



REALIZING 2030: THE FUTURE OF WORK

Global business leaders forecast
the next era of human-machine
partnerships and how they
intend to prepare

DELLTechnologies

Introduction



Dell Technologies recently teamed-up with [Institute for the Future \(ITTF\)](#) and 20 experts from around the world to project into the future, forecast how emerging technologies - such as Artificial Intelligence (AI) and Internet of Things (IoT) - will reshape how we live and work by 2030, and gather insights that will help businesses navigate the coming decade. The experts concluded we're on the cusp of the [next era of human-machine partnerships](#). Essentially, we've worked and lived alongside machines for centuries but by 2030, these partnerships will become deeper, richer and more immersive than ever before, helping us surpass our own limitations. These machines, fueled by exponential increases in data, processing power and connectivity will open-up new possibilities, beyond our grasp today.

Given the prospect of unprecedented human progress, the pace of change today and the risk of falling behind, Dell Technologies extended ITTF's forecasts and surveyed 3,800 business leaders from around the world to gauge their predictions and preparedness for the future. Hot off the press, the research shows businesses are split by divergent views of the future. For instance, 50 percent of business leaders agree that automated systems will free-up their time and 50 percent do not. More than two in five (42 percent) believe they'll have more job satisfaction by offloading the tasks that they don't want to do to intelligent machines. The other half disagrees.

In some respects, you can understand why the business community is so polarized. In the main, there tends to be two extreme perspectives

about the future: the anxiety-driven issue of human obsolescence or the optimistic view that technology will solve our greatest social problems. So, how can businesses realize 2030 with so many conflicting outlooks?

Fortunately, and contrary to divided opinion, respondents are unanimous in their organization's necessity to transform and the steps they need to take to get there. The question is, in the face of extreme disruption, will they limp or lead in next decade?

We invite you to read on to find out what your peers have to say – join us on this digital transformation journey!

A divided vision of the future:
Leaders are torn about what the shift means for them



The leaders we surveyed agree, we’re on the verge of immense change. More than eight in ten (82 percent) leaders expect humans and machines will work as integrated teams within their organization inside of five years (26 percent say their workforce and machines are already successfully working this way). However, they’re divided by what this shift will mean for them, their business and even the world at large.

We can see this divide in the way that leaders forecast the future. Fifty percent of business leaders think automated systems will free-up their time - meaning one in two don’t share this view. More than four in ten (42 percent) believe they’ll have more job satisfaction in the future by offloading the tasks they don’t want to do to machines - suggesting 58 percent

believe something to the contrary, and stand to miss out on the opportunity to harness automated systems to free-up their time for higher order pursuits with a focus on creativity, education and strategy. Almost six in ten (56 percent) say schools will need to teach how to learn rather than what to learn to prepare students for jobs that don’t exist yet (corroborating IFTF’s forecast that 85 percent of jobs that will exist in 2030 haven’t been invented yet) - but 44 percent disagree. These differing viewpoints could make it difficult for business leaders to confidently prepare for a future that’s in flux.

“ More than eight in ten (82 percent) leaders expect humans and machines will work as integrated teams within their organization inside of five years. ”

2030 Forecasts

Our Lives	Agree	Disagree
Automated systems will free-up our time	50%	50%
People will take care of themselves better with healthcare tracking devices	46%	54%
People will absorb and manage information in completely different ways	54%	46%
Smart machines will work as admins in our lives – connecting our lives to highly personalized goods and services	43%	57%
It will be harder to disconnect from technology	42%	58%
Our Work	Agree	Disagree
We'll be more productive by collaborating more	49%	51%
We'll have more job satisfaction by offloading the tasks that we don't want to do to intelligent machines	42%	58%
Schools will need to teach how to learn rather than what to learn to prepare students for jobs that don't exist yet	56%	44%
We'll learn on the job with AR	46%	54%
Not sure what the next 10-15 years will look like for our industry, let alone our employees	50%	50%
Business	Agree	Disagree
Clear protocols will be need to be established if autonomous machines fail	50%	50%
The more we depend upon technology, the more we'll have to lose in the event of a cyber-attack	48%	52%
Computers will need to be able to decipher between good and bad commands	45%	55%
We'll be part of a globally connected, remote workforce	49%	51%
Technology will connect the right person to the right task, at the right time	41%	59%

(NB Respondents who disagree did not select the relevant answer option.)

Man & Machine

42% believe we’ll have more job satisfaction by offloading tasks that we don’t want to do to machines.

So, which tasks will we offload by 2030? Responses in order of likelihood:

1. Inventory management
2. Financial admin (i.e. invoices, POs)
3. Troubleshooting
4. Logistics/supply chain (i.e. delivery drivers)
5. Administration (i.e. scheduling meetings, data input)
6. Product design
7. Customer service
8. Marketing & communications
9. HR admin (recruitment and training)
10. Medical / health diagnoses
11. Legal admin (i.e. drafting and amending contracts)
12. Management of employees
13. Sales
14. Surgery
15. Caring for the elderly
16. Educating children

Leaders are struggling with the pace of change



Not only are businesses torn by opposing views of the future, they're also beset by barriers to operating as a successful digital business in 2030. Many aren't moving fast enough and going deep enough to overcome these obstacles. Only 27 percent have ingrained digital in all they do. The majority (57 percent) of businesses are struggling to keep up with the pace of change and 93 percent are battling some form of barrier to becoming a successful digital business in 2030 and beyond.

Too many businesses (61%) are held-back by an insufficient digital vision and strategy, manifest among other things, by a lack of ROI data to demonstrate the value of digital transformation and lackluster senior support and sponsorship. The same proportion are struggling with a skills gap, lack of employee buy-in and a workforce culture that's resistant to change. More than half are making do with outdated technology that can't work fast enough, data overload, privacy and cybersecurity concerns. In addition, 51 percent admit they have ineffective cybersecurity measures in place and 59 percent believe their workforce aren't sufficiently security savvy.

Main barriers to becoming a successful digital business in 2030:

1. Lack of a digital vision and strategy
2. Lack of workforce readiness
3. Technology constraints
4. Time and money constraints
5. Law and regulations

Businesses are unified in the need for digital transformation

Given the hurdles that businesses face and the inexorable race to move everything online and make available in real-time, 24/7, leaders are at least united in the belief they need to transform. In fact, the research shows there's broad agreement on the steps they need to take and the advice they would give to others (although many haven't seen their advice come to fruition within their own company).

Advice to accelerate digital transformation:

1. Gain employee buy-in (90%)
2. Make customer experience a boardroom concern (88%)
3. Align compensation, training and KPIs to digital goals and strategy (85%)
4. Task senior leaders with spearheading digital change (85%)
5. Put policies and tech in place to support a fully remote, flexible workforce (85%)
6. Empower lines of business (80%)
7. Teach all employees how to code / understand software development (79%)
8. Appoint a chief AI officer (75%)
9. Automate everything and encourage customers to self-serve (74%)

The research also reveals a general consensus among business leaders on what needs to be achieved within five years to become a contender in the next era. In fact, the vast majority of businesses believe they'll meet these targets, despite the challenges they face and an endemic ad hoc approach to digital transformation that fails to combine the latest and greatest in technology with a change in culture and mindset.

Likely to achieve within five years:

- 94% believe they'll have effective cybersecurity defenses in place
- 90% anticipate they'll deliver their product offering as a service
- 89% believe they would have completed their transition to a software-defined business
- 85% say R&D will drive their organization forward
- 81% will be using AI to pre-empt customer demands
- 80% will be delivering hyper-connected customer experiences with VR

Many intend to meet these priorities by escalating their investments in emerging technologies as well as the underlying infrastructure and computing power. According to respondents' plans, the proportion of companies investing in advanced AI will more than triple within five years; while the number of companies investing in VR/AR will jump from 27 percent to 78 percent.

“Stronger human-machine partnerships will result in stronger human-human relationships, as companies take a customer-first approach and lead with insights. By applying machine learning and AI to customer data, companies will be able to predict and understand customer behavior like never before.”

Karen Quintos, Chief Customer Officer, Dell

WHAT'S NEXT FOR HUMANS?

Technology is taking over – and accelerating the pace of change exponentially. Machines will assume work functions in finance, inventory, logistics, administration, customer service, marketing, HR, medical care and more. We asked business and IT leaders around the world how they see the rise of machines changing the very nature of work in the coming decade. Opinions were divided, but one course of action remains clear: To keep up with what's coming and remain competitive, balancing technology with a human touch will be more vital than ever.

BIG CHANGES ARE AHEAD... BUT NOT EVERYONE'S PREPARED.

85% of jobs in 2030 don't even exist yet

38% are struggling to change their workforce culture

22% wonder if their workforce are equipped with the skills to succeed

4 in 5 business leaders agree these actions are paramount to digital transformation success:

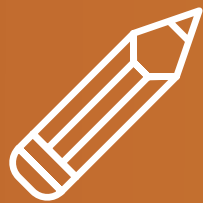
- Aligning compensation, training and KPIs to digital goals
- Tasking senior leaders with spearheading digital change
- Gaining employee buy-in
- Teaching all employees coding and software development
- Partnering humans and machines as an integrated working team

3 in 4 believe a majority of leadership roles will be filled by digital natives

84% of leaders who expect all their employees will be digital experts

1/2 of all respondents don't know what the next 10-15 years will look like in their industry

WHAT YOU'LL NEED:



The big five most valued work skills in 2030 will be creative drive, logic, emotional intelligence, judgment and technological literacy. To stay relevant in the workplace, it is imperative that humans acquire the skills that machines cannot, and that their business leaders have the vision and determination to facilitate an inclusive culture that cultivates these qualities – in 2030, and beyond.

“We’re entering the next era of human-machine partnership, a more integrated, personal relationship with technology that has the power to amplify exponentially the creativity, inspiration, intelligence and curiosity of the human spirit.”

Michael Dell, Chairman and CEO, Dell Technologies

In conclusion



The Institute for the Future and their luminaries agree - we’re entering an era of monumental change. Although business leaders are divided in their views of the future, they share common ground on the need to transform. The problem is, businesses don’t have time to wait and see how events will unfold.

We’re entering a new dawn, with immense possibility on the horizon – unlike we’ve ever seen before. Businesses can either grasp the mantle, transform their IT, workforce and security, and play a defining role in the future or be left behind.

Together, let’s drive human progress and realize 2030. Visit www.delltechnologies.com/realizing2030 to learn more.

About the study methodology

The research was commissioned by Dell Technologies and undertaken by Vanson Bourne, an independent research company based in the UK. Three-thousand eight hundred business leaders, from mid-size to large enterprises, were interviewed across 17 countries. The respondents were drawn from 12 industries and key functions impacting the customer experience (from business owners to decision-makers in marketing, customer service, R&D and finance etc.). The research explores the changing relationship between technology and people, emerging technologies’ impact on business and the way we work and how business leaders and CIO’s plan to succeed over the next 10-15 years.

Regions surveyed	Industries surveyed	
AMERICAS US, Brazil, Mexico	• Automotive	• Manufacturing
APJ Australia and New Zealand, China, India, Japan, Singapore	• Financial Services	• Media and Entertainment
	• Public Healthcare	• Oil and Gas
EMEA France, Germany, Italy, Netherlands, UAE/Saudi Arabia, United Kingdom, South Africa	• Private Healthcare	• Retail and Consumer products
	• Technology	• Other commercial
	• Telecoms	
	• Insurance	
	• Life Sciences	

About Institute for the Future

Institute for the Future (IFTF) is an independent, nonprofit 501(c)(3) strategic research and educational organization celebrating nearly 50 years of forecasting experience. The core of its work is identifying emerging trends and discontinuities that will transform global society and the global marketplace. Its research generates the foresight needed to create insights that lead to action and spans a broad territory of deeply transformative futures, from health and health care to technology, the workplace, learning, and human identity. As an educational organization, IFTF strives to comply with fair-use standards and publish only materials in the public domain under the Creative Commons 4.0 International License (CC BY-NC-ND 4.0). The Institute for the Future is based in Palo Alto, California. www.iftf.org

About Dell Technologies

Dell Technologies is a unique family of businesses that provides the essential infrastructure for organizations to build their digital future, transform IT and protect their most important asset, information. The company services customers of all sizes across 180 countries – ranging from 98% of the Fortune 500 to individual consumers – with the industry’s most comprehensive and innovative portfolio from the edge to the core to the cloud. www.delltechnologies.com

About Vanson Bourne

Vanson Bourne is an independent specialist in market research for the technology sector. Its reputation for robust and credible research-based analysis is founded upon rigorous research principles and an ability to seek the opinions of senior decision makers across technical and business functions, in all business sectors and all major markets. For more information, visit www.vansonbourne.com.

