Robot wars or automation alliances?

People, technology and the future of work

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The future of work is here

The future of work is here. The rapid acceleration of technologies such as automation and artificial intelligence is changing the way that people and technology interact in the workplace, and is revolutionising work across all sectors and skill levels.

While there has been much discussion about the impacts of this shift on the UK economy and employment patterns at a macro level, missing from the debate has been the voice of the people who will be more directly impacted by these changes.

As the world transitions to these new ways of working, questions arise about how the full potential of automation can be unlocked, while also harnessing the benefits to preserve 'meaningful work' into the future. To address these important issues, Capita has collaborated with Hot Spots Movement and BritainThinks to initiate an honest conversation about how the world of work is changing.

We have found that a new type of critical interdependency is forming between business and employees, technology and people. Automation anxiety is common in the workplace, fuelled in part by negative preconceptions, and in part by the real threat posed to employment for many people. It is only by engaging employees with the automation process that they will experience this shift in a positive way; and, crucially, be able to implement new ways of working required to make automation a success.

Drawing on direct engagement with business leaders and people across the UK whose jobs are already evolving - including Capita's own employees - this report investigates these real-life experiences, anxieties and hopes. By listening to voices from across the employment spectrum, this study has exposed many 'automation myths' to reveal five new findings around the dynamics that are shaping the challenges presented by the future of work. These range from the clear need for strong leadership and engagement, to the new ways of thinking about the skills and career pathways that will be required. Based upon these findings, a framework of automation 'guiding principles' has been laid out to encourage the responsible implementation of these new technologies for the world of work in the 21st century.

> **Through listening to voices from across the employment spectrum, this study has busted many 'automation myths' to reveal five new findings around the dynamics that are shaping this challenge"**

HOW SOON IS NOW?

WE ARE ON THE JOURNEY TO A MORE AUTOMATED WORLD OF WORK

As the pace of technological progress within the workplace accelerates, we know that automation is already changing how people live and work. The future isn't an event on the distant horizon, it is happening now.

The future is bright

51% of employees are positive about automation, citing increased opportunities to learn new skills, greater flexibility, and more interesting and varied work[1]

Jobs are already evolving

In 2018, an average of **71%** of total task hours were performed by humans, and **29%** were done by machines[2]

Will robots have water cooler moments?

88% of employees believe that real-time and face-to-face interactions will always be important at work, no matter how technology evolves[3]

> ❝ **It frees me up to do loads of other things. I love it!”**
>
> Education administrator, Manchester

> ❝ **New skills are gained to use new automated systems”**
>
> Warehousing employee, Bristol

People will collaborate with technology

77% say they expect the number of roles requiring people to collaborate with AI to increase in the next five years[4]

New tech, new opportunities

By 2025, algorithms and intelligent machines are expected to create 133 million new roles globally, while displacing around 75 million - a net gain of **58 million jobs**[5]

> ❝ **More dangerous tasks can be carried out by machines”**
>
> Logistics employee, Bristol

> ❝ **I can speak to the customer rather than filling in form after form”**
>
> Capita employee, Leeds

[1] Capita Human II Hybrid
[2] World Economic Forum's 'Future of Jobs' 2018 report
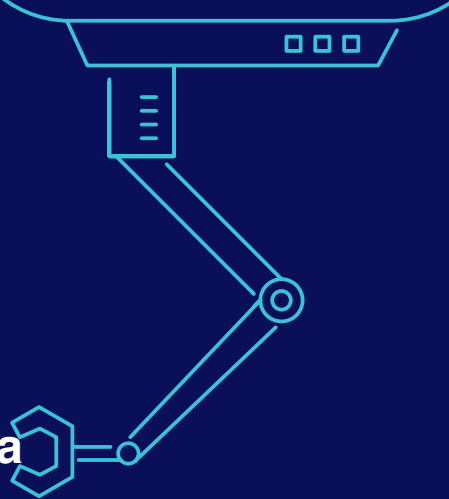[3]-[4] Capita Human II Hybrid
[5] World Economic Forum's 'Future of Jobs' 2018 report

Foreword

Jon Lewis
Chief Executive Officer, Capita

The automation revolution is underway and cannot now be stopped. In my view, that is a good thing. Automation will drive society forward in ways we cannot now imagine. Like all truly game-changing technological breakthroughs, it will unleash hitherto untapped human ingenuity and potential, and it will make the seemingly impossible possible.

However, that is not to say we shouldn't proceed cautiously in terms of the ways in which we embrace automation. Innovations such as robotics and ever more sophisticated forms of artificial intelligence - both of which are now increasingly commonplace aspects of automation - might hold the key to the future for society, but they do not come without significant risk.

Earlier this year, the Office for National Statistics stated that the jobs of five per cent of the British workforce could now be undertaken by machines. According to PwC, this figure could rise to 30 per cent in the next 15 years. Obviously, the prospect of millions of redundancies is something no one welcomes.

> **"The challenge is how to embrace technologies that are by nature disruptive in a manner that is as non-disruptive and as inclusive as possible"**

The challenge for society, then, is how to embrace technologies that are by nature disruptive in a manner that is as non-disruptive and as inclusive as possible. To put it another way: we must ensure the machines of automation work for us, and not the other way around. It is not a straightforward task. I believe it can only be achieved through the collaborative formulation of policy by public and private sector businesses and government.

Capita, by nature of the uniquely broad scope of our work, is well positioned to play a leading role in the automation revolution. Indeed, already we work closely with the creators of cutting-edge robotics and artificial intelligence technologies, and we are increasingly capable of harnessing these technologies on behalf of our public and private sector clients. Over the coming years, I expect Capita to become a leading player in British digital automation.

However, in line with our commitment to be a truly responsible business - an important pillar of which is being a responsible employer - we believe it is crucial we consider the perspectives of as diverse a range of people as possible as we consider how best to harness the energies of automation.

> **"We cannot shy away from the challenge of automation, because the consequences of getting it wrong are potentially too great"**

It is for this reason that I am delighted this report is the first piece of research into automation that gives a voice to people for whom working with robotics and artificial intelligence is already a daily reality - from factory workers, call centre operators and HR professionals to the technology developers. The perspectives of these people have informed the report's findings and together provide methodologies through which automation can be adopted so it is viewed not as a threat, but instead as a means of augmenting existing skills and capabilities.

Over the coming weeks and months, I expect the report to form the basis for the policy discussions Capita now seeks to engage in with businesses, communities and public sector leaders regarding automation. I look forward enormously to those conversations.

As a society, we cannot shy away from the challenge of automation, because the consequences of getting it wrong are potentially too great. While Capita is excited about the opportunities automation makes possible, we also recognise ensuring technologies such as artificial intelligence work for everyone is a process that will increasingly require real human intelligence - both emotional and practical.

This report for Capita is the start of that process.

Foreword

Professor Lynda Gratton

London Business School

For over a decade there has been a debate about the impact of automation on jobs. The upside is the promise of productivity increases - the downside is the possibility of significant job loss. Yet as this journey of automation progresses it has become clear that the story is a great deal more nuanced. There is a growing realisation that rather than job destruction, job augmentation is more likely, with the tasks performed by humans shifting towards the non-routine and often more complex. It is also clear that everyone's job will change to some extent, and that this will have profound implications for upskilling and reskilling.

This journey of augmentation has most often been viewed through the eyes of leaders. From their perspective, the burning questions are ones of speed of implementation and productivity gains.

What is both significant and unique about this research and report is that the perspective is shifted from the leader to the people who are impacted by automation, particularly those in workplaces such as factories and call centres and whose jobs involve a high number of routine tasks. This is important because studies have shown that people in these type of roles are often on the front-line of automation.

In a series of workshops across the UK we heard how employees themselves experienced and felt about automation. These were fascinating and exciting conversations. The stories they told shed much needed light on automation in the UK.

What is clear is that many people welcome the potential benefits of automation. However, what they fear is a lack of preparation for the changes they will have to make - in both their future skills and working practices. We heard a strong desire for timely information about and sufficiently detailed insight into the future so that plans could be made. These people also desperately want the training and support that would help them make their planned transitions that automation inevitably involves.

> **"People welcome the potential benefits of automation, but fear a lack of preparation for the changes"**

On the face of it, this clarity and support are an obvious leadership priority. But this is not straightforward; it will require innovative ways of mapping and developing skills. It will also often require large-scale multi-stakeholder initiatives where private corporations and the Government together play a role.

The stakes are high. The future of productivity gains in the UK will require a workforce who embrace automation. To fail to listen to their voices and act upon their insights would be to significantly obstruct this automation agenda.

That is why I am so proud to be part of this crucial initiative by Capita to both understand what it is to be on the receiving end of automation, and then to ensure that these experiences are positive and purposeful. Our hope is that this report will act as a significant counterbalance to an agenda that has been dominated by the voices of leaders.

> **"To fail to listen to their voices and act upon their insights would be to significantly obstruct this automation agenda"**

Methodology

This study builds a vivid picture of how automation will shape the world of work, and what steps need to be taken now to achieve a smooth transition into the future that benefits all of society. The approach taken strives to establish a 'real-world' view of the impacts of automation by interrogating current employee experiences and learning from live examples of where automation is changing jobs. As such, the focus is particularly on those sectors and job roles where we already see automation having biggest impact, and where people are currently the most vulnerable.

This depth has been achieved through a mix of senior level roundtables and interviews with automation experts from across Capita, as well as a comprehensive review of current literature in this space. Capita's 'Human to Hybrid' research initiated a dialogue around these issues, asking 2,500 business leaders and employees about the future of work, and is the foundation from which this study has been built.

To further uncover the employee experience, a series of workshops was convened across the UK bringing together those who are already working alongside automation in sectors such as manufacturing, warehousing and logistics, public administration and customer management - including from teams within Capita. Unless otherwise stated, the findings within this report are drawn from this original research.

To ensure a sharp focus, broader consideration of the future of learning and the evolution of the education system are out of scope for this study. This is an area where Capita is separately investigating as the impacts of automation on the workforce will drive different approaches to how we learn for the future. Although drawing on examples of international best practice, this issue is very country specific. The learnings in this report are therefore clearly rooted in UK experience and application.

This combined approach provides new insight into a complex topic, and is pioneering in its mix of business, government and employee perspectives. It provides important guidance on responsible automation, and in doing so, helps pave the way for a more optimistic picture of the future and equitable distribution of the gains from technological innovation.

A glossary of terms is included at the end of this report.

Timeline
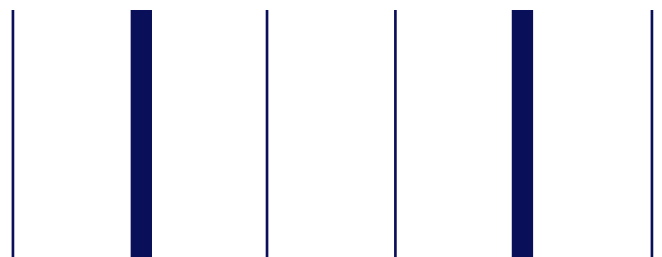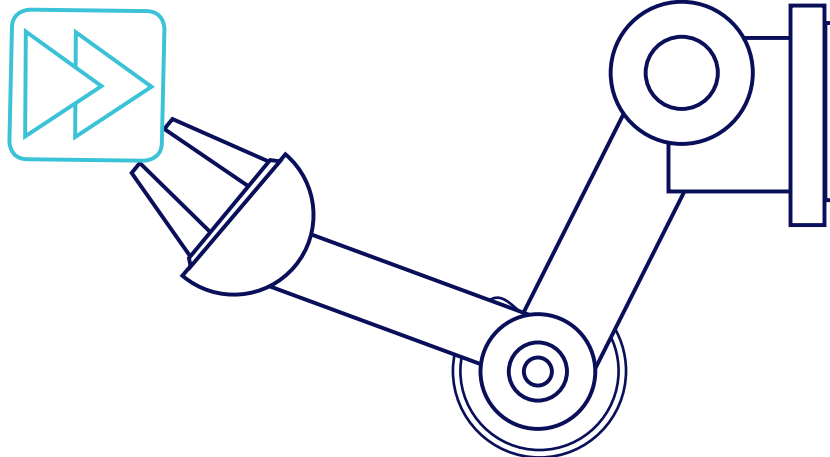
July 2019

- Project launch
- Westminster roundtable with Minister Mims Davies MP and senior representatives from think tanks, business and academics

August 2019

- Employee workshops in Birmingham, Manchester, Leeds, Bristol and Blackburn, engaging with 37 participants from 22 companies

September 2019

- Senior roundtables convening discussions with 36 executives from 29 organisations, covering 12 industries
- Capita expert interviews drawing on the expertise of leaders across Capita
- Reconvened Employee workshop in London bringing together participants from previous workshops

November 2019

- Report publication
- Launch event panel debate at the Southbank Centre

Automation at Capita

Capita is a consulting, digital services and software business. In the first half of 2019, a dedicated Automation Practice was established at Fort Dunlop in Birmingham to deliver world-leading technology solutions for our businesses and clients. We now have over 120 automation professionals in the UK and India who deliver an end-to-end service: from identifying opportunities, to development and ongoing support hosted on state-of-the-art cloud technologies.

Automation is already being introduced across Capita, enabling us to improve the speed and accuracy with which GP pensions are calculated, significantly reduce turnaround time for processing new housing benefit claims, and helping to manage workload spikes for charging schemes.

By the end of 2020, every Capita contract will have implemented at least one live automation project. Achieving this level of adoption will require colleagues across Capita at all levels and job types to be aware of what automation is, how it works, the types of business processes it can be applied to, and how to go about its adoption.

Courses and webinars are already available, with Robotic Process Automation (RPA) awareness training in place for all of Capita's people managers, providing the tools for colleagues to build a shared understanding of automation.

To empower co-creation, forums for internal sharing of our automation know-how have been created, including a dedicated hub on our intranet and regular innovation competitions to uncover opportunities and encourage collaboration.

Capita's ambition is to be a leading player in automation across the UK. We are committed to being at the forefront of advances in digital services and software - to help equip people for the future and the rapidly changing nature of work.

> **Automation is an integral part of Capita's multi-year transformation programme. Relentlessly leveraging automation technologies to drive productivity, efficiency and reliability improvements has to be one of our hallmarks.''**

Jon Lewis, Chief Executive Officer, Capita

A framework for responsible automation

Through the many conversations that have informed this research, five key themes have clearly emerged to frame the dynamics shaping the transition to an automated future. This report presents new findings against each of these five themes and establishes a framework of 'guiding principles' to encourage the responsible implementation of these technologies into the future. In doing so, a clear direction emerges for governments, policy makers, organisations, and employees themselves to ensure that automation is given the best chance possible to deliver on its potential in a way that benefits everyone.
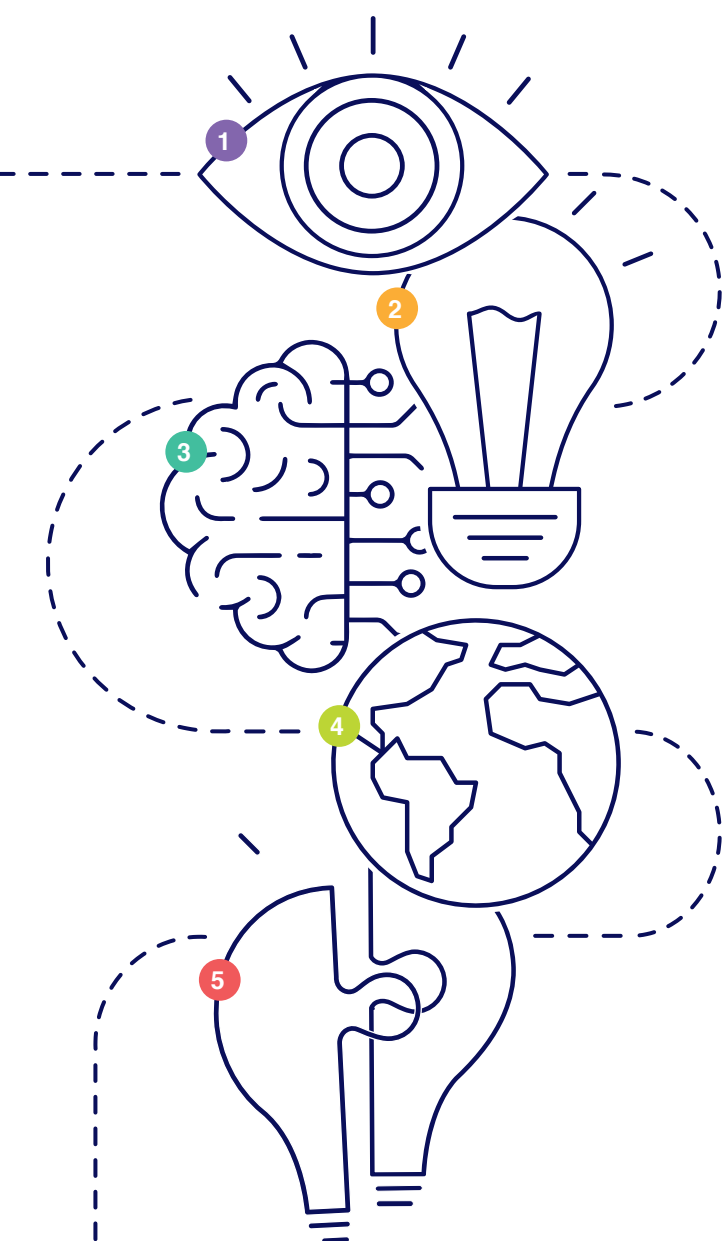
1. Leadership

Set out a clear vision for automation through proactive, transparent communication which demonstrates a longer-term view of how people can expect to engage with technology into the future

2. Skills

Champion the development of transferable skillsets for the future, accelerating support for reskilling and building a shared base level of digital understanding across the workforce

3. Curiosity

Co-create the future of work, supporting engagement and empowering people to self-identify the ways that technology could improve their jobs

4. Inclusion

Design inclusive and accessible automation strategies that appropriately cater to the varied needs of the many demographics within the workforce

5. Collaboration

Tackle the scale and urgency of this challenge with multi-stakeholder action which recognises the future of work as a major societal shift, and positively seeks to realise and share the benefits across society

LEADERSHIP

The future of work demands strong leadership and an honest, compelling vision

Across industries, there is strong consensus that clear leadership and honest communication is the most important way to engage and support people throughout the transition to a more highly automated world of work. People too often feel that automation is being imposed upon them, without having a sense of the overall vision or long-term plan for technology in their workplace. In turn, business leaders are acutely aware that automation cannot be implemented without the support of their employees.

> **⌐ Leadership: set out a clear vision for automation through proactive, transparent communication that demonstrates a longer-term view of how people can expect to engage with technology into the future.**

Despite many people already operating alongside automated processes in their roles, there are still strong preconceptions about automation, often driven by negative public debate and media stories about the potential future impact of AI and automation. The prevalence of these 'automation myths' and the idea that 'robots are stealing our jobs' has led to defensiveness over current roles and exacerbated fears around the threat of future job losses. With the emerging reality that rather than replacing jobs, automation is instead both changing many existing roles and creating new, different jobs, there is a clear need to re-balance this conversation and bust many 'automation myths'.

While leaders are keen to engage with their people on this topic, automation anxiety within the workforce can make these conversations particularly challenging. This is further complicated by the ways in which factors such as zero-hour contracts and natural attrition can create an unclear picture of the labour market. By maintaining low unemployment despite the underlying shift in quality of work and number of new hires, the true impact of automation can be masked. Now more than ever, business leaders need a clear narrative and open dialogue on automation and must be candid about the future.

> **" There are preconceptions of robots stealing jobs and people wanting to protect their roles. This can be reduced by frank discussions with employees on the future nature of their roles"**
>
> Senior HR leader

There is ambiguity on both sides. Although this is part of an ongoing evolution of work, business leaders feel it is impossible to accurately forecast the technology of the future and report struggling to keep up with the pace of change. They also perceive the situation to be worse than it is. They believe that the workforce has a more negative attitude towards a hybrid workforce than people actually express themselves.[1]

There is no doubt that many aspects of the future are difficult to predict, and it is simply not possible for leaders to have all the answers - and nor do employees expect this. What they do need is early communication of what is known, as remaining silent can alienate workforces, cause rumours, and increase automation anxiety. People want to hear the truth, even if the message may not be good news in the short term. As such, leadership plays a critical role in being honest about this new reality, with over three quarters wanting to hear this message directly from executives at the very top leadership levels.[2]

> ## "Automation is happening, but it is not really clear what we should be doing as it hasn't really fully entered the public consciousness"

Youth charity senior leader

Armed with this knowledge, employees are in a stronger position to take the actions that will enable them to prepare for the future and to smooth their automation journey. Although people may initially be cautious about automation, when given the information and time for discussion, they are far more likely to be able to understand the wider benefits of automation - and be excited by the opportunities it will bring. Leaders must engage in open dialogue so that their employees are included at earlier stages of discussions. This is no easy task, as there are sensitivities associated with these discussions, for example fears of redundancies down the line, which may make it difficult for leaders to answer challenging questions.

Robots will not steal everyone's jobs.

The movement of talent will be unlike anything we have seen before, with jobs and people adapting together to create a 'hybrid' workforce. There will be changes in existing jobs, as well as the creation of totally new jobs of a different nature. For example, safer, well-paid mining jobs are being created in the mining industry where people utilise automation to remotely control mining operations.

As leaders cascade communications around automation throughout the organisation, it will be key to tailor the messaging. People at different stages of their career and points in the automation journey need appropriate engagement approaches based on their particular situation. Those with different levels of experience of automation show distinct types of concerns that must be addressed differently by leaders. Those with less experience are uncertain about what it entails, and/or are worried about job losses; those with more experience can be frustrated by initial teething problems with malfunctioning technology. Managers are well positioned to identify their team's place on the automation journey and engage in the most effective way.

In parallel with initiatives to engage in dialogue around what is known, leaders need to work to make better use of data and analytics to enable more confident predictions. Around half of HR and recruitment leaders

> ## "Sometimes [it's important] to be told exactly why it will be useful and how it will help. I don't think you get a definitive answer sometimes"

Warehousing and logistics employee, Bristol

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[1] 'Empowering people in a hybrid workforce', *Human to Hybrid* (2019)
[2] 'The next workforce frontier', *Human to Hybrid* (2019)

believe that improved data quality and analytics could help build more accurate insight.[3] There is strong belief in the value of this insight; 85% of learning and development leaders believe that improved predictions of future learning needs would enhance internal education outcomes and support greater workforce agility.[4]

In addition to their own efforts, many business leaders look to the Government for support in understanding the automation journey; 75% believe[5] the Government should be doing more to help and advise organisations on approaching the hybrid workforce in a sustainable and ethical way, as well as doing more to reassure and protect employees themselves in the shift. The Government is also uniquely placed to take up the task of developing longer-term automation projections for society, as they have the reach to carry out research on the macro-trends on skills in the economy. People not only want to understand what technology means for them in the here and now, but more broadly how these changes will impact society and the wider world of work.

With strong leadership and an honest, compelling vision, people will be more likely to embrace new technologies and feel more certain about their future. Indeed, while front of mind associations with automation tend to be negative, once engaged in dialogue, people are more able to identify and believe in the benefits and see it as a positive. By opening up the dialogue in this way, the conversation can be shifted away from one filled with myths, fear and anxiety and towards a more optimistic view of the future.

The 'future of work' is happening right now.

Most people already work alongside automation, and possibly don't even notice. For call centre operators, automatic processes currently work behind the scenes to pre-sort calls and remove some of the administrative burden. Around half of all tasks performed in work today could be automated by adapting currently available technologies.[6]
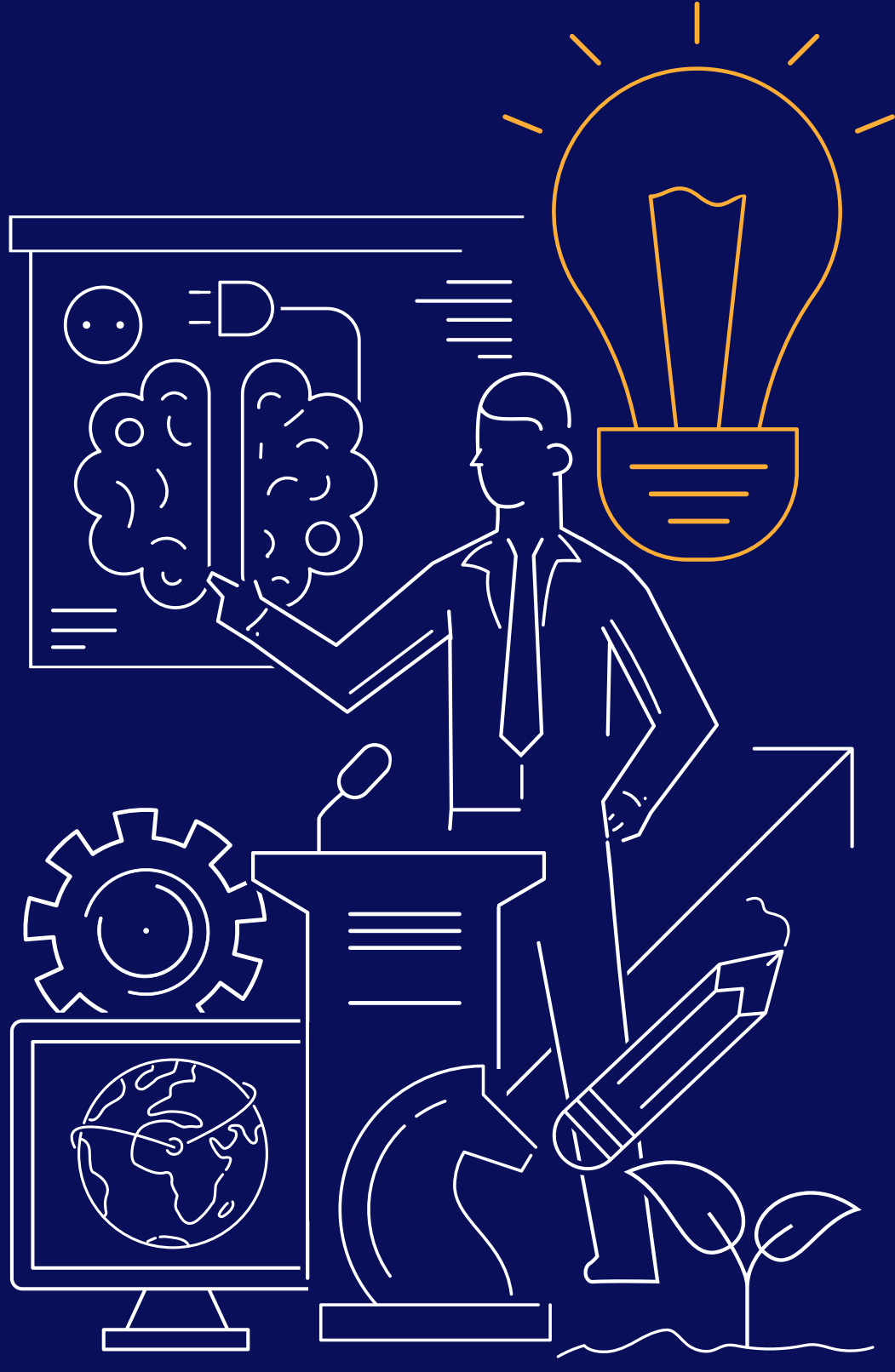
> **" A lot of people are bogged down with work and automation frees me up to do loads of other things"**
>
> Public administration employee, Manchester

[3 - 4] 'The insight edge in learning', *Human to Hybrid* (2019)
[5] 'The next workforce frontier', *Human to Hybrid* (2019)
[6] A Future That Works, McKinsey Global Institute (2017)

The new world of work will require innovative ways of mapping, developing and bridging skills across the workforce

As we shift away from linear career paths as we currently know them, skills will emerge as the employment currency of the future. For business, this will mean a change in focus from needing to attract full-time talent, towards building access to skills and successfully operating in this new wider employment ecosystem. For employees, they will be required to think differently about how they navigate this landscape to best deploy their skills across different teams, locations and the wider the workforce. With many of the most important future skills being difficult to codify and teach, organisations, governments and individuals need to work together to create new approaches to learning and accreditation.

Skills: champion the development of transferable skillsets for the future, accelerating support for reskilling and building a shared base level of digital understanding across the workforce.

The shelf life of skills is shortening rapidly, with nearly half of the knowledge acquired during the first year of a technical degree out-dated by graduation.[7] In the face of such rapid change, the way that we think about learning and professional development must change. Rather than being restricted to traditional qualifications, people need to be able to build transferable skillsets that can be taken with them along their career journey. Although focusing on skills may not be new, as careers take a different shape, this question of transferability becomes highly important. Being able to transfer skills is essential for enabling bridging between roles, organisations and even industries.

Ensuring that skills come with credentials will build their transferability and enable people to catalogue themselves in a way which reflects the skills they have developed. Not only would this require a mindset shift, but it also presents a practical challenge, which has so far prevented organisations from being able to implement skills frameworks.

> " **Employers have a responsibility to show the career pathways and explain career mobility**"
>
> Senior HR leader

[7] The Future of Jobs, World Economic Forum (2016)

Governments therefore have a key role to play in accrediting these skills, to ensure that they are recognised and respected across industries. We are already seeing a greater focus on apprenticeships and vocational training. However, more can be done to increase the transferability of skills learned on-the-job. These efforts enable employees to more effectively sell themselves to future employers, further motivating skills acquisition.

The catch is that some of the most important emerging skills for the future of work are also those which are difficult to measure and teach. In the translation sector, for example, automation is transforming the type of skills needed across the industry. As automation is increasingly common within written translation services, the people-focus within face-to-face translation services demands not only highly specialised language skills, but also a diverse set of human skills, such as emotional intelligence and cognitive flexibility.

The future of work will create a more flexible approach to skills and training.

The future of work will require "new-collar" employees, where a non-traditional educational approach makes use of new accreditation opportunities to develop both the technical and soft, human skills required to work harmoniously alongside technology.

" Front-office skills are an area where humans currently outperform any robot"

Senior automation leader

Around a third of people report they need to work on their creative and innovative thinking, and just a third of employers believe that creativity can be developed through training.[8] These important human skills transcend technical and vocational contexts, and developing these requires a high-touch approach that mirrors the tasks people are being trained for.

" Skills are the currency of the future"

Senior HR leader

It also requires building a working environment to enable skill development, providing people with space to practice and learn from failure and the time for creativity and innovation. Automation may yet provide the answer to this by freeing up time.

However, current approaches to workplace learning are unlikely to be up to this challenge. Employees welcome proactive skills training, and report that seeing their organisation invest in both automation and training builds confidence in their employers. Although employees believe that business should take greater responsibility for upskilling and reskilling in this new world of work, they currently feel that less than a third of their training in the past 12 months had notable positive outcomes, such as improved performance, productivity, or wellbeing at work.[9]

In a departure from traditional "parent-child" approaches to workplace learning, where companies prescribe what employees must learn to progress, people are increasingly ready for an "adult-to-adult" approach. Also referred to as a "push approach", this empowers employees to have a curious mindset and drive their own learning journey. Indeed, 59% anticipate taking full responsibility for their learning and development in the future, but business leaders should still play a supporting and enabling role for these self-directed individuals.[10] This approach enables those who want to fully engage with the opportunities of automation the chance to do so, and allows them to act as role-models to their peers. For this to be effective, space needs to be created for employees to learn, collaborate and try new things.

As the significance of skills grows, skills maps will be an important tool to help people navigate the career landscape and highlight the skills that will be

[8] 'The digital opportunity', *Human to Hybrid* (2019)
[9] 'The insight edge in learning', *Human to Hybrid* (2019)
[10] 'Empowering people in a hybrid workforce', *Human to Hybrid* (2019)

important in the future. This is another area that people believe the Government can play an important role. An example of where this is being done is Singapore's SkillsFuture initiative, a coordinated effort between government and organisations to create industry transformation maps. This is done using industry-level expectations of skills demands, allowing companies and individuals to make informed decisions. To have a positive role in the long-term automation trend, the focus of the Government must be on supporting and enabling people to make transitions, rather than on protecting existing jobs. This requires building the infrastructure for people to retrain into new and different roles.

The immense scale of the reskilling challenge requires coordination between businesses and the Government: 42% of all skills required to perform a given job are expected to change between 2018 and 2022,[11] indicating a period of significant skills instability. Reskilling and upskilling will be key to help people develop the newly required skills. Business leaders are aware of the need for multi-stakeholder collaboration: 75% of them feel the Government should be doing more to protect people throughout the automation process.[12]

In addition to developing skills for the future, there is also an important need to build a shared base level of understanding of this new technology across the workforce. This is crucial to enable people to understand and adapt without requiring them to develop deep technical expertise. We already see organisations implementing automation specific training, for example, Rio Tinto has collaborated with the Australian government to introduce nationally recognised automation qualifications.

There will always be jobs that require uniquely human skills.

Experts predict that human skills such as empathy and critical thinking are unlikely to be automated any time soon. Sectors where these skills are essential - such as Health Care Support and Customer Service - are creating sustained demand, with employment growth equal to reductions in other industries.[15]

The learning challenge is urgent for businesses, policy makers, and employees alike. Organisations know they have to respond, with 88% of business leaders believing that upskilling employees in new and emerging areas is essential.[13] Equally, employees expect a strong focus on learning, with 60% believing that AI makes the ability to rapidly learn new skills a pressing priority.[14] Time is of the essence - the quicker an individual's transition from a soon-to-be automated role, the more successful they are in their new job, and learning is a key part of this. This will require a complete change in mindset to prioritise skills over formal qualifications - and new innovations to ensure this can be delivered effectively.

> **" You should build up your own portfolio with something that is industry standard and transferable"**
>
> Manufacturing employee, Birmingham

[11] The Future of Jobs, World Economic Forum (2018)
[12 - 13] 'The next workforce frontier', *Human to Hybrid* (2019)
[14] 'Empowering people in a hybrid workforce', *Human to Hybrid* (2019)
[15] 'Nine Future-proof' Careers, Business Insider (2017)

A new interdependency: co-creating the future

Automation is creating a new, important interdependency between employers and employees. Not only do employees need an understanding of their employer's automation vision, but they also want a voice in conversations that will shape their work and their lives in years to come. As many automation projects fail because they lack a connection to human behaviour, there is huge opportunity for engagement with front line employees, who are often closer to the opportunities for automation than business leaders.

👁 **Curiosity: co-create the future of work, supporting engagement and empowering people to self-identify the ways that technology could improve their jobs.**

The rapid pace of change means that future employees will be working with technologies that haven't yet been invented and solving problems which haven't yet been identified. As automation cannot be successfully implemented without the support of employees, empowering people to have the curious mindset needed to identify where routine work can be automated will deliver mutual benefits. To do this will require businesses not only to consider mindset within recruitment practices; but also to implement mechanisms that will empower and reward people to identify automation opportunities.

Businesses are already involving people in redesigning their own roles, giving people the opportunity to innovate and therefore shifting business growth to becoming people-led. To do this effectively, it must be clear that their contributions are valued, even if they are picking up on a potential problem, with iterative feedback to reassure them that they are doing the right thing.

For many, the introduction of automation can be a confusing process that involves technical hiccups along the way. Feedback loops are a critical, ongoing part of the co-creation process. When discussing the introduction of automation, employees often focus on frustrations with initial teething problems, which impact their confidence in automation as a whole. In practice, however, the problems are often caused by human error that could have been reduced by early consultation. Many employees believe they could have pre-empted automation implementation challenges had their teams been consulted in advance. Providing an opportunity to ask questions and give feedback to the system can help people feel and stay engaged.

> **If we'd been involved earlier in the process, we could have avoided a lot of the initial problems"**

Automation employee

> **We should give people time back if they can make their job more efficient"**
>
> Senior automation leader

Experiments and pilot programmes play a crucial role in giving business leaders the proof of concept they need in order to embrace this co-creational approach. As the UK's largest employer, the Government can lead by example by role modelling a co-creational future of work that showcases how employees can be involved, and the value of bringing them into the automation conversation.

By engaging people in co-creating what to automate and how, businesses can achieve a hard-to-reach goal: enhancing employee understanding and perceptions of automation. Termed 'auto-automation', thus far this is largely seen in the programming industry, although examples can also be found in other industries. Toyota give their factory workers opportunities to test new tools and ideas on the assembly line and ensure that they receive the training to allow them to do this effectively.

People often see the primary benefit of automation as being increased efficiency and are therefore less able to see - and champion - the broader benefits such as improving security, accuracy, and the sense of meaning in work. When automation is imposed upon employees, they tend to see the motivation as being to save money; whereas when they are included in the conversation and introduction, their understanding of automation's broader benefits is enhanced.

People and technology complement each other.

Automation will create more 'meaningful' jobs by replacing routine tasks and freeing up time to focus on more interesting ones. Actively empowering people to identify and remove the menial or low-value tasks in their jobs maximises the benefit for both them and their business.

Technology is intelligent, but it will never be curious - humans are.

Fostering a curious mindset in the workforce creates greater openness to change and improves feedback loops, which will streamline the automation implementation process. Utilising front line employees, who know their roles better than any manager, gives bottom-up direction to automation.

Indeed, managers who involve their teams in the automation implementation process report that their employees felt more positive about automation's role in removing the monotonous and unrewarding parts of their own roles.

Those who have better sight of the opportunities automation brings can become important champions for automation, believing it will provide increased opportunities for learning new skills (44%), and more interesting work (32%).[16]

> **Ideally, all staff would have a curious mentality, so that the whole workforce is constantly looking for ways to automate or improve parts of or processes in their job"**
>
> Senior automation leader

Interdependency between business leaders and employees necessitates co-creation. This is the only way to deliver the "gold standard" of automation: changing work, while keeping it rewarding and meaningful for the people it impacts. Engaging them in both the design and delivery of automation shifts their perceptions of automation towards that of a mutually beneficial change for businesses and employees alike.

[16] 'Empowering people in a hybrid workforce', *Human to Hybrid* (2019)

INCLUSION

Supporting a diverse workforce will protect the future of social mobility

Across the UK, the workforce is incredibly diverse and made up of people from many different generations, educational backgrounds, skill levels and social groups. In the transition to a more automated world of work, there are certain groups which are particularly susceptible to the impacts of automation, and therefore may be taking on a disproportionate share of the risks. Groups that are currently most vulnerable include older people, contractors, people with less time and money to re-train and those in sectors where tasks are most easily automated. Cooperation between industries and governments is needed to address these potential disparities now in order to create opportunities for all and preserve social mobility into the future.

> **Inclusion: design inclusive and accessible automation strategies that appropriately cater to the varied needs of the many demographics within the workforce.**

People believe that the future of work should be inclusive, with around a quarter of employees themselves fearing that the move to hybrid workforces will reduce diversity and inclusion[17]. There is recognition that the level of support and engagement required may differ across different groups - for example, older people, those with a language barrier or fewer technical skills may require more information and support than others. When assessing ideas for improving the introduction of automation, employees therefore prefer ideas that are inclusive of all employees, rather than targeting a specific age group or employee type.

Although age is an important consideration, we must move away from generational stereotypes. There is little data to support any generational differences in willingness or ability to learn new skills. However, across all industries, concerns are raised that older people may be more vulnerable to job loss in the face of increasing uptake of automation. Although this is sometimes due to the concern of discrimination, the differing levels of core digital skills are also seen as a key barrier for older colleagues. The way in which automation is framed can exacerbate these difficulties,

as they may be less confident in their digital skills, and therefore more concerned about change than younger employees if there is no support available.

Tailoring learning to cater to different needs across the workforce is therefore essential; with learning opportunities being viewed most positively if they are inclusive and fair. Currently, many of those in adult education are in a professional occupation, while far fewer are from low-skilled roles. This must be broadened to ensure that the entire workforce is able to benefit from re-training and upskilling.

> **Automation aversion isn't a product of demographics alone. We hire hundreds of recent graduates each year [and still face resistance]"**
>
> Senior HR leader

[17] 'Empowering people in a hybrid workforce', *Human to Hybrid* (2019)

However, these attempts to improve inclusion must consider accessibility and proper signposting. For example, learning delivered solely online may be inaccessible for people of all ages if they lack company email addresses.

> **" The older generations automatically think they'll lose their job because a robot will take it over. The younger generations see it more as an opportunity because they're more technologically minded"**
>
> Logistics employee, Bristol

Contractors and freelancers often receive the least formal support from employers. This can be due to a lack of access to training, as these groups tend to be excluded from the education programs offered to permanent staff. Without benefitting from corporate training programmes and upskilling in the same way as their permanent colleagues, this will create a longer-term disparity. In the short-term, contractors can also be at most immediate risk to changes in the workforce, with employees particularly highlighting cases where the introduction of automation directly led to the redundancies of zero-hour contract colleagues with minimal notice.

These flexible types of employment - such as contracting roles and short-term resourcing - are a key enabler to achieving the new mindset about career paths that will be needed into the future. Through these mechanisms, people can build a multi-faceted career and deploy their skills across the workforce in a way that delivers most benefit to them. However, to avoid the potential negative consequences, there is a clear role for regulation and policy in protecting these

We need to look beyond the stereotypes.

Older people may be more hesitant about new technology and less confident in their digital skills. Although these concerns may differ from those of younger employees, people of all ages can adapt if the right support is available.

Everybody can learn new skills, but not everybody is receiving training.

People in roles classified as 'lower skilled' are least likely to participate in adult education. A more nuanced approach to learning is needed to ensure training is open and accessible to all.

groups. Businesses too must consider how they use these different resourcing mechanisms in a responsible and inclusive way. This could include new ways to think about avoiding bias, such as the anonymous CVs initiative that has been trialled to boost diversity in the workforce.

> **" ... a course might well assist people to get better jobs but it depends on the level of training and whether it's accessible to everyone"**
>
> Logistics employee, Bristol

As this different way of thinking about career paths emerges, fresh efforts will undoubtedly be required to create opportunities for social mobility. In the same way that people will need support to understand the new landscape for learning and development opportunities, so too will there need to be clarity around how people can improve their circumstances and fulfil their potential in a new world of work. This concern is particularly front of mind for those in sectors such as manufacturing, where work forms a central part of the community and collective identity. In these circumstances, automation poses a particular challenge as there may be broader resistance to moving across sectors without additional support or building of skills.

A failure to be inclusive through the transition could result in certain groups benefiting from automation while the experiences of others worsen. Dire predictions of social unrest and worse are common, underscoring the key role for a multi-stakeholder approach to supporting people from all backgrounds as the world of work changes.
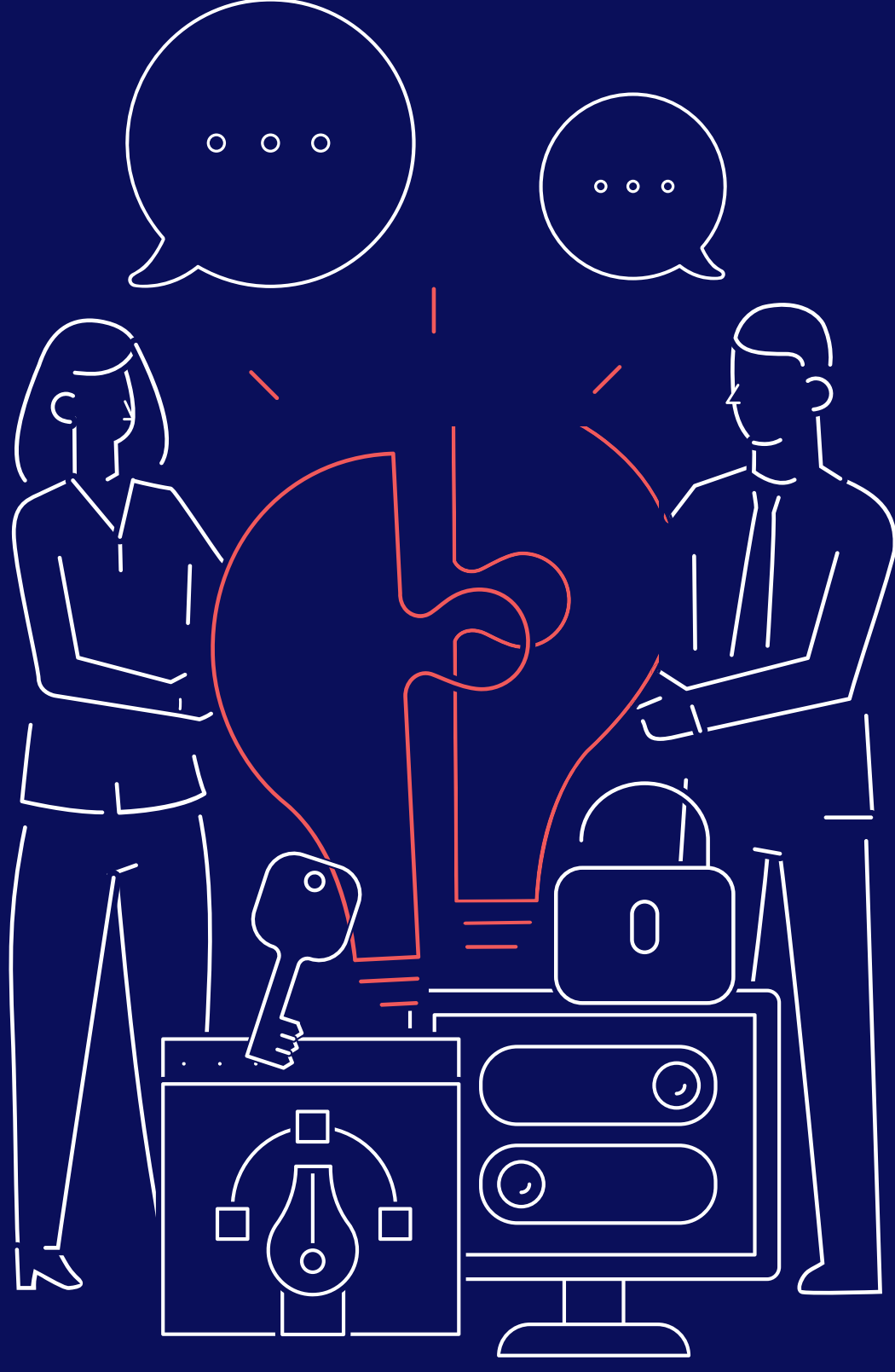
Looking beyond the technology will unlock the full benefits of automation

An automated future will bring about a radical change in the way we live and work. To ensure this shift is positive for all requires urgent multi-stakeholder action which focuses not just on technology and jobs, but also on the wider societal changes that will accompany it. As business, work and society is disrupted through automation, the scale and speed of change requires an approach that considers all the component parts of this transformation.

> **Collaboration: tackle the scale and urgency of this challenge with multi-stakeholder action that recognises the future of work as a major societal shift, and positively seeks to realise and share the benefits across society.**

Automation fails without people - and there's work to do in getting workforces on board. The transition to a hybrid workforce is seen as the biggest challenge organisations face over the next five years by 72% of business leaders, and 67% fear their organisation will become irrelevant if it fails to make the transition.[18] Alongside the threat of being overtaken by competitors, businesses also risk losing out on employees - 51% claim they will leave if their organisation doesn't manage the transition effectively.[19] Just as with many other change processes, the challenge to successfully implementing automation is people, not technology. Over 60% of organisations identify culture as the biggest challenge to digital transformation, compared to 48% who selected archaic IT systems and processes.[20] As such, organisations need to reflect on the mindset and behaviour of their employees.

Currently, the business case for a new automation project tends to be determined by financial levers, such as projected cost savings. Although other factors, such as risk reduction or the ability to take on a new opportunity without significantly increasing headcount, are often also taken into account, this doesn't do enough to consider the crucial role that factors such as employee training and engagement play in determining the overall success of a project. Therefore, to unlock the full benefits of these technologies, business needs to consider these essential elements through a comprehensive future of work management programme prior to making a significant investment in automation.

This means that businesses need to view automation implementation as an organisational change programme - complete with all the typical communication and engagement that comes along with it - rather than as a roll out of a new technology system or process. Several one-off technology projects can be confusing, but by focusing on developing a set of tools and frameworks to assist automation in general, organisations can enable a more rounded view and increase the chances of success.

> **" We need to consider how [society] can run at a closer pace to technology"**
>
> Senior automation leader

[18 - 19] 'The next workforce frontier', *Human to Hybrid* (2019)
[20] The Digital Culture Challenge: Closing the Employee-Leadership Gap (2017)

> **The government is going to have to do something because there's going to be millions of displaced people and a real push on new technology"**

Workshop participant

This more rounded view of automation requires an awareness of how people respond to technology, and for training and support to be designed around this as tasks are automated. This includes consideration of emotional responses, such as stress and anxiety, as well as thinking about how intuitive and easy to use technologies are. Further, how useful people perceive automation to be is informed by how far it helps them to perform daily tasks more effectively, and so this rationale needs to be made clear. Not taking these factors into account, or limiting focus on technical implementation, results in new tools simply being added on top of existing work patterns rather than being more deeply embedded in new ways of working.

Introducing automation is not the same as introducing new technology.

The scale of change requires automation to be treated in the same way as other major organisational change, not simply a rollout of a new process. Managing the transition with the right concept of scale is essential.

Society as a whole also needs to recognise that automation is bringing about major changes in the way we live and work. If the future of work is left to happen organically, we could risk a 'winners and losers' situation, with the potential for a breakdown in trust. As technology makes work more productive, the question arises around how the benefits of economic growth can be more equally distributed across society, both in terms of money and time. Some organisations are already trialling radical new approaches which allow people to recoup leisure time as productivity increases. Microsoft, for example, recently experimented with a 4-day workweek; and other organisations have introduced shorter working week reduction agreements

There is a new role for people in the workforce.

Creativity, social communication, and manual dexterity are all skills stubbornly resistant to automation and will change what 'work' means. There will be a societal shift towards people using these human qualities at work, and organisations must move with it.

for workforces impacted by automation. It is likely that a solution which addresses these underlying structures will be needed to preserve 'meaningful' work for as many people as possible into the future.

Government has a key role to play in translating these organisational changes into a new vision at the societal level and to help craft this future to ensure the gains from automation are shared, with the economic benefits distributed across all stakeholders to deliver a future that benefits all. The Government, in collaboration with businesses and skills providers, can also create the infrastructure to enable people to transition more easily between jobs and industries, including enabling better accreditation of skills. Responding to the challenges of automation requires multi-stakeholder action to ensure that everyone can flourish in the future world of work.

It's clear that the stakes are high for individual businesses, with the transition to a hybrid workforce the biggest challenge foreseen by business leaders.[21] However, the stakes are equally high for society as a whole. Fully realising the benefits of automation and sharing them across society requires action from all stakeholders. The transition must be approached with the vision, care and detail it requires, which includes a focus on people, not just technology.

> **This transition is best managed as a business change process. You need to manage the workforce as blended digital and human workforce"**

Senior automation leader

[21] 'The next workforce frontier', *Human to Hybrid* (2019)

Glossary

Accreditation	Introducing credentials for skills and training which are recognised by multiple stakeholders
Adult-to-adult	A relationship characterised by a balanced power dynamic, with opportunities for both parties to have meaningful input into decision making
Artificial Intelligence	Computer systems able to perform tasks normally requiring human intelligence, such as decision making, speech recognition, and visual perception
Automation	The technique, method, or system of operating or controlling a process by highly automatic means, reducing human intervention. There are many forms of automation, including chat bots, online forms, interactive voice response and Robotic Process Automation (RPA)
High-touch	An approach involving primarily face-to-face contact time with another human
Human skills	Skills that machines struggle to master due to their complexities and need for emotional intelligence, such as critical thinking, creativity, and adaptability
Hybrid workforce	Humans working alongside robots and AI in a heavily digitised environment
Natural attrition	Normal labour turnover where employees voluntarily leave roles and are not replaced, resulting in the reduction of the overall workforce
New-Collar employee	An individual who develops technical and soft skills for the technology industry through non-traditional education paths, including vocational and on-the-job training. Typical job roles include cybersecurity analysts, application developers, and cloud computing specialists
Reskilling	The process of learning new skills to do a different job
Soft skills	These include interpersonal skills such as communication skills, listening skills, and empathy, among others
Technical skills	The practical abilities and knowledge needed to perform specific tasks, which often relate to mechanical, information technology, mathematical, or scientific tasks. Some examples include knowledge of programming languages, mechanical equipment, or tools
Upskilling	Learning new skills to take on new or more difficult tasks within the same job
Zero-hour contracts	A type of employment contract where the employer is not obliged to provide any minimum working hours, while the employee is not obliged to accept any work offered

Acknowledgements

" Automation will drive society forward in ways we cannot now imagine. The challenge is how to embrace technologies that are by nature disruptive in a manner that is as non-disruptive and as inclusive as possible"

Jon Lewis, Chief Executive Officer, Capita

" What is both significant and unique about this research and report is that the perspective is shifted from the leader to the people who are impacted by automation. To fail to listen to their voices and act upon their insights would be to significantly obstruct this automation agenda"

Professor Lynda Gratton

Capita

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