



New World. New Skills.

# Upskilling the Isle of Man's workforce for a digital world

September 2020





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# Foreword

The future is here today. Beyond the automation of routine and repetitive tasks is the revolution in analytical insight, customer engagement and product customisation ushered in by artificial intelligence (AI). The Isle of Man's workforce needs to get up to speed.

Any mention of automation inevitably creates apprehension – PwC analysis reveals that around 32.5% of jobs in the Isle of Man are at risk between now and 2035. This equates to 16,000 current jobs being impacted by technology disruption. While this might seem like a distant prospect, the COVID-19 pandemic has brought the employment and employability crunch much closer.

If governments, businesses and educators don't take decisive action now, the jobs that are furloughed or lost in the downturn may never come back. In turn, posts at risk of automation in 5-10 years' time could disappear much sooner as restructuring and cost saving accelerate in the wake of the pandemic.

Yet this is also a once-in-a-generation opportunity. With the right skills, agility and readiness to embrace change, the Isle of Man can create thousands of new jobs to make up for the ones that will be lost. We can attract new businesses with new ways of working, improve the quality and value of the work we do, make it more fulfilling and ultimately bolster the long-term competitiveness and prosperity of our Island.

This paper looks at what kinds of work are under threat on the one side and how we could create new and higher value employment opportunities on the other. Building on this analysis and experience gained through PwC's own upskilling journey, we conclude by outlining how governments, businesses and educators can ensure that the Isle of Man's workforce is equipped for the future, today.<sup>1</sup>

<sup>1</sup> PwC, New World. New Skills,  
<https://www.pwc.com/gx/en/issues/upskilling.html>



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# Key findings

Jobs at risk of automation

32.5%

of jobs are potentially at risk from automation in the Isle of Man between now and 2035.

Cost of upskilling now or later

6 times

the cost of doing nothing will ultimately be 6 times higher than the cost of upskilling now.

Most disrupted sector

16,000

jobs at risk, with financial services being the sector most disrupted.



1

Workforce  
transformation can  
no longer be put off



# Workforce transformation can no longer be put off

**We could have written this paper six months ago and probably attracted little more than passing interest. COVID-19 has changed all that by bringing forward the due date for workforce transformation.**

The Isle of Man has been used to technically full employment. The economy has relied significantly in financial services (FS) industry with e-gaming growing steadily over the past years. These two industries generate plenty of prosperity to spread around other sectors such as retail, hospitality and construction.

Why change a winning formula?

Automation means neither full employment nor wealth-generating jobs to support this can be taken for granted. COVID-19 has accelerated the adoption of technology, bringing the issue into sharper focus more quickly.

## Upskilling

An organisation's clear intent to develop its employees' capabilities and employability, and to advance and progress the knowledge, skills and attitude required to enhance business and individual performance.





## Some jobs lost now may never come back

The immediate imperative is the number of workers relying on government financial support. Some have returned to work and others will return to work, but many won't as businesses struggle to recover from the economic impacts of the crisis. This leaves them vulnerable as government support is scaled back.

Worryingly, a [high proportion](#) of the workers at risk are either young, low skilled or both, raising questions about their long-term employment prospects.<sup>2</sup> We know that young people are disproportionately impacted by recessions, with implications for pay and occupation for several years. For us as a society, this not only raises the spectre of unemployment, but also government deficits as welfare costs rise and the potential for class and generational divides.



<sup>2</sup> PwC, How will automation impact jobs?, <https://www.pwc.co.uk/services/economics/insights/the-impact-of-automation-on-jobs.html>

The underlying threat comes from technology being able to perform more and more complex tasks, and even make decisions that businesses currently pay people to do. Our analysis shows 32.5% of jobs are potentially at risk from automation. Low skilled, repeatable work in areas such as retail sales or public

sector administration is clearly vulnerable to automation, intensifying the need to develop new skills to enhance employability. The total number of jobs expected to be impacted is 16,000, with the majority of the disruption coming between 2025-30 (see Table 1).

32.5%

Our analysis shows 32.5% of jobs are potentially at risk from automation in the Isle of Man between now and 2035

## How we arrive at 32.5%

We applied a PwC model, supported by OECD data, which analyses the breakdown of common jobs by tasks and then identifies which of these tasks, and therefore the percentage of roles, could be automated through improvements in technology. We then used the latest working population figures from the government to forecast the workforce makeup over the coming decade. In this way, we're able to better estimate the actual number of job losses, rather than just the percentage of current jobs at risk.



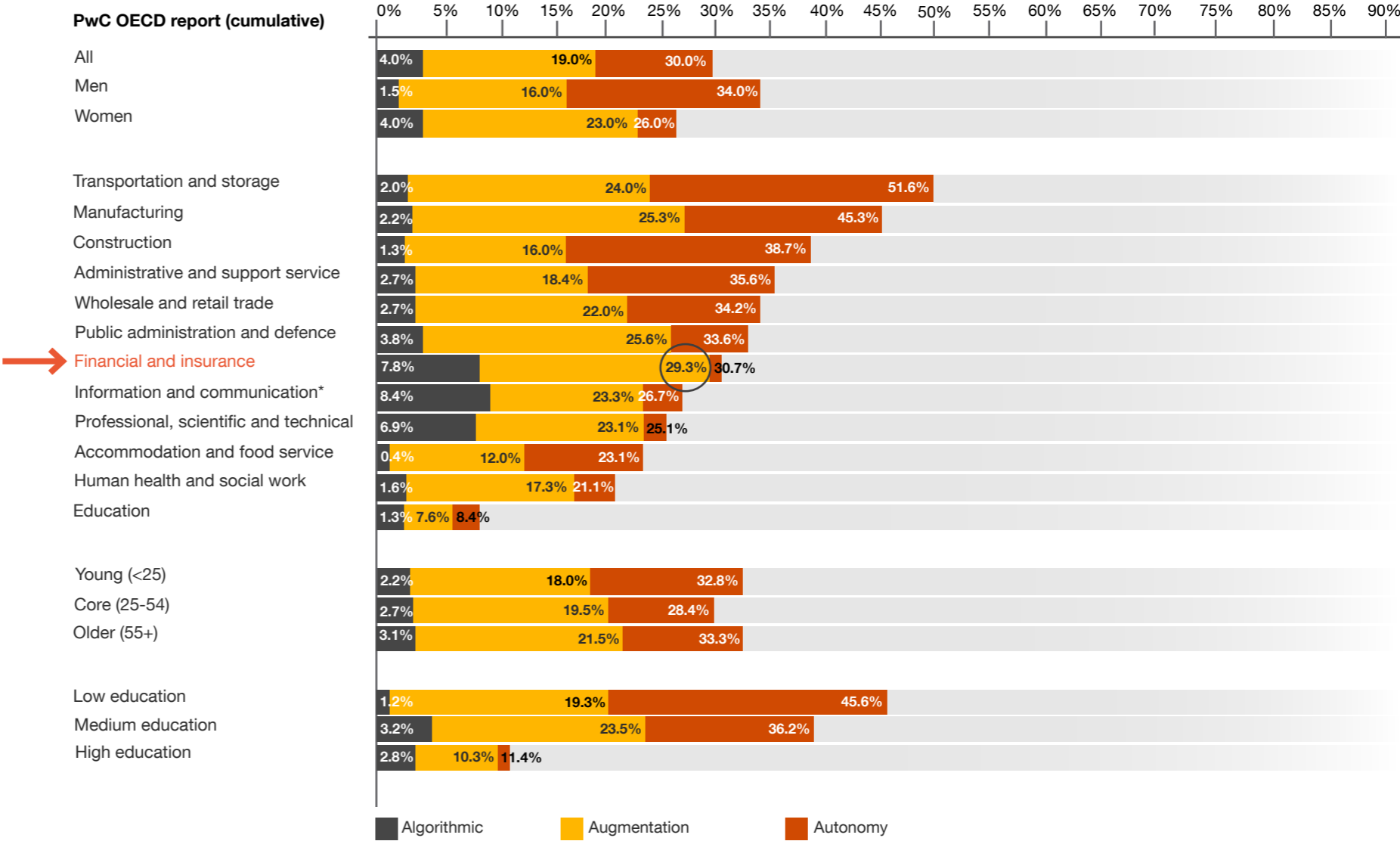
Yet, automation isn't just an issue for low skilled workers. Our analysis also highlights the impact on FS, especially operations where machines can deal with more data, at higher speed, more accurately. A PwC report – [Will robots really steal our jobs?](https://www.pwc.co.uk/economic-services/assets/international-impact-of-automation-feb-2018.pdf) – shows that FS is the industry most likely to be affected by the initial, algorithmic, wave of automation over the next five years.<sup>3</sup> Yet the subsequent, more AI-enabled, augmentation wave, hits FS harder; focusing on decision support areas such as performance evaluation and asset allocation (see Tables 1 and 2). It's important to say at this point that technology augmentation will also lead to new opportunities, such as an ability for investment advisors to increasingly manage their teams and clients remotely. This opens up the option for more Island based roles and we discuss these opportunities in more detail further on in this report.

**Table 1**  
Potential job losses across automation waves with examples

Waves	Timeline	Description	Jobs at risk	Job loss examples	Job creation examples
Algorithmic	to 2025	Automation of simple computational tasks and analysis of structured data.	1,600	FS administration, customer identity verification, public sector admin, retail, hospitality.	Sector-specific data analyst, 3D print technician, digital content creation, data security and ethics specialists.
Augmentation	to 2030	Dynamic interaction with technology for clerical support and decision-making. Also includes robotic tasks in semi-controlled environments.	8,300	FS performance evaluation and asset allocation, tax advisory, accounting, logistics and transportation, medical sector - care and social services.	Bespoke investment management (digital nomads), customer segmentation, proximity marketing.
Autonomous	to 2035	Automation of physical labour and manual dexterity, and problem-solving in dynamic, real world situations that require responsive actions.	6,000	Transportation (goods and people), construction, retail and office based jobs.	Customer management, cyber security, robotics technicians and engineers.
Total			15,900		

<sup>3</sup> PwC, Will robots really steal our jobs? <https://www.pwc.co.uk/economic-services/assets/international-impact-of-automation-feb-2018.pdf>

Table 2  
Potential cumulative rates of job automation  
by industry across automation waves



\*the e-gaming industry is considered in this group for analysis in this report.  
Source: Will robots really steal our jobs? An international analysis of the potential long term impact of automation (2018). PwC

# Progress on upskilling can breed confidence



## Human and machine working together

While this might all sound like a dystopian fight for jobs between humans and machines, the reality is more nuanced and potentially positive.

If channelled intelligently, automation and AI could actually be liberators, taking care of the tedious bits of our work and giving us more time and scope to focus on creating real value.

What does this mean in practice? When looking at work such as bankers, insurers, CSPs and gamers, whole teams and divisions won’t be swept away. Rather, we’re likely to see parts of jobs being replaced and augmented. The priorities include learning how to use technology to best effect, making the most of the time freed-up and, ultimately, delivering more than a machine operating on its own. Anti-money laundering (AML) and other customer due diligence (CDD) operations are a clear case in point and highly relevant to our Island.

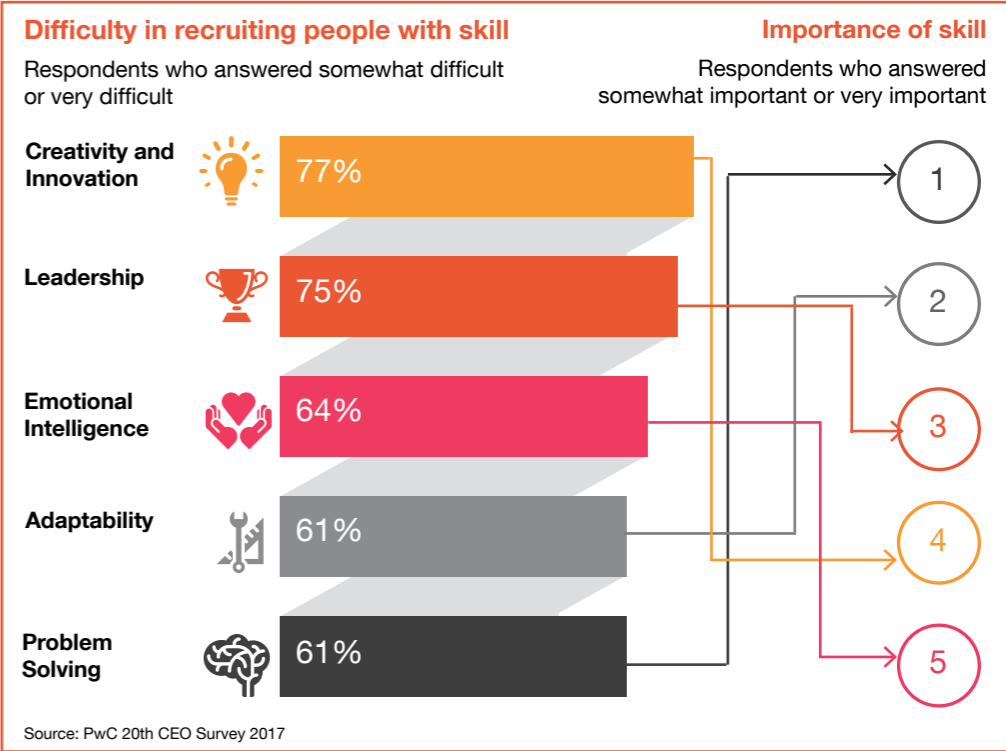
Today, CDD is a highly labour-intensive task, but use of automation and AI will speed up verification, whilst biometric and other AI-enabled analysis will make it easier to identify discrepancies and tackle risks. The win-win is more time to focus on building customer relationships and more effective safeguards against financial crime.

As use of automation and AI gather pace, it’s often the human capabilities that can’t be replicated by machines such as creativity, adaptability, problem-solving and

interpersonal skills that are the most prized. When combined with an understanding of how to get the most from technology, these are the skills that not only drive innovation and strengthen customer engagement, but can also help you to navigate through the uncertainties of a post-pandemic world. For FS in particular, this combination of skills could be crucial in responding to stakeholders, growing focus on customer experience, digital brand and trust.<sup>4</sup>

**Exhibit 1: The hardest skills to find are those that can’t be performed by machines**

Q: How difficult, if at all, is it for your organisation to recruit people with these skills or characteristics?  
Q: In addition to technical business expertise, how important are the following skills to your organisation?



<sup>4</sup> PwC, Fit to compete: Accelerating digital workforce transformation in financial services, <https://www.pwc.com/gx/en/industries/financial-services/publications/fit-to-compete.html>



## New and better job creation

As one door closes, another opens. Automation and AI will create new wealth and new jobs – adding a potential \$15 trillion to the global economy by 2030 according to [PwC analysis](#).<sup>5</sup> Further job creation comes from increased demand in areas ranging from environmental protection to caring for an ageing population.

So, what kinds of jobs will offer the best prospects? A more digitally-enabled economy clearly needs robotics engineers, data analysts, digital marketers and other tech specialists as described in Table 1. Although the numbers for these highly skilled roles may be limited. It is perhaps more useful to think about skills rather than jobs. This is because every sector will be impacted by technology and therefore the ability to be agile, to understand new technology and be comfortable working with it are so crucial.

Numerically, we're likely to see a big expansion in the health and social care sector. These aren't jobs that can be easily automated, though there is significant scope for AI-enabled augmentation in areas such as screening and diagnoses.

A wealthy, older population could also increase demand in areas ranging from cleaning and gardening to education and personal training. Further openings could come from increased investment in infrastructure and the shift to a more sustainable, carbon neutral economy. So not all future jobs will be 'digital jobs', but whatever the industry, whatever the role, there is likely to be a tech component to understand and work with.



<sup>5</sup> PwC, Sizing the prize, What's the real value of AI for your business and how can you capitalise?  
<https://www.pwc.com/gx/en/issues/analytics/assets/pwc-ai-analysis-sizing-the-prize-report.pdf>

For our Island, the question of remote cross-border working is also increasingly relevant. 'Digital nomads', based in the Isle of Man but working globally, could have an important role in providing employment growth and experience in different industries. These nomads could also help the Island to further build their position in the global market. The reverse is also true, with physical location becoming less important, other jurisdictions with digital talent could steal jobs and investment from us if they are seen to be more innovative and tech-savvy.

The big question is will job creation offset job losses? [PwC analysis](#) indicates that this is possible for the global economy as a whole, though some states, sectors and businesses will do better than others.<sup>6</sup> Determining whether the Isle of Man is a winner or loser depends on what we do now.



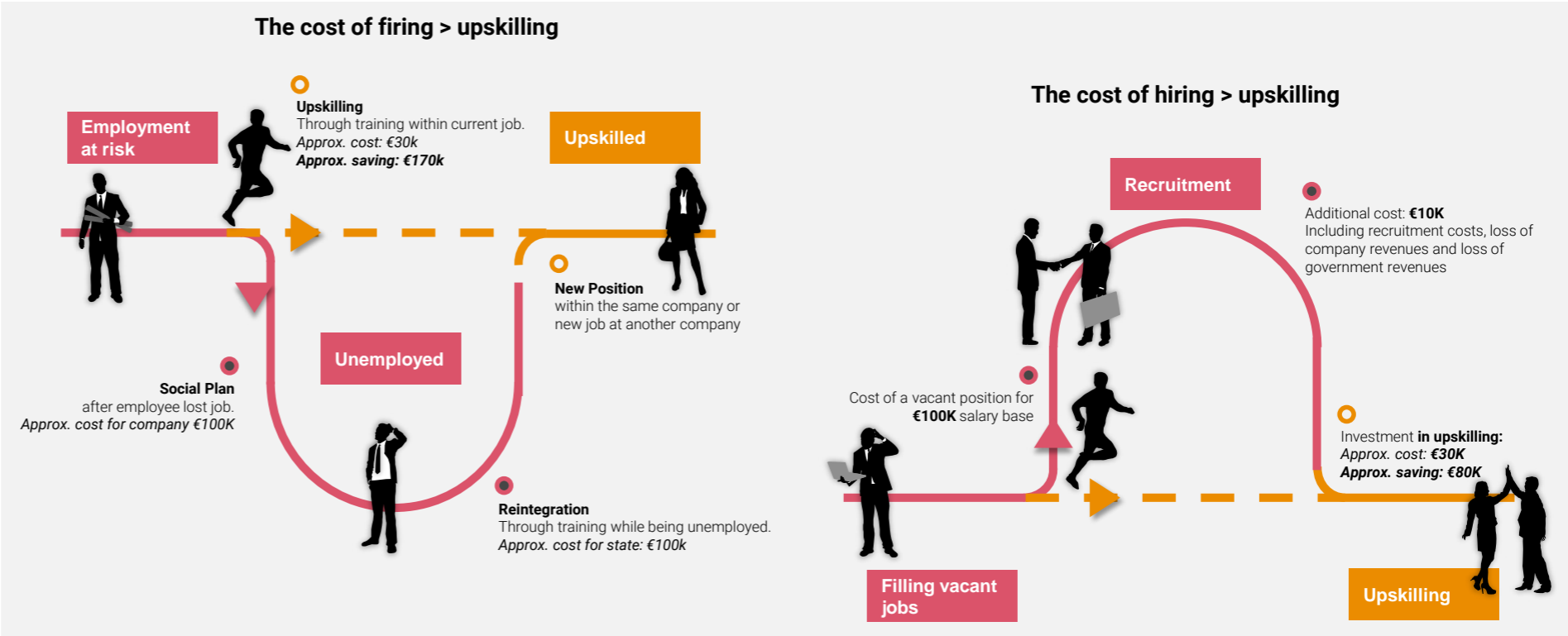
<sup>6</sup> PwC, Will robots really steal our jobs? (2018), <https://www.pwc.co.uk/economic-services/assets/international-impact-of-automation-feb-2018.pdf>

Everyone needs upskilling

The foundation for this workforce transformation is upskilling. Far from a few tech specialists, this demands upskilling throughout the workforce – you can't create a digitally-enabled organisation (or Island) if your employees are still stuck in analogue. Moreover, you can't hire your way to digital proficiency – this is financially unfeasible even if the necessary talent were to be available.

Exhibit 2

The financial case behind upskilling vs. firing/hiring: Luxembourg



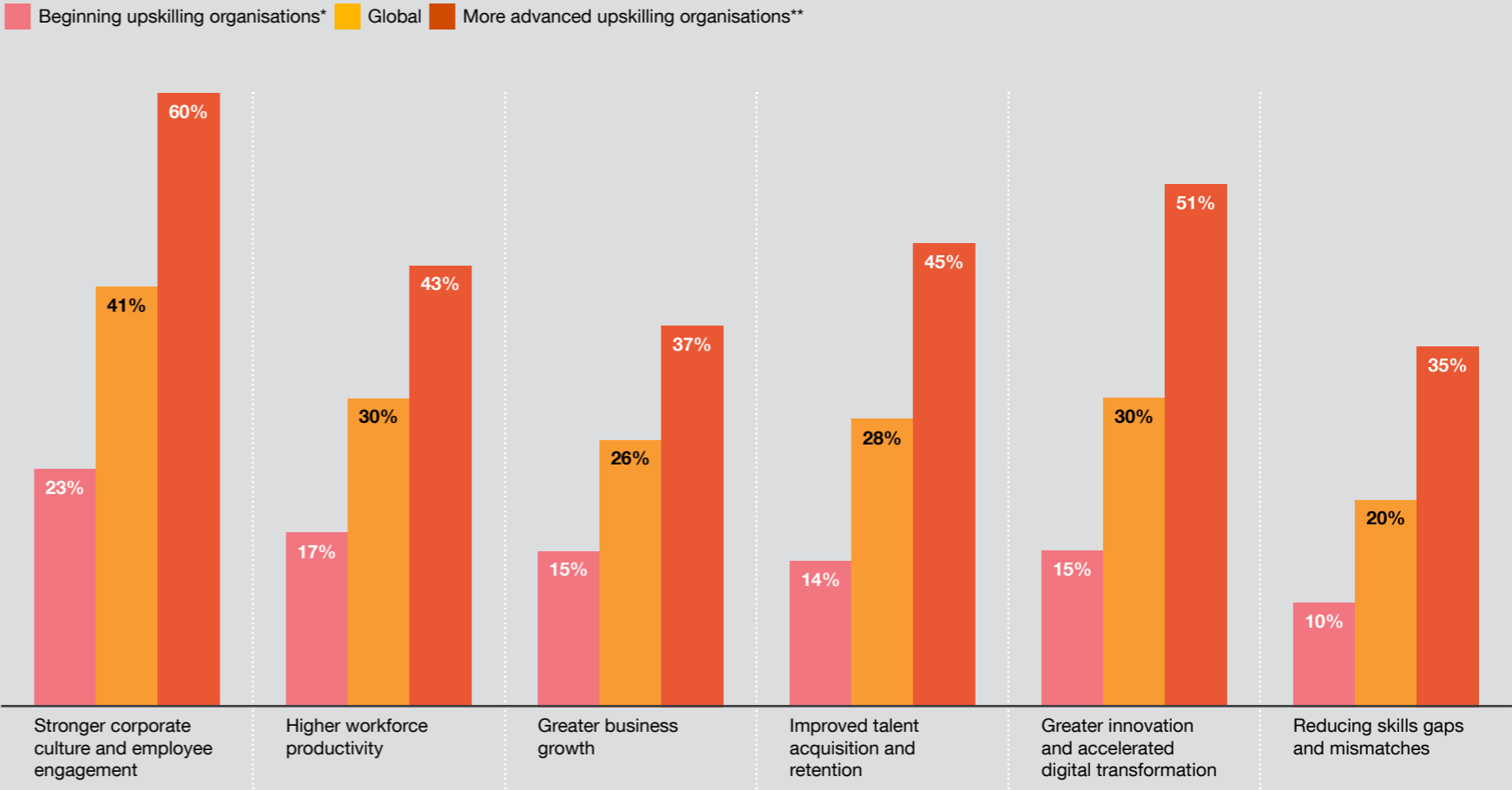
The financial case is compelling. Our colleagues at PwC Luxembourg created the graphic (see Exhibit 2) to illustrate the cost of upskilling versus hiring and firing in their local market. If we follow the same principle in the Island, the cost would be significantly less to upskill now, compared to the crippling costs of employees losing their jobs, spending time jobless, having to retrain whilst out of work and then re-joining the workforce. We estimate the cost of upskilling workers will be at least six times lower than the eventual cost of doing nothing.

Nearly three-quarters of the business leaders taking part in [PwC’s 2020 Global CEO Survey](#) said that limited availability of the right skills is a key concern. But the CEOs who have taken action and are the frontrunners in upskilling have gained in productivity, innovation and accelerated digital transformation (see Exhibit 3).<sup>7</sup>

“ We estimate the cost of upskilling workers will be at least six times lower than the eventual cost of doing nothing.

**Exhibit 3**  
**Upskilling programmes deliver more than skills.**  
**Those that are most advanced have even greater gains**

**Question:**  
How effective are your upskilling programmes in achieving the following outcomes? (Showing only “very effective.”)



Source: PwC, 23rd Annual Global CEO Survey (2020)v  
\* “Beginning upskilling organisations” refers to the bottom quartile of CEOs regionally who have reported the least progress in upskilling  
\*\* “More advanced upskilling organisations” refers to the top quartile of CEOs regionally who have reported the most progress in upskilling  
Note: Upskilling relates to an organisation’s clear intent to develop its employees’ capabilities and employability, and to advance and progress their technical, soft and digital skills  
Base: Global, “beginning” and “more advanced” upskilling organisations (Global=1,581; beginning organisations=411; more advanced organisations=353)

7 PwC, Talent Trends 2020, <https://www.pwc.com/gx/en/ceo-survey/2020/trends/pwc-talent-trends-2020.pdf>

# 2

## The way forward



Workforce transformation can no longer be consigned to the 'not now' or 'too difficult' piles. Everyone needs upskilling and everyone can play a part in getting our workforce up to speed. The first step is recognising this as an immediate imperative.



Exhibit 4

What can be done to support digital upskilling in the Isle of Man?

	<b>A combined working group between government, employers and educators</b> will allow a cohesive plan to be developed and activity tracked.
	<b>Fiscal stimulus to support the jobs market</b> and schemes available to businesses - achieve this by creating incentives for upskilling in areas with high growth potential for the future.
	<b>Economy-wide strategic workforce planning</b> to help employers identify the emerging skills of the future and collaborate with educators to make these part of the curricula.
	A business-led approach to create good quality work experience, continued education, jobs and apprenticeships <b>for young people, with support from government and educators.</b>
	A strategic commitment to <b>lifelong learning at government level</b> , but with support from industries to invest in the skills of the future.

We recognise that there have already been some positive efforts made towards digital upskilling with some excellent initiatives from the Digital Isle of Man Agency partnering with business. However, we now urgently need to ramp up both the scale and pace of change, bringing more parties together into a community-wide effort. There is no digital specific scheme available for businesses but support is included within the Business Improvement Scheme, the Employee Relocation Schemes and the Enterprise Development Scheme mainly. It would be easier for business and have a bigger impact if all these initiatives were under a Digital umbrella.

## How governments can make a difference

1

### Establish a taskforce to gauge who is at risk and how to respond

The time for broad mission statements has come and gone. The priority now should be the creation of a dedicated upskilling taskforce, which brings together stakeholders from business, education and government.

Detailed analysis needs to be done to determine what specific jobs will be affected, and the risks and opportunities this opens up. This paves the way for a plan of who and how to upskill, bridge divides and adapt to changing demands. Critically, this also requires understanding of likely future job roles and career pathways as the economy evolves; upskilling for tomorrow's jobs not just today's.

2

### Make investment count

Working with businesses and educators, workforce upskilling and adaptability should be at the forefront of the investment needed to kickstart economic recovery. It should also be a lens through which longer-term fiscal stimulus and renewal measures are prioritised. The return could be significant.

By pooling resources, Isle of Man and potentially other jurisdictions like the Channel Islands could increase the scope of the upskilling programme, while taking advantage of economies of scale.

3

### Make upskilling a priority across the public sector

As the major employer in the Isle of Man government needs to extend their influence across all public sector functions and institutions, embracing technological change and making bold commitments to the digital upskilling of all public sector employees. This commitment and focus must extend outward into the community to ensure no one gets left behind.

4

### Learn from peers

Look at examples from other jurisdictions, learn from their approach.

## Learning from peers: Luxembourg's Digital Skills Bridge



The Luxembourg government was concerned about the impact of technology on the employability of its citizens. PwC worked with the government to help develop the Digital Skills Bridge. The programme includes an online tool that identifies organisations and employees whose work will be impacted by automation. The tool then helps to match them with jobs and training models (e.g. Cisco Net Academy) based on their current skills and potential for gaining new, more applicable skills.

## The Luxembourg results provide revealing insights for us here in the Isle of Man



- 23% of jobs identified as affected by automation, with a higher impact on salaries in the FS sector.
- 87% of Skills Bridge participants performed an upskilling role or changed jobs within their company.
- 340 different training courses developed.
- Half of identified training focused on digital skills, while a third covered soft skills such as problem-solving.

[Skills Expander. A 6 steps solution.](#)<sup>8</sup>

<sup>8</sup> PwC, Skills Expander, A 6 steps solution, <https://www.pwc.lu/en/upskilling-for-competitiveness-and-employability.html#content-free-1-bae4>

## How businesses can make a difference

1

### Understand the impact

Understand how automation and AI are reshaping your industry, client demand, what threats and opportunities this opens up, and the skills and technology needed to respond. A good first step is identifying problems that technology and upskilling could resolve. This can provide the springboard for both improved productivity and new innovation.

2

### Look at culture as well as training

Employees can be wary of digital transformation, seeing it as a potential threat to their jobs. Even if they don't view associated upskilling with suspicion, they might still dismiss it as a compliance chore, with little connection to their everyday work. The benefits of investment in technology are often not realised because too little emphasis is put on encouraging employees to work differently. It's therefore important to look at digital upskilling as cultural change rather than just a training exercise.

3

### Demonstrate the benefits for individual employees

It's important to ensure that upskilling is geared to employees' individual needs and can benefit their particular careers. When employees see 'what's in it for them' and how it helps them in their work, your business is in a stronger position to establish a culture of digital curiosity, self-learning and innovation. The good news is that a [PwC study](#) showed 77% of employees would be willing to invest time to retrain/learn new skills in order to remain relevant.<sup>9</sup>

4

### Collaborate as an industry

Share data and thinking on what future skills will be required and commit to a digital upskilling programme to develop these skills. This could ultimately position your industry as a centre of excellence.

<sup>9</sup> PwC, Upskilling Hopes and Fears. PwC's global survey on technology, jobs and skills, Jul. 20, <https://www.pwc.com/gx/en/issues/upskilling/hopes-and-fears.html>

<sup>10</sup> PwC, New World. New Skills, <https://www.pwc.com/upskilling>



77%

of employees would be willing to invest time to learn new skills in order to remain relevant

## PwC: Building skills for a digital world

At PwC, we've developed first-hand experience of the power of upskilling. Our global '[New world. New skills.](#)' programme recognises the opportunities rather than just the threats that come from digital disruption.<sup>10</sup>

As we look to uplift digital capability to keep pace with client demands, optimise operations and continue to attract top talent, the programme focuses on building up the 'digital fitness' of our people.

In the Isle of Man, we have invested more than 2,000 hours in upskilling our staff during 2020 and this is just our starting point.

### Digital fitness

The starting point for our 110 colleagues here in the Isle of Man is our Digital Fitness App. The app assesses each person's baseline digital capabilities – their 'digital health' – and then helps to create a customised plan for skills development and application. Employees can also use the app to measure progress and set new goals. The Digital Fitness App is available externally to download for free until June 2021. Access code: LRNALL.

### Learning your way

To make learning more suited to personal preferences, our tech-enabled learning includes podcasts, gamification and multimedia content. In turn, our digital accelerator programme enables employees to explore fresh career paths and deepen their skills in digital specialities.

### Bringing skills to life

To be successful, we believe that upskilling should inspire and empower. Our people are not only encouraged to apply new skills in their day-to-day work, but also develop digital innovations and solutions.

27%

of female students in the UK would consider a career in technology compared to 61% of males, and only 3% say it is their first choice

How educators can make a difference

1

Understand changing needs

Work closely with governments, business and organisations set up to promote innovation, including the Department for Enterprise and the Digital Isle of Man Agency, to understand how skills needs are changing. You can then adapt your curricula.

2

Embrace disruption within teaching

New, innovative teaching methods use tech to appeal to young students in a fresh way. This includes looking beyond specific curriculum time dedicated to 'technology' by embedding tech in every subject. Examples include using apps to study languages, using tech in art and design, building simulations and bringing gaming ideas into humanities subjects. COVID-19 lockdown has encouraged many business and learning institutions to offer free tech training for schools and students. These offer the added benefit of showing young people the variety of careers that are available in the digital world.

3

Break down barriers

Many people, especially women, are put off tech as a result of biases they face in school. [PwC research](#) shows that only 27% of female students in the UK would consider a career in technology, compared to 61% of males, and only 3% say it's their first choice.<sup>11</sup> The Channel Islands explored in their [recent report](#) focusing on how to release the untapped potential of women in the Channel Islands' workforce, reversing this gulf requires concerted action to promote technology as an interesting, accessible and diverse career.<sup>12</sup>

4

Promote lifelong learning

People come out of education with a set of skills that are supposed to equip them for 50-year careers. Yet the pace of change now requires a continuous upskilling cycle of work/study/work. We believe there is a significant opportunity for educators to capitalise on the extensive upskilling across all ages that will be needed to keep pace.

Hive Academy:  
Boosting digital literacy in Northern Ireland schools



In Northern Ireland, PwC has led a tech skills programme across 150 schools. Rather than just focusing on coding or other tech skills, the Hive Academy programme also looks at the kind of capabilities that are critical in releasing the potential of technology and improving future employability. These include creativity, design thinking, problem-solving, emotional intelligence, negotiation and collaboration. Before the event, only 28% of students would consider a career in technology. This rose to 65% after one day of training. PwC plans to bring the Hive Academy concept to the Isle of Man.

Learning from peers: Singapore case study



Singapore provides a partnership model for forward-looking skills development and lifelong learning. Schools, universities, policymakers and business groups have come together to create 'transformation maps' for more than 20 industries. The maps set out what the sector will look like in ten years' time, what skills will be less relevant, what new ones will be needed and how the partners can work together to deliver. Within FS, examples include developing professional conversion programmes to help bank tellers move into posts working with AI technology.

The skills development programme is delivered both in-house and through colleges. To improve the future pipeline, the Government is also working with educators to create more adaptable curricula and teaching methods, not just within technical education, but also by promoting a more open and creative approach.

11 PwC, Women in Tech: time to close the gender gap, <https://www.pwc.co.uk/who-we-are/women-in-technology/time-to-close-the-gender-gap.html>  
12 PwC, Boosting diversity, prosperity and growth, Channel Islands Women in Work Index 2019, <https://www.pwc.com/jg/en/publications/women-in-work-index.html>

# 3

## Conclusion: Securing our future



# Time for action

While the pressure for change was building, COVID-19 has made workforce upskilling a make or break for our Island. If we take decisive action now, we can secure our future as a focus for talent, investment and innovation. We'll be quicker to capitalise on opportunities than those held back by talent gaps. We can also help free our people from the drudgery of mundane work, so they can unleash their full talents and grow.

If we don't, the skills gaps could get worse, we risk being competitively side-lined and, perhaps most damaging, unemployment could become permanent and futures be dashed. Many of the jobs at risk will be lower skilled, lower paid roles, which in turn could deepen social divides.

We believe everyone should be able to live, learn, work and participate in a digital world. If we're to achieve this in the Isle of Man, we all need to play a role and have a clear understanding of what's here, what's coming and have a digital upskilling taskforce to lead the response and ensure no one is left behind.





# PwC's 'New world. New skills.' programme

'New world. New skills.' is PwC's global programme to help millions of people around the world improve their understanding, skills and knowledge for the digital world.

Business has an important role to play in ensuring no one gets left behind unwillingly. There's an urgent need for organisations, governments, educators and citizens to come together to address this growing problem.

We'll be convening discussions and working with a broad group of stakeholders to help find solutions that work in each country. We're helping organisations in the public and private sectors to anticipate the skills they will need in the future, and work together on comprehensive solutions.

Over the next four years, we will be training our people in technologies for supporting clients, communities and other stakeholders across our territories. We also will be directing more of our community initiatives to focus on upskilling.

Find out more at [www.pwc.com/upskilling](https://www.pwc.com/upskilling).

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