

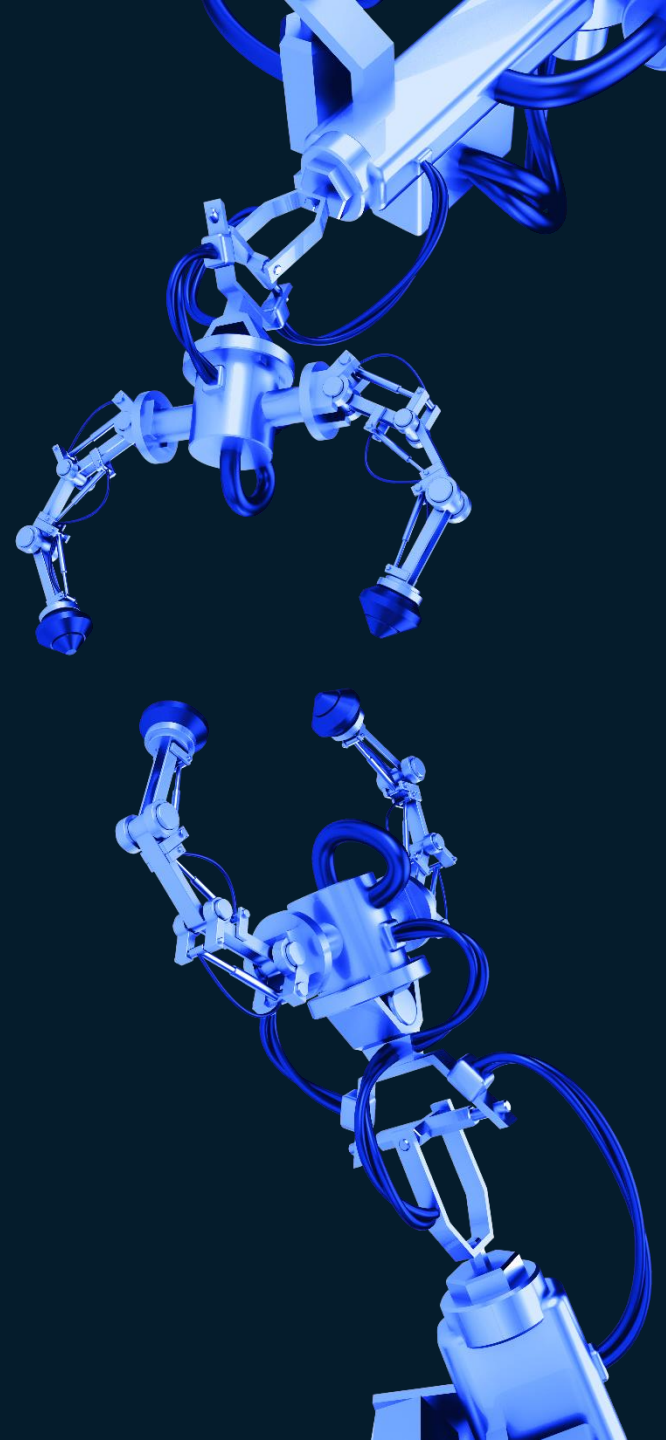
# Automation, productivity, and skills: investing in human capital for a technology-driven future

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# Today's discussion

## **Productivity growth is sorely needed**

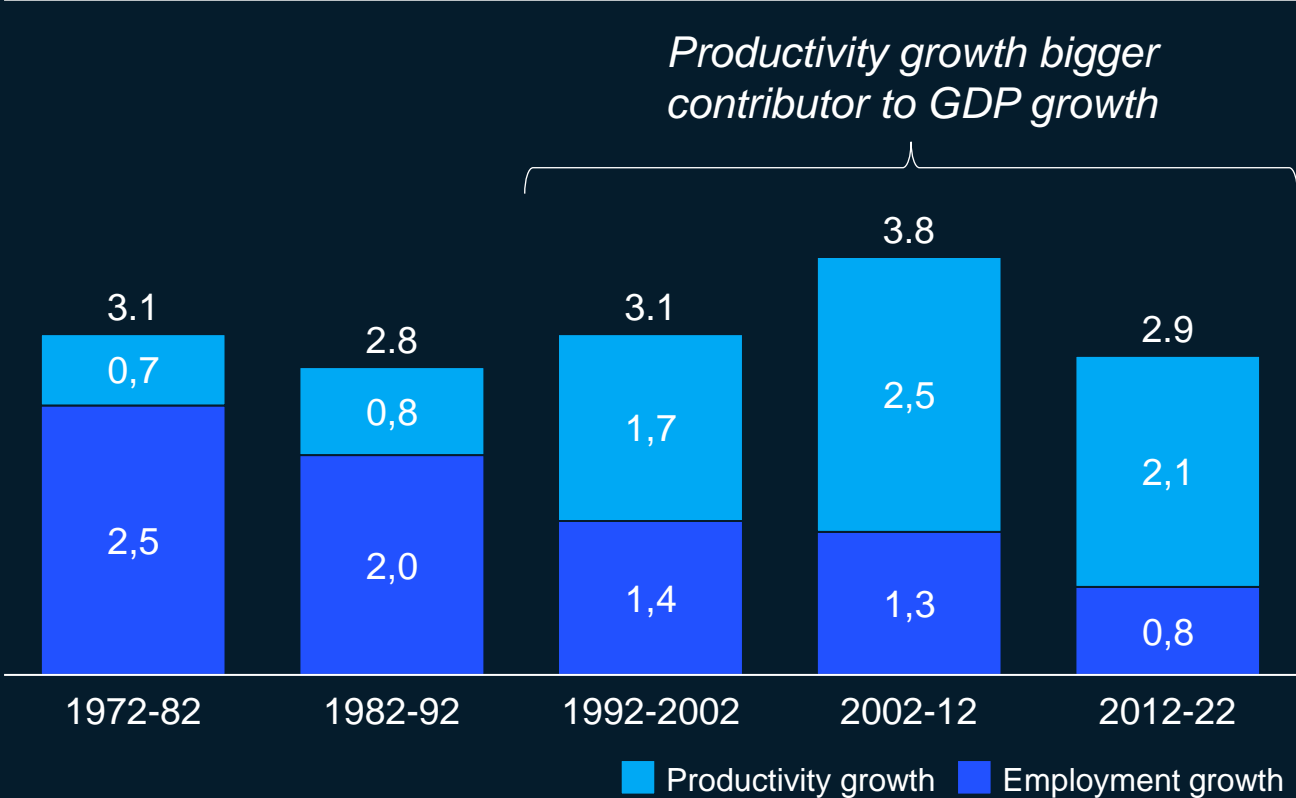
The potential from automation and AI is huge

But the barriers to productive adoption are also substantive

And greater investment in human capital will be instrumental

# Productivity growth is sorely needed as demographics reduce contribution from employment growth

Real GDP growth contribution of employment and productivity growth, 1972 – 2022  
 Global GDP growth, CAGR, %



Source: Conference Board Total economy database; McKinsey Global Institute analysis

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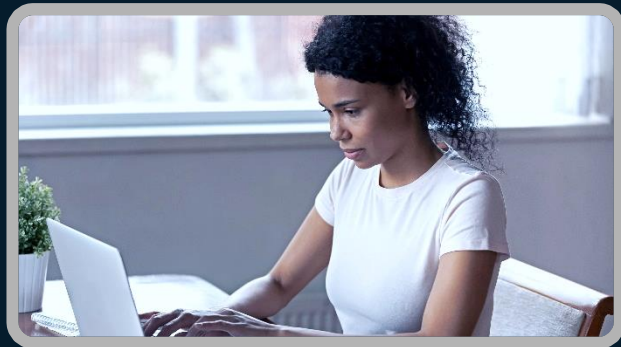
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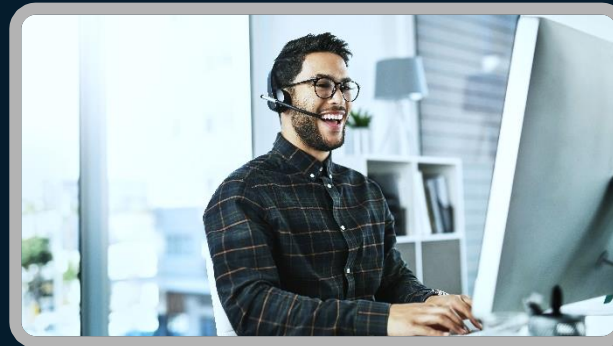
# Generative AI has the potential for enormous productivity gains for individual tasks – but economy-wide impacts are uncertain



**Task level example**

**70%**

productivity improvement for generating new code



**Occupation level example**

**14%**

improvement in call center agents' overall productivity



**Economy level example**

**<1%**

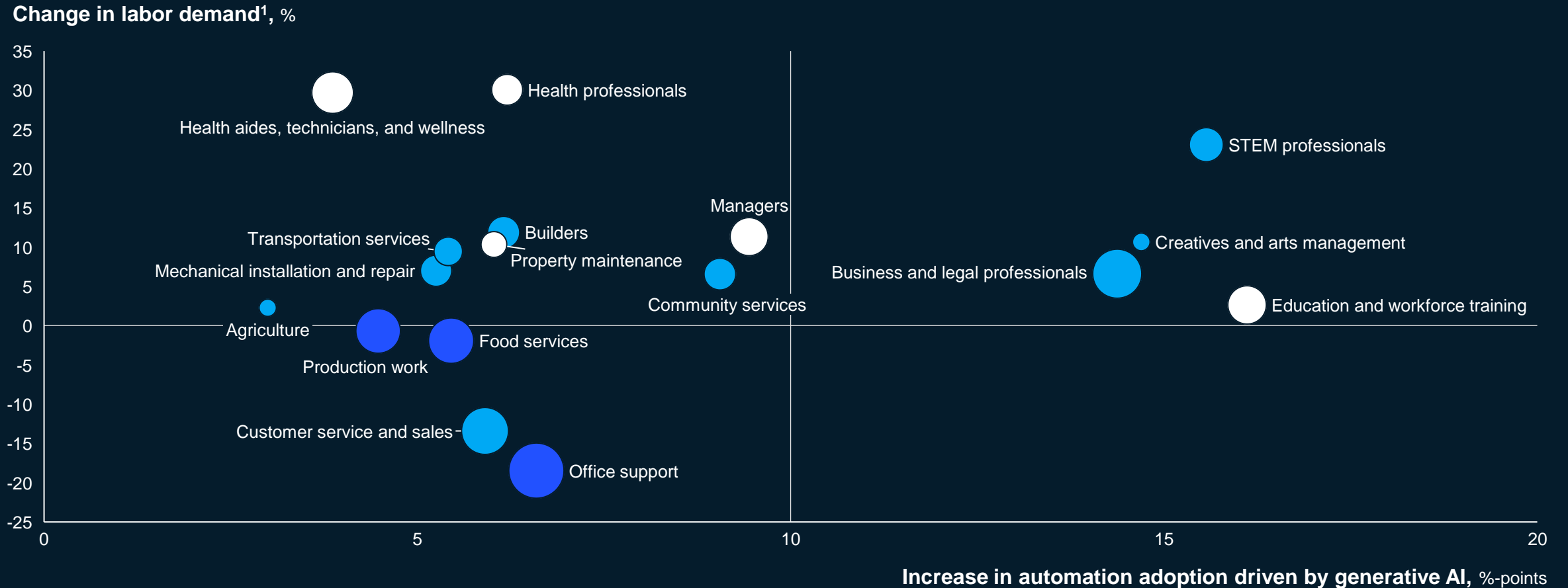
of occupations have more than 60% of their workload currently automatable by AI

# Generative AI has boosted the automatability of occupations that are likely to increase in size due to multiple other demand drivers

Estimated labor demand change and generative AI automation acceleration by occupation  
US, 2022 – 30

Midpoint automation adoption by 2030, %

● 15-25 ● 25-35 ● 35-40



1. Incorporates multiple drivers affecting demand, including rising incomes, aging populations, infrastructure investment, net-zero transitions, marketization of unpaid work, creation of new occupations, technology investment, automation and AI, increased remote working and virtual meetings, and e-commerce and other virtual transitions.

Source: US Bureau of Labor Statistics; Current Population Survey, US Census Bureau; McKinsey Global Institute analysis

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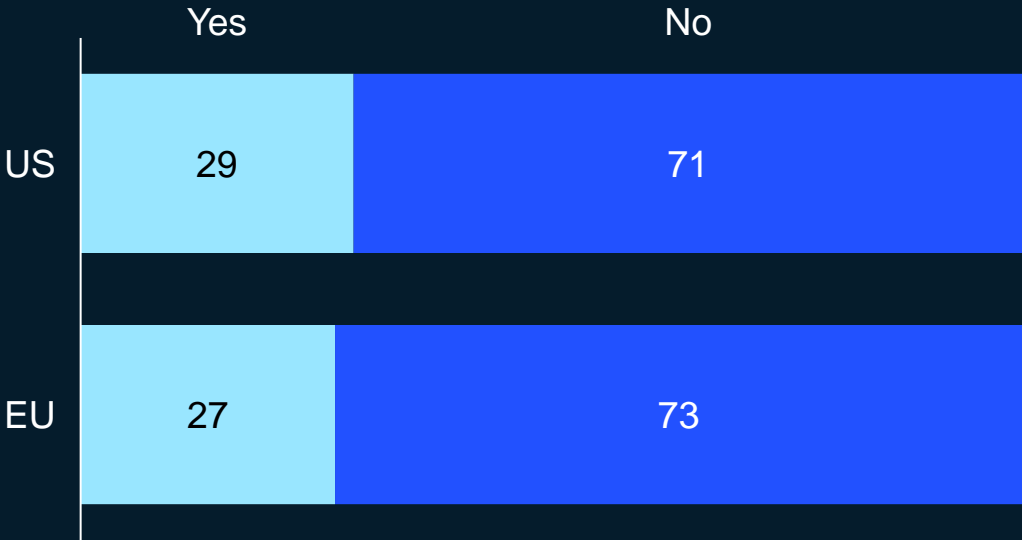
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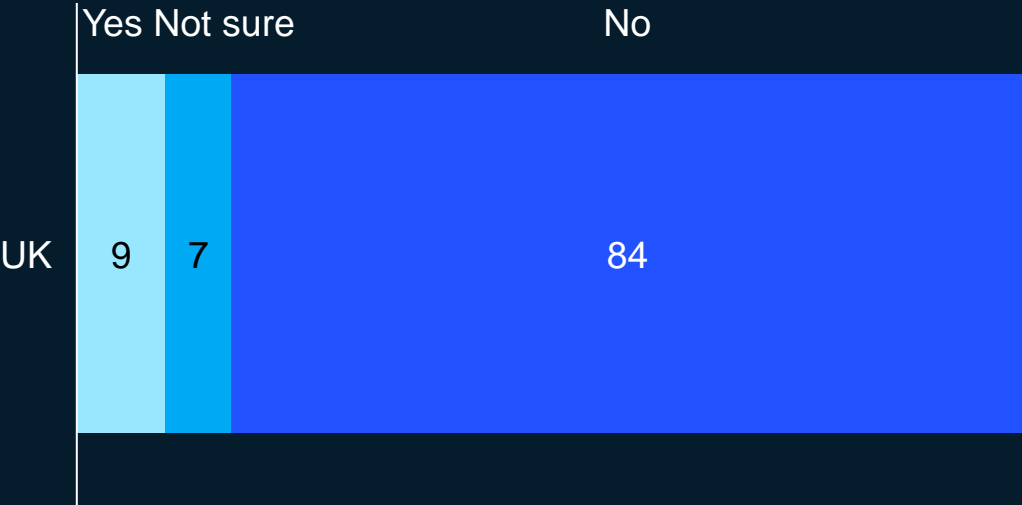
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# Broader adoption of digital technology, automation and AI is not yet wide-spread or necessarily speeding up

**Adoption of big data and AI, US and EU, 2022**  
% of businesses



**Adoption of AI technologies, UK, September 2023**  
% of businesses



1. Micro < 10 employees, small 10-49 employees, medium 50-249 employees, large 250+ employees.  
2. Extent of overlap between currently using and planning to adopt not known.  
Source: EIB Investment Survey; ONS; McKinsey analysis



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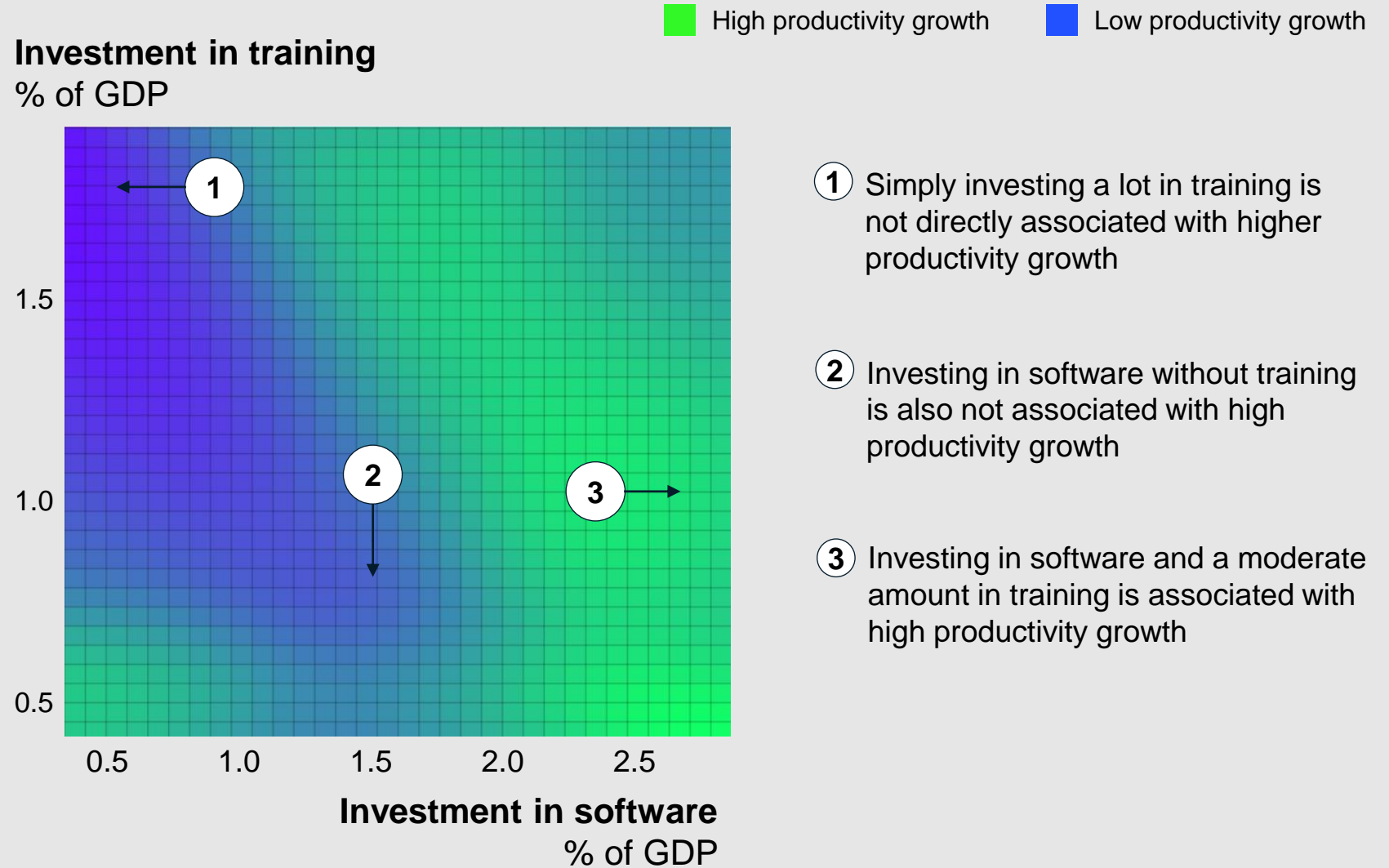
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# Investments in human capital and software are complementary

## Productivity growth as a function of investment

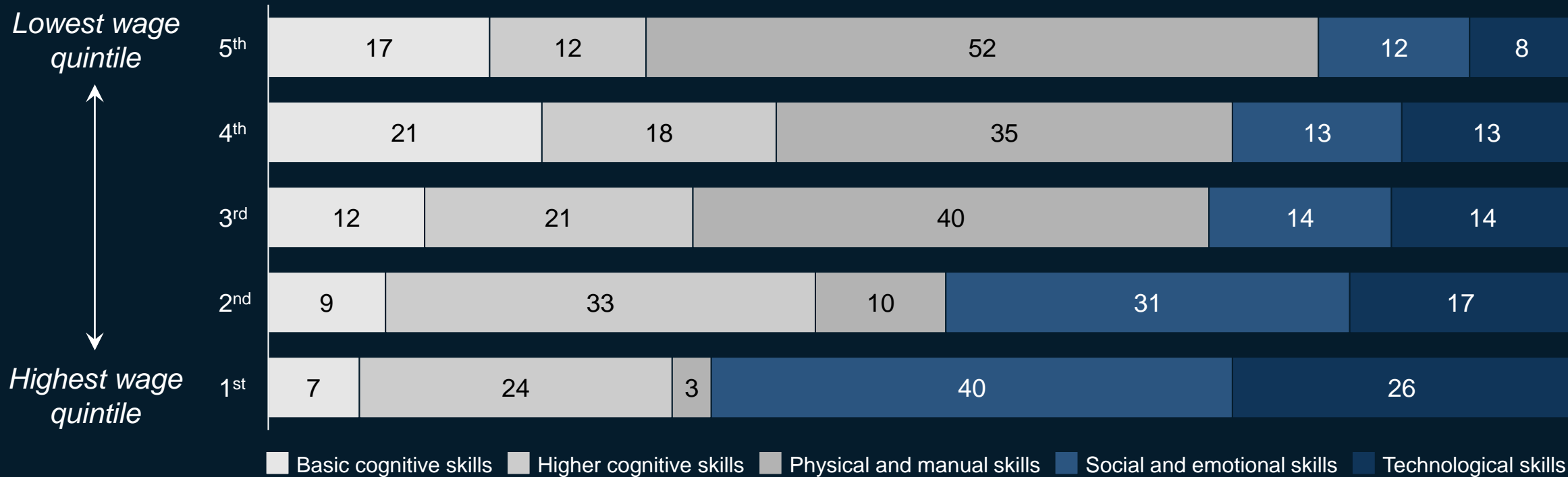
Deepnet model based on EU countries, 1995-2015



# To move into higher-wage occupations, workers will need to be trained more on social and emotional skills and technological skills

Time spent using various types of skills by wage quintile in the United states,<sup>1</sup> 2030, %

Midpoint automation scenario, with generative AI acceleration

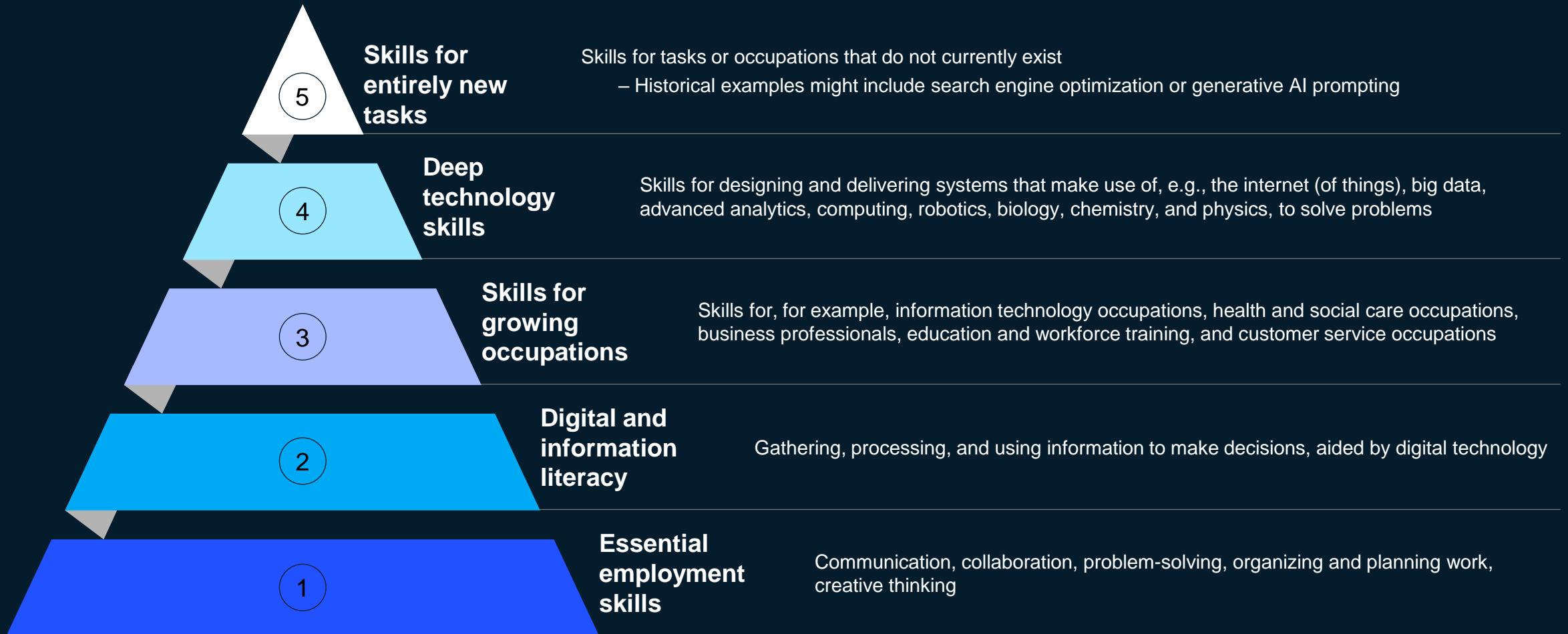


Note: Figures may not sum to 100%, due to rounding.

1. Based on skills needed across 850 occupations and 2,100 activities, classifying each work activity according to the primary skill used among a set of 25 skills, and further grouping skills into the 5 categories shown.

Source: O\*NET; US Bureau of Labor statistics; Current Population Survey, US Census Bureau; McKinsey Global Institute analysis

# Reskilling will need to take place across the entire working population, as skills needs evolve over the coming decades



**Investing in human capital alongside productivity-enhancing technology diffusion will also advance prosperity beyond GDP**

