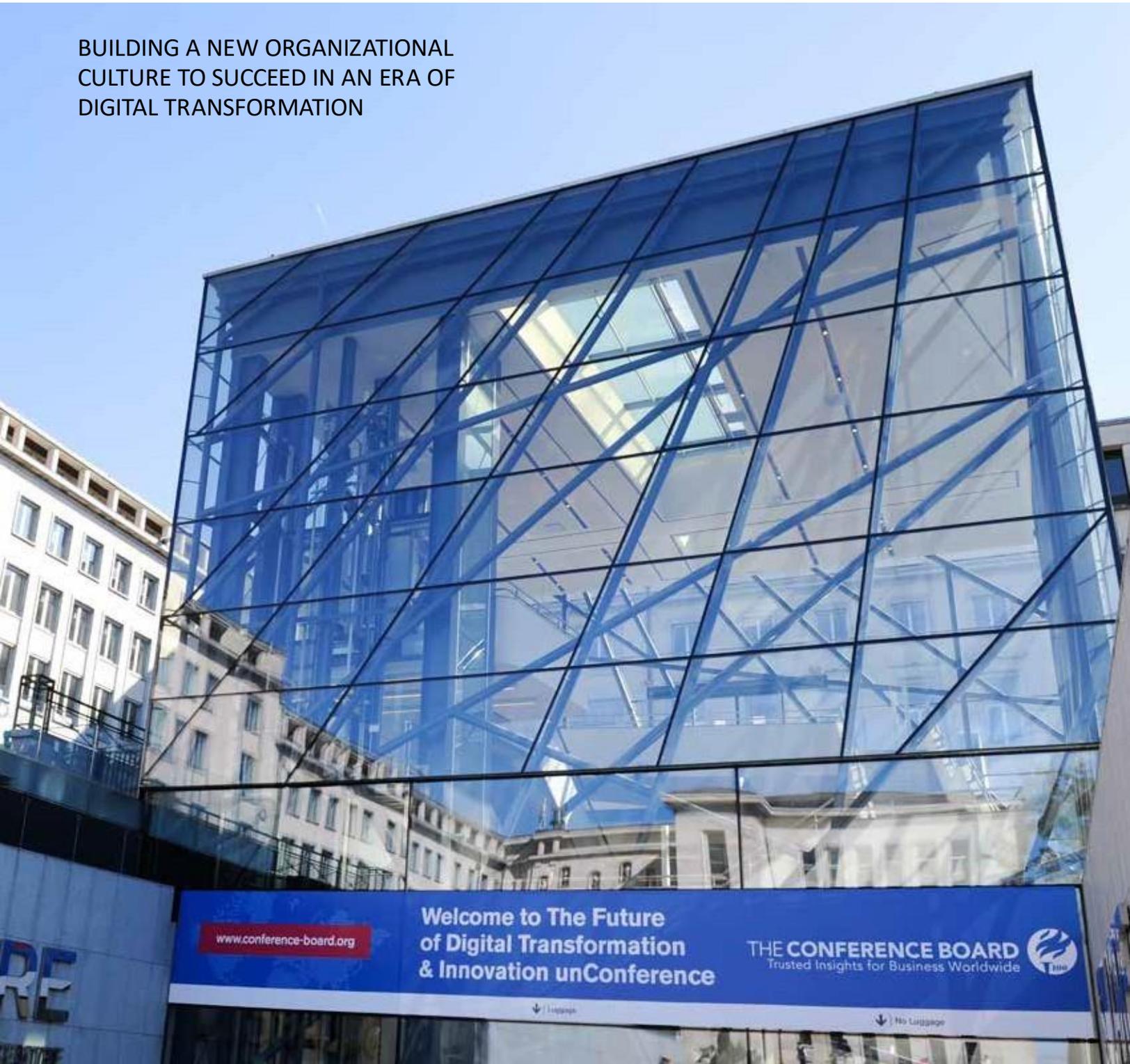


EXECUTIVE SUMMARY

Beyond Technology

BUILDING A NEW ORGANIZATIONAL
CULTURE TO SUCCEED IN AN ERA OF
DIGITAL TRANSFORMATION



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Executive Summary

28 Lessons from the unConference

One key message from unConference participants: if you and your organization feel challenged by the disruptions caused by the new digital economy, you are not alone. While many business leaders believe that digital transformation should be a strategic priority, most organizations are continuing to struggle mightily on their journeys toward achieving it.

So what is holding us back? Among the biggest obstacles are lack of leadership commitment to digital transformation, failure to recognize a burning platform, competing priorities within the organization, lack of familiarity with digital technologies, talent and skill shortages, and laws and regulations that are outmoded.¹ Holding on to legacy processes and outdated mind sets are not going to help organizations get to the digitized Promised Land.

No doubt European business leaders are facing a difficult and complex set of challenges as the pace of digital transformation accelerates. There is risk and there is opportunity, and judging from the participants at the *The Future of Digital Transformation and Innovation unConference*, there is certainly excitement but also anxious concern about how to get it done. The following 28 lessons emerged from the day-long gathering.

The Digital Transformation in Context

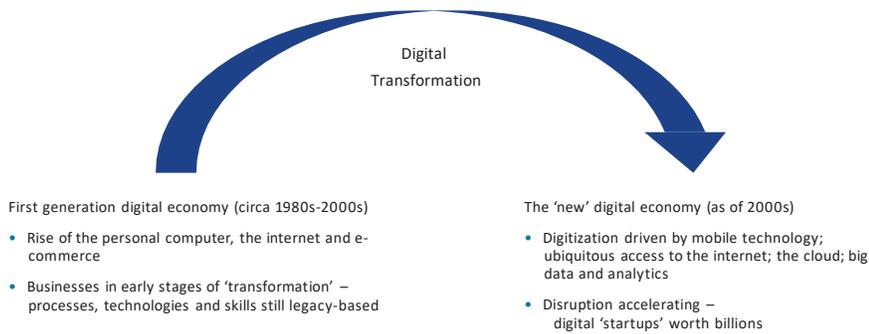
- 1 Digital transformation defined.** Digital transformation is the use of digital technologies (such as ubiquitous broadband and cloud storage, mobile technologies, and computing) and the data they produce to connect organizations, people, physical assets, processes, etc. for the purpose of rapidly developing new products, services, markets, and business models to capitalize on emerging customer needs. People often equate digitization—using technology to do something better or faster, like putting physical medical records online or storing photos in the cloud—with digital transformation. It is not. Understanding the difference is a good place to start.
- 2 Digital Transformation is different from previous industrial revolutions.** Unlike the advent of a single disruptive technology such as the combustion engine or electrification that defined past revolutions, this revolution features a series of disruptive technologies—big data, cloud computing, artificial intelligence, cognitive computing, mobile and social network communications, the Internet of Things, and cyber security—which have come along all at once in a highly disruptive perfect storm. Previous revolutions were powered by physical strength and raw number-crunching power, while today's machines can observe, help us think, and deal with

¹ Adapted from Fitzgerald, Kruschwitz, Bonnet, and Welch, "Embracing Digital Technology," *MIT Sloan Management Review* and Capgemini Consulting, 2013.

ideas. Previously machines were passive and repetitive; today’s digital machines are smart and interactive—and will get even smarter in the future. If the industrial age was about standardization, the digital age is about mass customization and mass collaboration.

- 3 The new digital economy is overturning fundamental business paradigms.** This shattering of long-held business truths requires the re-engineering of business models and processes, as well as interactions with customers, employees, and other stakeholders. Six outdated business assumptions that are no longer valid and may be hindering your ability to be relevant in the new digital economy include: automation is mechanical; scale economies require physical capital; customization is not scalable; products, not their usage, must be priced; firm hierarchies dominate the market; and value is created by firms and consumed by fragments and unsegmented individuals. In the new digital economy, the opposite of these six long-held assumptions forms the new digital reality

Digital transformation is the bridge between first generation digital economy and a “new” digital economy



Source: The Conference Board

Digitization ≠ digital transformation

Digital technologies	Digital transformation
<ul style="list-style-type: none"> • Internet • Mobile • Embedded sensors • Cloud • Social media • Enterprise platforms • Public or open platforms • Artificial intelligence/cognitive computing • 3-D printing 	<p>The use of digital technologies and the data they produce to:</p> <ul style="list-style-type: none"> • Connect organizations, people, physical assets, and processes in new ways • Rapidly develop new products, services, markets, and business models • Meet emerging customer needs

Source: The Conference Board

- 4 **Digital transformation is not the future; it is happening now.** According to the Financial Times, at the start of the third quarter of 2016 the five largest publicly traded corporations by market capitalization on the planet (Apple; Alphabet—whose parent company is Google; Microsoft; Amazon; and Facebook) were essentially digitally-driven businesses. And IBM in a recent study says the top four technologies that C-suite executives expect to revolutionize business *tomorrow* (cloud computing and services, mobile solutions, Internet of Things, and cognitive computing) are already in play *today*.

- 5 **The Internet of Things (IoT) is truly the game changer.** The International Telecommunications Union defines IoT as a network of physical objects—such as devices, vehicles, buildings, and other items—that are equipped with electronics, software, sensors, and network connectivity that enable these objects to collect and exchange data. According to the Financial Times, the vision of IoT is to attach tiny devices to every single object to make it identifiable by its own unique IP address. These devices can then autonomously communicate with one another generating unprecedented volumes of data that can be analyzed to improve process, mass customize products and services, and predict future usage and demand. However, the risk of security breaches and hacking is a game changer too.

- 6 **Four critical elements are combining to disrupt and ultimately transform organizations in the new digital economy.** The Conference Board identifies these four elements as:
 - **Technologies** from artificial intelligence, cognitive computing, cloud services, wearable devices, location sensors, and radio frequency identification tags to social media platforms and smartphone applications, are just some of the components that are altering how business is conducted and how we live our lives.
 - **Connectedness** The Internet of Things (IoT) is one example of digital technology's ability to connect organizations, people, buildings, machines, and other devices to each other.
 - **Data and analytics** Wherever digital technology creates connectedness, it also generates data—continuously and in massive volumes. Digital transformation is fueled by this data and by the information and insights that can be extracted from it.
 - **Digital strategy** Companies need a disciplined way to assess where the biggest digital threats and opportunities lie for specific parts of their business. To execute a digital strategy, leaders need to think about how their culture, organizational design, job structure, operational processes, talent, and policies may need to change.

- 7 While digitization changes everything, it is not always for the good.** It is disruptive and the fundamental change it creates is mostly for the better. But digital transformation also has a dark side that requires a reassessment of business and societal risk. The next 50 years will be about the relationship between people and technologies and while this digital revolution has created a platform for many diverse and previously silent voices to be heard—a democratization of opportunity—it empowers not only the good guys but the bad guys as well. Concerns about social and labor market disruption, data privacy, cyber security, cyber theft, and the spread of malicious propaganda are part of its downside.
- 8 This is only the beginning—digital transformation is in its early stages.** There remains plenty of potential and underutilized capacity. About 85 percent of the devices deployed today—about 15 billion devices with Bluetooth capability—are not connected, presenting a massive opportunity to connect the unconnected.
- 9 Europe has a burning platform.** Europe’s recent economic woes mean the roles of technology, digital transformation, and innovation in raising living standards have increased with the unprecedented development of high-speed networks and mobile devices empowering consumer demand in new ways. Most of the value to Europe of digital transformation, up to 75 percent, resides in the transformation of its industrial base, yet only 2 percent of European businesses today are taking full advantage of digitization. The McKinsey Global Institute estimates that if Europe’s laggards double their digital intensity—the degree to which digitization drives sectors and firms—Europe can add €2.5 trillion to GDP in 2025, boosting GDP growth by 1 percent a year over the next decade. However The Conference Board expects that even while technologies like cloud computing, cognitive computing, e-sales, and big data analytics continue to expand, firms are still far from mastering their use in a profitable way. What lies behind this expectation is the idea that it will take some time before the economy reaps the benefit of the investment in information and communication technology (ICT) capital and ICT services.
- 10 Digital transformation creates a paradox.** All of this comes with a touch of irony—at least in the short term. Despite rapid digital innovation and booming spending on digital services, the new digital economy of mobile, broadband, and the cloud has yet to have a visible impact on the macroeconomic picture, though those organizations already on the edge of the digital frontier are reaping real benefits when it comes to improved productivity, global integration, and the integration of enterprise-wide planning. As a result, the new digital economy creates a huge conundrum: as the economy is digitizing at such a rapid pace, why aren’t we seeing much faster output growth, more productivity, and higher profits across the board? One explanation is that companies are in the “installation phase,” a period when new technologies first emerge and advance and disrupt established practices and structures, but have yet to produce any economy-wide productivity gains. Over time, economies would be expected to move into the “deployment stage” where the increase in technology adoption and penetration among a growing number of companies capable of maximizing its utilization leads to faster economic growth.

Managing the Transformation

- 11 A successful digital transformation requires an enterprise approach to strategy and systemic change.** UnConference participants believe that many companies hold the false belief that if their firm possesses isolated pockets of digitization within the enterprise, it amounts to digital transformation. Nothing could be further from the truth. True digital transformation requires a holistic vision and strategy across the enterprise. The challenge is to change the culture, convert risk-adverse disbelievers within the organization, and facilitate digital transformation at all levels, in all business units throughout the enterprise.

- 12 Digital transformation requires a big picture view that extends outside the corporate walls.** Digital transformation stretches across the value chain and touches every aspect of business operations from the initial R&D phase to final delivery of a product or service. As businesses begin their digital transformation journey, they must overcome a series of challenges ranging from an insular corporate culture, weak or no enterprise-wide strategy, a leadership cadre that doesn't get it, unfriendly or outdated regulatory policies, a lack of qualified talent, and internal competition for budget resources. Many organizations are trapped in an outdated mind-set when it comes to capital expenditure allocations which hinder their ability to launch a coherent enterprise-wide digital transformation strategy. They are uncomfortable forming nontraditional alliances that can include competitors or diverse industry sectors.

- 13 Investment in digital technology is only a piece of the digital transformation puzzle.** It is organizational culture, enlightened leadership, and talent that will ultimately create a sustainable competitive advantage in the digital age. The benefits of digital transformation can never be fully achieved without a concurrent investment in the human capital aspect of transformation and innovation.

The Human Side and Leadership

- 14 Work has been decoupled from location.** The new digital economy is changing how work gets done, how leaders lead, and how organizations are structured. Simply put, you no longer have to be in a specific place to do a job. Talent can work anytime and anywhere and physical space is no longer a constraint. Many tasks today are easily handled from remote locations via teleworking.

- 15 Jobs are at risk.** The Organization for Economic Cooperation and Development (OECD) estimates that on average in Europe 9 percent of jobs are at a high risk of being automated. This ranges from around 12 percent of jobs in Austria, Germany, and Spain to around 6 percent or less in Finland and Estonia. These are jobs for which at least 70 percent of the tasks can be automated. Countries where jobs rely less

on face-to-face interaction are at higher risks of automation.² And the OECD adds that digitalization is reducing demand for routine and manual tasks while increasing demand for low and high-skilled tasks and for problem solving and interpersonal skills. The bottom line: when it comes to jobs, what can be automated will be automated and that means hollowing out the middle of today's employment ranks.

- 16 Self-employment and a contingent or flexible workforces are on the rise in Europe.** Official EU data says self-employment in the EU constitutes 16.4 percent of the labor market, and the number of temporary employees grew by 25 percent in the EU27 between 2001 and 2012 compared with a growth of just 7 percent in permanent jobs. The UK-based Association of Independent Professionals and the Self Employed has found the number of independent professionals or freelancers in the EU rose by a quarter (24 percent) from 7.7 million to 9.6 million between 2008 and 2015. One question that remains unanswered: Will this trend slow or even be reversed as labor markets tighten?
- 17 Work is increasing organization around projects.** Known as the Hollywood Economy, once a specific project, product, or assignment is identified, a team of different people from different professions with distinct but complementary skills comes together and collaborates to accomplish the task. Once the project is completed, the team disassembles and reconfigures with other members on another project (just like in Hollywood where teams and artists move on to the production of another film). As a result, organizations are likely to have an ever-smaller cohort of full-time workers, supported by contingent or flexible workers on project teams.
- 18 Future skilling has emerged as a major issue:** A critical public policy challenge posed by digital transformation is that the skills that are easiest to teach are also the easiest to digitize, automate, or outsource. The challenge is to educate people for jobs that may not yet exist.
- 19 Digital transformation is having significant impact on human capital management practices.** On the human capital side, digital transformation enables companies to build closer relationships with employees and potentially with external talent. Leaders can monitor employee sentiment to identify emerging issues or continuously measure employee engagement, interests, and sentiments. They can use social media and digital platforms to understand external talent supply and monitor and manage their employer brand. Likewise technology, connectedness, and data and analytics can be used to understand the needs and preferences of fine slices of their workforce and external labor pools. Greater transparency changes the game for employer

2 There are estimates that put the number of jobs at risk significantly higher than the OECD figures, most notable by C. Frey and M. Osborne in *The Future of Employment: How Susceptible are Jobs to Computerisation?* (Oxford University, 2013), http://www.futuretech.ox.ac.uk/sites/futuretech.ox.ac.uk/files/The_Future_of_Employment_OMS_Working_Paper_1.pdf. However the authors of the OECD report (M. Arntz, T. Gregory, and U. Zierahn, *The Risk of Automation for Jobs in OECD Countries: A Comparative Analysis*, (2016)), argue that these studies take an occupation-based approach which assumes that whole occupations rather than single job-tasks are automated by technology. The authors argue that this might lead to an overestimation of job automatibility as occupations labelled as high-risk occupations often still contain a substantial share of tasks that are hard to automate.

branding and talent acquisition, talent management, compensation and benefits, and employee engagement. Technology and connectedness transform employee communications, requiring an ongoing, two-way exchange in which employees have more information and bargaining power than ever before.

20 The true challenge for a leader in the digital age is to build organizational intelligence. The industrial age was an era of dumb machines where managers did the thinking and employees did the work. Uniformity and predictability were prized. Difference was shunned. But today is the age of the intelligent company where the employees think and create and managers are there to cultivate corporate intelligence. The manager's role is to create the conditions and culture where agile teams can rapidly innovate, refine, and customize new products, services, and processes. To be successful, leaders must focus their time on teaching and training the corporate wisdom, rather than on managing individual behavior. By focusing on teaching values and principles, you are training your people in how to think, thereby raising the collective intelligence. The need for a robust knowledge management system, especially with the ebb and flow of contract and contingent workers has never been more critical.

21 Digital transformation means that those charged with communicating the transformation within an organization must think more like their marketing counterparts. They need to understand their audience and their emotional and rational motivators, deliver information in a way the audiences prefers to receive it, and most importantly, make it relevant. In a digital workplace the challenge is how you get knowledge and ideas to flow across the company. Business communication has so far failed to keep pace with the digital revolution in most organizations. Simply put: organizations need to get better at communication and building virtual networks both externally and internally to fuel digital transformation and achieve a more effective and collaborative knowledge sharing system, a basic building block of organization success in the digital age.

Innovating in the Digital Age

22 A new mode of innovation is emerging that blurs the lines between universities, industry, governments, and communities. Open Innovation 2.0 uses the disruptive technologies that are the hallmark of digital transformation to tackle business and societal challenges in a way that creates shared value for all stakeholders. The partnership between industry, government, academia, and communities can create an innovation ecosystem that drives changes that far exceed the scope of what any single sector or organization could achieve. For business this means being willing to look beyond the corporate walls, to find nontraditional partners from outside your core sector (or even among your competitors), to expose staff to new ideas, new skill sets, new technology, new problem solving approaches, and new ways of thinking.

23 Connecting the physical with the digital pays off. Not all innovation in the digital age needs to be with a capital "I." In today's digitally enhanced marketplace, innovation should not be limited to creating the next big game changer; it is also about improving or simplifying something, a product or process that already exists to make someone's life easier or help people connect with the digital world. Incremental

improvements to internal processes and external products and services can be achieved by connecting the physical with the digital—making “dumb” products or processes into “smart” products and processes can be a critical growth driver for firms if they have the vision. Organizations need to adopt a “disruption mind-set” to ask whether digital technologies could make their tried-and-tested approaches and products more effective and more valuable to consumers and end users today.

Extending innovation beyond the lab



Source: Innovation Value Institute

Risk, Regulation, and Building Trust in the Digital Age

24 Risks (and opportunities) are both external and internal and strategic and operational.

The risks associated with digital transformation revolve around both external threats (cyber theft and attacks) and potential internal liabilities such as data handling and security, privacy issues, and intellectual property protection. There are also high-level strategic risks around market and business model vulnerability as well as operational efficiency. These vulnerabilities and potential liabilities have moved up the risk agenda in Europe. In a recent systemic risks report, the Bank of England found that 48 percent of company respondents from the financial services sector highlighted cyber risk as a top-three concern, up from just 10 percent in 2014.

25 Building digital trust and resilience is essential in seizing new opportunities and reducing risk.

In today’s digital marketplace personalization is valued by customers and involves an intensive data collection and analytics capability to maintain those relationships. For most organizations digital security, trust, protection, and privacy are becoming a competitive differentiator and growth driver. While the cost of breach remediation and intellectual property theft still remain excessively high, the prevailing concern among most companies is the erosion of trust that can occur when customers lose confidence in the organization’s commitment and ability to protect their privacy and critical data.

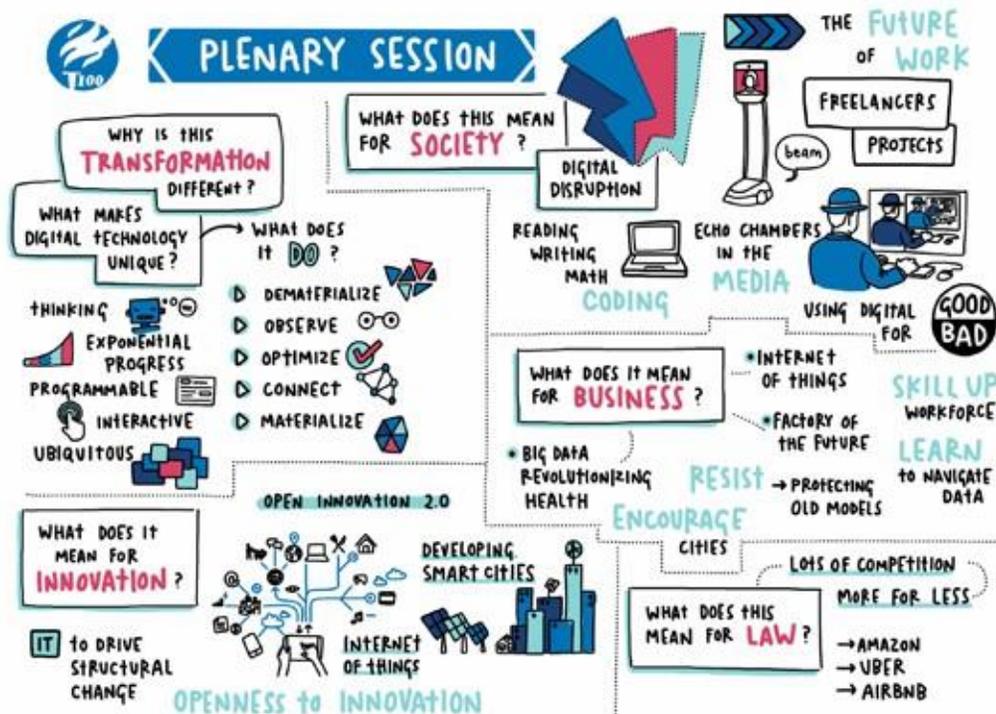
- 26 Cyber risk management is cross functional.** There is a strong case to be made for proactive cross-disciplinary coordination and collaboration on cyber risk governance. This is partly in recognition of the complexity and novelty of cyber risk, where no one expert can really “own” the issue, as well as a recognition of the fast-moving aspect of cyber risk requiring the best and brightest minds from a variety of disciplines. No risk management structure can be properly deployed without the coordination of key interdisciplinary experts.
- 27 New EU laws will have wide reach.** The General Data Protection Regulation (GDPR) will be enforced beginning May 2018 and require mandatory data inventorying and record keeping of all processing of European personal data. While it may impair the free flow of data within Europe, it is designed to increase trust for consumers and end users. The law not only applies to European based firms, but any company doing business in the region. The new regulations are expected to have a significant impact on businesses.
- 28 There are signs that European governments are moving in the right direction.** In March 2016, the EU in its report *Accelerating the Digital Transformation of European Industry and Enterprises* published recommendations for the digitization of European industry that focused on four key areas:
- Accelerating the uptake of big data and establishing competitive digital platforms in Europe
 - Reskilling the workforce with digital skills for industry
 - Using cities and regions as launch pads for digital transformation
 - Building a toolkit for decision makers to become ambassadors for digital transformation

As part of this approach, the Commission plans to use its policy instruments, financial support, coordination, and legislative powers to trigger further investments in all industrial sectors to further digital transformation.

Five Questions to Drive the Digital Transformation Conversation

Digital transformation requires asking some hard questions about an organization's basic operating assumptions, business models, available talent and skills, and organizational culture. Here are five questions to help kick start the uncomfortable conversation.

- 1 Does our organization have a digital strategy that goes beyond implementing technologies?
- 2 Do our leaders have the digital vision, knowledge, and skills to lead digital transformation? Can they communicate the vision, business case, and operational changes to the workforce?
- 3 What are the organizational capabilities we will need to execute our digital strategy? Do we have the expertise and processes to determine the best way to build those capabilities, e.g., using talent, technology, or a combination of both; crowdsourcing; or using ecosystem partners?
- 4 Does our current organizational culture support the elements of digital transformation such as collaboration across internal and external boundaries, agility, risk taking, etc.?
- 5 Do we have the talent needed, where we need it?



Source: Zsofi Lang

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