How do SMEs in CEE find their way in the world of AI?

CHAMBER

How do SMEs in CEE find their way in the world of AI?

AI Chamber, Warsaw 2025

Author
AI Chamber

Design
Mariola Figura

DTP
Dariusz Matuszewski

Publisher
AI Chamber

Contact:
contact@aichamber.eu

Publication available free of charge at:
www.aichamber.eu

The document has undergone several important updates – below we present its latest version, reflecting the changes introduced.

Table of contents

#01

Introduction

A word of introduction

We are just handing over to you a unique report in which we tried to capture the real picture of artificial intelligence implementations in the Central Eastern Europe (CEE) SME sector – without simplifications, without pretentious theses about a "revolution just around the corner" or replicating one-to-one global trends that are often incompatible with the reality of companies operating in our region. Above all, we wanted to find answers to very specific and clearly defined questions: what stage of AI technology adaptation are CEE companies really at today? What benefits do they see from this type of technology? What is blocking them? And finally – what does this say about our region's readiness to enter the next stage of digital transformation, which is necessary to achieve competitiveness in the global market?

The survey on which this report is based was conducted among more than 3,200 employees of small and medium-sized companies in 11 Central and Eastern European countries. It included respondents from Poland, the Czech Republic, Slovakia, Romania, Bulgaria, Croatia, Hungary, Slovenia, Estonia, Lithuania and Latvia. The survey not only gauges the level of AI implementations in a given country or industry, but also allows segmentation of companies by their approach to the technology: from enthusiasts, to pragmatists, to digitally withdrawn companies and those completely indifferent to change.

The scope of the report covers key areas of AI adoption in the SME sector: from the level of awareness and readiness for introduction, to typical applications, expected benefits and identified barriers, to an analysis of competencies and the degree of awareness of regulations such as the AI Act. We also look at the dynamics of the AI market in global and European terms, and set the results from the CEE region in the broader context of current technological, political and economic trends.

CEE today is at a key moment of development. It's a dynamic, challenging space, but also a diverse one – both in terms of the pace of technology adoption and the level of regulatory awareness. This can be clearly seen in the results of our survey: while in the Czech Republic, Poland or Romania most companies are already using AI, in countries such as Croatia, Lithuania and Latvia the level of implementation is significantly lower. These differences, however, are not only due to a country's level of economic development, but also to cultural, competence or organizational factors.

In the survey, we divided companies into four segments identified by their approach to AI: "Aware with Barriers", "Practical Optimists", "AI Indifferent" and "Digitally Withdrawn". This is the division that allows us to better understand that mere interest in technology does not always translate into its successful implementation. Many companies with high levels of awareness and positive attitudes toward AI face significant internal limitations. On the other hand, there are technologically indifferent companies that are not so much unwilling to implement AI, but simply do not see a use for it in their business.

One of the most interesting findings of the survey is that the key driver of AI adoption is not the availability of the technology, but organizational maturity and business awareness. Where executives understand the potential of AI, and where the organization has clearly defined implementation goals and the competencies to achieve them – there the technology realistically supports growth. In companies where a defensive approach, lack of strategy and uncertainty about regulations prevail – AI remains a theory.

The report also pointed out that AI is not yet "democratically" available – many companies are using it only in selected departments, mainly in IT, marketing and customer service. At the same time, AI-based tools are still too rarely used in more strategic areas, such as product development, supply chain management or predictive analytics. This could mean that the potential of AI is being used in the region mainly to improve operational efficiency, and not necessarily as a source of strategic advantage.

From the point of view of market development, the findings on regulatory awareness are also important. Only 39% of companies using AI say they are familiar with the AI Act, while among so-called heavy users the percentage reaches 60%. By comparison, among lower-tech companies, familiarity with regulations drops to 29%. This shows that the regulations – while crucial to secure implementations – are still poorly understood, which can result in low levels of compliance in practice.

It is also worth noting the explicit theme of competence in the survey – more than 60% of companies are investing in the development of AI-related skills of their employees, which shows that the importance of the human factor in transformation processes is crucial. At the same time, one in four companies is not taking any action in this regard, which may widen the gap in the level of technology adoption between the leaders and the rest of the market.

One of the main theses we make in this report concerns the role of SMEs in shaping the future technological landscape of Central and Eastern Europe. It is small and medium-sized companies, which are the backbone of the region's economies, that can become the main beneficiaries of wisely implemented artificial intelligence – if they are properly supported: with knowledge, competence and a clear regulatory environment. AI is no longer a technological curiosity – it is becoming an everyday business tool. But in order for it to really make an impact, it must be integrated into the everyday realities of companies.

This report is intended to be a practical tool for anyone who wants to understand where we are as a region today in terms of the business approach to AI and what needs to be done to realistically realize the potential of artificial intelligence – not just as a trendy technological novelty, but as a strategic component of growth.

I invite you to read more.

Tomasz Snażyk
CEO
AI Chamber

Survey methodology

The survey was developed by AI Chamber and conducted by ABR SESTA using the CAWI (Computer-Assisted Web Interview) technique, i.e. computer-assisted web interviews conducted through a specially prepared online platform. The goal was to obtain comparable data on the use of AI/ML technologies in the CEE SME sector. The total sample size was 3259 respondents – employees of small and medium-sized enterprises employing up to 250 people. The respondents were from companies with headquarters or branch offices in one of the eleven countries of the region. The number of responses by country was as follows: Bulgaria – 310, Croatia – 337, Czech Republic – 311, Estonia – 154, Lithuania – 310, Latvia – 308, Poland – 300, Romania – 309, Slovakia – 303, Slovenia – 316, Hungary – 301. In order to better understand the level of sophistication of companies in implementing artificial intelligence, respondents were segmented according to their declared level of AI/ML use. Classification was based on responses to the question, "To what extent is AI/ML used in your company?" Based on this, two main groups were identified: heavy users (N=806) – companies using AI to a high or very high degree, and light users (N=1690) – companies using AI to a low or very low degree. The remainder of the sample consists of companies not using AI or unaware of its presence in the organization.

At first glance, the results regarding AI adoption across countries may appear promising – but a deeper analysis reveals a more nuanced picture. Take the Czech Republic, for example: while 90% of companies report some form of AI usage, only 10% are leveraging it to a very large extent.

Importantly, our study also considered cases where employees use AI tools independently, without the knowledge or approval of their supervisors – highlighting a hidden layer of adoption that may not reflect strategic or organizational readiness. Moreover, the definition of AI usage in the survey included even minimal engagement, such as the use of simple, widely available applications. This broader scope ensures a more inclusive picture of how AI is present in everyday business operations, though it also calls for caution when interpreting the depth of actual implementation.

When assessing individual countries, it is essential to consider the full picture, never relying on a single question or isolated data point. Comparative analysis across markets adds valuable context and helps avoid misleading conclusions. It's also worth noting that all companies participating in the study share a similar baseline profile – most notably, they all make extensive use of the internet, as the survey itself was conducted online. This common starting point ensures consistency but should be kept in mind when interpreting the results.

Please also note that not all of the data described in the text has been presented in graphical form.

TOP 10 key data from the report

1. **AI already present, but implementations still superficial**
   More than ¾ of the region's companies say they are using AI, but only 25% are doing so on a large scale. The Czech Republic, Slovakia and Estonia are the most advanced, while Bulgaria and Croatia lag behind.
2. **AI development plans are ambitious in selected countries**
   Nearly ⅔ of companies want to develop the use of AI, with the high enthusiasm in Slovakia (70%). Poland also performs well (65%), while Latvia and Slovenia show the least desire for further development.
3. **The most common applications are data analysis, marketing and customer service**
   AI most often supports data analysis (40%), automatic translation (35%) and task automation (28%). Estonia and Poland dominate more advanced implementations, such as prediction or customer monitoring.
4. **High readiness of employees to implement AI**
   As many as 61% of employees are actively looking for ways to use AI in their work, confirming a growing openness to new technologies. A particularly strong culture of innovation among teams is evident in the Czech Republic and Poland.
5. **Staff shortages and resistance to change as major barriers**
   Lack of qualified personnel is the main obstacle to deploying AI more intensively, indicated by 40% companies, especially in Croatia and Slovenia. Resistance to change is also a commom problem, especially in Romania.
6. **Low knowledge of AI Act regulations limits companies' preparedness**
   Only 39% of AI users are aware of AI Act provisions, and only 8% of companies say they are ready for an audit. The Czech Republic (66%) and Poland (52%) fare best in terms of familiarity with the regulations, while Croatia (13%) is the worst.
7. **Companies with more experience with AI are more aware and responsible**
   So-called heavy users of AI (25% of the sample) are more likely to implement ethical principles, engage stakeholders and perform risk assessments. Estonia and Romania record the highest level of awareness in this regard.
8. **Large companies are more likely to invest in AI than micro businesses**
   Half of the "aware with barriers" group are companies with 50-250 employees, and micro companies dominate among the "digitally withdrawn". This means that the size of the organization correlates with readiness to implement AI.
9. **Market seniority affects openness to AI - younger companies are more innovative**
   As many as 69% of the "digitally withdrawn" have been operating in the market for more than 10 years, while young companies (less than 2 years) are more likely to enter the segment of optimists and AI users. Most such companies operate in Poland, the Czech Republic and Estonia.
10. **AI seen as a competitive advantage – especially in Poland**
    48% of companies see AI as a way to improve performance and gain market advantage, and in Poland this percentage is as high as 57%. Companies in Lithuania and Croatia are less convinced, which is associated with lower levels of implementation.

#02

The new era of technology: how AI is changing the rules of the game

2.1 Definitions and segmentation of the artificial intelligence market

Artificial intelligence (AI) is an interdisciplinary field of science and technology that aims to create IT systems capable of performing tasks that previously required human intelligence.

In the European Commission's documents, artificial intelligence is described as systems designed by humans that operate physically or digitally, perceiving their environment by acquiring data, interpreting it, reasoning from knowledge, or processing information derived from that data and deciding the best action to take to achieve a given goal.[1]

McKinsey, in its materials, defines AI as the ability of machines to perform cognitive functions that we normally associate with the human mind, such as perceiving, reasoning, learning, interacting with the environment, solving problems and even demonstrating creativity.[2]

Even from the sample definitions quoted above, it is clear that AI is more than just IT systems. The ability of algorithms to learn on their own, or carry out creative thought processes, seems nothing short of revolutionary. Considering how many industries, tools or processes artificial intelligence is currently being used in, it is worth trying to divide AI into several segments to more fully show the multifaceted and multidimensional nature of this technology.

By what criteria can artificial intelligence be divided? Segmentation by the type of technology used comes to mind first. In such a division, the following definitions can be proposed:

Machine learning (ML) is a field of artificial intelligence which aims to enable computers and machines to mimic the way humans learn, perform tasks autonomously, and increase their efficiency and accuracy through experience and exposure to more data.[3]

Deep learning is a more advanced subset of machine learning that uses multi-layered neural networks, called deep neural networks, to simulate the complex decision-making power of the human brain. Some form of deep learning drives most artificial intelligence (AI) applications in our lives today.[4]

Natural Language Processing (NLP) – is the discipline of building machines that can manipulate human language – or human-like data – the way it is written, spoken and organized by humans. The technology evolved from computational linguistics, which uses computer science to understand the principles of language, aiming

to build technology to perform useful tasks. NLP can be divided into two overlapping subfields: natural language understanding (NLU), which focuses on semantic analysis, or determining the intended meaning of text, and natural language generation (NLG), which focuses on machine generation of text. NLP is separate from speech recognition (but often used in combination), which seeks to analyze spoken language into words, converting sound into text and vice versa.[5]

Computer vision is a field of computer science that focuses on enabling computers to identify and understand objects and people in images and videos. Like other types of artificial intelligence, computer vision aims to perform and automate tasks that replicate human capabilities. In this case, computer vision aims to replicate both the way people see and the way people make sense of what they see. The range of practical applications of computer vision technology makes it central to many modern innovations and solutions.[6]

Expert system is a computer program that uses artificial intelligence (AI) technologies to simulate the judgment and behavior of a human or organizational expert with expertise and experience in a particular field. Expert systems are typically designed to supplement, not replace, human experts.[7]

AI-based robotics – AI-based robots have the ability to collect, analyze and act on near real-time information about their environment to perform tasks, often autonomously. Robots use cameras, accelerometers and sensors for vibration, proximity and other conditions to gather information about their environment. Depending on the use case, this data is then analyzed using on-board, edge or cloud computing – or a combination thereof – and machine learning or deep learning algorithms. The robot then uses the conclusions of this analysis to take action.[8]

Another interesting division of AI technology was prepared by experts from IBM. In their analysis, they presented a comprehensive classification of artificial intelligence, dividing it into two main approaches: by capability and by functionality.

According to IMB experts, there are three types of AI by capability: Artificial Narrow Intelligence (ANI), a narrow AI that exists today and is specialized for a single task, Artificial General Intelligence (AGI), a theoretical type of AI capable of learning on its own and solving new problems in different contexts without human assistance, and Artificial Superintelligence (ASI), an even more advanced, hypothetical form of AI that surpasses human intelligence in every area, including emotional and social.

The second division described by IMB experts is based on functionality and includes four segments: Reactive Machines, which operate only on current data, with no

memory, Limited Memory AI (e.g. autonomous cars, generative AI), which can use past data to make decisions, Theory of Mind AI, which will be able to understand people's emotions and intentions (still in development), and Self-Aware AI, which would be aware of itself (completely hypothetical at the moment).[9]

There are, of course, many more such attempts to categorize AI tools and technologies, and theoretical work on new types or applications of AI is constantly underway. Today, however, we can already clearly see that even the narrowest application of AI is already bringing about significant changes both in business and in the daily lives of most of us.

2.2 The global race for the future – who is winning in the AI market?

Artificial intelligence is constantly redefining the foundations of today's economy and society, becoming one of the main drivers of digital transformation in just the past few years. Certainly, its importance will grow even more in the coming years, both through the development of the technology itself and increased user adoption. According to UNCTAD (UN Trade Development), the value of the global AI market will grow from $189 billion in 2023 to an impressive $4.8 trillion in 2033, a 25-fold increase in just a decade.[10]

Artificial intelligence has undisputedly become a major trend driving the venture capital market in 2024, accounting for 50.8% of global VC funding in the fourth quarter of 2024. – that's almost double the amount from a year earlier. Although the number of AI-related VC deals fell by 16.6%, due to the overall decline in the number of investments, AI's share of all deals rose to 25.9%. This means that the AI sector is growing faster than the VC market as a whole.

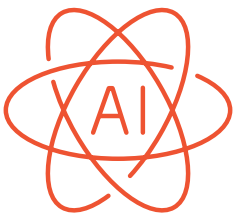
Record funding rounds have fueled growth, with global funding of AI start-ups reaching $131.5 billion in 2024, growing 52% year-on-year. In the background, there is growing competition from Silicon Valley's Big Tech giants, as well as massive investment activity from some of the largest global tech companies. Analysts warn, however, that although AI is attracting unprecedented funds, the long-term success of the investment will depend on the responsible implementation of the technology, solving energy problems and creating a solid ethical framework.[11]

However, it should be kept in mind, the development of AI also brings serious challenges, including geopolitical ones. The concentration of innovation in the hands of a few countries and corporations is becoming increasingly apparent. In 2022, just 100 companies, mainly from the US and China, accounted for 40% of global AI research and development spending. These two countries also hold 60% of all AI patents and are responsible for a third of global scientific publications in the field.[12]

In 2023, the U.S. spent $67.2 billion on AI development, dominating China, which invested $7.8 billion. However, China leads in terms of the number of patents and scientific publications on AI.[13] The geopolitical AI race is thus gaining momentum.

The rapid adoption of artificial intelligence in Europe reflects a positive trend, with 13.5% of companies in the EU with at least 10 employees using AI in 2024—an increase of 5.5 percentage points compared to the previous year. Large enterprises are leading the way, with 41.17% of companies with more than 250 employees integrating AI technologies, while smaller businesses (10-49 employees) show a more modest adoption rate of 11.21%. However, this accelerated growth comes with significant challenges, particularly the immense energy consumption required to sustain AI advancements. The International Monetary Fund projects that by 2030, AI-related energy demand will reach 1,500 TWh, accompanied by CO_2 emissions ranging from 1.3 to 1.7 gigatons. These figures highlight the urgent need for sustainable solutions in the tech and energy sectors to ensure efficiency and responsible AI deployment. Without substantial increases in energy supply or advancements in infrastructure, the sheer scale of AI's power requirements could become a major obstacle to its continued development.

Nevertheless, it is certain that in the coming years artificial intelligence will become not only a technological foundation for the development of the global economy, but also a key tool shaping everyday social and economic life. With what effect? That remains to be seen.



#03

Artificial intelligence through the eyes of SMEs

3.1 From enthusiasts to the digitally withdrawn – companies' approach to AI

This year's edition of AI Chamber's survey examines the attitudes of small and medium-sized companies in the CEE region toward artificial intelligence and its use in daily operations. This wide-ranging project identifies areas where AI brings real benefits, and analyzes the attitudes of companies from 11 countries – both those entities that are eager to implement such innovative tools, and those that feel uncertainty about doing so, or even outright fear of the effects of AI implementation.

For the purposes of this report, we have divided companies into four separate segments – resulting from the diversity of companies' approaches and levels of technological sophistication – to better understand their AI needs and challenges. What are these segments?

Aware with Barriers: A segment of companies that are actively using AI and recognize its potential. They are distinguished by a high level of regulatory awareness and knowledge of AI Act requirements, as well as readiness for audits and compliance. Despite their openness and sophistication, these companies often face internal obstacles such as resistance to change, lack of sufficient board support or low employee competence. It's a combination of knowledge and willingness with real implementation barriers – this segment combines optimism with realism.

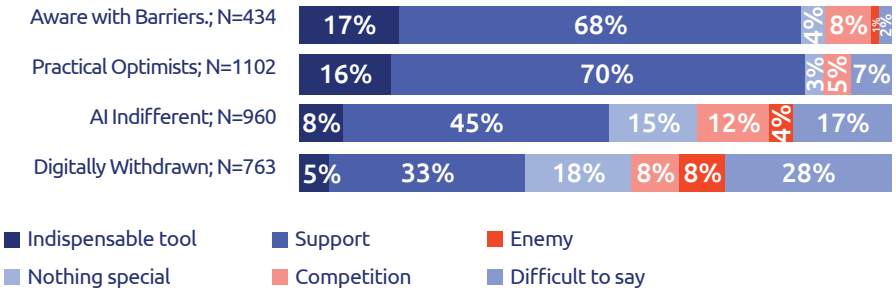
Practical Optimists: This is a segment of respondents who see real benefits from AI and are positive about its further development. These are companies that are open to new technologies and want to develop AI in their organization, although they are often in the early or middle stages of its implementation. They stand out for their low susceptibility to implementation barriers, but, it is worth noting, their regulatory awareness tends to be limited – they are less likely to know the details of the AI Act or the requirements for compliance audits.

AI Indifferent: We classified companies showing low engagement and limited awareness of the use of artificial intelligence into this segment. Attitudes toward AI are cautious and distanced in this group – companies rarely recognize both the benefits and risks of AI. They also lack knowledge of existing regulations, such as the AI Act[14], and the readiness to implement them. Artificial intelligence often remains a peripheral topic for them, outside their main area of interest.

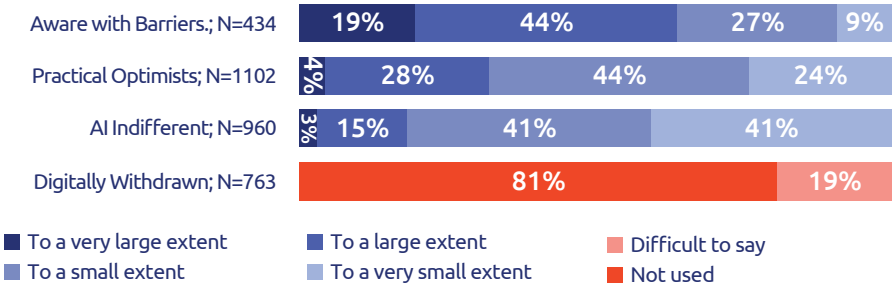
Digitally Withdrawn: The last distinguished segment of companies are those that do not use AI at all and show limited interest in implementing it in the future. They view AI as a technology that is unnecessary for their business – often recognizing that current business processes do not require such support. This is a segment with an

apparent low level of knowledge about AI, limited technological and human resources, and skepticism about the added value that AI can bring. Decisions to implement technological innovations are usually postponed in this group of companies, and the priority remains on current, traditional operational and business activities. The analysis of factors determining which segment a given entity fell into covered four areas: openness and potential of AI/ML, gaps in regulatory awareness of the AI Act, internal barriers to AI implementation, and explicit skepticism towards the AI Act.

Business perceptions of artificial intelligence



Level of AI use in respondents' companies



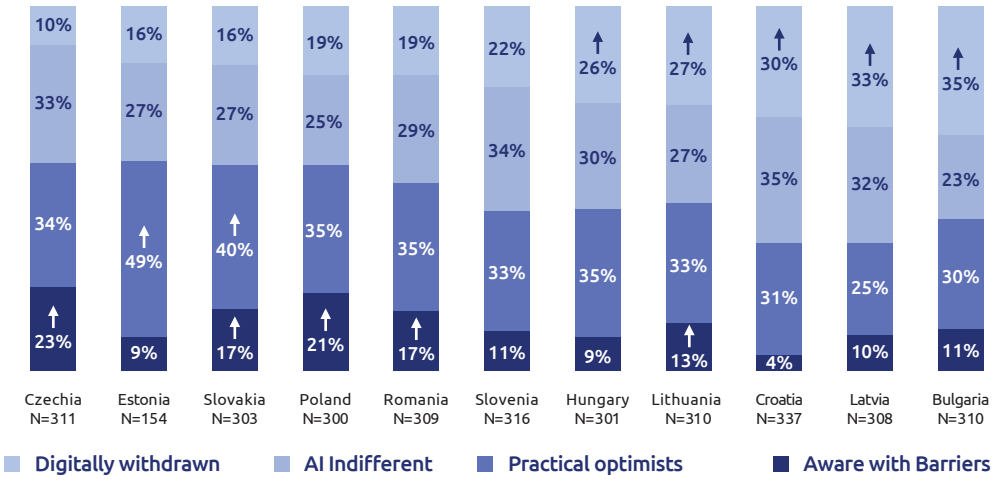
Perceptions of AI and the level of its use differ significantly among the listed segments. "Aware with Barriers" most often use AI – nearly ⅔ declare using it to a great or very great extent. At the same time, this is the group that most often perceives the difficulties of implementation, which does not prevent them from appreciating the potential of AI – as many as 85% consider it a support or a necessary tool in the company.

Practical Optimists also have a positive view of AI – 86% of them see its utility value, and nearly ⅓ are actively using it on a large scale. This is a balanced group-open to AI, but not necessarily already fully advanced in implementations.

AI Indifferent and Digitally Withdrawn are much more reserved. Among the Indifferent, only 8% consider AI an indispensable tool, and 41% use it only very little. As for the Digitally Withdrawn, as much as 81% do not use AI at all or indicate that they find it difficult to define its role in the company. This is the group that is furthest from technological advancement.

In terms of employees' perceptions of AI use in the company, the most positive group are the Practical Optimists. As many as 90% of them see the positive effects of using AI, 87% express interest in increasing its use, and 84% see the benefits of AI for the workplace. Overall, as many as 79% view the impact of AI on the company positively. Similarly high results are achieved by Aware with Barriers, among whom 86-89% indicate positive aspects of AI. Slightly lower values appear among AI Indifferent, with only 31% seeing AI's positive impact on the company, and the least (28%) seeing its benefits for professional work. In turn, there is a strong contrast between the segments identified in terms of AI regulation. Aware with Barriers demonstrate the highest regulatory awareness – 100% of them are familiar with the AI Act, 83% support sanctions for non-compliance, 76% accept compliance audits, and 68% positively assess the impact of regulation on companies. In comparison, Practical Optimists and AI Indifferent demonstrate low awareness and interest in regulation – only 32% and 22% are familiar with the AI Act, and the percentage of positive responses in the remaining areas does not exceed 9%. The lowest values in this respect are demonstrated by AI Indifferent, whose readiness for audits or assessment of the impact of regulation remains at the level of 5–7%. Therefore, while Practical Optimists and Aware with Barriers have similarly positive attitudes toward the use of AI, only the latter are characterized by high awareness and acceptance of regulation, but they are also most likely to see specific obstacles to implementation – such as resistance to change, lack of management support or low employee competence. Their approach thus combines optimism with realism. In contrast, AI Indifferent are the least engaged in both AI adoption and its regulatory aspects, suggesting a need for education and support in this group.

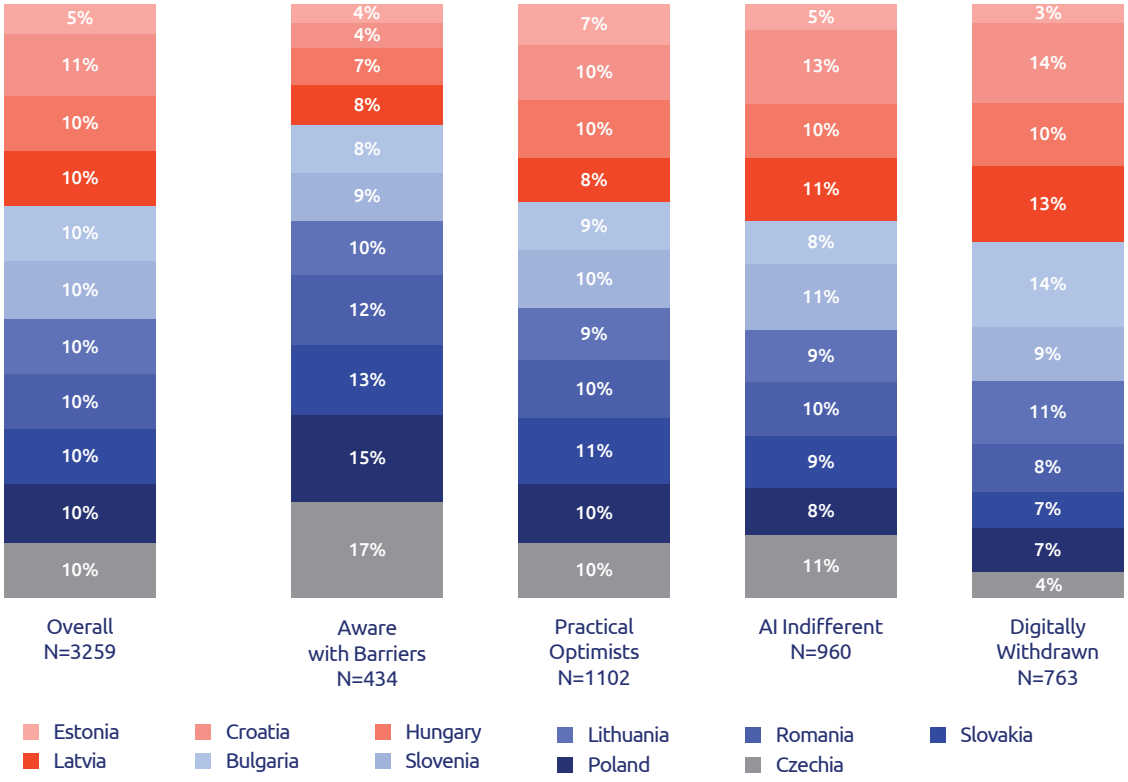
Distribution of segments in the countries surveyed



The analysis reveals clear differences in the distribution of segments across countries. Estonia (49%) and Slovakia (40%) stand out with a notably high proportion of companies open to adopting AI solutions. In contrast, Bulgaria (35%), Latvia (33%), and Croatia (30%) show the highest concentration of businesses within the Digitally Withdrawn

segment. In the Czech Republic (23%) and Poland (21%), the Aware with Barriers segment is relatively prominent, suggesting a strong awareness of the challenges associated with AI implementation, despite existing obstacles. The AI Indifferent segment remains significant in several countries, particularly in Croatia (35%) and Slovenia (34%), where a considerable share of companies exhibit a neutral stance toward artificial intelligence

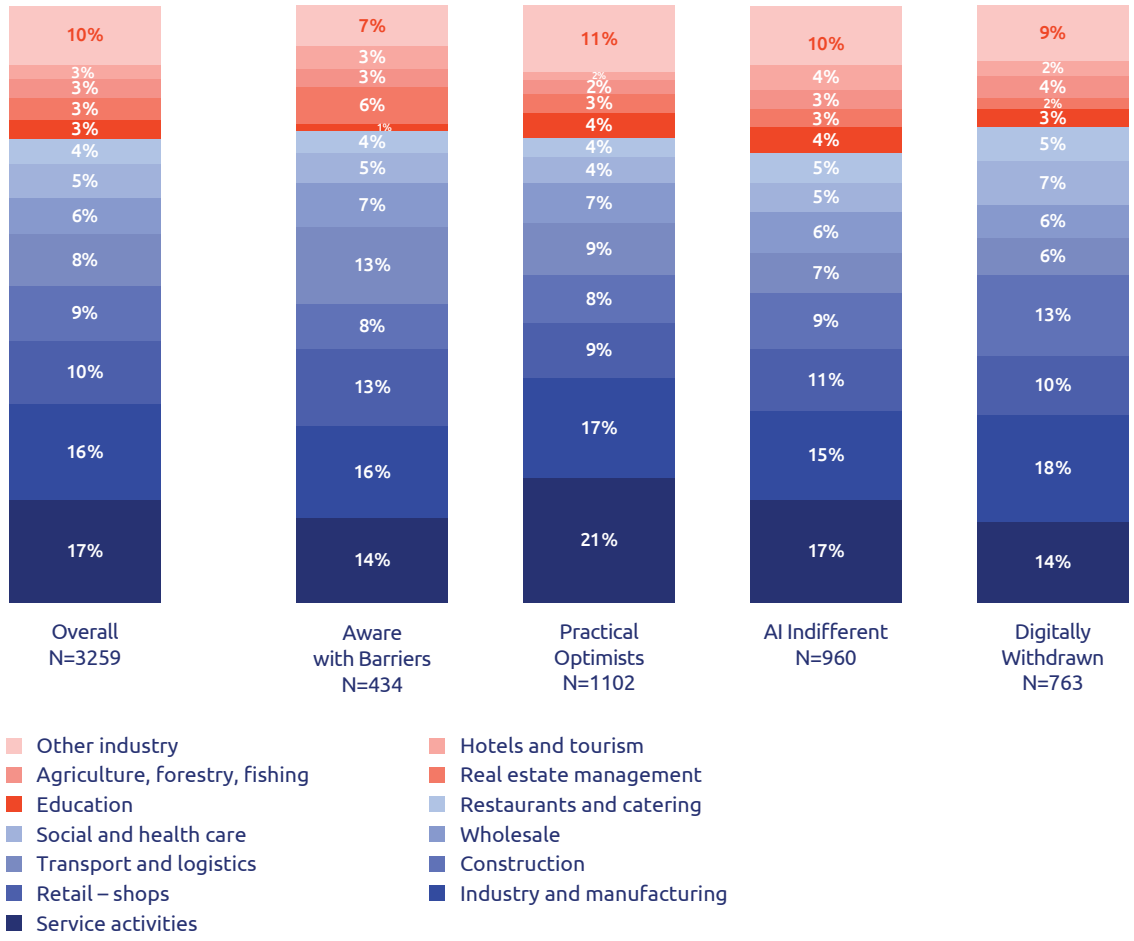
Company location*



*The chart presents the distribution of enterprise locations (N = 3,259 interviews) across the entire sample and within individual segments. A standard stacked column chart is used (not 100% stacked), as the data within each column does not sum to 100%.

For the purposes of the report, we also checked in which industries the companies in the mentioned segments define their main business profile. The data show that the largest number of “aware” companies operate in areas such as manufacturing (16%), service activities (14%), retail – stores, and transportation and logistics (13% each).

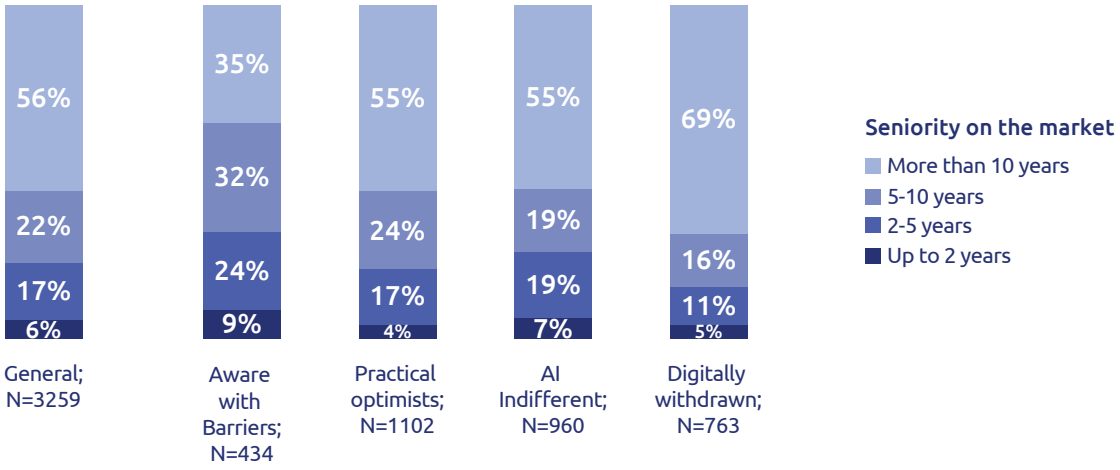
Main profile of activity



The figures for the Optimists are fairly similar – here the clear advantage is held by those operating in the service business (21%), followed by industry and manufacturing (17%). However, the service industry also accounts for the largest percentage of AI Indifferent (17%), with industry and manufacturing coming in just behind (15%). Among the Digitally Withdrawn, on the other hand, it is industry and manufacturing that make up the largest group of companies (18%), followed by services at 14%, and in third place were those in the construction industry (13%).

The companies were also analyzed in terms of the number of employees – among the Aware, the largest number, as much as half, are larger companies (50% of companies with between 50 and 250 employees), 30% are those with 10 to 49 employees. The smallest entities (micro-companies) are only 14% of those surveyed. And here a clear pattern emerges – it is primarily large entities that are more open to AI innovations, and the smaller the companies, the higher the percentage of either Indifferent or Digitally Withdrawn. In the latter segment, the smallest entities account for as much as 32% of companies. As for this fourth, most technology-resistant segment, the proportions of surveyed companies are almost evenly distributed at 1/3 each.

Demographic segments

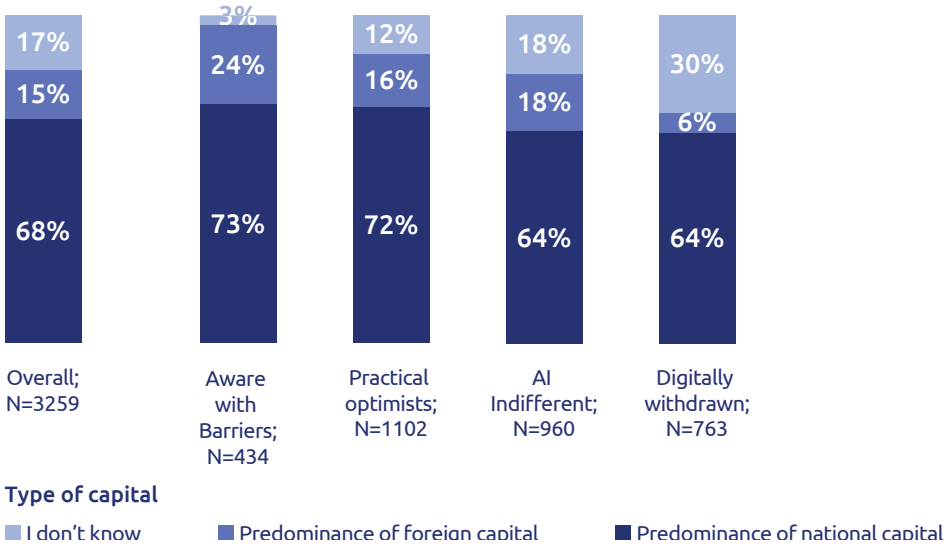


Even greater differences can be seen in the breakdown by companies' market seniority. It turns out that the longer an entity has been in operation, the more reluctant it is to respond to technological change in the context of AI. As many as 69% of the companies in the Digitally Withdrawn segment have been in operation for more than a decade. The AI Indifferent segment is also by far the most represented by companies with the longest track record (55%). As for young companies – with a history of less than two years – they represent only 5 and 7%, respectively, of the two most AI-averse segments.

In contrast – among the Aware with Barriers, these proportions already look much more evenly balanced – 35% are the longest-established companies, 32% have been operating for 5 to 10 years, and 24% for 2 to 5 years. In this case, the youngest companies are also the smallest group (9%), but it is still the most numerous, among all segments. Among Practical Optimists – more than half are the most experienced companies, and the shorter the seniority, the more the percentage of "optimists" shrinks.

For the purposes of the survey, we also checked the origin of the capital that finances the activities of the surveyed companies. By far the dominant source is domestic capital – this is as much as 68% of all respondents. Foreign capital is less common (15%), while 17% of respondents could not specify what capital predominates in their ownership structure. The highest share of domestic capital is evident among the Aware with Barriers (73%). Practical Optimists also rely mostly on domestic capital (72%), and only 12% in this group could not indicate where the capital comes from. The AI Indifferent segment shows a lower proportion of domestic capital (64%). The greatest uncertainty about the capital structure was observed among the Digitally Withdrawn, where as many as 30% of companies could not determine whether domestic or foreign capital was the dominant source. At the same time, only 6% of them indicated the predominance of foreign capital – it is in this segment that entities with a predominance of foreign financing are the least.

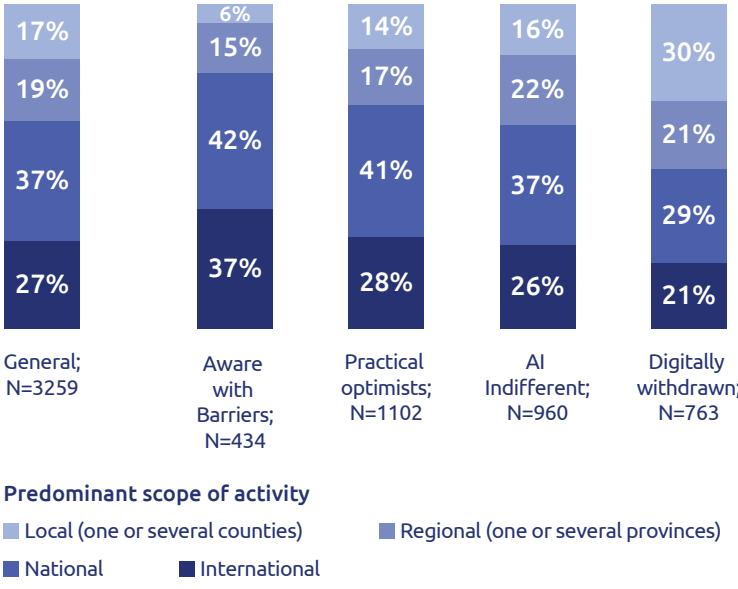
Segments by demographics



One more interesting aspect is the analysis in terms of the scope of the companies' operations. Overall, the largest number of companies participating in the survey operate at the national level (37%), and 27% operate internationally. Regional and local coverage is less common – 19% and 17%, respectively.

The Aware with Barriers segment has the largest share of national business (42%) and the smallest share of local business (6%). Practical Optimists also dominate the national market (41%), but record a larger share of locally operating companies (14%). The AI Indifferent group has a more diverse range of business coverage – national (37%), regional (22%) and local (16%). The Digitally Withdrawn are companies that most often operate only locally (30%), and have the smallest national or international presence (21% each).

Segments by demographics



3.2 AI – an ally or a threat? Beliefs, emotions and prejudices

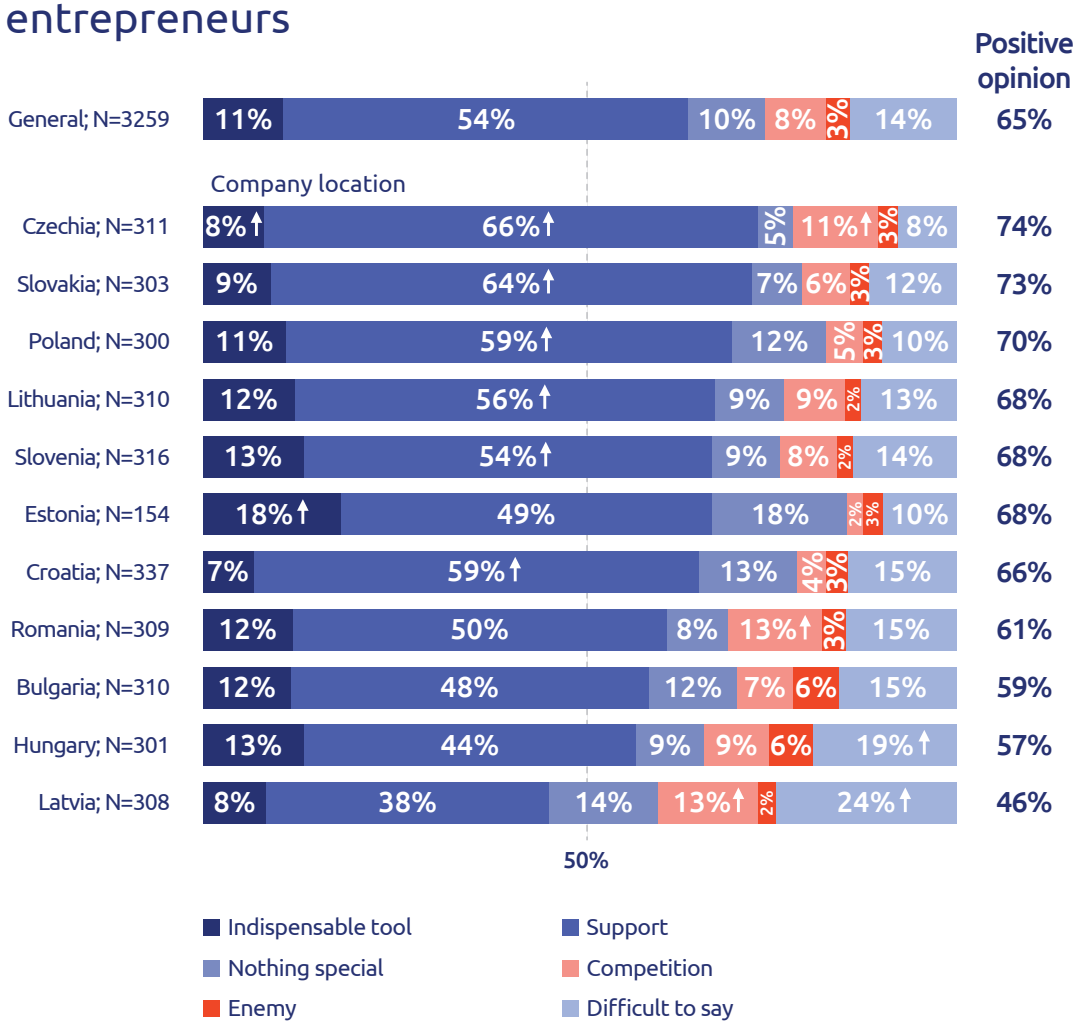
Artificial intelligence technology is playing an increasingly important role in business, and all indications are that this role will grow rapidly. From the sheer complexity of the tasks and the speed at which AI operates, it is clear that for companies it may not only be a matter of choice, but even a must-have (depending on the industry, of course). However, in order to maintain their position and not be overtaken by the competition, companies must realize that it is becoming an indispensable tool in many areas of business operations. However, this does not mean, of course, to approach this technology unreflectively.

In a recently published PwC report, we can read that implementing AI in R&D can reduce time to market by 50% and cut costs by 30% in selected industries. According to PwC experts, in many pharmaceutical companies AI has already helped reduce drug discovery time by more than 50%.[15] What are the reasons for these efficiency jumps in companies using AI? For example, because AI tools can quickly perform complex tasks, support employees in repetitive activities, or identify and correct potential errors in real time.

On the other hand, however, many companies still treat the technology with great distance or indifference, and sometimes even hostility. Understanding what attitudes entrepreneurs have toward AI and what their attitudes result from can be the first step to better, safe and effective use of such technologies in business.

Among the companies surveyed for this report from 11 countries in our region, the vast majority show a positive attitude towards artificial intelligence, with nearly ⅔ of those surveyed considering AI a support or even an indispensable tool in business. The greatest enthusiasm for AI is visible in the Czech Republic and Slovakia, where almost ¾ of companies assess it positively. In Poland, the result of 7 out of 10 respondents also indicates high acceptance.

Perception of artificial intelligence by entrepreneurs



More caution in assessing AI's potential is seen in Latvia and Hungary – only about half of businesses view it positively. The greatest number of skeptics – regarding AI as a threat to business – are found in Latvia and Romania – nearly ⅕ of those surveyed view AI as an enemy or a competitor, which may be due to concerns about automation and the associated risk of job losses.

Among the CEE companies surveyed, only 23% do not use AI to any extent. It is worth noting that in this group, interest in future implementation is very low – only 15% of these entities express a desire to implement AI, and more than half reject the possibility in advance. The record-holder in this regard is Slovakia – usually holding positive attitudes among countries in our region. However, Slovak companies that do not use AI are far more often completely opposed to such an idea (the percentage reaches as high as nearly 60%).

It is possible that companies that haven't implemented AI so far don't see the added value for them or are afraid of the cost and complexity of implementation.

The low level of interest may suggest that some companies are not so much waiting for better implementation conditions, but simply do not see AI as applicable to their business. This shows that the barrier is not necessarily just the availability of the technology, but also the mindset of the companies' managers.

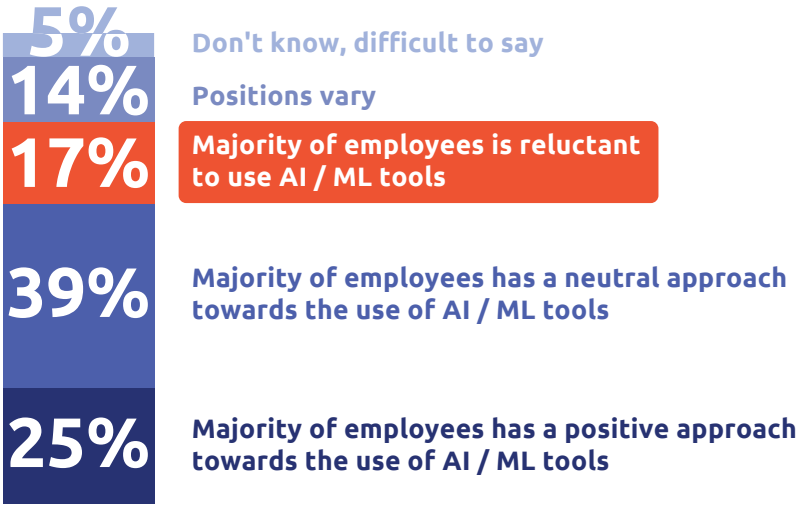
In the study we also checked how the use of AI in business is perceived by managers and employees of companies in our region. When it comes to the first group, attitudes are very diverse. Most often, they adopt a neutral approach, not interfering in the choice of tools used by employees (35%). Almost every third company experiences active support from management staff, and only a few declare a strong emphasis on implementing AI.

Attitudes of managers towards the use of AI in the company

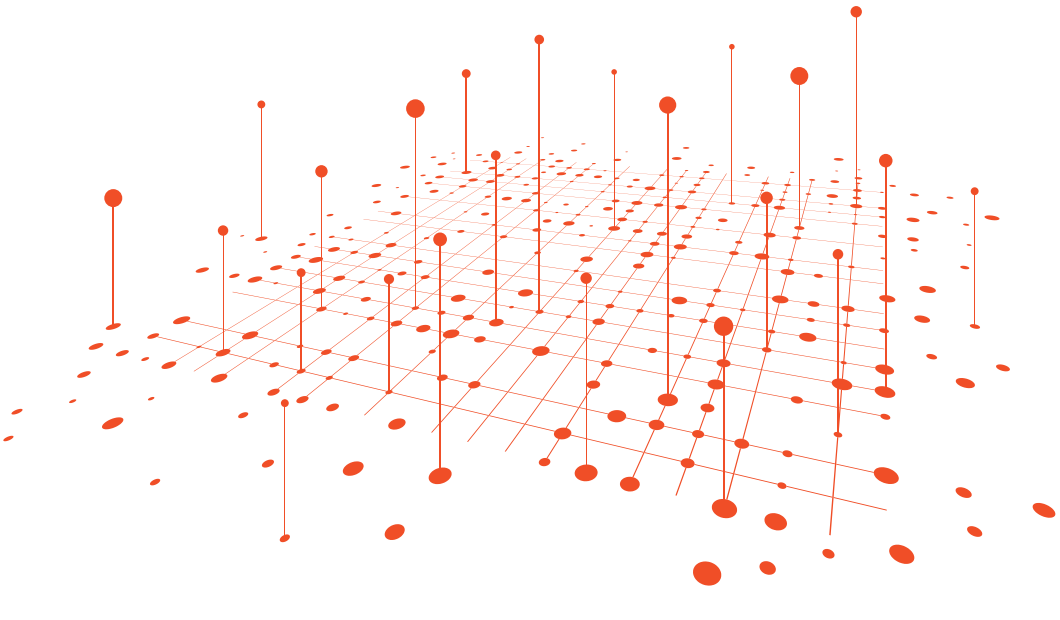
Reluctance to artificial intelligence is rare among managers, and is more common in young companies that view the impact of AI negatively or see it as a threat. Among those operating in the market for less than 2 years, the percentage of reluctant is 14%, and in those that have been in business longer it decreases to 8%. We see a similar pattern among those managers who view AI as a hostile, competitive technology or devalue its importance.

When it comes to employees, on the other hand, opinions are sharply divided. The largest group (39%) declares neutrality, while one in four respondents indicate that most employees are enthusiastic. Aversion to AI is less common (17%), and importantly, according to respondents, it is employees who are more likely than managers to adopt a reluctant attitude toward AI (17% vs. 8%). This increased reluctance seems natural in lower-level employees, whose fears of losing their jobs and being replaced by some AI tools may seem more justified.

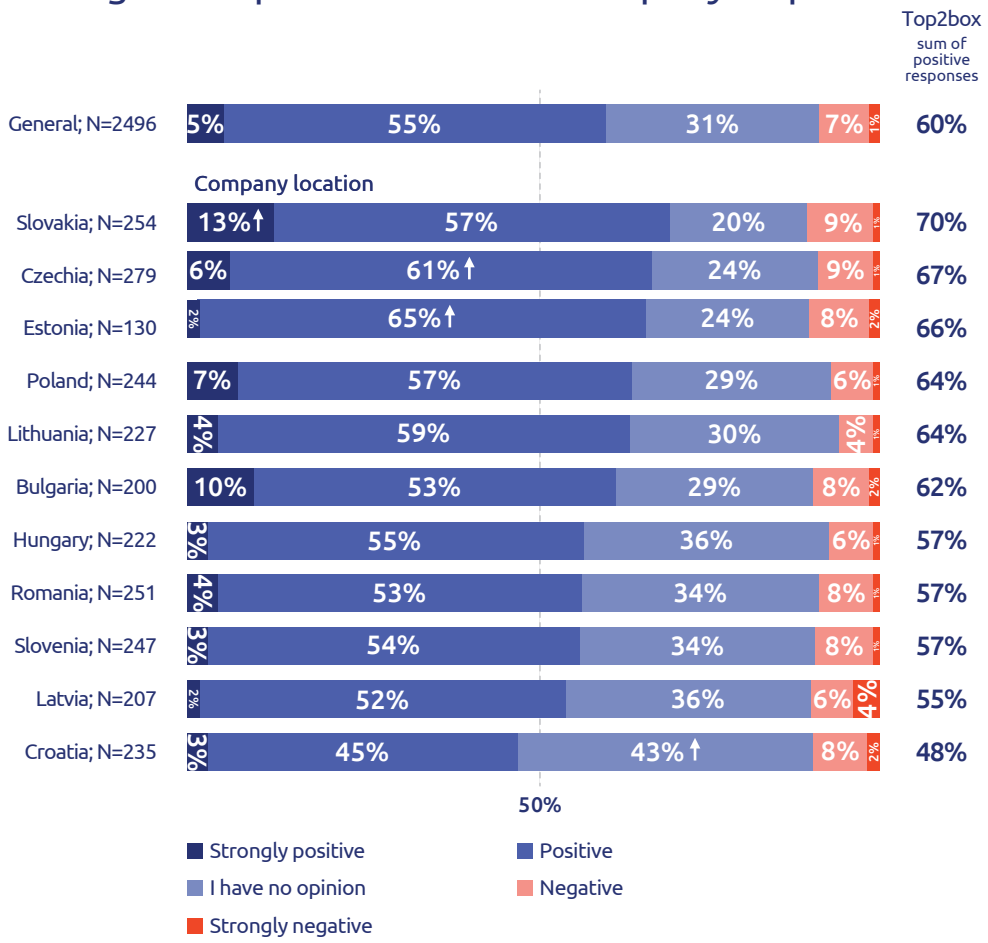
Attitude of the majority of employees towards the use of AI in the company



And what is the perception of the effects of using AI in companies already using it? The majority of entrepreneurs positively assess its impact on the operation of their companies – more than ⅗ of those surveyed declare that the technologies have beneficial effects. The highest level of satisfaction is seen in Slovakia, where 7 out of 10 companies rate AI positively. Similar percentages of positive evaluations are reported in the Czech Republic and Estonia. Favorable assessments also prevail in Poland and Lithuania, where about ⅔ of respondents see a positive impact of AI. In contrast, Croatian entities have the most doubts – more than 40% of respondents cannot assess the impact of AI on their operations, and only slightly less than half assess it favorably.



Assessing the impact of AI on the company's operations



The data therefore indicates that where AI has already been implemented, companies see real benefits to their business from it. At the same time, however, the high percentage of "I don't have an opinion" responses in some countries may suggest limited knowledge of the real impact of these technologies on the business or a low level of employee involvement in their use.

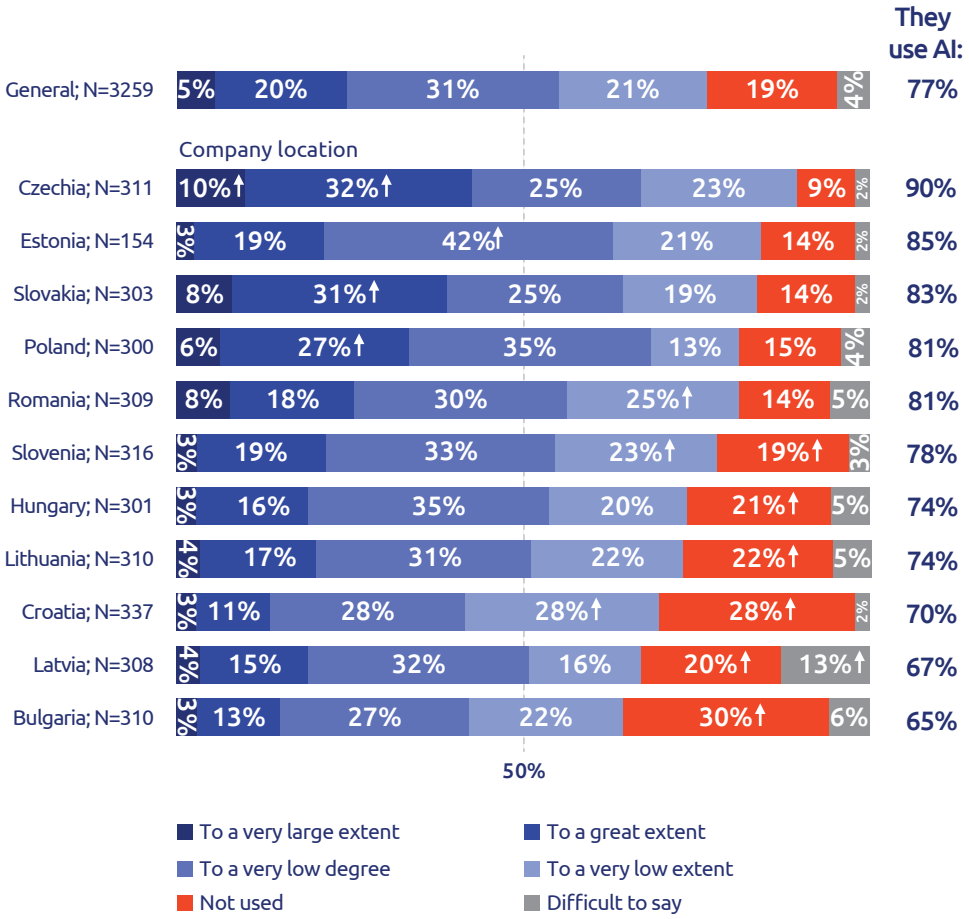
3.3 Declarations vs. practice – what does AI implementation really look like?

Let's find out how advanced the level of AI implementations in our region's companies is today. From the declarations of the respondents, it appears that on a general level it is quite high, although of course it varies strongly from country to country. More than ¾ of the total number of companies surveyed declare the use of artificial intelligence, although to a very different degree. In ¼ of the companies AI is used to a large or very large extent, while half use it only in a limited way.

As with openness to AI, the greatest sophistication in the implementation of artificial intelligence is seen in the Czech Republic and Slovakia, where about ⅖ of companies

are using it significantly. A high percentage of use is also evident in Estonia, where, although present, it has less impact on the processes of local companies.

Level of AI use in respondents' companies



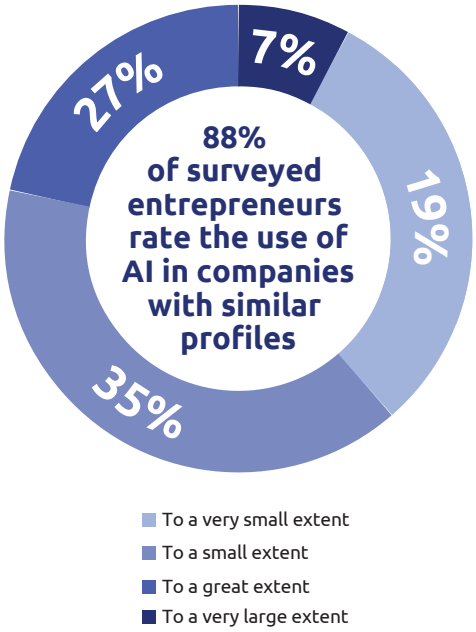
Artificial intelligence is least used in Bulgaria and Croatia, where one in three companies do not use it at all. In these countries, the percentage of companies declaring extensive use of AI is the lowest, which directly shows that the technology is developing more slowly there than in other countries in the region.

Implementation rate is a hard indicator, but emotion and sentiment also matter in business. Many companies perceive the presence of AI tools at their competitors, and this in turn can have a significant impact on the willingness to change in their own companies in order to engage in competitive battles on a level playing field. Some pretty interesting conclusions can be drawn from this strand of research.

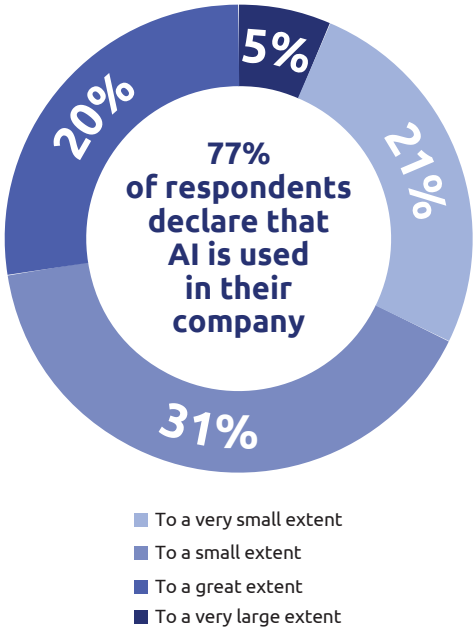
Although nearly 9 out of 10 respondents believe that companies with similar profiles are already using AI in their own organizations, only more than ¾ of respondents declare this. This is, of course, still a very high result, but it shows that there is concern among many entrepreneurs about their market position in the context of AI.

Such results may be due to the perception that competitors are more technologically advanced, using AI tools more efficiently. As we mentioned earlier, only ¼ of businesses are using AI to a great or very great extent, which shows that the full use of its potential is still limited.

Development of AI competencies among employees



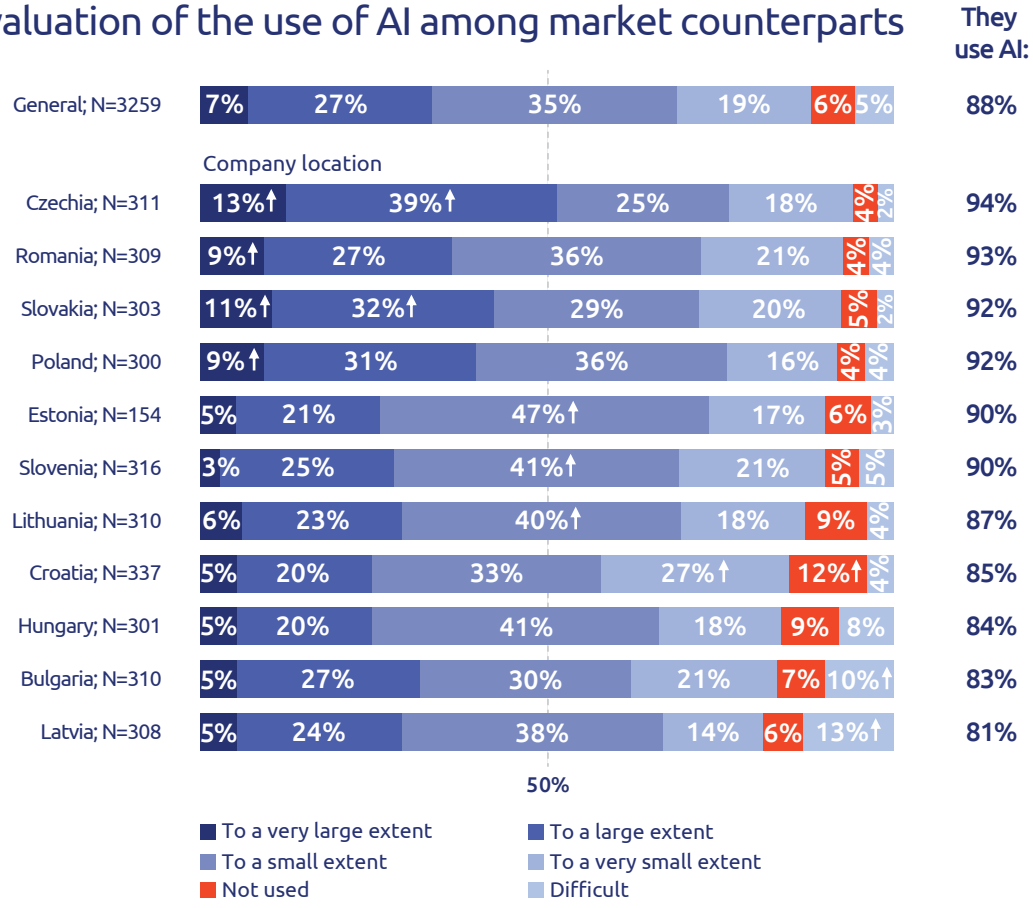
How often do you think AI/ML is currently used in enterprises?



AI is seen as an essential element of modern business strategies, but its perceived use in similar companies varies across countries. In some, respondents believe that AI is already widely used in other companies, while in others, its implementation by competitors is slower or less intensive.

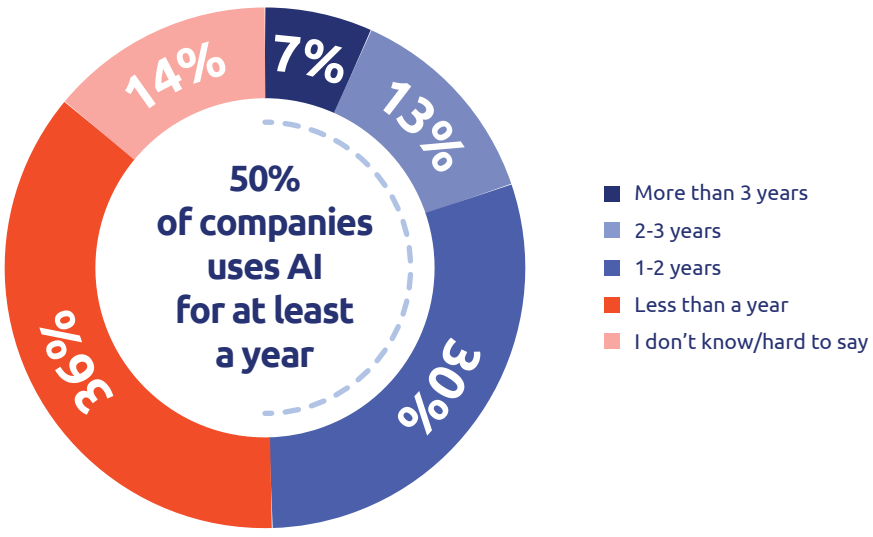
Respondents from the Czech Republic are most often convinced of the widespread use of AI in companies with similar profiles – more than half of them believe that similar companies use AI to a great or very great extent. Such awareness is also declared to a great extent by representatives of companies from Romania, Slovakia and Poland.

Evaluation of the use of AI among market counterparts



Returning to the data directly related to the surveyed companies, we also checked how long they have been using AI tools in their operations. Half of the companies using AI have at least one year of experience in its use, but only 7% have been using it for more than three years, which should not be surprising considering when generative AI tools such as ChatGPT were made available for public use (2022).

For how long have the companies been using AI



The longest history of using AI technology is declared by companies from Poland and the Czech Republic, and the shortest by companies from Croatia and Latvia. The longer history of AI use is more likely to be for companies that use it intensively, are familiar with the AI Act, have a foreign capital advantage and have international operations. Thus, it is clear that the longer a company uses AI, the more it exploits its potential.

3.4 What blocks change? The main barriers to implementing AI

In the previous section, we looked at how companies are approaching artificial intelligence – both in terms of its actual use and general openness to the technology. However, it is worth emphasizing that the absence of AI in organizations is not always due to prejudice or reluctance. Often, specific, objective difficulties are behind the lack of implementations, slowing down or halting implementation processes altogether. So we asked companies to identify the biggest barriers they believe are holding back the development of artificial intelligence in their structures.

Among the Digitally Withdrawn for the moment, nearly a third declare that their business processes simply do not require the use of the technology. In contrast, one in five companies admit to a lack of relevant knowledge and experience, and almost as many state that they are currently focusing on other priorities, pushing the topic of AI to the background. Financial constraints (15%) and a shortage of skilled workers (14%) also feature strongly, suggesting that the problem lies not only in the decision to implement, but also in the availability of the resources needed to carry it out.

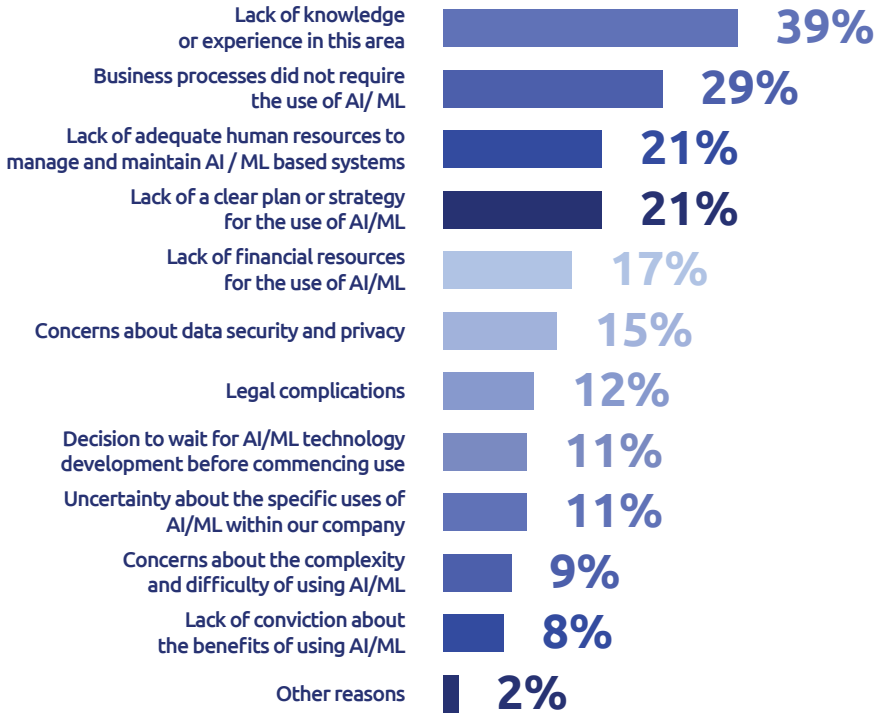
Companies that find themselves procrastinating on AI implementation most often point to a lack of knowledge (39%) and a lack of a clear strategy for action (21%). A shortage of experts is proving to be a similar problem, showing how difficult it is today to assemble a team capable of handling this type of technology. Interestingly, almost 30% of companies still believe they don't need AI – which raises the question of whether competitors share this view, or are already investing in solutions that will soon translate into a clear market advantage. Companies are also concerned about legal issues (12%) and data security (15%), which shows that for many organizations AI is still a risky space – not fully regulated and thus raising caution.

All of this leads to the conclusion that for some companies AI still functions more as a technology of the future than a practical tool ready for use today. For this to change, it will take not only investment and resources, but also education, awareness building and, most importantly, a concrete vision of how AI can realistically support business operations.

Obstacles to implementing AI in companies

Why do companies not plan to implement AI?

Why do companies delay implementing AI?

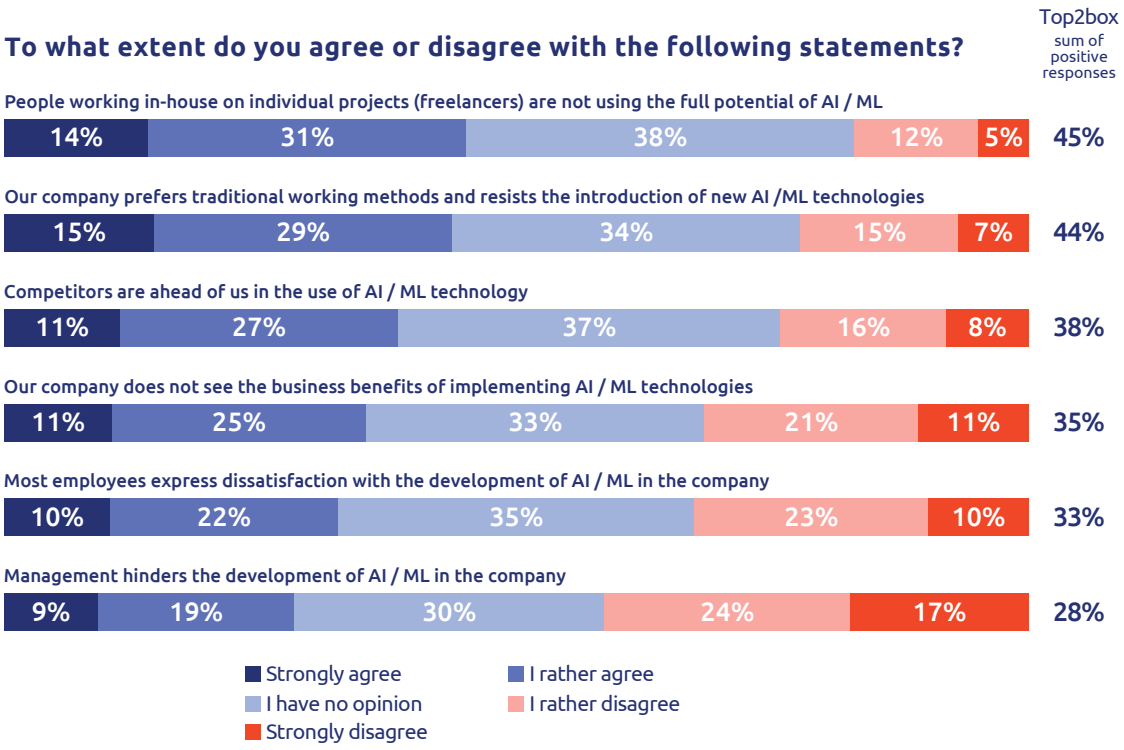


Asked to list the main barriers to implementing AI, companies most often point to the failure of project-based workers, such as freelancers, to use the full potential of the technology – a problem perceived by almost half of all surveyed companies (the highest in Poland – as much as 54%). There is also often a conservative approach to business, which is particularly evident in Romania, where half of the companies declare that they simply prefer traditional work methods. At the same time, however, many (including Romanian) companies see their competitors as more advanced in implementing AI.

One in three companies also say that it is the employees themselves who express dissatisfaction with the development of AI in the organization, which may be the result of a lack of clear communication or anxiety about jobs. A relatively rarely cited limitation is a lack of management commitment – in most of the companies surveyed, boards support the development of AI in their organization.

An interesting finding is that companies that are more advanced in implementing AI (so-called heavy users) are more likely to see internal constraints – these may be better diagnosed precisely due to greater experience with modern technology. In Estonia, on the other hand, these barriers are indicated the least often, which may reflect greater organizational readiness or a more integrated approach to AI implementation, which in the case of Estonia, which has been heavily technologically advanced for years, should come as no surprise.

How do companies assess their approach to implementing AI?

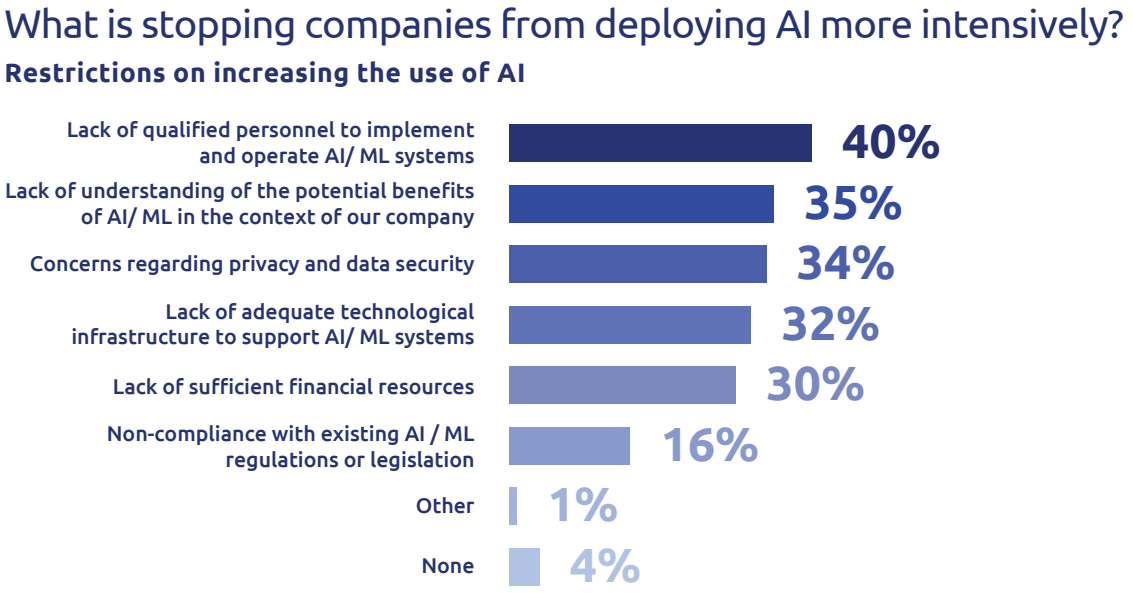


What is stopping companies from increasing the intensity of AI implementation at home? The most frequently cited barrier to the development of AI in companies is the lack of qualified personnel to implement and operate the systems – a problem that concerns 40% of respondents, and is particularly frequently reported in Slovenia and Croatia.

One in three companies also indicate a lack of understanding of the potential benefits of AI, and almost as many indicate concerns about data security. In these two cases, companies in Croatia and Slovenia are also most likely to point to the problem. Less important – though still present – are infrastructure, financial and regulatory non-compliance barriers.

3.5 Emotions vs. Progress: The Human Barrier to AI Adoption

Among the barriers mentioned by respondents, there was also the theme of employees' lack of acceptance of such technology. Therefore, we decided to check what limitations the employees themselves point to.



Of course, not everyone welcomes it with open arms. For the data shows that the biggest barrier to AI development is not technical issues at all, but... human emotions – 15% of employees point to distrust and reluctance towards AI as a major problem. Fear of the unknown, loss of control or simply lack of understanding of what artificial intelligence really is, effectively block its implementation in many organizations.

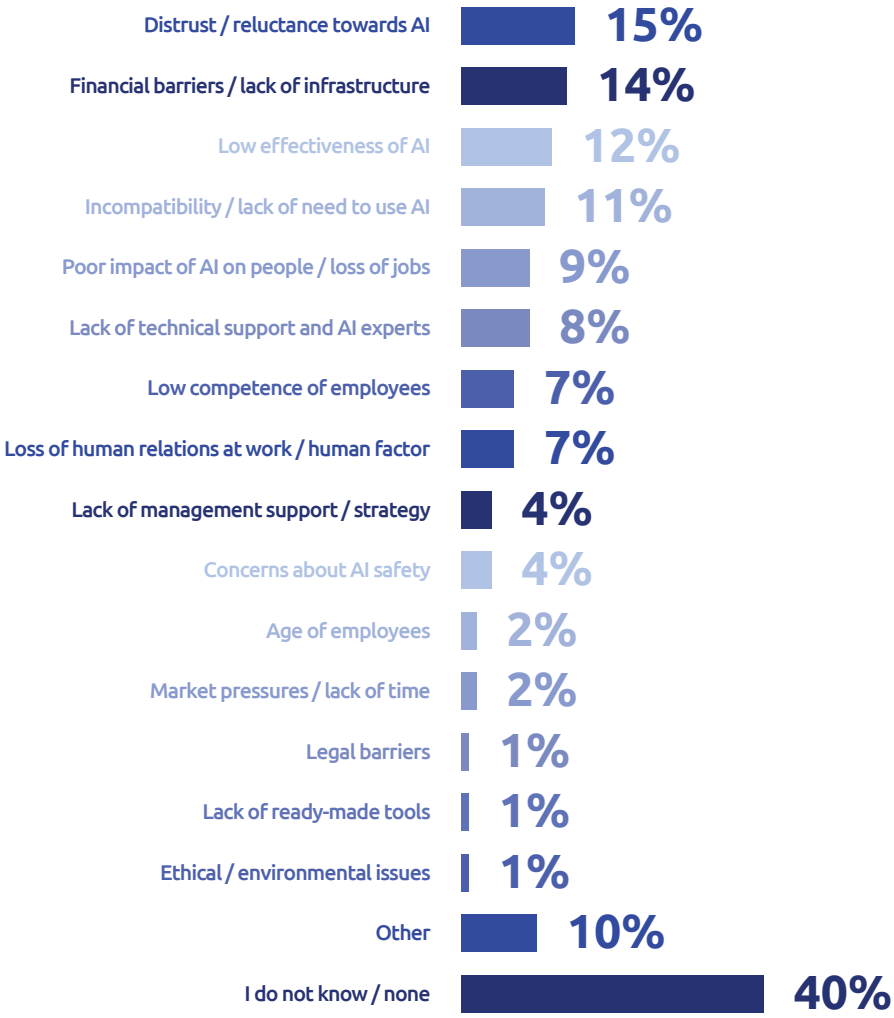
This is immediately followed by more mundane obstacles: lack of money and infrastructure – 14% of respondents believe that the company does not have the resources to afford serious investment in AI. Interestingly, the insufficient effectiveness

of AI (12%) and the lack of a real need for its use (11%), are also significant inhibitors to AI development – showing that the technology does not always provide tangible benefits or does not fit into the realities of an industry.

There are also those more social concerns – 9% of respondents worry about lost jobs and the negative impact of AI on humans, and another 7% see the disappearance of interpersonal relationships and a reduction in the role of the human factor. There are also typical organizational concerns – lack of management support (4%), insufficient employee competence (7%) or age restrictions (2%).

Interestingly, issues that often rise to the top dilemmas in the media – such as ethics, ecology and legal aspects – are of marginal importance in the eyes of employees (1% each). Even more interesting is that as many as 40% of those surveyed admitted that they simply don't know what is actually holding back the development of AI in their company.

Barriers to the development of AI / ML



Examples of statements by respondents

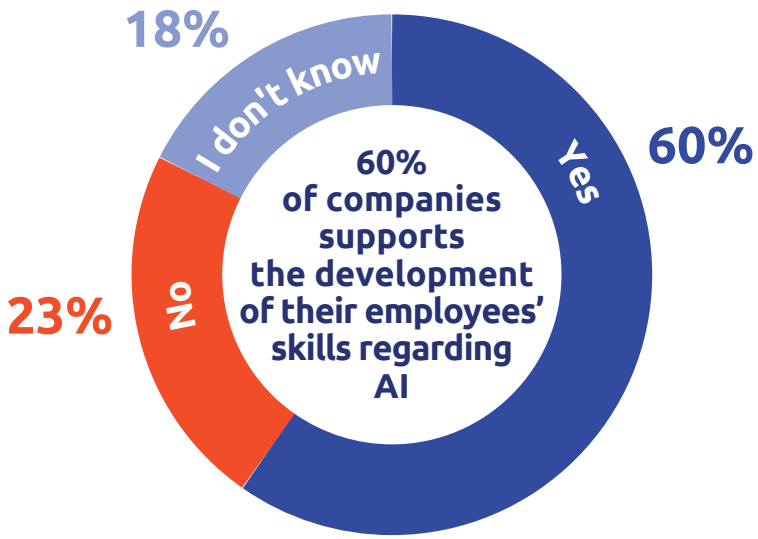
46 year old professional from Poland, working in the property management industry:
"On the part of the employees – incompetent use of AI. More than half are the elderly. They accept but don't want to learn how to use AI effectively at work. And on the managerial side – only one problem: not in the AI, but in the deputy director, who "knows it all" and knows better. In his opinion, his suggestions are more important and the only acceptable ones. So sometimes it is difficult to break through with a beautiful idea based on the support of AI. The new generation will get past this problem, and AI is essential.

44-year-old specialist from the Czech Republic, working in the tourism industry:
I think some employees are a bit reluctant to implement AI because they may feel threatened by the technology. I don't have any specific suggestions on how to make the process easier for them, but I myself am looking forward to seeing how AI will affect my productivity and even creativity. I'm very curious to see where it takes us!

A 39-year-old professional from Croatia, working in the service industry:
This is a public institution that cannot implement any activities without the approval of higher authorities. It employs old staff who are not ready to adapt to change, plus the budget is limited.

However, it turns out that many managers of our region's companies are actively supporting the development of their staff's AI skills. Six out of ten companies actively support the development of employees' AI skills. The most common activities are organizing internal training (68%) and subsidizing external training programs (43%). This shows a growing awareness of the importance of AI competencies for the development of the organization, although at the same time almost one in four companies admit that they are not taking any steps in this regard.

Development of AI competencies among employees



Methods of supporting the employees

68% through organization of internal trainings

43% through financing of external training programs

2% in a different way

3.6 Why should companies use AI? Areas of application

Implementing an AI tool should be part of some broader company modernization strategy. It turns out that companies in our region are implementing AI primarily using their own human resources (44%). Consulting is chosen by one in four companies, while slightly less often companies use external support – both in the model of maintaining the solution (17%) and handing it over to the company as a client (16%). Legal advice on AI implementations is used by 15% of companies.

Collaboration with external entities is more popular among AI-intensive companies with greater market experience and foreign capital advantage. This may mean that while these less advanced AI activities are often carried out by in-house teams, the more advanced developments are more likely to be outsourced by entrepreneurs who specialize in this type of technology.

Methods of AI implementation in companies

The possibilities for AI applications in companies are numerous. Companies participating in the survey pointed to more than a dozen different areas supported by AI (and there are certainly many more). So let's take a look at what those areas are.

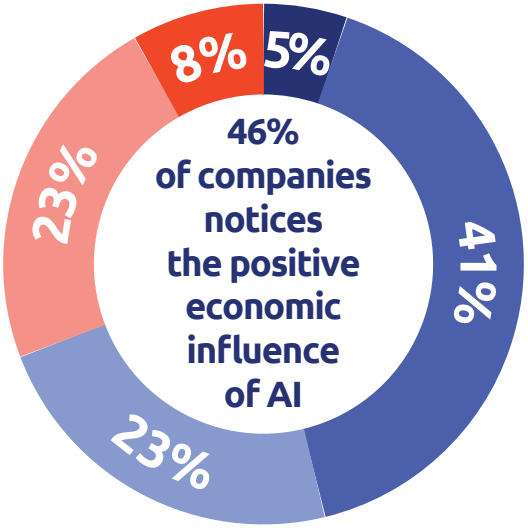
Companies are most often using AI for data analysis (40%), automated language translation (35%) and task automation (28%). This approach seems logical – thanks to AI, the analysis of large data sets can proceed much faster, and at the same time with a lower probability of making mistakes. The case is similar for translation, which AI language models can handle very efficiently. Task automation, on the other hand, does not necessarily mean replacing the work previously done, but only supporting employees in the most repetitive tasks. Such applications are particularly popular among heavy AI users, primarily in countries such as Estonia and Poland.

More advanced or specialized areas, such as supply chain management or carbon footprint measurement, are indicated less frequently, which may suggest that AI is now primarily used where quick and measurable results are readily available.

Areas of application for AI within companies

Among other interesting uses, respondents also cited the development of new products or services, or forecasting customer needs (both 17% each), monitoring customer behavior on the website, decision support, or predicting trends (15%). Thus, it can be seen that ideas for using AI in business are plentiful, although the potential for applying it to more advanced activities has not yet been strongly developed. However, this does not mean that this will not change in the near future. Nearly one in two companies already sees the potential positive impact of AI on financial performance, as well as on increasing their competitive advantage in the market. In this category, companies from Poland lead the way, with as many as 57% of surveyed companies expressing this opinion. This potential is also often appreciated by Bulgarian companies. Croatian and Latvian companies are relatively least enthusiastic in these areas.

AI potential in economic context



- It will definitely affect the increase in revenue
- It will rather affect the increase in revenue
- I don't know
- It will rather not affect the increase in revenue
- It will definitely not affect the increase in revenue

Percentage of respondents significantly higher in

Poland 57%

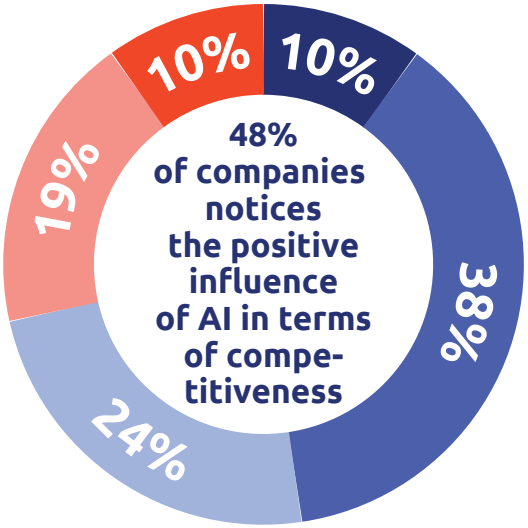
Bulgaria 54%

Percentage of respondents significantly lower in

Croatia 35%

Latvia 36%

AI potential in the context of competitiveness



- It will definitely affect the competitive advantage
- It will affect the competitive advantage
- I don't know
- It will not affect the competitive advantage
- It will definitely not affect the competitive advantag

Percentage of respondents significantly higher in

Poland 57%

Slovakia 54%

Percentage of respondents significantly lower in

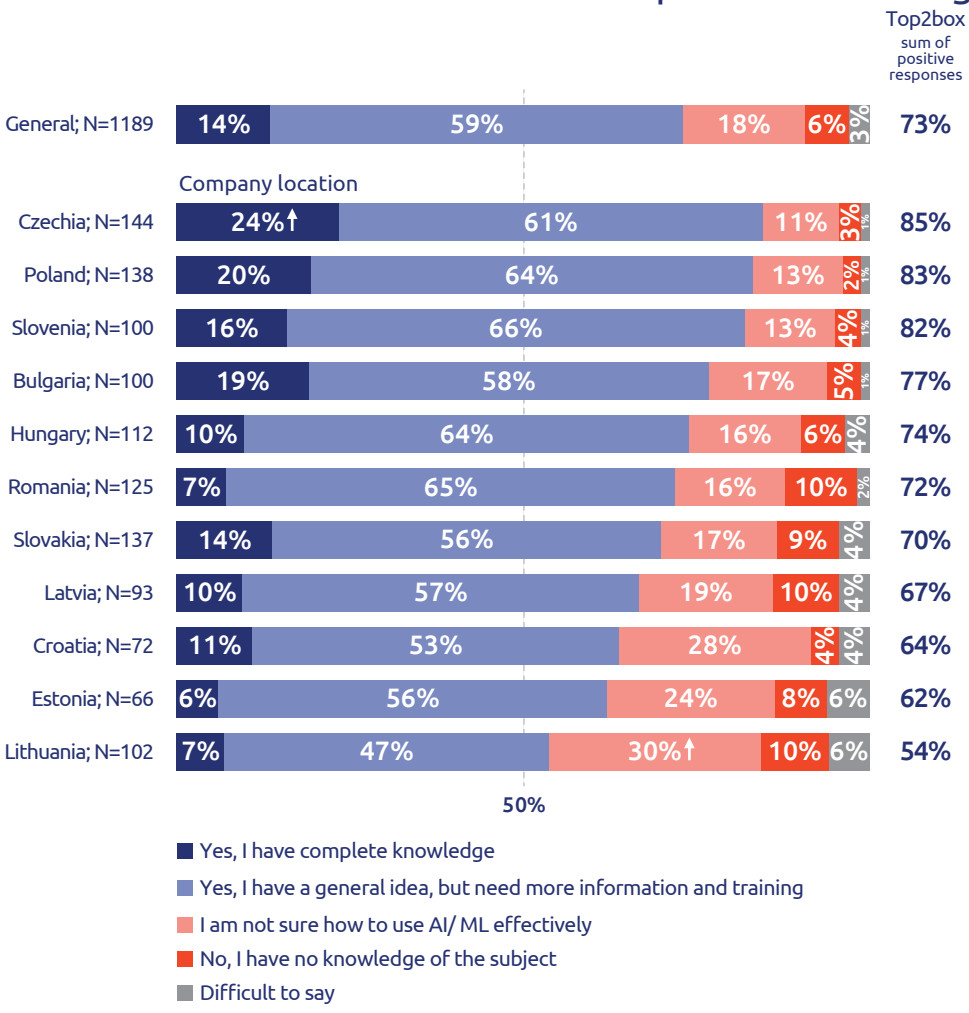
Croatia 31%

Slovenia 40%

Awareness of AI's potential for building competitive advantage is very high among surveyed companies – nearly ¾ of respondents who previously declared that AI could increase their company's competitiveness say they have full or general knowledge of its application. However, the need for further education and training is most often indicated.

Entrepreneurs from the Czech Republic, Poland and Slovenia are most confident about the use of AI in these three countries, with more than ⅘ of companies claiming to understand the potential of the technology. In the Czech Republic, as many as one in four surveyed companies declare full knowledge, which sets the country apart from others in our region. At the other extreme is Lithuania, where only slightly more than half of the companies believe they know how to use AI in practice, and about 40% admit they are unsure or have insufficient knowledge on the subject.

Awareness of the use of AI to build competitive advantage



The survey results suggest that while most companies recognize the strategic importance of AI, real readiness for its effective use still requires competence support and better preparation of executives for the task.

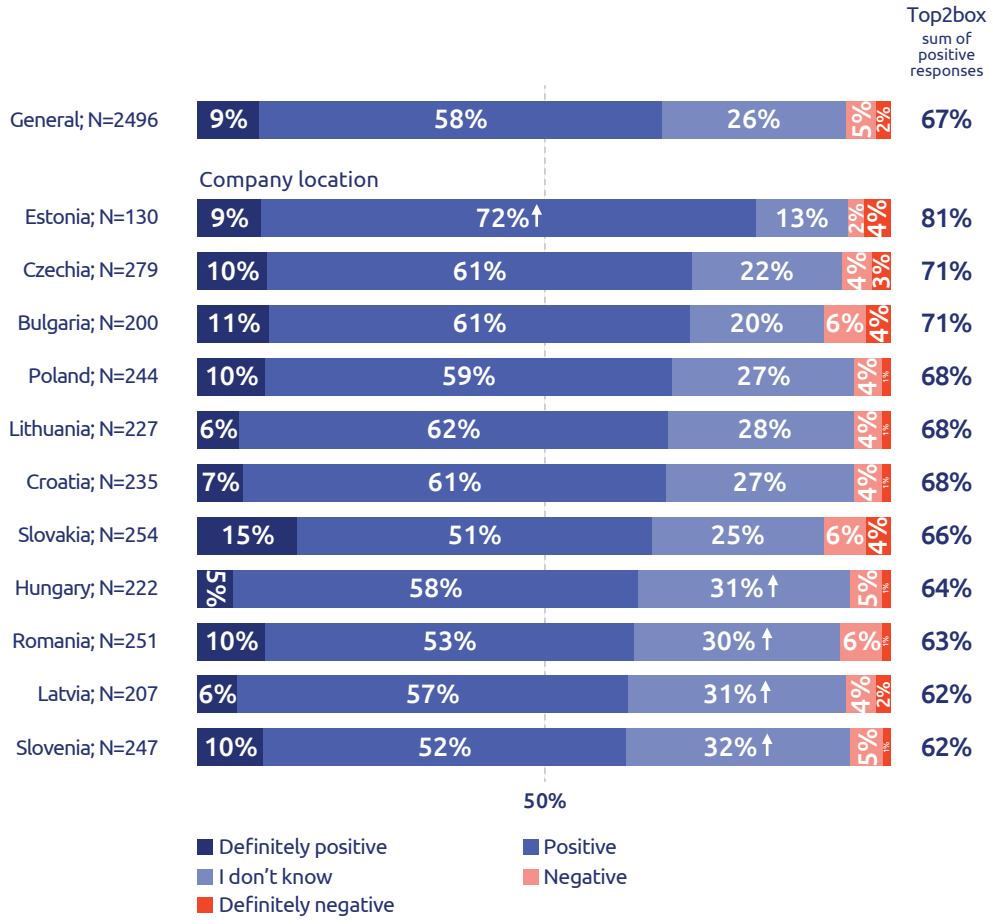
3.7 What's next? How do companies see their future with AI?

The majority of participating entrepreneurs anticipate a positive impact of AI on the operation of their companies – more than ⅔ of those surveyed rate the potential effects of the technology as favorable. The greatest optimism is in Estonia, where more than 4 out of 5 companies expect positive effects from the implementation of AI. A high level of expectation is also evident in the Czech Republic and Bulgaria, with 71% positive responses in each of these two countries.

Positive attitudes also dominate in Poland, Lithuania and Croatia (more than ⅔ of the companies). Importantly, the percentage of concern about the negative effects of AI is generally very low – only 6% of the total surveyed have negative predictions about AI's role in business.

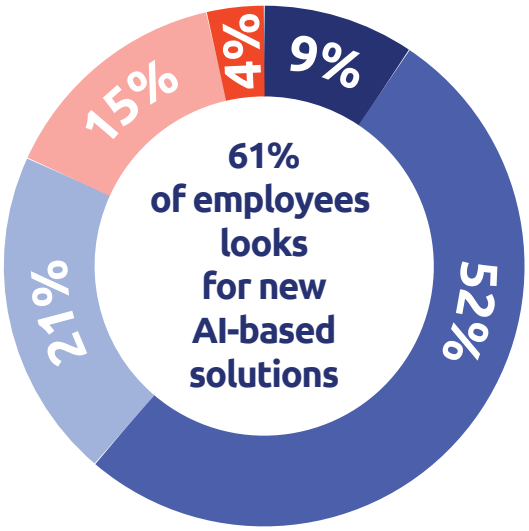
The survey results clearly show that AI is seen not only as a useful tool for the here and now, but also as a technology with the potential to generate long-term benefits. The low level of concern may promote further spread of its use in companies.

Assessment of the potential effects of AI



Among companies that are already using AI, nearly ⅔ say they want to further develop its applications. The greatest interest in deepening the use of artificial intelligence is seen in Estonia (75%) and Slovakia (70%). In Poland, such readiness is expressed by 65% of entrepreneurs.

Searching for AI solutions improving the companies' operation



Definitely yes
Rather yes
I don't know
Rather not
Definitely not

Percentage of respondents significantly higher in

Poland 71%

Slovakia 70%

Percentage of respondents significantly lower in

Croatia 49%

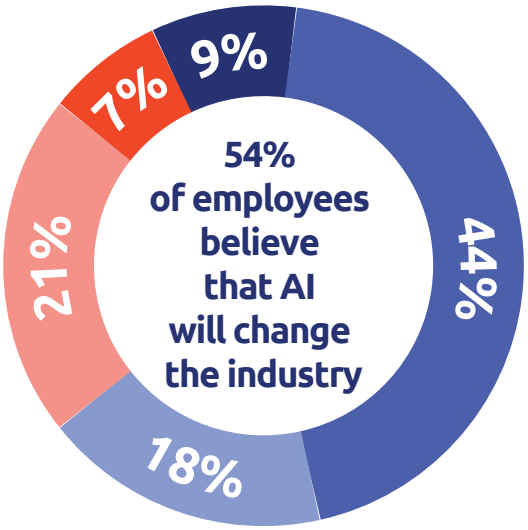
Latvia 51%

The survey also asked respondents to indicate which departments in the company, in their opinion, could benefit the most from the introduction of AI. The IT department is in the lead – 37% of respondents believe that this is the department that has the most to gain from AI. The marketing department (35%) and customer service (33%) have slightly fewer indications. The sales department is just behind the podium with 32% of indications.

In the middle of the rate were such departments as administration, logistics. There were also departments directly related to production and quality control. Among the departments mentioned were still financial, R&D, HR and, finally, the legal department, which was indicated by one in ten companies.

More than half of all companies surveyed expect AI to affect their industry. The highest percentage of such declarations is evident among entities from Poland, where such an opinion is shared by as many as 73% of respondents. The least convinced of a significant impact on business operations are companies from Lithuania and Croatia, which, juxtaposed with other survey data, may be the result of a lower level of implementations already completed.

Will AI change the industry?



Percentage of respondents significantly higher in

Poland 73%

Romania 66%

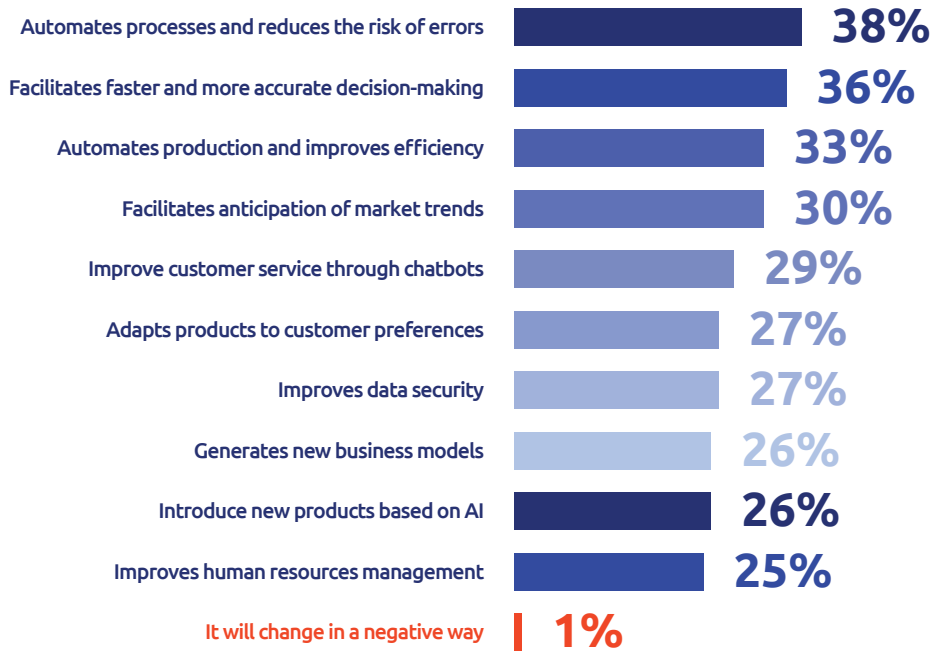
Percentage of respondents significantly lower in

Lithuania 37%

Croatia 43%

What directions of change do the surveyed companies forecast? First and foremost, they point to process automation and error risk reduction (38%). For 36% of companies, AI will mean faster and accurate decision-making, and for one in three it will mean automating production and improving productivity.

Predicted trends of change in the industry thanks to AI



For 30% of respondents, the likely direction of change is support in predicting market trends. Others point to improved customer service, which can be provided by chatbots using artificial intelligence. Other indicated directions of change included tailoring offerings to customer preferences and enhancing data security. According to ¼ of those surveyed, AI can be used to develop entirely new business models, and enable the introduction of new products based on artificial intelligence. Better human resources management is envisioned by 25% of respondents.

It is noteworthy that only 1% of respondents predict that AI will affect business negatively.

We also checked the situation among entities not using AI in their operations, but open to such a change. They most often see its potential use in data analysis (38%), task automation (27%) and forecasting customer needs (25%), indicating a desire to improve current operations. Optimizing production (25%) and improving interactions with customers (24%) are also important.

Less often in this group of companies, AI is considered in areas such as fraud detection (18%), automated translation (18%) or risk management (15%). Only a handful of companies (8% or less) plan to use it in logistics or carbon footprint monitoring.

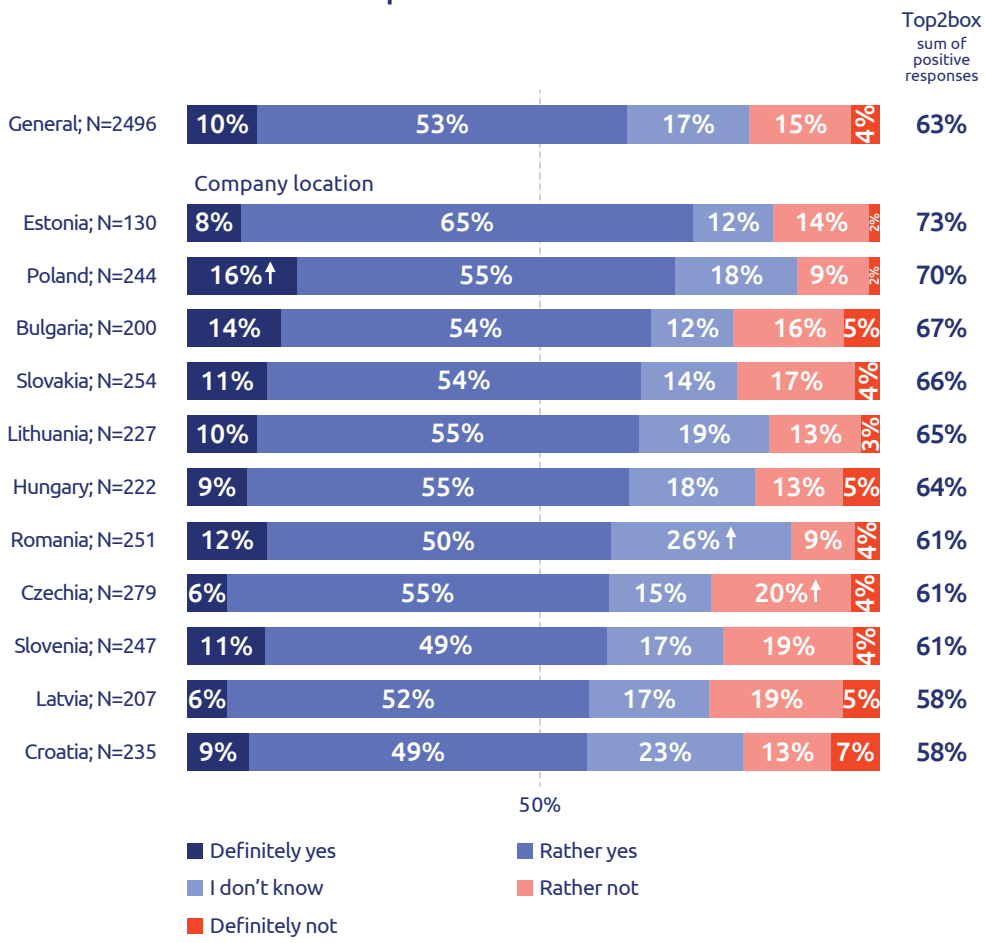
One of the most frequently raised risks in the context of AI, is the technology's impact on jobs. Concerns about the replacement of live workers by artificial intelligence are not unfounded, at least for some jobs. How do the surveyed companies in our region look at this issue?

Nearly ⅔ of those surveyed believe that AI will have a positive impact on their jobs, with as many as 16% of Poles declaring this with full conviction – the highest result among all countries surveyed.

The most optimism on this issue is seen in Estonia (73%), Poland (70%) and Bulgaria (67%), meaning that employees in these countries are more likely to see AI as a tool to support their competencies, rather than a threat to replace them with technology. In contrast, the greatest concern and uncertainty is seen in Latvia and Croatia, where nearly 40% of employees have no opinion or are concerned about the negative effects of introducing AI into business.

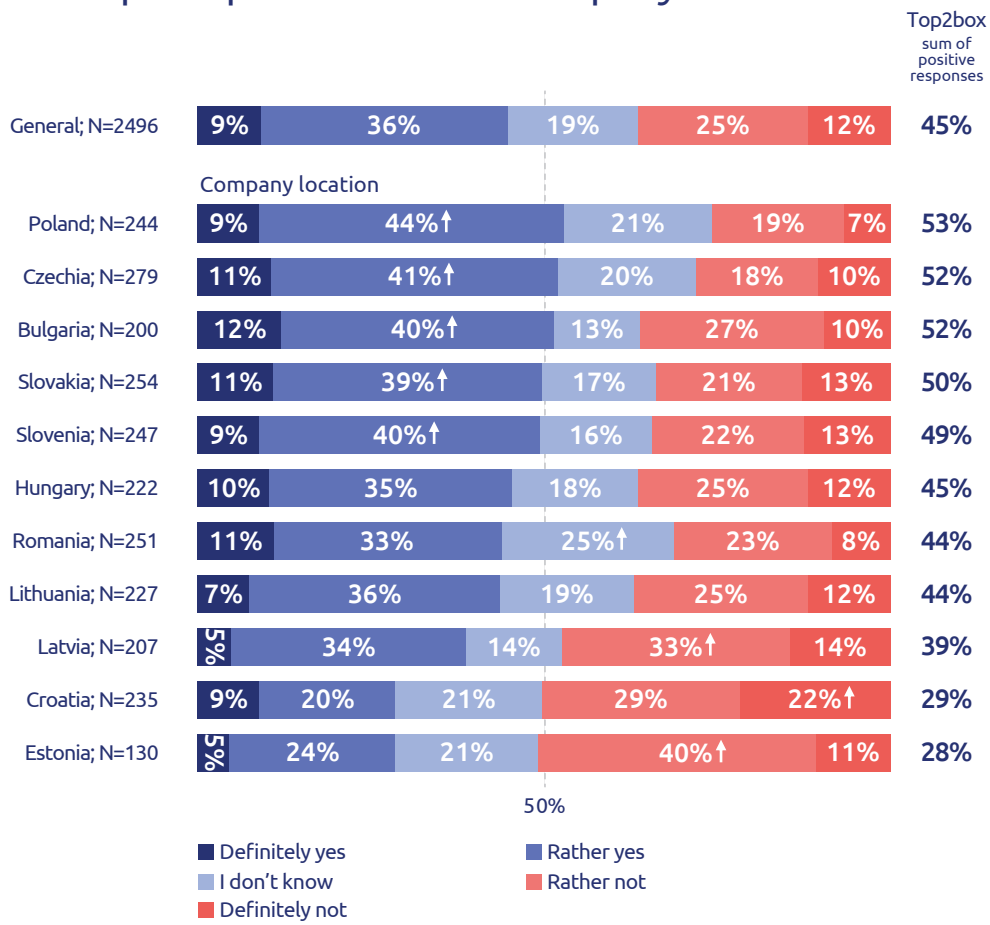
While positive assessments of AI's impact on jobs predominate in our survey, the data shows that uncertainty and fears about the future are strongly present – even among active users of the technology.

AI benefits for the workplace



Taking a closer look at the issue – almost ⅔ of respondents believe there is a risk that AI could replace some positions in companies, although only 9% of them declare this with full conviction. Here, in turn, the greatest concern in this regard is seen in Poland, the Czech Republic and Bulgaria, where more than half of respondents perceive such a risk.

Can AI replace positions in the company?



At the other extreme are Estonia and Croatia, where less than ⅓ of respondents express such a belief – by far the lowest scores in the region.

#04

Leaders vs. Laggards: A Comparative Analysis of CEE Countries

4.1 What industries does AI work best in?

Data from the AI Chamber survey provides interesting insights into how the various business sectors in our region – often very different from each other – are finding their way around the application of artificial intelligence. While AI appears as a tool with the potential to accelerate the growth of companies, not every industry is ready to implement it, let alone take advantage of all its potential possibilities.

The first noticeable trend indicates that the more "intangible" a company's business is, the more willing it is to turn to AI. Knowledge-based sectors, consulting and information services mostly see AI as a valuable tool to support daily operations.

More than 70% of companies in the services sector consider AI to be supportive – the highest score among all industries surveyed. This is most likely because services are a natural environment for AI technologies: office automation, customer data analysis, behavioral prediction or chatbots are all solutions that can be implemented without requiring a significant overhaul of a company's internal infrastructure.

The industrial sector is showing more readiness for AI implementation than commerce. Intuitively, it might seem that sales – especially retail and wholesale – would be more open to digital innovation due to the accelerating popularity of e-commerce. Meanwhile, interestingly, it is industry and manufacturing that declare a higher level of acceptance of AI than commerce – 66% of manufacturing companies have a positive view of AI, and more than 30% of them make heavy use of machine learning. In the retail sector, less than half of companies express a positive opinion. This may indicate that AI works better in a manufacturing environment, where repetition and automation dominate, than in direct, often unpredictable interaction with the store's customer.

The lack of automation capabilities for an industry can effectively discourage the implementation of AI – and sometimes even lead to complete indifference to the technology. Companies in the food service industry can serve as an example. Restaurants and food service establishments are environments that require creativity, manual labor and customer contact. It is hardly surprising that only 33% of companies in this sector view AI positively, while 27% have no formed opinion on the matter. The situation is similar in the construction industry – although AI could help here, for example, in project management or logistics, its presence is marginal, and awareness of regulations (such as the AI Act) is very low.

Transportation and logistics is another example of increased resistance to AI. In theory, this is an industry that could gain a lot from implementing artificial intelligence – through route optimization, delivery forecasting or rapid cost analysis. Yet only 36% of companies in this sector see AI as adding value. Perhaps this is because the industry is

dominated by many small and medium-sized companies with insufficient technological facilities. Or perhaps it's a matter of being firmly grounded in physical and operational realities, where AI implementation is more challenging than in typical office sectors.

Also worth mentioning are highly regulated industries, such as the medical sector. Although relatively small in numbers, it shows above-average familiarity with legal acts – as many as 41% of representatives of this industry say they are familiar with the provisions of the AI Act. At the same time, 57% of representatives of the medical sector see AI as a real support.

It is also worth noting that the most technologically advanced industries – such as services and industry – are most familiar with the AI Act, while "analog" sectors, such as catering or transport, are less so. This is not only a matter of access to knowledge, but also awareness of the risks and legal obligations associated with implementing artificial intelligence. And as the AI Act becomes a reality in the EU, ignoring this topic may soon prove costly (as we discuss in more detail in Chapter 5 of the report).

4.2 Market benchmarking – which countries are leading the way?

Central and Eastern Europe is part of a broader process of global, technological transformation introduced by AI tools. However, the implementation of artificial intelligence is not taking place evenly across the countries in our region. An analysis of the data from this year's AI Chamber survey reveals an interesting landscape of diverse approaches: from pioneering countries and technological enthusiasts, to those that continue to view this revolution with caution. For the purposes of the report, we looked at which countries we can consider leaders of change, in the field under discussion, and who are outsiders here.

Unsurprisingly, Estonia is in the lead. This small country, often referred to as an "e-state" for good reason. Our survey also confirms this. More than 67% of Estonian companies report a positive impact of artificial intelligence on their business. Estonia also stands out for having the highest rate of awareness of the EU AI Act (over 63%). At the same time, the level of barriers to AI knowledge here is only 33%, a relatively low percentage compared to other countries. A lack of interest in AI is indicated by only slightly more than 13% of Estonian companies. Estonia is today an undisputed benchmark for the whole of Central and Eastern Europe – it combines high awareness, low barriers and openness to new technologies.

The Czech Republic also presents a very good level of AI adoption. More than 67% of Czech companies rate the impact of AI as positive, and knowledge of the regulations is declared by 50% of respondents. Interestingly, the barrier of lack of knowledge is

present here in 40% of cases. The Czechs also show one of the lowest levels of lack of interest in implementing AI (less than 22%).

Just behind them is Slovenia, which represents a pragmatic, sustainable model of AI implementation. A positive impact of artificial intelligence is seen by 57% of companies – a pretty solid result. AI Act awareness at 31% and moderate knowledge barriers (44%) suggest that the country is not lagging behind. Importantly, only 28% of companies say they have no interest in AI – making Slovenia a viable candidate to join the group of regional leaders.

Slovakia presents a high level of acceptance of AI – as many as 70% of companies rate its impact positively, the highest in the entire survey. Interest in further development of AI is also very high here (71%). However, the knowledge barrier remains a challenge, with 33% of companies declaring a lack of knowledge, and knowledge of the AI Act at 52%. Nevertheless, Slovakia stands out for its high openness and could become one of the region's leaders.

Lithuania presents an interesting contrast. Here, knowledge of the AI Act is declared by 51% of respondents, while the knowledge barrier is indicated by 30% of respondents – a level comparable to the leaders. The positive impact of AI is seen by 63% of companies, but as many as 35% declare a lack of interest in its implementation. This is suggesting a certain dissonance: despite a relatively good grasp of regulations and a positive attitude, the impetus for practical action is missing. The reason may be limited resources or lack of systemic support for the transformation.

Similarly, Croatia seems to be balking when it comes to attitudes toward AI.

More than 48% of Croatian companies recognize AI as a beneficial technology, yet familiarity with EU regulations remains at 40%. While their attitudes towards AI are largely positive, actual implementation levels lag behind – suggesting that although businesses understand the benefits, they may lack the motivation or resources needed for full adoption. Educational barriers affect 33% of companies, while lack of interest is declared by 25%.

The region's largest country, Poland, is in the middle of the pack – with potential on the one hand, and a number of challenges facing companies on the other. Significantly less Polish companies view the impact of AI positively than Estonian or Czech entrepreneurs. In addition, as many as 25% of the country's respondents cite lack of knowledge as a major barrier, and lack of interest in implementing AI reaches as high as 16%.

These numbers show that Poland is at a crossroads: declarations are not yet matched by real implementations. Intensive business education and extensive support programs for SMEs may be the key to improvement.

Hungary ranks, with 58% of companies assessing the impact of AI positively, and 47% of respondents claiming familiarity with EU regulations. The high level of educational barriers (as high as 54%) and the relatively high percentage of companies uninterested in implementing AI (41%) indicate the need for intensive work on business awareness and education.

In Latvia, 54% of companies view its impact positively, and familiarity with the AI Act remains low at 35%. What's more, as many as 35% of companies admit to a lack of knowledge about the technology, and (19%) say they are not interested in implementing it. Latvia needs systemic measures to support education and digitization.

In Bulgaria, the situation is even more critical. Knowledge of the AI Act there is only 36%, and the knowledge barrier is as high as 50% of companies. Combined with the low level of interest in implementation (nearly 30%), a picture emerges of a country that needs decisive measures to support digital transformation in order to at least try to catch up with the other countries in the region.

The level of knowledge of regulations (AI Act) correlates directly with the propensity to implement AI. Companies that have a better understanding of regulations implement them more often and more effectively. The main barriers remain educational – lack of knowledge inhibits action, and low levels of interest often stem from a lack of understanding of the technology's potential. In light of the above data, Estonia, the Czech Republic, Slovenia and – potentially – Lithuania and Croatia can act as regional benchmarks today. They are the ones that show that it is possible to simultaneously implement AI, understand regulation and maintain a high level of public acceptance.

4.3 Against the backdrop of global trends – is the CEE region keeping pace?

Large corporations as well as small and medium-sized enterprises are increasingly integrating AI into their operations in an effort to increase efficiency, improve customer service and gain a competitive advantage. This is a global trend that is also evident in our region of the world. But where, as Central and Eastern Europe, do we rank among the global leaders? So far, it is certainly difficult to count CEE countries among the vanguard of AI on a global scale.

According to a report prepared by Stanford University, the productivity of AI is growing very rapidly and the technology is increasingly taking root not only in everyday life, but also in business. According to the report's authors, investment and use of AI are breaking records, and studies confirm the increase in productivity from it. According to calculations by Stanford experts, the use of AI in business has strongly accelerated: 78% of organizations said they would use AI in 2024, up from 55% a year earlier.[16]

The same report says that global optimism toward AI is growing – but regional differences remain profound. The leaders are China, the US and Singapore. India is also growing rapidly. The European Union as a whole is also on the map of important AI markets, while smaller ones such as South Korea and Israel have significant positions in certain market niches.

A compilation based on 3 major reports on global AI trends[17] reads that China (58%) and India (57%) currently lead the global adoption of AI, surpassing even the United States (25%) – although it is the US that remains the global leader in terms of AI investment, with a record $109.1 billion invested by 2024.

The U.S. also dominates the creation of fundamental AI models (61% of global production) and access to AI computing resources (73% of global share). High adoption rates have been particularly noted in the technology (85%), finance (61%) and retail (68%) sectors.

China is expanding its operational scale, with AI expected to contribute at least 26.1% of the country's GDP by 2030 (or nearly $4.8 trillion). AI implementations in China are growing by 37% annually, with the main adoption in healthcare (76%) and manufacturing (57%). In addition, the country has the largest AI patent portfolio in the world, underlining its technological advancement.

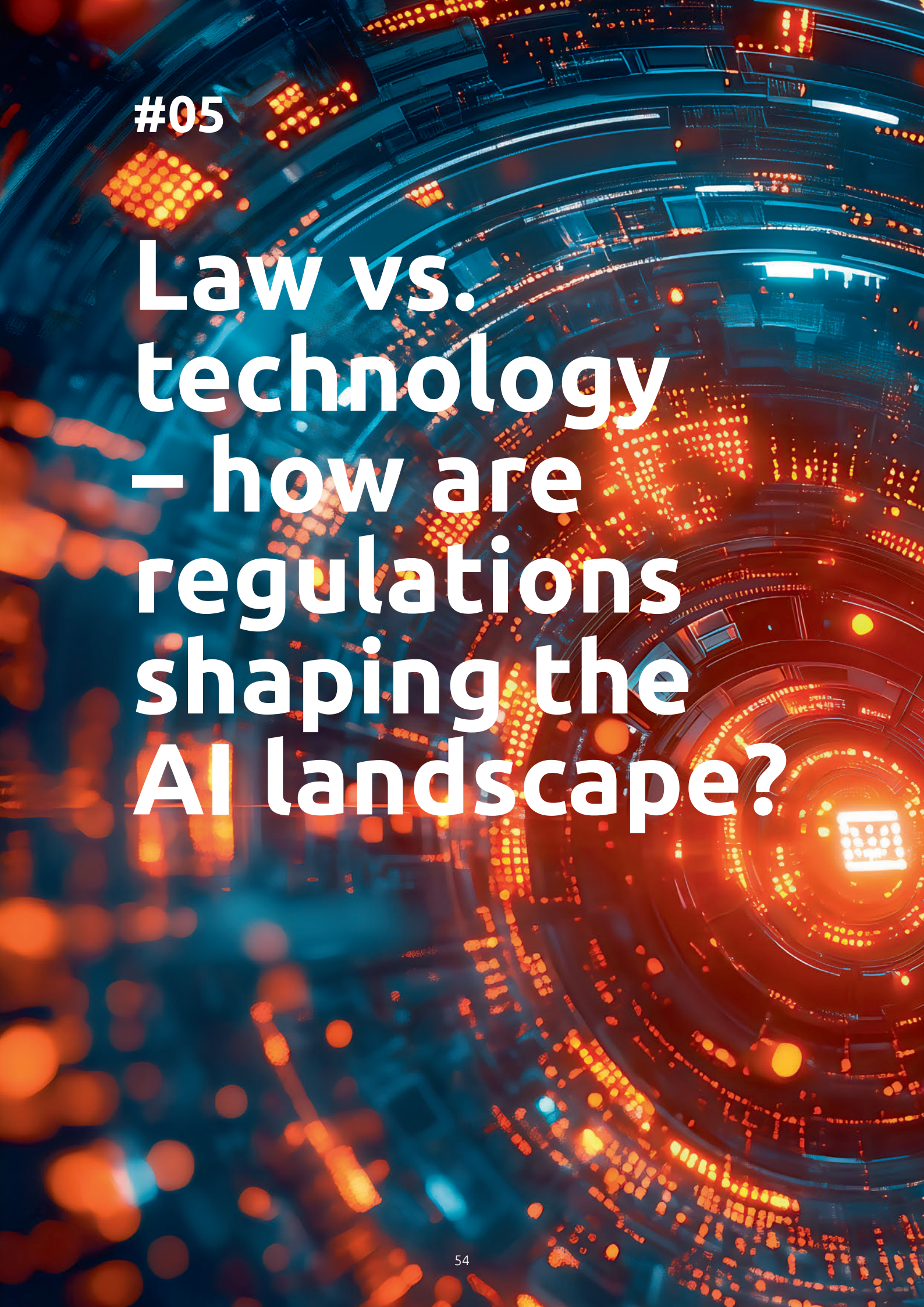
Singapore, despite its small size, demonstrates exceptional strategic efficiency – as much as 90% of public services there are handled by AI systems.

In Western Europe, the driving force behind AI technology is regulation. The European Union currently has a 15% share of the global AI technology market, yet it is expected to influence 43% of global AI-related regulation by 2030 – through initiatives such as the AI Act and Digital Markets Act. Such soft power to create standards and rules could become a key tool for influencing the global AI scene.

According to the authors of the statement cited above, the outlook to 2030 implies a clear bipolarity – US dominance in innovation and China in market scale. The rest of the world – including the European Union, India, South Korea and Israel – will co-create the remaining 35% of global AI value, based on sector specialization, ethical implementations and regulatory competence.

Despite growing adoption, companies face challenges in implementing AI. The main obstacles are regulatory concerns, risk management, lack of organizational readiness and talent shortages. The Deloitte report indicates that 69% of organizations anticipate that it will take them at least a year to implement a comprehensive AI management strategy.[18] As Deloitte experts point out, while AI offers companies significant transformational potential, fully exploiting it requires a strategic approach, investment in employee education and effective risk and regulatory management. As you can see, this is an approach that is present globally – we do not differentiate here in our region strongly on the downside in terms of the dynamics of change in companies, although of course the scale of the market is significantly smaller than in the US, China, or our Western European EU neighbors. The overall level of AI adoption in companies is lower in our country than in Western Europe. According to already cited reports by McKinsey or Deloitte, on average 25-35% of companies in the CEE region implement AI, while in Western Europe this percentage is often 45-55%.

The CEE region is steadily catching up in AI development, yet its potential remains vast, driven by a highly skilled AI workforce. Beyond this, the region benefits from agility, allowing businesses to swiftly adapt to technological shifts. Additionally, with a strong export-driven economy, companies face a natural imperative to innovate quickly, ensuring competitiveness on the global stage. These factors collectively position CEE as a promising hub for AI growth and adoption. However, in order to fully realize its potential, our region needs to bet on greater investment, better regional cooperation and legal and administrative support for business in implementing AI. At the moment, many countries in our region lack clear national strategies in this area. Limited access to sufficiently large datasets and computing infrastructure, necessary for large-scale artificial intelligence, can also be a problem.



#05

Law vs. technology – how are regulations shaping the AI landscape?

We are now at a crucial, critical moment in the adaptation of companies to AI solutions. This is because in parallel to the implementation of solutions based on artificial intelligence, legislative changes must take place. Indeed, ensuring the responsible and safe development of this technology must be based on regulation. Right now we are at the moment when this legal framework is taking shape.

In our part of the world, the key document is the AI Act. This is a European Union regulation, establishing uniform rules for the further development, implementation and use of AI tools. This is the first such comprehensive approach to artificial intelligence, unique in the world. This document will have a direct impact on the activities of companies from EU countries.

What specifically will the AI Act's entry into force mean? The document will have a multifaceted impact. With regard to the SME sector, it contains a number of key provisions that aim to make it easier for companies to implement and apply AI technologies in accordance with current law, while reducing excessive administrative burdens.

As we read in the now-available "guide to the AI Act for SMEs"[19], one of the key support instruments is the so-called regulatory sandboxes – specially designed test environments where companies can safely experiment with AI products and services outside the standard regulatory framework. Priority and free access to these mechanisms is provided for SMEs, and the entire procedure has been simplified to make it as transparent and easy to implement as possible. Tests can also be carried out in real-life conditions of use, further increasing their value to companies.

In addition, the regulation takes into account the need to reduce compliance costs – compliance assessment fees are to be proportionate to the scale of a company's operations. The European Commission will also monitor the regulatory burden and take steps to further reduce it.

An important aspect of the support is also to enable SMEs to actively participate in shaping AI standards and guidelines. Both the Commission and member states have been obliged to support the participation of smaller players in technical standard-setting processes and the work of the AI Advisory Forum.

With a view to simplifying paperwork, it was planned to develop special forms of technical documentation in a simplified version, acceptable to the competent national authorities in conformity assessment processes. In parallel, training programs tailored to the realities of SMEs are planned to support these companies in meeting the requirements of the regulations.

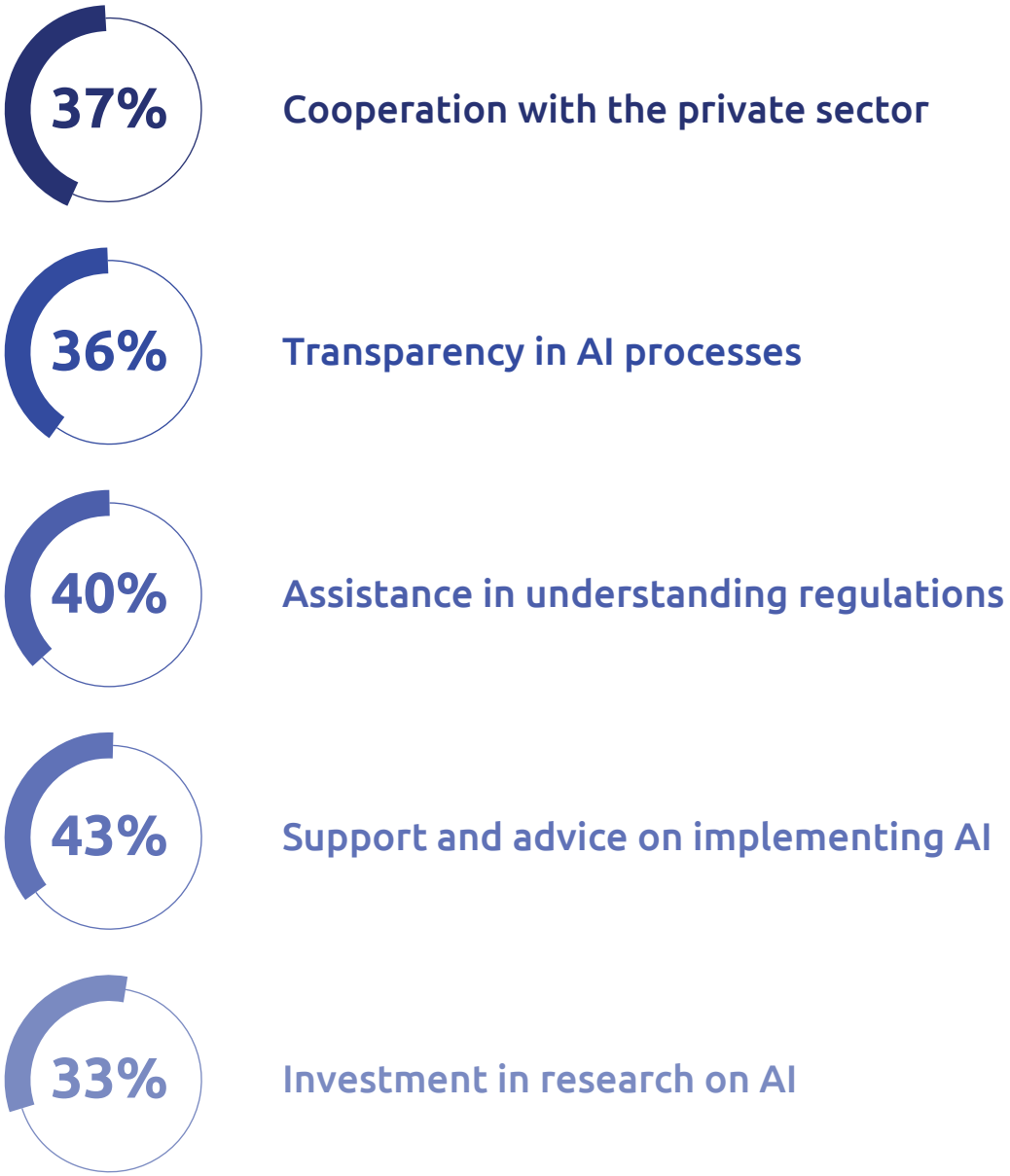
Communication support for SMEs is to take the form of advisory and information channels that will provide quick and clear answers to questions about the application of the AI Act in practice.

The principle of proportionality also plays an important role in the context of obligations for general-purpose AI model providers. The provisions of the AI Act assume that the requirements imposed on these entities will correspond to the scale and nature of their operations – including through the use of separate performance indicators (KPIs) within the Code of Conduct, tailored specifically for SMEs.[20]

The new regulations introduce certain obligations for business, while at the same time entrusting the public administrations of individual countries with a key decision-making role in the field of artificial intelligence. This is why business not only has the right, but even the obligation to demand that decision-makers fulfill certain tasks.

So what are the main expectations of companies in this context? It is primarily about practical aspects. Respondents to the AI Chamber survey first pointed to the need for support and advice in implementing AI, with 43% of the surveyed companies giving such a response. A slightly smaller percentage (40%) need assistance in understanding the regulations being implemented. For 37% of companies, cooperation between the public and private sectors in implementing AI is an important issue. In addition, among the expectations expressed by respondents was the need for transparency in AI processes (36%). One in three respondents indicate investing public funds in AI research intelligence. Awareness of regulations and positive attitudes toward AI increase expectations for public administration.

Companies' expectations of the administration in the field of AI



Let’s analyze in more detail how the level of knowledge of the regulations resulting from the AI Act is shaped among the surveyed companies. The key conclusion from the data is the fact that as many as 61% of respondents are not familiar with the provisions of the AI Act, even though they may directly concern them, and only 39% of respondents declare knowledge of these regulations. It is therefore clear that the information gap here is serious, especially among less technologically advanced entities. Here, the correlation is clear – knowledge of legal provisions corresponds to the level of current advancement in the use of AI by the company. Among the so-called Digitally Withdrawn, i.e. companies intensively using artificial intelligence, the

level of knowledge of the regulations increases to 60%. In the group of light users – companies using AI to a minimal extent – this percentage drops to only 29.

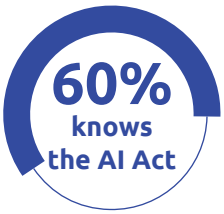
The data in the context of the correlation between knowledge of the AI Act and perception of AI among companies is also interesting. Among those who perceive artificial intelligence positively – as a tool supporting development – 41% are familiar with the provisions of the AI Act. Paradoxically, however, a slightly higher percentage of knowledge of this document occurs among companies with a negative attitude, which treat AI as a threat or competition (43%). Although the differences are small, they may suggest that regulatory awareness is not necessarily associated with a positive approach to new technologies – sometimes it results rather from the need to control potential threats than from the desire to implement them.

Foreign-owned entities (53%) and companies with international operations (48%) stand out on the plus side in terms of familiarity with AI Act provisions. Meanwhile, locally-owned, older companies with a more traditional organizational structure present a significantly lower level of knowledge of the regulations.

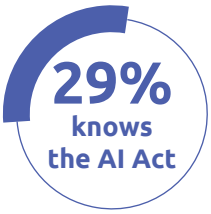
Knowledge of AI ACT

The knowledge on regulations increases together with experience and intensity of AI use

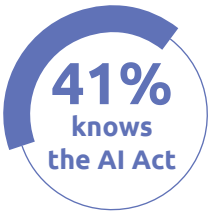
Knowledge of AI Act among AI users
(depending on the attitude towards AI and level of use)



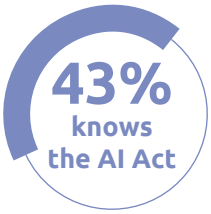
Heavy users
companies using AI to a large or very large extent



Light users
companies using AI to a small or very small extent



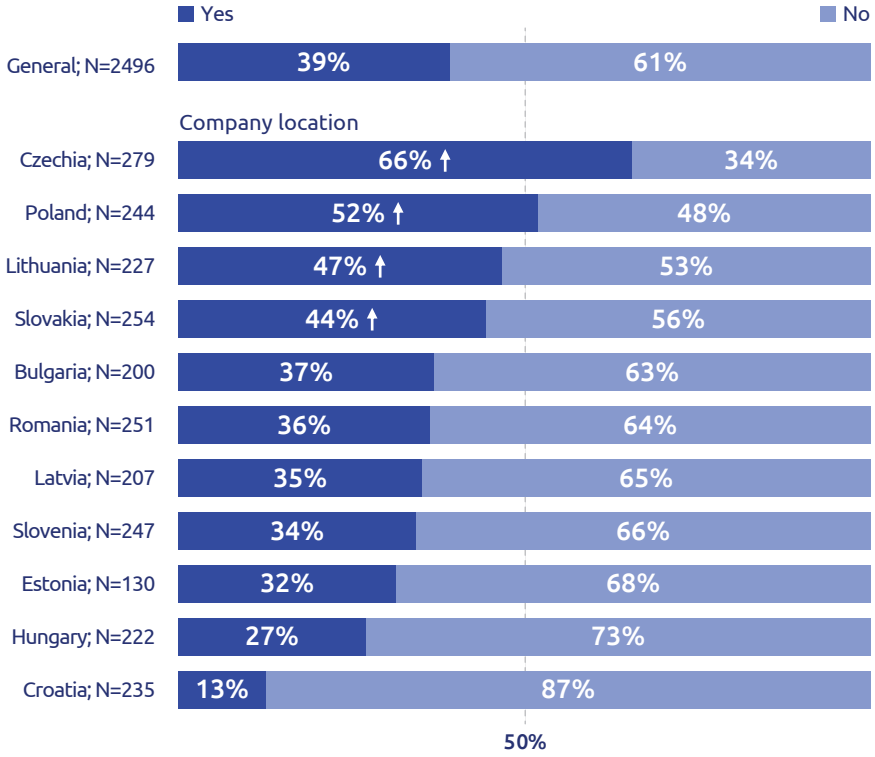
Positive approach to AI
AI is considered a support or necessary tool



Negative approach to AI
AI is considered a competition or enemy

Nationally, the Czech Republic (66%) and Poland (52%) have the highest level of awareness of the AI Act, while Croatia (13%) and Hungary (27%) have the lowest. These differences may be due to the level of implementation, availability of information or national legislative context.

Knowledge of AI Act



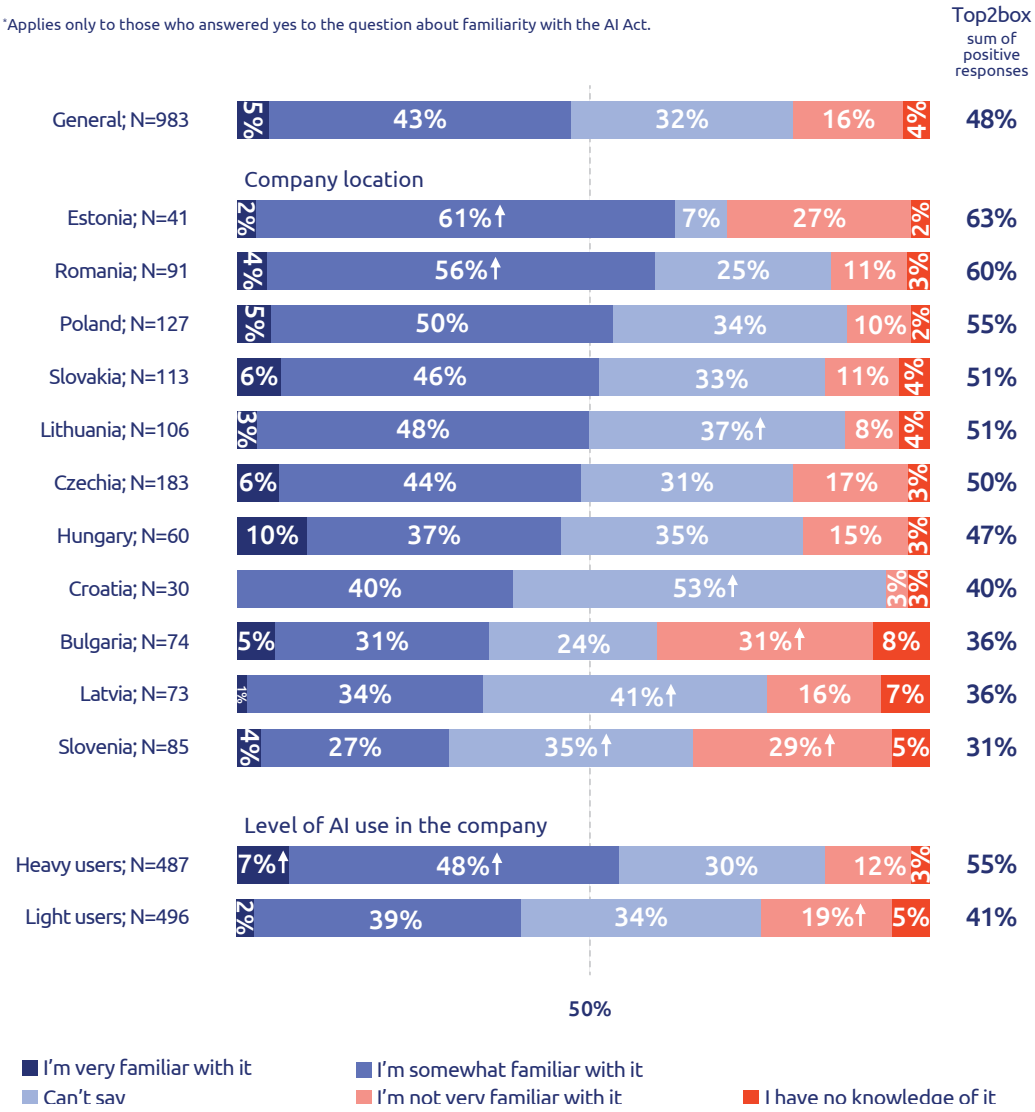
Overall awareness of the AI Act appears to be quite limited. When asked specifically about the legal requirements arising from the AI Act affecting small and medium-sized enterprises, only 39% of respondents confirmed their familiarity.

Let's go even deeper into the analysis of the survey data. It turns out that familiarity with the regulations governing the transparency of artificial intelligence systems – specifically, the detailed provisions of the AI Act – is still not widespread among the companies surveyed. Only 5% of companies say they are very familiar with these regulations, and another 43% say they are "rather familiar" with them. This brings the total to 48% of companies that can be considered aware of the regulations, which, while it represents almost half, also indicates a significant margin of ignorance in the remaining companies. As many as 16% of those surveyed openly admit that they are not at all familiar with the provisions of the AI Act, and another 4% are rather unfamiliar with them, meaning that nearly one in five companies can make decisions related to AI implementation without being aware of the basic legal framework on the issue.

The differences in the level of knowledge are clear across the countries in our region. The best results were achieved by companies from Estonia (63%) and Romania (60%). Poland, with a score of 55%, also compares favorably with the region, and a similar level is declared by Slovakia (51%). It is worth noting that Balkan countries such as Croatia (40%), Bulgaria (36%) and Slovenia (31%) record significantly lower regulatory awareness. Hungary (47%) and Lithuania (51%) also remain below the leaders' average, despite a relatively developed technology sector.

Degree of familiarity with AI Act provisions*

*Applies only to those who answered yes to the question about familiarity with the AI Act.



Based on this data, several important conclusions can be drawn. First, there is a clear need to increase regulatory awareness among companies, especially those operating in markets where the level of regulatory education is lower.

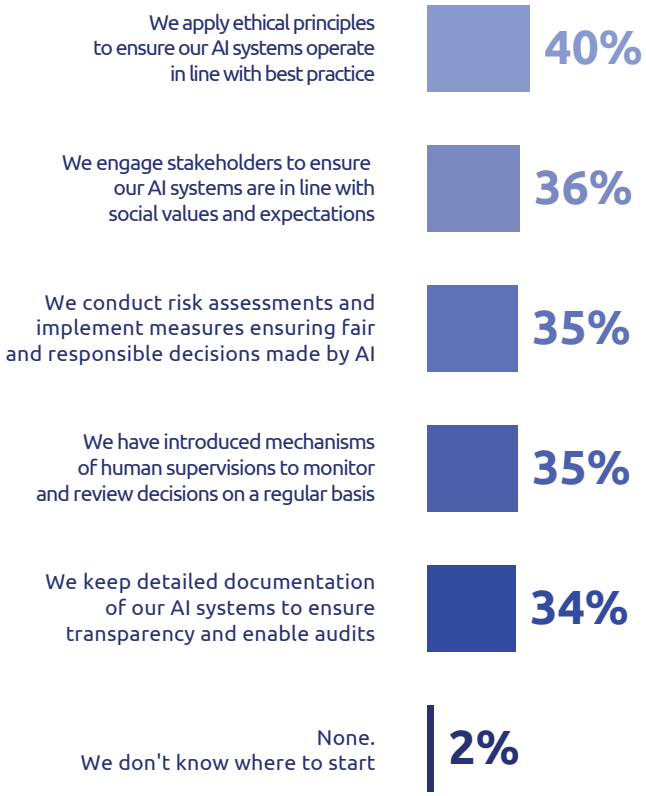
Second, differentiation of outreach strategies may be key – a different approach will be needed for companies just starting to implement AI, and a different one for technology leaders. Third, regional patterns indicate that effective government policies and a proactive stance by public institutions (as in Estonia or Romania) can significantly improve legal literacy and accelerate digital transformation in compliance with regulations.

Finally, it is worth noting that transparency of AI systems, one of the pillars of the AI Act, will be one of the most important topics in the coming years – not only from the perspective of legal compliance, but also building trust between technology providers

and end users. Therefore, increasing companies' legal competence – both through training and simplified guidance – should become a priority in strategies to support the Implementation of AI in the private sector.

The most frequently stated steps companies are taking toward compliance with AI Act regulation are applying ethics to ensure that their systems operate in accordance with best practices (40%), and engaging stakeholders so that implemented tools can align with societal values and expectations (36%). A similar percentage of companies (35%) conduct risk analyses and audits to ensure AI systems make fair and responsible decisions. Also, 35% are implementing human oversight mechanisms, which fits with one of the AI Act's key requirements of the need for so-called "human oversight". Slightly fewer, 34% of companies, have documentation activities to ensure transparency and auditability of AI systems.

Companies' efforts to comply with the AI Act

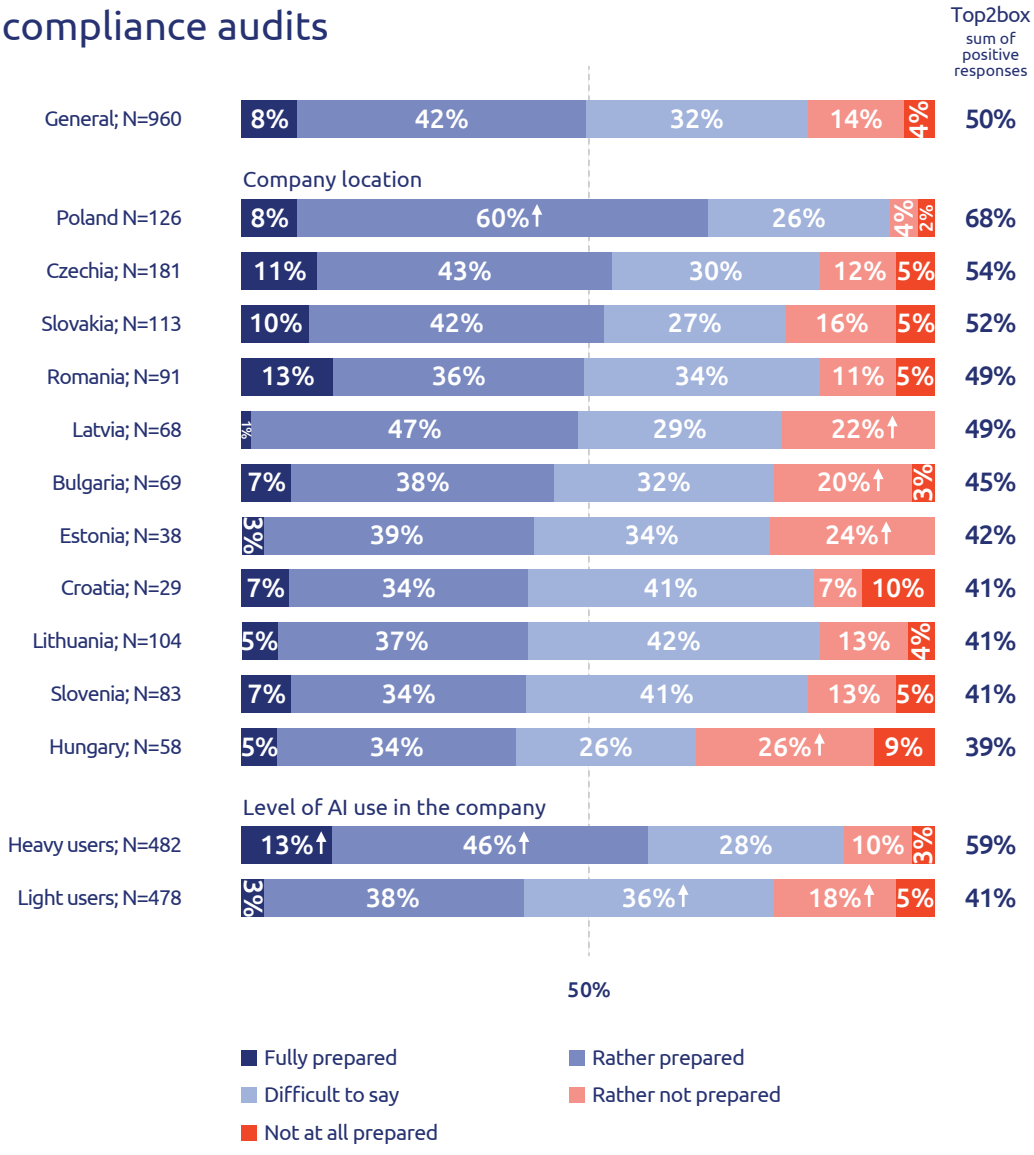


Organizations that use AI intensively are better prepared – so-called heavy users declare greater involvement in compliance activities (39% vs. 32% among light users). There is also a correlation in terms of attitudes towards AI – companies that perceive AI as an opportunity and a tool supporting development are more likely to declare compliance activity than those that see it as a threat. The data depending on the size of the company is also interesting – the highest percentages are reported by organizations

employing 10 to 49 employees (38%), which may indicate greater flexibility and ease in implementing compliance processes in mid-segment companies.

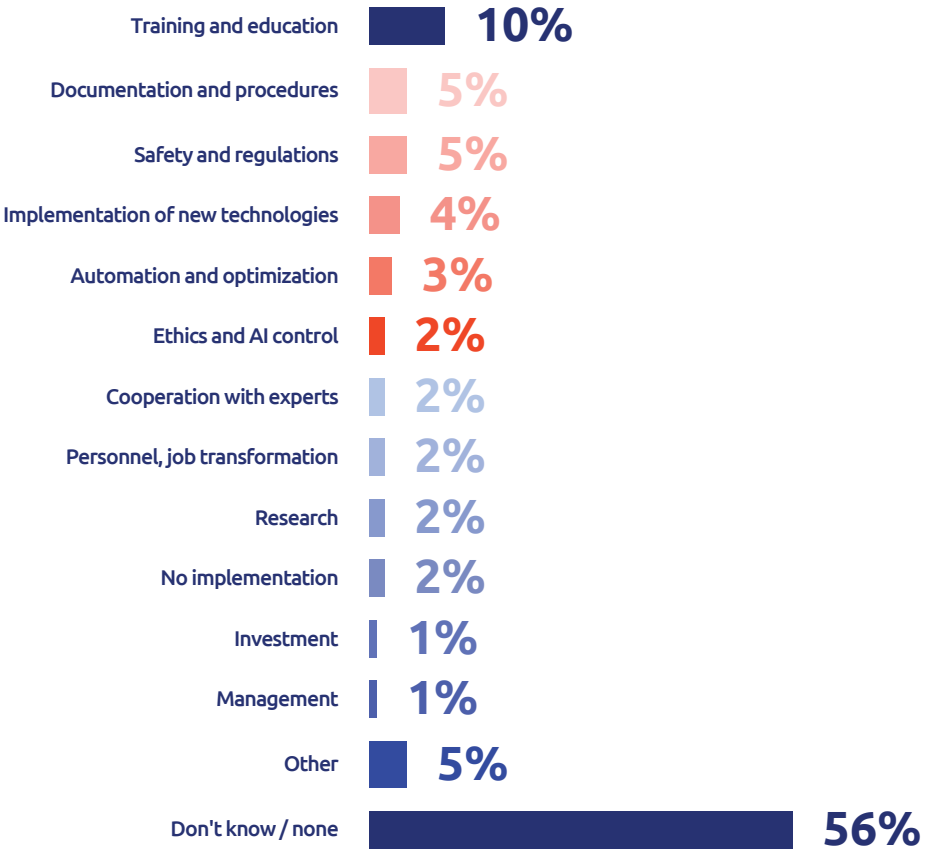
Turning to assessing companies' readiness for AI audits, the picture becomes more mixed. While half of the respondents say their company is at least partially prepared for an AI Act compliance audit, only 8% believe they are fully ready for one. This shows that full audit readiness is the exception rather than the norm. The highest level of preparedness is declared by companies in Poland (68%), and the lowest by companies in Hungary (39%). It is also noteworthy that organizations that implement AI intensively are much more likely to feel ready (59%) than those that do so to a limited extent (41%). Despite some positive signs, a significant gap remains: as many as one-third of companies say they are weak in assessing their preparedness on AI regulations, and nearly one-fifth openly admit they are not compliant.

Readiness of companies for AI Act compliance audits



In contrast, when we look at the specific actions companies are taking to prepare for audits, very basic and still low-profile initiatives dominate. Only 10% of companies indicate conducting training and educational activities, and only 5% say they are creating documentation or regulatory activities. Other responses still include: activities related to data security, technology implementation, process optimization or the introduction of ethical principles – but their scale is marginal at the moment. The biggest problem is the lack of formalization of these activities – as many as 56% of surveyed companies are unable to point to any specific preparatory steps, or admit that they do not know what has been implemented.

Company activities in preparation for AI audits

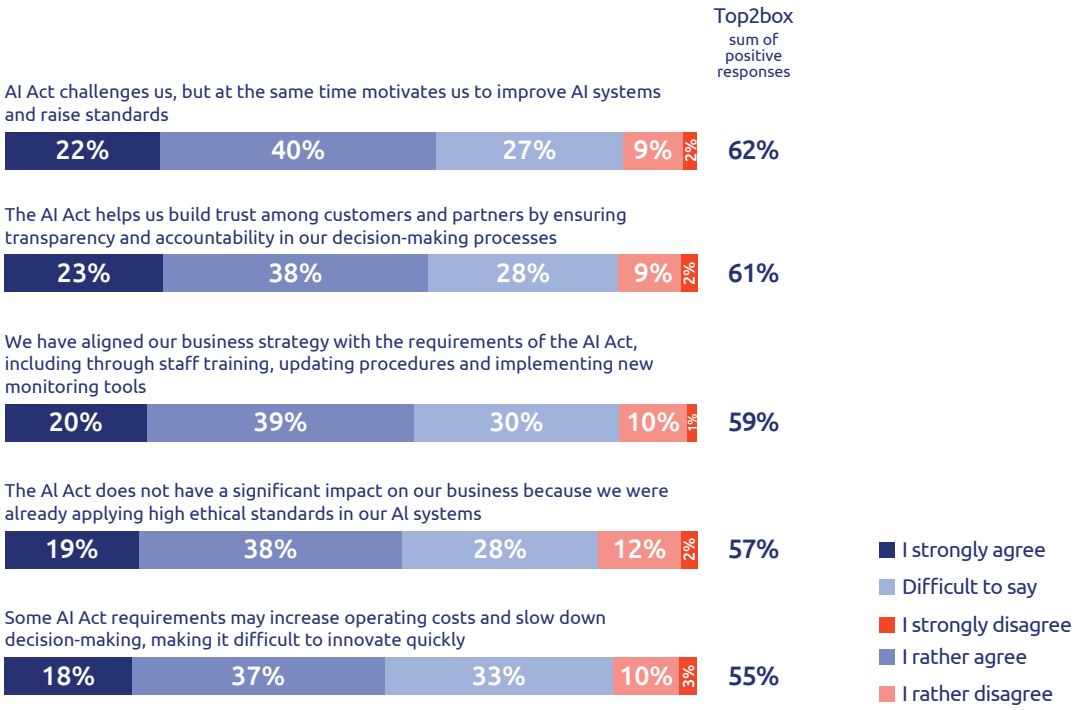


Respondents' answers confirm that regulatory awareness and the ability to implement responsible AI governance mechanisms is growing, but this is still the case for a limited group of entities – usually those that have already invested in internal competencies or established formal technology governance structures. For most companies, the topic of AI audits is still not prioritized, and many are just beginning to build their approach to the upcoming requirements.

How do entrepreneurs in our region perceive the effects of the regulation so far? The majority of companies see the document as an impetus for development. As many

as 62% agree with the statement that the regulations, while challenging, motivate them to improve AI systems and raise standards. Almost the same percentage (61%) recognize that the regulations help build trust with customers and partners through greater transparency and accountability in decision-making processes. Slightly fewer, 59%, confirm that they have aligned their business strategy with AI Act requirements, which includes training, procedural changes and implementing monitoring tools.

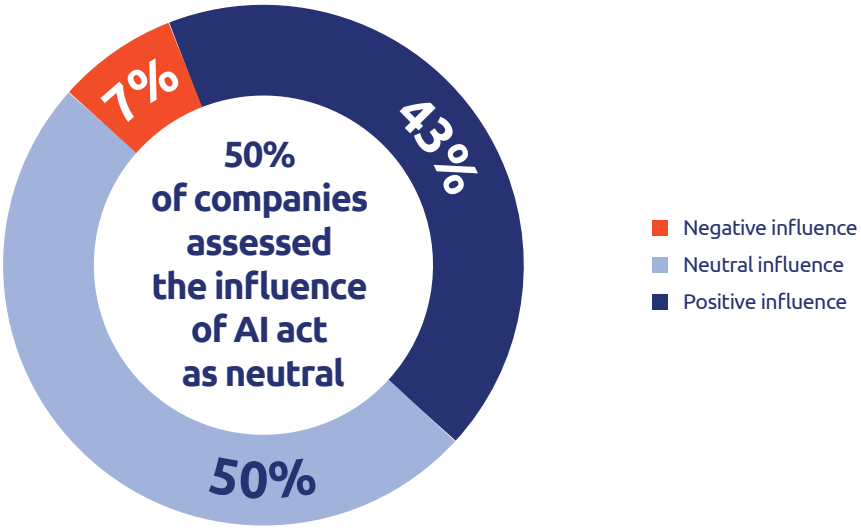
To what extent is AI useful to you in particular scopes?



However, there is still a sizable group of companies that don't see the impact of the regulation on their business – 57% say the AI Act hasn't changed much, as they were already applying high ethical standards to their systems. At the same time, 55% perceive that some of the requirements may increase operating costs and slow down decision-making, which can hinder rapid innovation.

Overall, 43% of respondents view the AI Act's impact on their company's operations as positive, half rate it neutrally, and only 7% indicate a negative impact. Positive perceptions of the regulation clearly increase with a company's level of technological sophistication and knowledge of the regulations. Among so-called heavy users – companies that use AI extensively – the percentage of positive evaluations is 53%, while among light users it is only 33%. An equally strong difference emerges when breaking down by familiarity with regulations: among companies aware of AI Act regulations, 58% declare a positive impact of the regulations, while only 22% among those not aware of them.

Impact of AI Act on company operations



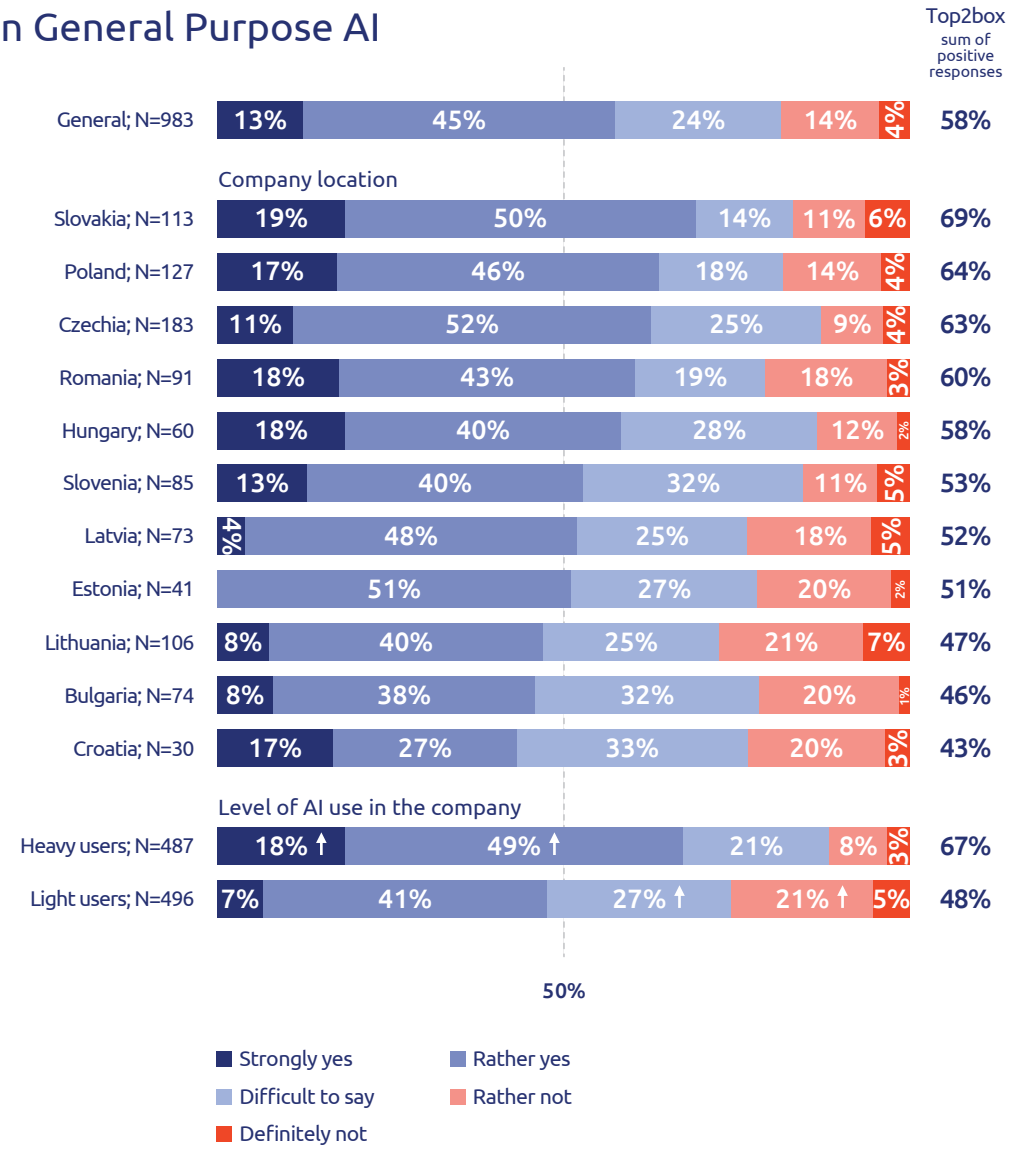
Analysis of the data from individual countries also reveals interesting regional differences. The highest number of positive responses appears in Romania (54%) and Poland (50%), while the lowest are in Estonia (32%) and Hungary (35%). The latter countries are dominated by neutral responses or those indicating no perceived benefit.

It is also worth noting that companies that see AI as a useful tool or support (48%) are significantly more likely to evaluate the impact of regulation positively than those that see AI as competition or are indifferent to it (17%). This means that attitudes toward the technology itself are important in assessing the regulatory environment.

The survey therefore concludes that the provisions of the AI Act are generally perceived positively or neutrally – as an element that organizes and professionalizes the market, favoring rather than restricting the development of AI in companies. Where companies actively use AI and are aware of the requirements, there they are more likely to see the benefits and are able to turn them into real development activities. In contrast, where awareness is low, passivity or skepticism is more common. Therefore, further educational and advisory activities – both at the national and EU levels – will be fundamental to the successful implementation of the AI Act in our region.

Intensive work is currently underway on a document that complements the AI Act. Namely, the Code of Practice for General Purpose AI models.[21] So far, awareness of such a code among companies is still severely limited. Only 58% of companies say they have heard of the document, which means that as many as 4 in 10 companies know nothing about one of the most important regulatory tools to influence how AI models are designed, implemented and supervised.

Awareness of the work on the Code of Practice on General Purpose AI



On the plus side, companies from Slovakia (69%) and Poland (64%) stand out from the region, declaring the highest level of awareness on this issue. In comparison, companies from Croatia (43%) and Bulgaria (46%) show the lowest level of awareness in this regard, which puts them in a potentially more difficult position when it comes to adapting to the upcoming standards. Again, there is a clear correlation with the level of technological sophistication – among AI-intensive companies, or so-called heavy users, familiarity with the code reaches 67%, while among light users it is only 48%.

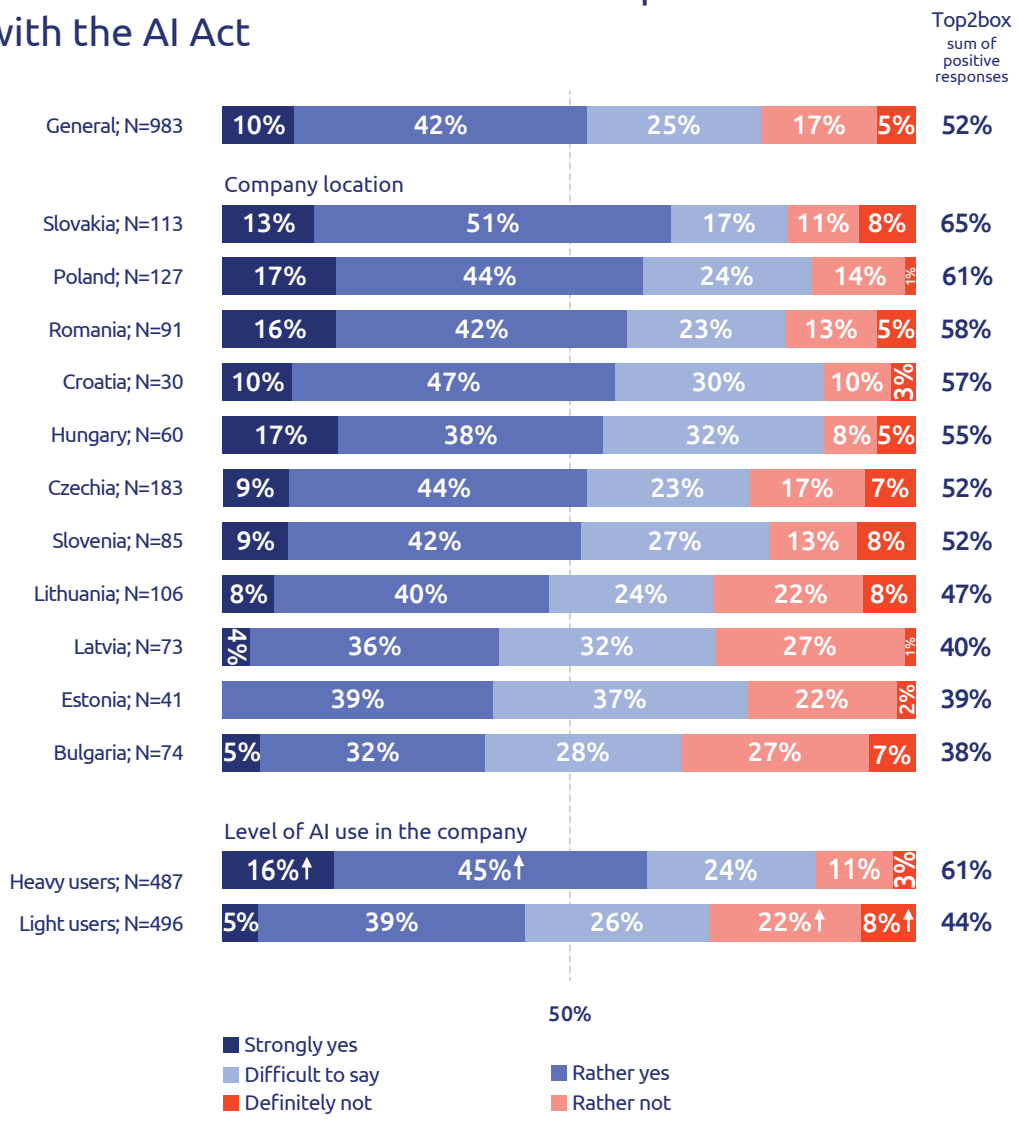
Here we come to another element – potential penalties. The issue of sanctions for non-compliance with the AI Act – while fundamental from the point of view of legal risk – remains insufficiently recognized by a significant proportion of the companies surveyed. As the data shows, just over half of the companies (52%) say they are aware of the existence of sanctions. This is a rather worrying sign.

Companies from Slovakia (65%) and Poland (61%) turn out to be the best informed, which is in line with previous data on their overall regulatory awareness. Romania (58%) also remains in the lead, confirming a stable level of awareness of the AI Act. On the other hand, at the other extreme are companies from Bulgaria (38%) and Estonia (39%), where knowledge of sanctions is the lowest.

Differences among companies according to the intensity of AI implementations are also significant. Among AI-intensive organizations, as many as 61% are aware of potential sanctions, while awareness among less tech-savvy companies is only 44%.

The common denominator of these observations is the conclusion that regulatory awareness is not developing evenly in our region. Therefore, the role of guidance, education and dialogue – not only at the level of institutions, but also within regional, international business and industry organizations – is becoming so important.

Awareness of sanctions for non-compliance with the AI Act



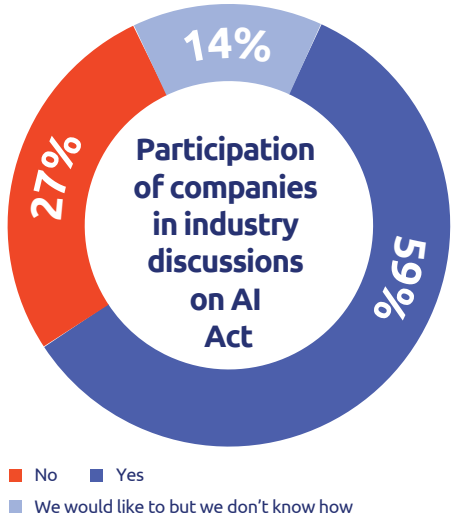
In the face of current dynamic legislative changes, many companies recognize the need to tap into legal and industry expertise. The survey shows that as many as 68% of companies say they use AI Act legal advice. This is quite a high percentage, and shows that businesses are beginning to treat the topic of regulatory compliance not as an obstacle, but as a strategic element of business management. Particularly active in this regard are companies from Romania (78%) and Poland (76%) – two countries that not only declare knowledge of the regulations, but also realistically invest in their understanding and implementation with the support of specialists.

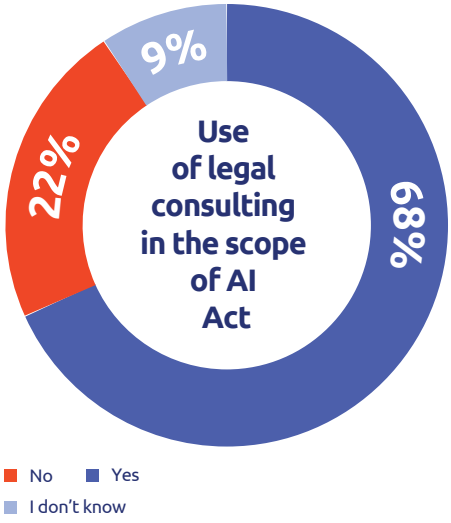
On the other side of the scale was Croatia (43%), where just over 4 in 10 companies use legal consultation. Latvia (52%) also ranks below the average, although no longer as extreme. These regional differences suggest that the effectiveness of AI Act implementation may be strongly dependent on local consulting ecosystems and the level of activity of business support organizations in interpreting regulations.

The second, equally important aspect is the participation of companies in industry discussions on the AI Act. This kind of involvement not only fosters a better understanding of the regulations, but also makes it possible to influence their shape – by jointly defining good practices, sharing experiences and building common standards of operation. In our survey, 59% of companies said they participated in such discussions, which would seem to be a positive sign.

As in the case of legal advice, the highest engagement in industry conversations was recorded in Romania (73%), which may indicate that local organizations are functioning well. At the opposite end of the spectrum was Estonia (39%), where nearly two-thirds of companies do not participate in any form of dialogue around the AI Act.

Another interesting and important sign is that as many as 14% of the companies surveyed would like to participate in such discussions, but don't know how to go about it – a clear gap that can and should be filled through simple, accessible communication channels and invitations to co-create a space for knowledge exchange.





#06

Voice from the market – what are entrepreneurs saying?

The answers to the open question – what would entrepreneurs advise legislators in the context of the work on the legal framework for AI, provide at least some valuable clues about their expectations and concerns about the process of shaping regulations. The analysis conducted reveals the clear dominance of several key themes that appeared recurrently in the opinions of representatives of different countries.

One of the most frequently recurring themes was the need to strike the right balance between fostering innovation and providing adequate protection mechanisms for society. As one businessman from Bulgaria aptly noted, regulations should "maintain a balance between innovation and ethical standards, while ensuring transparency of processes, protection of personal data and anti-discrimination, without imposing excessive restrictions that could hinder technological development". A representative from Hungary spoke in a similar vein, stressing that "well-designed regulations should protect society and individuals, while not hindering innovation and development based on artificial intelligence". The Latvian entrepreneur's statement further emphasized the need to ensure that artificial intelligence is used responsibly and does not bring harm to society, while supporting new technological solutions.

The second major theme, often appearing in the statements analyzed, was the need to simplify regulations and make them fully transparent and accessible, especially from the perspective of small and medium-sized enterprises. A business representative from the Czech Republic called for "making regulations as comprehensible as possible and not increasing the already heavy bureaucratic burden", pointing to concerns about additional administrative costs that could particularly affect smaller businesses.

Another issue was the role of humans in the process of implementing and adapting solutions based on artificial intelligence. The need for educational activities was pointed out, especially for older workers, whose fear of being replaced by new technologies is significant. An entrepreneur from Poland expressed the belief that "more attention should be paid to the person who is a participant in this process, on whom much depends in terms of practical implementation". In his opinion, people should be active participants in the technological transformation, not just passive recipients, and employers should invest in developing the competencies of their employees to enable them to function effectively in the changing work environment.

Entrepreneurs also noted the varying adaptability of different companies. Another entrepreneur from Poland stressed that "not all companies have sufficient material resources to be 100% efficient and take full advantage of AI". In his opinion, although artificial intelligence opens up enormous opportunities for companies, the real implementation of these technologies is often limited by financial conditions, especially in smaller agglomerations where companies operate on the verge of profitability.

Finally, the need to create regulations that are not only appropriate at the present time, but also adaptable in the face of the rapid development of technology, resounded clearly among the respondents. As another entrepreneur from Hungary noted, policymakers should “create rules that are sustainable in the long term and adapt to the rapid development of artificial intelligence technology”.

Statements from entrepreneurs indicate clear expectations for future artificial intelligence regulations. First and foremost, they should enable the further development of innovation while ensuring social security, be simple and transparent, take into account the diversity of companies and their adaptive potential, and focus on investment in humans as a key element in the success of technological transformation. The call for the creation of long-term, flexible regulations adapted to the pace of AI development clearly draws the direction that policymakers responsible for shaping regulatory policies should take in the coming years.

#07

Conclusion

Artificial intelligence in the Central and Eastern European (CEE) region is ceasing to be a technological novelty, and is becoming a viable and increasingly used tool for business transformation. The report, based on a survey of more than 3,200 companies from 11 countries in the region (including Poland, the Czech Republic, Slovakia, Romania, Bulgaria and Estonia), sheds light on the diversity of approaches to AI in the SME sector, while illustrating the technological and strategic maturity of some companies and the challenges faced by others.

A key finding of the report is the gradual but clear familiarization of small and medium-sized enterprises with AI technologies. The majority of respondents report using artificial intelligence, although this varies widely in terms of intensity and application areas. Most often, AI supports activities in the areas of data analysis, task automation, language translation or customer service, while it appears less frequently in more advanced segments such as supply chain management or ESG analytics. Nevertheless, AI is increasingly seen not as an add-on, but as a strategic tool for strengthening competitiveness.

The greatest openness is shown by companies from Estonia, Slovenia, Czech Republic, Poland and Slovakia, where there is not only a readiness to implement new solutions, but also an awareness of regulatory requirements, including the AI Act. Interestingly, it is the "aware" ones who most often face real barriers: lack of competence, internal resistance, organizational problems. The optimistic, although less technologically advanced, remain more flexible, but often lack knowledge of the legal aspects and long-term consequences of AI implementation. In the most skeptical segments, the belief that AI is "not needed" or "too expensive" still prevails, and in some cases – there is simply a lack of knowledge of how to use it meaningfully.

Implementation barriers play a not insignificant role and clearly draw a picture not only of the technological, but also of the mental landscape of the region. There is a shortage of skilled professionals, the regulatory future is unclear, and as many as one in three companies do not understand the benefits of AI. What's more, the strong resistance to changing the organizational culture, particularly evident in Romania or Croatia, shows that technology alone is only part of a larger transformation process.

Regulation, particularly the AI Act, is currently one of the key challenges, but also an opportunity to bring more structure and transparency to the market. Awareness of regulations is generally low. Slovenian, Estonian, Polish and Czech companies fare relatively well in this regard, but in Croatia or Hungary, for example, knowledge is marginal. Meanwhile, only 8% of companies in the region consider themselves fully ready to comply with legal requirements, and only half feel prepared to do so. This shows how great a role education and practical support will play in the coming years.

The social and organizational perspective cannot be left out of the analysis. Concerns about job loss, lack of knowledge or aversion to technology are still strongly present – especially among lower-level employees. Some managers also admit that AI does not yet fit into the culture of their organizations. So for many companies, it is not just a matter of cost or availability of technology, but a change in the way they think about work and the role of humans in the company of the future.

Against this backdrop, recommendations seem particularly relevant – and for both businesses and public policy makers. For companies, it will be crucial to implement well-thought-out digital transformation strategies, in which AI is not an add-on, but the foundation of new business models. It will be worth investing in staff education, developing internal competencies, but also actively using available consulting services – both technological and legal. Internal communication will also be key – building understanding and acceptance of new tools among employees.

Companies that are already on the AI Implementation path should, in turn, work to deepen their technological maturity – not only to expand the scope of applications, but also to ensure regulatory compliance, transparency and accountability.

For public policymakers, the most important task for the coming months and years will be to provide competence and regulatory support to companies – and especially those in the SME sector. The AI Act is not just a set of regulations, but a real organizational challenge, requiring interpretation, advice and sometimes financial support. Decision-makers in our region should therefore bet on building support systems – grant programs, public-private partnerships, but also local competence centers to help companies through the adaptation process.

It's also a good time to strengthen international cooperation – sharing best practices, developing joint R&D initiatives and promoting ethical, sustainable AI development.

All this shows that AI in CEE is no longer a science fiction slogan, but a real challenge and opportunity for deep modernization of economies. However, the condition for success will be a skillful combination of technology, knowledge, courage and openness – both on the part of companies and administration – at the national and European level. Conscious, responsible and supported implementation of AI can make the CEE region a significant player at a solid, European level.

End notes

1 https://www.gov.pl/web/ai/czym-jest-sztuczna-inteligencja2

2 https://www.mckinsey.com/featured-insights/mckinsey-explainers/what-is-ai

3 https://www.sap.com/poland/products/artificial-intelligence/what-is-machine-learning.html

4 https://www.ibm.com/think/topics/deep-learning

5 https://www.deeplearning.ai/resources/natural-language-processing/

6 https://azure.microsoft.com/en-us/resources/cloud-computing-dictionary/what-is-computer-vision#object-classification

7 https://www.techtarget.com/searchenterpriseai/definition/expert-system

8 https://www.intel.com/content/www/us/en/learn/artificial-intelligence-robotics.html

9 https://www.ibm.com/think/topics/artificial-intelligence-types

10 https://unctad.org/press-material/ais-48-trillion-future-un-trade-and-development-alerts-divides-urges-action#:~:text=AI%20is%20expected%20to%20reach%20$4.8%20trillion,for%2040%%20of%20global%20corporate%20R&D%20spending.

11 https://www.fdiintelligence.com/content/41641e67-f00f-53c0-97cb-464b3a883062

12 https://www.techinasia.com/news/china-leads-global-ai-patents-60-share

13 US ahead in AI innovation, easily surpassing China in Stanford's new ranking | AP News

14 More on this topic can be found in Chapter V, titled Law vs. Technology: How Are Regulations Shaping the AI Landscape?

15 https://www.pwc.pl/pl/artykuly/prognozy-dotyczace-sztucznej-inteligencji-w-biznesie-w-2025-roku.html

16 Artificial Intelligence Index Report 2025

17 https://www.allaboutai.com/resources/ai-statistics/global-ai-adoption/#methodology

18 https://www2.deloitte.com/content/dam/Deloitte/us/Documents/consulting/us-state-of-gen-ai-q4.pdf

19 https://artificialintelligenceact.eu/small-businesses-guide-to-the-ai-act/

20 https://artificialintelligenceact.eu/small-businesses-guide-to-the-ai-act/

21 The report was written in April/May 2025.


AI
CHAMBER