DATA BRIEF

Germany’s AI Divide

Startups, Industry and the Race for Talent

Siddhi Pal, Catherine Schneider

September 02, 2026

Tech analysis and policy ideas for Europe

interface

Table of Contents

1. Executive Summary 3

2. Introduction 3

3. Policy Implications 15
   - 3.1. Building on the alignment between talent and industry 15
   - 3.2. Closing the healthcare gap 16
   - 3.3. From attracting international talent to retaining it 17

4. Conclusion 17

5. Methodology 18
   - 5.1. Data Sources 18
   - 5.2. Classification Framework 19
   - 5.3. Estimating Talent Origins 20

6. Acknowledgements 20

Executive Summary

As Europe pursues technological sovereignty, the AI landscape in its largest economies deserves closer scrutiny. This data brief examines Germany's talent pool, exploring how Europe's largest AI workforce is composed and distributed across the country's sixteen states and many industries. Analysis of approximately 117,000 talent profiles reveals a workforce pulled between Germany's industrial incumbents and a fast-growing startup ecosystem.

There is a fundamental tension in Germany between scale and concentration: Berlin has the greatest concentration of AI professionals relative to its population, but southern states like Bavaria and Baden-Württemberg have the largest talent pools in absolute numbers. This means growth strategies cannot be uniform. States with large but thinly concentrated workforces face a different problem from those with dense AI clusters and a smaller base to draw on.

Despite Germany's increasing share of domestically trained AI professionals, these individuals are not evenly distributed across all industries. Internationally trained talent is more likely to enter the German AI labour market through startups concentrated in cities like Berlin or Hamburg, rather than the industrial titans in the south. This split means that policies focused on attracting international engineers and researchers to Germany are one challenge, while creating a pipeline to legacy industries is another.

Germany's AI talent broadly tracks the federal AI strategy's priority sectors, with strong representation in manufacturing and robotics. Healthcare is the exception. Despite its designation as a strategic national priority, the sector employs roughly 3,500 AI professionals, roughly 3% of the total AI talent in the country. This shortfall limits both the sector's own capacity and the efficiency gains the strategy expects it to deliver.

Taken together, these findings describe a German AI labour market that is large in aggregate but unevenly organised. Retention of domestic graduates, recruitment from abroad, and distribution across priority sectors are three distinct problems, each with its own geography and its own set of employers. They are unlikely to respond to the same interventions.

Introduction

Germany employs more AI professionals than any other EU member state: approximately 117,000 people, double the size of the next largest EU AI workforce in Italy, according to previous interface research. Size alone does not determine competitiveness, however.

What matters is where this talent works, in which sectors, and whether it aligns with the industries where Germany can realistically lead. This paper examines three dimensions of the German AI workforce: its sectoral concentration by state, its regional distribution and pull factors, and its composition in terms of locally and internationally trained talent. It seeks to investigate whether Germany's AI talent base is located where its competitive opportunities lie.

Germany adopted its national AI strategy in 2018 and updated it in 2020 to reflect the pace at which technology is evolving. The strategy sets out an ambition for Germany to lead globally in the research, development and application of AI, with dedicated capacity-building in robotics, health, education, and AI startups. Alongside the federal strategy, the sixteen states have developed their own approaches with distinct priorities. Schleswig-Holstein focuses on strengthening the competitiveness of SMEs through AI implementation support, while Hesse aims to make the Hessian Centre for Artificial Intelligence and the Centre for Responsible Digitality (ZEVEDI) magnets for top researchers and to establish "AI made in Hesse" as a mark of technological excellence. Collectively these strategies aim to not just make Germany a leader in AI development, but also establish and build upon strong regional specialisations.

In light of these ambitions, the composition of Germany's AI workforce matters beyond industrial policy. Germany faces growing demand for skilled workers, particularly in IT and programming occupations, driven in part by an ageing population. ICT specialists are a comparatively young occupational group: 84% are under the age of 55, compared to 76% across all occupations in the German economy. Understanding where AI professionals work, in which sectors, and where they were educated therefore offers insight into both the labour market and the industrial trajectories of the sixteen states.

Three findings emerge from our analysis:

First, Germany's AI talent broadly matches its declared competitive niches of robotics, manufacturing, and startups, with healthcare as the significant exception. The workforce spans two industrial poles. One is a tech-native economy of startups, software, fintech and digital commerce, centred on city-states, especially Berlin. The other builds on industrial legacies in automotive and manufacturing, centred in Bavaria, Baden-Württemberg and Lower Saxony. Together they cover most of the federal AI strategy's priority sectors. Healthcare is the outlier: despite being a strategic priority, it employs only around 3,500 AI professionals, a constraint on the sector's AI ambitions.

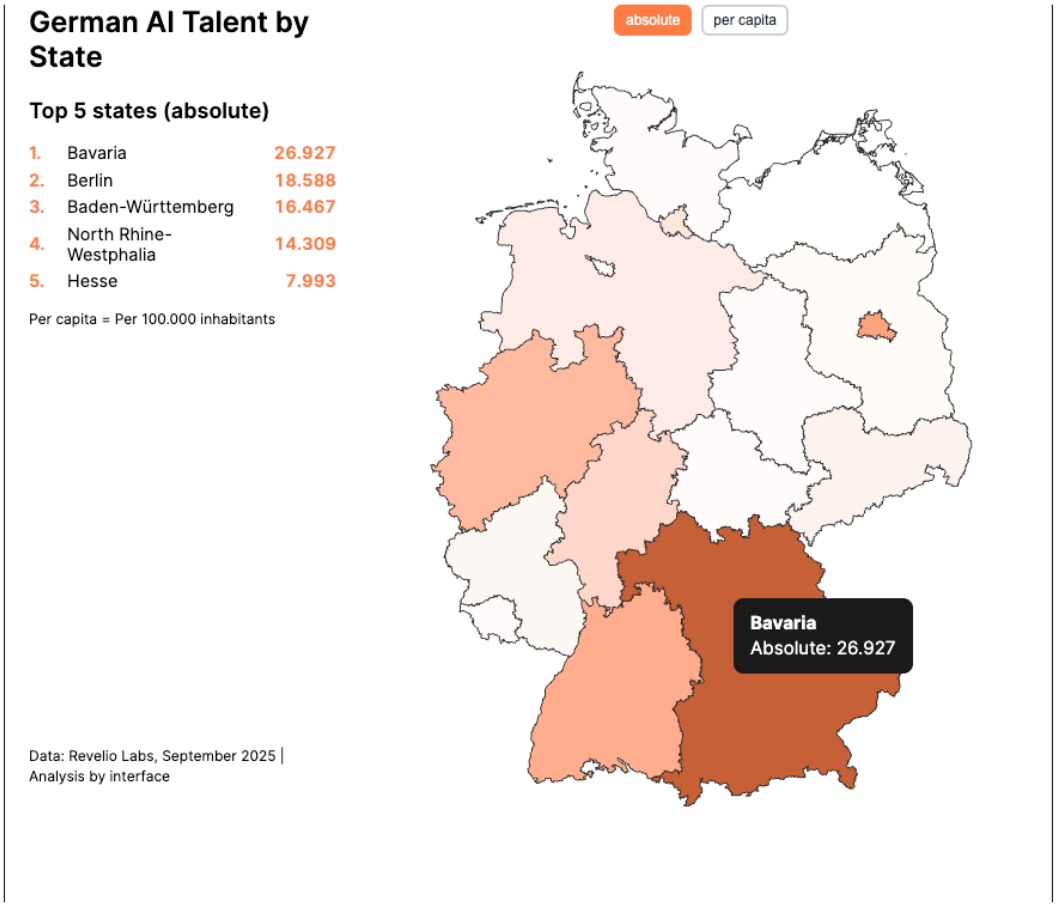
Second, Germany's AI talent is built on two different foundations: scale in the large southern states and concentration in city-states. In absolute terms, Bavaria (~29,500), Baden-Württemberg (~24,500) and North Rhine-Westphalia (~20,000) lead the country. Measured against population, Berlin leads by a wide margin, with approximately 407 AI professionals per 100,000 inhabitants, nearly double Bavaria's density. Policies designed

to grow national AI capacity will land differently in these two environments.

Third, startup economies, not industrial powerhouses, are Germany's port of entry for international AI talent. North Rhine-Westphalia has the largest GDP of any German state, yet international professionals make up under a quarter of its AI workforce. Berlin's economy is roughly a quarter the size of North Rhine-Westphalia's, yet 38% of its AI workforce was educated abroad. The city-state's strong presence of international talent is not solely due to its startup economy, but the split means that attracting international engineers and researchers to Germany and connecting them to the industrial states are two separate policy challenges.

This paper is the third in interface's series of European AI talent case studies, following our examinations of Italy and Finland. Previous interface research on global AI workforce dynamics identified Germany as one of Europe's frontier AI talent hubs, ranking fifth globally in absolute numbers. Germany is also increasing its share of domestically trained AI professionals, and German-trained AI and data professionals account for 14.9% of AI talent across EU member states.

Our analysis draws on Revelio Labs, which aggregates and structures publicly available professional profiles, job postings, and related sources into a comprehensive global workforce dataset; the September 2025 snapshot covers approximately 616 million individuals. We complement this with data on 2,469 German AI startups from Dealroom.



For a complete presentation of this graph, please see the online version of this publication.
https://www.interface-eu.org/publications/germany-case-study

Germany's AI workforce is not spread evenly across the country. It concentrates in a small number of high-performing states and cities, reflecting regional industrial strengths, technical university hotspots, and deliberate policy intervention. Three states account for almost two-thirds of the approximately 117,000 AI professionals in Germany: Bavaria (~29,500), Baden-Württemberg (~24,500), and North Rhine-Westphalia (~20,000).

Bavaria's leading position reflects both the industrial legacy of the state's historic industries and sustained policy efforts to position it as a competitive technology hub. The state is home to 17 technical universities and universities of applied sciences, with 400,000 students enrolled across the state. Through the Hightech Agenda Bavaria, it has invested €5.5 billion to create 1,000 new professorships and 13,000 additional university places, many focused on AI. It established the Baiosphere, a state-wide AI network of specialised research and innovation centres anchored in Munich with complementary nodes in three further cities, and invested €360 million through 2023 in AI District Bavaria, a state-wide AI research network. A further €12 million has gone into STEM and AI education to develop new master's programmes. Previous interface research found that Munich led the EU as an AI talent hotspot, narrowly ahead of Amsterdam and Berlin.

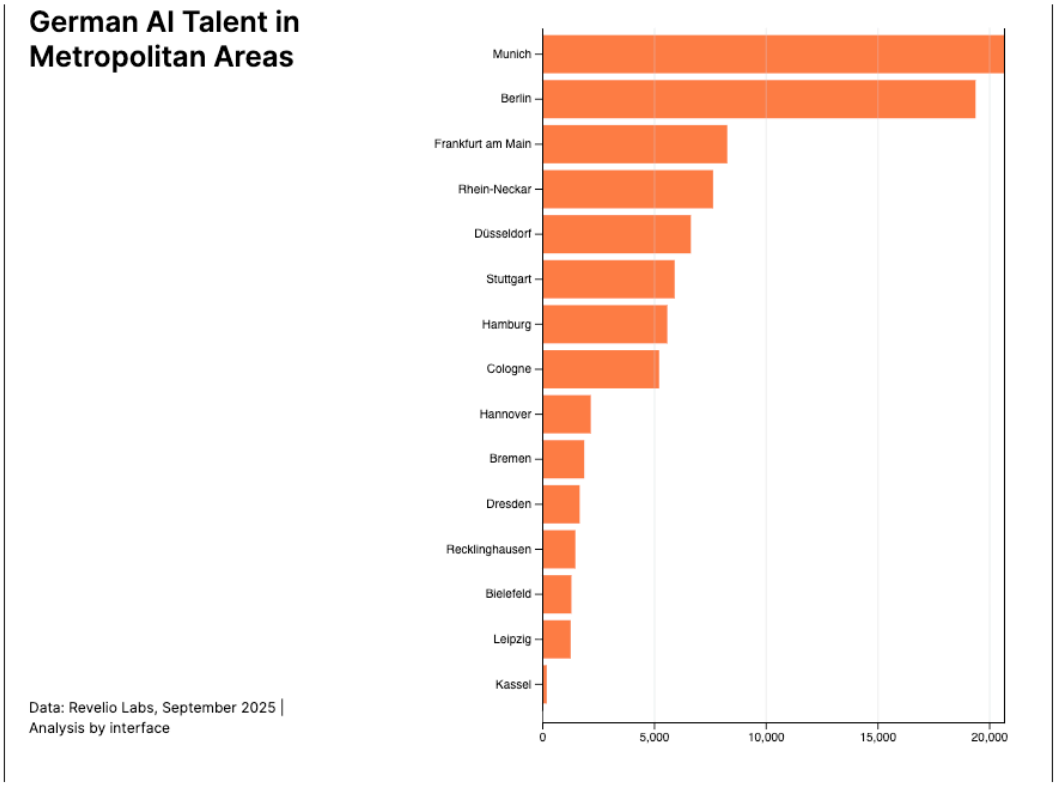
Baden-Württemberg draws its strength from two sources: the density of automotive and

electronics manufacturers headquartered in the state, and its role as one of Germany's compute centres. The state hosts Cyber Valley, a research and education cooperation on AI between research institutes and companies, as well as the Tübingen AI Hub and HammerHAI, one of Germany's two AI factories and supercomputing centres.

North Rhine-Westphalia, Germany's most populous state, holds the third largest AI talent pool in absolute terms and hosts the Jülich Supercomputing Centre and the JUPITER AI Factory. Its talent density, however, is low relative to its size: the state ranks eighth of sixteen on AI professionals per capita. North Rhine-Westphalia has the workforce volume to support AI development, but AI talent remains a small share of its broader labour market.

Measured against population, the picture changes substantially. **Berlin** leads with approximately 407 AI professionals per 100,000 inhabitants, nearly double the density of Bavaria. The three largest states by headcount, Bavaria, Baden-Württemberg and North Rhine-Westphalia, sit in the middle of the per-capita ranking, while the city-states of Berlin, **Hamburg** and **Bremen** occupy the top three positions.

Berlin's advantage is structural. The city hosts 808 of Germany's 2,469 AI startups, roughly one in three nationwide, within a tech ecosystem valued at nearly €150 billion that attracts billions of euros in investment annually. This reflects the city's digitalisation strategy, which prioritises startups, the digital economy and SMEs, and a joint innovation strategy with neighbouring Brandenburg that identifies AI as a high-growth field well-positioned to drive innovation across the capital region.

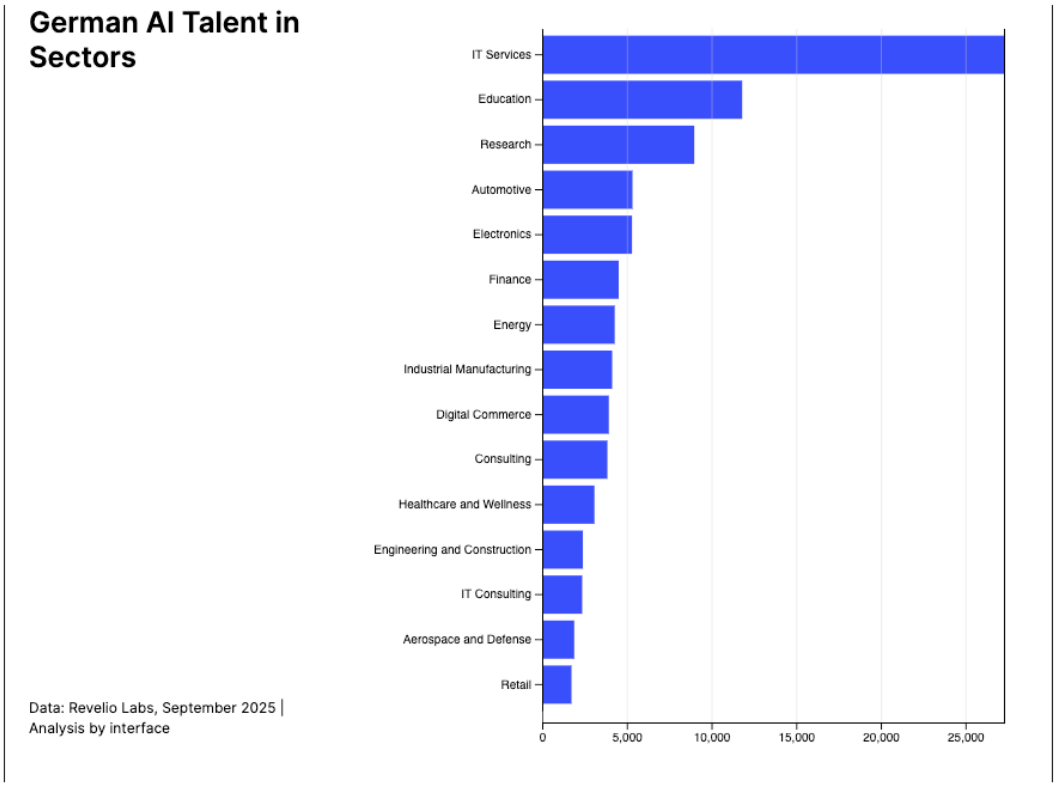


For a complete presentation of this graph, please see the online version of this publication.
https://www.interface-eu.org/publications/germany-case-study

At the city level in absolute numbers, Munich narrowly leads Berlin, with approximately 20,000 AI professionals compared to 17,500. Both have AI workforces that stand well clear of the next largest metropolitan areas: Rhein-Neckar-Kreis (~11,500), Frankfurt am Main (~10,500) and Cologne (~8,000). Munich's position rests on hosting many of Bavaria's largest companies alongside a rich AI startup landscape of its own. Rhein-Neckar-Kreis is the most populous district in Baden-Württemberg, boasting Heidelberg, a well-known university and research hub that reflects the state's second-place ranking, while Frankfurt am Main is the most populous city in Hesse, the fifth-ranked state.

Frankfurt, fourth in per-capita talent concentration, illustrates how infrastructure and adjacent industries feed AI talent pools. The city is one of Germany's major data centre hosting regions, home to nearly 100 of the country's roughly 490 data centres, and its financial services sector employs a workforce whose technical skills sit close to AI competencies, particularly in data-intensive roles.

The geography of German AI talent carries a direct policy implication: the states with the largest absolute talent pools are not the densest. Bavaria ranks first by headcount but fourth in density; North Rhine-Westphalia ranks third by headcount but eighth in density; the city-states rank low in absolute numbers but hold the deepest concentrations relative to population. National AI strategies calibrated to absolute capacity will channel resources towards the large industrial states, while strategies calibrated to density will favour urban innovation hubs.



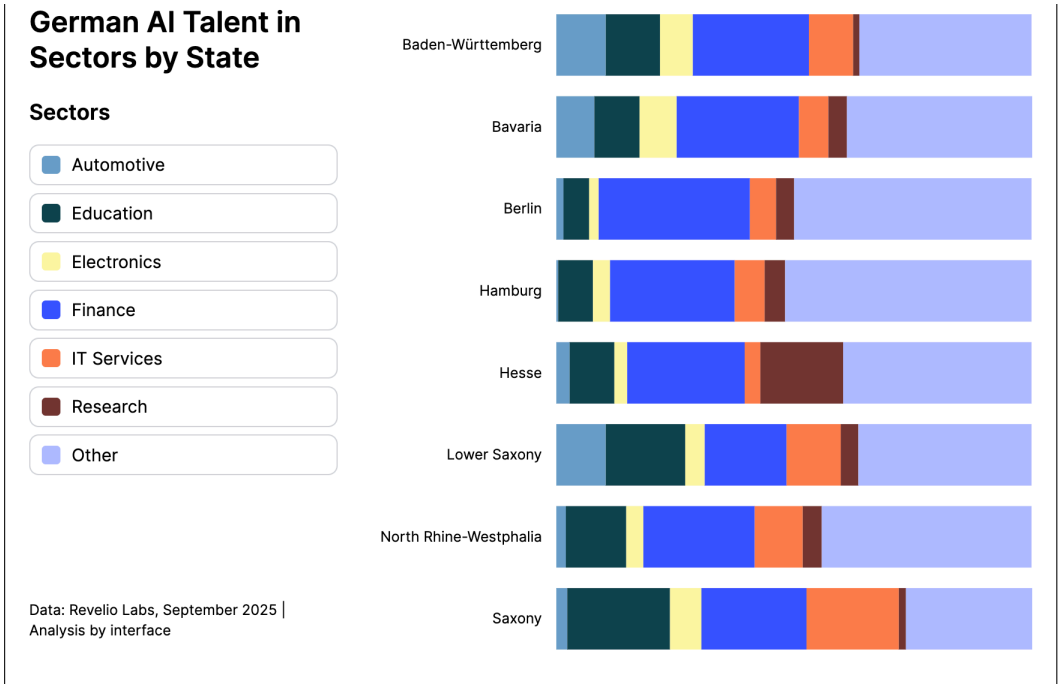
For a complete presentation of this graph, please see the online version of this publication.
https://www.interface-eu.org/publications/germany-case-study

Germany's AI workforce clusters heavily in three sectors: IT Services (~27,000), Education (~11,000) and Research (~9,000). Together these account for approximately a quarter of the national AI talent pool. For this research, Education refers to professionals employed by educational institutions in Germany, predominantly universities and universities of applied sciences; Researchcaptures dedicated research organisations, including the Fraunhofer and Max Planck institutes and the six federally funded AI competence centres that form a network across the country; IT Services covers software, IT consulting and related digital services firms. It is important to note that this graphic only shows the top fifteen sectors, and is not an exhaustive picture of every industry in which AI professionals are working in Germany.

The dominance of the education sector reflects the size and strength of German higher education. With 2.8 million students enrolled in the winter term 2024/2025, the university system functions both as a talent pipeline and a destination for researchers, engineers and computer scientists from around the world. This concentration should be read carefully in competitiveness terms, however. AI talent employed at universities signals strength in research, where Germany performs well by international standards, but it does not translate directly into commercial innovation. A talent base weighted towards academia is a pipeline asset. Whether it becomes a competitiveness asset depends on how effectively people and ideas move from academia to industry.

The relationship between higher education capacity and AI talent concentration varies

non-linearly across states. North Rhine-Westphalia employs the most higher education staff of any state, 163,164 in 2024, and shows one of the highest shares of its AI talent in the education sector, at 18%. Baden-Württemberg and Bavaria employ similarly large university staffs, 137,560 and 126,197 respectively, yet only 12% and 14% of their AI talent sits in education. In these two states, strong industrial and IT sectors could absorb a large share of AI professionals, leaving universities to account for a smaller slice of a bigger pie. Berlin presents the opposite case: a comparatively small higher education workforce of 52,797, but 16% of its AI talent in the education sector, among the highest shares nationally. Thus, larger university systems do not inherently produce education-heavy AI workforces.



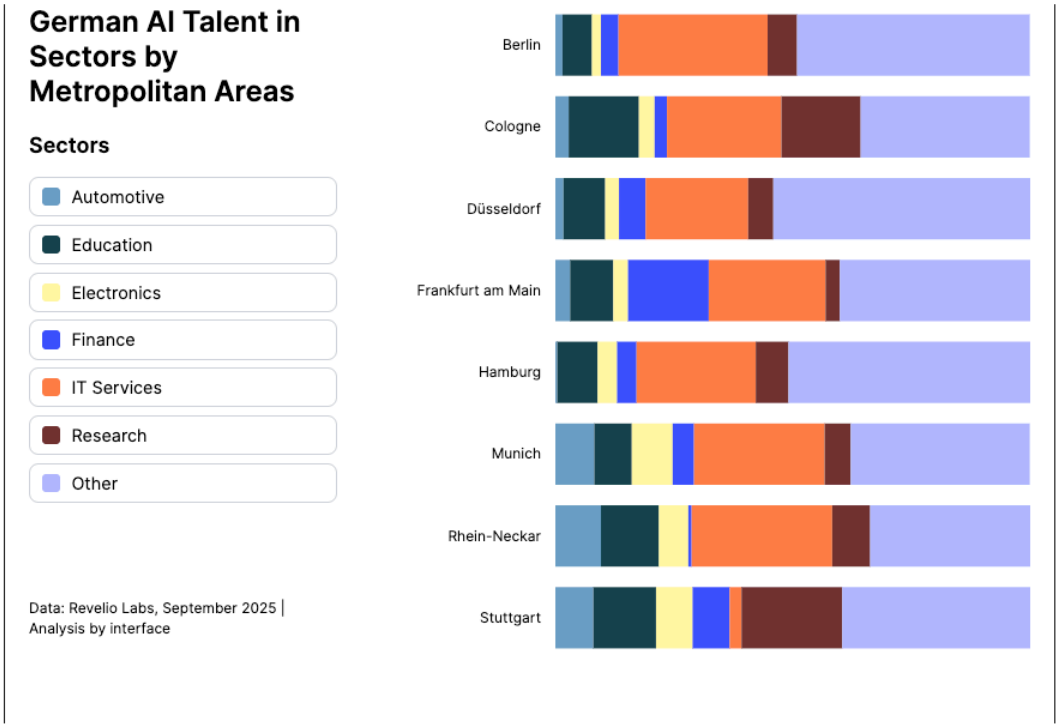
For a complete presentation of this graph, please see the online version of this publication.
https://www.interface-eu.org/publications/germany-case-study

The second pole of the German AI economy is industrial. Automotive Services (~6,500), Industrial Manufacturing (~5,800) and Electronics Manufacturing (~5,100) together employ nearly 18,000 AI professionals, roughly 15% of the national pool. This is a meaningful base: it is comparable to the entire AI workforce of a mid-sized EU member state, and it is concentrated in the same sectors as many Germany's startups. Previous interface research found that Germany hosts a third of all EU AI startups in the manufacturing and supply chain market. Talent and entrepreneurial activity point in the same direction: towards robotics, engineering and industrial applications. Whether 15% is sufficient is harder to judge, and expected talent gaps in the automotive sector through 2030 suggest it is not an endpoint. But as a foundation for the digital transition of legacy industries, the alignment between where the talent sits and where the commercial opportunities lie is an encouraging signal rather than a warning one.

A technical talent shortage is frequently cited as one of the main barriers to the digitalisation of German automakers. In response, the automotive giants are investing directly in AI capacity: BMW and Audi in Bavaria, Mercedes-Benz and Porsche in Baden-Württemberg, and Volkswagen in Lower Saxony, which has announced multi-billion-euro investments in AI across its supply chain and an internal training initiative that has reached 130,000 employees. The state-level pattern follows the corporate geography. Baden-Württemberg leads with 13% of its AI talent in automotive services, followed by Lower Saxony (12%) and Bavaria (9%). Baden-Württemberg hosts one in four German automotive jobs, and 10.8% of its startups focus on robotics, driven largely by Cyber Valley. Lower Saxony hosts Volkswagen's headquarters and over 700 automotive suppliers. In Bavaria, the automotive industry accounts for nearly a third of total industrial sales.

Industrial and electronics manufacturing show the same southern concentration. Baden-Württemberg generated 14.9% of German GDP in 2023, anchored in manufacturing, and invests 5.6% of its GDP in R&D, among the highest rates of any region in Europe, alongside incentives for businesses to invest in digitisation. North Rhine-Westphalia, which produces around 20% of German GDP with strengths in chemical manufacturing and logistics, hosts KI.NRW, a competence platform that aims to make the state a leading national region for applied AI. IT Services talent, meanwhile, concentrates near large corporate clients: North Rhine-Westphalia leads at 20% of state AI talent, with Bavaria, Berlin and Hesse each at 18%.

Healthcare is the strategic outlier. The national AI strategy identifies health as a priority field, and the German pharmaceutical industry is Europe's largest, with compound market growth of 6.4% between 2018 and 2024, yet only around 3,500 AI professionals work in the healthcare and wellness sector. Federal programmes are funding AI research for medical, organisational and administrative processes in hospitals, alongside digital hubs for health technology, but a talent pool of this size is a binding constraint on the sector's digital transformation. Given the scale of the challenges ahead, an ageing population, overburdened clinical staff and a projected nursing shortage, the gap between healthcare as a German strategic priority area for AI and its current workforce capacity is one of the clearest findings of this analysis.



For a complete presentation of this graph, please see the online version of this publication.
https://www.interface-eu.org/publications/germany-case-study

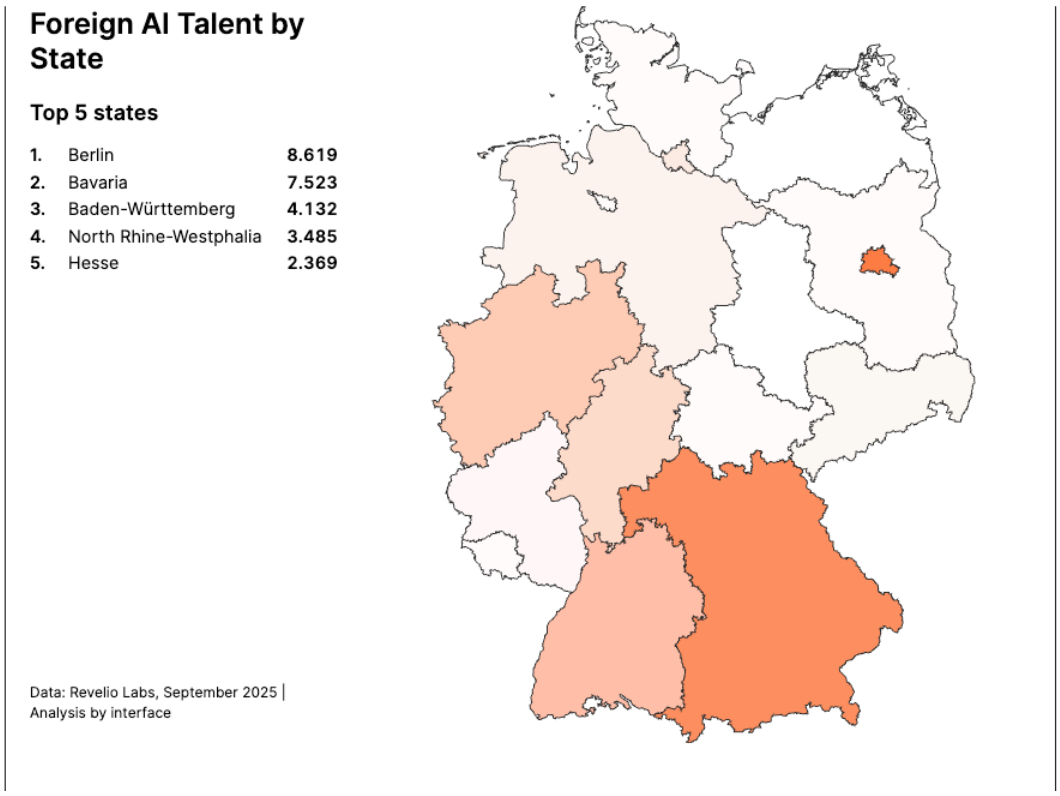
Data on the German AI startup landscape adds a commercial dimension to the employment picture. Analysis of Dealroom data covering 2,469 German AI companies, primarily startups and scale-ups rather than the general company population, shows Berlin leading with 808, over 30% of the national total, followed by Bavaria (588) and North Rhine-Westphalia (311). States with large AI talent pools do not automatically generate proportionate startup activity: Baden-Württemberg, Hesse and Hamburg host 185, 183 and 162 respectively. Across the country, the most common focus areas are enterprise software (557), health (211) and marketing (96), the latter two being among the most promising application areas for generative AI in terms of return on investment. Two regional specialisations stand out. Thuringia has 21.4% of its AI startups in robotics, reflecting the state's tradition in special machine construction. Hesse leads in fintech AI at 10.9%, consistent with Frankfurt's role as a financial capital, serving as the seat of the European Central Bank and the Deutsche Bundesbank.

The startup data also helps explain Berlin. The city's AI talent concentration far exceeds what its economy, the sixth largest among German states, would predict. A startup base weighted towards enterprise software and marketing offers a plausible explanation: Berlin's AI economy is built on the segments where AI products reach market fastest.

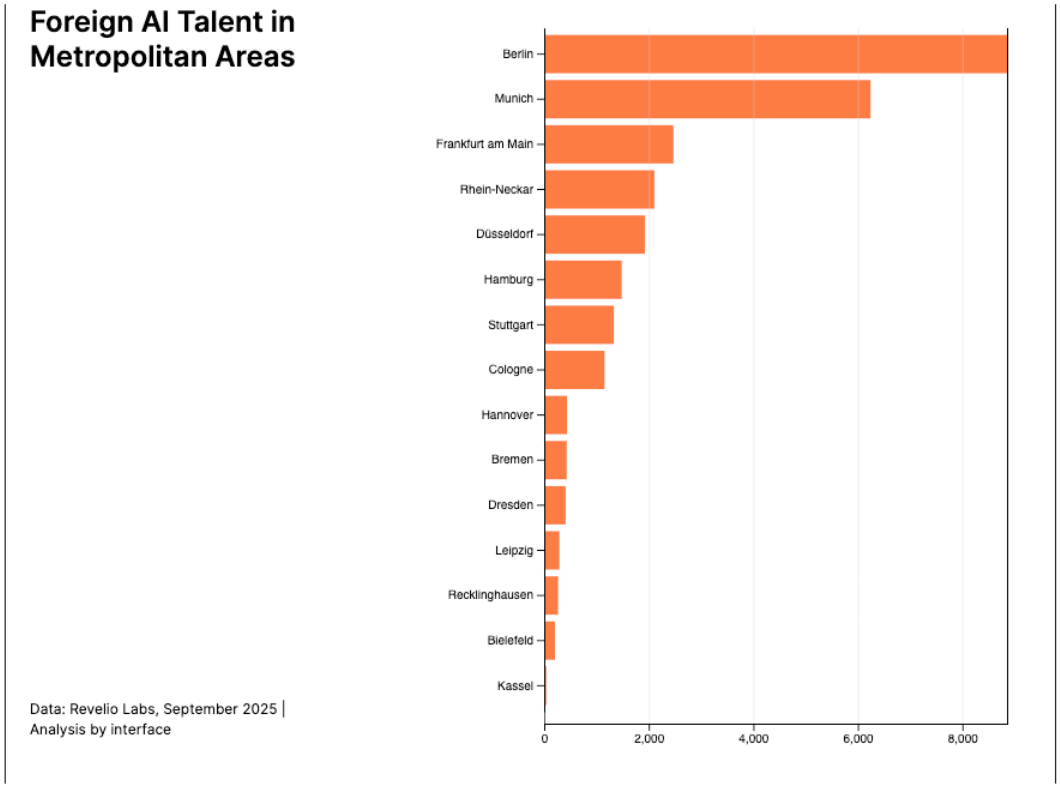
Some city-state economies are not fully captured by the top eight sectors. Hamburg's economy is dominated by the maritime industry, civil aviation and life sciences, none of which appears in the sectoral breakdown, and Berlin's startup scene, which attracted €2.1 billion in venture funding, spans a wider range of sectors beyond the top categories.

Sectoral shares for the city-states should therefore be read as partial portraits.

As established firms train their large workforces in AI, industry's share of AI employment will grow. Policymakers will therefore need to support two different economies at once: traditional firms retraining existing workers, and startup hubs attracting new talent.



For a complete presentation of this graph, please see the online version of this publication.
https://www.interface-eu.org/publications/germany-case-study



For a complete presentation of this graph, please see the online version of this publication.
https://www.interface-eu.org/publications/germany-case-study

While the share of German-educated professionals is increasing across the country, foreign-educated talent remains a substantial component of the AI workforce in every state. In thirteen of the sixteen states, at least a quarter of the AI workforce received its bachelor's degree outside Germany. No state comes close to the proportion of international workers found in Berlin, where the figure is 38%, followed by Munich (33%) and Rhein-Neckar-Kreis (31%).

Brandenburg's position is best understood as an extension of Berlin's. The state surrounds the capital, and in 2024, 290,435 Brandenburg residents commuted into Berlin, with commuter rates in some municipalities reaching 93.7%. International professionals working in Berlin's tech economy but living in the surrounding state lift Brandenburg's share. Mecklenburg-Vorpommern presents a different mechanism: the state has one of the smallest AI talent pools in Germany, but the fourth highest foreign-educated share, because its limited AI activity concentrates in a handful of universities that recruit internationally. Where the AI workforce is small and university-centred, a few international research groups can shape the state-wide figure.

The high proportion of international AI talent is consistent with Germany's position in European skilled migration. Germany issued 72% of all EU Blue Cards in 2024, continuing its long-standing role as the EU's primary issuer, and Blue Card holders tend to remain in the country for extended periods. The 2024 Act on the Modernisation of Citizenship Law shortened the residence requirement for naturalisation from eight years

to five, and in some cases three. Although the law was amended again in 2025, the intervening period saw a marked rise in naturalisations: in Berlin, the annual figure climbed from 9,041 in 2023 to 21,811 in 2024 and 39,041 in 2025. Because this analysis uses the country of bachelor's degree as a proxy for origin rather than citizenship, these naturalisations do not affect the patterns reported here.

The geography of foreign-educated talent supports the third finding of this paper. International AI professionals concentrate in startup and university economies, not in the largest industrial states. Berlin, with the sixth largest state economy, leads by a wide margin, while North Rhine-Westphalia, the largest state economy in Germany, sits in the bottom third, with under a quarter of its AI workforce educated abroad. Saxony-Anhalt is lowest at around 21%. The industrial states that anchor Germany's manufacturing economy draw predominantly on domestic talent, while the port of entry for international engineers and researchers runs through Berlin and, to a lesser degree, Munich.

Whether Germany can convert entry into retention in the long run is a separate question, and an open one. A foreign-educated share of 25% or more across most states is high by European standards, but international AI professionals are also the most mobile segment of the workforce, and previous interface research has documented net flows of AI talent from Germany towards Switzerland, the UK and the US. Language requirements in industrial workplaces, and Germany's middling attractiveness ratings in expatriate surveys, are plausible barriers between arrival in a Berlin startup and a career within a Baden-Württemberg manufacturer. The data here cannot trace individual trajectories between states or employers, but the concentration pattern suggests that attracting international talent and connecting it to the industrial economy are two distinct policy problems, and Germany currently performs considerably better at the first than the latter.

Policy Implications

Building on the alignment between talent and industry

The most consequential finding of this analysis is also the most encouraging: Germany's AI talent base broadly matches the competitive niches the country has identified for itself. Nearly 18,000 AI professionals, 15% of the national pool, work in automotive services, industrial manufacturing and electronics manufacturing, the same domains where German AI startups specialise most heavily. Talent and entrepreneurial activity point in the same direction. This alignment is an asset few European countries possess, but it is not self-sustaining. Talent gaps in the automotive sector are projected to persist through 2030, and the transition of legacy industries will demand more AI professionals than these

sectors currently employ.

Policy should treat the industrial AI workforce as a growth target rather than a settled stock. Our interpretation of the data suggests three possible lever: First, upskilling within incumbent firms: Volkswagen's internal AI training initiative, which has reached 130,000 employees, shows the scale at which established employers can operate, and public programmes should complement rather than duplicate such efforts, focusing on the SME suppliers that lack in-house training capacity. Second, strengthening the pathways between the university system and industry. Education Services employs the largest share of German AI talent, approximately 27,000 professionals; this is a research and pipeline strength, but its competitiveness value depends on graduates and researchers moving to industry. Third, monitoring the seniority mix: unpublished interface analysis across the AI labour pool shows a small decline in senior talent between 2024 and 2025, approximately 6% at the director level and 0.8% at the senior executive level. In an ecosystem where startups skew young and experienced professionals are the scarcest segment, retaining senior talent in and around industrial firms deserves as much policy attention as growing the junior pipeline. It also changes how reskilling and upskilling should be thought of holistically, as individuals with more seniority may face similar challenges around finding roles and need more sector- or role-specific capacity building.

Closing the healthcare gap

Healthcare is where strategy and workforce realities diverge most sharply. The national AI strategy names health as a priority field for integration, the German pharmaceutical industry is the largest in Europe with compound market growth of 6.4% between 2018 and 2024, and the pressures are well documented: a quarter of the population will be over 65 by 2035, clinical staff are increasingly overburdened, and Germany faces a projected nursing shortage of 280,000 to 690,000 by 2049. Against this background, the success of building out this field remains to be seen, with approximately 3,500 AI professionals work in the healthcare and wellness sector, around 3% of the national AI workforce.

Existing instruments address infrastructure and applications rather than people. The Hospital Future Act (Krankenhauszukunftsgesetz) funds digital modernisation; federally funded programmes such as ProKIP and ViKI pro develop AI tools for clinical and care settings. What is missing is a dedicated talent strategy for AI in health: targeted study places and doctoral funding at the intersection of medicine and machine learning, conversion pathways for clinicians into health data roles, and hiring capacity within hospitals and care providers themselves. Two inclusion considerations belong in that strategy from the start. Research indicates that older people are often excluded from meaningful consultation in the development of care technologies, and women remain underrepresented in the AI workforce overall, a particular liability in a sector in which women make up half of the workforce and patient population. Without deliberate

investment in people, hospital digitalisation funding risks building infrastructure that the sector lacks the workforce to use.

From attracting international talent to retaining it

Germany attracts international AI talent effectively, but through a narrow gate. Berlin, and to a lesser extent Munich, function as the country's ports of entry, while the industrial states that most need technical talent draw overwhelmingly on domestic graduates. The policy instruments for attraction are largely in place: Germany issued 72% of all EU Blue Cards in 2024, and the 2024 citizenship reform shortened naturalisation timelines before its 2025 amendment. The unresolved problem in achieving larger national strategic goals is retention and circulation, moving talent from arrival in a startup hub into careers across the wider economy.

The barriers are documented. Germany ranked 42nd of 46 countries in the 2025 InterNations Expat Insider survey and last of all 46 in the "Expat Essentials" category covering housing, administration, digital life and language; two-thirds of international respondents find German difficult to learn. For the most mobile segment of the global workforce, these frictions translate directly into departures: previous interface research has documented net flows of German AI talent towards Switzerland, the UK and the US. Policy should therefore judge success not by visas issued but by five-year retention, and should target the specific frictions the survey identifies: English-capable administrative services in the major AI hubs, workplace language support co-funded with industrial employers, and housing supply in the cities where international talent concentrates. A country that depends on international professionals for over a quarter of its AI workforce in thirteen of sixteen states cannot treat their experience after arrival as a private matter.

Conclusion

This paper examined three dimensions of the German AI workforce: its sectoral concentration, its regional distribution, and its composition in terms of locally and internationally trained talent, in order to investigate whether Germany's AI talent base is located where its competitive opportunities lie. On the evidence of roughly 117,000 professionals, the answer is a qualified yes. Germany's AI talent broadly matches the competitive niches the country has identified for itself. Nearly 18,000 professionals, around 15% of the national pool, work in automotive, industrial and electronics manufacturing, the same domains where German AI startups specialise most heavily, while the education sector that employs the largest single share of AI talent supplies the research base on which both depend. Alignment of this kind is an asset few European countries possess, but it is a foundation, not an outcome. Healthcare remains the

exception: a declared strategic priority served by approximately 3,500 AI professionals, and one that existing instruments, focused on infrastructure and applications rather than people, are not designed to close.

Germany's AI workforce rests on two different foundations, and policies designed to grow it will land differently in each. In the large southern states, absolute numbers are high, but AI talent remains a small share of broad labour markets; in the city-states, above all Berlin, density is nearly double Bavaria's and one in three German AI startups is based there. The two are not in competition, but they are not interchangeable either. Upskilling programmes built around incumbent industrial employers will do little for Berlin's startup economy, and attraction schemes calibrated to urban hubs will not reach the supplier networks of Lower Saxony.

International talent enters Germany through its startup economies, not its industrial powerhouses. In Berlin, 38% of the AI workforce was educated abroad, while North Rhine-Westphalia, the largest state economy in Germany, draws predominantly on domestic graduates. Attraction is working: Germany issued 72% of all EU Blue Cards in 2024. But entry is not retention. International professionals report some of the worst settling-in conditions of any surveyed country, and previous interface research has traced net outflows of German AI talent towards Switzerland, the UK and the US. Attracting international talent and connecting it to the industrial economy are two distinct policy problems, and Germany currently performs considerably better at the first than the latter.

Taken together, the findings describe a talent base that sits, for the most part, where Germany's opportunities lie. Whether it becomes a competitiveness asset depends on the movements this analysis can only point towards: from universities into companies, from startup hubs into the industrial states, and from arrival into long-term careers.

Methodology

Data Sources

Workforce data. This paper draws on workforce intelligence data provided by Revelio Labs, which aggregates and structures publicly available professional profiles, job postings, and related sources into a comprehensive global workforce dataset. The September 2025 snapshot encompasses approximately 616 million individuals in the global workforce. From this population, we identified approximately 1.6 million individuals who constitute the global AI workforce based on our classification framework, of whom approximately 117,000 are located in Germany. State- and metropolitan-level figures for Germany are derived from the location information in these

profiles.

Startup data. This paper additionally draws on Dealroom.co, a global data platform covering startups, venture capital and technology ecosystems. We exported all AI companies headquartered in Germany, a total of 2,469 companies, and disaggregated them by headquarters state and by industry tag. Three properties of this data shape how it should be read. First, Dealroom's coverage is weighted towards startups and scale-ups; the figures describe Germany's entrepreneurial AI economy, not the general population of companies using or developing AI. Second, industry classifications are tags rather than exclusive categories, so a company may appear in multiple industries; industry shares are calculated as the percentage of companies within a state carrying a given tag. Third, marketing-focused companies overlap substantially with the enterprise software category, and the two should not be treated as fully independent segments. The export was conducted in 2025 and reflects Dealroom's coverage at that time.

Contextual data. Population figures for per-capita calculations draw on World Bank data for national and metropolitan comparisons and on the German Federal Statistical Office (Destatis) for state-level figures, including higher education staffing statistics (2024). State GDP figures are taken from the national accounts of the Länder (VGRdL, calculation status August 2025/February 2026). The quantitative analysis was complemented by semi-structured interviews with professionals across academia, industry and government.

Classification Framework

This paper applies the three-tier classification system introduced in interface's April 2025 study, *Technical Tiers: A New Classification Framework for Global AI Workforce Analysis*. The framework categorises AI talent into three levels based on technical engagement with AI development:

- **Tier 0 (AI Literate):** Individuals in non-technical roles within the AI industry, or those with demonstrated interest in AI working in adjacent or unrelated fields. This includes professionals who engage with deep learning, data science and machine learning concepts but do not currently work in roles directly involving these areas.
- **Tier 1 (Software & Data Professionals):** Technical professionals in software development or data science who may employ foundational machine learning techniques, such as linear regression, but do not directly develop advanced AI systems. This tier includes data scientists who do not work with deep learning methods.
- **Tier 2 (AI Researchers & Engineers):** Individuals in roles that directly involve developing, applying or researching deep learning techniques, including computer vision, generative models and other advanced machine learning applications. This tier captures those working with neural network architectures such as transformers, RNNs, CNNs and LSTMs.

Classification was performed using Llama 3.1 70B, an open-source large language model selected for its alignment with our transparency values, strong benchmark performance

and data sovereignty advantages. Each profile was processed independently through a specialised classification prompt optimised using DSPy, achieving 80% accuracy on a gold-standard test set of 100 manually classified profiles. Chain-of-thought prompting was employed to improve output quality and interpretability. Despite individual-level noise, aggregate trends in talent pool classification are robust and meet accuracy standards for analytical use. For a full account of the classification methodology, prompt development and validation benchmarks, we refer readers to the *Technical Tiers* paper.

Estimating Talent Origins

To analyse the geographic origins of AI talent, we use the country of each individual's bachelor's degree as a proxy for country of origin. This approach rests on the assumption that most individuals pursue early education in their home country. OECD data supports this: only around 8% of bachelor's students across OECD countries are international. Meaningful exceptions exist. Australia and New Zealand see international undergraduate populations of up to 28%, likely driven by English-language instruction, while the UK (18%) and Austria (17%) also attract significant shares. By contrast, the US hosts around 4% international undergraduates and India under 0.5%, making the proxy especially reliable for these major talent-origin countries. A consequence of this method is that naturalisation does not affect our figures: an individual educated abroad who later acquires German citizenship is still counted as foreign-educated, which is why the naturalisation trends discussed in this paper do not alter the reported patterns.

Gender estimates are derived from Revelio Labs' census-based name prediction model, which checks first names against national census registries to estimate gender probability. Individuals are assigned a gender where the probability exceeds 50%; those without a predicted gender are excluded from gender-specific analyses.

Acknowledgements

This research was generously supported by the Carl Zeiss Stiftung as part of the project 'Strength and weaknesses of the German and European AI ecosystem - talent in the focus.'

Carl Zeiss Stiftung

We sincerely thank Ruggero Marino Lazzaroni for his essential data analysis work. We

also would like to thank Teja Adarsh Dodda and Sabrina Santos Peres for their research support and contributions from the inception of this paper. We also thank Steffen Gorski (nachmorgen) for his work developing the interactive data visualisations seen throughout this paper. Lastly, we also sincerely thank our reviewers and editors for their time spent providing thorough feedback on earlier drafts of the paper.

Authors

Siddhi Pal
Lead - AI Workforce and Innovation
spal@interface-eu.org

Catherine Schneider
Senior Policy Researcher - AI Workforce and Innovation
cschneider@interface-eu.org

Imprint

interface – Tech analysis and policy ideas for Europe
(formerly Stiftung Neue Verantwortung)

W www.interface-eu.org
E info@interface-eu.org
T +49 (0) 30 81 45 03 78 80
F +49 (0) 30 81 45 03 78 97

interface – Tech analysis and policy ideas for Europe e.V.
c/o Publix
Hermannstraße 90
D-12051 Berlin

This paper is published under CreativeCommons License (CC BY-SA). This allows for copying, publishing, citing and translating the contents of the paper, as long as interface is named and all resulting publications are also published under the license "CC BY-SA". Please refer to http://creativecommons.org/licenses/by-sa/4.0/ for further information on the license and its terms and conditions.

Design by Make Studio
www.make.studio
Code by Convoy
www.convoyinteractive.com