to work, you

commit to a set number of hours such as an eight-hour work-day." This takes no account of the volatility of the demand, so it has in-built inefficiencies. Add an international element with time differences and the fixed workforce starts to look decidedly old fashioned.

Direct costs and scalability, both upward and downward, are key benefits of the virtual enterprise, enhanced by modern high-definition video-conferencing, collaboration technologies and a phone system that allows calls to be routed to remote locations as if they were on the spot, although there is controversy over whether we use all these tools well enough. None of this means there are no drawbacks.

Andy Bailey, vice president of EF Education First, has done a lot of research in the area and found a number of reservations, but his own business suggests they're worth working through. First there's the cultural issue. His company surveyed 800 directors in virtual international set-ups and found that 70 per cent said different languages and cultures caused communication problems. In fact, asynchronous communications – social structures or e-mails, in which people don't communicate at the same time – can be more effective, unless you have Russian or Chinese people in the negotiation, in which case a face-to-face meeting is very much preferred, he points out.

"It became obvious through our research that virtual teams have all of the same challenges – social, internal politics, interpersonal pressures – which physical teams have, and they can be compounded by certain factors, not least by the technology they rely on to support their virtuality," says Mr Bailey. E-mail is just about the worst culprit, he says, in compounding negativity. "We just assume everything's hunky-dory and ticketty-boo, and sometimes it's just not."

The snag can be that e-mail doesn't offer visibility of its sender, but it's used as a default communication. It can be excellent when sending new ideas and "reaching out", he says. "It can allow individuals who might not speak English as well as the rest of the team some time to think," he adds. "And it equalises the voice of each team member, but it can be very bad when there's some sort of conflict." This is worst when it's a negative rather than a creative conflict.

It can be a shame to allow these elements to undermine a virtual enterprise completely, however. Mr Mosser's view is clear: the internet has introduced change and allowed a model of "bringing work to people rather than bringing people to work, which is a virtuous model where the business wins by stripping the waste out and, from a people perspective, you have loads of talented people completely on tap because they can't access normal work".

He refers to people with disabilities, carers, single parents or people who just live in remote areas; the corporate world has been slow to move because of the loss of control and visibility, and maybe a change in security. Technology, including messaging and presence, allows companies to catch up with a lot of these drawbacks.

And it's increasingly accepted that serious business happens from virtual teams. In the first TV series of *The Apprentice*, one of the candidates said he was running a company from his bedroom. One of the savage interviewers dismissed this and said he wasn't running an international company from a spare room – the candidate was insistent; the attitude dismissive. Perhaps the judgment would be a little less severe now.

> **Apps can not only connect a company's employees but its assets too, enabling businesses to do things that previously were not possible**

UK HOME WORKER RATE

10.7%

11.1%

12.1%

11.5%

12.8%

13.0%

14.0%

15.2%

13.6%

17.1%

16.4%

Source: Office for National Statistics 2014

Home workers tend to work in higher-skilled roles than the rest of the population and consequently earn on average a higher hourly wage

Almost two-thirds of home workers were self-employed in 2014

Using the home for work is most prevalent within the agriculture and construction industries

Source: Office for National Statistics 2014

NUMBER OF PEOPLE WORKING FROM HOME IN THE UK

4.2m   25.9m

4.2m

2.9m

1998   2002   2006   2010   2014
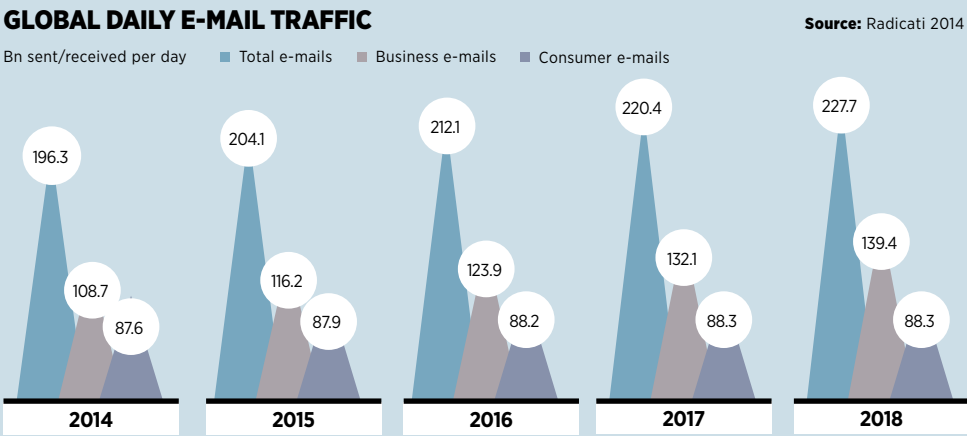
Source: Office for National Statistics 2014

Improved communication

Organisations that invest in communications technology and collaboration stra

EVOLUTION OF WORKPLACE COMMS

FAX

PAGER

YOU HAVE
1 NEW
E-MAIL

E-MAIL

INSTANT MESSAGING

MOB

GLOBAL DAILY E-MAIL TRAFFIC

Source: Radicati 2014

Bn sent/received per day   ● Total e-mails   ● Business e-mails   ● Consumer e-mails

	2014	2015	2016	2017	2018
Total e-mails	196.3	204.1	212.1	220.4	227.7
Business e-mails	108.7	116.2	123.9	132.1	139.4
Consumer e-mails	87.6	87.9	88.2	88.3	88.3

IMPORTANCE OF COMMUNICATION IN WORK

Source: PEW Research Center 2014

Percentage of working internet users who said each was "very important" to doing their job

- 61% E-mail
- 54% Internet
- 35% Landline phone
- 24% Smartphone
- 4% Social media

◆ **WORKPLACE COMMUNICATIONS**

● **GUY CLAPPERTON**

Speak to a technologist about collaboration and they'll tell you about social media – the Facebook and LinkedIn lookalikes inhabiting so many corporate systems, carried wherever a worker happens to be.

It wasn't always like that. The 1970s wasn't actually that long ago, but in technology terms it feels like the dark ages; the fax machine was just starting to allow sharing of documents across the globe and, if you were very lucky, you might be sitting in front of a computer rather than an electric typewriter.

Things have changed drastically now – or have they? IT business Daisy Group commissioned research that suggests a lot of companies are stuck in the eighties and nineties. Some 61 per cent were still using large filing cabinets, 46 per cent use a fax machine to send documents rather than attaching them by e-mail and floppy disks are still in use. One in ten still encourage their staff to use a business card box to manage their contacts, while just 3 per cent were allowed to use wearable technology. The findings were from a 2,000-strong poll, so they are significant.

There is, then, some way to go in terms of adopting newer technologies, which is lamentable because when circumstances dictate they should be used, the results can be striking.

John Maher, director of learning and information services at Scotland's University of the Highlands and Islands, says: "Our primary use has been video-conferencing." This is essential as Highlands and Islands is a federation of colleges spread around the region, so face-to-face meetings are not always possible. "We have around 200 studios dotted around the Highlands and Islands, so that covers about a sixth of the land mass of the UK," he says. "We can connect groups of students together in large cohorts and deliver curriculum that they wouldn't have access to from their normal location." This means people who don't want to go to urban universities don't have to.

Technology has to be robust. There are around 160 connections an hour at peak times and domestic internet, although useful as an alternative when the students can't get in, doesn't generally have the bandwidth. The academic and administration teams also use video-conferencing for occasions on which getting together would be difficult.

High-definition screens have helped students and staff engage, he believes. People who aren't used to video-conferencing often take a while to settle into it,
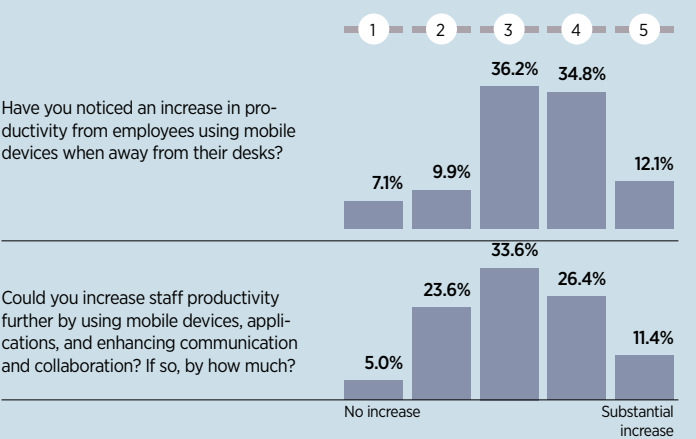
but in general the facilities are helpful in themselves. The system allows for split screens so the tutors can have a look at all the participants at once and check for anyone whose attention is wondering. Initially, explains Mr Maher, the screens were standard resolution so things have become easier. "Now it's a crystal-clear picture, so you get very good visibility of what's going on in each of the studios."

At the same time, the old-fashioned "chalk and talk" lecture style is giving way to a more interactive model. The human side is changing to adapt to what's technically possible.

This change isn't always positive, suggests Dave Coplin, chief envisioning officer at Microsoft, who is the author of two books, *Business Reimagined* and *The Rise of the Humans*. "We essentially want to communicate in the same way as before – our need to communicate hasn't changed," he says. "But there have been some changes in how we've evolved the technology and our uses of it to do that."

The rapid changes we've seen have involved, for example, the jettisoning and deriding of e-mail by many commentators, but Mr Coplin suggests it's still a great mechanism for asynchro-

> " We want to communicate in the same way as before, but there have been some changes in how we've evolved the technology and our uses of it

BUSINESS DRIVERS FOR UNIFIED COMMUNICATIONS

Improve employee collaboration	62%
Create a more mobile workforce	37%
Improve communications with customers	30%
Improve communications with outside partners and suppliers	27%
Legacy private branch exchange	23%
Reduce telecoms with combined communications and IT systems	20%
Implement communications-enabled business processes	19%
Reduce travel expenses	17%
Meet customer or employee expectations	14%

Source: *Information Week* 2014

PRODUCTIVITY USING MOBILE DEVICES

Have you noticed an increase in productivity from employees using mobile devices when away from their desks?

1	2	3	4	5
7.1%	9.9%	36.2%	34.8%	12.1%

Could you increase staff productivity further by using mobile devices, applications, and enhancing communication and collaboration? If so, by how much?

No increase				Substantial increase
5.0%	23.6%	33.6%	26.4%	11.4%

Source: Azzurri Communications 2014

ns win productivity gains

ategies retain staff and reap the rewards of greater productivity and innovation

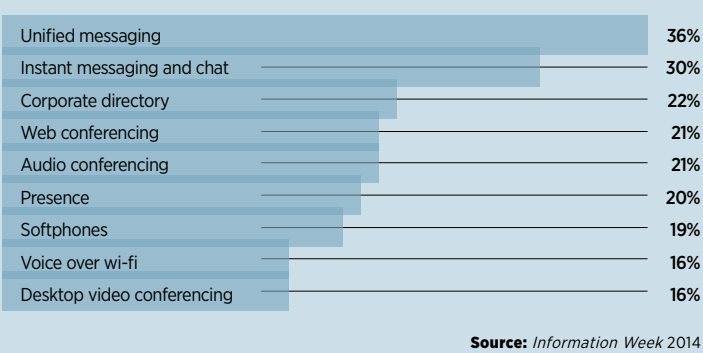**BILE**   **TEXT MESSAGING**   **SMARTPHONE**   YOU HAVE 1 NEW CONNECTION **SOCIAL NETWORKING**   **VIDEO CONFERENCING**

BENEFITS OF UNIFIED COMMUNICATIONS

Source: Ziff Davis 2014

Organisations using unified communications clients saved an average of 32 minutes a day per employee because technology enabled staff to reach one another on the first try

Organisations using unified messaging reported employees saved 43 minutes a day from more efficient message management while mobile workers saved 55 minutes a day

Companies using integrated voice and web conferencing reported a 30% reduction in conferencing expenses by making integrated conferencing capabilities available in-house and on-network, and lower travel costs

UNIFIED COMMUNICATIONS DEPLOYMENT PLANS

Source: *Information Week* 2014

Currently deployed and using	44%	38%
Plan to deploy in the next 6 months	9%	
Plan to deploy in 7 to 11 months	4%	6%
Plan to deploy in 12 to 24 months	13%	14%
Have no plans to deploy	30%	32%

MOST BENEFICIAL FEATURES OF UNIFIED COMMUNICATIONS

Feature	%
Unified messaging	36%
Instant messaging and chat	30%
Corporate directory	22%
Web conferencing	21%
Audio conferencing	21%
Presence	20%
Softphones	19%
Voice over wi-fi	16%
Desktop video conferencing	16%

Source: *Information Week* 2014

HOW DO MOBILE APPLICATIONS AFFECT EMPLOYEES' PRODUCTIVITY?

1 - No effect
5 - Substantial positive effect

4.7	E-mail
3.9	File share/data access
3.5	CRM/customer information
3.1	Workflow management
2.9	Video conferencing
2.8	Instant messaging
2.8	Web conferencing

Source: Azzurri Communications 2014

nously communicating concepts to specific individuals.

"That's as true a need today as it ever was," he says. "The real challenge is that when we turned up 30 to 40 years ago and duplicated that analogue process of communication called the office memo, made it faster, better and cheaper, and turned them into e-mails, we never asked 'Hang on, do you need to communicate that way?' So we accelerated an old way of working and made the problems of working with it much worse."

In other words, we made the office memo easy, but there wasn't much in the way of an "off" switch, so we're now deluged with unwanted mail. What Mr Coplin would like is a more appropriate use of different communications media and that's what we haven't learnt yet. "In an age where I have a multitude of different ways of communicating and I can choose what's the most appropriate way to communicate a particular message to an audience I need to reach, just banging something out isn't appropriate," he says.

A side effect of the poor use of the technology is a less-focused person, he suggests. We now have so many communications that we never get to the end of it. Some of Mr Coplin's research suggests that 77 per cent of the UK workforce thinks a productive day at work is one spent clearing your e-mail in-box. "Our brains like that, they give us dopamines and whatever, but e-mail is a process of work that pushes messages around, not the work itself," he says. Another issue is that an alert about an e-mail, the Facebook message, whatever, can be as distracting as the message itself, so the process takes up even more time.

Facebook and its competitors are relevant in a business setting because the most recent iteration of corporate communications technology is the social construct. Offered by Microsoft through Yammer (an acquisition), Slack, Podio and others, it consists of a social media lookalike through which companies can collaborate.

Strategist Kathryn Everest, communications and collaboration solutions at Jive Software, confirms that clients are reporting solid productivity increases. "One organisation uses collaboration to respond to customers and is reporting a 50 per cent lift in productivity. Some others are using it to improve innovation; others are having challenges with employee retention and they focus on that objective, experiencing 10 to 20 per cent increases," she says.

> " One organisation uses collaboration to respond to customers and is reporting a 50 per cent lift in productivity

The fax may still be in use, but by now it has to be fading. The emphasis now is to get whatever means of communication the user wants – e-mail, text, voice, social – on to the gadget of their choice, whether it's provided by the office or their own. This enables working when and where they want, which in turn pulls a refresher of management skills through the door.

So, what's coming next? People have different ideas inevitably. Mr Coplin would like to see more appropriate technologies applied to different tasks and the issue there is the communicator rather than the gadget. Consumers are choosing their gadgets under policies called bring your own device (BYOD) and the underlying software can forward calls and messages at will.

Ms Everest believes it's going to become even more ubiquitous. "Right now to some degree 'social' is becoming a feature. People are building products and adding social. I don't think it's a feature, I think social and collaboration need to be there from the ground up – it's personal and people-centric, so it's going to get even more personal. The technology is going to get better at knowing you because you're contributing to it – it will know what you're interested in, how this changes over time and will become more of an assistant."

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COMMERCIAL FEATURE

WORKPLACE OF THINGS: EVOLUTION OF THE MOBILE WORKER

Today's business environment has truly entered a new era of mobile-led changes which have revolutionised how companies interact with their customers, how employees collaborate with one another and how businesses choose to operate

907M people will use tablets in two years

3X TABLETS USED FOR WORK AND HOME WILL TRIPLE BY 2017

THE NEXT FRONTIER: ACCESS ANYWHERE VIA BYOD

IT SECURITY ✓
CONSISTENT EXPERIENCE ✓
AUTOMATION ✓

OF EMPLOYEES WHO BRING THEIR OWN MOBILE DEVICE TO WORK:

78% Believe it helps work/life balance
70% Use it to access corporate data
21% Do so in spite of existing policy
15% Use it without IT's knowledge

DO YOU EVER WORK OUTSIDE YOUR COMPANY'S PHYSICAL OFFICE?

79% YES   21% NO

42% of employees who use their own devices for work say efficiency and productivity has improved

69% 25% 7%   North America
            Europe, Middle East and Africa
            Asia-Pacific, Japan
YES

69% 6% 7%
NO

PGi [COLLABORATIVE ADVANTAGE]

OFFICE OF THE FUTURE

In this mobile-first world, tech-savvy employees have pioneered the ubiquitous trend of bring your own device (BYOD) which has forced chief information officers to sit up and take notice. With nearly 94 per cent of all companies offering BYOD strategies, it is predicted that 30 per cent of these will leverage personal applications, data and social connections for enterprise purposes by 2016.

Given the rise in this trend, IT managers must proactively plan to integrate flexible working into their unified communications and collaboration (UC&C) strategies. As a result, the most innovative IT business leaders are relentlessly engaged across all business functions in creating the optimal collaboration environment founded on new mobile applications, cloud-based meeting tools and more flexible working practices or what is known as the "workplace of things".

WORKPLACE OF THINGS

According to Melanie Turek, vice president, research, at Frost & Sullivan: "The concept of the 'workplace of things' is built on the central idea that the workforce will be increasingly mobile and the work environment itself is smarter than ever.

"Frost & Sullivan research shows that at least one third of all employees in businesses in the United States and Europe are considered 'virtual' employees, meaning they work from home, the road or a satellite office most or all of the time.

"Mega trends, such as urbanisation, smart cities, the growing dominance of 'millennials' [people born between the early-1980s and early-2000s] and increasing network convergence, demand the infusion of next-generation technologies into the unified communications and collaboration framework."
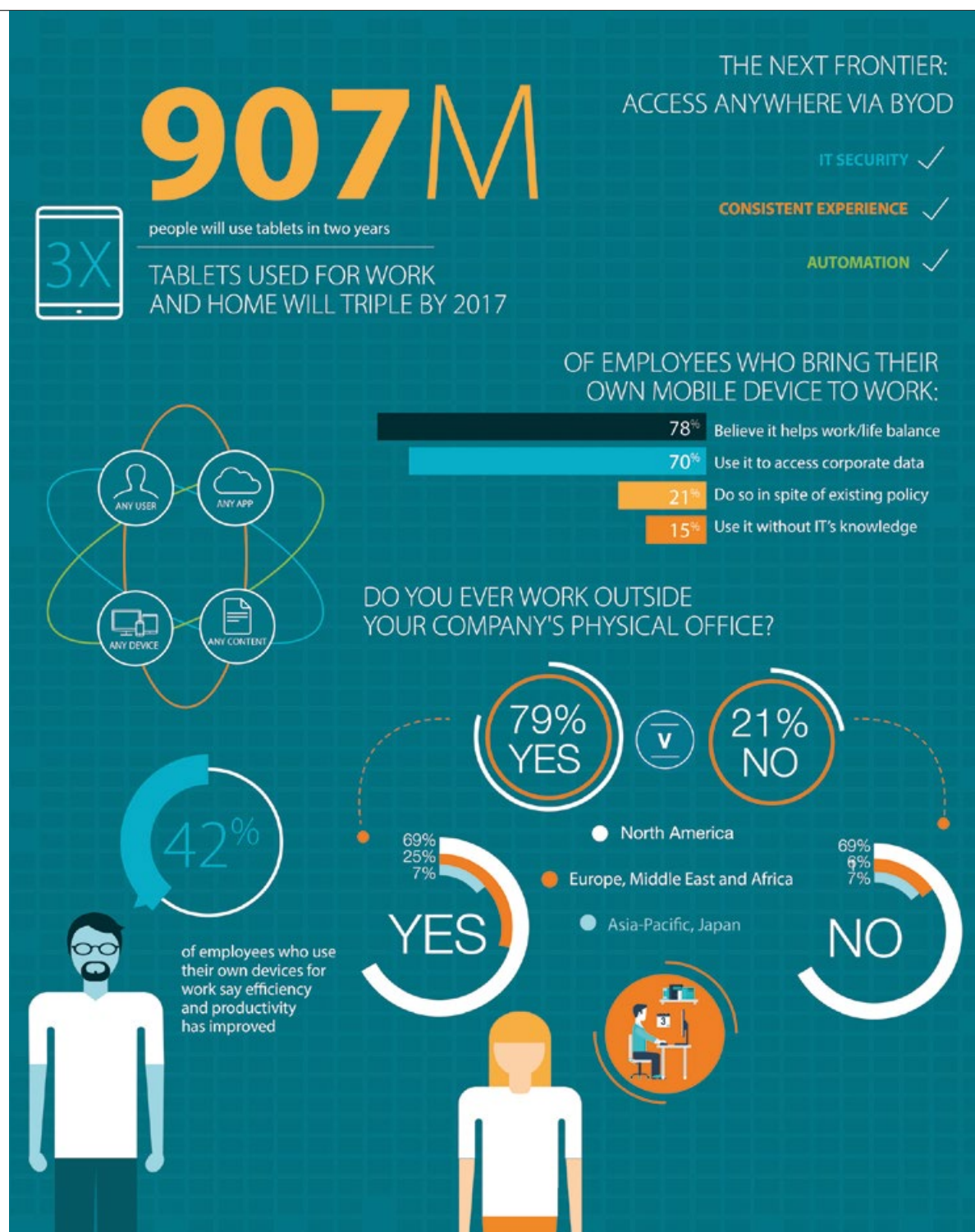
CHANGING WORKING HABITS

According to a recent global telework survey by PGi, which examined the working habits of 3,000 knowledge workers worldwide, more than 66 per cent of respondents positively endorsed telework as a newly adopted attitude and practice in their organisations. In this digital, mobile environment, productivity applications married to communications services deliver a complete, integrated toolset that enables better employee collaboration regardless of time or location. Ms Turek notes that "the changing work patterns of users and the increasing need for a better work-life balance are greatly influencing the progression towards an intelligent workplace", driven by mobile technology. Thanks to new flexible working practices, employees are able to skip the long commute and still maintain the same level of productivity remotely.

The *PGi Global Telework Survey* corresponds with Ms Turek's assertion, with survey respondents citing reduced commute time, better work-life balance and flexible hours, as the top three benefits for teleworking.

Mike O'Boyle, PGi vice president of collaboration solutions international, explains: "For business professionals today, time is one of their most valuable business assets. Virtual software-as-a-service or SaaS-based solutions look at how best to maximise this particular asset by focusing on the user and not just the technology."

IT business leaders looking at how best to maximise time are now upgrading infrastructure to the cloud, while also unlocking mobile potential and digitising their processes. These forward-looking chief information officers are embracing next-generation technologies through working with collaboration solution providers, such as

PGi and Modality Systems (a PGi company), to design and develop custom universal communication solutions.

These innovative thinkers are regarded as "digital disruptors" or "chief acceleration officers" through the increased efficiency and real business value that new integrated solutions provide for their organisations.

> *"*
>
> The concept of the 'workplace of things' is built on the central idea that the workforce will be increasingly mobile and the work environment itself is smarter than ever

UNLOCKING MOBILE POTENTIAL

Another notable facet of agile-working companies is how they embrace new technologies that combine innovative collaboration solutions with wearable-device applications. In a recent Frost & Sullivan survey of 300 North American decision-makers, who were responsible for

purchasing mobile software applications, 82 per cent of respondents deployed at least one mobile worker app and 49 per cent had implemented between one and ten apps.

Clearly businesses are interested in creating more connected, intelligent workers through technology that follows, learns and engages. "We know that you and your employees increasingly still need to travel and to work remotely," says Mr O'Boyle. "That is why PGi has developed mobile productivity tools such as iMeet® Agenday™ for Enterprise that embrace this wearable mobile technology to help you to continue to do business as you travel 24/7 in any location globally."

CREATING THE RIGHT ENVIRONMENT

This prominent shift in work-based practices and the harnessing of new technologies offers huge appeal for organisations looking to advance and make improvements. In response to the changing pattern of today's global business environment, PGi has expanded its portfolio of solutions for web, video and audio-conferencing to provide companies and their workforces with solutions that allow them to collaborate with stakeholders and each other from their preferred

devices and locations. Through working closely with their customers, PGi has found that providing increased flexibility and choice are essential for innovative IT business leaders in companies which are truly recognising the impact of collaboration technology as a key driver for improved efficiency and productivity for the "workplace of things".

ABOUT PREMIERE GLOBAL SERVICES, INC: PGi

PGi is the world's largest dedicated provider of collaboration software and services. A G-Cloud6-approved vendor for UK government departments, PGi created iMeet®, an expanding portfolio of purpose-built applications designed to meet the daily collaboration and communications needs of business professionals, with solutions for web, video and audio conferencing, smart calendar management, webcasting, project management and sales acceleration. PGi's award-winning unified communications and collaboration solutions help nearly 50,000 businesses grow faster and operate more efficiently. To learn more, visit us at uk.pgi.com

Unifying a business at your service

Unified communications as a service or UCaaS, hosted by a third party in the cloud, enables organisations to be agile and collaborate like never before

◆ **AS A SERVICE**

● **DEREK DU PREEZ**

The use of technology to facilitate the flow of information and ideas between employees, stakeholders and customers has long been a necessity for companies.

But for too long this has meant relying on the use of fixed line telephones and clunky e-mail systems, which haven't given companies the freedom to be mobile or integrate communications with other business applications. For example, if someone e-mails a document for you to look at, traditionally you would download the attachment, make amendments, write notes in a separate document or system and then e-mail it all back. Hardly very efficient.

> ❝
> Cloud-based platforms allow businesses to collaborate across a number of integrated channels that are delivered as a service via a web browser or mobile application in real time

However, operating in these silos is quickly becoming a thing of the past, thanks to the growth of cloud-based platforms, which allow businesses to collaborate across a number of integrated channels that are delivered as a service via a web browser or mobile application in real time.

Companies are now gaining a competitive advantage by using instant messaging tools to deliver and receive quick updates, by creating social media platforms to bring their employees and partners together in a dynamic online community and by making video calls to cut down on travel costs.

Adopting this approach means no longer limiting yourself to rigid systems that have to be used on-site. Businesses can now collaborate in the cloud across new channels that are accessible from a mobile, tablet or desktop, wherever they are.

For example, Pizza Hut is using Microsoft's Yammer platform as a social media and communities tool to engage with the company's front-line staff in restaurants across the country. Head of communications Gareth Hopley explains that the cloud platform has allowed Pizza Hut to engage with its employee base in a way that it hasn't been able to do previously because 90 per cent of its staff aren't connected to the corporate network and are spread across the UK.

Pizza Hut can now communicate and collaborate with its staff, all day, every day, using Yammer, which can be downloaded and accessed on any employee's mobile phone.

"The communications challenge we had wasn't unique – how do you speak to the people that serve your guests on a daily basis? How do you engage that workforce to the point where they understand the priorities and goals of what you're trying to do as a business?" says Mr Hopley.

"We want to be a front-to-back, instead of a top-down, business. The most important people in this business are the ones that work in the restaurant – they're the face of the brand. These people never had a voice, but they are now making suggestions and trying to improve things operationally.

"They're giving us feedback on what customers are experiencing live in the restaurants. In board meetings our members actually pose questions on Yammer and ask for feedback that we can act on directly. The ability to access it without much effort is fantastic."

M&C Saatchi, the largest independent creative agency in the world, is also using the cloud to improve collaboration in its business. However, unlike Pizza Hut, its challenge has been around communicating with clients on creative projects in real time, when those clients could be based anywhere in the world. Alistair Roberts, head of IT at the agency, explains that M&C Saatchi has begun using Egnyte to address this.

Egnyte works by replicating on-premise file servers into the cloud, which can then also be replicated any number of times to any number of locations. This means that for M&C Saatchi it can replicate images of large art works to the cloud, and let clients access and collaborate on them via their web browsers, without having to attempt to send them as large attachments in e-mail, which slows down the process.

"The problem with using on-premise collaboration tools is that you have to get people in and out of your premises. And if you're a global organisation like we are and you're dealing with people on the other side of the planet, then you've got physical limitations in the form of data-transfer rates. And to be honest, on-premise systems are not really designed to do that. They're designed to lock things down and make it difficult to get in and out," says Mr Roberts.

The nature of the cloud, whereby you can scale up and down easily and just pay for what you use, also means that you don't have to make huge up-front investments to shift your organisation towards a more integrated approach to communications. Richard Atkinson, chief information officer for the world's largest fundraising platform JustGiving, advises companies simply to try out cloud for collaboration where they can instead of focusing too much on creating a cumbersome strategy.

JustGiving is using Salesforce to collaborate with charities in the cloud, allowing it to on-board new partners and to manage those relationships on a global basis.

"People feel the burden of having to create a strategy; it creates the connotation that the strategy you set now has to be valid for the next five years. And people start to think about how we as IT professionals used to buy systems, when we did buy them on five-year deals and we felt that lock-in. I'd advise companies to just try some stuff.

"The wonderful thing about the cloud is that the entry level is very cheap; don't think you're making a decision you're going to have to live with for five years. It's a more agile way of thinking."

However, shifting from using telephone calls and e-mail to do business, to an always-on, unified communications platform distributed across a number of real-time channels can create some cultural challenges and cause some resistance among employees.

Mike Wilkinson, vice president of product marketing at Broadsoft, a global provider of unified communications and collaboration services, advises that his most successful customers are the ones who identify a champion to promote the benefits of cloud across their business.

"Make sure you have a champion who is responsible for the propagation of the cloud service within the organisation – that's one of the most critical aspects. If there's nobody who's the owner of the service, you run into more issues," says Mr Wilkinson.

"Make sure there is a process of user-training and user-understanding. The best way of achieving success is ensuring you have a champion within the organisation who is working with the cloud provider to push it through the company. What we do with a lot of our customers is produce a very large range of tutorials that help them use all the various systems, which really increases adoption."

$4.1bn

estimated global UCaaS market by 2017, equal to 18.8% growth each year

Source: Canalys 2013

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MAIN CHALLENGES FACED BY COMPANIES WHEN IMPLEMENTING UNIFIED COMMUNICATIONS AND COLLABORATION SOLUTIONS

#	Challenge	%
1	Cost/funding	41%
2	Security/privacy concerns	36%
3	Integration with existing infrastructure	33%
4	User quality/experience	30%
5	End-users are not trained to use the technology	27%
6	Network bandwidth limitation	26%
7	End-user adopting "workarounds" to company-sanctioned solutions	25%
8	Lack of expertise/skill sets	25%
9	Difficulty quantifying return on investment	23%
10	Finding a solution that meets the needs of various functions or stakeholders	21%

Source: IDG Enterprise 2015

WHERE ORGANISATIONS ARE SPENDING THEIR BUDGET

47% Web, audio and video-conferencing services

44% IP telephony calling and management

42% E-mail, fax and voicemail, including unified messaging

Source: IDG Enterprise 2015

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Keeping comms

A well-defined communications strategy, which puts in place the necessary

◆ **STRATEGY**

● **DAN MATTHEWS**

As the number of communications channels grows, so does the scope of an organisation's communications strategy. In the 1980s you had a straight choice between talking face-to-face, speaking on the phone, sending a fax or telex, or writing a letter.

Strategies were, therefore, pretty bare bone – use your company phone because there is no alternative, be polite to customers and partners, and when you want something to be recorded or remembered put it in writing.

In the last 30 years those limited options have sub-divided like amoeba and ballooned into a million different options for text, voice, images and video. Better, faster networks have opened up opportunities for new devices and services, which in turn have fuelled the latent wanderlust of cooped-up desk jockies.

Now the average large company will have employees scattered across the world, some in offices, some in the field – some perhaps even in a field – as well as different time zones, varying infrastructure, language barriers, the lot.

But organisations are required to help these people communicate with each other as well as third parties fluidly, securely and meaningfully in real time. People are everywhere, technology is limitless, competition is rife, so a brilliant and holistic strategy is required.

The situation is creating a natural contradiction, however. Strategies must be sophisticated enough to cover the myriad of adopted communications channels and how they are used, but simple enough that everyone in the organisation can understand what's going on.

Communications are a more important component of a smooth-running business than ever before and, annoyingly for anyone trying to get a job done, there has never been so much scrutiny of what is being said. The news is full of social media slip-ups, texts gone awry and notepads photographed from 50 feet by eagle-eyed paparazzi photographers.

Adding to the headache for those responsible for envisioning a strategy is the fact that this great big mess is moving around all the time, like a massive multi-layered trifle carried by a tipsy waiter. Executives have to somehow account for its movements and load future changes into current plans.

Your average common-or-garden communications strategy is a complex thing, but for large businesses such plans are truly multi-dimensional. Have you considered, for example, that a plan should reflect the psychological impact of employees who become remote workers, parted from their colleagues?

Remote working has its obvious advantages, but so does being surround-

THREE BIG TRENDS DOMINATING THE ENTERPRISE COMMUNICATIONS MARKET

Death of traditional, static networks based on TDM (time-division multiplexing) technology

Explosion and dominance of mobile services and devices

Emergence and adoption of cloud communications

Source: Dimension Data 2015

strategy fluid

technology, is a recipe for sweet success – if it's people-centric

HOW TO DEVISE A COMMS STRATEGY

If you're unclear how to create a strategy, then here's a helping hand. According to experts, the document should define what is adopted by the company, why and for whom. It should create a timeline for adoption, and include details for training and "selling" of the new technology to staff so they don't revert to the old methods.

Most importantly, it should be aligned to the needs and goals of the organisation. It should outline details for a bespoke experience, not a borrowed facsimile of some other company's plans. Ideally, it should be supported by evidence of tests on small focus groups. And it should be easy to understand.

"When defining a strategy it is imperative to ensure support from management for not just the cost of purchasing, but also the adoption across the organisation," says Nigel Dunn, manag-

ing director of Jabra UK and Ireland. "A clear communications strategy within organisations is vital for the growth and success of that company."

Julian Gorham, head of brand for Gather, says company public relations around the strategy must be stripped back. "Organisations have far too many words around them. One FTSE 250 company proudly told me recently they had ten values. I can't remember the names of ten friends let alone ten values."

So we're back to that nasty puzzle again, taking something that is vastly complex, and condensing it into a set of written principles and actions that are easy to grasp.

It's a rabbit out of the hat trick alright, but companies that pull it off will enjoy a distinct advantage in this modern, agile world than those that do not.

ed by a familial tribe of like-minded workers, with whom you can share your successes, snipe quietly behind the boss' back and go for a pint at clocking-off time.

"Many of us work in disparate, geographically remote teams. The obvious downside of this is a loss of rapport between employees," says Garry Veale, president of Avaya in Europe. "While communication technologies have done wonders to plug the geographical void, they haven't always enabled collaboration within the office. A great unified communications strategy takes this social need into account."
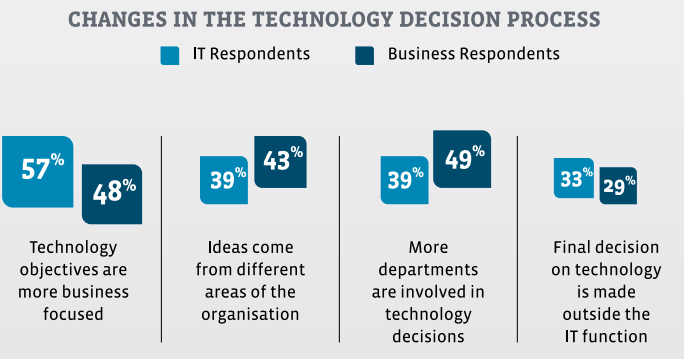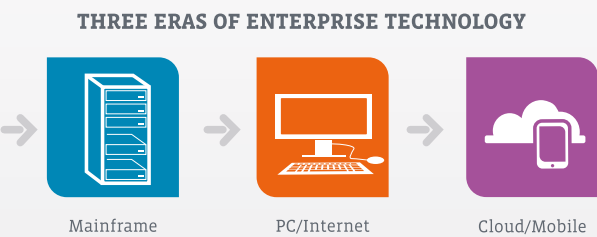
Indeed, flexible patterns have become so normal that it's weirder to work nine to five, Monday to Friday. People don't do inverted commas with their fingers anymore when they say they're "working from home", so company systems, networks and processes should grow up a bit too.

"Remote working is no longer the exception to the rule and businesses need to centre on the best talent, no matter where individuals are located, rather
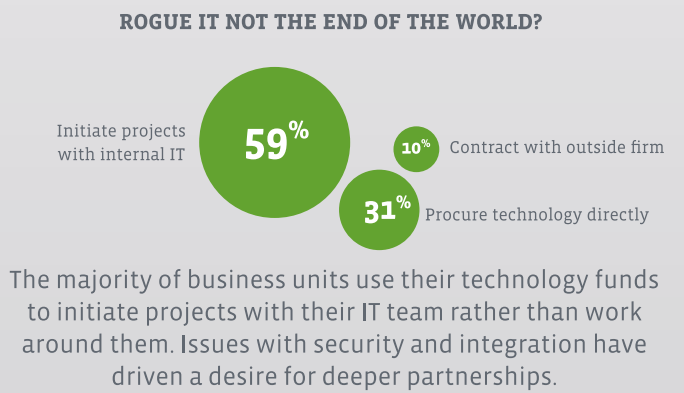
than on who is within reach of a physical office," says Graham Bevington, executive vice president at Mitel.

"With the massive diversification through which companies share information, securely and reliably, they need to be agile enough to cope with the demands of employees, partners and suppliers alike."

Companies are dealing with this in different ways, according to Mr Bevington. For example, some have created an

> ## Your average common-or-garden communications strategy is a complex thing, but for large businesses such plans are truly multi-dimensional

extension to the bring your own device trend by allowing employees to choose from a range of approved devices which are secured in-house and linked up to company networks.

Approaches to software are changing too. New apps, for example, are cheap, easy to access and designed to work without the need for training. Some agile businesses have stopped contesting their use and have accepted the best

apps into the fold, including them in workflows to create results.

"A consistent and standards-based communications strategy is important for companies to ensure they fully realise the efficiencies that technologies such as cloud and software as a service can bring," he says. "These are keeping their architectures flexible, able to embrace new applications, devices and technologies quickly."

Paul Leybourne at Vodat International believes the hardest thing about creating a strategy is that new technologies evolve quickly. Strategies hoping to encompass them should therefore accept change and account for it, and not even attempt to predict the nature of it.

"It's important to future-proof a strategy, but technology and social trends are advancing so quickly it is impossible to second guess what they will look like in 12 months let alone five years, which would be the typical time to write down capex [capital expenditure] investment," says Mr Leybourne.

"So it's important to adopt a flexible approach. As an example, companies moving to hosted virtualised platforms can usually scale up very quickly, which is much better than trying to size servers and connectivity that could quickly become redundant if the sizing exercise is underestimated."

Answering the call for first-time answers

Unified communications are transforming contact centres and improving customer experience as more and more are providing a multi-channel service

◆ **CONTACT CENTRES**

● **CHARLES ORTON-JONES**

It's been a busy morning for the EE team on Twitter. Inquiries from customers of the mobile network are pouring in. Aaron's venting about his engineers being late, Mel D's not sure why 4G exists and Anya's asking if deleting Tinder from her mobile will keep her data usage down (yes, Anya, it will). Minute by minute the tweets stack up. And the contact centre team respond, coolly and with good cheer.

This is the new face of contact centres. Customers are tweeting, Facebooking, e-mailing, texting and chatting over instant messenger. It's natural for them. For companies, it's a new world.

Ten years ago there was no web chat, no social media and very little e-mail. Today, a third of contact centre activity is over new media. The 2015 *Global Contact Centre Benchmark Report* by Dimension Data forecasts voice will be overtaken within two years. Can the industry handle it?

Not yet. Up to 40 per cent of contact centres polled by Dimension Data say their IT doesn't meet current needs and 80 per cent say their system won't meet future needs. Six in ten contact centres have no social media capability despite it being a natural choice for anyone under the age of 30. Video chat is almost unheard of in contact centres right now. Some 75 per cent have no capability, although 15 per cent are working on installing it. Even something as basic as web chat is surprisingly rare, with only one in three contact centres using it.

Other surveys confirm the problems. A study by headset-maker Jabra revealed contact centre agents were the most dissatisfied of all groups in terms of the IT equipment provided to them to get the job done.

That's the bad news. Fortunately, there's a lot to be cheerful about. Contact centres have never had so much choice in terms of hardware and software to bring about unified communications and integrate other vital services, such as customer relationship management. There is some great work being done to drag the industry out of the dark ages.

Outsourcer Arvato won the Partnership of the Year prize at the European Contact Centre and Customer Service Awards in June for its work with Renault UK. Debbie Nolan, business development director at Arvato, says: "Customers increasingly expect brands to be able to answer their queries at the first point of contact, regardless of the channel they use for their query and regardless of the customer journey stage they are in. At the same time, they expect a bigger choice of online customer service channels. Contact centre providers are having to rethink how they operate to meet this growing demand. "On top of the traditional contact methods of telephone, e-mail and letter, companies need to build contact centres around a multi-channel approach, focusing on

> "
> **Contact centres have never had so much choice in terms of hardware and software to bring about unified communications and integrate other vital services**

PERCENTAGE OF CONTACT CENTRES THAT TRACK CHANNEL POPULARITY BY AGE PROFILE
WHICH CHANNELS ARE MOST POPULAR WITH YOUR AGE-PROFILED CUSTOMER? PERCENTAGE OF CONTACT CENTRES | N=77

% of n	Internet/ web chat	Social media	Electronic messaging (e-mail)	Smartphone application	Telephone	Don't know
Generation Y (born 1981-1999)	23.9% (1st choice)	23.9% (1st choice)	20.9% (3rd choice)	19.1% (4th choice)	12.3% (5th choice)	43.5%
Generation x (born 1961-1980)	20.6% (3rd choice)	11.6% (4th choice)	28.3% (2nd choice)	11% (5th choice)	28.5% (1st choice)	41.8%
Baby boomers (born 1945-1960)	7.4% (3rd choice)	2.1% (5th choice)	24.4% (2nd choice)	2.6% (4th choice)	63.5% (1st choice)	41.8%
Silent generation (born 1944)	1.8% (1st choice)	1% (4th choice)	6.2% (2nd choice)	0.6% (5th choice)	90.4% (1st choice)	43.4%

Source: Dimension Data 2015

WHAT CHANNELS ARE MANAGED BY THE CONTACT CENTRE?
PERCENTAGE OF CONTACT CENTRES | N=875

Channel	Available now	Available within 12 months	No plans
Telephone	98.6%	0.2%	1%
E-mail	90.4%	3.8%	5.5%
Interactive voice response (IVR) touchtone	53.6%	10.2%	35.2%
Internet website (including peer-to-peer systems)	45.4%	16.1%	37.7%
Social media	43.2%	24.5%	31.5%
SMS text/instant messaging	37.6%	23.2%	38.3%
Web chat	33.1%	37%	28.9%
Smartphone application	25.9%	28.5%	44.6%
IVR speech	24.2%	16.5%	58.8%
Video chat	8.3%	15.2%	75%

■ AVAILABLE NOW   ■ AVAILABLE WITHIN 12 MONTHS   ■ NO PLANS

Source: Dimension Data 2015

providing customers with a seamless customer experience across channels."

Arvato has introduced new streams of communication for its agents to handle Renault's inquiries. There's a new web chat service. New support for social media inquiries has been a hit with customers and contributed to annual cost-savings of 5 per cent.

Ms Nolan provides a pro-tip: "While operating a multi-channel approach is essential, providers also need to have a back-up plan in place to continue to deliver service through all channels should anything go wrong. Regardless of what the problem is, customers still expect their queries to be dealt with. In our work with Renault UK, we've addressed this issue by building a virtual contact centre, which enables us to continue service in the event of an emergency or severe weather which may result in office closure."

The right technology means agents can take each inquiry though the channel preferred by the customer. It also means the agent will have the information the customer wants at their fingertips.

Healthcare insurer AXA PPP has taken big steps in giving its agents the ability to resolve problems at the first attempt. Sonia Wolsey-Cooper, AXA PPP's membership and people director, says: "You want to make life as easy as possible for callers. We do this by each personal adviser or PA owning their interactions with their customers and they take responsibility for ensuring actions are done, taking the burden away from customers whenever possible. For example, where we would previously have asked the customer to provide further information from a GP, our PAs will now do that for them. It's quicker, less stress for customers and overall a much better experience – and far more satisfying for our PAs."

Ironing out glitches is compulsory. One sticking point is taking payments. Currently agents can't talk to customers while they enter their debit or credit card number on a keypad as it's a violation of industry regulations to record the process. There is a way around this. A system developed by Semafone disguises the keypad bleeps, so the agent is unaware of the numbers. This allows the agent to maintain voice contact throughout payment, something valued

> "The right technology means agents can take each inquiry though the channel preferred by the customer and have the information the customer wants

by 63 per cent of consumers. Customers include Sky and Yorkshire Water.

Of course, hardware isn't enough if the staff can't use it, which is why the best contact centres invest heavily in their workforce. The Contact Company handles inquiries for retailer Rakuten (formerly Play.com). Chief executive Asif Hamid invests 20 per cent of profits in training and more than 95 per cent of staff are studying NVQs, Institute of Leadership Management (ILM) courses or similar. There's an internal Core Management Skills Programme which will be certified by the ILM. The investment to date totals £420,000.

Mr Hamid says: "Contact centres needed professionalising. If you invest in high-quality training opportunities and a genuine career path for your staff then they will want to invest in that career too. Contact centres used to be seen as places for students and the semi-retired to work.

"By professionalising contact centres we have proven that we not only create jobs in the UK, but we can also create life-long career paths for our staff."

Staff are the key to knowing how to improve the technology infrastructure they work with.

The British Gas contact centre in Cardiff employs 3,200 and they are encouraged to use a central feedback tool to come up with ideas, big and small. The company reports the scheme has resulted in 250 improvements being implemented, touching on things such as reduced call waiting times and simpler billing formats.

The industry needs to improve. Research by Avaya and BT shows only one in five customers gets their issue resolved first time by a contact centre agent. A whopping 85 per cent think it should be easier to contact organisations and 88 per cent say they'd be more loyal to companies that are easy to deal with. The incentive is there.

Some contact centres are providing a superlative service, making use of unified communications and the best of customer-support tools. Now it's time for the laggards to catch up.

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Keeping confidential data secure in the mobile age

With the growth in mobile technology comes increased concern over data security on the move, but best-practice strategies can safeguard confidential corporate information

◆ **MOBILE SECURITY**

● **CHRIS MIDDLETON**

Unified communications (UC), collaboration and mobile technology are increasingly one and the same thing. Suppliers certainly agree for when even large enterprise technology behemoths, such as IBM, Oracle and SAP, start using the language of cloud, collaboration and small business units, and when desktop giant Microsoft bets Windows 10 on a mobile, collaborative future incorporating Skype for Business, then we can assume computing has left the corporate desktop for good.

This has changed the enterprise itself. For some organisations, "the office" is now a mindset and set of shared practices, rather than a place that people travel to. We used to talk of a work-life balance, but now it's more a case of subtle and constant integration.

However, the fact that the once clear boundary between work and play is blurring means that security is becoming more complex in the always-on mobile world. Indeed, there is a sense that our legacy concept of "the enterprise", with its 1990s roots in client-server computing, is breaking apart in the cloud.

The upside is increased collaboration, but when so much in communications is becoming a stream of personal choices rather than a clearly defined space, this poses a data security challenge, both for the organisation and for its customers, stakeholders and employees. For these reasons, security must primarily be about policy, common sense, good practice and business goals; supportive technology comes second.
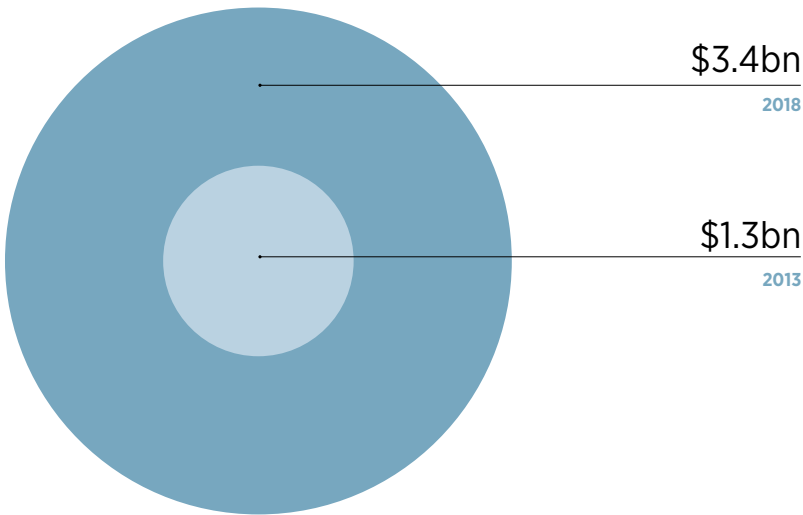
Square one of the mobile UC security game is recognising that corporate data still belongs to the core organisation and not to the individual. It needs to be secured centrally and then accessed remotely by well-managed, rigorously enforced authentication.

Strong authentication and access control are a must and yet research consistently shows that "123456" and "password" or "Passw0rd" are still the most common passwords found online. Also, storing logins and passwords locally is only convenient when the device is in your possession; if it's stolen or lost, any still-active sessions gift the finder an open door into the organisation.

Thanks to bring your own device (BYOD) schemes, people's own choice of mobile phone or tablet is often the one they use for work too, so it's impor-

MOBILE DEVICE SECURITY MARKET

$3.4bn
2018

$1.3bn
2013

Source: Infonetics Research 2014

tant to emphasise that the organisation's BYOD and data security policies don't just apply in the office during traditional work hours.

Dispersed organisations of remote, mobile, flexible workers need to be held together by a shared mission, clear data-protection policies and common technologies, so not downloading apps independently of the IT team is core to the principle of UC – it's called unified communications for a reason.

Wrapped up in all this is the growth of so-called "shadow IT", as employees and sometimes departments mix and match their own technologies informally. The temptation is clear as a world of new mobile apps and cloud platforms is out there, each promising to make the employee's job easier. But any one of them might have been rushed to market and so be full of bugs or exploitable weaknesses. Some

might even be malware.

However, business and IT professionals should see the desire to be creative as an advantage, signalling employees are enthusiastic and keen to do their jobs. So put together a suite of approved, standards-based tools that can be centrally managed and secured.

Mobile UC is also about common sense. Proactively managing and changing passwords is just one sensible measure, as is logging out of enterprise applications if your device is used by other people.

Other security practices cover everyday behaviour because fallible human beings are always the biggest weakness when it comes to data security. For example, don't take part in private video-conferences or virtual meetings in public places, such as on trains, in cafés or in departure lounges. Anyone

> **"**
> Security must primarily be about policy, common sense, good practice and business goals; supportive technology comes second

could be listening or taking notes, from journalists to customers, investors or competitors.

Similarly, don't use free public wi-fi hotspots in cafés, hotels or even conference centres when engaged in collaborative business; use them at your own risk, not at your organisation's. That tempting password-free hotspot might be a community resource, but equally it might be someone in the next room, scraping all the data from your device. Use the official channels.

For employers and digital-native employees, who have never known a world without mobiles and cloud platforms, security has a cultural dimension too. The millennial culture of openness, downloading, peer-to-peer sharing and constant communication may run counter to some organisations' aims, not to mention their responsibilities to customers and their regulatory obligations.
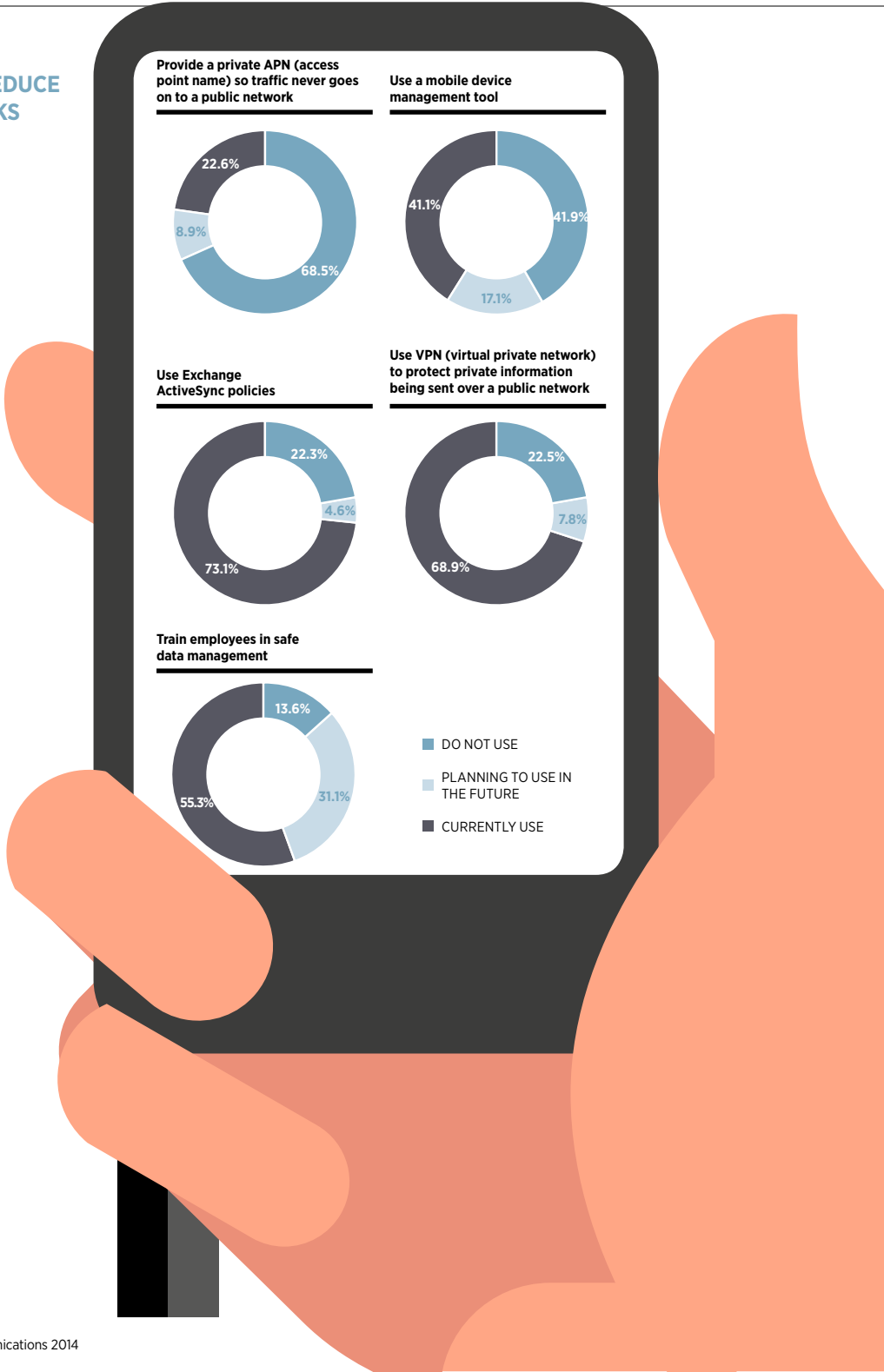
Also, be aware that buying a collaboration tool doesn't make you a collaborative organisation. To benefit from such tools demands a shift of culture, together with a supportive management team that isn't threatened by flatter, less hierarchical workflows. As ever with IT, buy technologies to support business goals, not the other way around.

STRATEGIES COMPANIES EMPLOY TO REDUCE SECURITY RISKS

Provide a private APN (access point name) so traffic never goes on to a public network

22.6%
8.9%
68.5%

Use a mobile device management tool

41.1%
41.9%
17.1%

Use Exchange ActiveSync policies

22.3%
4.6%
73.1%

Use VPN (virtual private network) to protect private information being sent over a public network

22.5%
7.8%
68.9%

Train employees in safe data management

13.6%
31.1%
55.3%

- DO NOT USE
- PLANNING TO USE IN THE FUTURE
- CURRENTLY USE

Source: Azzurri Communications 2014

But, of course, security is a technology challenge too. "The enterprise" was once a secure silo with on-premise technology, a dedicated data centre, authorised hardware, enterprise software and a clear perimeter, the office firewall. But in many cases this has been replaced by something more nebulous – a fog of code and sometimes of responsibility too.

And just visible on the horizon is yet more disruption – the internet of things, the emerging world of interconnected devices made possible by IPv6 (internet protocol version 6). In this world a mobile device might be a tablet or a phone, but it might also be a car, a camera or telepresence robot, anything that can connect to a local network and then to the internet, or be controlled remotely by a smart device.

The implications for UC should be obvious. Over the next few years, international real-time meetings and collaboration on anything from simple documents to complex engineering projects will be the norm, and this means a huge variety of smart devices may be controlled remotely during these collaborations, from smart whiteboards to 3D printers.

Recent research by IBM has showed that countless smart devices can easily be hacked, including a car's telematics unit, which was hacked via a modified MP3 file and disabled the car's brakes, a building's heating, air conditioning and security controls, and smart lighting, ex-

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> **Security practices cover everyday behaviour because fallible human beings are always the biggest weakness when it comes to data security**

posing a building's wi-fi passwords.

In this new, interconnected world, IBM recommends use of a secure operating system with trusted firmware guarantees and a unique identifier, alongside secure authentication. IBM says: "While IPv6 is key to identifying 'things' on networks, 'things' also need

a subscription to a trusted identity database. The concept of traditional authentication doesn't apply."

Data privacy protection is also essential. For example, with mobile payments starting to appear on smartphones, credit card information may be accessible to any devices that are linked to them, via wi-fi or Bluetooth, along with any corporate credentials that are stored on the device.

Data and transmission encryption are both essential, and yet it is astonishing how many of the cloud platforms that have been hacked or compromised in recent years contained unencrypted customer data, including log-ins and passwords.

In the mobile environment, strong application security is a must now that vulnerabilities arising from software bugs are commonplace, as the recent Heartbleed and Bash Shellshock cases have proved.

With mobile UC, always remember you carry the enterprise, along with everything and everyone connected to it, in your pocket.

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