

Fieldwork by Citrix

Work 2035

How people and technology will pioneer
new ways of working





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Foreword

In order to shape the future, we must first imagine it.

And nowhere is our future more in flux than the future of work. The COVID-19 pandemic has forced many organizations to revolutionize their ways of working almost overnight and brought the future of work to the present. Remote work has become the “new normal,” and companies are making it part of their long-term strategies to ensure business continuity. Work will never be the same again. Yet it remains central to what it means to be human. Work gives us meaning and for centuries labor, driven by both humans and technology, has enabled remarkable advances in human life expectancy, prosperity and achievement.

How will this relationship between the workforce, work models and work environment evolve? And how can we as business leaders, policymakers and individuals see further into the forces that will shape our future and bring about the future we want?

We asked some of the world’s most respected academics, business leaders and employees across the US and Europe to join us in imagining what the future of work might look like in 2035, the opportunities and threats it might hold, and how people and technology may work together to generate value.

This exercise raised the fundamental questions that must be faced by every business and government organization in their long-term strategic planning. How will workers be organized to deliver value? How will people partner with technology and will we see the emergence of human-machine teaming? What new opportunities will workers be afforded and what novel pitfalls will they face? How might governments and supranational entities respond with regulation to support workers and ensure competition in the new world of work?



While the visionaries we spoke with told us the story of four very different working futures, our research shed light on workers' fears of replacement by technology, and employers' high hopes for how technology will augment people and new models for work will empower them to deliver a brighter future.

And it revealed that the organizations that will thrive will be those with leaders who align their positive future vision with the needs and expectations of employees, taking workers with them on the road into the future of work and enabling a transformational human-tech partnership.

We would like to thank everyone who participated in our study and we hope that by sharing our collective vision of what the future of work might hold, we can shape it positively for the good of all.

Tim Minahan

*Executive Vice President, Business Strategy
and Chief Marketing Officer, Citrix*



About the study



Work 2035 examines alternative visions of the future of work in 2035 and how people and technology will work together to create value. The report is based on a two-part research study combining alternative futures **scenario planning** and robust **opinion research** amongst business leaders and employees across the US and Europe.

Scenario planning

For the first part of our study, we (Citrix) set out to envisage the future of work in 2035: a timeframe that will see significant shifts in how technology and human workers will combine to create value. Scenario planning techniques enable the development of long-term strategies by examining a range of factors (including predetermined factors, trends, macro issues and critical uncertainties) to develop a range of mutually exclusive plausible scenarios, identified based on their likelihood and impact.

We created an advisory board of thought leaders from academia, think tanks and multinational boards. Following expert interviews and debate with some of the world's leading authorities on the future

of work, technical innovation, education, business strategy, policy, government regulation, and social trends, we identified two critical axes to provide the foundation for our future of work scenarios:

Workers: Are workers **replaced** or **augmented** (enabled and empowered) by technology?

Organizations: Is work **centralized** in large organizations or is work **distributed** across smaller, agile firms and platform business models?

Using these key axes, we built on the insights of our experts to create four distinct scenarios for the world of work in 2035.



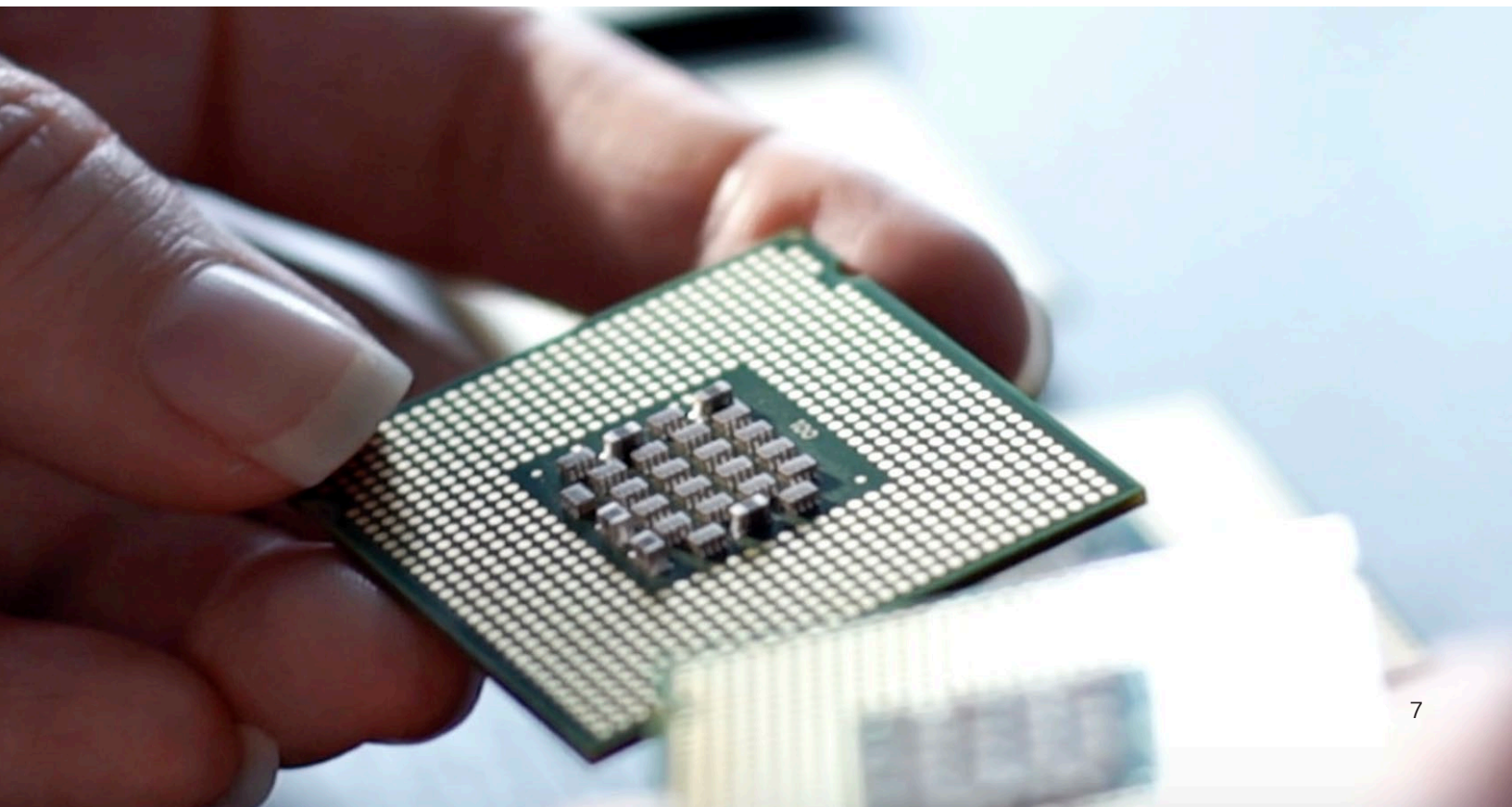
Opinion research

For the second part of the study, Citrix commissioned independent opinion research, interviewing business leaders and employees (collectively referred to as 'professionals' throughout the report) about their vision of the future of work. In 2019 and 2020 we interviewed over 1,500 professionals working in both large, established corporations and mid-market businesses.

We used the data from this study to ascertain which of the four scenarios most closely aligned with the futures imagined by business leaders and employees,

analyzing responses to questions related to augmentation vs. replacement, and centralized vs. distributed work. We also conducted an additional survey in April 2020, interviewing 300 business leaders to find out how they were navigating the global pandemic and how it had impacted their views on the future of work.

Respondents were based in the US and Europe (UK, Germany, France and the Netherlands). The study focused on the following sectors: financial services; healthcare and life sciences; telecommunications, media and technology (TMT); professional services; manufacturing and retail.





Key terms

Augmented

A blend of humans and advanced technology working together on tasks.

Platform model

Businesses that create value by facilitating exchanges between groups or individuals using digital technology.

Gig economy / Contractors / On-demand workers

A labor market characterized by the prevalence of short-term contracts or freelance work as opposed to permanent employee status.

Artificial Intelligence (AI)

The simulation of human intelligence process by machines, especially computer systems.

Augmented Reality (AR)

An interactive experience of a real-world environment where the objects that reside in the real world are enhanced by computer-generated perceptual information.

Exoskeletons

Wearable devices that act as amplifiers to augment, reinforce or restore human performance.

Blockchain

A system in which a record of digital transactions is maintained across several computers that are linked in a peer-to-peer network. It allows digital information to be distributed, but not copied, creating a single immutable record. By design, a blockchain is resistant to modification of the data.



Executive summary



Work 2035 identifies four alternative futures of work and considers how technology will revolutionize the relationship between people and technology and power us towards greater productivity.

The data from the opinion research phase of the study helped us to understand how employees and business leaders imagine the future world of work will look. Their visions aligned most clearly with two of the four scenarios we identified: **'Powered Productives'** and **'Platform Plugins'**. Most business leaders anticipate a **'Powered Productives'** world of strong corporate structures fueled by a flourishing partnership between people and technology, while most employees foresee a much more fragmented **'Platform Plugins'** world, with big corporates no longer dominant, and many roles replaced by technology.



Freelance Frontiers

Augmented workers
Distributed organizations

The scenario

Organizations have few permanent employees, instead drawing on a large pool of on-demand workers who are enhanced with technology. Work that generates the most value is increasingly performed by ‘swarms’ of specialist professionals.

Sophisticated technology tools enable efficient and effective remote working, and workers on opposite sides of the globe can train and collaborate in the same environment using virtual reality (VR) platforms.

The key data points

- ▶ 66% of employees and 54% of business leaders believe that in 2035, humans with chips in their bodies to enhance their performance will have an unfair advantage in the labor market.
- ▶ 60% of employees expect that governments will seek to regulate labor practices more stringently due to the fall in permanent employment and the rise of on-demand working patterns.

Platform Plugins

Replaced workers
Distributed organizations

The scenario

Technology has ‘leveled the playing field’ for smaller businesses, giving them the reach and scale of much bigger rivals. AI, machine learning and data capture and analysis tools have become so powerful and reliable that they have enabled businesses to drastically downsize their permanent human workforce.

The people who are still needed are specialists who help to build, tweak, check and manage technology, usually working on a freelance basis.

The key data points

- ▶ 60% of employees think that by 2035 permanent employees will have become rare.
- ▶ 67% of professionals believe that by 2035, the highest growth companies will be run on a platform model.
- ▶ 63% of professionals believe that technology will convey advantage to small companies, meaning each sector will be fragmented across many niche, specialist businesses.



Powered Productives

Augmented workers
Centralized organizations

The scenario

Organizations benefit from boosted productivity levels due to successful integration between humans and technology. There are millions of data capture opportunities, so business leaders have an ever-evolving picture of their workplace and their workforce. The firms with the most sophisticated human and technology integration and the most adaptable workers perform best, which can create monopolies in some sectors.

Workers enjoy more meaningful work, and logically integrated technology improves their performance. The caveat is that workers must decide how they feel about their data being monitored and controlled by their employer.

The key data points

- ▶ 77% of professionals think that by 2035, AI will significantly speed up their decision-making process, making them more productive.
- ▶ 83% of professionals believe that by 2035, technology will automate repetitive and low-value tasks, freeing workers to focus on more meaningful work.

Automation Corporations

Replaced workers
Centralized organizations

The scenario

The biggest companies with control over the entire work process have the greatest scope for finding new efficiencies and can adopt new technologies faster, which gives them an edge over their rivals.

Permanent employment prevails. Human talent has become more important, even though human labor has become more replaceable. But as more and more roles are automated, roles shift quickly, and workers need to keep retraining to stay relevant.

The key data points

- ▶ 72% of professionals believe that by 2030, technology and AI will generate more revenue for their organization than human workers and will also absorb more of their organization's annual operating costs.
- ▶ 75% of professionals believe that in 2035, AI investment will be the biggest driver of growth for their organization.
- ▶ 57% of professionals believe that AI has the potential to make most business decisions by 2035, removing the need for a traditional senior management team.



Introduction



Vision of 2035: Four possible worlds of work

Working with our expert advisory board, we identified two critical questions:

Workers: Are we facing a future of **augmented workers** where people are enabled and empowered by technology, which makes them super productive? Or are we facing a world of **replaced workers** where technology and AI has become so powerful that businesses have drastically downsized their human workforces?

Organizations: Will industries be dominated by a small number of mega corporations as work and value creation is **centralized**? Or rather, will the business landscape become more **distributed**, comprised of many smaller, fast-moving firms, often run on platform business models, with a predominantly freelance, flexible workforce?

Using these alternatives as key axes, we built on the insights of our experts to create four distinct scenarios, each representing a possible world of work in 2035:

Freelance Frontiers

A world of augmented workers and distributed organizations.

Powered Productives

A world of augmented workers and centralized organizations.

Platform Plugins

A world of replaced workers and distributed organizations.

Automation Corporations

A world of replaced workers and centralized organizations.

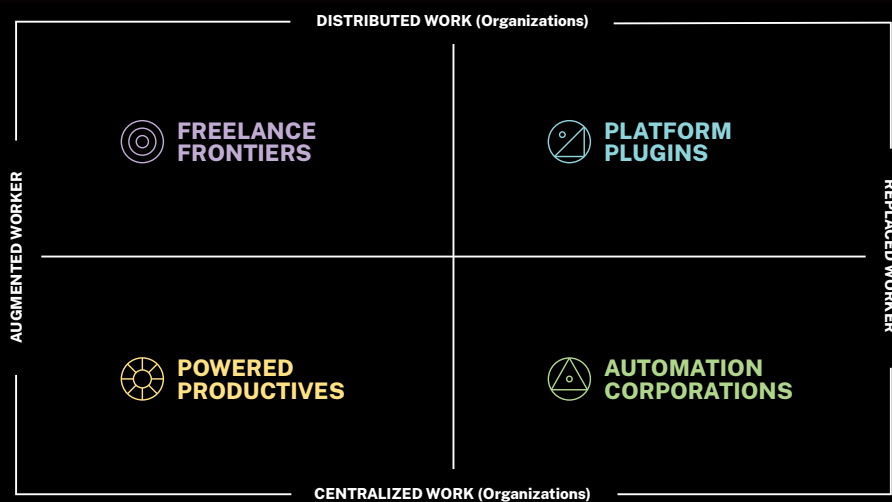


We then set out to investigate the views of business leaders and workers (collectively referred to as 'professionals' in the report) across the US and Europe on these new worlds of work. We asked them to provide their own visions of the future of work, including the opportunities and threats it might hold, and how they envision people and technology working together to generate value.

This report explores many facets of these possible futures, including how human workers will interface with technology, how the relationship between organizations

and workers may be reconfigured, and how governments may respond. It encourages business leaders, policy makers and employees to engage with the immense potential of a positive partnership between people and technology, and to think about how the future of work can be shaped for the good of all.

Figure 1: 2035: Four worlds of work.



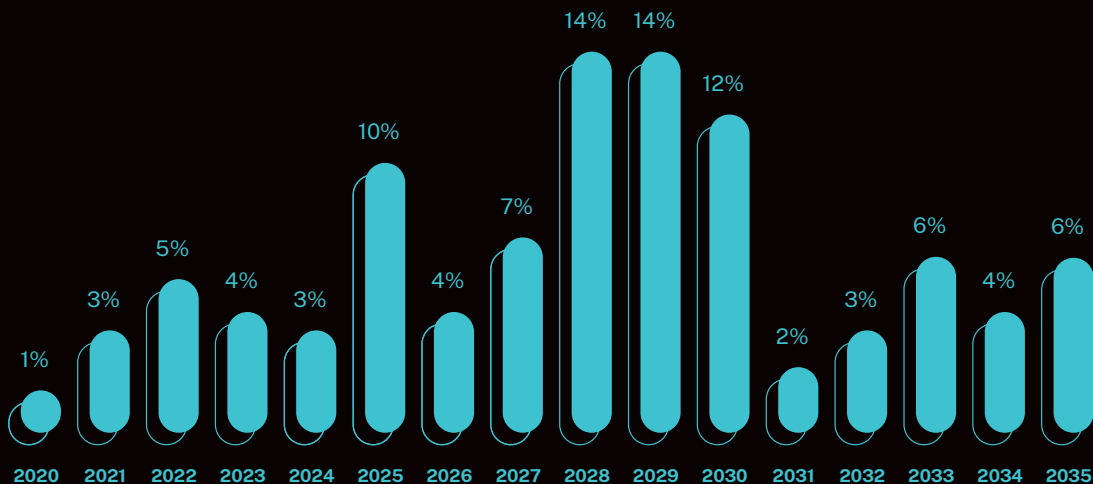


The technology tipping point

Rapid technology developments and a fast-shifting geopolitical landscape are reshaping the way that we live and work. While human talent remains critical to businesses, technology is racing to the forefront. Our study shows that we are on the brink of some watershed moments in the evolving relationship between people and technology in the workplace.

Ninety-six percent of professionals (business leaders and workers combined) believe that the time will come when technology and AI will generate more revenue for their organization than human workers. And this future may be less than a decade away: on average, 2028 is the year professionals predict we will reach tipping point, where technology and AI begin to generate more revenue for their organizations than humans.

Figure 2: **The technology tipping point:** The year that professionals believe their organization will generate more revenue from technology and AI than human workers.





By the time we reach 2035, the year our study focuses on, technology and AI will truly be driving the workplace:

- ▶ 91% of professionals believe that by 2035, their organization will spend more on technology and AI than on human workers.
- ▶ 90% of business leaders believe that in 2035, AI technology investment will be the biggest driver of growth for their organization.

A positive partnership between people and technology

In the picture of 2035 painted by our data, however, people have not disappeared from the world of work.

While professionals acknowledge the growing role of technology and AI in the workplace, they also see the ways that it can optimize human performance. Professionals expect technology and AI to monitor how we work, learning human work behavior and evolving to help us work smarter. More than **three-quarters of professionals (77%) believe that by 2035 AI will significantly speed up their decision-making process, making them more productive.**

Professionals also predict that technology has the potential to enhance human-human connections, removing language barriers and reducing isolation. Work itself will also become more engaging by 2035: **83% of professionals believe that technology will have taken over low-value and repetitive tasks, enabling humans to focus on more meaningful work.**

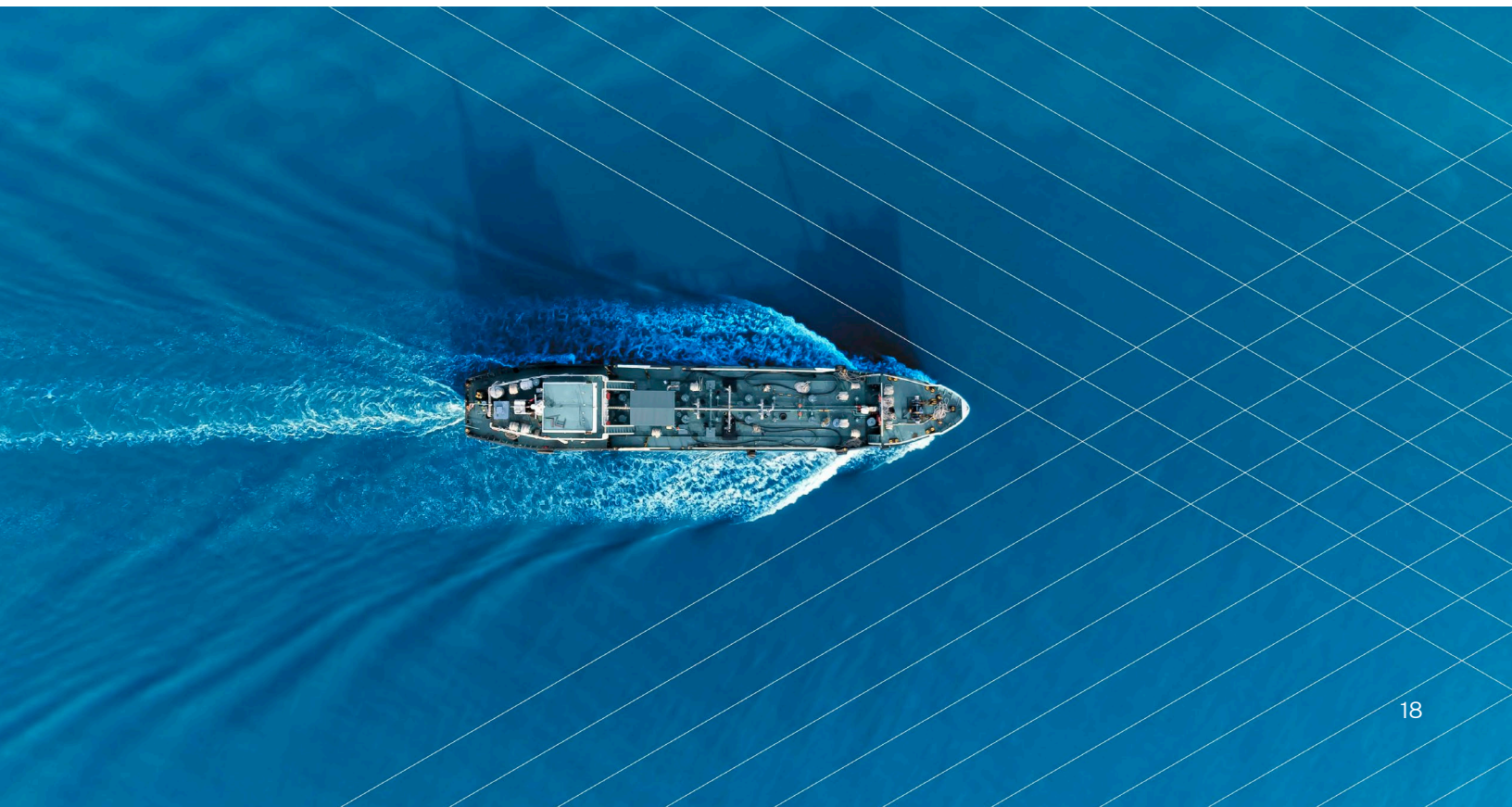
By 2035 some workers will have taken technology augmentation a step further, choosing to be enhanced with implanted chips. As well as enabling seamless, secure entry to buildings with the wave of a hand, these chips can capture and relay detailed data, constantly monitoring a worker's state and feeding into a system that can make optimization suggestions. Almost **half (48%) of professionals would be willing to have a chip implanted in their body if it would significantly improve their performance and remuneration.** But professionals are also concerned that the improved performance of enhanced workers will convey competitive advantage in the labor market, with **human enhancement leading to a two-tier workforce (enhanced versus non-enhanced), according to 65% of professionals.**



Leadership is not immune to automation

We can also expect organizations' leadership teams to look very different from today.

Three-quarters of professionals believe that by 2035 organizations will have a **central AI department**, overseeing all areas of the business, and **69% of professionals believe that the CEO will work in a human-machine team** with a Chief Artificial Intelligence (CAI). More than half (57%) of professionals believe that by 2035 there will be no traditional leadership team at all, as **AI will make most business decisions.**





The digital disconnect

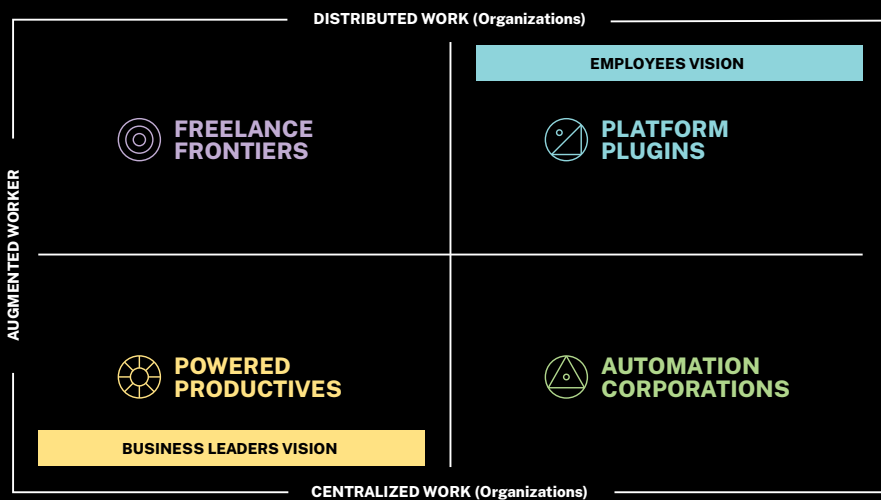
However, despite professionals' common hopes and fears for the future, our data also reveals a significant **digital disconnect** between business leaders and workers, which could threaten the realization of this positive vision of the future of work.

Worlds apart

When it comes to the impact of technology on the workforce, leaders and employees are living in two separate worlds.

This gulf between leaders and employees applies to almost every aspect of the future workplace, from predictions on the productivity benefits that technology and AI will bring, to the new roles that will be created in the workplace and the possible mental health impact of new technologies. Leaders are consistently more positive about the benefits that technology and AI will bring, while workers are more skeptical and concerned about their own role in the changing world of work.

Figure 3: Employees and business leaders are worlds apart.





Will AI solve the productivity puzzle?

Business leaders believe that technology and AI will bring a major boost to productivity, but employees are much more uncertain.

- ▶ Almost nine in 10 business leaders (89%) envisage AI-powered digital workspaces increasing worker performance and productivity in their organization by 2035, compared to just 55% of employees who share this view.
- ▶ Almost three quarters of business leaders (73%) believe that technology and AI will make workers at least twice as productive by 2035, while only 39% of employees share this vision.
- ▶ Almost two-thirds of employees (65%) are unclear on how their organization will gain a competitive advantage from using AI when it is being used by every business, compared to just 16% of business leaders who believe the advantages are unclear.

Will the permanent workforce be replaced by contingent workers?

Employees believe that permanent employment will rapidly become a thing of the past, but leaders do not agree.

- ▶ While 60% of employees think that permanent employees will be rare by 2035, only 19% of business leaders believe that this will be the case.
- ▶ On average, business leaders predict that just a fifth of their workforce will be made up of contractors and on-demand workers and freelancers (i.e. non-permanent employees) by 2035.
- ▶ Almost two-thirds of employees (64%) believe that by 2035 most high-value specialist workers will be freelancers, but only 39% of business leaders expect the same.



Will workers be augmented by technology?

Business leaders are much more likely than employees to believe that by 2035, workplaces will be implementing a suite of human-machine technology.

- ▶ Over two-thirds of business leaders believe that wearable tech, AI nudges for continuous improvement, neuro-controlled devices and performance-enhancing exoskeletons will be used by 2035, whereas fewer than half of employees envision this.

Will workers' performance and output be enhanced by implanted devices?

- ▶ Almost eight in 10 business leaders (77%) believe that under-the-skin chips and sensors will increase worker performance and productivity by 2035, compared to just 43% of employees who share this view.
- ▶ Employees are more willing to embrace this technology than leaders, however: 57% of workers would be willing to have chips implanted in their bodies if they felt confident it was safe and would significantly enhance their performance and remuneration, while only 31% of business leaders are open to this idea.

Figure 4: The partnership between people and tech in 2035 - most leaders anticipate AI and other productivity-boosting technology will be commonplace, whereas fewer than half of employees think these innovations will be widespread

Partnership Between People and Tech–2035	Leaders	Employees
Continual improvement via AI 'nudges'	86%	48%
AI that anticipates and performs tasks based on habits and preferences	86%	47%
An AI personal assistant for each worker	81%	39%
Wearable technology to interact with systems	79%	44%
Augmented Reality glasses	78%	37%
Neuro-linked technology for controlling devices	75%	31%
Exoskeletons to enhance performance-related tasks	64%	31%



New roles and departments: Workers are focused on the risk of being replaced, rather than believing that current roles are likely to evolve, and new roles will emerge.

- ▶ Most business leaders, but only a minority of employees, believe that workplaces will create roles like AI trainers, robot trainers, advanced data scientists, and trust or privacy managers by 2035.

- ▶ Similarly, while over three-quarters of leaders believe that organizations will create functions like AI management departments and cybercrime response units, fewer than half of employees anticipate these business units by 2035.

Figure 5: The functions or departments that will be created by 2035 - most leaders anticipate the creation of new roles, whereas fewer than half of employees think these roles will emerge.

Functions or Departments Created by 2035	Leaders	Employees
Robot / AI Trainer	82%	44%
Virtual Reality Manager	79%	36%
Advanced Data Scientist	76%	35%
Privacy and Trust Manager	68%	30%
Design Thinker	56%	27%
Temporary Worker Manager	60%	23%



Leadership reimagined: Employees are much more likely than business leaders to predict that by 2035, the leadership team will be partially or completely replaced by technology (33% of employees vs. 7% of leaders), while most business leaders (74%) predict only a partially augmented leadership team in 2035.

Figure 6: Leadership replaced or augmented?

By 2035, the leadership team will be...	Leaders	Employees
Completely replaced by technology	1%	11%
Partially replaced by technology	6%	22%
Completely augmented by technology	12%	19%
Partially augmented by technology	74%	22%
No fundamental change	7%	21%
Not applicable to me/my organization	0%	4%



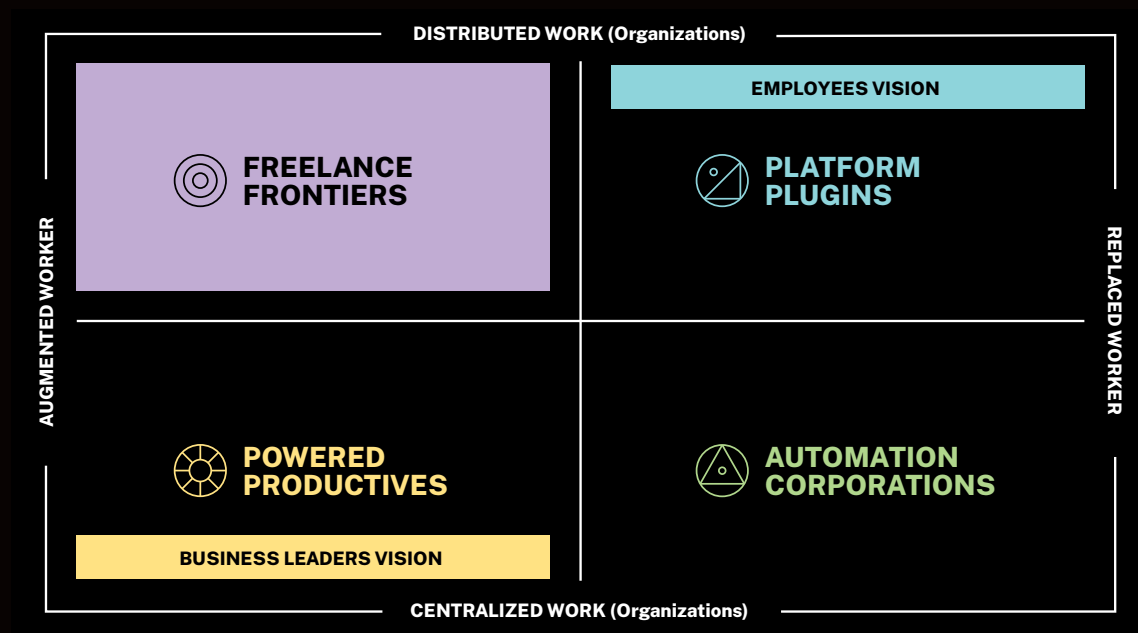
The impact of COVID-19

Additional opinion research reveals how business leaders believe the global pandemic is reshaping the future of work.

In 2020, the way we live and work was transformed by the COVID-19 crisis. Some aspects of the 'future of work' (in particular, increased home-working, enabled by technology) became our lived reality, almost overnight.

To find out how business leaders believe the crisis has changed the world of work, and how it may impact our future and the speed at which we are moving towards this future, we conducted an additional wave of opinion research.

This research reveals that the **Freelance Frontiers** future of augmented workers and distributed business models may now be more likely, and more imminent, than previously predicted.





Business leaders now have their sights set even more firmly on worker **augmentation** by technology rather than **replacement**.

Over 70% of business leaders say that the COVID-19 crisis has made them believe that human workers are more important to their business, relative to technology. But the pressure is on to use technology to increase human productivity: 71% of business leaders agree that they will have to find new ways of enhancing employee productivity to make up for financial shocks and 68% of business leaders agree that due to higher levels of home working, technology that tracks worker productivity and performance will be increasingly important.

In terms of the other axis – **centralized/distributed** business models – it seems likely the crisis has moved the corporate world closer towards the distributed end of the spectrum. Almost two-thirds of business leaders (65%) believe that as a result of the pandemic, the economy will be reshaped, and the ‘platform’ model, which creates value by facilitating exchanges between groups or individuals using digital technology, will dominate. Over half (54%) also believe that they will move to a model of fewer employees and more contractors, and 58% of leaders are likely to reduce their office space.

As businesses strive to recover from the huge impacts of the crisis, changes are bound to happen quicker than they would have done otherwise. While human workers may be more valued, they will also need to partner with technology to be as productive as possible, as businesses work to make efficiency savings and shore up success in an uncertain world.



Data snapshot

- ▶ 93% of business leaders say the COVID-19 crisis has made them reevaluate the importance of human workers compared to the importance of technology, in the running of their business:
 - 71% now think that human workers are more important.
 - 22% now think that human workers are less important.
- ▶ Business leaders now seem less certain that the ‘tipping point’ for when more revenue will be made by technology and AI, than by human workers, is on the near-horizon. When we spoke to business leaders before the crisis, 93% thought the tipping point would be reached by 2030. This dropped to 55% during the pandemic.
- ▶ Only 6% of business leaders are likely to give up their office space entirely and move to permanent homeworking for all employees, but 58% are likely to reduce their office space.
- ▶ 86% of business leaders say the COVID-19 crisis will impact the make-up of their workforce:
 - 54% say that they will move to a model of fewer permanent employees and more contractors.
 - 32% say they will employ more permanent staff and fewer contractors.



Part one: The augmented workforce



In this section of the report, we explore two alternative versions of a future of **‘augmented’ workers**, where people are supported rather than replaced by technology and the human-tech partnership is making us more productive than ever before.

Freelance Frontiers

In the **‘Freelance Frontiers’** world, corporations are skeleton structures with few permanent employees, drawing on a pool of mobile, remote workers.

Powered Productives

In the **‘Powered Productives’** world, corporations are large, super-productive entities, strengthened by the success of human-tech integration and supported by an ecosystem of small, service-providing companies.

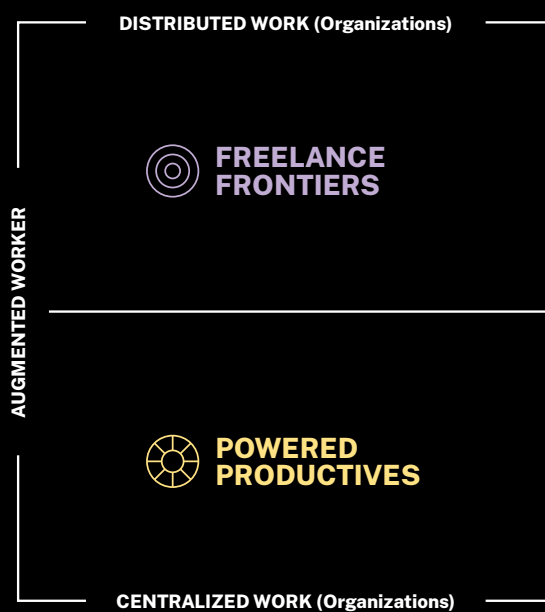


Figure 7: Two worlds of worker augmentation



World one: Freelance Frontiers

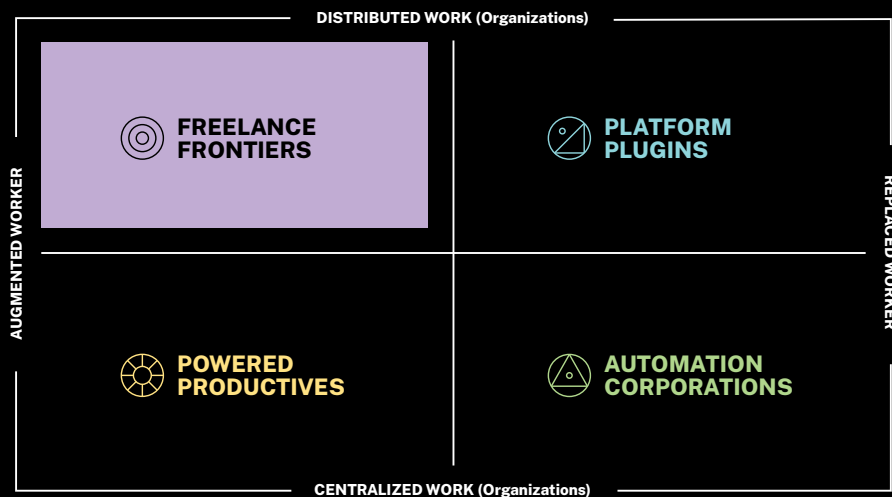


Distributed | Augmented

In this world, work is distributed across a large number of small companies and many people work on a freelance basis, with workers mainly augmented rather than replaced by technology.

Scenario introduction

The day of the big, paternalistic corporation is over. Instead, the working world is comprised of an agile ecosystem of small companies and constantly moving and reshaping clusters of freelance workers who come together to work on projects and then disperse again. A large company is large in terms of revenue, but not in terms of staff numbers.





Work is no longer constrained by geographic borders and being in the same physical location is rarely necessary, while instant translation technology removes language barriers. Instead, the success of a freelance worker depends on their digital reputation, record and rating, which is constantly being updated as work-related data automatically flows in.

For workers, achieving and maintaining an excellent rating takes near-constant effort, and it can be exhausting: there are now virtually no boundaries between “work life” and “personal life”. When it comes to further technology augmentation, it is becoming a case of “who dares wins”. Under-the-skin chips take digital tracking and performance enhancement to the next level, and some workers are willing to take this step. This is beginning to create a two-tier workforce of those who are physically enhanced by technology and those who are not.



Scenario snapshot

Businesses

Organizations have few permanent employees, instead drawing on a large pool of on-demand workers who are enhanced with technology. Work that generates the most value is increasingly performed by “swarms” of specialized professionals.

Workers

The days of the nine-to-five are long gone. Boundaries between work and personal life have all-but disappeared, as workers are constantly connected to work-related technology, and need to maintain their digital reputation to ensure ongoing work.

Government and society

As corporations have been hollowed out, HR functions have effectively vanished. Some governments step in to fill the breach, with state pensions increasing to help fill the void left by the loss of workplace pensions. Other governments place more of a focus on individual responsibility and find ways to incentivize private pension saving.



The Freelance Frontiers future

A highly streamlined, tech-driven infrastructure has developed to support hiring, managing and paying freelance workers. Sophisticated technology tools enable almost-seamless remote working, and workers on opposite sides of the globe can train and collaborate in the same environment using virtual reality (VR) platforms.

Onboarding is almost instant, as institutional knowledge is not held in the heads of workers but in complex, AI-driven data repositories. The AI can rapidly locate the relevant information and transmit it to the device of a new freelancer through the superfast 6G digital network.

Technology that tracks reputation and credibility has boomed. This is a two-way street: organizations need to maintain their online reputation to get the best workers at the best price, but workers also need to maintain their reputations to ensure a flow of high-quality work. Some freelancers work almost constantly to attain and maintain the best online rating and command the highest salaries. Talent is no longer constrained by physical borders, so competition is fierce and global.

There are plenty of benefits to this way of working, but the hollowing out of the traditional corporate firm also comes at a cost.

Smaller firms tend to have more volatile cash flows, for example. And there is also a mental health toll for workers: on one side of the coin is flexibility, but on the other is instability, and the boundaries between work life and personal life have virtually disappeared. Technology is so integrated into our lives that switching off is not an option, with voice-activated devices and wearable technology ever-present, and an increasing number of people embracing enhancement such as “under-the-skin” technology in the form of embedded microchips and trackers.

In this possible version of the future, we imagine that governments may take quite different approaches to filling the gaps. Some governments, in Europe in particular, step in to play roles that corporations played previously. Germany, for example, has increased its state pension provision to fill the gap left by the lack of workplace pensions. Other governments have taken a different approach, emphasizing individual responsibility. For example, in the UK and the US, governments have found ways to incentivize and encourage personal pension saving, using AI to nudge people towards better saving habits.



Day in the life: Procurement manager in 2035

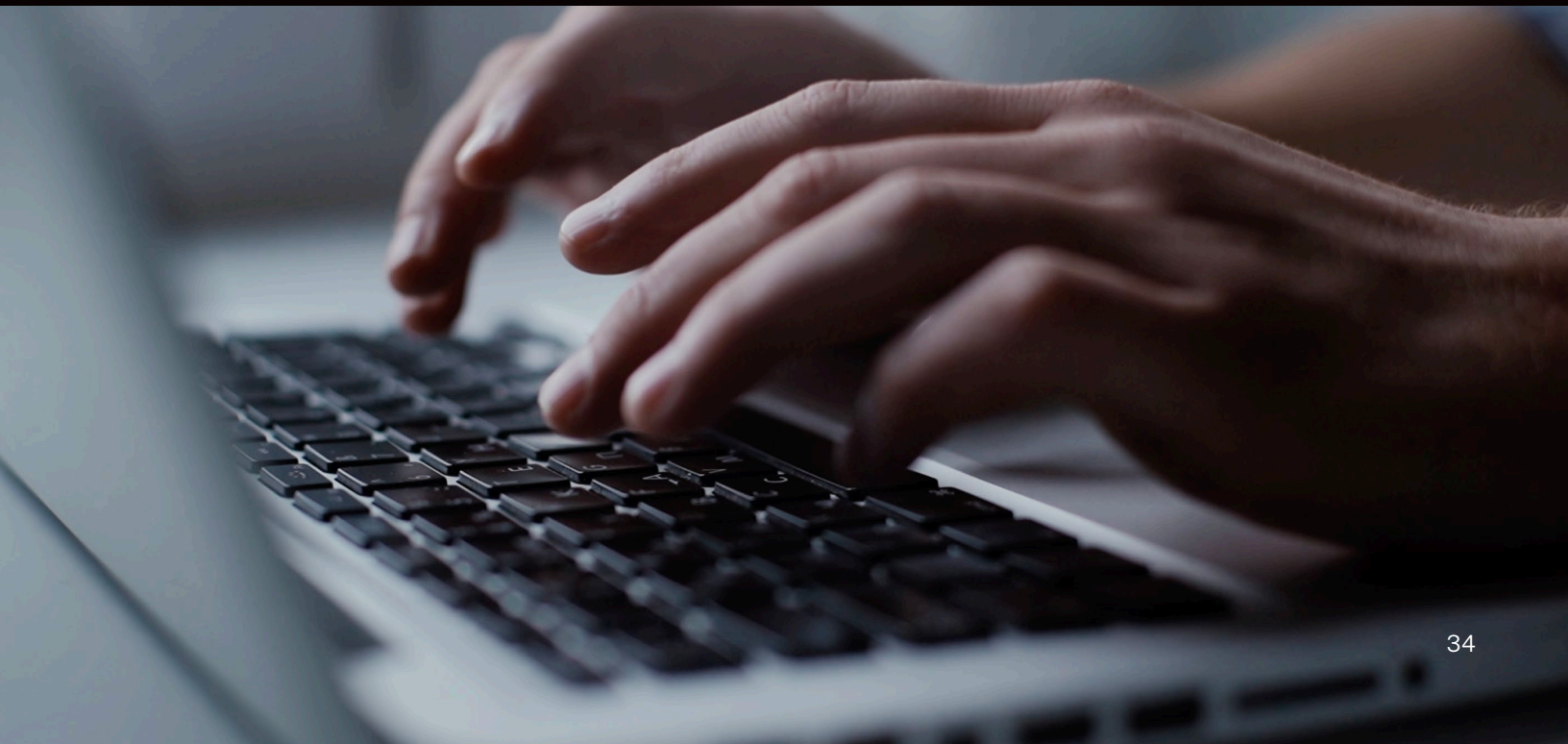
I work for a manufacturing company that builds modular timber-framed apartments that can be easily assembled on site. Blockchain ensures that the wood we use comes from a sustainable source, and our advanced data and analytics systems allow us to forecast disruptions in the lumber trade and make necessary preparations.

Today, I was responsible for five teams of freelancers, known as 'swarms', that were hired for projects before the busy summer months. The first three were designers working on a new product line that we hope

to start soon. Many of them were overlapping and had worked with us before, so it was going smoothly.

The other two were more challenging. They were labor crews we had been brought into the factory to help us run a second shift. Some brought their own smart helmets that did not connect to our system. Others were happy to wear ours, but they did not fit any that we had in the depot. Getting them synced up and keeping them on the job when other offers for work came in was always a hassle. Luckily, none of them had been poached overnight.

Other than that, it was a pretty normal day. Reading stats of the swarms already in place. Looking at suggestions for the swarms we had planned. Tracking the messages that came in.





Today's take on the Freelance Frontiers future

Our opinion research study gives us an insight into how today's leaders and employees feel about this possible future.

Few of today's business leaders anticipate a '**Freelance Frontiers**' future of distributed work executed by swarms of freelancers. Although they believe the **use of on-demand and freelance workers will increase**, on average business leaders estimate that freelancers will still only comprise a fifth of the workforce by 2035¹ and 39% of leaders believe that in 2035, the majority of high-value specialist workers will be on-demand and freelance workers.

¹ Currently (2018 figures), self-employment represents around 6% of employment in the US and 15% of total employment in the UK: <https://data.oecd.org/emp/self-employment-rate.htm#indicator-chart>

“Humans with chips in their bodies to enhance their performance will have an unfair advantage in the labor market, according to 62% of professionals.”



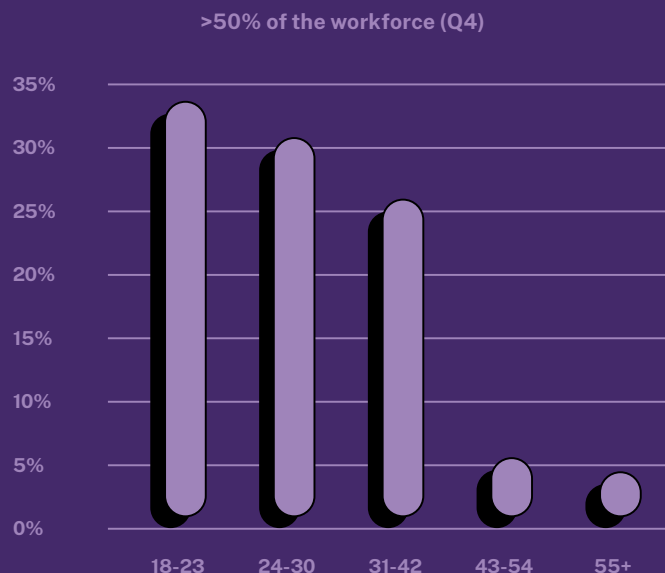
Very few business leaders (22%) believe that governments will seek to regulate labor practices more stringently due to the fall in permanent employment and the rise of on-demand working patterns, although most employees do believe that this will take place (60%). However, many employees (60%) and business leaders (73%) believe that in 2035, worker mental health monitoring practices will be regulated by government.

Some other aspects of this world also resonate with today's professionals (both business leaders and employees). Almost eight in 10 professionals (79%) believe that specialist workers will expect increased pay and benefits, and almost three-quarters

of professionals (73%) believe that tech platforms will provide access to highly specialist talent. Almost two-thirds of professionals (64%) believe that workers will demand personal tech, such as augmented glasses, to enable flexible working.

There is also a strong sense that 'next level' augmentation will create a divided workforce. Strikingly, our data reveals that almost two-thirds of professionals (65%) believe that there will be a two-tier workforce of those augmented with technology and those not. Humans with chips in their bodies to enhance their performance will have an unfair advantage in the labor market, according to 66% of employees and 54% of business leaders.

Figure 8: The proportion of the workforce that is expected to be contractors or on-demand workers by 2035, split by generation - "Younger people are more likely to expect on-demand workers to make up a larger proportion of the workforce by 2035."





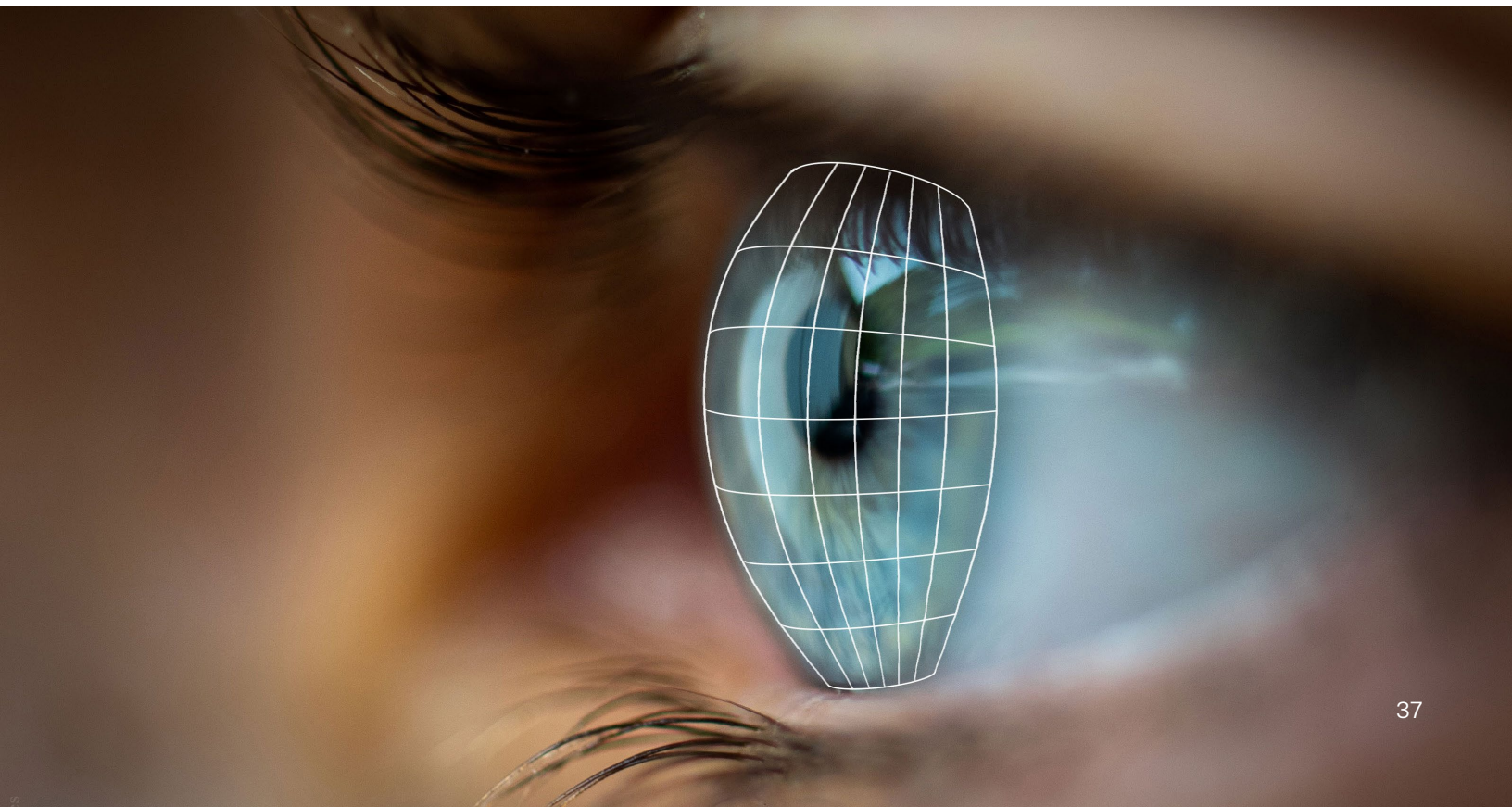
Is the future here already?

Thousands of Swedes are already embracing implanted tech.

Sweden has made international headlines for its embrace of biohacking technology. More than 4,000 people have already joined the craze, with users implanting their hands with small microchips the size of rice grains.¹

These chips promise to replace keys and cards and better-connect with a user's wider digital footprint and could be a significant development in partnerships between people and technology more broadly.

¹NPR: "Thousands Of Swedes Are Inserting Microchips Under Their Skin": <https://www.npr.org/2018/10/22/658808705/thousands-of-swedes-are-inserting-microchips-under-their-skin?t=1583319756225>





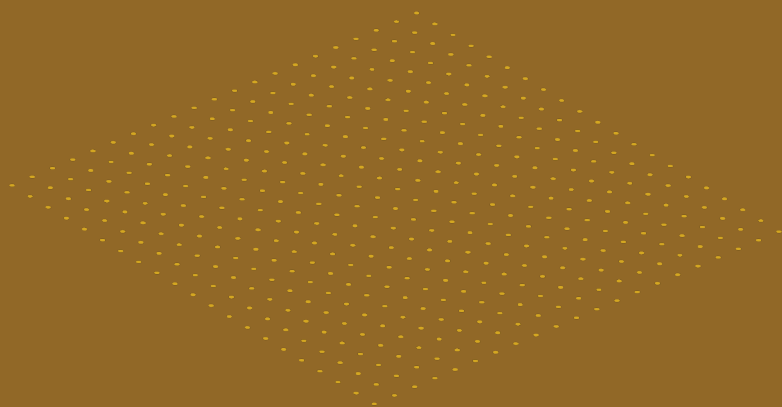
Data snapshot

Finding and managing talent in a “Freelance Frontiers” world:

- ▶ 80% of business leaders believe that tech platforms will provide instant access to highly specialist talent.
- ▶ 85% of business leaders believe that specialist workers will expect increased pay and benefits as the recruitment of highly specialist workers becomes more competitive.
- ▶ 64% of professionals believe workers will demand personal technologies, such as augmented glasses, to enable seamless flexible or remote working.

The possible role of government in a “Freelance Frontiers” world:

- ▶ 64% of professionals believe that mental health monitoring practices will be regulated by the government by 2035.
 - This is notably lower in the US (54%) than in European countries (UK: 67%, Germany: 68%, France: 68%, the Netherlands: 64%).
- ▶ Only 22% of business leaders (vs. 60% of employees) expect that governments will seek to regulate labor practices more stringently due to the fall in permanent employment and the rise of on-demand working patterns.



World two: Powered Productives

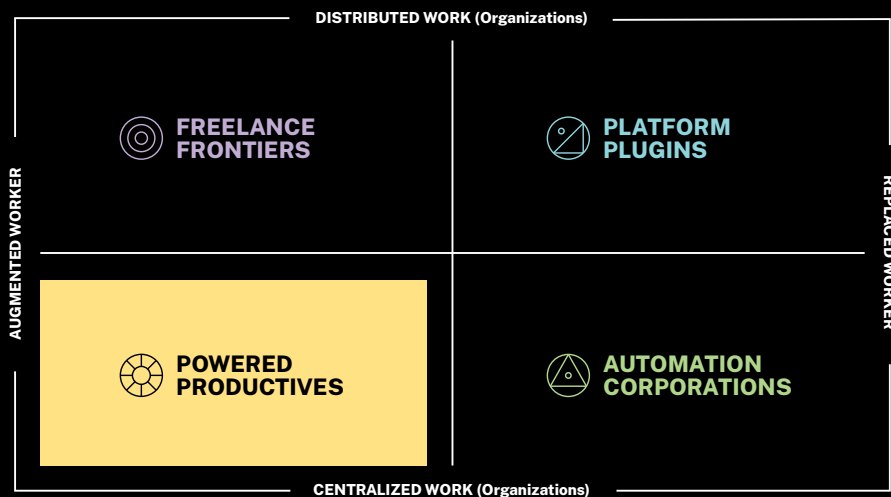


Centralized | Augmented

In this world, big companies with large, permanent workforces dominate most sectors, and human workers are powered by a super-productive partnership with technology.

Scenario introduction

In this world we truly witness technology improving productivity and efficiency to the benefit of both employees and organizations. The working world is founded on a positive, ultra-productive partnership between people and technology. Big corporations still hold their sway, employing large numbers of people and providing a wealth of worker benefits, but they have been *reshaped and strengthened* by augmentation.





Technology platforms constantly upskill workers, monitoring their habits and using this wealth of data to learn what works best and then ‘nudge’ workers towards behaviors that optimize performance. Companies are largely differentiated based on the sophistication of their technology and the adaptability of their employees.

The technology that drives the “Powered Productives” workplace:

- ▶ Continual improvement via AI ‘nudges’
- ▶ Wearable technology to interact with systems
- ▶ An AI personal assistant for each worker
- ▶ Augmented Reality glasses
- ▶ Neuro-linked technology for controlling devices
- ▶ Exoskeletons to enhance performance-related tasks
- ▶ AI that anticipates and performs tasks based on habits and preferences
- ▶ Voice-activated devices
- ▶ Virtual reality
- ▶ AI-powered digital workspaces
- ▶ Under-the-skin employee chips and sensors

The workplace partnership between people and technology:

Technological advances will take the partnership between people and technology to new heights, creating a positive bilateral relationship.

Human-tech partnerships have changed considerably since their origins, but they generally enable their operators to control, monitor and gather data from machine systems, in a way that allows for iterative learning that reprograms the system over time.

Tools like advanced touch screens and voice and gesture recognition are now commonplace features of homes and offices alike. As technology matures, these partnerships will become richer and more advanced than before.

Technology will also become more intuitive and more comfortably integrated, easier to interact with, and less device-dependent.

In the workplace, intelligent technologies will increasingly automate away the burden of repetitive, task-based work, so that uniquely human skills like creativity and the ability to learn can drive value.



Scenario snapshot

Businesses

Organizations benefit from boosted productivity levels due to successful integration between humans and tech. There are millions of data capture opportunities, so business leaders have an ever-evolving picture of their workplace and their workforce. The firms with the best integrations and the most adaptable workers perform best, which can create monopolies in some sectors. The development of natural language processing and translation technologies removes language barriers, meaning that corporations can more readily expand their workforce across geographies.

Workers

Workers enjoy more meaningful work and technology seamlessly improves their performance. But they must decide how they feel about their data – their most valuable asset – being monitored and controlled by their employer. Some businesses offer bonuses for workers who sign over their data rights. Others offer “data protection/privacy” as an employee perk.

Government and society

Some governments – especially in Europe – try to protect employee data and limit what employers can capture and control. Some international industry standards have been set, and a grouping of major cities around the globe have begun to act in a coordinated way, implementing joint regulation. But there are still inconsistencies between geographies, meaning that companies need to develop technologies on smaller pools of data and test them for each individual market.



The Powered Productives future

A panoply of technology, tightly integrated with human workers, enhances efficiency and productivity. “AI-ngels” (bespoke digital assistants, driven by AI) draw on a wealth of personal and workplace data to help workers prioritize their time most effectively. For example, they can schedule meetings to take place at the most effective time based on factors ranging from the participant’s blood sugar levels to worker sentiments at different times of day. And then while the meeting is taking place, they can monitor concentration levels and attitudes towards the content and encourage relevant adjustments.

Some companies have built more complex algorithms than others. The sophistication of a company’s algorithms and its level of data capture (some workplaces offer higher wages in return for greater data access) has a big impact on corporate success.

If workers express discomfort about this level of surveillance, employers argue that they use it in a positive way. For example, the AI quickly flags an employee who is struggling and implements a “boost” mode to push them towards greater productivity. Within companies and within society at large, there is some debate about where the red line should lie. Some governments have attempted to intervene by introducing strict legislation, but this tends to result in companies moving their workforce elsewhere.

Most employees seem to agree that the benefits of data-sharing are worth it, but the workers who have higher levels of data sensitivity can work for a certified “privacy priority” workplace. These businesses lose out on many of the advantages of their data-intense contenders, but their privacy certification helps their marketing positions, and gives them a key advantage when it comes to recruitment, as they can pick up the highly-skilled workers who are more cautious about sharing their data.

Although large companies dominate certain sectors, SMEs are still a key part of the global economy, providing cost-effective services to the super-productive major corporates, which are also implementing their own productivity-boosting tech platforms. Innovation, however, tends to happen within the large firms, or is funded by their venture capital arms and then quickly absorbed into the main body of the organization. Large firms are fluid and constantly evolve their offerings, to the point where it can be hard to remember where some of the megafirms started out.



Day in the life: Human analytics in 2035

Today we had our quarterly meeting to discuss our departments. I am a data scientist on the voice assistant team at a financial services company. Our firm allows people worldwide to make transactions with voice recognition to cut down on fraud and speed up transactions worldwide. As you might guess, there is no room for error when our software is validating the transfer of billions of dollars, euros, pounds, yen, and yuan every day.

I gave the general overview of our stats to management. The teams were working an average of 9.3 hours per day, with 85% productivity within that time. We were also starting to see an uptick in negative emotional content on employee messaging platforms, though I was quick to point out that it was still within normal levels.

I do have, as all human analysts have, a dashboard on my screen of the results of our text mining bot, which tracks our employees' emotional tone based on what they're writing and saying (outside of privacy restricted areas) and gives an alert that something could be brewing.

By the end of the meeting, the directors had given quotas to other divisions for engineers to redeploy to natural language processing (NLP). We estimated that the additional strength would, after accounting for onboarding time, get the average workday down to 8.5 hours. Anything below 8.7 for the quarter would save the company quite a bit of money, so that became our task.

The rest of the day was booked up with emergency meetings to figure out how we could hit that target, with conference calls with all the supervisors in North and South America and then a very late night as Asia came online.



Today's take on the Powered Productives future

Our opinion research study gives us an insight into how today's leaders and employees feel about this possible future.

This is the world that most closely aligns with the future envisioned by today's business leaders. Most leaders (81%) do not believe that permanent employees will have become rare by 2035, but they are confident that the future of work will include features like wearable technology that interacts with corporate systems, AI that "nudges" workers towards improving their performance, Augmented Reality (AR) glasses and AI personal assistants.

Both business leaders and employees believe that AI will bring productivity benefits: over three-quarters of professionals (77%) think that by 2035, AI will significantly speed up their decision-making process, making them more productive.

“Over three-quarters of professionals (77%) think that by 2035, AI will significantly speed up their decision-making process, making them more productive.”



Furthermore, in general, both business leaders and employees are quite relaxed about the monitoring capability of technologies: 79% of professionals would allow technology to monitor them and help them improve if it significantly boosted their performance and remuneration.

When it comes to the mental health impact of this way of working, opinions are more mixed. Eighty-three percent of professionals believe that by 2035, technology will automate repetitive and low-value tasks, freeing workers to focus on more meaningful work. However, almost two-thirds (64%) of professionals are concerned that Augmented Reality will negatively impact workers' mental health, and "worker burnout from over-saturation of technologies" was the most frequently cited ethical concern, with "digital exclusion becoming a pressing social issue" a close second.

Over two-thirds of professionals (67%) believe that leadership teams will have to significantly increase investment in worker

mental wellbeing programs in response to the expectation to be constantly connected. Interestingly, though, "enforced tech downtime" is not an anticipated approach: only 21% of business leaders believe that employers will enforce downtime to prevent hyperactivity or data burnout in 2035.

Most business leaders (79%) expect that governments will increase legislation to ensure technology firms are competing properly to avoid monopolies.



Data snapshot

Half of today’s professionals believe that technology and AI will make workers at least twice as productive by 2035.

Figure 9: The expected productivity increase of human workers due to technology and AI by 2035, according to employees and business leaders

0% (it will not make human workers more productive)	3%
1-25%	6%
26-50%	14%
51-75%	13%
76-100%	14%
101-125%	16%
126-150%	11%
151-175%	10%
176-200%	6%
201-225%	3%
226-250%	2%
251-275%	1%
276-300%	1%

Tech platforms bring super-charged productivity.

- ▶ 79% of professionals believe that in 2035, technology and AI will be a significant factor in upskilling human workers.
- ▶ 77% of professionals believe that by 2035, AI will significantly speed up their decision-making process, making them more productive.

Next-level leadership

- ▶ Nearly three-quarters of business leaders believe that by 2035, the leadership team will be partially augmented by technology.

The data privacy versus data benefits decision

- ▶ 79% of professionals would allow technology to monitor and help them improve their working habits if it significantly increased their performance and remuneration.
 - US employees and leaders are more reluctant than their European counterparts: on average, 73% of US professionals would allow monitoring, compared to an average of 81% across the European countries in our study.

Implantation for augmentation

- ▶ 48% of professionals would be willing to implant data chips if they were sure of its safety and its benefits to their work.
 - 57% of employees, but only 31% of business leaders would commit to a technology implant.
 - 48% of 18-23-year olds would be willing to have chips implanted, compared to 57% of those between 31-42.



Part two: The replaced workforce



While most business leaders forecast a future world of **augmented** workers, our study reveals that most employees anticipate a very different future. In the next section, we will explore two worlds in the **replaced** dimension. This is the future that most of today's employees envision, where workers are replaced by technology rather than augmented by it.

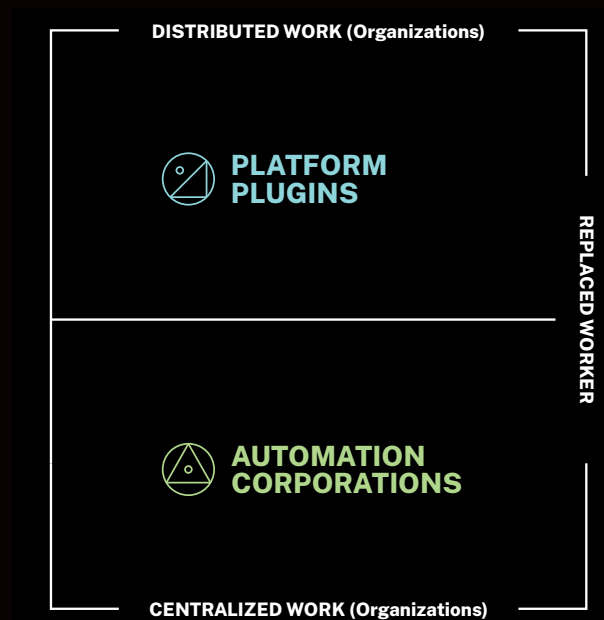
Platform Plugins

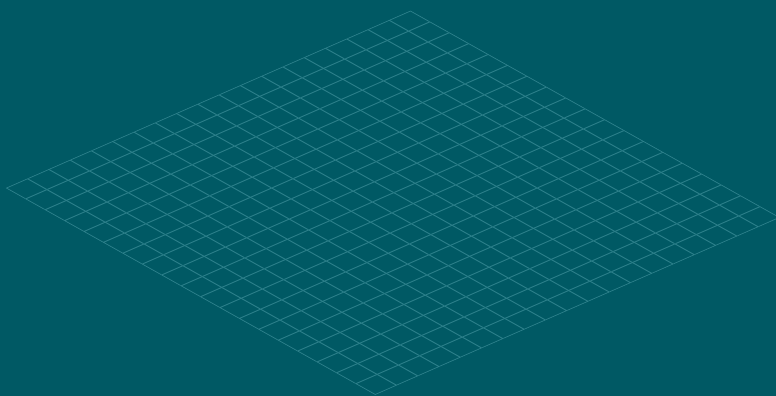
The '**Platform Plugins**' world is characterized by fragmentation: big corporates no longer enjoy competitive advantage, leading to a working world dominated by smaller companies, powered mainly by technology, with human workers brought in on an ad-hoc basis.

Automation Corporations

The '**Automation Corporations**' world is characterized by volatility: large corporates still dominate the business landscape and continue to employ human workers, but workers regularly retrain and shift into new positions as their old roles become obsolete.

Figure 10: Two worlds of worker replacement



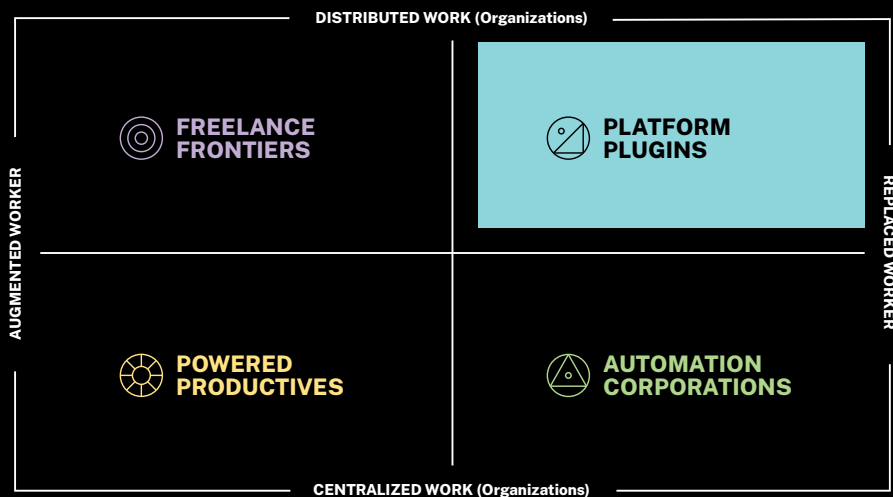


World three: Platform Plugins



Distributed | Replaced

In this world, smaller companies often have competitive advantage over larger rivals, and many roles have been replaced by technology. Many businesses run on a platform model: a business model that facilitates exchanges between producers and consumers. Freelance workers 'plug in' to these platforms.





Scenario introduction

Technology has 'leveled the playing field' for smaller businesses, giving them the reach and scale of much bigger rivals. AI, machine learning and data capture and analysis tools have become so powerful and reliable that they have enabled businesses to drastically downsize their permanent human workforce.

The people who *are* still needed are specialists who help to build, tweak, check and manage technology: in the main they are not employees, but sought-after freelance workers who move between companies on demand. People also continue to work in sectors where they cannot be easily replaced by sophisticated tools, for example personal care and health, which means that there is an increasingly stratified workforce and social inequality has risen.



Scenario snapshot

Businesses

Big companies now have fewer advantages over their smaller rivals, as SMEs can achieve “digital scale” with the use of technology. SMEs are also assisted by the increased efficiency of global supply chains and a significant drop in the cost of shipping goods, thanks to a streamlined, blockchain-powered logistics industry. However, the need to physically move goods around the world has also fallen, as the rise of 3D printing has enabled many manufacturers to make and authenticate their products in the quantities needed close to their consumer base.

Workers

Many roles have been replaced by technology. Although mass unemployment has not come to pass, gig working and freelancing have become much more common ways of working.

Government and society

Workplace benefits and pension schemes have been eroded as more workers have shifted towards the gig economy. The social contract of the 20th century has largely dissolved, and the middle-class has hollowed out. New gig worker unions have restored some of the balance of bargaining power, but ultimately, most countries rely on sectoral bargaining and limited governmental oversight.



The Platform Plugins future

Companies have used machine learning platforms and publicly available datasets to build AI-enabled technologies that mean they need a very limited human workforce. Job losses have been concentrated among lower wage jobs: millions of positions for administrative assistants, accountants, cashiers, customer service representatives and data entry have been eliminated, as the tasks can be so easily completed by technology.

However, people can still perform some roles much better than technology. Hairdressers, physical therapists, health aides and interior decorators, for example, have retained their jobs. In fact, these personal care, beauty and wellbeing sectors have seen substantial growth, as changing demographics and rising stress levels have increased demand.

Another growth area is highly skilled technical roles. Although AI can do a lot, the output needs regular human assessment. This is a high-skilled job, with specialists generally brought in on a contract basis via on-demand work platforms. This enables companies to scale up when necessary, although “surge pricing” means that during busy periods, organizations must pay more for labor.

There has also been a dramatic rise in the number of small and medium enterprises built on harnessing the latest technology and datasets. These include data brokers, who help connect AI developers with the datasets that they need to build their models while following the widespread complex regulations that govern them; and service consultants, who help non-technical businesses know which feeds and subscriptions they should be purchasing.

It used to be that only the largest companies could take advantage of AI, since they were the only ones who could afford the technology and gather the amount of data necessary to drive it. But big companies no longer own this advantage. Now, intermediaries collect data and rent it out, meaning that SMEs can use AI-derived insights for their own practices, often using them in more innovative ways than larger companies, and without the legacy systems that often mean integration takes a long time in big corporates. Many consumers opt-in to use the service that specifically addresses their needs rather than selecting a generic model, and this means that small companies take considerable market share from larger firms.



Day in the life: Services manager in 2035

We are a healthcare company, focusing on setting payment rates for various procedures. I manage the relationships with most of our vendors. A lot of our work is built on electronic medical records and voice recordings from patient rooms that estimate the precise time for each procedure and the required skill level for adequate provision. It is extremely sensitive work given the confidentiality of the interactions, and the risk of data leaking.

We offloaded our accounting, IT and customer service departments some years ago. Now, almost all our employees are dedicated to data protection or data analysis. Most of my time is spent on the back-office services.

My job is to ensure that all the services we got to replace them are working well, and to scan the market for any better options.

Most of my day has been spent transitioning our data from an old service to a new one and testing it for any glitches. But yesterday we received a government alert that some of the data we buy is corrupted. One of the patient data companies that feeds into our AI platform included demographic data. We were possibly offering different prices based on race and ethnicity rather than procedure time and difficulty alone. You see this in the news every so often, but this is my first time experiencing it.

The rest of the firm is going back through its past rates to see if we have broken the Algorithmic Non-Bias Act or EU privacy regulations within any of our sales.

Meanwhile, I am left with my digital assistant and our attorney service to go through past contracts and see at what point we become liable for the data.



Today's take on the Platform Plugins future

Our opinion research study gives us an insight into how today's leaders and employees feel about this possible future.

There is some agreement that the working world will tip to favor smaller, more agile businesses, and that the way that businesses run will be much more distributed. Almost two-thirds (63%) of professionals believe that

by 2035, technology will convey advantage to small companies, meaning that each sector will be fragmented across a large number of niche specialist companies, and 66% of professionals believe that the highest-growth companies will be run on a platform model. However, overall, the “**Platform Plugins**” world is one that employees foresee, while business leaders do not. Employees express high levels of ‘replacement anxiety’, fearing that secure, permanent roles may soon become a thing of the past, while business leaders are generally confident that permanent employment will prevail.

“Two-thirds of professionals believe that by 2035, the highest growth companies will be run on a platform model.”



Data snapshot

34% of employees believe more than 50% of job roles within their business will be replaced by technology or AI by 2035.

The 'platform' in Platform Plugins:

- ▶ 67% of professionals believe that by 2035, the highest growth companies will be run on a platform model.
- ▶ 63% of professionals believe that technology will convey advantage to small companies, meaning each sector will be fragmented across a large number of niche specialist companies.

Permanent employment:

- ▶ 60% of employees think that by 2035, permanent employees will become rare.

Figure 11: The proportion of job roles that employees and business leaders believe will be replaced by technology or AI by 2035.

	Business Leaders	Employees
0%	–	3%
1-10%	2%	9%
11-20%	45%	10%
21-30%	42%	14%
31-40%	9%	15%
41-50%	1%	15%
51-60%	*	15%
61-70%	*	10%
71-80%	*	6%
81-90%	*	2%
91-100%	*	1%



World four:
Automation Corporations



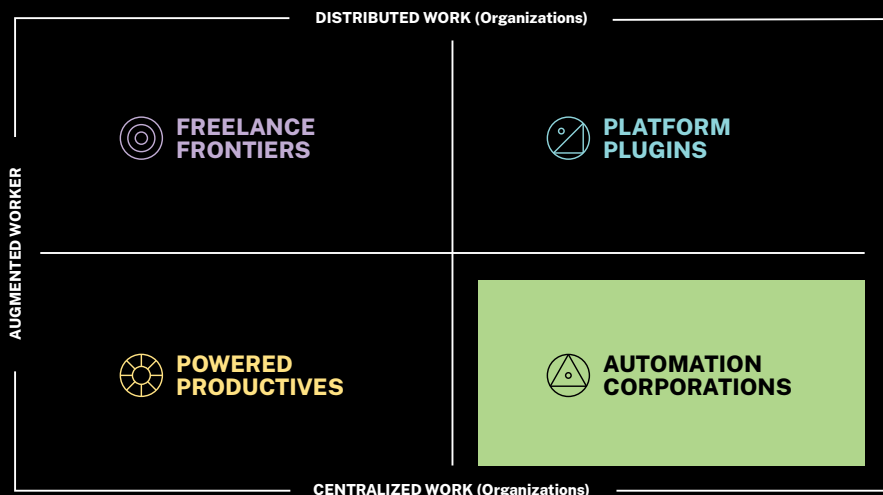
Centralized | Replaced

The working world is still dominated by big corporates, but these have become 'Automation Corporations', as swathes of the workforce are replaced by technology.

Scenario introduction

Big organizations, as we know them, still exist and continue to dominate. Permanent employment prevails: the gig economy has not become the dominant way to work, partly due to tightening government legislation

that broadens the definition of an "employee." However, volatility characterizes this world. As more and more roles are automated, roles shift, and employees are always on their toes. New departments have been created and new specialisms are needed, so workers need to keep retraining to stay relevant. Businesses invest considerable amounts of their budget into R&D to find the best ways to replace parts of their workforce. There is a risk, though, that leaders will end up finding ways to replace their own jobs: leadership teams are already being reshaped and slimmed down, as technology replaces even the most complex roles.





Scenario snapshot

Businesses

The biggest companies with control over the entire work process have the most space for finding new efficiencies and can adopt new technologies faster, which gives them an edge over their rivals. As human labor becomes more replaceable, human talent becomes more important. Someone must build, manage, and guide the machines in every office so they are used to their fullest potential.

Workers

Roles are constantly changing, and employees often move from one role to the next as their previous job becomes obsolete. The concept of a career has become a thing of the past, and people talk about staying in a job for a “cycle” before the next job.

Government and society

There is not mass unemployment, and governments have not felt the need to introduce a Universal Basic Income (UBI).

However, there are fewer jobs overall, and a “hollowing out” of mid-skilled jobs has taken place as the share of low-skilled and high-skilled jobs has increased. There is also a growing divide between the mega-corporations and the remaining smaller companies in terms of the quality of employment and the level of remuneration. This has caused widening inequality in most countries, and governments have had to act.

Some governments have tried to stem the “replacement tide” by putting legislative barriers in place, and many have broadened the definition of “employee” so that employment protection and rights are extended to non-standard workers (i.e. freelancers and short-term workers). Automation adjustment assistance, grants for mid-career education, and even mobility grants to move to growing job markets have been popularized across the developed world, so that workers can pivot in their careers to the next un-automatable positions².

²The OECD's 2019 Future of Work report discusses the likelihood of changes like these, and suggests some of these government responses as the direction that policymakers need to take, <https://www.oecd.org/employment/employment-outlook-2019-highlight-en.pdf>



The Automation Corporations future

Technology has taken over more and more laborious and mundane tasks. This means that working for a leading company in 2035 can be a rewarding experience, but it can also be turbulent. Many firms invest heavily in R&D for their own operations, focusing on productivity gains and cost controls, and often finding ways to make swathes of their workforce expendable. Despite what many feared, this has not eliminated the need for human workers, but roles are constantly changing, and employees often move from one role to the next as their previous job becomes obsolete. Every worker who loses a job has the potential to be retrained for something better, and every worker has the potential to learn enough for the next promotion.

New job roles such as Robot Trainer, AI Trainer and VR Manager have been created, and each organization has a central AI department and a Chief Artificial Intelligence Officer, which works in a human-machine team with the CEO to make business decisions.

One of the primary growth areas over the past decade has been companies that can accelerate the automation process. Those that specialize in visual recognition, autonomous movement and robotics are in high demand. While the largest firms can try to do some of these tasks in-house, there is enough space for independent companies to specialize in these areas. By focusing on a very specific task, many of these firms can achieve quasi-monopolistic positions in their segment. This allows them to utilize customer data, for those that grant access to it in exchange for discounts, to build the next generation of their products.



Day in the life: Code and algorithm reviewer in 2035

I used to work for an online retailer in its customer service department. I addressed specific, complex queries, while chatbots handled all routine questions. Eventually, the chatbots answered the more complex queries too. At this point, the customer service department was mostly automated, with only a few human workers retained as analysts. I was moved to supplier management, but shortly after, this was automated too, and I got laid off.

I successfully applied for a government retraining grant and retrained as a coder. I am now working at one of my old company's suppliers as a code and algorithm reviewer. It is one of the organizations that are often called "moons", as they revolve around a single "big planet" corporation. The pay and benefits are not as good as they are at the big corporations, but the work tends to be interesting.

Today I was reviewing code for a new workplace app to check for any errors before it went over to the client. The app has been mainly self-built using machine learning, but currently a human worker always checks it before it goes across. This time, the app needed very few adjustments. The algorithms are getting better and better, which makes me wonder whether my organization may soon make redundancies in my department.

I finished at 5pm sharp (new government regulation strictly controls working hours for both freelance workers and employees) and spent a while exploring the grants and retraining opportunities that I may be eligible for if my current role is automated soon. This kind of thing used to stress me out, but I am used to it now. I know that there's support available and I enjoy learning new skills and transitioning to new roles.



Today's take on the Automation Corporations future

Our opinion research study gives us an insight into how today's leaders and employees feel about this possible future.

Our data shows that some aspects of this world ring true to business leaders and employees. Over two-thirds (67%) of professionals believe that technology will convey advantage to large companies, meaning each

sector will be dominated by a small number of large global corporates and technology companies.

Almost three-quarters of professionals (72%) believe that by 2030, technology and AI will generate more revenue for their organization than human workers and will also absorb more of their organization's annual operating costs. Three-quarters of professionals believe that in 2035, AI investment will be the biggest driver of growth for their organization.

However, while employees are skeptical that this will confer competitive advantage, leaders are confident that it could be a key differentiator.

“Over half (58%) of professionals believe that AI has the potential to make the majority of business decisions by 2035, removing the need for a traditional senior management team.”



Interestingly, a surprising number of people believe that leaders may also find themselves being replaced: 58% of professionals believe that AI has the potential to make most business decisions by 2035, removing the need for a traditional senior management team. While leaders are much more likely to forecast an augmentation or human-tech partnership model of leadership, a third of employees believe that the leadership will be partially or completely *replaced* by technology.



Data snapshot

AI at the top

- ▶ Over half of professionals believe that AI has the potential to make the majority of business decisions by 2035, removing the need for a traditional senior leadership team.
 - 57% of leaders of growing companies agree, compared to 43% of leaders of no-growth or shrinking companies.
 - There are some significant differences by market: 81% of US business leaders agree, compared to 29% of French business leaders.
- ▶ 82% of business leaders believe that by 2035 every organization will have a Chief Artificial Intelligence (CAI), working in a human-machine team with the CEO to make business decisions.
- ▶ 90% of leaders believe that by 2035 there will be a central AI department overseeing all areas of the business.

Government blockers

- ▶ 88% of business leaders believe that government regulation/legislation blocking technology and AI developments will present a significant risk to their organization by 2035.
 - This varies between markets, from 81% in the US to 95% in the Netherlands.



Conclusion



Bridging the digital disconnect

No one can know for certain what the future of work will look like in 2035, but the disruption caused by the COVID-19 pandemic has shown us the importance of planning for the unknown. Few could have predicted the current situation, let alone a moment that stands 15 years away; but as organizations gradually transition out of 'survival' and review what lies ahead, the experience and this research shows us the best world of work is ours to create, if we are willing to adapt. It is no longer a question of how or when the employee experience will change since it already has...but we need to understand, this is only the beginning.

This ambitious research reveals four alternative visions of what the workplace could look like in 2035. Imagining possible futures of work can help us to build a future that is worth working in. There is a lot to be optimistic about, for example, we have seen that 77 percent of professionals believe that by 2035, AI will significantly speed up their decision-making process. However, the report articulates an obvious digital disconnect between the bright technology-enabled future forecast by business leaders and the dystopian work-

ing world envisioned by employees. While business leaders are looking forward to a world of productive partnerships between people and technology, where permanent employment is still the bedrock of work culture and technology nudges workers to be their best selves; employees fear a more unstable future, where technology is a rival that will replace them.

To bridge this disconnect, leaders must address the significant upskilling and augmentation that will be required to elevate their workforces, and communicate a compelling vision in which technology plays an additive, not subtractive role, in the lives of employees. They must redesign workplaces and IT systems around intelligent, inspiring experiences that empower employees to use technology effectively, solve problems in creative ways, and make decisions more quickly. Ultimately, to continue to thrive amid an uncertain future, organizations must cultivate a workforce empowered to adapt to changing conditions and innovate quickly.



Three key considerations:

- ▶ Expect rapidly changing competitive environments and continuous technological disruption.
- ▶ Cultivate a workforce that is empowered to adapt to changing conditions, by providing them with inspiring experiences in which they can more easily leverage intelligent technologies, solve problems in creative ways, and make decisions more quickly.
- ▶ Business leaders and employees can thrive together in the future of work, providing the digital disconnect is understood, explored and overcome.

It is clear that we have reached an inflection point in the evolving relationship between humans and technology in the workplace. However, organizations must be

careful not to over-complicate the future of work with *too much* technology, when the focus should be to ensure the technology experience is as intuitive and simplified as it can be. There is much that technology can do to benefit employee experience, but it must not happen in isolation. Instead, it will be the enabler to delivering an enhanced employee experience, for the new digital worker.

Recent world events have taught us that we cannot know how the world of work will look next week, let alone in the years to come. But we do know that the future that we should be planning for is one that empowers employees, making work more interesting, productive and meaningful, so that people can think, learn, and create. The organizations that are prepared, will be the ones that thrive. After all, the 'future worlds' that we are envisioning may be closer than we think.

For the workplace revolution to be fully realized, business leaders must champion the human-tech partnership as a force for positive change in the workplace, bringing their employees along with them.



Detailed methodology

Scenarios process

Building alternative futures requires a creative and open process. Making sure that they remain plausible, even in their criteria, requires a rigorous methodology.

Citrix, working with Man Bites Dog and strategic analysis and consulting firm Oxford Analytica, undertook a multi-stage process to gather the latest insights on the future of work and technology, and use them to build four plausible scenarios.

The research team reached out to experts in fields related to the future of work, technical innovation, education, business strategy, government regulation, social trends, and others in North America and Europe.

Thirteen interviews with experts were complemented by a series of workshops to uncover the components that make up the four plausible future scenarios. The components are broken out into analytical units, that serve as a guide through the analytical process to illustrate which factors are fixed, which are uncertain, who they will affect and how they might interact to produce a plausible future. These components include:

- ▶ Predetermined factors; phenomena that we can take for granted within a given time period.
- ▶ Trends; developments or processes that can be predicted on the basis of conditions that are present today.
- ▶ Critical uncertainties; events or processes for which there are multiple outcomes that will directly the focal question of how workers will create value in 2035.

Analyzing the above components then generated the two key drivers to form the foundations of the four plausible worlds. These two drivers were:

1. **Technology in the workplace:** either used primarily for the augmentation (increasing productivity of workers by ensuring they have the most advanced technology possible) or replacement of workers (by automating their work and cutting the position).
2. **Business landscape:** centralized firms or distributed firms having comparative advantage and thereby expanding their position in the market.



Opinion research study

Citrix, working with Man Bites Dog and research company Coleman Parkes, asked the opinions of over 500 C-Suite leaders and key decision makers within both large, established corporations and mid-market businesses (at least 250 employees). We also surveyed 1,000 employees, investigating how they will create value by the year 2035. This enabled a powerful gap analysis between the views of organizational leaders and their workers on how the world of work might look in 2035. Respondents were from the following countries: the UK, the US, Germany, France and the Netherlands, and in the following industries: financial services, healthcare and life sciences, telecommunications, media and technology (TMT), professional services, manufacturing and retail. Interviews were conducted in late 2019 and early 2020. A further survey of 300 business leaders was conducted in April 2020 to understand the impact of the COVID-19 pandemic on attitudes towards the future of work.

About Citrix

Citrix (NASDAQ:CTXS) is powering a better way to work with unified workspace, networking, and analytics solutions that help organizations unlock innovation, engage customers, and boost productivity, without sacrificing security. With Citrix, users get a seamless work experience and IT has a unified platform to secure, manage, and monitor diverse technologies in complex cloud environments. Citrix solutions are in use by more than 400,000 organizations including 98 percent of the Fortune 500.

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Thank you