

Deloitte.



Power Up
The UK workplace

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Methodology

Our survey was conducted from 3-27 March 2017, gathering responses from 2,242 non-British workers both inside and outside the UK, using crowdsourcing. Survey respondents were represented across nine sectors, and split evenly between higher and lower-skilled respondents, and between EU nationals (from Germany, France, Italy, Ireland and Poland) and non-EU nationals (from the US, South Africa, Australia and India).

Foreword

Power Up

The UK economy has proven its resilience and ability to successfully navigate change many times throughout history. But we can't take this for granted. It's critical that we remain competitive, retain our strength in innovation, develop and attract the skills our economy needs and convert that to inclusive growth and prosperity for all. With the UK's role in the world set to change, it is also crucial that we maintain our position as one of the world's leading trading nations.

This report is the first in our Power Up series of insights that will explore the critical challenges facing UK government and business. Based on crowdsourced data and wider research on the UK workplace, it will provide practical recommendations on what we can do to make a difference now and be fit for the future ahead.

The UK is in the midst of a long-term employment transition: a shift towards a more technological, automated, productive and skills-rich economy. This is a shift that most advanced economies are undergoing, but for the UK – which has recorded lower productivity growth than many of its peers over the last decade¹ – the challenge is particularly acute.

The UK's diverse, multinational workforce plays a critical role in this economic evolution. Businesses have used non-British workers to fill many of the skills gaps in the UK workforce, from low-skilled, low-paid service and manual labour roles, to highly-skilled and value adding roles that are often critical for firms in sectors like engineering, technology and financial services. The UK's decision to leave the European Union is sharpening the debate over training, technology and human capital in the changing economy.

The UK now faces some pressing choices on skills and labour. How fast can it generate the skills it needs? How much migration does it still need to fill skills gaps? And how rapidly can it automate its way out of a potential skills shortage? Brexit has not altered the fundamental factors shaping the UK's future prosperity, but it could be a driving force for change as we seek to answer these questions to support the best outcome.

Our UK workplace survey ("our survey") seeks to capture the current attitudes and intentions of non-British workers towards the UK. Based on over 2,200 responses, it is a comprehensive cross-sectoral attempt to establish how the UK's vital mix of multinational skills is likely to change over the next five years, and where, and how, the effects of change are most likely to be felt.

The survey builds on a long-term Deloitte research initiative exploring the interrelationships between skills, technology and productivity in the UK economy and broader society. Working with researchers at Oxford University, Deloitte has already forecast that 35 per cent of jobs in the UK are highly susceptible to automation within the next ten to fifteen years², with lower-paid jobs much more likely to be automated. The same research found that the sectors most likely to be affected by automation are also the sectors most dependent on non-British labour. Deloitte research has also shown that, in recent decades, technology helps create around four times as many jobs as it destroys³: this suggests that the UK now stands at a turning point, where changes to immigration policy could be a catalyst for greater emphasis on the formation of business skills and investment in automation to increase the UK's productivity performance.

As these changes take effect, this report is intended to be a tool for policymakers, businesses and educators alike as they seek to identify the potential stress points in the UK skills market, and to maximise the creative potential of both UK and non-British citizens in what is one of the most diverse workforces in the world.

Following consultation with businesses and government, in this report we make four practical recommendations on steps that the country can take in the next five years to build on its strengths, and to grow and to prosper.



Angus Knowles-Cutler
Vice Chairman of Deloitte and London office Senior Partner

1 www.ons.gov.uk/economy/economicoutputandproductivity/productivitymeasures/bulletins/internationalcomparisonsofproductivityfirstestimates/2015
2 Deloitte report 'Talent for Survival – essential skills for humans working in a machine age'
3 Deloitte report 'From Brawns to Brains – the impact of technology on jobs in the UK'

Executive summary

The UK remains a highly attractive destination for international talent

Almost nine out of ten (89 per cent) of the 2,242 non-British nationals surveyed said they find the UK either quite attractive or highly attractive as a destination to work and live.

Of those currently based outside the UK, 87 per cent would consider moving to the UK

The UK was ranked as the most desirable place to work ahead of the US, Australia and Canada.

Brexit has shifted perceptions, but that is unlikely to lead to imminent action

For those based outside the UK, only 21 per cent now find the UK less attractive compared to 48 per cent for those based here.

Overall, 36 per cent of non-British workers are considering leaving the UK within the next five years

Highly-skilled EU workers are the most likely to consider leaving (47 per cent). We believe this will create additional unfilled jobs in the UK.

High-skill workers are most likely to leave first

High-skilled workers are most likely to leave first, which could create short-term challenges.

EU workers in London are more likely to leave than those in other regions

Our analysis shows that perceptions differ across the UK. EU nationals in London are more likely to consider leaving (59 per cent) than those in the Northern Powerhouse region (21 per cent).

There has been limited employer communication on Brexit

The majority of non-British workers in the UK (52 per cent) say there has been ineffective or no communication on Brexit from their employer.

Employers may find it difficult to replace leavers with UK staff

58 per cent of non-British workers in the UK said it would be difficult or very difficult to find a British worker to replace them.

The UK will need to identify and foster skills required for the future UK workplace

Deloitte data⁴ shows that UK businesses consider themselves as less 'ready' to adopt new technologies, including robotics, cognitive computing and artificial intelligence, as compared to other European countries.

Brexit could be a catalyst for automation

In certain sectors businesses can accelerate the implementation of existing and new technology to increase labour productivity and create better paying, better quality jobs.

"The UK remains a highly attractive place to work for people from around the world. Despite political and economic uncertainties, more people are attracted to live and work in the UK than anywhere else in the world. Nine out of ten overseas workers would consider moving to the UK if the right opportunity presents itself. The UK's cultural diversity, employment opportunities and quality of life are assets that continue to attract the world's best and brightest people. But overseas workers, especially those from the EU, tell us they are more likely to leave the UK than before. That points to a short to medium term skills deficit that can be met in part by upskilling our domestic workforce but which would also benefit from an immigration system that is attuned to the needs of the economy."

David Sproul

Senior Partner and Chief Executive of Deloitte North West Europe

Introduction

Our survey is a snapshot of the attitudes and intentions of non-British workers both within and outside the UK in Spring 2017, approaching one year since the EU Referendum.

Our survey was conducted during a period of uncertainty over the future of non-British labour within the UK economy. It shows that 36 per cent of all non-British workers in the UK are considering leaving the UK within the next five years, a proportion that would represent 1.2 million UK jobs.

There are many complex and changeable factors, which will influence the decisions of individuals over the coming years. Some of these will be personal and others will be changes to UK policy and individual employers' strategies.

Under normal circumstances, approximately five per cent of non-British workers leave the UK each year⁵. It is against this background of normal turnover that the results of our survey must be seen. We have assumed a baseline of five per cent 'normal' turnover for people leaving the UK each year, based on actual figures published by the ONS since 2010.

Our survey shows that on a global basis non-British workers attitudes to living and working in the UK remain highly positive. But it also shows that for non-British workers already in the UK, views have become more negative over the last year. More than one in three of the 3.4 million non-British workers in the UK is currently considering leaving the country over the next five years, and highly-skilled workers from the EU are the most likely to say they will leave (see Figure 6).

Key statistics⁶



- In 2016, 11 per cent (3.4 million) of the UK labour market (30.3 million) were non-British nationals; EU nationals contributed 7 per cent (2.2 million) and non-EU nationals 4 per cent (1.2 million).
- Net long-term international migration was estimated to be +273,000 in the year ended Sept 2016.
- In the year ended Sept 2016, 294,000 citizens moved to the UK for work; of which 190,000 had a definite job.
- In the year ended Sept 2016, 180,000 EU citizens immigrated to UK for work compared with 164,000 the previous year.
- The share of highly-skilled jobs among non-British workers in 2016 according to the ONS 4-tier skill definition was: EU14 37 per cent/EU8 8 per cent/EU2 11 per cent/non-EU 32 per cent

⁵ This is calculated using a linear model from March 2010 until September 2016 data for the EU and non-EU emigration data from the ONS

⁶ According to ONS data

The UK in one word

We asked non-British nationals based inside and outside the UK, to describe the UK in one word.

Inside the UK



Outside the UK



In global terms the UK remains highly attractive

- **The UK is the most favoured global destination to live and work**
- **87 per cent of those surveyed outside the UK said they would consider moving here**
- **Cultural diversity in the UK is a major draw for international talent**

In recent years immigration has proved one of the most contested issues in the UK. What type of immigration policy will fill the skill gaps in the UK? The role of technology and Brexit both need to be considered.

The decision to leave the European Union is one dimension of the debate. Our survey has polled the attitudes and intentions of non-British workers both inside and outside the UK.

As the UK negotiates the terms of its post-Brexit relationship, there is one issue that will remain a constant. The UK will continue to need skills that cannot be supplied wholly from domestic sources. This is likely to prove one of the great challenges of the coming period; meeting it will require political and practical ingenuity, from both government and business.

The equation changes

The attitudes of government and business to global labour and talent are only one side of the equation. There is also the question of how global talent views the UK. Workers of all kinds have greatly favoured the UK in recent years, but as the UK redefines its place in the global economy and changes the terms of the implied contract, will global talent continue to feel the same way?

Our survey shows that, despite the potential challenges of Brexit, the UK remains one of the world's most attractive destinations for global talent. Of the 2,242 non-British nationals surveyed, 89 per cent said they still find the UK either quite attractive or highly attractive as a work destination. Of those surveyed outside the UK, overall 87 per cent would consider moving to the UK if the right opportunity presented itself (Figure 1). Even more strikingly, for those workers outside the UK, the country was ranked as the world's most desirable place to work: with 57 per cent of respondents placing it in their top three destinations, ahead of the US (30 per cent), Australia (21 per cent) and Canada (19 per cent).

This is a clear indication of the UK economy's continuing power to draw international talent. It suggests that if government enables cross-border hiring after 2019, UK businesses will continue to face few problems attracting workers from the EU and beyond – should they choose to do so.

However, whilst the UK continues to remain attractive, our survey shows that a significant number of non-British workers currently in the UK intend to leave within the next five years (see Figure 6). Even though a number of these workers would have left anyway, we believe that there will be additional unfilled jobs in the next five years.

Figure 1. If there was the right opportunity, would you move to the UK?



How should business respond?

One clear opportunity is to increase the pace of automation. The three sectors with the highest totals of EU workers are also sectors with high potential for automation, according to earlier Deloitte research⁷ (see Figure 2).

Some instances of automation are already familiar: industrial robots that can assemble, test, inspect and package products are already being deployed in the manufacturing industry. In the wholesale and retail industry, self-service check-outs have been widely adopted, while some organisations are also adopting robots in their warehouses to work alongside humans, packing or re-arranging shelves.

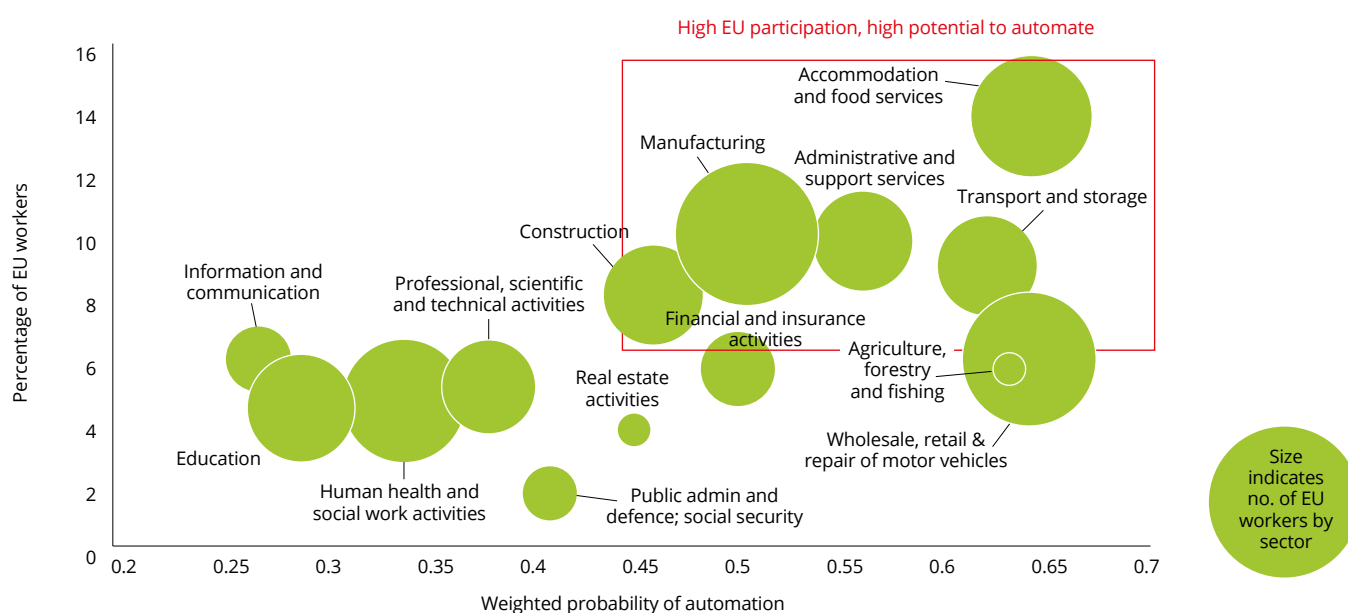
In data-intensive roles automation technologies such as Robotic Process Automation (RPA) can automate repetitive tasks such as transaction processing, data manipulation and communication across multiple digital systems, and are being implemented in the administrative and support services industry. In the legal profession, artificial intelligence (AI) applications are already busy checking contract terms for anomalies and inconsistencies.

In the accommodation and food services industry, virtual personal assistants – robots powered by cognitive technology – are slowly being deployed in a move towards self-service and check-in kiosks that manage reservations and guide customers. Agriculture is increasingly adopting automation, with machine-assisted sowing, picking, sorting, packing and even grading by size and colour.

However, automation is not automatic: Deloitte's 2017 Human Capital Trends research shows that UK businesses see themselves as less ready for automation than other countries⁸ (Figure 14). The UK still needs a catalyst to realise the potential for automation to improve productivity and create higher-value jobs.

These two targets – productivity and high-value jobs – are key components of the UK government's Industrial Strategy as set out in a recent green paper, which includes investing in innovation and developing STEM and digital skills. It is possible that Brexit will be the catalyst UK business needs to invest in automation.

Figure 2. Automation propensity vs EU workers



Source: Frey and Osborne, ONS, Deloitte analysis 2016

⁷ Deloitte report 'Talent for Survival – essential skills for humans working in a machine age'

⁸ 2017 Deloitte Global Human Capital Trends: Rewriting the rules for the digital age

A favoured destination

The number of non-British citizens living and working in the UK has increased rapidly over the last 20 years, with the proportion of non-British workers in the overall working population rising from four per cent to 11 per cent since December 1997. Although the numbers of non-British workers from the EU and from outside the EU have both risen over the last two decades, since 2010 the greater increase has been from the EU, as total worker numbers rose from 1.2 million to 2.2 million over the decade⁹.

Opportunity and diversity are key

What has been the catalyst for this? Clearly, freedom of movement within the European Single Market has encouraged cross-border migration in search of work. But the UK has changed too: when our survey asked non-British workers in the UK to identify three factors that had initially attracted them to the UK, the answers were informative.

Although 'job opportunities' (see Figure 3) was the most cited factor for both EU and non-EU citizens working in the UK, the second most cited was 'cultural diversity', suggesting that the UK's historic openness to migration is considered such a positive value that it drives people to move here. Access to education, business flexibility and ease of starting a business all figured low on the list of factors, attracting people to the UK.

Figure 3. What first attracted you to the UK?



Asked of those based in the UK only

When asked to cite three strengths of the UK (in contrast to initial attraction factors) the answers were similar, with the two most cited strengths being 'job opportunities' and 'cultural diversity'. The one difference was that the 'globally connected' nature of the UK economy was also among the most cited strengths. Being the home of the world's common language and sitting at a pivot point between the eastern and western time-zones may be accidents of history and geography, but they are also enduring advantages.

Figure 4. Key strengths of the UK

Those based in the UK

	Job opportunities	50%
	Cultural diversity	41%
	Globally connected	28%
	Opportunities to study	22%
	Good work/life balance	21%

Those outside the UK

	Job opportunities	54%
	Cultural diversity	43%
	Good work/life balance	40%
	Good lifestyle for you and your family	38%
	London	37%

Attitudes and intentions in the UK

- Overall 33 per cent of non-British workers now find the UK less attractive
- Highly-skilled EU workers are more likely to consider leaving
- Employer communication on Brexit is weak
- Employers may find it difficult to replace leavers with British workers



A shift in perceptions

Attitudes of global talent towards the UK are strongly positive. However, since the EU Referendum the attitudes and intentions of those in the UK have shifted and put into question the ability of companies to retain critical workers.

For workers outside the UK, Brexit has had a limited impact on perceptions, with only 21 per cent saying that they now find the UK less attractive. But for non-British workers inside the UK the story is different with 48 per cent of respondents overall now finding the UK either a little or significantly less attractive (see breakdown in Figure 5).

The biggest shift in perceptions has been for highly-skilled EU workers based in the UK, indicating that businesses and public institutions that employ highly-skilled non-British workers run the risk of a potential skills challenge in coming years.

Figure 5. Have your perceptions of the UK changed?

		I now find the UK less attractive			
		EU nationals		Non-EU nationals	
		Based in the UK	Based outside the UK	Based in the UK	Based outside the UK
	Highly skilled	65%	32%	49%	15%
	Less skilled	42%	25%	25%	14%





Should I stay or should I go?

To gauge whether a shift in perceptions might translate into action, we also asked whether non-British workers were considering leaving the UK and, if so, in what time frame.

The answers are in line with reported attitudes. Of workers already based in the UK, overall 36 per cent are considering moving within the next five years (see Figure 6 for breakdown).

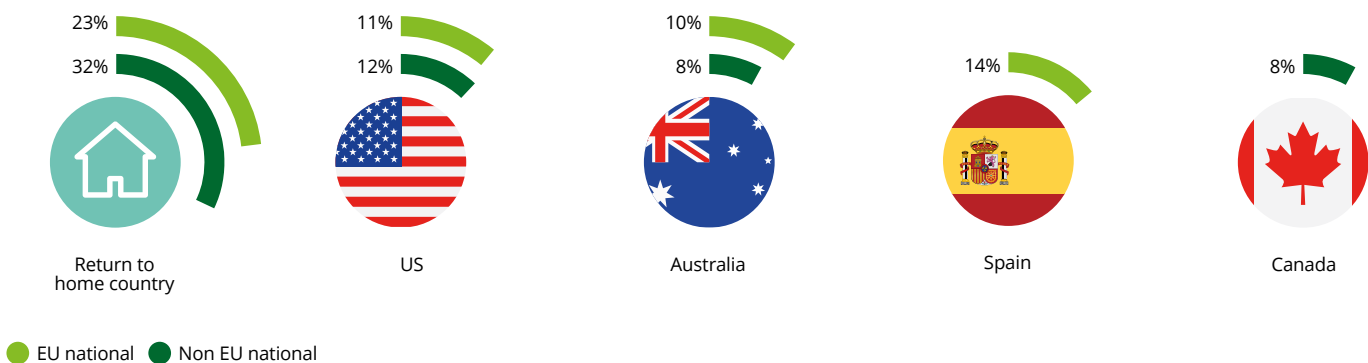
The starkest element of these results is that highly-skilled workers are, by their own account, most likely to leave the UK. Nearly half of all highly-skilled EU workers (47 per cent) say they are considering moving within five years, while 38 per cent of highly-skilled non-EU workers say the same. Although we assume that these figures include some workers who would have left the UK in any case, the evidence for an upcoming short-to medium-term skills deficit is strong.

Figure 6. Are you considering leaving the UK?

	EU nationals		Non-EU nationals	
	 Less skilled	 Highly skilled	 Less skilled	 Highly skilled
In the next 12 months	6%	15%	6%	8%
In the next 3 years	12%	22%	12%	19%
In the next 5 years	9% 27%	10% 47%	9% 27%	11% 38%

We also asked non-British workers based here where they would go if they left. Most said they would return to their home country.

Figure 7. If you left, where would you go?



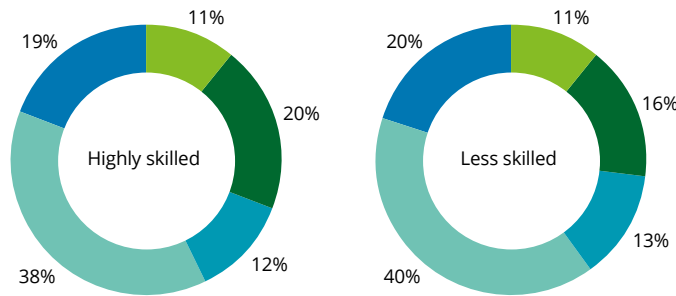
Asked of those based in the UK only

“Nearly half of all highly-skilled EU workers (47 per cent) say they are considering moving within five years.”

How effectively has your employer communicated to you about Brexit?

The reasons for non-British workers leaving the UK are likely to be many and complex. To gauge whether uncertainty within the workplace is one causative factor, our survey asked workers whether their employers had communicated effectively around Brexit. The answer given was unambiguous: the majority of workers felt that employers had not done a good job of communicating around Brexit with 52 per cent overall saying there has been either ineffective or no communication at all.

Figure 8.



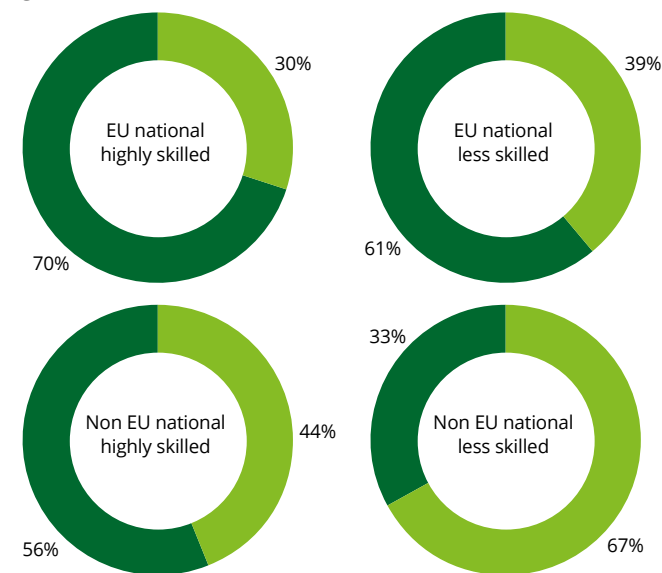
Very effectively Effectively Ineffectively
No communication at all Not applicable

Asked of those based in the UK only

How easy would it be to replace you with a British worker?

When asked this question, most non-British workers in the UK (58 per cent) said it would be difficult or very difficult. Significantly, it was EU workers who were most likely to say that a replacement would be difficult: 65 per cent said it would be difficult or very difficult. Given that it is EU workers who say that they are most likely to leave the UK within the next five years, the message that critical skills could be hard to find in the short to medium term is reinforced.

Figure 9.



Easy Difficult

Asked of those based in the UK only

Implications and opportunities

- Intentions to leave the UK are likely to be higher than usual
- Each sector will face different challenges
- Foreign workers want government reassurance
- The UK will need to identify skills gaps and devise a strategy to mitigate associated risk
- A potential skills shortage could be a catalyst for automation

The results of our survey have implications for all sectors of the economy, but several sectors are particularly vulnerable to shortages of skills currently supplied by non-British workers. In the nine sectors selected for inclusion in our survey, four stand out in terms of the size of the non-British worker contribution. Health and social work (both public and private) has the largest number of foreign workers, while manufacturing has the largest number of non-British workers from the EU. In terms of the share of sectoral employment, food and accommodation is most reliant on non-British workers (over a fifth are non-British citizens); followed by wholesale and retail sector (non-British workers make up almost 10 per cent of total sector employment).

EU leavers will have the biggest impact

In terms of the potential impact on sectors, based on EU workers as a proportion of total sectoral workforce, the most vulnerable sectors, as shown in figure 10¹⁰, are accommodation & food services (EU workers make up 14.2 per cent of the workforce), manufacturing (10.3 per cent), and transport & storage (13.5 per cent). In addition wholesale & retail, information & communication, financial & insurance and professional and scientific sectors all draw more than 5 per cent of their workforce from the EU.

The data in our survey on leaving intentions (36 per cent of all non-British workers say they are considering leaving within five years; 47 per cent of highly-skilled EU workers and 27 per cent of lower-skilled EU workers say this) cannot be translated into precise forecasts of the impact on businesses and institutions. This is partly because intentions are not the same as actions, and the numbers who say they are considering leaving may change within the lengthy five-year period. It is also because natural turnover complicates the picture. Some of the non-British workers who do leave UK employment would have left anyway, irrespective of Brexit.

Despite these uncertainties, the results are indicative of a significant coming challenge for many sectors of the UK economy. A substantial number of EU workers, and especially highly-skilled workers, are now less likely to favour the UK as a place to live and work, and are more likely to leave the UK than before. Looking beyond the uncertainties of future immigration policy in the UK, the challenge clearly invites businesses to rethink their attitudes to skills creation, their investment in training, and the role of automation within their operations.

10 According to ONS data

Figure 10. The number of foreign workers by sector in the UK

	UK	EU	Non EU	Total
Manufacturing	2,560,000	300,000	90,000	2,950,000
Migrant worker % & total	Total 390,000	10.3%	3.1%	13.3%
Wholesale, retail & repair of motor vehicles	3,720,000	250,000	140,000	4,110,000
Migrant worker % & total	Total 390,000	6%	3.5%	9.5%
Transport and storage	1,370,000	150,000	70,000	1,590,000
Migrant worker % & total	Total 220,000	9.2%	4.4%	13.5%
Accommodation and food services	1,300,000	230,000	110,000	1,640,000
Migrant worker % & total	Total 340,000	14.2%	6.9%	21.1%
Information and communication	1,060,000	70,000	90,000	1,220,000
Migrant worker % & total	Total 160,000	6.1%	7.3%	13.4%
Financial and insurance activities	1,130,000	70,000	60,000	1,260,000
Migrant worker % & total	Total 130,000	5.8%	5%	10.8%
Professional, scientific and technical activities	2,030,000	120,000	90,000	2,240,000
Migrant worker % & total	Total 210,000	5.3%	4.2%	9.6%
Education	3,020,000	140,000	100,000	3,260,000
Migrant worker % & total	Total 240,000	4.3%	3.2%	7.5%
Human health and social work activities	3,720,000	190,000	210,000	4,120,000
Migrant worker % & total	Total 400,000	4.6%	5.1%	9.7%



Source: According to ONS data

What will controlled immigration mean?

'If free movement came to an end, the task of designing a new immigration system would be hugely complex.' So wrote the Migration Observatory at Oxford University shortly before the UK's 2016 EU Referendum. According to recent government testimony before the House of Lords Economic Affairs Committee, UK policy remains to create a new system for controlling immigration that would respond to business needs to fill post-Brexit skill shortages in specific industries and avoid creating a skills 'cliff edge', but also to maintain the government's pledge to reduce net migration to below 100,000 a year (compared to 273,000 in the year ended September 2016).

The combination of those policy aims suggests that, in the near future, the UK will need to develop an immigration system that manages both EU and non-EU migration differently. The UK will have to supplement any new migration controls with an intensive programme designed to encourage the formation of high-value skills in the UK workforce, and to reduce the UK's reliance on low-level skills through further automation.

Figure 11. The relative popularity of different measures that aim to make the UK more attractive

		Lower cost of living/ raise housing affordability	Positive statements from government that foreign workers remain welcome	Initiatives to improve work/life balance	Investment in National Health Service	More support for working families
 Highly skilled		45%	32%	20%	20%	18%
 Less skilled		39%	26%	16%	18%	22%

Asked of those based in the UK only

We asked non-British workers currently living here what would make the UK more attractive for them in the future; although reduction in the cost of living was the top concern, uncertainty over the future status of non-British workers also featured prominently. When asked to choose the top two factors that would make the UK more attractive, availability of education, ease of starting a business, and business incentives all featured lower in the rankings than 'positive statements from government that non-British workers remain welcome'.

The government has already set out proposals to grant 'settled status' to all EU citizens who have lived in the UK for five years or more. Given the importance of positive statements from government that non-British workers remain welcome, the fact that long-term residency of EU workers has been singled out for early resolution, will likely be viewed in a positive light by those currently in the UK.

Upskilling the UK workforce

The UK economy has a significant dependence on highly-skilled non-British workers. For example, 37 per cent of the 863,000 workers in the UK from the EU14 countries are in what the ONS classifies as high-skill jobs; 32 per cent of the 1.2 million non-British workers in the UK are in high-skill jobs (the ONS also says that 28 per cent of all UK jobs are high-skill jobs, and that 28 per cent of employed UK nationals are in such jobs)¹¹.

Our survey tells us that it is likely that some of these highly-skilled workers will leave the UK within the next five years; this number is somewhat higher than normal labour turnover rates.

The inescapable conclusion is that the UK is likely to need more highly skilled workers in the coming years. Recent Deloitte research¹² has shown that while technical expertise and knowledge are important in advanced economies, the most valuable skills are cognitive, creative and collaborative. The skill classification used in our survey is designed to reflect these high-level skills.

Using detailed occupational data from the US Occupational Information Network (O*NET) and labour and earnings statistics from the UK Office of National Statistics, the research assessed the importance of 120 different skills, abilities and areas of knowledge in the workforce, in order to forecast the likely impact that the shift towards high-level skills will have on the economy by 2030. The results showed clearly that technical training and knowledge alone are insufficient to meet the skills' needs of modern organisations. The rising number of high-skill jobs the UK is likely to have to fill from domestic sources will require more than a technical education: policies aimed at fostering high-level skills will have to reflect the primacy of cognitive abilities if the economy is to match its potential.

Figure 12. Top ten most important talents in the UK's workforce

Most important attributes	
1	Customer and personal service knowledge
2	Oral comprehension
3	Oral expression
4	English language knowledge
5	Active listening skills
6	Problem sensitivity
7	Speaking skills
8	Written comprehension
9	Near-vision
10	Critical thinking skills

Source: O*NET, ONS, Deloitte analysis

11 According to ONS data
12 Deloitte report 'Talent for Survival – essential skills for humans working in a machine age'

The promise of automation

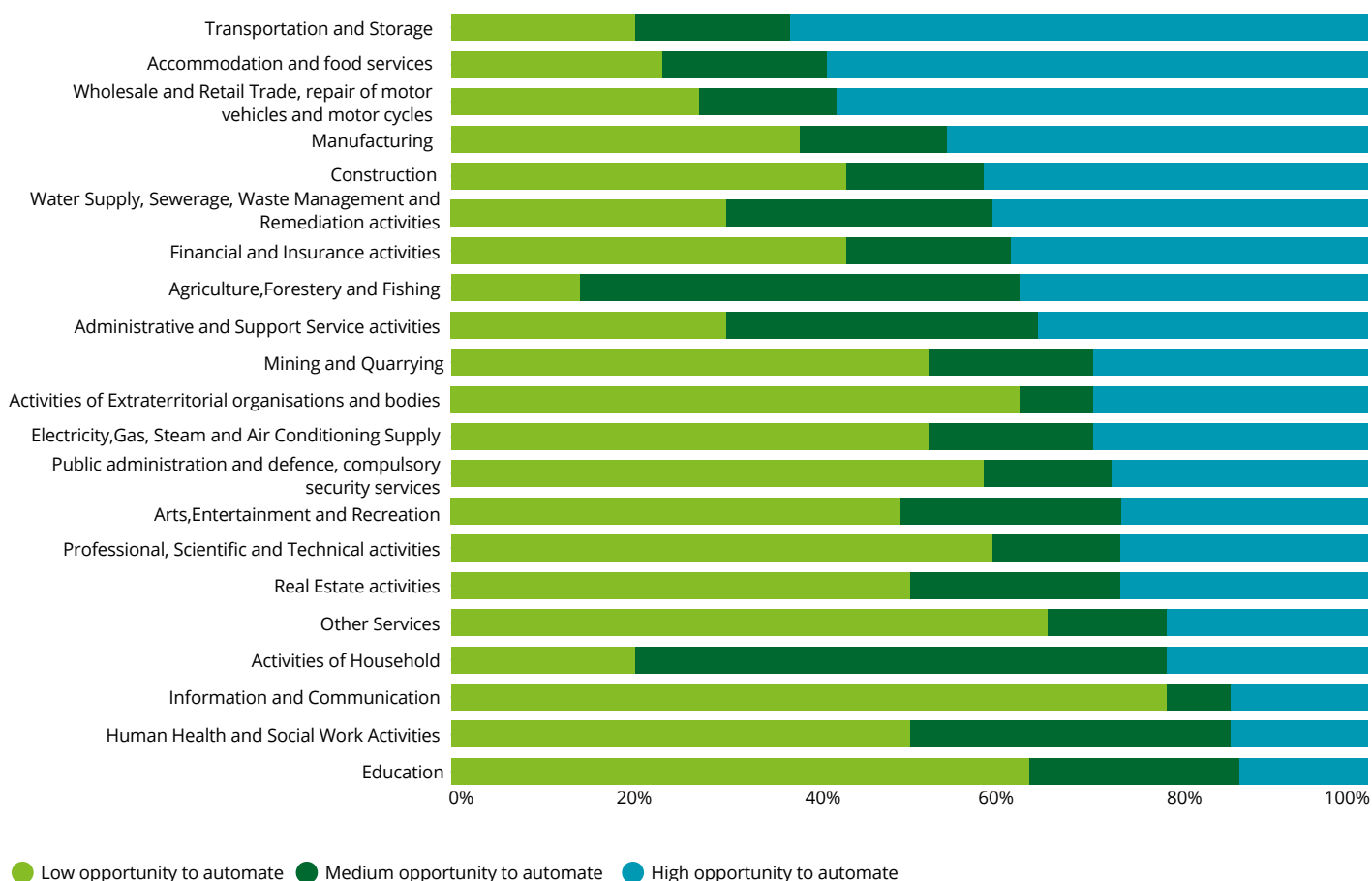
The UK economy also has a significant dependence on non-British workers to perform work at lower-skill levels. For example, 38 per cent of the 863,000 workers in the UK from the EU14 countries are in what the ONS classifies as low or lower-middle skill jobs, and 44 per cent of the 1.2 million non-EU migrant workers in the UK are in these lower-skill job categories. For the EU8 and EU2 countries, the proportions of workers in low or lower-middle skill jobs are higher still. The inclusion of 'lower-middle' skill jobs in this reading is significant, as these jobs are, in many sectors, the most susceptible to automation.

Our survey shows that lower skill workers both from within and outside the EU are considering leaving the UK within the next five years (27 per cent in both cases).

This raises the possibility that the UK may face a skills shortage in lower-skilled roles, as well as in high-level skills, in coming years. Although lower skill workers have indicated that they are less geographically mobile than higher skill workers.

Using employment data from the ONS together with estimates of the probability of computerisation, the Deloitte research created a ranking by industry of the percentage of jobs that could be automated. This data provides a guide to the potential for automation in the UK economy; if the UK is to move to an economic model that is less dependent on non-British workers to perform work at all skill levels, encouraging automation will prove just as important as fostering more high-level skills in the economy.

Figure 13. Opportunity to automate, by sector






Source: Frey and Osborne, ONS, Deloitte analysis 2016

Readiness to automate

In order for businesses to adopt further use of technology, attitudes and capabilities will need to change. The latest Deloitte Human Capital Trends report suggests that the UK is lagging behind other European countries and behind China in its uptake of new organisational models, as well as in robotics, cognitive computing and artificial intelligence¹³ (see Figure 14 below).

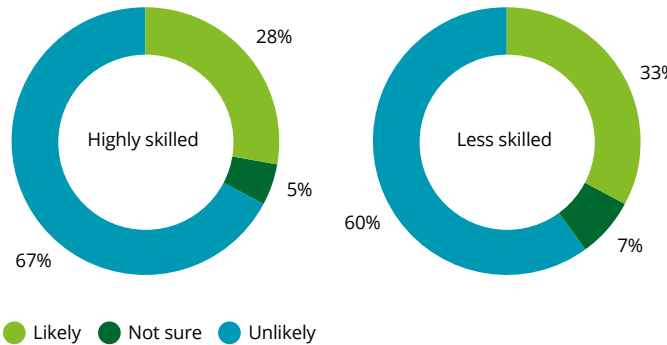
Figure 14. How ‘ready’ do business leaders feel to implement innovation

	 Organization of the future	 The augmented workforce	 Robotics, cognitive computing and AI
Global Average	39%	38%	17%
Central and Eastern Europe	40%	48%	17%
Western Europe	39%	35%	17%
UK	33%	29%	16%
China	45%	58%	29%
US	31%	31%	14%
India	48%	45%	24%
Korea	33%	37%	17%

Our survey also asked workers for their views on automation in the workplace. Around a quarter of all highly-skilled non-British workers said they thought that parts of their work were either likely or very likely to be automated in the next five to ten years. For lower-skilled workers the proportion expecting automation rose, with 28 per cent of non-EU and 36 per cent of EU workers expecting automation within the next five to ten years (see Figure 15). We also asked workers if their organisation should invest in automation and only 38 per cent said they should.

It is quite likely that these expectations understate the potential impact of automation. Experience has shown that while workers often overestimate the effect of automation on total employment, they also underestimate the pace and scope of automation on their roles. Why the UK appears relatively unprepared for the adoption of automation is a matter for debate, but the hard evidence shows that the UK remains behind Italy, France, Germany and the US in productivity rankings¹⁴. It is difficult to avoid the conclusion that the UK over-relies on labour and under-relies on automation when it comes to adding economic value. As migration to the UK changes in the coming years, a golden opportunity to push the UK up the productivity rankings also emerges. The question remains: will the UK grasp that opportunity?

Figure 15. Could your job be automated?



Asked of those based in the UK only

13 2017 Deloitte Global Human Capital Trends: Rewriting the rules for the digital age
14 www.ons.gov.uk/economy/economicoutputandproductivity/productivitymeasures/bulletins/internationalcomparisonsofproductivityfirstestimates/2015 (this is the most recent ONS productivity report)

Deloitte recommendations

At the time of writing, a new government is taking shape. The four recommendations set out below are intended to provide practical steps that can be taken now to help shape the UK workplace for future prosperity.

Deloitte is committed to supporting policymakers, educators and businesses of all sizes to come together to address the UK workplace challenge – to seize the opportunity to create higher-skilled roles and to improve UK labour productivity.

1. Create a new immigration system that recognises the personal choices of international talent

Our survey demonstrates that not all non-British workers based here today intend to remain, whatever stance the new government adopts. Many are considering leaving, particularly highly-skilled workers based in London. Approximately 5 per cent of non-British workers leave the UK every year under normal circumstances and our survey indicates we might expect above average levels of departure in the coming years. There is also intense competition from other countries looking to attract the best talent. This, combined with the likelihood of more controls on new immigrants, could lead to skills shortages. As highly-skilled workers are most likely to leave, sectors like information and communication and professional, financial and insurance activities, that employ a significant proportion of highly-skilled workers, may face immediate challenges in retaining talent. Sectors like accommodation and food services with a high proportion of non-British workers (20 per cent), may be vulnerable.

Our recommendation is that the immigration debate recognises that key international talent is highly mobile and has choices. It will therefore be important to draw upon the many strengths of the UK to continue attracting this talent and encourage controlled immigration. Our survey shows that the UK is still considered highly attractive (89 per cent) and there are some fairly simple steps that can be taken, such as positive statements that non-British workers remain welcome. Any business leader will tell you that at heightened times of uncertainty, such as a merger or new management, it tends to be the best and brightest who start looking for opportunities elsewhere first. This clearly can apply to countries as much as companies.

2. Invest now to upskill both current and future workers

Our survey suggests that a job currently occupied by a non-British worker might not easily be filled by a UK worker, with 58 per cent of non-British workers saying it would be quite or very difficult for a UK worker to replace them.

This could be due to the specialist nature of the roles or possibly due to lack of interest from Britons in these positions. Understandably, in higher-skill areas this perception is greater. Our survey largely reflects views already expressed by business leaders in key sectors.

Our recommendation is that policymakers, businesses and educators come together quickly to identify where the short and longer term skills gaps are likely to be. Even if further deployment of technology could bridge a skills shortage, there is a real need to upskill the workforce to augment this so that the benefits of technology are felt more broadly across society. Our new research shows that many of the requirements for the modern workplace are general purpose skills, such as active listening and customer and personal service knowledge. The challenge for policymakers, businesses and educators is how to adapt our current education and training systems in order to meet these requirements both in the short and longer term.

3. Embrace digital and invest in the deployment of technology

Our recommendation is that businesses of all sizes are encouraged and incentivised to look at existing and new technologies available that might bridge a potential skills shortage and deliver productivity gains. Where the technology is available, business leaders should be looking closely at how it can be applied to their organisation. In the wholesale and retail sector for example, self-service check-outs have already been widely adopted and robots are working in warehouses alongside people, packing or re-arranging shelves. However, as highlighted above, supplementing the adoption of technology with upskilling workers is key.

Our survey suggests that UK businesses currently regard themselves as less 'ready' for automation than other major economies. For policymakers, incentivising businesses to invest in certain types of technology could assist in addressing this challenge.

Our data also shows that only 38 per cent of workers think that their organisations should invest in automation. This may be due to a concern for their own position. It is recommended that policymakers and businesses work together to alleviate some of the concerns around the fear that automation displaces jobs. Our previous research¹⁵ shows that it can in fact create many more higher-skilled ones and as we have seen through history, increased prosperity and human demand creates new industries and jobs to replace those lost to technology.

¹⁵ Deloitte report 'From Brawn to Brains – the impact of technology on jobs in the UK'

4. Work at a regional level to create an appropriate local response

Our survey shows that there are considerable variances across sectors and regions in relation to the intentions of non-British workers. In the Northern Powerhouse region, only 21 per cent of EU nationals are considering moving to another country, compared to 59 per cent in London.

Our background data also shows that the percentage of those considering leaving the UK also varies by sector. In the information and communication sector over 50 per cent of workers are considering leaving in the next five years, compared to just 23 per cent in transport and storage for example. We will release further data on this in the near future.

Our recommendation is therefore that a localised approach be taken, with local authorities, associations, businesses and educators together mapping out the specific challenges and opportunities for their region. For example, ONS data¹⁶ highlights a concentration of manufacturing roles in the East and West Midlands. With manufacturing being one of the sectors with highest opportunity to automate, it could be that specific training programmes need to be adopted in that region to reskill current workers. In the East and South East, there is a concentration of highly-skilled scientific and technical workers and so it may be in those areas that measures need to be taken to retain current international talent.

Businesses and industry bodies need to take a long-term view on this and work to understand what the requirements of their organisation will be in 10 years' time. This needs to be articulated to policymakers and educators so that planning can begin now.

Conclusion

It is clear from our survey and wider Deloitte research that the coming decades will be dominated by issues of knowledge and skills. Artificial intelligence and increasingly sophisticated physical robots are changing the way in which we work. There is considerable opportunity for business to automate, which could create many more high-skilled jobs, but for this to happen the UK will need to develop the skills to augment this technology.

This presents businesses, policymakers and educators with a series of challenges. How will they smooth the transition to a high-skills economy without leaving behind a large segment of the workforce? How will they implement technology investments that are needed to improve the UK's productivity performance and catch up with peers in the industrial economy? And how will they shape skills and immigration policy as the terms of the UK's exit from the European Union become clear?

Our survey shows that many EU workers currently in the UK are considering leaving. That is particularly true of highly-skilled EU workers and the prospect of a short-term skills shortage is real. Businesses need to consider the skills they require for the future and how to retain their key workers.

However, despite the forces of change in the workplace, the UK remains a highly favourable place to migrate to for work, indicating that the UK will continue to have access to the international talent needed in a sophisticated and increasingly technological economy. It is now up to policymakers, businesses and educators to articulate a vision of how the UK intends to capitalise on its many strengths.

16 ONS report on the spatial distribution of industries in Great Britain: 2015

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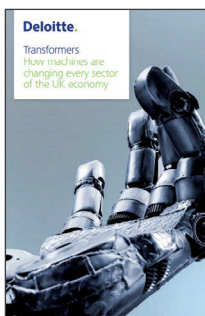
We collaborated with Carl Benedikt Frey and Michael Osborne of Oxford University on Agiletown: The relentless march of technology and London's response. In that report, we suggested that 35 per cent of jobs in the UK were at high risk of automation in the next 10 to 20 years. Following this, we have conducted an in-depth study of the UK's labour force to understand how these hypothetical models compare with actual changes in employment over the last 15 years.



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