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Press releases

Deloitte: Automation set to transform public services

25 October 2016

Up to 861,000 public sector jobs – 16% of the overall workforce - could be automated by 2030 according to research by Deloitte, the business advisory firm.

The research builds on Deloitte's work with Oxford University on job automation and is included in the firm's The State of the State report – its annual analysis of the state of public finances and the challenges facing public services.

Deloitte's previous work has shown that all sectors of the UK economy will be affected by automation in the next two decades, with 74% of jobs in transportation and storage, 59% of jobs in wholesale and retail and 56% of jobs in manufacturing having a high chance of being automated.

The public sector includes higher numbers of roles in areas such as education and caring, as well as jobs requiring public interaction, all of which are at lower risk of automation. However, Deloitte calculates that automation could still lead to a reduction of up to £17 billion in public sector wage costs by 2030.

Deloitte's analysis suggests that up to 861,000 jobs found only in the public sector could be automated. However, across the public sector - including roles that are also found outside the public sector - jobs fall into three categories with different profiles and chances of automation:

- 1.3 million jobs – 27% of the public sector workforce - are in administrative and operative roles in which activities are most repetitive and predictable. These include desk-based administrative jobs and jobs requiring physical skills. Jobs in this category have a 77% probability of being automated.

- 2.6 million jobs – 52% of the workforce - are interactive roles requiring a high degree of

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> personal interaction, including jobs such as teachers, social workers and police officers. Overall, these have a 23% chance of being automated.

- 1.0 million jobs – 20% of the workforce – are in cognitive roles that mostly require strategic thinking and complex reasoning, including finance directors and chief executives. These have a 14% chance of being automated.

Deloitte analysed job types in each category, assessing their growth since 2001 and projecting how they could be affected by automation by 2030.

In administrative and operative roles:

- The number of local government administrative roles has fallen from 99,000 in 2001 to 87,000 in 2015 and is projected to fall to 4,000 by 2030.

In interactive roles:

- The number of care workers and home carers has risen from 213,000 in 2001 to 331,000 in 2015 and is projected to fall to 151,000 by 2030.

- The number of nurses has risen from 210,000 in 2001 to 274,000 in 2015 and is projected to fall to 266,000 by 2030.

In cognitive roles:

- The number of senior fire, ambulance and prison officers has fallen from 10,000 in 2001 to 9,900 in 2015 and is projected to fall to 8,000 by 2030.

- The number of health care practice managers has risen from 8,500 in 2001 to 10,000 in 2015 and is projected to fall to 2,000 by 2030.
  Mike Turley, global head of public sector at Deloitte, said:

"Across all sectors of the economy, technological advances mean that repetitive and predictable tasks are increasingly undertaken by robots – either in the form of software or devices. The public sector is no different.

"The public sector has a high number of public-facing roles, particularly those in areas such as education and caring. These will be relatively safe from automation and could see the public sector impacted less than other sectors. However, automation still has significant potential to support cost reduction, meet citizens' expectations of public services, free up real estate, save staff time and improve productivity.

"We are already seeing examples of technology playing a role in the public sector. Robotic processes are supporting local government in their data entry, driverless trains are becoming more widespread and sensor technology is being used in hospitals and care homes to monitors patients and give nurses and carers more time for quality patient interaction.

"Automation will not displace employees overnight, its impact is gradual and manageable and there could well be social or political resistance to the full deployment of technology in place of people. Our wider research on automation also shows that while jobs are displaced by automation, new, higher-skilled and better paying jobs are created as a result.

"For many roles, particularly those requiring a high degree of cognitive skill, automation is likely to complement roles rather than replace them. For example, senior figures in policing, fire and prisons could utilise technology such as data analytics to inform their decision-making, helping them better understand demand for their services and performance.

"In future, it will become even more important for the public sector to attract people with strong social and cognitive skills. A larger portion of the public sector will need to undertake complex, judgement-based problem solving and customer service as machines take over repetitive, administrative tasks."

End

Notes to editors

About Deloitte's analysis
As some of the occupations are not entirely public sector, only primary occupations – judged to be exclusively public sector roles - have been used to arrive at the potential employment loss and savings figure.

For the probability of automation for the three types of roles the analysis considers the overall employment in public sector, therefore this includes roles found in both the private and public sector.

ONS definitions have been used to determine the number of public sector workers per occupation, which will account for low numbers in some occupations.

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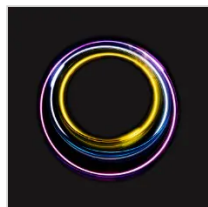
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