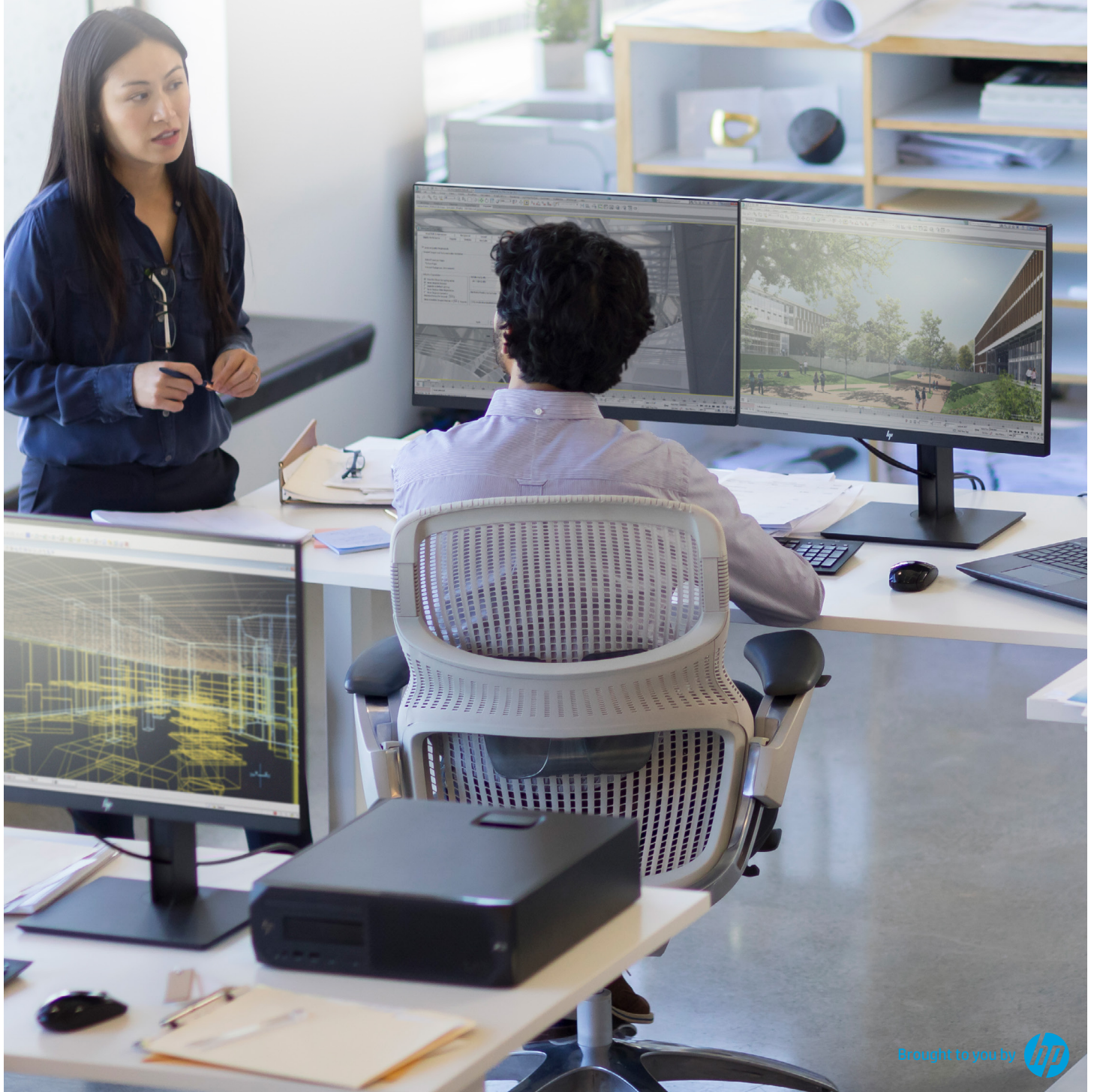
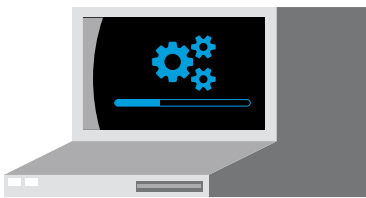


Workplace 2020

The technology that powers the near-future office



72%
of workers say
outdated technology
harms productivity²



The new IT epoch

Technology is redesigning the workplace

We are entering a new era of IT. One that fundamentally reimagines where we work, the way we work, and how we provide the tools for work.

The first era was mainframes. The second, client/server. We are now embarking on the Third Platform era: a confluence of the Internet of Things, Big Data, Social and Mobility.¹

We are untethering from the desktop, both as a physical surface, and as a machine. Software is rented as a service, data is seamlessly accessed across multiple devices and business is conducted whenever and wherever it can be.

Today is only the beginning of this paradigm shift. Businesses are yet to catch up to the cultural and technological changes occurring around them. They are aware of the seismic technologies emerging. They may even use some. But they are lagging in how they manage the day-to-day.

Managing disruptive IT

Outdated hardware already harms productivity – we've all experienced the text-based systems, bespoke from 1986, on clunky Windows 98 PCs – but by 2020, such technological laggardness will be commercial suicide.

In a 2016 Australian survey, 72% of workers said outdated technology was harming their productivity. 62% of HR and line managers said better, more up-to-date technologies would help to foster employee engagement.² A separate UK survey found each employee wastes nearly 40 minutes per day on slow or outdated technology – adding up to more than their annual holiday entitlement.³

Despite this, spend on devices is falling. The majority of IT spending is siphoned off by maintenance⁴, leaking money from innovation while hardware calcifies.

Overall budgets are growing, but chiefly to accommodate increased spend on services and software: Gartner projects a 33.7% CAGR⁵ on cloud services by 2020, 6.9% on Enterprise software. The hardware that workers will use to access this life-changing, world-beating SaaS will be the same as they're using today.

Once the Third Platform Paradigm Shift is complete, you'll still be using Windows 10 on a 4G connection, persistently pausing meetings to buffer your colleague's holographic face.¹

The problems we face with outdated technology today will only be amplified two years from now. In the following pages, we will paint a portrait of the workplace of the near-future – Workplace 2020. We'll look at who will be working, where and how.

We'll show you how HP Device as a Service can help you make the most of this future, enabling you to harness the power of the new IT epoch.



75% of enterprise end users carry one or more devices for work over half of the time⁶



By 2020 we will spend \$33bn less on devices⁷



On average, business PCs are upgraded every 5-6 years⁸

¹ IDC - <http://www.idc.com/promo/thirdplatform>

² George Nott (CIO) - <http://www.cio.com.au/article/600714/outdated-tech-harming-productivity-says-survey/> - 30th May, 2016.

³ Letitia Booty (Real Business) - <http://realbusiness.co.uk/tech-and-innovation/2016/10/04/office-workers-waste-more-time-on-slow-tech-than-they-spend-on-holiday/> - 4th October, 2016.

⁴ Steve Ranger - <http://www.zdnet.com/article/heres-what-your-tech-budget-is-being-spent-on/> - 11th November, 2014.

⁵ Compound Annual Growth Rate (CAGR)

⁶ HP, Proprietary Research with Panel, 2015.

⁷ Gartner - <https://www.gartner.com/doc/3471552#a-548678408>

⁸ Agam Shah - <http://www.pcworld.com/article/3078010/hardware/the-pc-upgrade-cycle-slows-to-every-five-to-six-years-intel-ceo-says.html> - 1st June, 2016.



50%
of the workforce
will be Millennials
by 2020¹¹

Workforce 2020: Millennials

As people change, technology has to change with them

As of 2015, Millennials made up more of the workforce than any other generation,⁹ and by 2020, they will account for 50% of workers.¹⁰

Millennials have a fundamentally different attitude towards work than Gen X and Baby Boomers, shaped by growing up during the most prosperous time in human history, punctuated by the Great Recession. Gifted by unprecedented standards of education, but rocked by massive economic uncertainty, Millennials are more demanding in what they expect of work. Especially because they know they have to work far longer than any generation before.

Their priorities are driven more by lifestyle than security, value than price. Millennials want meaningful work. To influence their organisation. To work flexibly: a blend of home, office and remote working, at hours that suit their personal lives. Job security is having the skills to be persistently employable, rather than keeping a long-term position.

Millennials demand flexibility

Research by PwC found Millennials' number one priority to be personal learning and development. Flexible hours came second. Cash came third. 95% of survey respondents cited work/life balance as a priority, with 70% describing it as "very important."¹⁰

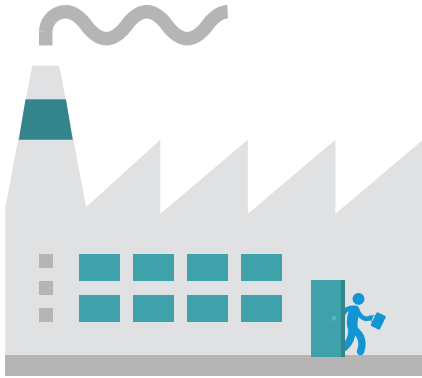
Manpower's Millennial report shows that although Millennials expect to work mostly in the office, at regular hours, they crave flexibility in both time and location – and will consider non-full-time employment (potentially overseas) to get it.

Millennials want to fit work around a fulfilling life. After all, if they're going to work well into their seventies – perhaps until the day they die – they don't want to be a slave to the desk. They may not have the retirement savings to make up for it.

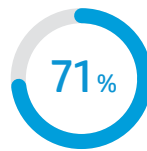
And they know that technology can enable that lifestyle, if wielded correctly.

⁹ Accenture - Liquid Workforce 2016. <https://www.accenture.com/us-en/insight-liquid-workforce-planning>

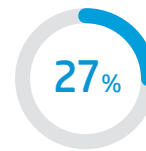
¹⁰ PwC - <https://www.pwc.com/gx/en/financial-services/publications/assets/pwc-millennials-at-work.pdf>



expect to work mainly regular hours with some flexible



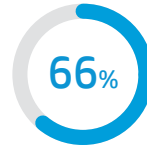
expect and want to do an overseas assignment during their career



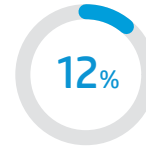
predict they will work into their seventies



would consider non-traditional forms of employment¹¹



believe they need international experience to improve their prospects¹²



expect to work until the day they die¹¹

22%
of Millennials cite leadership aspirations as a top career priority¹¹

Millennials are loyalty-lite

By 2020, 66% of Millennials hope to have left their current employment.¹³ 54% expect to have between two and five employers in their lifetime. 25% anticipate six or more.¹¹

Millennials are particularly self-sufficient – a natural reaction to an elongated working life, in an increasingly deregulated job market. Employers are simply not the dependable benefactors they once were. Nor is a job for life desirable.

Just 22% of Millennials cite leadership aspirations as a top career priority. Becoming a recognised expert in their field, working with great people, making a positive contribution and money all ranked higher.¹¹

Millennials don't aspire to work up the ladder at the same company. A job hopping, loyalty-lite workforce means regular issuance and retirement of devices.

Millennials are technology focused and so are Gen Z

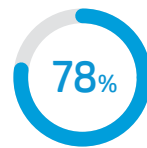
Gen Y remembers a time before ubiquitous mobile phones and high speed internet, Gen Z knows nothing else. Gen Z is fluent in digital.

Millennials value technology for its own sake. They place value on keeping pace with technological development, recognising the benefits of new tech in both function and ergonomics. If the user experience is better, the user will make better use of it.

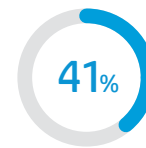
By 2020, the workforce will be composed of people for whom technology is not merely a utility, but a way of life. Competitive advantage in both output and recruitment will partially rest on availability and access to the latest technology, at all times.



consider technology when considering a job



say technology they like makes them better workers¹²



of Gen Z prefer electronic communication to phone or physical¹⁴

¹¹ 2017 ManpowerGroup. <http://www.manpowergroup.com/millennials>

¹² PwC - <https://www.pwc.com/gx/en/financial-services/publications/assets/pwc-millennials-at-work.pdf>

¹³ Deloitte - <https://www2.deloitte.com/content/dam/Deloitte/global/Documents/About-Deloitte/gx-millennial-survey-2016-exec-summary.pdf>

¹⁴ Ibid



49%
of Millennials
support the use
of social tools in
the workplace¹⁵

Ensuring you have the right tech for Millennials

Design an agile Choose Your Own Device (CYOD) policy

Millennials like the technology they know, which is often better than that provided by work. A fast and flexible CYOD policy that offers the latest tech and regular upgrades cuts down personal device use, streamlining logistics and security.

Keep on top of the update cycle

New technology is a major draw for the new generation. But it has to be a continuing policy. You can't provide the latest gadgets now and not upgrade until 2025. Productivity will be harmed, competitive advantage lost, and talent turned away.

Implement remote collaboration solutions

Flexible working means running everything in the cloud. This will likely be a combination of tools like Basecamp and Slack, alongside social media. 49% of Millennials support the use of social tools in the workplace, 50% feel social networks boost productivity.¹⁵ The trick will be ensuring data security.

Consult with Millennials before committing to devices

Millennials have a personal relationship with technology. They care about design. Everything from hand-feel to GUI. When introducing new tech, assemble a team of representative Millennials to test it. If they don't like how it feels, they won't use it.¹⁶

¹⁵ Queens University of Charlotte. <http://online.queens.edu/online-programs/mba/resources/infographic/communicating-in-the-workplace>

¹⁶ Roz Bahrami - <https://elearningindustry.com/3-strategies-tech-hungry-millennials-happy> - 6th August, 2016.



"Organisational knowledge will be less valuable as back office functions are largely automated."

Workstyle 2020: flexible & flat

Hierarchy will collapse as the culture becomes collaborative

Work will be done differently in 2020. What is daring now will be commonplace. Flexible and remote working will be assumed, rather than fought for.

The entrenchment of working away from the office will open new possibilities in who works with whom; organically breaking down hierarchies and silos as the best people for the job are linked by a Google Drive space, rather than physical proximity.

This way of working will encourage a flatter structure and more collaborative approach to work that relegates the status of middle management, prizing productive skills over leadership attributes. People will be brought together to achieve specific goals – timesheets and being seen in the office will become irrelevant.



The liquid workforce

A core of full-time, mainly office based employees will remain, but they will be supplemented by temporary staff – freelancers, contractors and remote workers. Individuals will assemble for projects, performing a function commensurate with their skills, with gaps filled by workers from “the human cloud” – the currently nascent global network of freelancers found on sites like Upwork.¹⁷

They may be spread across towns, countries and time zones. Those that spend most of their time in the office will be free to work wherever they feel most productive: at home, coffee shops, libraries or shared work environments like WeWork.

Organisational knowledge will be less valuable as back office functions are largely automated, transforming businesses into networks of professionals more than structured organisations with armies of support staff to maintain infrastructure – a function now overseen by dedicated third parties, paid on a subscription basis.

¹⁷ Sarah O'Connor, Employment Correspondent
- <https://www.ft.com/content/a4b6e13e-675e-11e5-97d0-1456a776a4f5> - 8th October, 2015.



"By 2020,
all work will be routed
through a single
collaboration platform
that encompasses
every element of
authorship, editing
and communication."

The cloud-based company

Flexible working will require centralised, cloud-based resources. Ironically, this is to decentralise their use as the security issues and implications grow and try to cater for the fact that end users now own an average of three work devices each.¹⁸

It means new and temporary staff, freelancers, contractors, will all be granted immediate access to any device via a username, password, voice, fingerprint or facial recognition, the 2020 equivalent of a lanyard security pass. To enhance security, companies could also run their cloud on third-party servers such as HP Helion – HPE's market-leading Enterprise Cloud Solution.

The collaborative culture

Work will be based on online collaboration, even when in the same space.

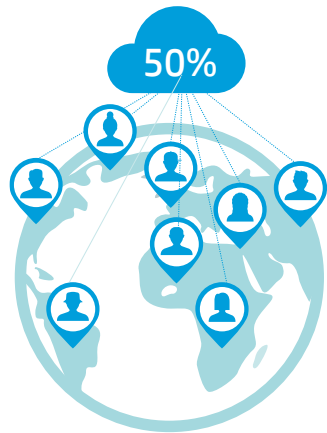
The tools that already exist for collaboration, such as Basecamp, GoogleDocs, and Slack can be cumbersome and overly specialised. In the near future, all work will be routed through a single collaboration platform that encompasses every element of authorship, editing and communication. A centralised workNET with comprehensive backup, auditable histories and intricate permissions that allow new staff and contractors access only to what they need.

Software like Wrike and Kahootz already approach this vision, but tend to lose out to slicker alternatives that excel at one thing – Slack for communication, Dropbox for sharing and Office for document authoring. But as the technology matures, and Millennials – with their positive attitudes to social tools – take over the workplace, fully integrated social collaboration will be the base on which businesses are built.

¹⁸ HP, Quantitative Research with WW End Users, 2015.

5 tips for enabling a flexible workstyle

Actions you can take now to facilitate flexible working



By 2020

50% of workers
will work remotely¹⁹

1. Embrace mobile tech

The key to flexible working is mobile. BYOD is a partial solution, wrought with security complications. An attractive CYOD policy is the most linear route to anytime, anywhere working.

2. Consider a cloud-based company

The company shared drive needs to be accessible from anywhere. You can't afford to have files locked away at work when workers are scattered around the globe.

3. Abandon clock-watching

Fixed hours are a relic of factory working. Let workers come and go as they please, as long as the work gets done.

4. Invest in communication applications

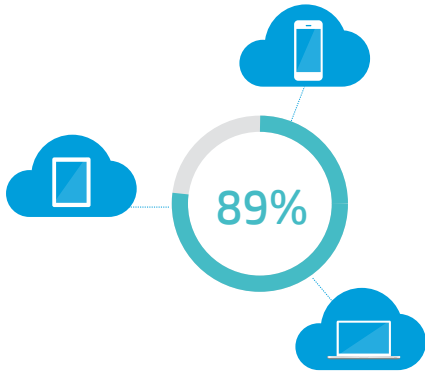
Effective remote working depends on clear communication. Truly reliable, secure, conference and video-ready communication requires Enterprise level software like Skype for Business.

5. Adopt collaboration software

Email is cumbersome and insecure. Until the perfect workNET emerges, consider a mix of the best available tools for browser and app based project management, communication and collaboration.



¹⁹ Citrix - <https://www.citrix.com/about/future-of-work.html>



Flexible working employees are twice as likely to say it has a positive impact on performance and well-being.²⁰

Workstyle 2020: anywhere

43% of the workforce will be freelance by 2020²¹

The office as we know it is a thing of the past. That doesn't mean there will be no more offices. They will merely serve a different function. Look different. Feel different. Work will be something you do, not somewhere you go.

The office-as-hub

In 2020, gone will be the days of tethered workspaces, instead offices will be more like the co-working spaces of today: banks of blank tables ready to receive laptops, smartphones, tablets and VR peripherals. There will be some desktop PCs, but not many. They will be spaces for workers to drift in and out of, to meet colleagues and clients, to work in when they feel an office environment is best.

They won't be empty. Despite preferring digital communication, Generation Z still values face-to-face interactions – 39% believe talking in person is the most effective way of communicating with colleagues.²² The future office may be digital but it won't be dehumanised.

But they will be smaller. Unshackled from the need to provide permanent workspace for each employee, companies will drastically cut their real estate costs. Research by Citrix projects that by the end of 2020, organisations will reduce their office space by one fifth, providing just two-thirds of a desk for each employee.²³

As co-working spaces expand, companies will provide work space in a mix of the central hub and pay-per-use subscriptions with spaces local to employees' homes, for when they want to work in an office without travelling to the central hub.

²⁰ The Deloitte Millennial Survey, 2017.
<https://www2.deloitte.com/content/dam/Deloitte/global/Documents/About-Deloitte/gx-deloitte-millennial-survey-2017-executive-summary.pdf>

²¹ Accenture - <https://www.accenture.com/us-en/insight-liquid-workforce-planning>

²² Randstad - <https://www.randstadusa.com/workforce360/managing-gen-y-z/>

²³ Ibid

No fixed location

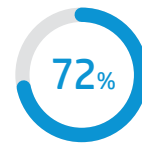
With no fixed work location, where will people actually work? 42% of Millennials prefer working in a corporate office, 21% a co-working space and 20% at home.²⁴ But in reality, 'home working' already means a mix of home and public spaces.



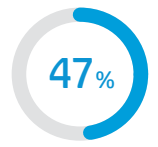
of Swiss workers work half a day+ at home per week



would be able to work remotely



would like to include home working in their routine



of Swiss companies are actively considering flexible models²⁵



Work is conducted anywhere you can get online – even during traveling on a plane. With the explosion of publicly available high speed internet, 'home working' can mean anywhere at all. Perhaps using a 4G connection – often faster than home broadband anyway – perhaps using public Wi-Fi networks.

Impressively, Vienna already has complete Wi-Fi coverage of the city, available for free. Paris and Barcelona are similar. By 2020 'home working' in a major city may mean your favourite spot in your favourite park, on a woefully unsecure network."

"By 2020
'home working' in a major city may mean your favourite spot in your favourite park, on a woefully unsecure network."



Cybersecurity in the anywhere age

Security can no longer be assured by keeping data on closed, encrypted networks – hidden behind firewall defended perimeters – and limiting remote device usage to carefully encrypted takeaway computers. Workers will inevitably use unsecure networks, on their own devices. As true as this is today, by 2020 this could well comprise the majority of data access and transfer.

The new model will likely follow Google's BeyondCorp security.²⁶ Under this model, all applications and data have been moved into the cloud, with access granted on a tiered basis, depending on the sensitivity of the information and the security of the device and network attempting to access it.

Regular scans maintain a comprehensive inventory of all registered devices, down to the individual hardware components, applications and OS. The BeyondCorp engine then dynamically assesses whether each connection attempt meets the security requirements of the desired information tier.²⁷

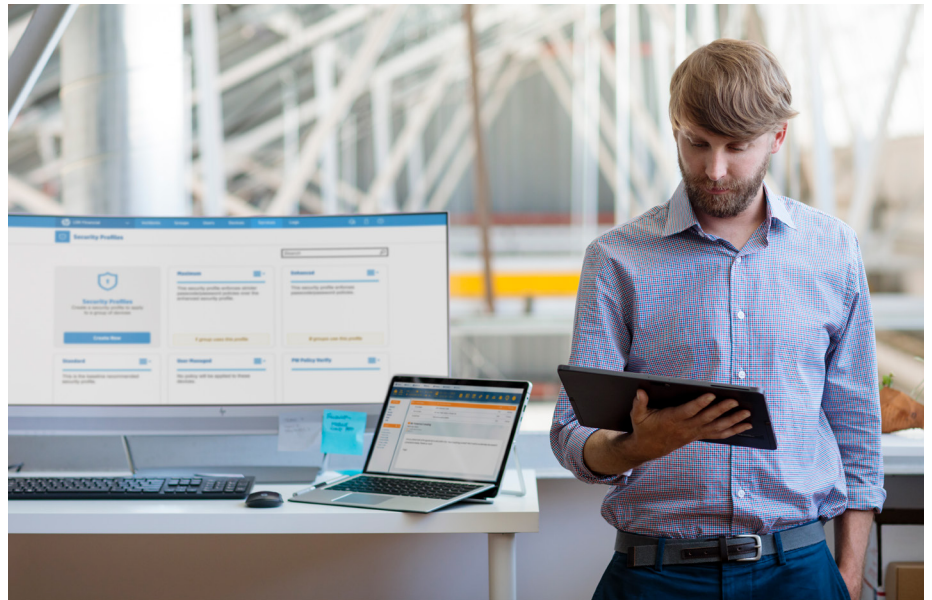
As firewalled perimeters become less enforceable, such measures may be required simply to meet minimum data protection requirements. Cybersecurity will need to be device based, and will require built-in security solutions to protect your network from all angles.

²⁴ HP, Quantitative Research with WW End Users, 2015. <https://www.randstadusa.com/workforce360/managing-gen-y-z/>

²⁵ Deloitte - <https://www2.deloitte.com/ch/en/pages/consumer-business/articles/workplace-of-the-future.html>

²⁶ Google - <https://research.google.com/pubs/pub43231.html>

²⁷ Thomas Claburn - <https://www.informationweek.com/mobile/mobile-devices/google-beyondcorp-breaks-with-enterprise-security-tradition/d/d-id/1325017> - 4th July 2016.



"Inflexible device contracts are a challenge for 59 percent of organizations"²⁸

Devices 2020: HP Device as a Service

IT procurement will be replaced by a modern service model

Ownership of IT assets will go the same way software is going now. A mish-mash of BYOD, CYOD and device-by-device security renders device management so complicated it will be far easier and cost-effective to collaborate with an expert services partner and look at a new model. This is why HP has designed HP Device as a Service.

HP Device as a Service (DaaS) delivers a modern service model that simplifies how commercial organisations equip their employees with the right hardware, accessories, and services. It improves end user and IT performance, agility and cost predictability to make it easier for your business to get the job done.

IT managers take care of dynamically deploying devices to employees, scaling up and down as the workforce changes, ensuring every device is configured for both use and compliance, and that each device is properly sanitised at its end of use and lifecycle.

They monitor every device in use by the company to make proactive recommendations on updates, upgrades and replacements. They become a single point of contact for all technical support. If a device requires repair, HP or your services partner provides an interim replacement or appropriate solution.

New hardware is more easily accessible as HP shoulders the up-front cost, with the company receiving hardware under their consumption fee. Hardware budgets will be filed under OpEX rather than CapEX, eliminating the need for depreciation calculations, and making spend more predictable.

With most of day-to-day management outsourced and the needs of a scattered, tech-hungry workforce taken care of, the IT department is free to focus on strategy and innovation. Implementing new technology will instigate a more productive and efficient change throughout the entire business.

²⁸ IDC Infobrief: Transforming Device Lifecycle Management with Device as a Service, sponsored by HP Inc., March 2017; based on IDC DaaS Americas Survey of 456 IT decision-makers in the U.S., Canada, Mexico, Peru, Chile and Colombia, October 2016.

HP Device as a Service

HP DaaS is a modern service model that covers all aspects of device acquisition, management and enhancement organization.

HP DaaS is a one-stop solution that combines state-of-the-art hardware and lifecycle services to make your company more efficient, improve employee experience, and free up IT resources – all with a simplified, predictable pricing model.

It delivers a range of world-class devices and accessories, which you can choose from and tailor to the needs of your workers. With HP DaaS, you can optimise your IT assets and resources using actionable analytics, insights and proactive management, take advantage of HP's multi-type, multi-OS device management capabilities and benefit from a plan that is unique as your business.

To find out more about HP Device as a Service, visit [here](#) and contact us for a customised quote today.

"71%

of organizations
that adopted 'as
a service' models
spent less on PCs" ²⁹



²⁹ IDC PCaaS Multi-client Survey, N=3,700+ in 5 countries; US, UK, Germany, China, India, Australia, February 2017.

Workplace 2020

The technology that powers the near-future office



"By 2020
IoT technology
will be in 95% of
electronics for new
product design."³⁰

What to expect from the future office: 5 innovations

Workplace 2020 will primarily be based on nascent and existent technologies of today that have reached maturity. We're already on the cusp of much more. Technology that will fundamentally change the way we think, the way we see the world. Technology that will be far more accessible on a Device as a Service model.

Data-driven HR

Drawing data from workers' wearables, HR will monitor stress levels, blood pressure and other health metrics, to step in when health problems arise, potentially before. As menial work becomes increasingly automated, the health of the organisation's organic workers is recognised as the biggest factor in their productivity. Providing physical and mental care will be the number one HR priority.

Automated offices

When workers attend physical workspaces, the building will monitor wearables to adjust the temperature, light and air for maximum attention, tailoring the environment to each person's needs. The importance of sleep having finally been established, afternoon naps will be suggested at optimal times, with alarms set to wake at the perfect point in the sleep cycle.

Holographic workspaces

Organisations will supplement their small, central workspace with co-working subscriptions. Physical locations where employees can join holographic meetings, work in isolation or join the fully immersive communal virtual workspace as they choose.

AI assistants

Siri and Cortana will pale in comparison to the AI assistants of tomorrow. These intelligent assistants will proactively suggest and make productivity improvements based on machine learning. They will continue to do the simple stuff, but they will also interact with your universe of devices to automate your home and workspace, monitoring your health to ensure you have cholesterol-lowering food in your fridge.

Real-time translation

All conversations will be conducted in your native language. Holographic meetings will seamlessly translate each speaker into your native tongue in real-time. Translations will be based on crowd-sourced machine learning, rendering the clunky Google translations and pidgin English of today a joke of the past.

³⁰ Gartner, Smarter with Gartner, Gartner Top Strategic Predictions for 2018 and Beyond, 3rd October, 2017.

Getting 2020 ready

How to prepare for the future, now

As we enter the third epoch of IT, falling behind in technology means falling behind in business. Failing to keep pace with IT infrastructure, and the devices that both power and feed off it, means lagging productivity, sluggish output and unattractiveness as an employer.

You can reconfigure now. To enable a decentralised, liquid workplace that allows employees to work remotely or in the office as they choose. To empower collaboration across borders and timezones. To account for job hopping employees and an increasing reliance on remote workers. To provide infrastructure adaptable to the latest developments in technology: from Big Data to automated offices.

Futureproof your devices

Put a Device as a Service solution in place that will allow you to keep up with the latest upgrades, without enormous capital outlay every fiscal year.

Futureproof your infrastructure

Put your infrastructure into a hybrid cloud and export the responsibility of maintaining and upgrading to a professional third party.

Invest in cloud collaboration

Implement a solution for remote access, editing and storage of files to enable a work-from-anywhere culture.

Invest in cloud communication

Ensure seamless communication both in and out of the office that encompasses video, voice, social and messaging.

Plan for cybersecurity

Abandon the concept of closed networks and plan for data security in the age of multiple devices accessing data from multiple locations.

"By 2020, cloud security gateway functionality will begin to be integrated as part of web service offerings to entice IT leaders to move offerings to the cloud."³¹



³¹ IDC - <https://www.idc.com/getdoc.jsp?containerId=prCHE42332717>



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