

# Shaping the Future of Work in the Digitalized Era:

How Organizations Can Kickstart Their Journey Today

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# Introduction

In the first wave of digitization, enterprises were focused primarily on the computerization of paper-based processes such as invoicing, ordering, and record-keeping to create digital equivalents. However, the quick rise of the Internet, social media, and online search meant enterprises had to go beyond digitization to create an Internet presence and web-based capabilities. The Internet also had a huge impact on business models across sectors. Most importantly, it gave birth to digital commerce models with new customer journeys, from awareness to purchase, to payments and after sales, and all these over digital platforms. This has led to the growth of several digital platforms such as Facebook, Google, Amazon, Netflix, Tencent, Alibaba, and Baidu, which are now among the most successful corporations, earning billions of dollars in revenues each year.



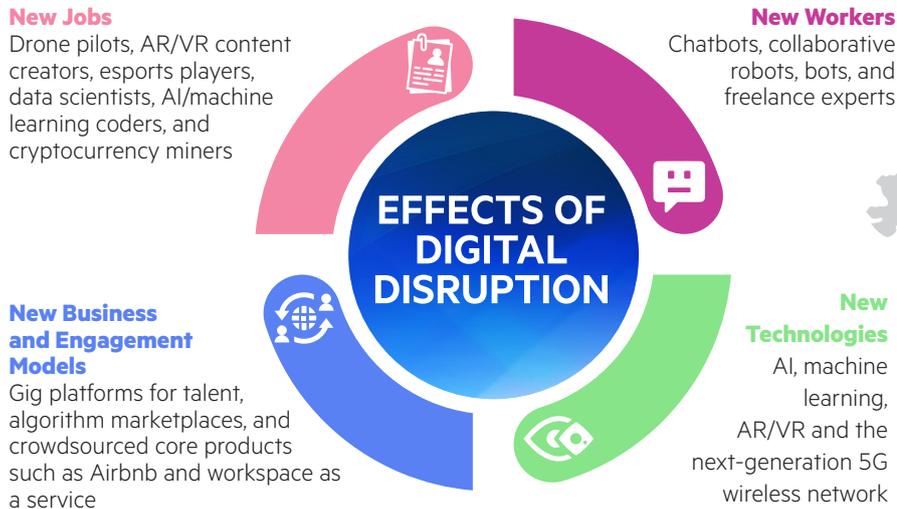
While the rise of the Internet triggered the digital economy, the rapid growth of mobile devices including laptops, tablets, and smartphones, and high-speed data networks, which enabled the cloud delivery model, has taken it to the next level, creating the anytime, anywhere, mobile world. Today, consumers and workers spend an astonishing amount of time online on their mobile devices for both professional and personal activities, such as checking work emails, completing business tasks, shopping, consuming media, and playing games. The rapid mobility adoption was particularly aided by the popularity of two major platforms – Google Android and Apple iOS. Each of these platforms also launched their apps marketplace, Play Store and App Store, respectively.

Now with Windows 10, the PC and mobile worlds are further converging as enterprises explore unified endpoint management (UEM) and embrace the mobile apps approach of packaging and delivering applications utilizing enterprise app stores and self-service provisioning tools.

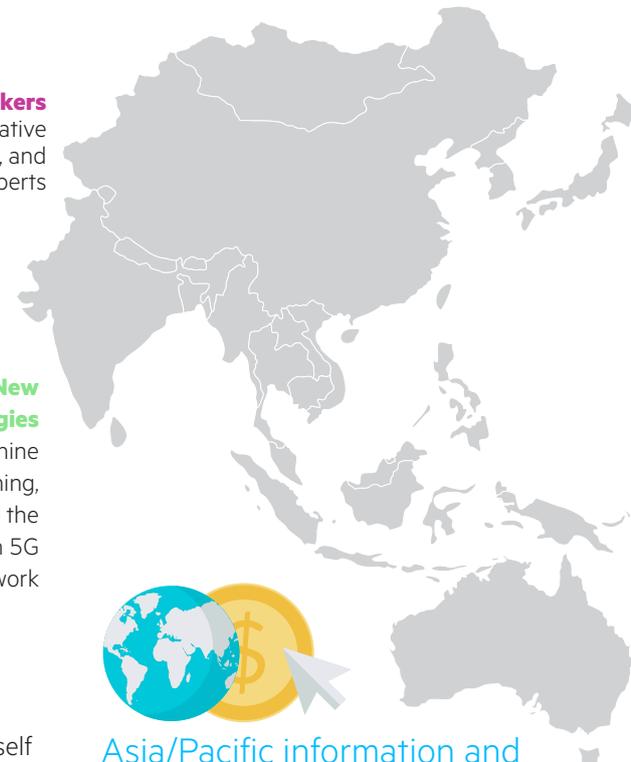
However, the growing diversity of platforms and devices, and managing user experience and engagements over a myriad of platforms and channels such as social media, search marketing, blogging sites, digital media, and even physical stores are turning out to be a nightmare for business executives and IT professionals supporting digital transformation (DX) initiatives. Cloud platforms such as AWS, Microsoft Azure, Salesforce, and Google Cloud Platform have also further leveled the playing field by giving organizations access to similar technologies, customer relationship management (CRM) solutions, and digital marketing tools, leaving business executives scrambling for ideas to differentiate their products and services. Additionally, consumer flair for digital experiences is pushing physical channel managers to introduce more digital technologies in the physical realm such as in retail stores, hospitals, and hotels to woo customers and offer better services.

Digital transformation is after all not just about web presence and social media, and emerging technologies such as augmented reality and virtual reality (AR/VR) and artificial intelligence (AI) are increasingly blurring the lines between the digital and physical worlds. Technology is disrupting industries as much as it is creating new skills, jobs, and business and engagement models (see Figure 1).

Figure 1: Effects of Digital Disruption



Source: IDC, 2019



Asia/Pacific information and communications technology (ICT) spending is expected to reach US\$1.5 trillion in 2021.

Rapid digitalization has also altered consumer behavior and technology consumption patterns by enterprises. Therefore, the technology landscape itself is undergoing tremendous change. Asia/Pacific information and communications technology (ICT) spending is expected to reach US\$1.5 trillion in 2021. The region's ICT spending growth in the next few years is forecast to be driven by 3rd Platform technologies consisting of the four pillars of cloud, mobility, big data and analytics, and Innovation Accelerators (IAs), including the Internet of Things (IoT) solutions, robots and drones, AR/VR headsets, AI, and 3D printers. This represents a **compound annual growth rate (CAGR) of 16.6% from 2016 to 2021, accounting for almost 40% of the total ICT spending by 2021.**

In this IDC White Paper, we highlight the key trends and challenges around the Future of Work (FoW) in Asia/Pacific, and how organizations can transition from selling products and services to superior experiences. We also present use cases and examples of how leading organizations are **creating superior experiences of the future using emerging technologies** such as AI and AR/VR, and even utilizing practices such as gamification to stay ahead of the curve.

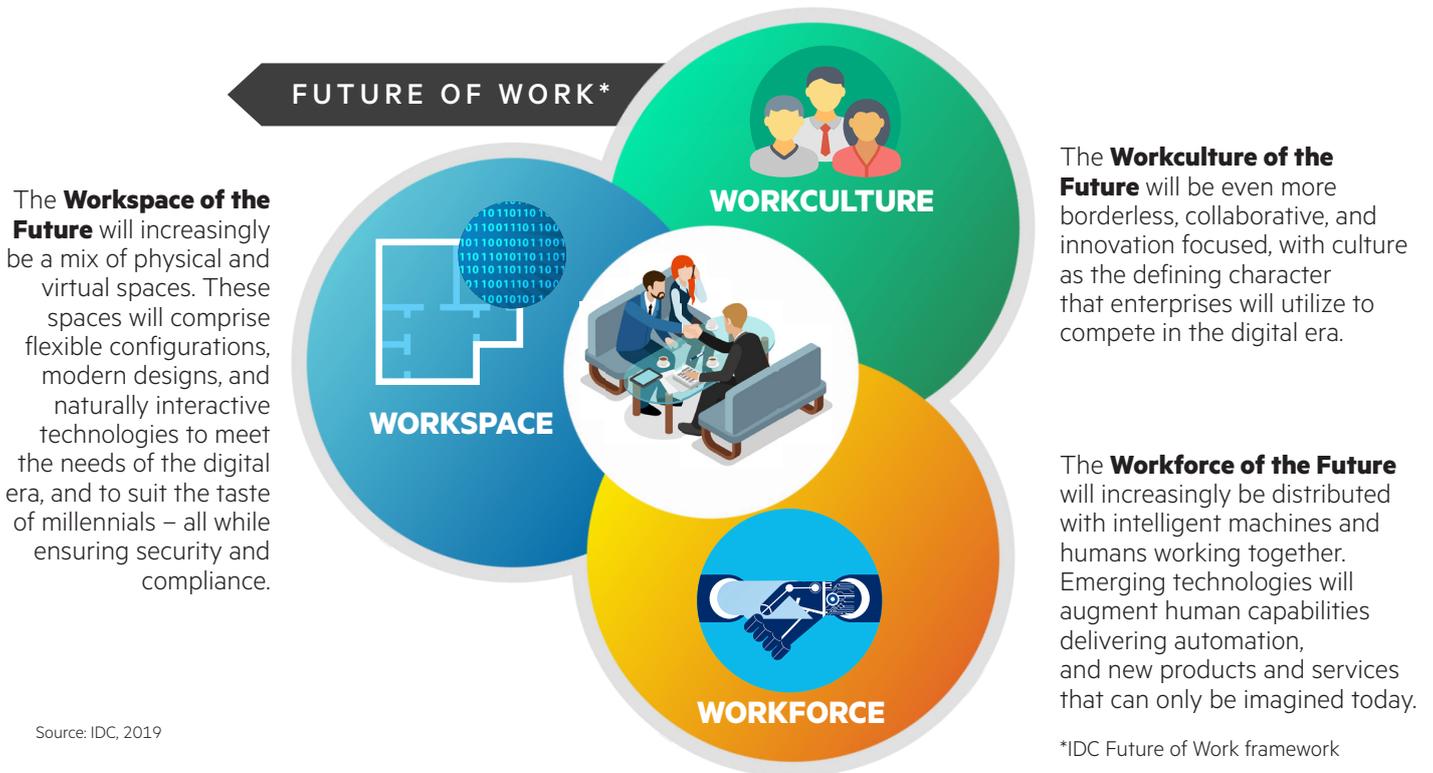
# What Is the Future of Work?

**D**igital natives and technological advancements are driving fundamental changes visible in all aspects of work today – new business models, workspace designs, use of technologies and applications, talent management practices, and the makeup of the workforce itself, which is increasingly distributed and composed of human and intelligent machines, or programs working together. New technologies are also creating jobs that did not exist before.

IDC defines the Future of Work as the application of new talent management practices along with 3rd Platform technologies and IAs, such as AR/VR, AI, and IoT, to fundamentally change the concept of work and how it is done. FoW transformation is a holistic strategy that aims to **leverage digital technologies, attitudes, and behaviors** to reinvent the way businesses engage with their employees, partners, and customers to drive higher efficiencies and **deliver superior experiences** (than just products or services) that result in **sustained competitive advantage**.



Figure 2: Three Dimensions of IDC’s Future of Work Framework



Source: IDC, 2019

# The Future Workspace

Today, work is not confined to physical offices or restricted to defined times of the day. In the future, it will increasingly be a mix of physical and virtual workspaces. With anytime, anywhere working rapidly becoming the new norm, there is a need for new tools and technologies at work. Many leading organizations are accelerating their cloud and mobility strategies for greater cost efficiencies and to support anytime, anywhere working. In addition, workspace designs, devices, and enabling infrastructure need to be contemporary and modern to suit the taste of millennials and different generations at work. They must also be flexible to meet the demands of the digital era. At the same time, the workspace must also ensure security and compliance in view of the strengthening regulations and advent of new laws such as the General Data Protection Regulation (GDPR).

Many leading organizations in Asia/Pacific have already started their Future of Work journey. Listed below are the **key pillars for the future workspace**.



## Mobility as a Foundational Enabler

Enterprise mobility has become a foundational enabler for the future of work, live, play, and it is also becoming a dominant platform for reaching consumers and workers alike. For instance, Alibaba’s mobile gross merchandise value (GMV) for the fiscal year ended March 2017 represented 79% of total GMV or US\$433 billion, an increase of 49% versus FY2016. Furthermore, mobile today is often the only channel for offering many digital services, such as food delivery and ride-hailing. On the enterprise side, 88% of organizations surveyed in Asia/Pacific as part of IDC’s 2017 Enterprise Mobility survey indicated they plan to invest the same or more in mobility technologies over the next 12–18 months.

**Mobility does not only encompass mobile phones, but also includes laptops and several other next-generation devices such as AR smart glasses, VR headsets, and smartwatches.** Increasingly, the discussions around mobility are shifting from tactical issues such as bring your own device (BYOD) or choose your own device (CYOD) policies to driving new outcomes (see Figure 3). In order to future proof themselves, organizations should explore mobilizing business processes with new devices and applications.

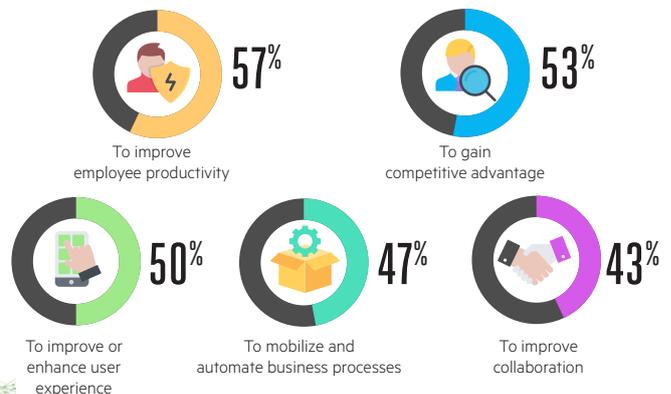
Figure 3: Mobility as a Foundational Enabler for Future of Work

### CXOs recognize the strategic value of mobility for their businesses

TOP-RANKING COMPETITIVE ADVANTAGE TECHNOLOGIES, AS RANKED BY CXOS



### Asia/Pacific organizations’ key drivers for mobility investments



Source: IDC Asia/Pacific C-Suite Barometer Survey 2017 and IDC Asia/Pacific Future of Work Survey 2018 (N=1,425)



## Cloud Technologies Have Crossed the Chasm

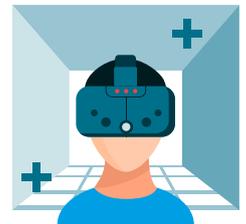
Cloud technologies are rapidly being embraced by organizations worldwide, with Asia/Pacific the fastest-growing market doing so globally. Even heavily regulated industries such as finance and healthcare are adopting cloud technologies for non-core applications (e.g., development and testing, and customer-facing applications) to accelerate DX efforts. Asia/Pacific excluding Japan (APEJ) spending on public cloud services and infrastructure is forecast to reach US\$15.08 billion in 2018, an increase of 35.66% over 2017.

**The rapid growth in cloud underpins the central role it plays in enabling the digital workspace.** Although cloud is simplifying legacy systems and applications, hybrid and multi-cloud environments are emerging and will continue to coexist in the coming years. IDC expects cloud technologies to get further distributed and specialized. IDC forecasts that by 2021, enterprises' spending on cloud services, and cloud-enabling hardware, software, and services will reach US\$75 billion, with organizations leveraging the cloud environment that is one-third at the edge, over 15% specialized (non-x86) compute and 80% multi-cloud. Therefore, enterprises must focus on further simplification and rationalization of cloud spend and delivering outcomes such as innovation and DX.



## Interactive Workspaces with AR/VR and Cognitive Technologies

Although there has been plenty of media attention on VR gaming and the sluggish growth of VR headsets in the consumer segment, enterprises are keenly exploring new use cases for AR/VR with many having already deployed these applications. This euphoria is aided by the launch of ARCore and ARKit software development kits (SDKs) by Google and Apple, respectively, and Microsoft's mixed reality push that includes mixed reality headsets with device partners. The falling prices of VR headsets and support from Microsoft for mixed reality hardware is further expected to propel the adoption of AR/VR technologies in enterprises. Some of the key use cases for AR/VR technologies in the enterprise sector include design and visualization applications, marketing and sales, training, hands-free computing for maintenance and field tasks, and interactive content in the retail, entertainment, and education sectors.



IDC expects AR/VR market adoption to skyrocket in the next few years, with global spending in AR/VR technologies increasing from US\$9 billion in 2017 to reach US\$159 in 2021. While consumer adoption and gaming garners media attention, enterprise spending in AR/VR technologies in Asia/Pacific is expected to surpass consumer spending in 2018.

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The confluence of AR/VR and AI technologies such as gesture recognition, voice-based interfaces, and 3D interactive content will fundamentally change the way we interact with computers and perform our daily tasks. Several organizations are already deploying voice interfaces powered by Alexa and Cortana to automate administrative tasks and streamline workflows. These are exciting times ahead for enterprises to begin experiments and take advantage of these emerging technologies to **create a workspace that is naturally interactive, intelligent, and immersive.**



## Modern Designs for Driving Collaboration and Employee Well-Being

While digitalization initiatives are top of mind, physical workspaces are equally critical today for overall employee experience and productivity. A number of academic and research studies have suggested a **direct correlation between productivity and collaboration with office design, and furniture and fixtures**. More importantly, the value of aesthetics and open design concepts in enterprises continues to grow. For millennials especially, these factors play an important role in their decision to work for a company.

Leading digital platforms such as Google, Facebook, and Apple are known for their modern office designs pivoted on psychological research, ergonomics to promote agile working environments, and open collaboration, all with a focus on employee well-being. New cabin-less offices and meeting room designs and technologies such as interactive screens that allow easy collaboration, file sharing, and even VR meeting rooms are also growing in popularity to facilitate collaboration and even cut the need for travel. To compete in this new marketplace and enable collaboration and innovation, organizations will soon need to craft their physical workplace strategy more carefully keeping in mind the ethos that reflects innovation and digitalization.



## As-a-Service Models and Unified Management

As-a-service models, which can help organizations gain agility, flexibility, and cost efficiencies, are proliferating. Many device vendors have launched device-as-a-service (DaaS) bundles that include devices, management, and services as pay-as-you-go monthly price schemes. DaaS combines devices such as mobiles, PCs, and workstations, as well as software and services into a single contract, reducing the need for enterprises to manage separate contracts.

**IDC predicts that by 2019, 20% of A1000 companies will have a DaaS agreement in place and 1% will be completely transitioned to DaaS.**

Organizations should evaluate each vendor's bundle against their needs and work with the vendors to accelerate the transition to ensure greater agility and faster refresh cycles, which is often desired by the millennial workforce. In addition, with Windows 10 upgrades, enterprises should consider adopting UEM to manage the growing diversity of devices and platforms, including Internet connected devices (e.g., wearables, smart office/conference room equipment, building automation, and other network-connected and employee-interfacing devices and platforms). The future workspace should meet the needs of both employees as well as simplify security, upgrades, applications provisioning, and patch management for IT departments.



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## IoT for Smart Workspaces and Embedded Intelligence

Leading organizations across the globe are wiring up their assets, offices, and products with sensors that can provide operational intelligence and create more personalized experiences for their customers and employees. These include air conditioning temperature control apps for employees, proximity sensors to prepare meeting rooms, smart aisles at retail stores for auto replenishment of stocks, parking apps, and apps for reserving car charging stations, to name a few. As smart workspaces become more desirable, enterprises need to explore how technology can further improve experiences and augment the skills of their workforce by using embedded intelligence in business processes and applications. The focus should be on **developing use cases and scaling IoT with embedded intelligence**, which will in turn enable organizations to empower employees and deliver improved experiences.

# The Future Workforce

The workforce of the future will increasingly be intelligent machines and humans working together – humans working with bots or robots and even supervising them. However, the application of AI technologies should not just focus on automation, but also on augmenting human capabilities to help deliver greater productivity and efficiencies as well as create new products and services that can only be imagined today.

Millennials will also form most of the global workforce in about two years, leading to a completely digital lifestyle. The uberization of the workforce that millennials are often attributed to will continue to grow, and the workforce will increasingly be distributed. For specific tasks or projects, hiring will potentially shift to outcome-based models.

## Millennials and the Multigenerational Workforce

With life expectancy at birth steadily increasing over the past few decades, the age diversity or different generations in the workspace and society is also growing (see Figure 4). The growing influence of millennials in both the workspace and society calls for a rethink of business planning. Well known for their preference for smart devices and digital technologies, millennials will soon comprise the majority of the workforce and have a strong bearing on enterprise technology choices.

Whether investments in digital technologies are driving consumer behavior in favor of digital experiences or the other way around, what is clear is that digital-mobile channels are increasingly preferred for both personal and professional activities, a trend that transcends generational boundaries and is not limited to millennials alone.



**45%** of organizations recognize the need to bring changes in the workspace, workculture, and technologies due to **millennials entering the workforce.**



**47%** of organizations recognize there are **different generations at work** (e.g., millennials, Gen X, Y, Z) and have a policy, or are working on one, to create a more cohesive workspace or reduce friction.

Figure 4: The Population Pyramid Is a Thing of the Past

### World life expectancy at birth is continuously improving



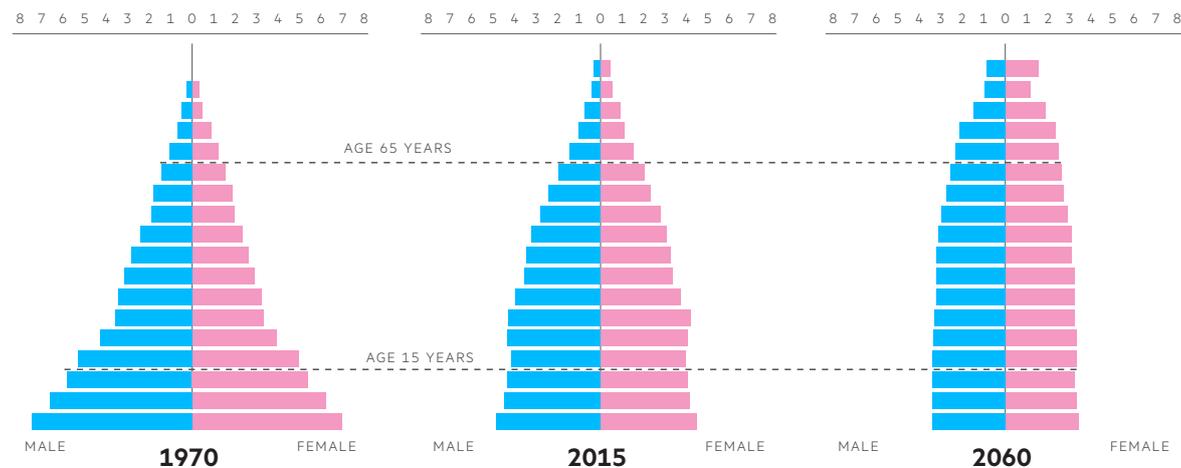
Source: World Bank data

Figure 4: The Population Pyramid Is a Thing of the Past (Cont'd)

**We are getting to learn and spend more time with different generations**

**Dome truths and pillar talk**

Global population, % of total



Source: UN

## Rise of the Contingent Workforce

Millennials are the driving force for the digital economy. This cohort leads a completely digital lifestyle and is greatly impacting talent and human capital management practices at enterprises. Millennials are often associated with preferring more independent tasks or project-based work relationships versus traditional employee-employer relationships. **The uberization of the workforce or mix of contingent workforce for organizations is growing rapidly, and talent platforms will become an integral part of the work culture.** Many surveys suggest that business leaders are increasingly exploring the use of a contingent workforce to meet the demand for digital and emerging technologies skills. This trend will continue to grow, and many leading professional services firms have already developed gig platforms to attract contingent workers and deploy them to client projects. Examples include Deloitte Pixel, PwC's Talent Exchange and EY's GigNow which is available in five markets (the United States, the United Kingdom, Ireland, Australia, and New Zealand). GigNow aims to find and match critical skills such as those in the areas of digital, robotics, and blockchain, and since launch it has already registered over 3,000 contractors and matched about 500 with EY projects.

There is evidence that large enterprises are also turning to gig workers and specialized gig platforms to fill their digital skills gap. For example, Flexing IT, a specialized gig worker platform for business consultants, counts Unilever, BBC, and GE as its customers and claims to have served over 2,000 clients. Samsung Electronics similarly turned to Upwork, another gig platform, when its master services provider could not offer the resources for the required skills. With growing digitalization and anytime, anywhere working policies, the gig economy will flourish and organizations will have to prepare their systems, policies, and practices for the growing mix of a contingent workforce.

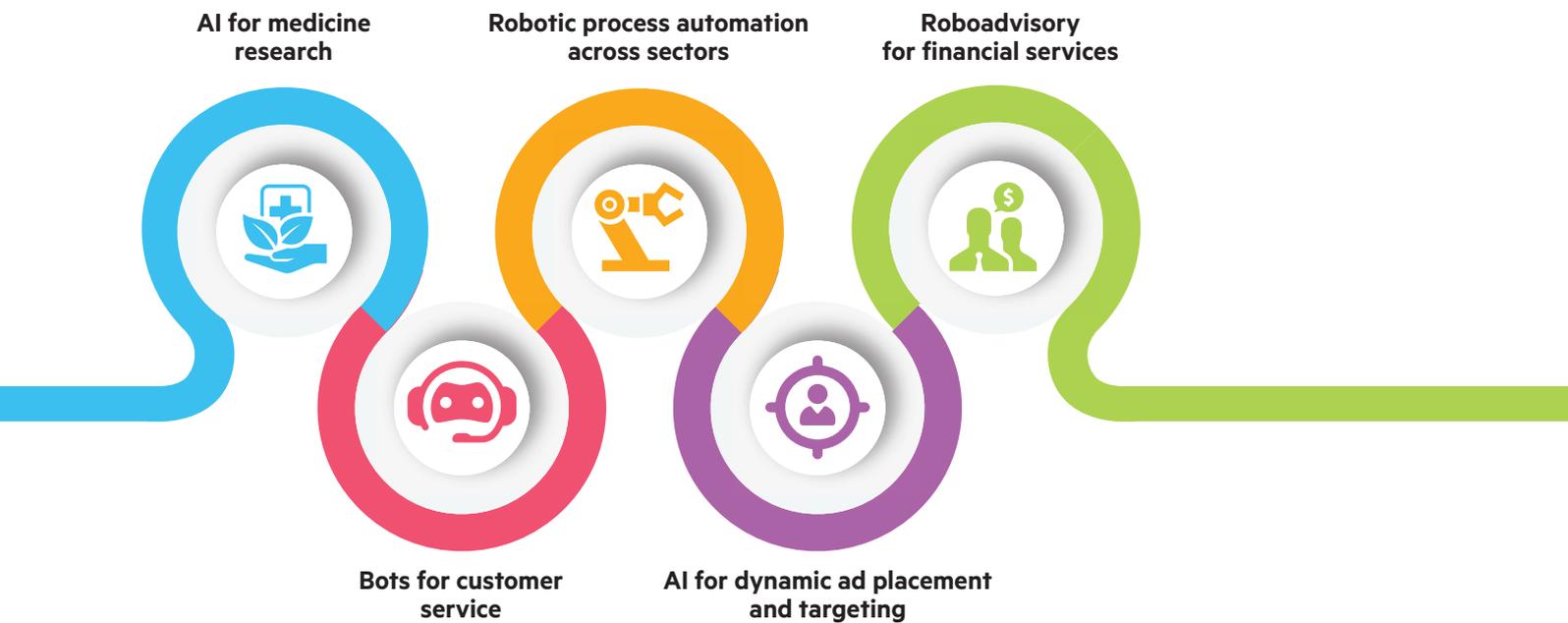
## Preparing for Humans and Bots Working Together

Artificial intelligence technologies are reshaping the way tasks are performed and there is a growing mix of intelligent machines in the form of bots and robots working together with human workers (see Figure 5). This means that the workforce of the future needs to successfully collaborate with intelligent machines as well as manage and supervise tasks performed by them. While AI creates opportunities for automation, the real value is in augmenting the capabilities of the human workforce and delivering value that can only be imagined today.



We are already witnessing AI and robotic process automation (RPA) being adopted across many tasks such as legal contracts analysis, fraud detection, image recognition, geo tagging, and security monitoring. Organizations need to begin creating policies that focus on defining how to appraise IT systems, particularly RPA tools and bots beyond traditional metrics.

Figure 5: Technology Augmenting Human Capabilities



Source: IDC, 2019

The future is not AI versus humans, it is going to be increasingly AI + Humans. AI will have a profound impact on the way work is performed in every sector. Existing workflows will be transformed, and many new business processes will evolve as bots become part of everyday life and work. IDC predicts that by 2021, 75% of commercial apps will use AI, over 50% of consumers will interact with customer support bots and over 50% of the new industrial robots will leverage AI. With pervasive AI, organizations across sectors will have to train their employees in AI and machine learning technologies and create policies that ensure cohesive working relationships between humans and machines. Therefore, organizations should focus on the paradigm of improving efficiencies and creating new capabilities and products while utilizing AI, not just on replacement of the workforce.



# The Future Workculture

As work, live, play continue to merge, the workculture of the future will be even more collaborative, flexible, fun, and, most importantly, innovation focused. The workculture may seem a trivial discussion today in the broader scheme of digital transformation, but in the future, it will increasingly become the defining character of a company's ability to compete and thrive in the digital era. Many leading digitalized organizations have already created a superior workculture that acts as a major source for their competitive advantage by helping them attract and retain the best talent. Several organizations are also exploring ways to facilitate a borderless culture and turning to coworking communities and talent platforms to acquire skills and capabilities. This trend will continue to grow.



## Digital-First Culture as Brand Identity

The digital economy is fundamentally changing traditional operating models, and this has a strong bearing on an organization's interactions with internal and external stakeholders, business processes, and the overall workculture. Work and the workspace today are becoming digital platforms where different stakeholders meet, interact, and work together for shared goals. But different stakeholders also have different expectations from the workspace and it is important for organizations today to bear these diverse expectations and craft a strategy that **communicates a digital-first approach and enables seamless experiences for all.**

In addition, organizations must consider revamping their human resource practices and policies to inculcate a culture that rewards innovation, creates an open and fun culture, and conveys the same as their brand identity to the market. Attracting and retaining the best talent will increasingly become a critical factor for driving an organizations' growth and organizations will also need to work on making the workculture a key differentiator in the market.



## Fostering Collaboration with Coworking

With the rise of the sharing economy and work, live, play continuing to merge, coworking spaces are growing rapidly across global markets as well as in Asia/Pacific. According to the 2018 Global Coworking Survey by Deskmag, there will be approximately 17,000 coworking spaces worldwide with over 1.7 million people working out of these. Data from the same survey noted only 8,700 coworking spaces and 510,000 people working out of these in 2015, which points to how fast this trend is finding acceptance. Contrary to popular belief, **the demand for coworking spaces is not limited to small businesses or start-ups.** Large organizations such as Boeing, Kimberly-Clark, IBM, Accenture, and Microsoft have also increasingly turned to coworking spaces across the globe. HSBC revealed in 2017 that they utilized 200 hot desks at a coworking facility in Hong Kong for their digital transformation team, an initiative that helped them save US\$1 million. However, coworking is not just about cost savings and as-a-service workspaces – innovation, talent attraction, retention, and the new way of collaborative working are the core tenets for this growing trend.

While it may not be possible for every enterprise to move to coworking spaces, as work functions and tasks may require specific security and other financial considerations, organizations should emulate the core tenets of this trend and explore how they can create a similar culture in-house, at least for tasks such as new product development, and sales and marketing that can benefit from these practices.



**Coworking is not just about cost savings and as-a-service workspaces – innovation, talent attraction, retention, and the new way of collaborative working are the core tenets for this growing trend.**

# IDC's Future of Work Readiness Index Assessment

Due to all the factors mentioned in the previous sections, organizations are overwhelmed with too many moving parts, making it extremely difficult for them to bring all these together and craft a strategy that will help create the enterprise of the future that is geared to lead in the Industry 4.0 era.

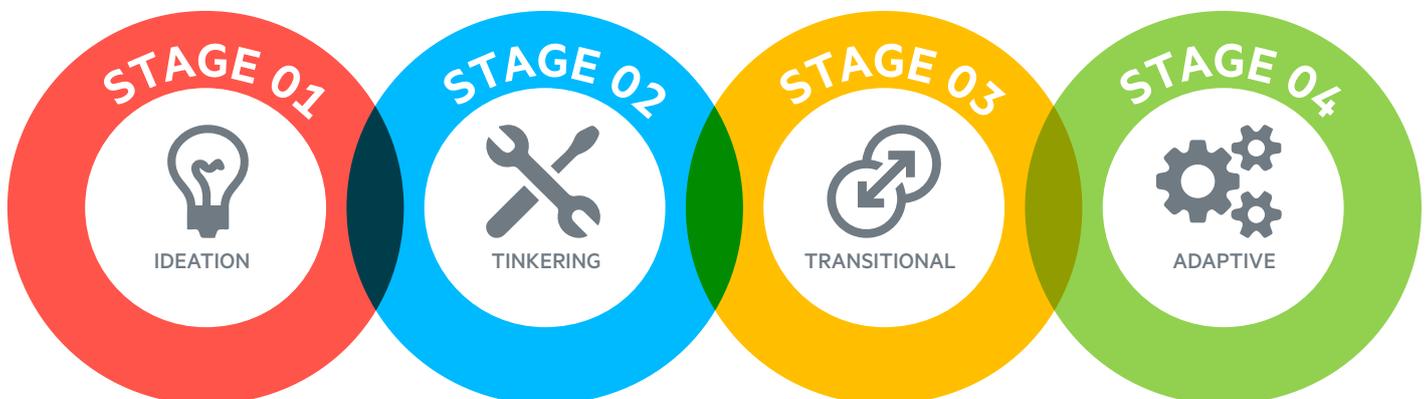
IDC has created the Future of Work Readiness Index Assessment, sponsored by HP Inc., to help organizations understand their current state and Future of Work readiness. This assessment aims to understand **organizations' current state of preparedness in terms of strategy, digital capabilities and skills, talent practices, operations, user experience management, innovation focus, governance, and policies around privacy and security.**

These topics are highly relevant in the current business environment and even evidenced to have material impact on both top-line/bottom-line performance, as well as stock price and reputation. In addition, several academic studies and surveys also suggest that workculture, privacy, and ethical business practices are among the key considerations for millennials – not just for deciding to work for an employer, but even the organizations they want to buy products and services from.

IDC believes that in the future, the two most critical factors for any organization's success will be its ability to attract and retain the best talent and deliver superior experiences to all stakeholders.

## The Four Stages of Future of Work Readiness Index

The most advanced stage of FoW is "Adaptive" as only organizations that are quick to spot trends, are nimble, and can adapt to the changing business and technology environment can stay ahead of the curve. There is no end state, but the ability to adapt quickly and successfully. The four stages are described below.



There is little or low realization for FoW initiatives and its broader impact on business. Organizations at this stage need to first sit down with a drawing board to articulate a future enterprise strategy and understand the current gaps.

Organizations realize the need for FoW initiatives and its broader impact and have just begun implementing their FoW strategy. It's still early days for organizations in terms of structure, policies, and implementations.

Organizations have developed a FoW strategy, but they are beginning to align across the entire enterprise. Governance and budget are in place to scale FoW.

Organizations value the importance of FoW and have developed a future strategy and an agile, adaptive organization structure along with systems and processes that can help them deliver sustained competitive advantage, and stay ahead of the curve.

**These four stages of FoW readiness do not fall in a linear progression.** Some organizations may find themselves better equipped in one dimension over another, while other organizations may even leapfrog a certain stage and move to a more agile structure or Adaptive stage. Whichever the stage, the Future of Work requires both business and IT leaders to set the right direction and create momentum that can generate sustained competitive advantage.

[Click here to complete the IDC Future of Work Readiness Index Assessment and receive your assessment report.](#)

## The Adaptive Stage

Explained below in detail is the Adaptive stage and the key tenets across the three dimensions of workforce, workspace, and workculture that organizations should strive for.

### What Does It Mean to Be at the Adaptive Stage?

At the Adaptive stage, organizations have a strategy and vision that is well-defined at the enterprise level and has also been translated to individual teams or units. Key success metrics are defined, updated, and communicated to all employees, partners, and customers. A significant budget has been allocated to FoW initiatives, and leadership has ensured that design thinking, agile, and consultative decision-making practices are already integrated in every aspect of the organization, including talent, technology, marketing, and operations. These organizations have a collaborative decision-making approach between business and IT teams, with a defined enterprise-wide framework that includes FoW considerations. The broader impact of new decisions, policies, and capabilities are evaluated against FoW strategy and metrics.

Organizations have defined experience as a key pillar of its enterprise-wide strategy and have deployed technologies, people, and process for proactive monitoring and delivering of superior experience across all touch points. When it comes to utilizing digital technologies such as cloud, mobility, social, analytics, AR/VR, and AI, these organizations exceed their worldwide peers and can reach and deliver better product and service experiences to customers.



# Workspace



## Modernization, infrastructure, and policies

The organization recognizes the fact that workspace considerations such as design, location, infrastructure, and devices have an impact on its ability to attract the best talent, and it is recognized as “best-in-class” for its workspaces and practices. The organization has also developed a framework and governance mechanism to monitor employee and user experience, and technology advancements that will help continuously monitor changes and appropriately adapt its workspace technologies, designs, devices, and policies. While all these may have served well so far, behaviors and concepts of design and ergonomics are evolving at breakneck pace. FoW should therefore be a continuous journey of improvement and not an end.



## Technology

The organization exceeds its worldwide peers when it comes to utilizing digital technologies such as cloud, mobility, social, analytics, AR/VR, and AI to provide the necessary tools, mobility, and security to empower its employees/partners to perform their jobs effectively. While all these may have served well so far, technologies are evolving at breakneck pace. FoW should therefore be a continuous journey and not an end.



## Security and compliance

The organization has an enterprise-wide security framework, conducts periodic reviews, and invites security experts to board meetings (or present their recommendations). The organization encourages leadership involvement in digital as well as physical security and runs programs to ensure the accountability and actions to prevent, report, and mitigate risks are understood by employees across levels. The state of vulnerabilities, threats, and regulations are constantly in flux and organizations therefore need to focus on developing a governance structure underpinned by holistic data governance from edge to the core.

# Workforce



## Talent management and AI

The organization considers talent as a key source for competitive advantage; its talent management systems and policies are fully integrated across businesses to empower employees, nurture talent, and take its FoW strategy forward. The organization has developed a robust AI strategy that includes developing use cases and scaling AI across applications and processes with a focus on automation, productivity gains, and creating new or better products and services.



## Digital skills development

The organization has the best-in-class systems and practices for developing digital skills and forecasting future needs. A robust skills development framework is already integrated enterprise-wide. The organization has tied learning and development KPIs to performance management of all employees and committed investments for digital skills development from each year's budget.

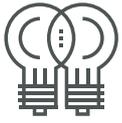


## AI + human workforce

The organization has developed a robust success framework for AI that not only incorporates metrics such as productivity improvement, automation, ROI, etc., but also its impact on the organization's long-term success. More importantly, the organization evaluates AI's long-term impact on privacy, ethics, and relationships with customers, partners, and employees before deployment. It has also developed tools and processes to monitor and measure the success and behavior of bots.



# Workculture



## Innovation

The organization recognizes the need for continuous innovation as a key driver for sustained competitive advantage and has systems and processes in place to facilitate innovation across the organization to drive both internal and external transformation.



## Collaboration

The organization sees collaboration as a key driver to accelerate innovation. It is utilizing unified communication and collaboration applications as well as facilitation strategies such as incubators, opensource projects, and coworking to drive collaboration both within the organization and with the broader ecosystem and community.



## Brand equity and identity

The organization's workculture is best-in-class as it recognizes workculture as a strategic differentiator. The organization also has a well-defined culture enhancement strategy and KPIs to assess the impact of various decisions such as workspace and technologies, as well as the partners it works with on workculture and brand equity.



## Creating/accelerating new business models

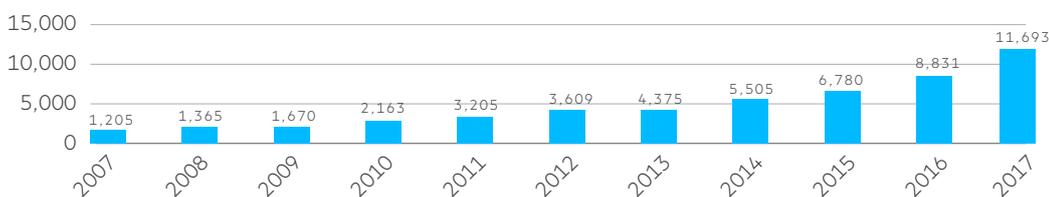
The organization has institutionalized an ecosystem approach and dedicated resources to foster partnerships with start-ups, cross-industry partners, academia, venture capitalists, and incubators to create new business models and services, and drive its FoW strategy.



## Case Study: **NETFLIX**

In its 20-year history, Netflix has transformed from being a DVD rental website with 30 employees to a global entertainment powerhouse with over 5,000 titles, 130 million subscribers in over 190 countries, and generating over US\$11 billion in annual revenues in 2017 (see Figure 6).

Figure 6: Netflix Revenue Growth



Source: Statista

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Netflix is a good example of an organization that **scores high on FoW readiness**.

**FoW vision.** Sensing the market shift and transforming from DVD rentals to online media streaming much ahead of the market and being a leader in the space.

**Challenging the traditional with agility.** When content players began seeing Netflix as a threat and created barriers such as high price for their content, Netflix swiftly moved to creating their own content and is on track to produce more content than any other Hollywood studio in 2018.

**Beyond the obvious.** Netflix posts its original content series, all episodes at once, which is unconventional considering TVs and content players release episodes one by one. Why, because Netflix says their consumers like it that way.

**FoW strategy.** Relentless focus on delivering superior experience. This includes:

#### **Customers**

- Personalized feeds for customers based on viewing history
- Utilizing data analytics and AI to improve experience
- Regular surveys and proactive monitoring to understand user experience and behaviors
- Understanding consumer preferences and developing localized content for each market

#### **Employees**

- Strong focus on workculture with the core driving philosophy being “people over process”
- Constantly rated among the top employers in surveys for its policies and workspaces
- Contemporary workspace designs, with a lot of communal spaces and meeting rooms to promote collaboration
- Empowers team members for innovation by promoting new ideas and non-hierarchical decision making
- Unlimited paid time off as stated policy, with focus on getting work done, anytime, anywhere
- Promotes the use of mobile devices, such as laptops, tablets, etc.
- Does not follow bell curve and asks managers if they will fight hard to keep their employees if they are leaving, known as “Keepers Test” that each manager has to take for its subordinates

**FoW business model.** While the digital industry thrives on advertising dollars, Netflix offers simple subscription-only plans to choose from with no advertisements.

**FoW operations.** Experience-centric model for everything based on understanding customer needs and focus on employee experience.

**FoW IT.** Cloud-native with a strong focus on microservices architecture, and independent teams for various capabilities that take responsibility and decisions for their capability area and collaborate as needed. However, Netflix wants to monitor and control the experience delivered, so it owns infrastructure for the last mile and has custom built its own cloud delivery network (CDN) to ensure minimum lag in loading of content. It also partners with local ISVs in each market to host its CDN servers, focuses on intelligent routing, and creates redundancy to ensure there is no disruption in event of outages. The entire focus of IT teams is on delivering superior experience on any device, anytime, anywhere.

# Developing a Road Map for the Future of Work

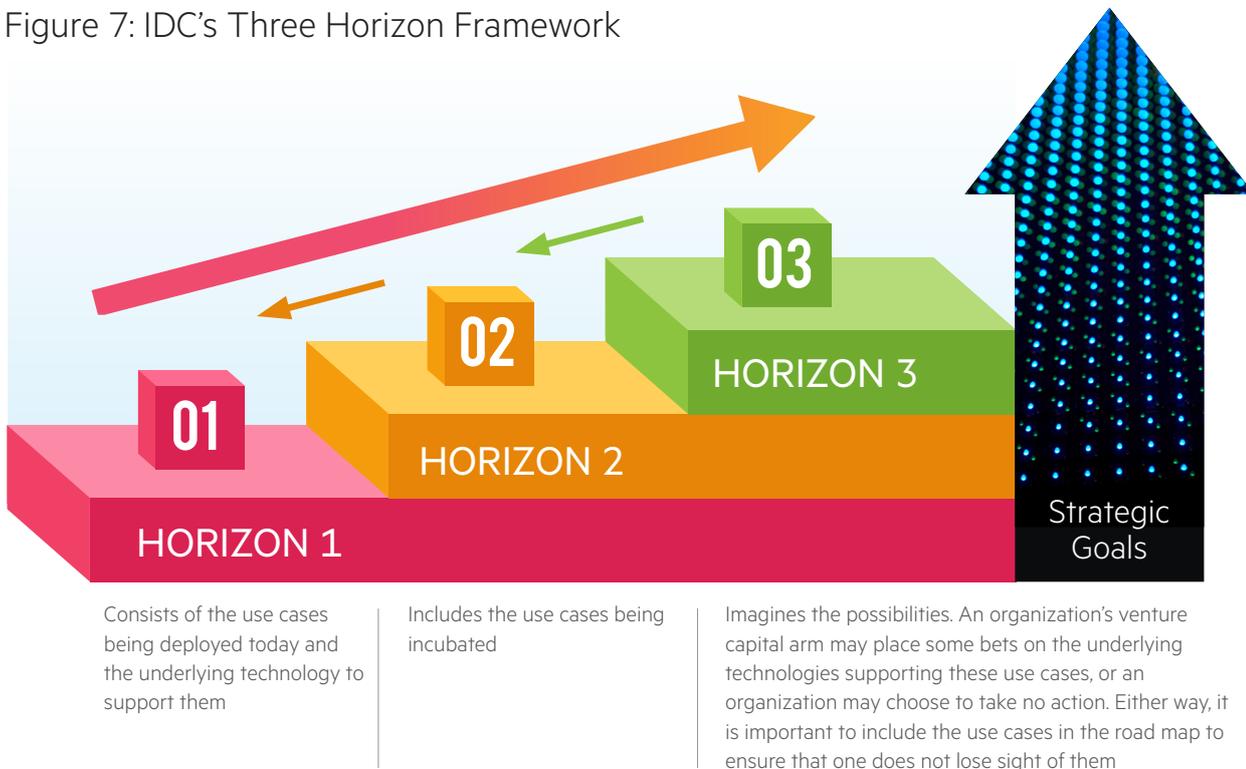
Digital transformation and 3rd Platform technologies are at the core of the FoW journey, which compels business leaders to reimagine all aspects of work, from strategy to operations to IT.

This then poses a complex problem with many moving parts, causing business and IT leaders to struggle to put them together and create a momentum that can generate sustained competitive advantage.

Too many organizations have built a digital road map that is rooted in the here and now, resulting in tactical road maps that achieve near-term goals. The challenge with this approach is that the road map is not durable for the rough journey ahead.

One way to build a road map is with use cases that are layered into three horizons. This allows the road map to be both modular (use cases that can be swapped in and out) and scalable (a road map that factors in the next horizon of development). Last, the road map needs to be extensible. The road map moves from very executable in Horizon 1 to more abstract in Horizon 3 (see Figure 7).

Figure 7: IDC’s Three Horizon Framework



Source: IDC, 2019

**For an organization’s strategy and vision, IDC recommends the following road map that identifies the use cases that will allow you to adapt the Future of Work.**

Horizon 1: Deploying use cases, leveraging current technologies and/or proven operating models	Horizon 2: Exploring and incubating use cases, harnessing new technologies and/or operating models	Horizon 3: Imagining the possibilities via different investment techniques and out-of-the-box operating models
<ul style="list-style-type: none"> <li>■ Mobile channel for customers</li> <li>■ Business on the move for sales force</li> <li>■ Virtual and augmented connect</li> <li>■ Intelligent customer onboarding</li> <li>■ Connected ecosystem collaboration</li> </ul>	<ul style="list-style-type: none"> <li>■ Real-time demand matching</li> <li>■ Cognitive supply chain</li> <li>■ Intelligent customization</li> <li>■ Digital twin simulation/product development</li> <li>■ Augmented maintenance</li> </ul>	<ul style="list-style-type: none"> <li>■ Advanced technology augmented work</li> <li>■ Next-generation payment</li> <li>■ End-to-end product traceability</li> <li>■ Assortment dynamic optimization</li> <li>■ Virtual and augmented customer journey gamification</li> </ul>

## 01

## Horizon 1 Use Case: Business on the Move for Sales Force

Mahindra & Mahindra Ltd is a part of the multinational Mahindra Group headquartered in India and India's largest utility vehicle maker. As part of its move to digitalize the automotive retail experience, Mahindra launched "Bring the Showroom Home" which uses mobile and virtual technology throughout the sales cycle. With this digital platform, customers can make their car purchase at the convenience of their own homes, without the need to visit a physical showroom.

- **Improving speed to purchase.** Mahindra's "Bring the Showroom Home" begins with allowing customers to make their car selection on their website. The platform can be accessed on both mobile and desktop and acts as an aggregator for all Mahindra dealers. From here, the customer is informed of which dealer may have the preferred vehicle.
- **Enabling the sales force.** Sales representatives bring VR headsets during their visits to interested customers. Customers can use the headsets to view the car as if displayed in a showroom, as well as customize the car's interiors, exteriors, and accessories to help them make purchase decisions faster.
- **Continuing the customer experience.** Mahindra's digital platforms offer customers options in financing and insurance, after-sales customer care, and scheduling of repair and maintenance services.

## 02

## Horizon 2 Use Case: Digital Twin Simulation/Product Development

Ford is revolutionizing the way it designs its automobiles through the Ford Immersive Vehicle Environment Labs (FIVE). Using virtual reality, Ford employees create vehicles through an immersive design experience without the need to produce a physical prototype, and collaborate with teams from Ford centers across the globe.

- **Immersive design experience.** The design lab is equipped with motion sensors that detect the movements of Ford designers and engineers wearing the VR goggles, as they move through the virtual concept car. The captured movement provides Ford the necessary information to make improvements on the design.
- **Borderless collaboration.** Teams from Ford centers in other parts of the United States as well as Asia, Europe, Australia, and South America have access to the live feed from the lab and can provide real-time feedback to the design team using the VR goggles. This type of collaboration allows Ford to design a car targeting different markets, ensuring customer demands are met all over the world.
- **Faster production and cost savings.** Through the virtual lab, Ford has eliminated the cost and time required when producing a physical prototype. Ford can go to market faster ensuring customer pain points are addressed using VR technology.

## 03

## Horizon 3 Use Case: Assortment Dynamic Optimization

McDonald's introduced its digital kiosks in the U.S. in 2015 and has plans to have these in 14,000 locations by 2020. This move to digitalizing the customer experience will earn the fast food giant US\$2.7 billion in sales. In the Asia/Pacific region, McDonald's in Hong Kong has also introduced self-service kiosks and mobile ordering in 60 stores in 2017 as part of its "Experience of the Future" (EoTF) dining model.

Operating in 188 countries and serving more than 69 million customers each day, MacDonal'd's is creating massive amounts of data, which it is able to leverage to deliver better customer experience.

- **Personalization and experience improvement.** In addition to digital kiosks at stores, customers can order and pay through a mobile app. The company also utilizes behavioral and geospatial intelligence to offer complimentary products. Favorite orders are saved, and app users can avoid queues at stores while boosting repeat purchases. Users have exchanged data in return for convenience. In Japan, mobile-app customers spend an average of 35% more than those who do not use the app.
- **Dynamic product assortment.** A/B testing is carried out for digital menus, to change product placement and imagery based on real-time data, and even environmental factors such as snow and rain. In Canada, this has resulted in a 3–3.5% increase in sales.
- **Data-driven culture.** The company is cultivating a data-driven culture in every sphere of operations, from kitchen and in-store operations to promotions. The results are promising as some stores' sales are up.

# Conclusion: A Holistic Transformation Is the Way Forward

The Future of Work is more than just an automation or technology upgrade drive. Many organizations are confusing Future of Work with AI and its impact on job losses. Look instead at the bigger picture of new possibilities this can create for your organization with new products, services, improved efficiencies, and innovation.

To break the digital deadlocks, IDC recommends a holistic transformation across the three dimensions of Future of Work and rearchitecting technology architecture.

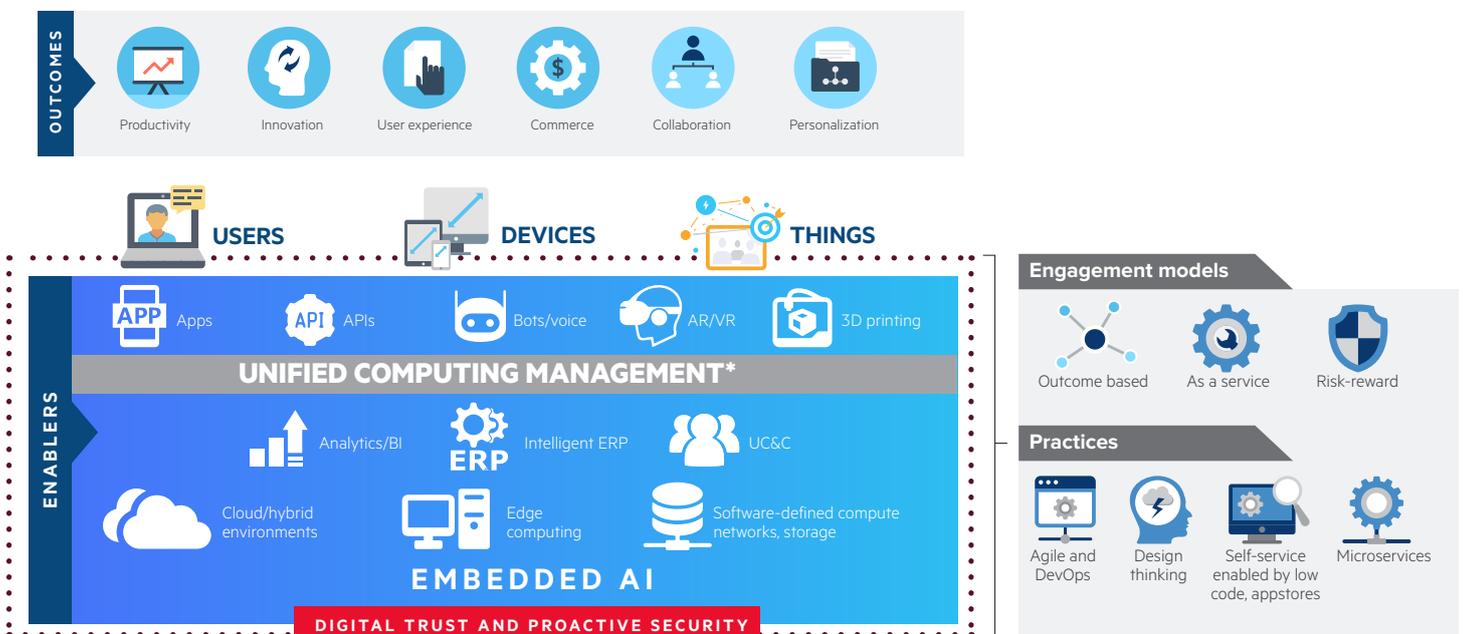
## Technology

Technology is changing at a breakneck pace, and it will continue to evolve and drive productivity, collaboration, and efficiency in many new ways. Therefore, explore emerging technologies to drive new outcomes, not just as a PR exercise. In addition, practices such as design thinking and agile should be adopted to enable enterprise-wide experimentations. Starting small and scaling fast are good approaches, but remember, technology is only an enabler. A robust strategy that clearly lays the road map for your vision of the future should drive your technology strategy and not the other way around.

Adopting as-a-service, outcome-based models, low-code platforms, software-defined compute, storage, and networking, as well as embedded intelligence in applications will help improve performance and efficiency, but there is also a need for greater simplification. At some point, the legacy applications or incremental technologies that have been added in piecemeal fashion over the years to cater to new business demands will have to be completely revamped with the view of creating a simplified, contemporary, and agile architecture.

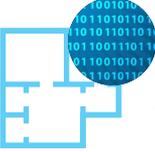
Figure 8 presents a high-level view of key building blocks for future of IT and key outcomes.

Figure 8: Reimagining IT for the Digitalized Era



\*Unified computing management proposes a standardized approach for managing technology capabilities across the lifecycle — from evaluation, development to deployment, and subsequent refresh or phase-out. This standard management process should be followed from provisioning and upgrades to security across endpoints, infrastructure, and applications.

Source: IDC Asia/Pacific Future of Work Practice, 2019



## Workspace

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It does not matter anymore where the work is done and how. It is more critical to empower employees with the right set of tools and technologies, and an enabling environment that fosters a digital-first approach. But while doing all this, ensure security and compliance.

Empower employees with not only the latest tools and technologies, but also modern designs that attract talent and provide them the freedom along with security.

- Adopt flexible, collaborative modern designs
- Mobilize business processes and explore as-a-service models but ensure holistic security
- Explore immersive AR/VR business solutions and natural language voice interfaces



## Workforce

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Explore areas for augmenting your workforce capabilities with emerging technologies, AI, and AR/VR, not just for productivity, but also product and service innovation. It does not matter if the workforce is located in offices or somewhere else, it should be empowered.

Embrace new technologies that augment human capabilities to deliver greater productivity and efficiencies, as well as better outcomes.

- Augment human capabilities with emerging technologies
- Utilize digital talent platforms for expanding in-house capabilities
- Create a vision for future needs and train employees to develop capabilities



## Workculture

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Create policies and structures that facilitate collaboration with the broader ecosystem. Focus on talent practices that attract and nurture the best talent, rewards innovation, and conveys the same as a unified brand identity for your enterprise.

Create a coherent brand identity for everything from technologies and devices to physical offices that foster collaboration and innovation.

- Create a coherent digital brand identity that acts as a source of differentiation
- Embrace open innovation and foster collaboration with the broader ecosystem
- Focus on talent practices that attract and nurture the best talent and reward innovation

# Future of Work Readiness Index: A Checklist for Business Decision Makers

The following checklist is provided to guide key decision makers to identify the key initiatives and gaps across the three dimensions of Future of Work that will help them create a holistic strategy and prepare for the digitalized era.

**Workspace:** Workspace policies today have an impact on productivity as well as employee attraction and retention. Below are the areas that you will need to focus on:

Workspace with Employees-First Approach	
1. Are your workspace designs contemporary and do they foster collaboration?	
2. Mobility is about freedom to employees. Are you focusing on mobilizing business processes and adopting a mobile-first approach across your operations to unlock productivity?	
3. Does your organization have a policy to offer devices based on specific roles/tasks, such as rugged devices for field staff or more powerful devices for content developers?	
4. Does your organization have a strategy to make the workspace smarter and improve employee experience with the use of biometrics and IoT sensors?	
Use of Digital Technologies	
1. Does your organization utilize cutting-edge digital technologies such as cloud, mobility, analytics, AI, and AR/VR to empower your employees?	
2. Digital technologies can enable employees to perform their jobs effectively and increase productivity. Are you effectively deploying and managing all leading digital technologies?	
Workspace Modernization Strategy	
1. Has your organization implemented or is planning to implement a workspace modernization strategy?	
2. Workspace modernization isn't limited to technology modernization. Does your workspace modernization strategy include physical workspace designs (e.g., open layouts, well-being considerations), as well as workspace policies (e.g., work from home, mobility, security)?	
3. Do you have a framework or governance mechanism to monitor technology advancements?	
4. Do you frequently monitor technology changes and adapt workspace technologies, devices, and policies to deliver superior user experiences?	
Security as a Strategic Imperative	
1. Security is critical for businesses. Does your organization have a broader security program in place, which focuses on cyber defense and compliance across levels?	
2. Has your organization implemented or considered implementing UEM to manage and secure diverse devices and platforms?	
3. Does your organization have robust physical and cybersecurity policies in place?	
4. Does it seek guidance from external consultants/security experts about compliance activities at regular intervals?	
5. Understanding of security and privacy is an imperative across all employee levels. Do you run programs which ensure accountability and educate your employees on actions to prevent, report, and mitigate physical and cyber risks?	

**Workforce:** The workforce will increasingly comprise millennials, gig workers, and humans and machines working together. Below are the areas that you will need to focus on:

<b>Digital Skills Development</b>	
1. Digital skills development is pivotal to bridge the skills gap. Does your organization have a practice/strategy in place specifically with regard to digital skills development?	
2. Does your organization have policies and processes to effectively hire and onboard contingent/contract resources and capabilities?	
3. Are your training and learning and development (L&D) initiatives capable of developing digital skills and forecasting future talent requirements?	
4. Do you have a skills development framework which is integrated enterprise-wide?	
5. Have you defined KPIs for monitoring functional performance of employees and experience across systems and processes?	
6. Do you have committed investments for digital skills development from each year's budget?	
<b>Talent Management for FoW</b>	
1. Millennials have a strong influence on workspaces. Have you developed a broader talent management strategy for millennials, and incorporating talent considerations across operations and decision-making processes?	
2. Are your talent management systems and policies fully integrated across businesses to empower employees and nurture talent, as part of your FoW strategy?	
<b>Artificial Intelligence Strategy</b>	
1. Have you developed an AI strategy that includes developing use cases and scaling AI across applications and processes?	
2. Have you identified application areas/pilots that can help you to scale up your AI projects for automation, productivity, and efficiency gains?	
3. Does your AI strategy align with your broader focus area of improving workspace experience, productivity gains, and for creating new or better products and services?	
<b>Artificial Intelligence + Human Workforce</b>	
1. The future workforce will inevitably be Human + AI. Does your organization have a success framework for measuring AI systems and its impact on processes?	
2. Is your AI framework designed to measure impact on your organization's long-term success, beyond standard project KPIs such as uptime and accuracy?	
3. Do you meticulously evaluate the impact of AI on privacy, ethics, and relationships with customers, partners, and employees before it is deployed?	

**Workculture:** Workculture will be more cohesive and innovation focused. It will serve as a defining characteristic that enterprises will utilize to compete for talent. Below are the areas that you will need to focus on:

Fostering Innovation	
1. Continuous innovation is a key driver for sustained competitive advantage. Does your organization have a workculture that fosters innovation?	
2. Do you have systems and processes in place that can inculcate an innovation-focused culture through new partnerships, and open collaboration and ecosystems?	
Fostering Collaboration	
1. Does your organization have a workculture that promotes collaboration across different teams and sees collaboration as a key driver to accelerate innovation?	
2. Do you utilize unified communications and collaboration applications to drive collaboration within and outside the organization?	
3. Do you use facilitation strategies such as incubators, opensource projects, and coworking for driving collaboration with the broader ecosystem and community?	
FoW for Brand Equity	
1. Workculture is a strategic differentiator. Are you focusing on a culture enhancement strategy?	
2. Do you have KPIs to assess the impact of various decisions such as workspace, technologies, and partners on workculture and brand equity?	

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