UNLOCKING THE CZECH REPUBLIC'S AI POTENTIAL 2025

The AI revolution is taking hold in the Czech Republic

AI adoption in the Czech Republic is expanding rapidly, with **29%** of all businesses now consistently using AI, up from **22%** last year. This is a year-on-year growth rate of **32%**. Today, over 370,000[1] businesses are now using AI in the Czech Republic — including 90,000 who adopted it in the last year. This equates to roughly one business adopting AI every six minutes.

Startups are on the cutting edge of AI innovation: **54%** of Czech startups have launched a new AI-driven product, compared to only **17%** of large businesses. Czech startups are outpacing their European counterparts with AI innovation — across Europe, **51%** of startups are launching new AI-driven products. Along with startups, the AI revolution is also being driven by strong adoption in three key sectors where more than half of firms now use AI:

Financial services **(56%)**

IT and business services (**55%**)

Automotive and manufacturing **(52%)**

AI adopters are seeing clear benefits: **82%** of Czech businesses report an increase in revenue thanks to AI adoption, with an average increase of **15%**, attesting to the growth and competitiveness AI can bring. While AI adoption rates are strong, a deeper look into AI use across the Czech business landscape reveals that most adopters are at first stages of AI integration: **60%** of Czech AI-adopters remain focused on AI's most basic uses such as chatbots, translation, and simple process automation. This matches the trend across Europe, where **61%** of adopters are at this stage.

Importantly, **18%** of adopters in the Czech Republic are already harnessing AI's most advanced uses, developing custom models or combining multiple tools for complex tasks – this is on par with **21%** across Europe, which has a higher adoption rate of **42%**. While this segment is small, it demonstrates strong momentum given the country's overall adoption rate – reflecting that when Czech businesses take the initial step of AI adoption, they are quick to see its potential and integrate its most sophisticated uses.

With almost three in ten businesses now using AI, the Czech Government is capitalising on this momentum and boosting initiatives to drive the digital transition, recognising AI's potential to transform and drive economic growth. The Czech Government launched its National Artificial Intelligence Strategy 2030 in May 2019. It set out seven 'Pillars of Progress': Research & Innovation; Education; Labour Market Adaptation; Ethical Framework; Security; Business Development; Public Administration – and established the Czech Republic's ambition to become one of Europe's leaders in innovation.

This ambition is building on a decade of boosted efforts around digital inclusion and skilling, recognised by the Czech Government as a crucial aspect to realising the benefits of the digital transition. In 2016, the government launched its Czech National Coalition for Digital Skills and Jobs (DigiKoalice) – a platform offering digital skills training, courses, and events, both in the Czech Republic and across Europe. As such, the Coalition is emphasising education as the base for the development of digital skills across society.

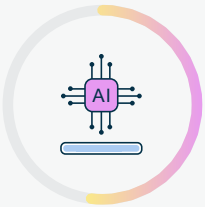
As the Czech Republic builds on this digital momentum, AI stands out as a transformative force for the nation's future. However, businesses must be empowered to move beyond basic, efficiency-focused AI tools to more advanced uses that deliver transformative benefits and innovation. By continuing to expand adoption, foster innovation, and strengthen the skills and infrastructure that support advanced AI uptake, the Czech Republic can translate today's rapid progress into long-term growth, productivity, and global competitiveness.

Key findings from this study:

- Nearly three in ten (**29%**) businesses in the Czech Republic are now using AI – with a year-on-year growth rate from 2024 of **32%**.
- 90,000 businesses adopted AI in the last year – equating to approximately one business adopting AI every six minutes.
- **82%** of Czech businesses report an increase in revenue thanks to AI adoption, with an average increase of **15%**.
- Startups are the clear bright spot, with over half (**52%**) of Czech AI-adopting startups leveraging the technology in advanced ways, compared with **26%** of AI-adopting startups across Europe.
- Large enterprises are more cautious: while **41%** report AI adoption, only **12%** have a comprehensive AI strategy.
- The digital skills gap remains the single biggest barrier: **53%** say a lack of skills is hindering innovation.

Czech startups are emerging as leaders for AI innovation

Czech startups[2] are emerging as AI pioneers in the nation, moving far beyond AI adoption to create products and business models that barely existed a few years ago. Agile and innovation-driven, these companies are both applying AI to existing operations and also embedding it at the heart of their value propositions, reshaping industries and setting new standards for what technology can achieve.



52% of Czech startups are harnessing the most advanced AI uses, combining multiple models and tools to perform complex tasks – compared with **26%** of startups across Europe.

47% of startups are leveraging AI in research and development.

54% of startups have launched new AI-driven products or services, compared to only **17%** of large businesses.

38% of startups have launched new AI-based customer service solutions, and **27%** are using advanced integrated AI systems, compared to just **14%** of large enterprises.

Startups are also optimistic about competitiveness and the future of AI in their industry: **77%** of startups say that Europe is competitive as a global hub for innovative startups, and **72%** believe AI will transform their industry in the next five years. This makes the Czech Republic's fast-moving startups crucial drivers of innovation and competitiveness in Central Europe.

Case Study: Aisle: Superhuman, autonomous security for the AI age

Software now runs the world – from the grids that deliver our energy and the code controlling medical devices to the infrastructure keeping global economies online. In 2024 alone, more than 40,000 new security vulnerabilities were reported, and organizations took an average of 45 days to fix critical ones. Attackers, increasingly empowered by AI, unfortunately need only five days on average to exploit them. The gap between discovery and remediation is widening, and every organization that builds or operates software is exposed.

Aisle, founded in 2025, is closing that gap with an AI-native Cyber Reasoning System (CRS) – a new class of vulnerability-management technology. Its core uses agentic AI: autonomous agents powered by large language models that can reason about code, identify vulnerabilities, generate and test patches, and verify fixes before deployment. The system doesn't just detect problems but it also autonomously remediates them at superhuman speed, scale, and depth.

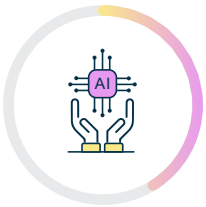
To power these capabilities, Aisle relies on Amazon Bedrock and other AWS services, enabling its agents to perform large-scale secure code analysis and patch generation entirely within protected AWS environments.

The results speak for themselves. Within its first weeks of operation, Aisle's system uncovered over 100 previously unknown vulnerabilities in critical open-source software that underpins the internet's infrastructure and its security. Compared to traditional tools, Aisle's approach is vastly more accurate, dramatically reducing false positives and freeing security teams to focus on what matters most. What once took weeks to identify can now be found, fixed, and verified in minutes – with humans staying in control throughout the process.

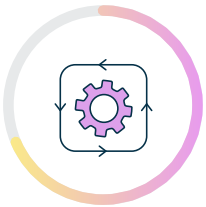
Aisle's mission is simple and urgent: to secure the software foundation of modern civilisation. AWS is a significant help on its mission.

Large enterprises and SMEs represent great untapped potential

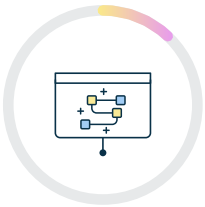
Celebrating adoption numbers alone masks an underlying trend: Large enterprises[3] in the Czech Republic are not yet harnessing the most advanced uses of AI, representing significant untapped potential to drive further innovation and growth in the country. If not addressed, there is the potential for the emergence of a 'two-tier economy,' where startups surge ahead with AI innovation to transform whole industries, while larger firms remain using AI for its more basic purposes:



41% of large enterprises report they have adopted AI, significantly greater than the national average of **29%**.



However, **69%** of large enterprises remain at basic levels, focused on incremental gains such as efficiency and compliance.



Only **12%** of large enterprises have a comprehensive AI strategy, and just **17%** are delivering a new AI-driven product or service.

If not addressed, the Czech Republic risks developing a 'two-tier AI economy', with startups surging ahead in AI innovation while larger firms remain at more basic uses.

To avoid this divide, Czech large enterprises must look beyond early efficiency gains and embrace AI as a core driver of innovation. With their scale, resources, and market reach, these organisations are uniquely positioned to complement startup dynamism, accelerate transformational AI across industries, and help ensure the country's digital transition delivers broad-based economic growth and competitiveness.

Additionally, SMEs are broadly in line with the national average when it comes to AI adoption (**28%**) and its advanced uses. As with large enterprises, a significant majority (**61%**) remain at basic levels of AI adoption, while **16%** are leveraging AI for its most advanced uses. As SMEs represent the majority of Czech businesses, this represents considerable untapped potential.

Both large enterprises and SMEs show a readiness to integrate AI when given the right tools and support, and the potential economic benefit of empowering their AI uptake is substantial. Recent research by the Telecom Advisory Service, on behalf of AWS, found that cloud-enabled AI added over 108 million U.S dollars (2.5 billion Czech Krona) to the Czech Republic's GDP in 2023. The research also found that the cloud as a whole is set to add 2.6 trillion U.S. dollars (61.9 trillion Czech Krona) to Europe's GDP by 2030, with nearly 434 billion U.S. dollars (10.3 billion Czech Krona) alone coming from cloud-enabled AI.

Case Study: O2 CZ is transforming the the network customer experience

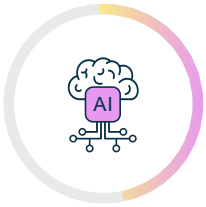
O2 CZ is the first and leading converged telco provider across the Czech Republic. O2 is collaborating with AWS and adopting its AWS Network Genius platform to leverage the power of AI to automate its network operations and enhance customer experience.

As O2 seeks to maintain its position as 'best network experience in customer perception', and 'Best 5G Network' awarded by Ookla Speedtest in 2024, O2 CZ has harnessed innovative platforms built on AWS Cloud. To deliver an enhanced customer experience, O2 is using the AWS Network Genius platform to understand customer network experience proactively, while delivering a closed-loop to achieve improvements in performance.

The Network Genius using AWS's platforms has been designed to enable significant improvements for O2 in several areas, leading to 50% reductions in network outages and the automation of responding to 50% of customer queries regarding network issues. These advancements highlight how O2 and AWS are transforming telecom operations across the Czech Republic, setting a benchmark for European markets striving to strengthen network reliability and elevate customer experience.

The cloud is driving AI uptake

Cloud services are a key enabler for AI adoption in the Czech Republic. **57%** of Czech businesses report using cloud services, just above the European average of **55%**. This cloud adoption is broad-based, with strong usage across SMEs as well as large enterprises.



Nearly half (**46%**) of Czech businesses say that access to cloud infrastructure has been the most helpful factor in enabling their AI adoption and integration.

Government support also plays a significant role: **72%** of AI adopters say grants or public programmes were important to their AI adoption, and **41%** said they were crucial.

The country also benefits from a highly skilled developer base. The wider Central and Eastern Europe region is home to over two million developers: this is **18%** of the worldwide number and about half of the EMEA developers' population (according to IDC). Of these, about 170,000 are in the Czech Republic and 80,000 in Slovakia. This deep talent pool is already fuelling innovation, with many Czech and Slovak firms using AWS generative-AI tools to launch new products and scale existing businesses.

This mix of cloud access, developer expertise, public support, and strong digital ambition is enabling many Czech businesses to not only adopt AI but also to harness its most transformative uses. Together, these factors will remain critical levers to the country's ongoing digital transformation.

Key barriers are preventing Czech businesses from fully harnessing AI

Four key challenges continue to hinder businesses from embracing AI and, even when adopted, from driving successful innovation. If left unaddressed, these obstacles risk slowing the Czech Republic's progress.

Skills

With AI adoption gaining momentum, Czech businesses are increasingly feeling the pressure of talent shortages. **49%** of Czech businesses identify skills as a barrier to deeper AI adoption (compared with **40%** across Europe). **53%** say a lack of skills is hindering innovation, while **41%** say it is constraining their growth. With AI literacy expected to be required in **48%** of new jobs in the Czech Republic within the next three years, bridging this gap is critical. **44%** of Czech businesses report struggling to attract the talent they need, and companies are willing to offer an average **37%** salary premium to candidates with strong AI skills.

Compliance

Czech businesses face high compliance costs, estimating that €37 out of every €100 spent on tech goes towards compliance-related requirements - though this is below the European average of €40.

71% of businesses say their compliance spend has increased over the past three years, and nearly three quarters (**73%**) expect these costs to rise further in the next three years.

Among businesses that seek support from external consultants for AI, **36%** require this support for regulatory compliance, and **24%** say they have adopted or plan to adopt AI to automate compliance processes.

Regulatory uncertainty

64% of Czech businesses do not understand their roles and responsibilities under the EU AI Act (vs. **68%** European average). **42%** view regulatory uncertainty as a key barrier to adoption (compared with **44%** across Europe). Among startups, **36%** report that regulatory uncertainty has delayed or altered their AI strategies, showing how clarity will be essential for scaling innovation.

Perceived costs

36% of Czech businesses cite upfront costs as a barrier to AI adoption (in line with the **35%** European average). **31%** say they need a clearer understanding of AI's return on investment before committing further. Yet for those who have adopted the technology, the benefits are clear: **82%** of Czech adopters have already seen an increase in revenue as a result of AI, with an average growth of **15%** directly attributed to their AI use.

These barriers could become a handbrake on the speed of digital transformation across the Czech Republic. Tackling them will be critical in enabling the nation to maintain momentum behind AI-driven growth.

AWS is committed to supporting businesses and local innovation in the Czech Republic

In March 2021, AWS announced the opening of its first office in Prague, Czech Republic, as part of its pre-existing investment in Central Eastern Europe. In 2025, AWS has been officially certified as a proven cloud provider[4] for government systems in both the Czech Republic and Slovakia, meeting their respective Cloud Act requirements for Security Tier 2 services.

The new office followed the launch of an Amazon CloudFront Edge Location and an AWS Direct Connect Location in Prague in 2017. Amazon CloudFront provides a fast, secure global content-delivery network, while Direct Connect offers dedicated links from customer sites to AWS infrastructure. In 2025, AWS was officially certified as a proven cloud provider for government systems in both Czech Republic and Slovakia, meeting their respective Cloud Act requirements for Security Tier 2 services. AWS has also launched additional initiatives in the region to support the region's digital transition:

- Slovak National Language Model: We believe that the world needs multiple AI models and there's not one model to rule them all. This is why AWS is cooperating with the Kempelen Institute of Intelligent Technologies (KInIT), a Slovak research institute working with AWS to develop a Slovak national language model. National language models provide an important path to enabling all citizens to access the benefits of AI.
- "Elements of AI Online" Education Programme: AWS is supporting "Elements of AI" online educational programme provided by prg.ai, which has brought AI knowledge to nearly 30,000 learners already. AWS is sponsoring this initiative, providing our technological expertise.
- Partnership with the Czech Ministry of Industry and Trade: AWS signed an agreement with the Czech Ministry of Industry and Trade to support SMBs with a dedicated programme, offering educational resources, trade missions, and technology events to support the digitalization, innovation, and global export opportunities, with over 3,000 already utilising Amazon and AWS services.

Unlocking the full potential of AI through three crucial actions

The Czech Republic has the right tools and foundation to harness AI to boost growth, innovation, and competitiveness. AWS urges policymakers and industry leaders to take action to unlock AI's full potential across both start-ups and larger enterprises:

1. **Establish a pro-innovation and pro-growth regulatory environment:** Fostering confident investment in AI and boosting AI-driven innovation will be enabled through creating a clear and streamlined regulatory environment. Additionally, aligning on common international standards can help drive compliance costs down when trading and scaling both nationally and within the borders of the EU, and create a stable environment that supports AI adoption. By addressing Czech businesses' concerns about the cost and complexity of compliance associated with new regulations, the nation can overcome a key barrier to digital transformation.

2. **Accelerate private sector digital adoption through boosted skills efforts:** Streamline access to government funding, build industry-specific digital skills programs (**67%** see AI skills as crucial, only **26%** feel prepared). This mismatch highlights the need for targeted upskilling initiatives, including partnerships between government, industry, and educational institutions. Ensuring that businesses can also access trusted, proven suppliers such as AWS will further accelerate adoption by giving firms reliable partners to implement and scale solutions. Closing this gap is key to unlocking the Czech Republic's next wave of innovation, productivity, and growth.

3. **Increase public sector adoption of AI:** Prioritise digital transformation in central government, healthcare and education, use public procurement to drive innovation, and create test-beds and cross-border exploratory projects using AI to deliver new services. **76%** of Czech businesses say they are more likely to adopt and expand their AI use when the public sector leads, and **79%** of startups say that public sector adoption is crucial to their ability to scale, attesting that the public sector adoption of new technologies is crucial to increasing trust in these technologies.

Conclusion

The Czech Republic has the ambition, foundation, and infrastructure to harness the full potential of AI across business sectors and sizes, with many large enterprises already taking initial steps toward innovation and growth. By leveraging advanced tools, world-class cloud infrastructure, and a dynamic digital economy, businesses can accelerate transformation and remain competitive in an AI-powered global market.

A skilled workforce, a pro-innovation regulatory environment that is aligned with international standards and sensitive to rising compliance costs, combined with strong public sector AI initiatives, can build trust, create demand for enterprise solutions, and accelerate digital transformation. By embracing AI now, Czech businesses can capture value, drive industry-wide progress, and position the nation as a regional hub for AI-driven growth.

Appendix

This narrative is based on two tracking studies: a survey of 1,000 Czech businesses (representative by their business size, sector, and NUTS 1 region) and 1,000 nationally representative members of the Czech public (representative based on age, gender, and NUTS 1 region based on the latest available sample).

Methodology

The fieldwork for this study was undertaken by Strand Partners' research team for Amazon Web Services. This research has followed the guidance set forth by the UK Market Research Society and ESOMAR. For the purposes of this study, business leaders are defined as founders, CEOs, or members of the C-suite in organisations.

'Citizens' are nationally representative members of the public based on the latest available census.

For inquiries regarding our methodology, please direct your questions to: polling@strandpartners.com.

In Czech Republic:

- We surveyed 1,000 members of the public, ensuring representation based on NUTS 1 region, age, and gender.
- Additionally, we surveyed 1,000 businesses, representative by NUTS 1 region, business size, and sector.

Sampling:

Our sampling process used a mix of online panels that are recognised for their validity and reliability. These panels are carefully curated to ensure diverse representation across various demographics. For the business leaders, the panels are selected with a consideration for organisational size, sector, and position within the company. Our objective with the sampling strategy is to achieve an optimal mix that mirrors the actual distribution of our target populations in the respective markets.

Weighting Techniques:

Post-data collection, we applied iterative proportional weight to correct any discrepancies or over-representations in the sample.

Survey:

This study was designed with the objective of delving deep into the digital landscape:

- Usage Patterns: This survey gauges the evolving patterns of digital technology usage. We are particularly interested in examining the adoption and implementation levels of technologies, focusing on cloud computing and artificial intelligence.
- Perceptions and Attitudes: The survey seeks to unearth the prevailing perceptions and attitudes toward digital technologies, understanding the perceived benefits, challenges, and potential ramifications of both present and emerging tech solutions.
- Barriers and Opportunities: The survey scrutinises the predicted challenges and potential avenues that both businesses and individuals anticipate on their digital trajectory. This involves pinpointing challenges, from skill deficits to regulatory complications, and recognising opportunities for growth, innovation, and market development.

'Size of the Prize': The survey shed light on the economic repercussions and growth prospects linked with digital transformation. By elucidating the 'size of the prize', we aspire to stress the importance of digital transformation and foster further investments and technology adoption

References

1. The total number of active businesses in the Czech Republic, according to the Czech Statistical Office, is 1,291,474.
2. A startup is a business founded in the last 2 years which provides a new product/service or innovation and is aiming for rapid growth in terms of employees and turnover.
3. A large enterprise is a business with 500 or more employees, founded 10 years ago or more
4. AWS compliance and governance with the Cloud Acts in the Czech Republic: AWS complies with The Czech eGovernment Cloud Computing Catalogue (Cloud Act 365/200 with its Decrees 315,316 and 190), AWS EMEA SARL Luxembourg and AWS Inc. are registered as a proven suppliers along with certified AWS services into Security Tier 2 for Information Systems Of Public Authorities (digital and cyber agencies involved DIA, NUKIB).

   AWS complies with The Slovak eGovernment Cloud Computing Catalogue (Cloud Act 95/2019), AWS EMEA SARL Luxembourg is certified along with 100 AWS services into Security Tier 2 and 3 for Information Systems Of Public Authorities (digital and cyber agencies involved MIRRI SK, NBU).