Expected skills needs for the future of work

Understanding the expectations of the European workforce

Karim Moueddene, Michela Coppola, Patrick Wauters, Maya Ivanova, Joanie Paquette and Valeria Ansaloni
Introduction: Skills in the future of work

Emerging technology is reshaping the world of work. Automation is revolutionizing business models, tools, tasks and delivery modes. Workers can already see the transformation happening, as artificial intelligence (AI), robotics and other digital innovations are being used increasingly in the workplace. The likely effects of automation are mixed. On the one hand, some jobs are at risk of being fully or partially automated and/or replaced by robots and AI. On the other hand, these changes could increase efficiency and access to services. Employers and workers require the necessary digital and soft skills to take advantage of the new opportunities they are expected to face.

However, almost half the population of the EU is considered as lacking basic digital skills and one-third of the European citizens reportedly have no or almost no digital skills at all. Approximately 40 per cent of employers are struggling to fill their job vacancies due largely to a lack of necessary skills, while 30 per cent of graduates are working in a job where the competences they acquired at university are not required. This skills gap could threaten the stability of the labour market as well as the ability of EU industry to innovate.

The ‘future of skills’ receives considerable attention from governments around the world and stands high on the political agenda of many international organizations. As an example, the EU has adopted an overarching strategy – the New Skills Agenda – to tackle a wide range of skills-related challenges. Many of the tools contained in this initiative aim at empowering individuals to develop new skills or to exploit the skills they already have. Nevertheless, even with the most innovative policies in place and the mobilization of huge public resources, the success of any skills strategy depends heavily on the motivation of individuals and their decisions to take a step forward. Hence, it is of great importance for policymakers and other stakeholders to understand the impact of technological change from the perspective of workers in order to develop effective policy tools to create a future that works for all.

A number of academic studies already shed light on the potential changes in the labour force of the future. This article, which presents the opinions of more than 15,000 workers across ten European countries, was designed to contribute to the overall debate by giving voice to the workers themselves and potentially bring them closer to policymakers.

This paper provides insights on how the workers surveyed view the impact of new technologies on their work, how they perceive their own preparedness for automation and technological change, and which policy measures they expect from governments and others. Building on the analysis of workers’ attitudes, the paper concludes with a number of suggestions for further consideration at policy level to address the skills gap and its challenges.
ABOUT THE RESEARCH
To amplify the ‘voice of the workforce,’ in August 2018 Deloitte conducted the European Workforce Survey, reaching out to more than 15,000 people across ten European countries (France, Germany, Italy, the Netherlands, Poland, Romania, Spain, Sweden, Switzerland and the United Kingdom) (figure 1). For this online survey, the sample was restricted to individuals at least 25 years old and active in the labour market (either working or looking for a job, and all referred to in this paper as ‘workers’). The age and gender composition of the sample was designed to reflect the current composition of the workforce in each country. Professional translators adapted the questionnaire into their local (native) language, and native-speaking professionals refined the translations to optimise the comprehensibility of the questions.

FIGURE 1
Sample sizes, by country

Expectations and perceived preparedness of the workforce

Both the EU and national governments aim to close the skills gap and increase digital skills significantly through a wide range of initiatives, one of the most important being vocational education and training. But how do European workers see the need for action in order to equip themselves with all the skills necessary for Industry 4.0?

**FIGURE 2**

**Challenges and stakeholders related to skills policies in Europe**

- **Lack of digital skills**: 43% of the EU population lacked basic digital skills in 2017.
- **Shrinking labour force**: The median age of the EU population was 43.1 years on 1 January 2018 and rising.
- **Rising inequality**: Nearly one-tenth of employed persons in the EU were at risk of poverty in 2016.

A general positive attitude towards the potential impact of automation

Despite the often gloomy perceptions about the possible impact of robots and automation on jobs and the demand for skills, the attitude of workers is relatively positive (figure 3). For example, only 24 per cent of the survey respondents believe that automation will make their job redundant, and only 30 per cent of respondents think that their job opportunities will be reduced. On the contrary, 51 per cent of workers surveyed believe that automation will improve the quality of their work and 50 per cent believe it will give them an opportunity to develop their skills.

Nevertheless, a closer look into the results of the survey reveals some differences among certain groups from this overall positive perception. It appears that a majority of individuals with a lower level of education tend to see automation as a threat, whereas those with higher educational attainment are more likely to see it as an opportunity. Indeed, while 57 per cent of respondents with a university degree agree with the statement...
“automation will improve the quality of my work”, only 46 per cent of respondents who did not attend high school share this view. Within this latter group, more than one in three agree with the statement “automation will reduce the job opportunities available to me”, compared to less than 30 per cent of respondents with a university degree. In general, it appears that workers with lower educational attainments are more inclined to agree with ‘negative’ statements about the consequences of automation, possibly because they feel their jobs could be at higher risk. Nonetheless, it is striking that even among this group of respondents, the majority are more likely to agree with ‘positive’ statements about the effects of automation rather than having negative views.

This could raise interesting questions at a policy level about the potential winners and losers from automation, as well as the consequences of a widening inequality gap. Without suitable opportunities to reskill or upskill, workers with a lower level of educational achievement could struggle to find a secure new position in the event of their current job being automated. Hence, an increasing polarisation of skills may allow highly-educated individuals to enjoy better access to the jobs market and greater job security. Many policymakers are taking steps to develop tailored training schemes for workers in occupations with higher risk of automation, and ensuring access to training across all levels of educational achievement.

The overall positive attitude of low-skilled workers towards automation, emerging from the survey replies, suggests that presenting these training schemes as empowerment, rather than as a defensive or preventive measure, can further increase their impact.

AUTOMATION AS AN OPPORTUNITY TO DEVELOP SKILLS

Even if workers do not perceive a threat of losing their job due to automation, most still expect some changes in the nature of their job and the skills required for it.

About 50 per cent of workers surveyed across all sectors believe that automation will give them an opportunity to develop their skills. This is particularly true among respondents with higher levels of education: 57 per cent of those with a university degree hold this view, compared to just 41 per cent of those surveyed with lower educational attainments.

When asked about the expected impact of automation on the nature of their skills, more than 35 per cent of respondents do not think that it will make their current skills outdated, whilst 28 per cent believe that it will. This divergence of opinions may be explained partly by different expectations across occupations.

For instance, in the survey results, workers in elementary occupations (e.g. manufacturing labourers, agricultural labourers, etc.) show a greater tendency to believe that technology will reduce their job opportunities, whereas workers in other occupations tend to disagree with this statement (figure 4).

The expectation among workers that some of their skills may be outdated by technology could influence both the self-perception of their level of preparedness and their motivation to engage in training activities.
Workers’ attitudes towards technology across sectors

Ranking of the level of agreement with different statements about the role of technology across occupational groups (where 1 (dark green) corresponds to the most highly agreed statement and 10 (dark grey) to the least agreed statement)

<table>
<thead>
<tr>
<th>Occupational Group</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
<th>6</th>
<th>7</th>
<th>8</th>
<th>9</th>
<th>10</th>
</tr>
</thead>
<tbody>
<tr>
<td>Administrative or secretarial</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>1</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>technicians and associate professions</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>2</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Elementary occupations</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>3</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Manager, director or senior officials</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>4</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Plants/machine operators and assemblers</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>5</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Professionals</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>6</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Sales or customer services</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>7</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Craft and related trades workers</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>8</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Overall ranking</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>9</td>
<td></td>
<td></td>
<td></td>
<td>10</td>
</tr>
</tbody>
</table>

**Statements:***
- ...improve the quality of my work
- ...give me an opportunity to develop my skills
- ...make me more productive in my work
- ...allow me to focus on the more interesting and valuable aspects of my job
- ...reduce the physical risks in my job
- ...allow me to extend my working life
- ...reduce the job opportunities available to me
- ...make my current skills outdated
- ...reduce my job security
- ...make my job redundant

A HIGH LEVEL OF “FEELING PREPARED”
Bearing in mind that less than one-third of respondents surveyed expect their skills to become outdated, it is not surprising that only 11 per cent of them reported feeling unprepared for the future when thinking about developments brought on by emerging technologies. The remaining 89 per cent surveyed believe themselves to be “prepared to some extent” or “very prepared”. A closer look at the survey results shows that the self-perception of being prepared increases with the level of proficiency in certain skills, especially in advanced information technology (IT) (figure 5). Interestingly, the level of feeling prepared seems to correlate with expectations about potential changes in the job. Almost half of the respondents who do not expect their job to change also reported seeing themselves as well prepared. This suggests that some workers may feel prepared due to a lack of awareness about the actual impact that automation might have on the demand for skills. This highlights the importance of raising awareness by providing information, in order to encourage and motivate workers to engage in reskilling and upskilling.

FIGURE 5
Self-perceived proficiency in different skills
Share of respondents considering themselves “very prepared” by self-perceived proficiency level in different skills
- I’m already proficient
- I would need to improve my existing skills
- I would need to acquire new skills
- Not necessary for me to find a job

The Workforce survey also shows that, compared with the perceived preparedness of others, workers tend to consider themselves the most well-prepared. They feel better-equipped to face evolution in the workplace than their employers, the corporate sector in their country, their colleagues, their government and their fellow citizens (Figure 6).

Interestingly, respondents believe that their employers and (more generally) the corporate sector in their country, are better prepared than their government and political institutions. In fact, 33 per cent consider that their government is not ready for the developments brought on by emerging technologies, which seems to indicate a lack of confidence. A reason for this could be the public sector’s tardiness to fully exploring the potential of digitalization to provide better and more efficient public services in some countries. Governments which refrain to set an example may limit the confidence of workers in the effects of public policies. Hence, they are more likely to be disengaged and not to take full advantage of the guidance on re-skilling that governments provide.

FIGURE 6
Perceived preparedness of other actors
Thinking about the developments brought on by emerging technologies, how prepared...? (% answering "Very prepared")

<table>
<thead>
<tr>
<th>Role</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>...are you</td>
<td>26%</td>
</tr>
<tr>
<td>...is your employer</td>
<td>22%</td>
</tr>
<tr>
<td>...is the corporate sector in your country</td>
<td>19%</td>
</tr>
<tr>
<td>...are your colleagues/employees</td>
<td>16%</td>
</tr>
<tr>
<td>...is your government/political institutions</td>
<td>14%</td>
</tr>
<tr>
<td>...are your fellow citizens</td>
<td>12%</td>
</tr>
</tbody>
</table>

Addressing reskilling and upskilling: Insights on policy priorities

To provide the right guidance on reskilling and upskilling, governments and employers should identify the main drivers that motivate workers to engage in training.

The Workforce survey shows that 70 per cent of respondents had participated in a training programme within the previous 12 months. Workers who expect their job to be affected by technology in the near future would be more likely to engage in training in order to prepare for the upcoming change. Indeed, 80 per cent of these individuals had participated in a training programme, again highlighting the importance of awareness among workers about the changes that might affect them.

42 per cent of respondents agreed that a potential impediment to upgrading skills is the “lack of guidance in what to learn”. This could be seen as part of a broader problem, namely the provision of appropriate support measures, which requires identification of the right skills that will be required, developing training programmes and finding the resources to deliver the training.

When asked about responsibilities for the provision of training, most respondents agree that employers have the biggest responsibility, both for identifying the skills required and also for financing and providing training opportunities.

Interestingly, even though one-third of respondents consider that public institutions in their country are not prepared for technological change, a substantial proportion of them would like to see their government playing a bigger role in both the provision and funding of training. Looking into differences across educational levels, there is a tendency for individuals with a lower level of education to attach more importance to involvement by the government. This could be a result of either better knowledge of existing opportunities or a consequence of greater dependence on government support.

When asked about the different measures that the government might initiate, workers tend to attach higher priority to education and training, rather than measures to restrict the advance of automation. Indeed, improving the availability of vocational training is the top priority for the survey respondents (52 per cent high priority, 29 per cent moderate priority), closely followed by improving secondary and university education (52 per cent high priority, 27 per cent moderate priority). Facilitating access to emerging technologies, improving the offer of high-level education, investing in upskilling programmes, and providing economic support to displaced workers are also considered high priorities by more than one-third of respondents. Only 21 per cent of the respondents would prioritise a restriction on the use of technology that puts jobs at risks (figure 7).
### Perception of policy priorities

Proportion of respondents considering several policy measures to support the labor market as high/moderate priority

<table>
<thead>
<tr>
<th>Policy Measure</th>
<th>High priority</th>
<th>Moderate priority</th>
</tr>
</thead>
<tbody>
<tr>
<td>Improve availability of vocational training</td>
<td>52%</td>
<td>29%</td>
</tr>
<tr>
<td>Improve secondary education</td>
<td>52%</td>
<td>27%</td>
</tr>
<tr>
<td>Improve access to new technology (e.g. fast fibre optics, use of technology in learning, free wifi)</td>
<td>46%</td>
<td>31%</td>
</tr>
<tr>
<td>Improve university education</td>
<td>45%</td>
<td>32%</td>
</tr>
<tr>
<td>Invest in upskilling programs</td>
<td>42%</td>
<td>33%</td>
</tr>
<tr>
<td>Provide economic support to displaced workers</td>
<td>37%</td>
<td>31%</td>
</tr>
<tr>
<td>Restrict the use of technologies that put jobs at risk</td>
<td>21%</td>
<td>26%</td>
</tr>
</tbody>
</table>


It appears that respondents with lower educational attainments are more likely to support a restriction on new technologies. This raises, once again, the question of the different impact of new technologies across educational groups. However, it is worth mentioning that even among less formally educated respondents, limiting the use of technologies remains the least preferred of all suggested policy priorities. Only 25 per cent of less formally educated respondents consider restricting the use of new technologies as a high priority.
Europe is facing considerable challenges to guarantee a future of work for everyone. Governments and employers share a responsibility to identify skills needs and provide training and guidance to workers about which new skills to develop. The following summary of results from the Workforce survey about workers' perceptions can help policymakers in planning the most appropriate and sustainable ways forward.

1. **THE MAJORITY OF WORKERS ARE READY TO EMBRACE THE POTENTIAL OF TECHNOLOGY**
   Contrary to the conventional wisdom that workers are afraid of the expected digital revolution and resistant to change, one of the key findings from the workforce survey is the overall positive attitude towards the impact of technological change on skills. Technology is generally considered an opportunity to develop new skills. Only a small proportion of respondents would prioritise a restriction on the use of emerging technologies, whereas the vast majority would prefer to have easier access to training and education opportunities in technology. Workers seem to be willing to change, and policymakers should find a way to involve them actively in the transition process. Public authorities should focus on developing a positive narrative around the digital revolution that is occurring, highlighting the opportunities and how to respond to them. Such a narrative could focus on the potential of technology to create jobs and tasks that require new combinations of human skills, and thus increase the importance of people's contribution in work. Given appropriate supportive public policies, technology could empower workers and fuel economic growth.

2. **LOW-SKILLED WORKERS COULD BE LEFT BEHIND UNLESS APPROPRIATE ACTION IS TAKEN**
   Notably, employees with a high level of educational attainment are more optimistic about future developments, while workers whose jobs are at higher risk of automation those who have less formal education tend to be more sceptical about technology. It is therefore important, in order to prevent an increasing inequality gap and leave no one behind, that lower-skilled workers at high risk of falling out of the labour market should be guided and supported in developing the necessary skills to remain employable. This is further emphasised by the fact that even if the vast majority of surveyed workers feel prepared for the future, having a proficiency in

---

**Conclusions and recommendations**

**KEY TAKEAWAYS FOR POLICYMAKERS**

- Public authorities should focus on developing a positive narrative around the digital revolution that is occurring, highlighting the opportunities and how to respond to them.
- Governments should take action to ensure that everyone is aware of and prepared for Industry 4.0, by helping those who are at the highest risk of being affected with tailored policy measures.
- A way for political leaders to gain trust is to embrace digital change by adopting technologies to improve the provision of public services and foster innovation.
- Policymakers should involve other key players, such as universities, companies and professional centres, to facilitate the delivery of training schemes and raise awareness about the importance of continuous learning.
certain skills correlates positively with the self-perceived readiness. Governments should take action to ensure that everyone is aware of and prepared for the realities of Industry 4.0, by helping those who are at the highest risk of being left behind with tailored policy measures.

3 WORKERS EXPECT THE GOVERNMENT TO SET AN EXAMPLE AND PROVIDE AN OVERARCHING FRAMEWORK
The self-perceived preparedness for change among respondents could mean that workers are underestimating the impact of future changes, so that there is a general lack of awareness of the need for upskilling and reskilling. In addition to providing information to workers, governments and public authorities should set a positive example. A way for political leaders to gain trust is to embrace digital change by adopting technologies to improve the provision of public services and foster innovation.

4 GOVERNMENTS SHOULD PROVIDE THE RIGHT ENVIRONMENT FOR STAKEHOLDERS TO ADDRESS SKILLS GAPS
Workers give the highest priority to education and training policies, but they also believe that the provision of training is mainly the responsibility of employers rather than public authorities. Companies should lead the transition by instituting a learning culture rather than providing ad hoc training programmes. It is also important to have the support of governments, enabling investment in vocational education and training and in life-long learning. Policymakers should involve other key players, such as universities and professional centres to facilitate the delivery of training schemes and raising awareness about the importance of continuous learning.

Technology will likely lead to a new world of work, and the actions we take now have the power to define its foundations.
Expected skills needs for the future of work

Endnotes


6. From Eurofound’s Glossary: “‘Social partners’ is a term generally used in Europe to refer to representatives of management and labour (employers’ organisations and trade unions). The term ‘European social partners’ specifically refers to those organisations at EU level which are engaged in the European social dialogue, (…),” https://www.eurofound.europa.eu/observatories/eurwork/industrial-relations-dictionary/european-social-partners.


About the authors

Karim Moueddene | kmoueddene@deloitte.com
Karim is the global lead client service partner of Deloitte's European Institutions Account. Deloitte deploy its complete services portfolio to the European Union, from policy development to implementation, from strategy to the management of change or services such as audit and cybersecurity. As GLCSP for the Account, Karim oversees all of the services provided to European institutions, agencies and bodies around the globe.

Michela Coppola | micoppola@deloitte.de
Michela is a research manager within the EMEA Research Centre specializing in the identification, scoping and development of international thought leadership. Coppola also leads Deloitte's European CFO Survey, a biannual study that brings together the opinions of more than 1,600 CFOs across 20 countries. Before joining Deloitte, Michela developed thought leadership for Allianz Asset Management. She has a PhD in economics and is based in Munich.

Patrick Wauters | pwauters@deloitte.com
Patrick is a director in Deloitte's European Public Policy practice. He started his career as a manager for the Flemish government working in the field of social employment, social entrepreneurship, education and training for disadvantaged groups. He joined Ernst and Young consulting and later Deloitte Consulting. Wauters assisted the Flemish government in setting up the one-stop shops for employment and social services. He carried out different studies for the European Commission on employment and social affairs policy. He currently leads among others the work Deloitte is carrying out for DG Employment on EURES, the EU labour mobility programme. He also oversees the MoveS project, a European Commission (DG EMPL) funded network of independent experts in the fields of free movement of workers (FMW) and social security coordination (SSC).

Maya Ivanova | maivanova@deloitte.com
Maya is part of Deloitte's public policy team in Brussels (Deloitte Consulting Belgium). In her work as a Consultant, she focuses on delivering studies and evaluations for the European institutions in the fields of employment policy, communication and economic growth. Before joining Deloitte Belgium, Maya worked as a trainee at Directorate-General “Employment, Social Affairs and Inclusion” on the topics of employment strategy and future of work. She also has experience as a consultant for the public sector in Germany. She holds an M.Sc. in politics, economics and philosophy from the University of Hamburg, Germany and a BA in international politics from Aberystwyth University, United Kingdom.
Joanie Paquette | jopaquette@deloitte.com

Joanie is part of Deloitte’s public policy team in Brussels (Deloitte Consulting Belgium). She works with the European institutions in the digital policy field as well as in employment, inclusion and social policy. Previously, she worked at the Quebec Interprofessional Council (Canada) where she conducted research on various aspects of professional and labour policy, including on the recognition of immigrants’ professional competences. She has a master in public administration and European policy (M.Sc.) from KU Leuven. She also holds a bachelor’s degree in law (LL.B.) from University of Montreal and a certificate in political science and international relations from University of Quebec in Montreal.

Valeria Ansaloni | vansaloni@deloitte.com

Valeria is currently working in Deloitte Belgium for the Public Sector Policy Team, which she joined last year as a Business Analyst. She owns a Bachelor in Economics and Social Sciences and a MSc in Economics and Management of Government and International Organization, both obtained at Bocconi University in Milan. In addition to her comprehensive academic knowledge of EU policy, Valeria also gained practical experience during her traineeship at the European Commission, DG ECFIN and working as a research assistant in the Health Observatory of Bocconi University.

Contact us

Our insights can help you take advantage of change. If you’re looking for fresh ideas to address your challenges, we should talk.

Industry contacts

Karim Moueddene
Global lead client service partner for the European Institutions
kmoueddene@deloitte.com
+32 2 749 56 08

Nathalie Vandeale
Human capital leader at Deloitte Belgium
nvandaele@deloitte.com
+32 2 800 2813
Acknowledgements

The authors would like to thank Lies Maurissen, Tina Tindemans and Sophie Flores and the entire Deloitte EU Policy Center for their valuable input to this article.

EU Strategy & Policy Services

Deloitte deploys its complete services portfolio to the European Union (EU), from policy development to implementation, from strategy to the management of change or services such as audit and cybersecurity. More specifically, Deloitte Consulting’s policy team in Belgium offers high-quality policy services to the European Institutions, in particular the European Commission, in a wide range of policy areas. Our multinational team has more than 25 years of experience in carrying out successful assignments and in delivering value at the different stages of the policy process to EU bodies and institutions (including EU agencies and offices, the Committee of Region, etc.). To know more about Deloitte’s European Institutions Services, click on https://www2.deloitte.com/be/en/pages/public-sector/topics/EU_Institutions_Services.html.
Deloitte Insights


Follow @DeloitteInsight

Deloitte Insights contributors
Editorial: Sara Sikora, Blythe Hurley and Nairita Gangopadhyay
Creative: Mark Milward
Promotion: Maria Martin Cirujano
Cover artwork: Mark Milward

About Deloitte Insights
Deloitte Insights publishes original articles, reports and periodicals that provide insights for businesses, the public sector and NGOs. Our goal is to draw upon research and experience from throughout our professional services organization, and that of coauthors in academia and business, to advance the conversation on a broad spectrum of topics of interest to executives and government leaders.

Deloitte Insights is an imprint of Deloitte Development LLC.

About this publication
This publication has been written in general terms and therefore cannot be relied on to cover specific situations; application of the principles set out will depend upon the particular circumstances involved and we recommend that you obtain professional advice before acting or refraining from acting on any of the contents of this publication. This publication and the information contained herein is provided "as is," and Deloitte University EMEA CVBA makes no express or implied representations or warranties in this respect and does not warrant that the publication or information will be error-free or will meet any particular criteria of performance or quality. Deloitte University EMEA CVBA accepts no duty of care or liability for any loss occasioned to any person acting or refraining from action as a result of any material in this publication.

About Deloitte
Deloitte refers to one or more of Deloitte Touche Tohmatsu Limited, a UK private company limited by guarantee (“DTTL”), its network of member firms, and their related entities. DTTL and each of its member firms are legally separate and independent entities. DTTL (also referred to as “Deloitte Global”) does not provide services to clients. In the United States, Deloitte refers to one or more of the US member firms of DTTL, their related entities that operate using the “Deloitte” name in the United States and their respective affiliates. Certain services may not be available to attest clients under the rules and regulations of public accounting. Please see www.deloitte.com/about to learn more about our global network of member firms.

© 2019 Deloitte University EMEA CVBA

责任人出版商：Deloitte University EMEA CVBA，注册办公室位于 B-1831 Diegem, Berkenlaan 8b.