

AI Diffusion in the United Kingdom

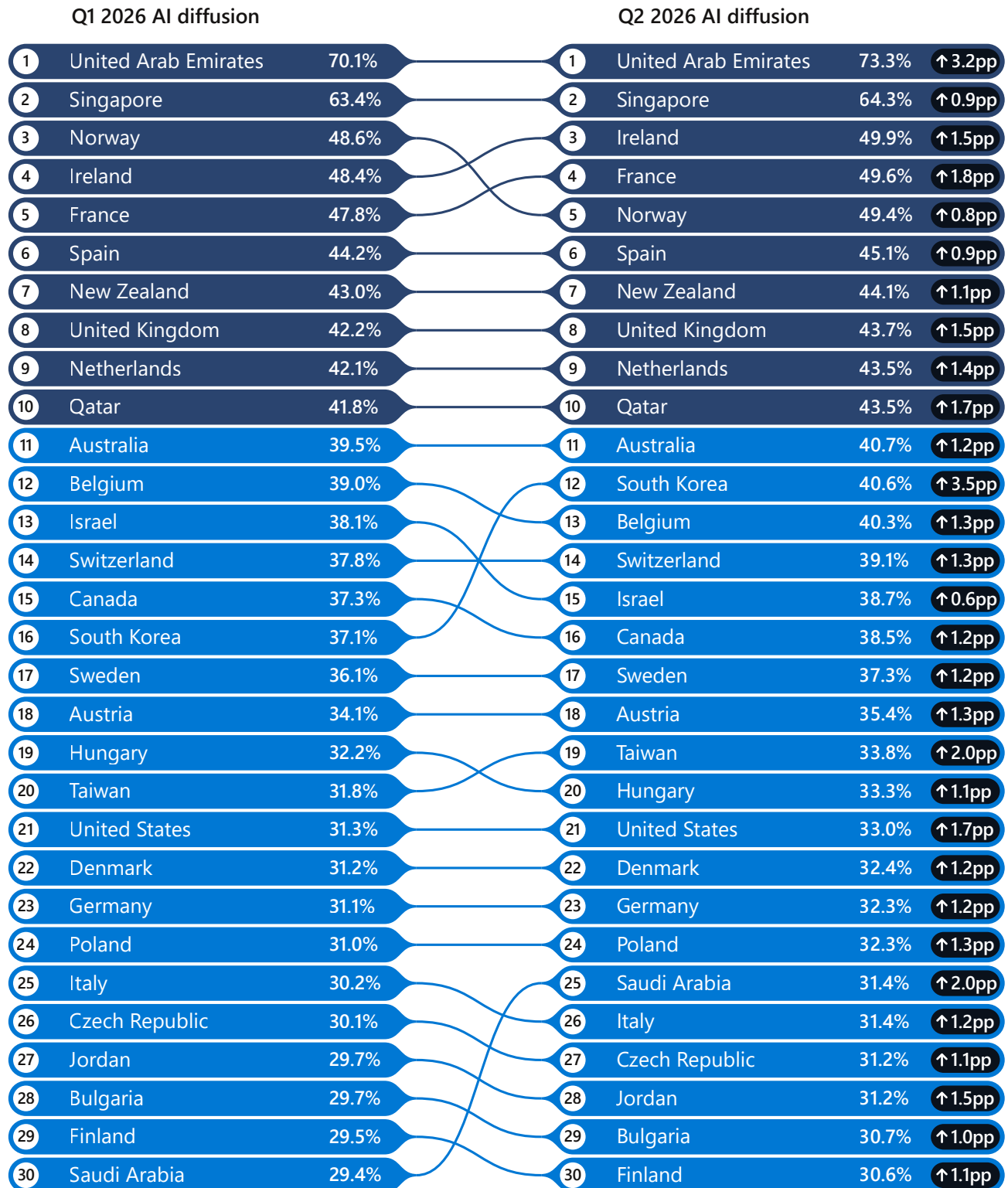
Executive Summary

The United Kingdom is a leading adopter of generative AI: in April–June 2026, an estimated 43.7% of people aged 15–64 used a generative AI product (AI User Share), ranking the UK eighth among 147 economies. Adoption is uneven within the country: AI User Share is highest in the West of England Combined Authority at 57.4%, while lower estimates are concentrated in peripheral, sparsely populated regions. Across UK estimations, higher use is associated with a larger young-adult population, greater population density, and a higher share of professional employment; these relationships are descriptive, not causal.

Building on the Microsoft Global AI Diffusion report, this report maps the measure across 46 UK ITL2 regions, including Northern Ireland, and examines whether adoption is broad, embedded, and inclusive. It also reviews AI's potential economic impact, the costs of delayed adoption, and uneven diffusion across firms, regions, and demographic groups.

National reach does not yet amount to deep or inclusive diffusion. Formal organisational adoption remains substantially lower than individual use; much current use is routine, task-level AI, and a substantial share occurs as “shadow AI” outside employers' visibility and governance. Adoption also varies by firm size, region, and demographic group. Broad productivity and prosperity gains therefore depend not only on increasing the number of users, but on embedding AI in productive workflows and extending adoption beyond large firms, established technology hubs, and groups already best placed to benefit.

AI diffusion over time by economy



The State of AI Diffusion in the United Kingdom

The UK is a leading adopter of generative AI, although the national headline does not capture differences in the depth and distribution of use. In the latest report, covering April to June (Q2) 2026, 43.7% of people aged 15–64 were estimated to have used a generative AI product (AI User Share), placing the United Kingdom eighth among 147 economies. [1] This national position provides context for examining whether adoption is embedded in productive workflows, visible to organisations, and broadly distributed across regions, firms, and demographic groups.

The UK's AI User Share rose from 36.6% in January–June 2025 to 38.9% in July–December 2025 [2], 42.2% in January–March 2026 [3], and 43.7% in April–June 2026. This represents a cumulative increase of 7.1 percentage points. While the UK remained eighth globally throughout this period, growth in January–March 2026 was 3.3 points, but only a 1.5 point increase in April–June 2026. [4]

International comparisons provide context for the UK's adoption level. At 43.7%, the UK trails the UAE (73.3%), Singapore (64.3%), Ireland, France, Norway, Spain, and New Zealand; it remains narrowly ahead of the Netherlands and Qatar, both at 43.5%, and substantially above both the global rate of 18.8% and the Global North average of 28.8%. These comparisons complement the report's analysis of the depth and distribution of adoption within the UK.

The global leaderboard shows that the UK remains well behind the highest-adoption economies but only narrowly ahead of nearby peers, making continued diffusion important to preserving its international position. The national ranking also masks substantial variation within the UK, examined in the regional analysis that follows.

Much current adoption takes the form of routine, task-level AI use: familiar, task-level uses such as searching for information, drafting emails, and creating summaries, rather than the redesign of workflows and organisation-wide operations. Deloitte's survey of 25,000 UK working adults, conducted between 7 May and 10 June 2026, found that searching for information and drafting emails were the most common uses of GenAI, each reported by 43% of users, followed by creating summaries at 31%; only

24% of UK workers used GenAI daily. [5] Business use also appears relatively shallow: the Office of National Statistics (ONS) found that the average number of AI technologies used by adopting businesses increased only modestly, from around 1.4 in late 2023 to 1.6 in 2026, with adoption concentrated in internal functions such as HR, finance, and tax. [6] Together, these findings indicate that use remains concentrated in familiar applications rather than the workflow redesign and organisation-wide operations associated with larger productivity gains.

Deloitte's survey indicates a substantial level of "shadow AI" use among UK working adults: use that sits outside employers' visibility, procurement, and governance. It found that 63% knowingly used GenAI for work and 24% used it daily. Among GenAI users, 31% said they used it without their employer's knowledge; 46% used free tools, while 17% paid for at least one work-related tool themselves. These worker-level, self-reported measures are not directly comparable with the Department for Science, Innovation, and Technology's (DSIT) November 2025–March 2026 [7] and ONS business surveys or with this report's AI User Share estimate, which is derived from observed behaviour across the broader working-age population. The results are therefore not contradictory; they indicate a gap between formal organisational adoption and reported workforce use.

Why AI Diffusion Matters for the UK Economy

In practice, diffusion only delivers its full economic and societal value when it is broad, embedded, and inclusive. If adoption remains shallow, clustered, or socially uneven, the UK risks a form of "partial diffusion" in which the benefits of AI accrue disproportionately to those already best placed to capture them, limiting productivity gains and entrenching existing inequalities.

Artificial intelligence, as a general-purpose technology with profound transformative potential, is central to the UK's ambitions for prosperity. The Government has committed Britain to becoming the fastest AI adopter in the G7; as of April–June 2026, the UK ranked second among G7 countries, behind France. Yet AI leadership is often equated with "winning the AI race" through frontier models, compute

capacity, research and development spending and the presence of leading AI companies, measures that place the United States and China at the centre of debate. This overlooks a distinction between frontier AI and the more prosaic routine, task-level AI use through which most productivity gains are likely to be realised: tools embedded across routine business processes, public services, and everyday work. Frontier capability does not automatically produce broad diffusion, as the United States' comparatively low adoption rate of 33.0% illustrates, ranking at 21st globally in Q2 of 2026. Because the UK cannot match the US or China on frontier capital expenditure alone, an excessive focus on that contest risks directing effort away from where the UK can capture greater economic value. A country does not need to be a leader in model development to reap the benefits of AI. Rather, what matters is how widely AI is put to work by businesses and public sector organisations across the economy. Countries that diffuse general-purpose technologies fastest capture the greatest long-term gains.

While estimates show that full diffusion of AI could boost the UK's GDP by around £550 billion by 2035 [8], and SME adoption may generate £78 billion in regional growth over the next decade [9], these gains matter most for how they translate into real improvements in people's lives. Productivity growth remains an important enabler of this broader prosperity. Yet the UK has seen limited productivity growth over the past two decades, with an annual productivity growth of just ~0.1% [10], limiting progress in wages, public services, and living standards, though recent revisions indicate growth was slightly higher. [11] Institutions such as the OECD [12] and IMF project a significant acceleration [13] in productivity growth of up to 1.3-1.5%, depending on the degree of AI adoption. This implies an order-of-magnitude acceleration in growth. Productivity may dip at first as organisations adjust, before the benefits emerge. However, realising this potential could not only unlock higher output, but sustained improvements in living standards, greater regional balance, and a more inclusive and future-focused society as well.

Diffusion creates markets, not just users. As adoption grows, it generates the demand that justifies further investment in infrastructure, software, skills, and supply chains. This dynamic is self-reinforcing: adoption attracts investment, which in turn lowers the cost and complexity of further adoption [14], accelerating diffusion across the economy. For example, Microsoft has expanded its UK AI infrastructure

commitments by over \$30 billion [15] in response to growing demand, illustrating how deployment and capacity scale together. Once adoption reaches sufficient scale, it becomes rational for infrastructure providers, software vendors, training organisations, and investors to build around that demand. In turn, domestic ecosystems become cumulative, with compute, skilled workers, research institutions, anchor customers, and suppliers reinforcing one another. This dynamic also applies to talent: stronger deployment opportunities attract founders, researchers, and skilled workers [16], reinforcing diffusion and creating a self-sustaining cycle of productivity, growth, and prosperity.

There is another potential element of urgency to AI diffusion: the economic and societal penalty of inaction. Early adopters can capture disproportionate returns, as productivity improvements compound through learning effects, process redesign, and the embedding of AI into core operations. [17] These benefits accrue cumulatively over decades rather than in a single step. Conversely, delaying AI rollout by just five years could reduce the UK's economic impact in 2035 by over £150 billion. [18] Additionally, later adopters do not set standards, shape ecosystems, or define use cases. Instead, they are more likely to adapt to models, norms, and supply chains developed elsewhere. And because infrastructure and organisational capability co-evolve with early investment, the difficulty of catching up increases over time. The result is a widening divergence between leading and lagging economies, and firms, with tangible risks of "brain and capital drain" as talent and investment concentrate in locations where demand, growth, and opportunity are strongest. In this sense, AI diffusion is not simply about unlocking productivity, but about doing so quickly enough to secure a position within the emerging global AI economy, before patterns of advantage become entrenched, and the opportunity to shape them passes elsewhere.

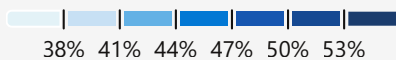
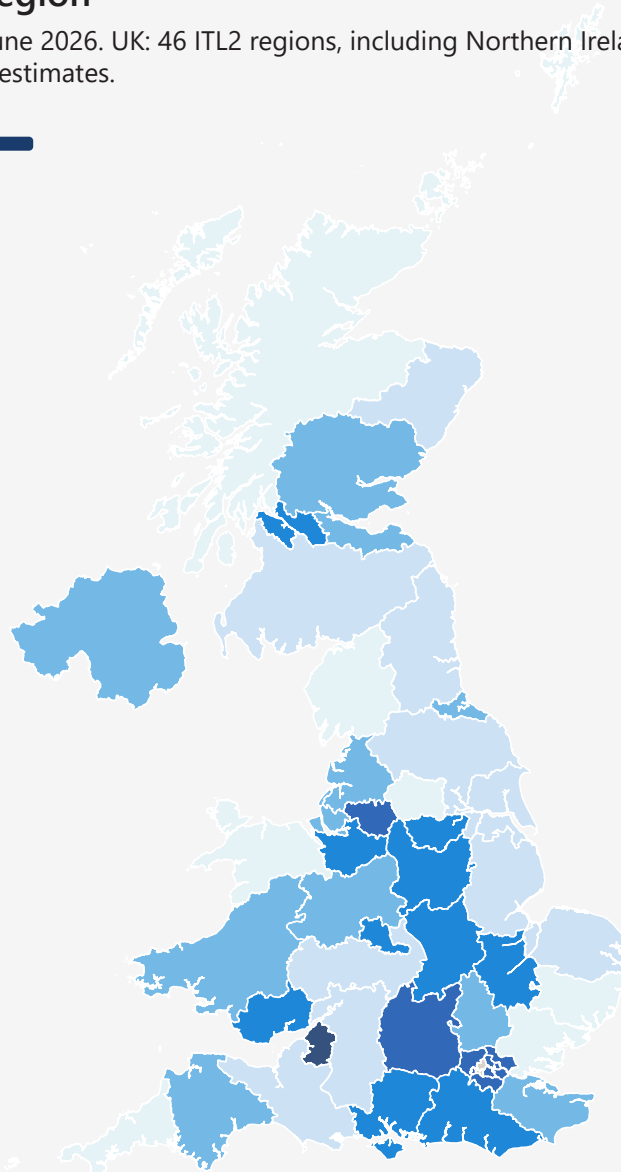
UK Regional AI Diffusion

Using methodology consistent with the Global AI Diffusion Report (detailed below), telemetry data show that the West of England Combined Authority, which includes Bristol, South Gloucestershire, Bath, and North East Somerset, has the UK's highest estimated AI User Share, at 57.4%, while the lowest estimates are found in peripheral, sparsely populated regions. Across UK estimation analysis, AI User Share is positively associated with the share of young adults, population density, and professional employment; these relationships are

descriptive, not causal. These telemetry-based estimates add more nuance and geographic detail to the context provided by the survey evidence discussed above. Together, these sources show an uneven pattern of adoption: use remains limited or shallow in many businesses and varies by firm size, region, and demographic group.

AI user share by UK region

Regional AI User Share as of June 2026. UK: 46 ITL2 regions, including Northern Ireland. Darker shades indicate higher estimates.



The Regional Leaderboard

Below are the top and bottom 5 regions for the UK. In general, regions with higher population density, higher young-adult share (18–24-year-olds), and higher rates of professional and ICT (information and communication technology) occupations have higher AI User Share.

United Kingdom: highest five regional estimates [19]

Ranking	Region	AI User Share	Regional Context
1	Bristol, South Gloucestershire, Bath, North East Somerset	57.4%	Highest young-adult share; Bristol and Bath universities; strong professional and technology economy; site of high-tech cluster designated the 'Silicon Gorge', a geographic region known for its innovation in semiconductors, cyber security, and digital industries.
2	Berkshire, Buckinghamshire, and Oxfordshire	49.2%	Oxford, Reading, and Milton Keynes; high tertiary attainment and professional employment.
3	Greater London	47.3%	Across all five ITL2 geographies in London; a large urban and professional economy.
4	Greater Manchester	47.2%	Densely populated, with a 9.6% young-adult share and 20.2% in professional occupations.
5	Derbyshire and Nottinghamshire	46.8%	Young adults account for 8.8% of the population; 18.4% are in professional occupations.

Small differences between neighbouring ranks should not be interpreted as statistically distinct.

United Kingdom: lowest five regional estimates

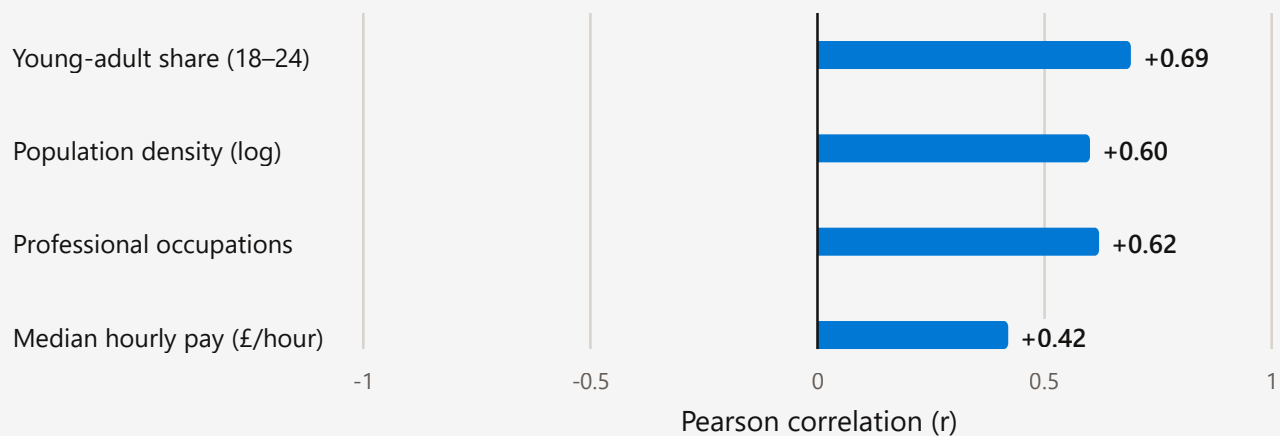
Ranking	Region	AI User Share	Regional Context
38	Suffolk	36.6%	Lower population density; 6.5% young adults and 16.7% in professional occupations.
39	North Wales	35.9%	A less densely populated part of Wales, with lower young-adult and professional-occupation shares.
40	Cornwall and Isles of Scilly	35.8%	Dispersed population, a smaller young-adult population share and fewer professional occupations.
41	Cumbria	35.0%	Rural and dispersed, with fewer young adults and knowledge-intensive jobs.
42	Highlands and Islands	34.1%	Sparse and dispersed population.

Regional attributes in the UK and AI Usage

Three regional characteristics are strongly associated with the estimates shown in the map. Across UK geographic estimations, AI User Share is positively correlated with the share of young adults (+0.69), the share of workers in professional occupations (+0.62), and population density (+0.60); it is also positively correlated with median hourly pay [20] (+0.42). These patterns are consistent with those reported in the US AI Diffusion Report [21] and indicate

that urban, younger and more professionally concentrated regions tend to record higher estimates. The relationships remain descriptive: they do not show that regional characteristics cause higher AI use or that AI use causes higher pay.

United Kingdom



Pearson correlations: 42 UK estimation units, counting London as one combined ITL; pay uses 41 ITLs, dropping London due to its outlier status. Pay is 2025 full-time workplace median hourly pay excluding overtime (£/hour). These descriptive associations do not establish causation.

Methodology and Analytical Approach

AI User Share begins with aggregated Microsoft usage telemetry. To account for differences between the Microsoft sample and the wider population, we adjust the internal telemetry for desktop penetration via a technology-access factor and for mobile usage via a country-wide mobile scaling factor.

Following our current methodology for diffusion reports [22], we construct a technology-access factor as the simple average of the actual device-access and internet-connectivity fractions: $T = (D + B) / 2$. Using this formula, final national AI calibration is retained at 43.7% for the UK. For the UK, we use the (former) Department of Science, Innovation, and Technology's (DSIT) November 2025–March 2026 survey estimate of adults aged 16 and over with a laptop available for personal use [23], alongside the January 2022 share of premises able to receive at least 30 Mbps. [24] [25]

Estimates are reconciled using working-age population weights to wider-region ITL1 and national benchmarks.

Using this methodology, AI adoption is uneven across firms, regions and demographic groups. By firm size, uptake among large businesses with 250 or more employees nearly doubled between 2023 and 2025 to 44%, while smaller firms with fewer than 50 employees reached just 26% [26], despite SMEs accounting for 99% of the business population, around 60% of employment, and roughly half of private-sector turnover. [27] Geographically, London significantly outpaces most other regions, while adoption spreads more gradually to secondary hubs such as Manchester and Edinburgh, reflecting differences in skills, sector composition, and digital infrastructure. [28] The divide is also demographic: reports suggest that women continue to adopt AI more slowly and less intensively than men [29], with one 2026 UK study finding gaps of more than 45% in some groups [30], consistent with wider international evidence that such gender disparities are “nearly universal” across regions, sectors, and occupations. [31]

Formal business adoption is expanding, but its measured extent depends heavily on how adoption is defined and who is surveyed. DSIT's national AI Adoption Research, based on 2025 fieldwork, used a dedicated, weighted telephone survey covering a broad range of businesses and asked technology decision-makers about recognised organisational adoption. It estimated that 16% of UK businesses used at least one AI technology, 5% planned to adopt, and 80% were neither using nor immediately planning to use AI; it explicitly excluded unreported “shadow” use by individuals. ONS's recurring voluntary business survey reported higher estimates: use rose from 21% in late June 2025 to 23% in late September, and 25% in late December, and ONS subsequently estimated that use among businesses with ten or more employees had reached around 35% in 2026. [32] The estimates are not directly comparable: ONS uses a recurring voluntary survey, its latest headline covers businesses with ten or more employees, and larger firms have higher adoption than microbusinesses. Differences in timing, business coverage, question wording, and respondents probably explain part of the gap, alongside genuine growth in adoption.

Understanding the evidence and considering open questions

The evidence indicates that the UK is a leading adopter of generative AI, while also showing that national reach differs from the depth and inclusiveness of diffusion. Much current use remains task-level rather than embedded in redesigned workflows, a substantial share occurs outside formal organisational systems, and adoption varies across places, firms, and people. Future measures of diffusion may therefore need to consider whether routine, task-level AI use becomes integrated into productive operations beyond large firms and established technology hubs, alongside the availability of skills, infrastructure, and governance.

Important questions remain open. Telemetry can reveal patterns of use at scale, while surveys can illuminate purpose, intensity, and organisational context; neither alone establishes causality or fully captures informal, mobile, and workplace use. Future research, whether for the UK specifically or in general, should test how adoption translates into productivity, wages, job quality, and firm growth; distinguish experimentation from sustained workflow redesign; identify which constraints matter most for SMEs and lower-adoption regions; and examine whether gaps by gender, age, occupation, and geography narrow or widen as diffusion proceeds. Linking repeated telemetry measures with representative surveys and economic outcomes will be essential to determine not only where AI is spreading, but where it is creating durable and broadly shared value.

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Appendix: full list of UK regions

Region	AI User Share	Rank
West of England (Bristol, South Gloucestershire, Bath, and North East Somerset)	57.4%	1
Berkshire, Buckinghamshire, and Oxfordshire	49.2%	2
Greater London Authority	47.3%	3
Greater Manchester	47.2%	4
Derbyshire and Nottinghamshire	46.8%	5
West Midlands	46.8%	6
Leicestershire, Rutland, and Northamptonshire	46.7%	7
Hampshire and Isle of Wight	46.4%	8
Cambridgeshire and Peterborough	45.4%	9
West Central Scotland (incl. Glasgow)	45.3%	10
South Yorkshire	44.7%	11
South East Wales (incl. Cardiff and Newport)	44.4%	12
Surrey, East Sussex, and West Sussex	44.3%	13
Cheshire	44.2%	14
Tees Valley	43.3%	15
Bedfordshire and Hertfordshire	43.2%	16
Kent	43.2%	17
Devon	43.2%	18
Eastern Scotland (Angus, Dundee, Fife, Perth, and Kinross)	43.0%	19
Shropshire and Staffordshire	42.7%	20
Lancashire	42.4%	21
Merseyside	42.4%	22
Mid and South West Wales (Swansea, Carmarthen, Llanelli, Pembroke)	42.1%	23
Northern Ireland	41.8%	24
East Central Scotland (incl. Edinburgh)	41.2%	25
Northumberland, Durham and Tyne & Wear	40.7%	26
Somerset and Dorset	40.0%	27
Gloucestershire and Wiltshire	40.0%	28
Herefordshire, Worcestershire, and Warwickshire	39.9%	29
East Yorkshire and Northern Lincolnshire	39.5%	30
North Yorkshire	39.5%	31
Lincolnshire	38.7%	32
North Eastern Scotland (incl. Aberdeen)	38.7%	33
Southern Scotland (Kilmarnock, Ayr, East Kilbride)	38.3%	34
Norfolk	38.1%	35
Essex	37.8%	36
West Yorkshire	36.8%	37
Suffolk	36.6%	38
North Wales (Wrexham, Bangor)	35.9%	39
Cornwall and Isles of Scilly	35.8%	40
Cumbria	35.0%	41
Highlands and Islands	34.1%	42

