



State of AI in the Enterprise, 2nd Edition

UK Insights

June 2019

Introduction and methodology

Global investment in Artificial Intelligence (AI) is surging. What can leaders learn from AI's early adopters and how are UK businesses faring versus their international peers?

As part of Deloitte's *State of AI in the Enterprise, 2nd Edition*, 1,900 global AI experts provided insights into the current state of AI adoption in their organisations. All of the respondents represented organisations across a wide range of sectors, which are currently prototyping or implementing AI solutions and can be considered "early adopters of AI". Businesses from the US, Canada, China, Australia, Germany, France and the UK all shared insights into their strategy and how AI is impacting their enterprise and markets.

In the UK, 100 IT and line-of-business executives took part, all of whom are responsible for AI strategy, decision-making, budgeting or implementation. This publication provides insights into how AI is affecting their businesses and where they stand in terms of progress compared to the rest of the world.



Key findings



UK enterprises are enthusiastic about AI, are starting to realise value and are committed to expanding investment



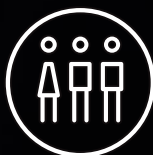
They are using a broad range of AI technologies, increasingly in the cloud



However transitioning from prototype into production is a key challenge



Companies seeking a step-change competitive advantage must look beyond cost reduction and pursue more ambitious strategies



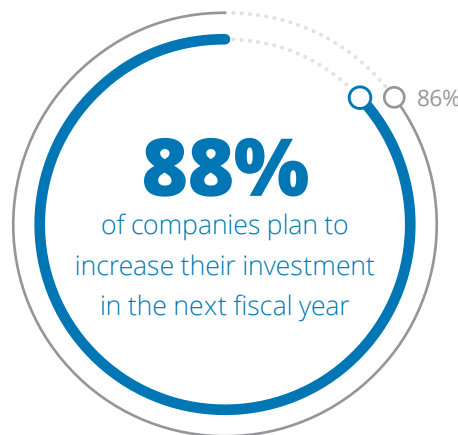
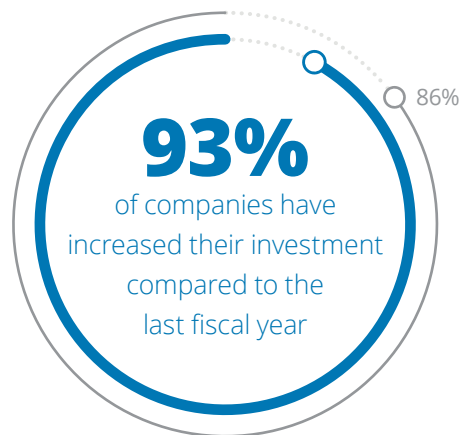
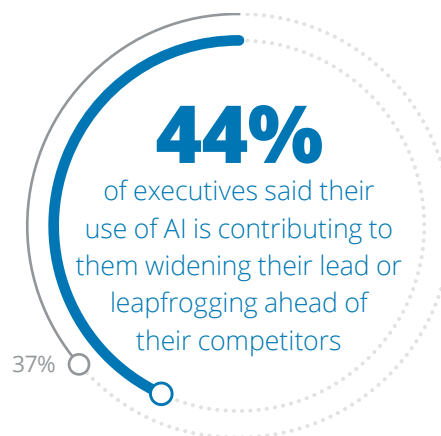
Workforce preparation will be key to successful execution and keeping pace with global competition



UK enterprises are enthusiastic about AI, are starting to realise value and are committed to expanding investment




Betting big on the future of AI

There is a strong recognition of the increasing importance of AI. British businesses show clear enthusiasm and are backing up this exuberance with investment.



— UK — Global Average

The **top three** key benefits of AI for UK businesses are:

-  Optimising internal business operations.
-  Making better decisions.
-  Enhancing the features, functions and/or performance of their products and services.

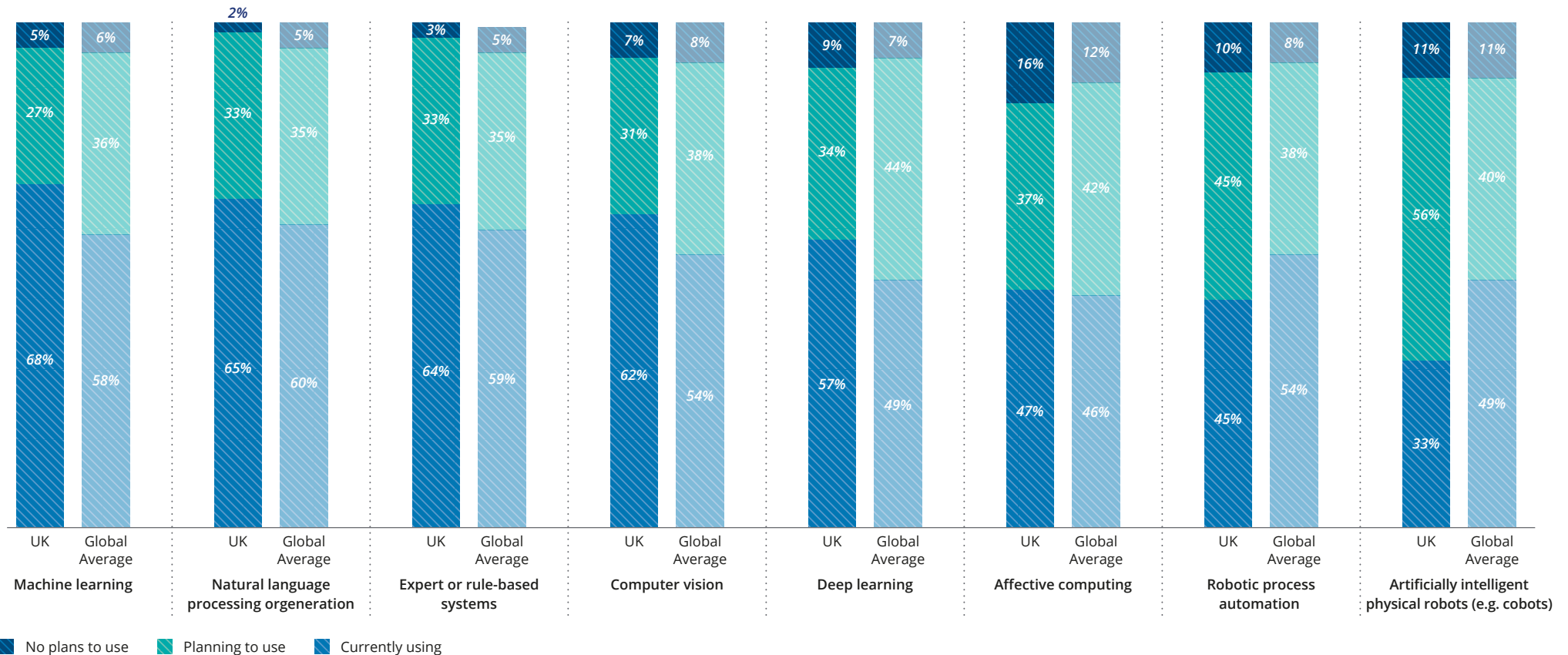


Enterprises are
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Enterprises employ a broad range of AI technologies

British businesses are ahead of their global counterparts in the use of most technologies, especially Machine Learning, Deep Learning and Computer Vision.

AI technology adoption levels

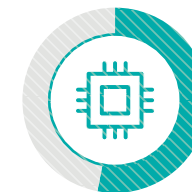
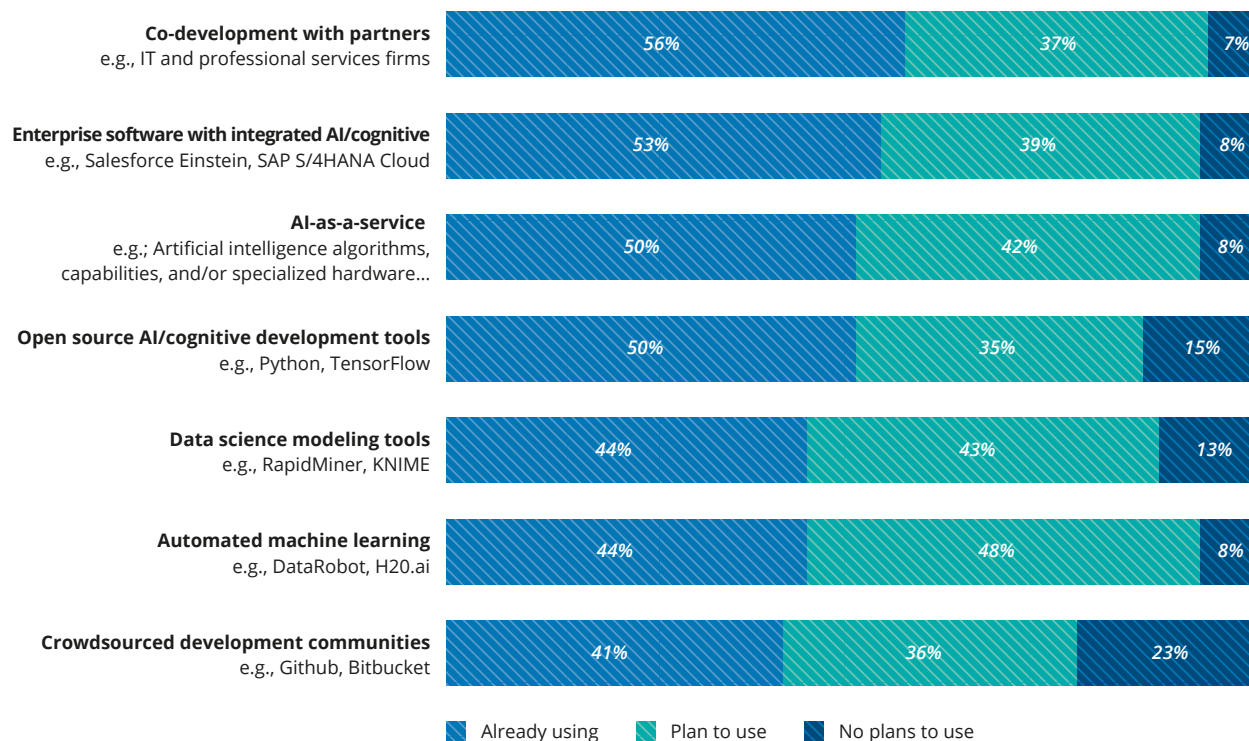


Global average figures include companies from US, Canada, China, Australia, France and Germany, and exclude UK companies

Cloud-based AI software accelerates adoption

Enterprise software with “baked-in” AI and AI-as-a-service solutions are among the most popular and straightforward methods of developing AI.

Ways of Adopting AI – UK



53%

of early AI adopters are using enterprise software with integrated AI capabilities (much of which is available in the cloud).



50%

are using AI-as-a-service (again, presumably the cloud)



44%

are relying on automated machine learning (a set of capabilities available only in the cloud).

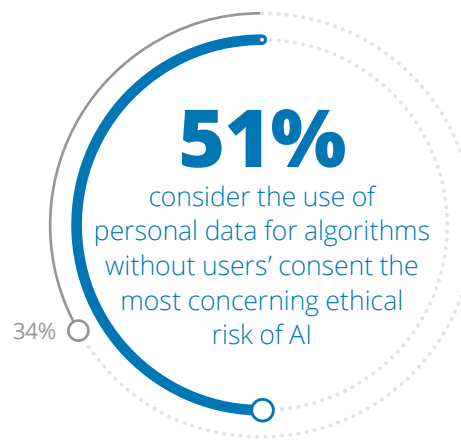
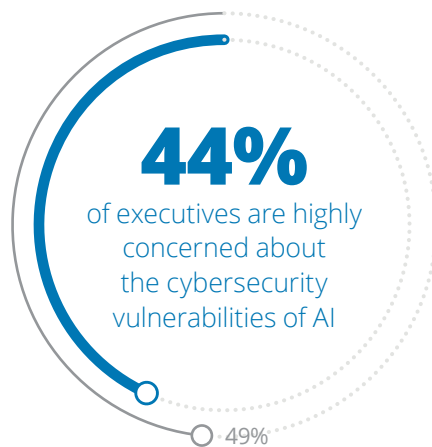
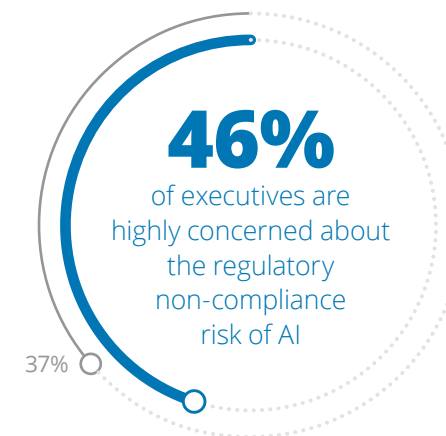
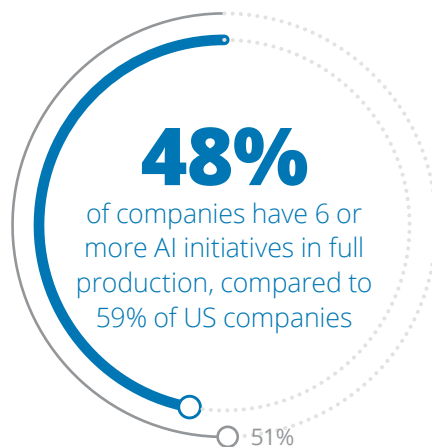
It is clear cloud is having a major impact on AI use amongst UK companies. In the near and immediate future it will drive more full-scale AI implementations and better ROI. Importantly, we will see the democratisation of AI capabilities and benefits that had previously been the preserve only of early adopters. However, high rates of co-development and collaboration suggest many companies are struggling to find appropriate skills in-house, or are increasingly needing to develop customised solutions where ‘off-the-shelf’ options do not suffice.

Transitioning
from prototype
into production is
a key challenge



Teething issues and risk management

UK companies had higher numbers of AI initiatives in the prototype stage than average, but less in full production. Integration issues represent a key challenge to scaling, as does preparedness to address the risks of AI.



— UK — Global Average

The **top three** barriers to scaling AI amongst UK businesses are:

- 1 Integrating AI into the company's roles and functions (e.g. workflows, retraining)
- 2 Implementation challenges (e.g. creating an implementation roadmap, project management)
- 3 Challenges in measuring and proving the business value of the AI/cognitive solution

Companies seeking
a step-change
competitive advantage
must look beyond
cost reduction and
pursue more ambitious
strategies



AI success depends on getting the execution right

70% of UK executives say they have set company-wide guidelines or strategies for AI adoption, but...

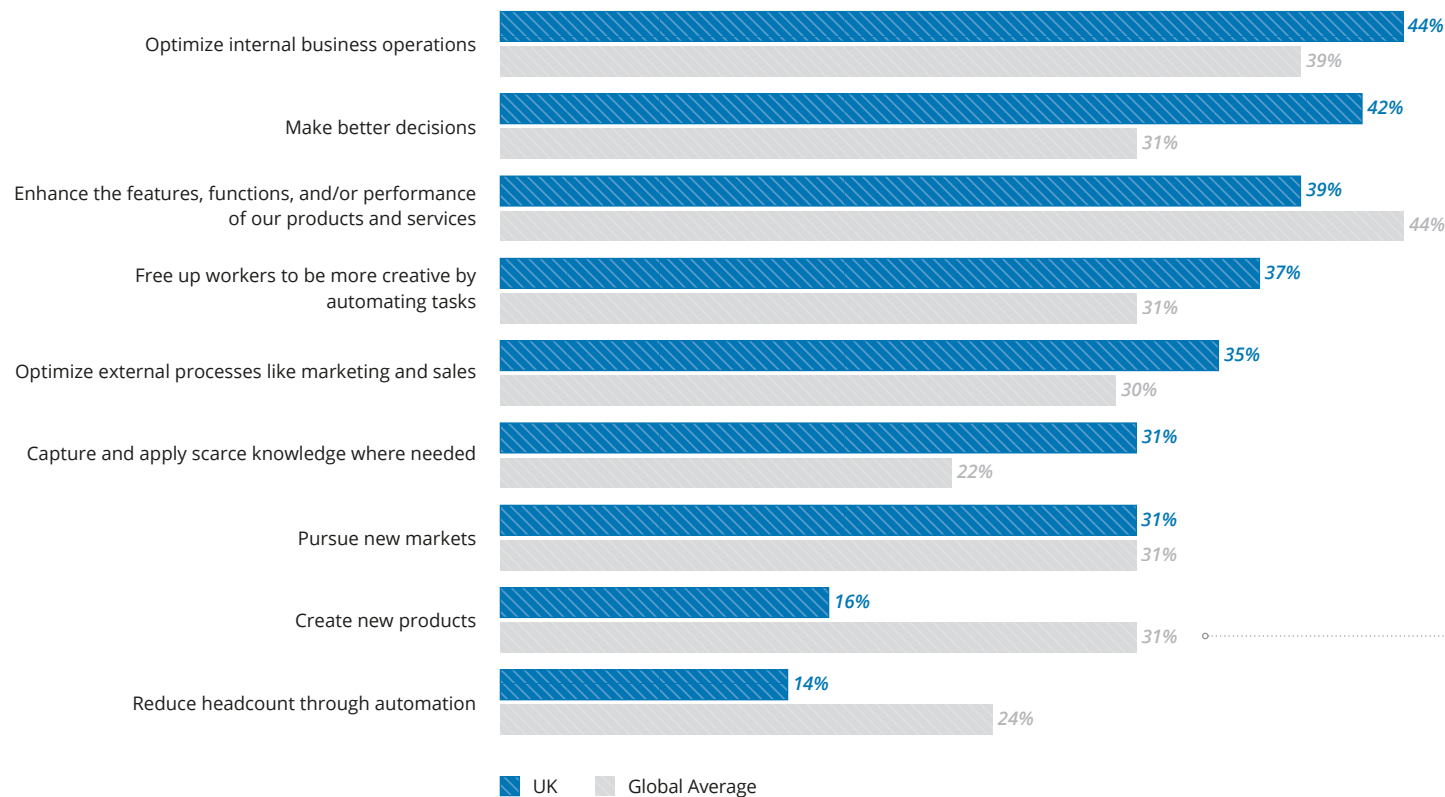


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Focusing on adding value rather than cutting costs

44% of UK executives say AI is helping them to widen their lead or leapfrog ahead of their competitors, yet most see the key benefits of AI as being cost-saving rather than value-adding.

Top perceived benefits of AI to the business, percentage ranked as top three



Other countries meanwhile are using AI to develop new products or revolutionise their market

Global average figures include companies from US, Canada, China, Australia, France and Germany, and exclude UK companies.

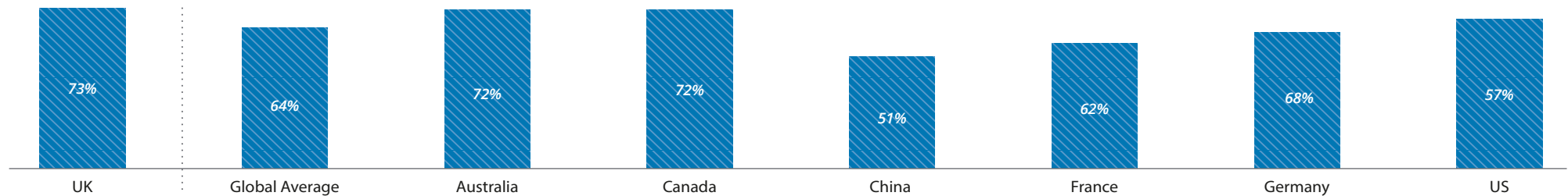
Workforce
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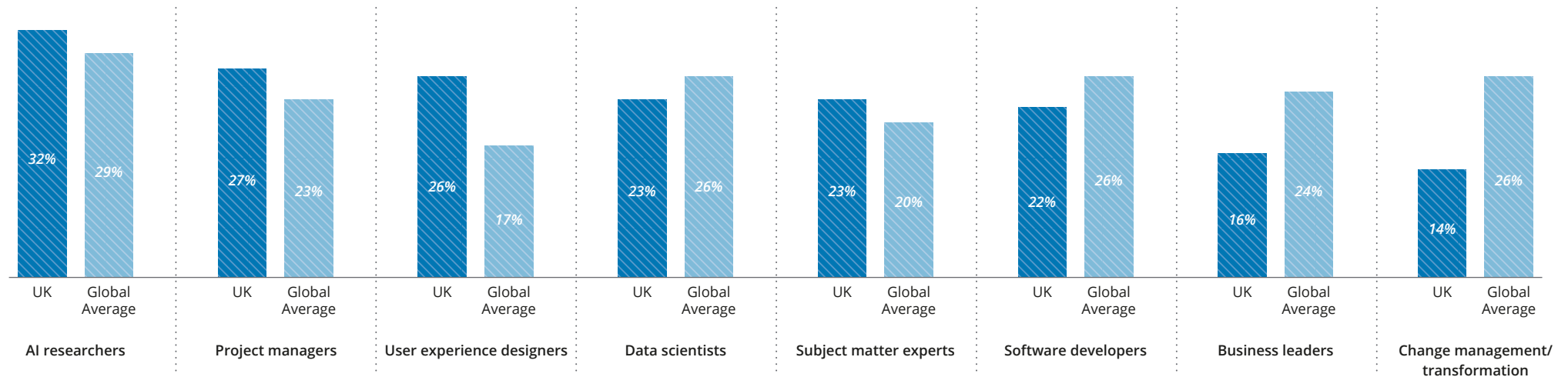
Addressing the skills gap

UK companies report more acute skills shortages than other countries, particularly in technical roles, but they must not underestimate the importance of change management and preparing business leaders.

Companies with a moderate to major AI skills gap by market



Skills and capabilities most needed to fill skills gap



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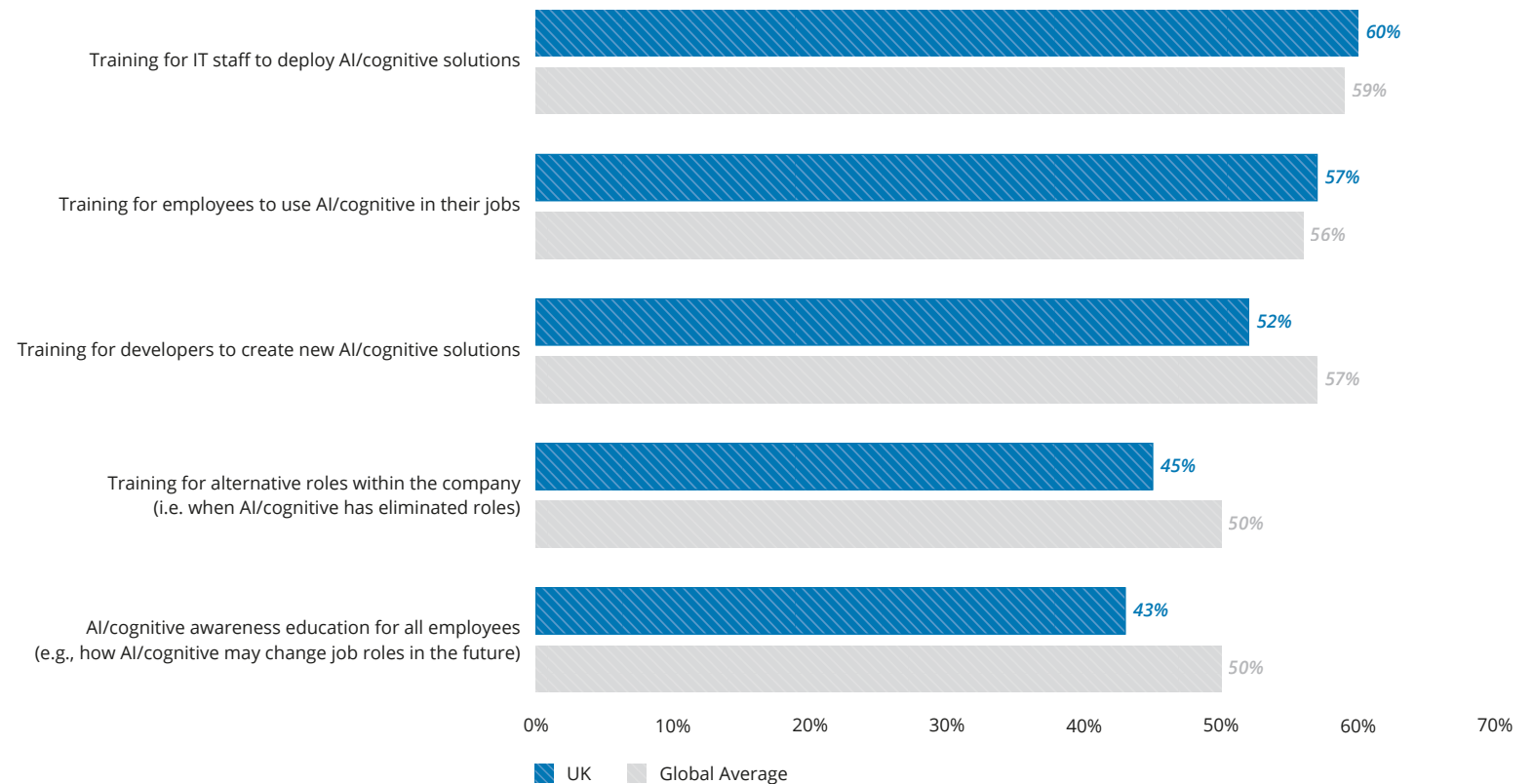
Power to the people

Despite reporting greater skills shortages than other countries and expressing a preference towards retraining their existing workforce rather than replacing them, British companies often fall behind in providing company-wide training to support it.



— UK — Global Average

Training and education activities already underway



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Definitions

Artificial intelligence (AI)	Technologies that are able to perform tasks that previously required human intelligence (such as extracting meaning from images, text or speech, detecting patterns and anomalies, and making recommendations, predictions or decisions). They include technologies such as machine learning, natural language processing, computer vision, speech recognition, deep learning, robotic process automation, and intelligent robotics.
Robotic process automation	Business process automation in which software mimics the human activities needed to carry out a task.
Machine learning	Systems that can learn from and make decisions and predictions based on data, rather than being explicitly programmed to carry out certain tasks.
Natural language processing or generation	Systems that understand, process, and/or produce human language. Examples include chatbots and systems that can convert human speech into data.
Artificially intelligent physical robots	Physical robots, controlled by AI/cognitive technologies, which can perform a variety of tasks.
Computer vision	Analysing digital images or videos and creating classifications or high-level understanding/descriptions that can be used for decision making and action.
Deep learning	A type of machine learning that uses cascading layers of neural networks to learn and create a hierarchy of concepts; applications include speech and image recognition, natural language processing, and recommendation systems
Expert systems/rule-based systems	Systems that represent knowledge as a set of rules (derived from human experts) that tell what to do or decide in different situations.
Affective Computing	Systems and devices that can recognize, interpret, process, and simulate human emotional cues (e.g. robots than can respond appropriately to human facial expressions/moods).

Contacts

Justin Watson

Global Lead, Robotic and Intelligent Automation

Deloitte MCS Ltd
+44 (0) 20 7007 4300
justinwatson@deloitte.co.uk

Gurpreet Johal

Partner, Artificial Intelligence

Deloitte MCS Ltd
+44 (0) 20 7007 1280
gjohal@deloitte.co.uk

Dr Matthew Howard

Director, Artificial Intelligence

Deloitte MCS Ltd
+44 (0) 20 7303 0539
mhoward@deloitte.co.uk

David Halstead

Partner, Technology Media & Communications

Deloitte LLP
+44 (0) 1727 885 054
dhalstead@deloitte.co.uk

UK author

Georgina Dowling

Deloitte MCS Ltd
+44 (0) 20 7007 9576
gdowling@deloitte.co.uk

Global authors

Jeff Loucks

Susanne Hupfer

David Jarvis

Timothy Murphy



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