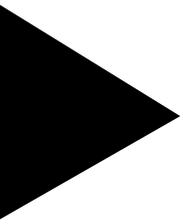


Redefine your digital workplace as an innovation center





The workplace of the future will look little like it does today. No longer defined exclusively by physical location, workplaces will serve both individual and collaborative purposes. The ability to share context and perspective, and manage personalized experiences, will create a unique ability to drive productivity and innovation at every level – from individual to team, workgroup, company and ecosystem.

Collaboration tools are shrinking distances, enabling teams to share insights and cooperate around information-based problems. Further, as smart buildings intersect with the people in them, digital agents will influence productivity and the way employees and partners collaborate. Information will flow freely without fear of inadvertent disclosure. Cognitive agents will listen to interactions, capture action items and even plan follow-ups.

Building the workplace of tomorrow will be an important competitive differentiator. As the labor market continues to tighten, the ability for an employee to be highly productive and continuously learn from others will be a factor for people joining a company or a team. The digital leaders of tomorrow will be those organizations that come to grips with the new definition of the workplace as a center of innovation.

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By 2019, the adoption of intelligent automation and company-specific digital assistants will have led to a fourfold improvement in knowledge-worker productivity across use cases.

Source: IDC FutureScape: Worldwide Analytics and Information Management 2018 Predictions (Doc #US42619417 / Oct 31, 2017)

Digital technologies are deconstructing old notions about the nature of jobs and the workplace. Innovation is no longer confined to a department, center of excellence or lab; instead, innovation is widespread. Everyone in the workplace can participate, given the right technologies and policies.

Mobile technologies have catalyzed the development of the gig economy, redefining what constitutes a job, who is an employee and how work gets done. Employees can be productive anytime, anywhere and, to an increasing degree, when they choose. In the gig model, one person is no longer constrained to one role. An “employee” can be involved in activities that span many roles. Much of the work that gets done is accomplished by teams who switch roles and tasks seamlessly.

Collaboration happens intuitively and digitally across corporate, physical and geographical boundaries. As workers exercise more independence and pick jobs they're truly interested in, businesses can focus resources and investments and gain the flexibility to contract with specialists as needed.

Employees want companies to rethink how they manage and reward employees. Companies that understand the digital workplace have learned to seek out employees who are interested in change and technology, and to adopt them as beta customers to accelerate innovation. Early adopters can help companies spot new use cases, products and technologies that can have broad application in the enterprise.

These trends and others have given IT organizations a lot to think about. Staying the course with traditional policies and approaches won't end well. Today's users won't think twice about bypassing IT in favor of preferred devices and channels. In the area of IT support, for example, crowdsourced assistance is maturing and becoming more common. Users are more likely to go to Google for the answer to a problem — or contact a friend — than to wait for the company's help desk to respond.

4 imperatives for the enterprise

To make the most of these trends, IT organizations should align technology with a rich user experience. When this is done right, IT will convert a huge base to true believers, rather than have to quell a rabble of rebellious stakeholders. The key is to harness employee enthusiasm for emerging digital technologies and use it as a competitive advantage. To do that, organizations must address four imperatives:

1. **Prepare for a new dynamic enabled by automation that mimics human reasoning and response.** Chatbots are evolving into more complex virtual assistants, interacting with humans to replace phone calls, emails and texts. Online virtual assistants already offer a scalable and high return on investment. X.ai, a developer of AI-driven virtual assistants, estimates that it takes humans an average of 17 minutes to schedule one meeting, while virtual assistants cost less than \$100 per month and can schedule meetings faster and tirelessly.

Virtual assistants will speak to each other, communicating and negotiating several orders of magnitude faster, and take action on your behalf. Integration among virtual assistants that understand the nuances of language and can communicate with humor will open a world of richer communication, deeper knowledge and understanding, and new efficiencies. Scheduling a meeting with eight senior executives in three different time zones will be easy and completely invisible to the human users.

Automation in other forms will completely redefine the workplace. For example, a single “pilot” sitting in an office will be able to remotely manage multiple drones surveying cropland, transforming the office and the worker into a control tower and a controller.

Innovation and the rise of the citizen developer

The term “citizen developer” arises from the democratization of IT, coding and engineering skills. Cloud services, the API economy, and the readily available tools that come with curated examples and guidance built-in, are opening up a new world where anyone can start to bring their ideas to life. For example, Slack and Facebook Workplace allow individuals to create “bots” that can join and empower their channels, automate actions and even improve collaboration and reporting. There is a healthy community that supports innovators and tinkerers who want to change the way they work.

The tools are there for experimentation. Now add in the desire. These citizen developers, no matter what department they work in, are close to business needs and therefore in a good position to experiment with the capabilities of technologies such as artificial intelligence (AI).

While AI is both overhyped (it is considered the answer to everything) and underhyped (its potential is not fully understood because useful real-world applications are in their infancy), the nascent tools available have piqued people’s interest. Citizen developers will embrace AI and apply it to their local environment. This will shape a unique vision of the modern workplace, born from their knowledge of the business problem, specific to their organization and strategy, and factoring in existing technologies.

We’ve seen this before with Excel macros, and to a degree with websites and mobile apps. Now AI will be the target of those inquisitive, frustrated users who just want to do more — and more efficiently.

2. Leverage efficiency improvements made possible by AI and augmentation.

For example, a calendar system could, over time, learn a user's preferences in preparing for major presentations and automatically schedule meetings, contact necessary collaborators, and even book flights and hotel accommodations for team members. The system could also use preferences to create opportunities that might be unknown to the user. For instance, it could notice that a key client is flying into the same city on the same weekend as the user and automatically suggest a meeting place and time and, when accepted, schedule a meeting that meets both persons' preferences.

Both augmented reality (AR) and augmented information-sharing are becoming more accessible. Mixed-reality tools such as Microsoft HoloLens are finding a home in manufacturing, healthcare, education and other fields. Similarly, AR changes the nature of user support, allowing experts to guide customers through the process of checking, repairing or installing an item via a remote view.

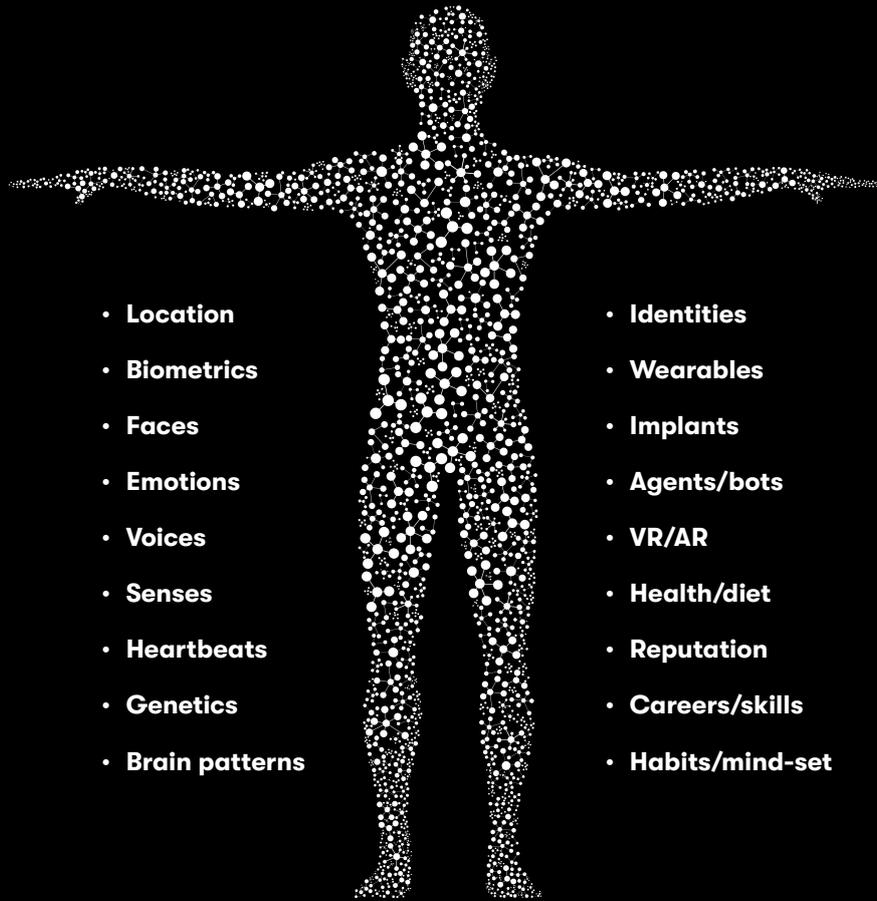
Augmented information-sharing will enable multiple users to access augmented information with the touch of a finger. Groups will be able to simultaneously edit documents on a virtual whiteboard. Meetings will include real-time summaries of content and next steps, so all participants have a common base of understanding. Augmentation will become more dramatic, with contextual and adjacent information presented in real time and in view of all speakers, based on the context of the conversation. The interface will continue to be external, for now, but that could change. Instead of holding or wearing a device, users may one day become the device.



By 2020, 25% of enterprise mobile applications will utilize onboard artificial intelligence/machine learning capabilities on smart devices for a variety of applications, including computer vision, depth perception, augmented reality, and edge intelligence.

Source: IDC FutureScape: Worldwide Mobility 2018 Predictions (Doc #US42590017 / Oct 31, 2017)

Augmenting the brain



Augmenting the body

LEF Perspective

Innovation shifts to the human platform

Over the course of the 2020s, it will become clear that the center of digital innovation has shifted from the digital platform to the *human platform*, with important implications for the workplace.

Digital technology will continue to get smaller and more powerful. Looking back, each generation of IT miniaturization — mainframes, PCs, smartphones — has created major new markets and possibilities, and increased the number of devices and data volumes we use by at least an order of magnitude. This pattern seems highly likely to repeat itself.

As shown in the figure, the “Matrix” of digital infrastructure we are familiar with today will see the entire “virtual you.” It will be used to augment both our brains and our bodies. Already today, deep learning, analytics and the internet of things (IoT) are drawing insights from how we walk and talk, the rhythms of our breathing and heartbeats, the patterns of our thinking and emotions, and our unique faces, eyes and genetics, while enhancing our capabilities through wearables, implants and the nutrients we consume.

But these innovations are just the beginning. Digital technology will merge with healthcare, fitness, diet, medicine, genetics, entertainment, aging and, increasingly, our five senses — greatly expanding the way we think about what humans can do and how workplaces should be structured.

Some questions to consider:

- Would you implant a chip in your hand to replace all of your keys?
- Would you wear a watch that identified any changes in your heartbeat patterns?
- Would you use technology to improve your memory, seeing or hearing?

Leading Edge Forum (LEF) is DXC Technology’s independent cross-industry think tank. Read the LEF report, [“Innovation Shifts to the Human Platform: Are You Ready?”](#)

3. Plan for new models of interaction such as gestures and conversational interfaces, which will enable users to work in new ways. Field technicians can be outfitted with remote guidance systems consisting of an augmented-vision wearable that takes voice input, provides visual information that overlays the equipment being examined with data from IoT sensors, and can connect the technician with a remote engineer. This frees up the technician's hands and capitalizes on new engagement technologies: One engineer can direct multiple crews, seeing what they are doing, as well as guiding and annotating their efforts.

4. Turn raw data into contextual insights, for greater meaning and productivity. Contextual insights from real-time IoT data, machine learning and social analytics can provide users with the information they need and personalized experiences they expect to more efficiently accomplish tasks. Sensors, embedded devices and wearables are becoming ubiquitous in the enterprise, generating huge amounts of data that, if not managed well, can easily become noise. What's needed is a way to harness data "in context," to understand relevant factors, including location, activities, environment and even the emotional state of the user. Harnessed correctly, this presents opportunities to greatly reduce non-value-added time (e.g., retrieving work instructions from systems for manual workers), increasing job satisfaction (more hands-on time) and productivity.

Contextual insight can be used to improve nearly any aspect of an enterprise. Understanding which users are experiencing the greatest level of frustration and inconvenience, for example, could be used to set priorities in a support queue. If the facilities team could coordinate user calendars, they could allocate resources more efficiently, say by optimizing building temperature, lights and room utilization.

Performance analytics can be embedded in services to proactively monitor for faults, substandard performance and dramatic changes in demand, and then take proactive action. Automotive manufacturers have led the adoption of predictive and proactive maintenance. However, in a workplace example, expensive resources such as specialized hardware and software licenses can be dynamically adjusted or removed, depending on usage and demand. Eventually, these services will monitor themselves, adapt to usage and threat-level changes, and heal themselves in the event of a breach.

Event-driven activities, such as service management, can be optimized and improved with machine learning and mobile applications. All changes to the environment can be automated via software-driven infrastructure. IT can bring real-time insight into the business, and systems can deliver fine-grained command-and-control capabilities to spot opportunities for improvement, as well as find anomalies before they affect productivity.

The aggregation of information with context is extremely powerful, allowing organizations to move toward contextual or data-driven workflows rather than rigid processes. Information can be consolidated and tailored to the user's setting and device, with the right information being presented in the right way based on the context at hand. Information will be able to flow freely yet with control that prevents unauthorized use or disclosure. Recommendations for business decisions will come just in time and in the right format for actions to be taken.

In delivering on these imperatives, organizations can ensure improved productivity and a higher-quality experience for users and increased agility in both IT and business services. The result is a workplace that is not limited to an office building. Instead, it is augmented and contextual, enriched and data-driven, and exists in many places, both physical and virtual.

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The most popular primary purpose for wearables in the workplace is to optimize workflows (44.7%), followed next by sharing information (41.9%) and monitoring the workforce (40.5%).

Source: IDC, Overview of Wearables in the Workplace in 2017, Ramon T. Llamas (Doc # US43736818 / Apr 2018)

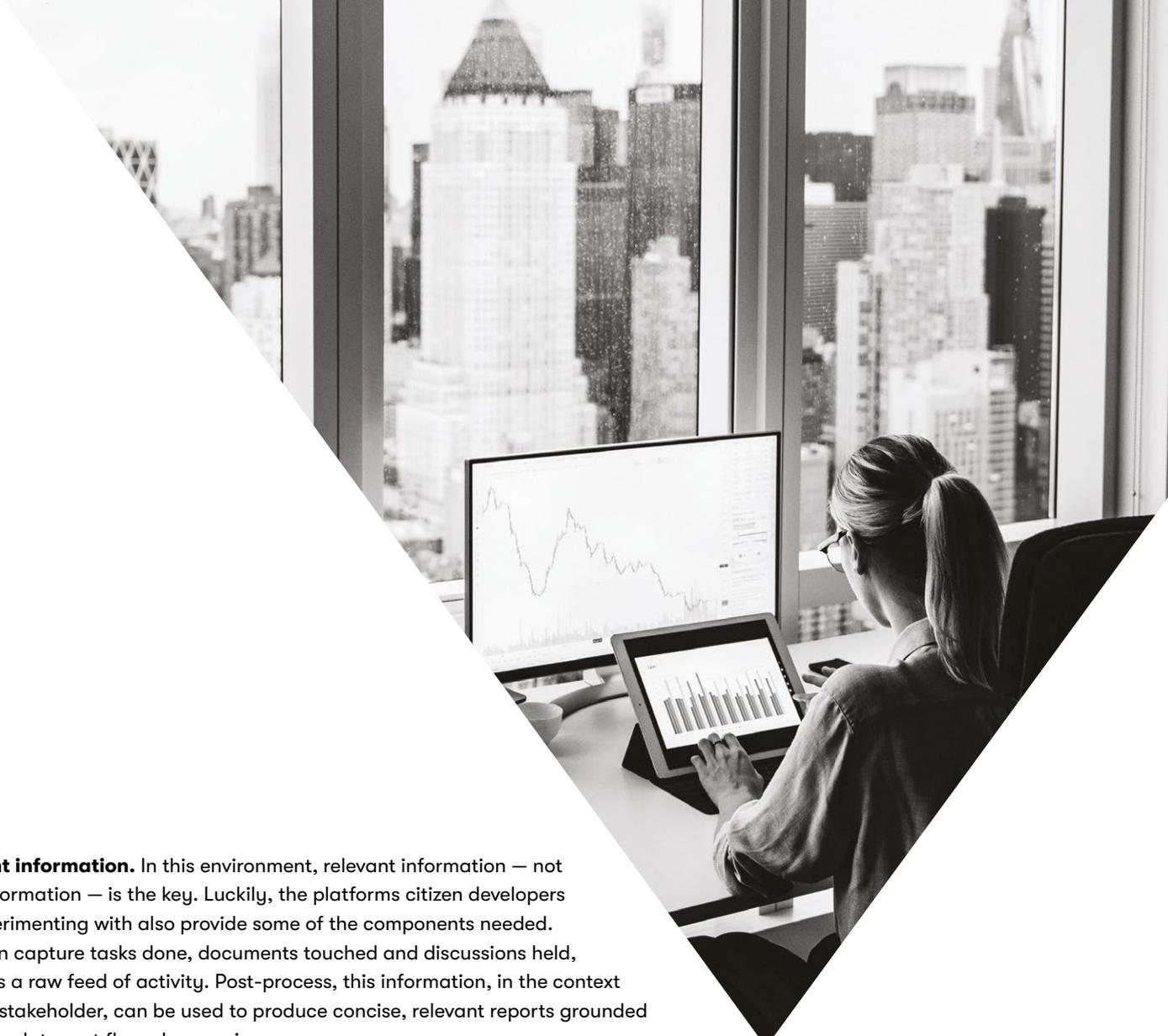
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By 2020, human-digital interfaces will diversify, as 25% of field service technicians and over 25% of information workers use augmented reality, nearly 50% of new mobile apps use voice as a primary interface, and 50% of consumer-facing Fortune Global 2000 (G2000) companies use biometric sensors to personalize experiences.

Source: IDC FutureScape: Worldwide IT Industry 2018 Predictions (Doc #US43171317 / Oct 30, 2017)

Changing how we change

Getting there, however, will require IT and business leaders to face the daunting task of not only upgrading workplace technology and modernizing infrastructure, but also adjusting to the shape of the new workforce and overcoming its resistance to different ways of working. That's a lot of change. And it is essential to understand that workplace transformation will deliver expected business benefits only when organizations develop effective ways to cope with change along many dimensions. These include:

- **Workforce.** For the past few years we have focused on the generational shift taking place as millennials become the bulk of the workforce. However, there is a second shift that will affect how we operate. Organizations are adopting more gig workers for specific tasks or projects, which puts pressure on IT to streamline gig workers' experience and optimize processes to maximize gig workers' productivity. Capitalizing on automation, intelligence and integration to optimize business flows and processes will become fundamental to IT operations.
- **Human resources.** This blended workforce, and the recognition that organizations are already adopting a task-based or gig-like approach internally, affects the way we run our companies' human resources processes. The management chain becomes flatter, tied to activities and projects. The old reporting model breaks by having so many stakeholders and managers. We need to automate and collate information for the relevant project and stakeholder, distill it succinctly, and publish it to those who are invested, as well as archive it as input to the performance-review process.
- **Project management.** That information will enable project managers and stakeholders to better manage the individual and the team, optimizing for performance and cost. As they see near-real-time information about productivity and performance (on their specific project), they can flex, coach and change the team as needed. It is a much more hands-on world, although some of the tasks can be automated. Project resource managers can learn from just-in-time manufacturing techniques, bringing in the right workers at the time they are needed.



- **Relevant information.** In this environment, relevant information — not more information — is the key. Luckily, the platforms citizen developers are experimenting with also provide some of the components needed. They can capture tasks done, documents touched and discussions held, giving us a raw feed of activity. Post-process, this information, in the context of each stakeholder, can be used to produce concise, relevant reports grounded in system data, not flawed memories.
- **Employee-driven innovation.** Organizations must become better at matching the pace of change, using techniques such as employee-driven innovation to quickly identify new workplace trends and opportunities. Formalizing informal support networks can help manage change more effectively and capture the benefits of disruption. And when companies understand how productivity and morale are boosted by ongoing workplace investments, the cost of change is less daunting and easier to justify.
- **Connection and collaboration.** Companies must continue to develop policies that give workers flexibility in the devices they choose to use. How people connect and collaborate is changing as well; companies will need to foster collaboration on, and set policies for, social media in the enterprise.
- **Automation.** Software agents, bots and intelligent machines will make tasks easier. Companies will need to consider how these new devices and applications can learn and apply user preferences, and how they can use real-time information in context to automate more tasks and decisions.

Enterprises can truly change the way employees work by providing a flexible, expansive workplace with the right technologies and policies. The result will be a better user experience, an appealing work environment for recruiting and keeping talented employees, higher levels of productivity and innovation, increased speed and greater business agility. Those who come to grips with the new definition of the workplace and its enabling technologies will be the digital leaders of tomorrow.

How DXC delivers the new workplace

DXC Technology is the world's largest provider of digital workplace services. With a focus on digital transformation, DXC helps enterprises grow their business, drive productivity and boost employee engagement with an innovative consumer-like work experience.

Employee support is tuned to individual preferences, and proactive support fixes many issues before they are even recognized. Underlying these capabilities are analytics and artificial intelligence, lean processes and leading automation capabilities driven by DXC Bionix™, our digital-generation services delivery model. The result in your workplace: fewer business disruptions, reduced human error and operational risks, and lower costs.

Security is a critical underpinning to digital workplace solutions, and DXC provides solutions to some of the world's most security-conscious clients, including military organizations, military contractors, healthcare organizations and global financial institutions.

Through ongoing, technology-enabled modernization and a fresh perspective on today's workplace, DXC helps enterprises deliver a superior workforce experience.

Now is the time to act. Don't be disrupted — be the disruptor. Let us help you innovate and transform to differentiate with speed and quality. That's DXC. That's Digital Delivered.



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About the authors



Maria Pardee is DXC Technology's senior vice president and general manager for the Workplace and Mobility offering. Before that, she was CSC's vice president and general manager of Global Infrastructure Services (GIS) Workplace and Service Management. Maria has held a number of management positions in global IT and consulting companies. She served as chief information officer at BT (Retail Division) and senior vice president of global accounts at Alcatel-Lucent (Enterprise Division). She has also held senior-level positions in client management for American Management Systems (now CGI) and KPMG Consulting/BearingPoint. Her areas of emphasis were balance sheet transformation, business alignment of IT and core business, and global delivery of large-scale IT programs.

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