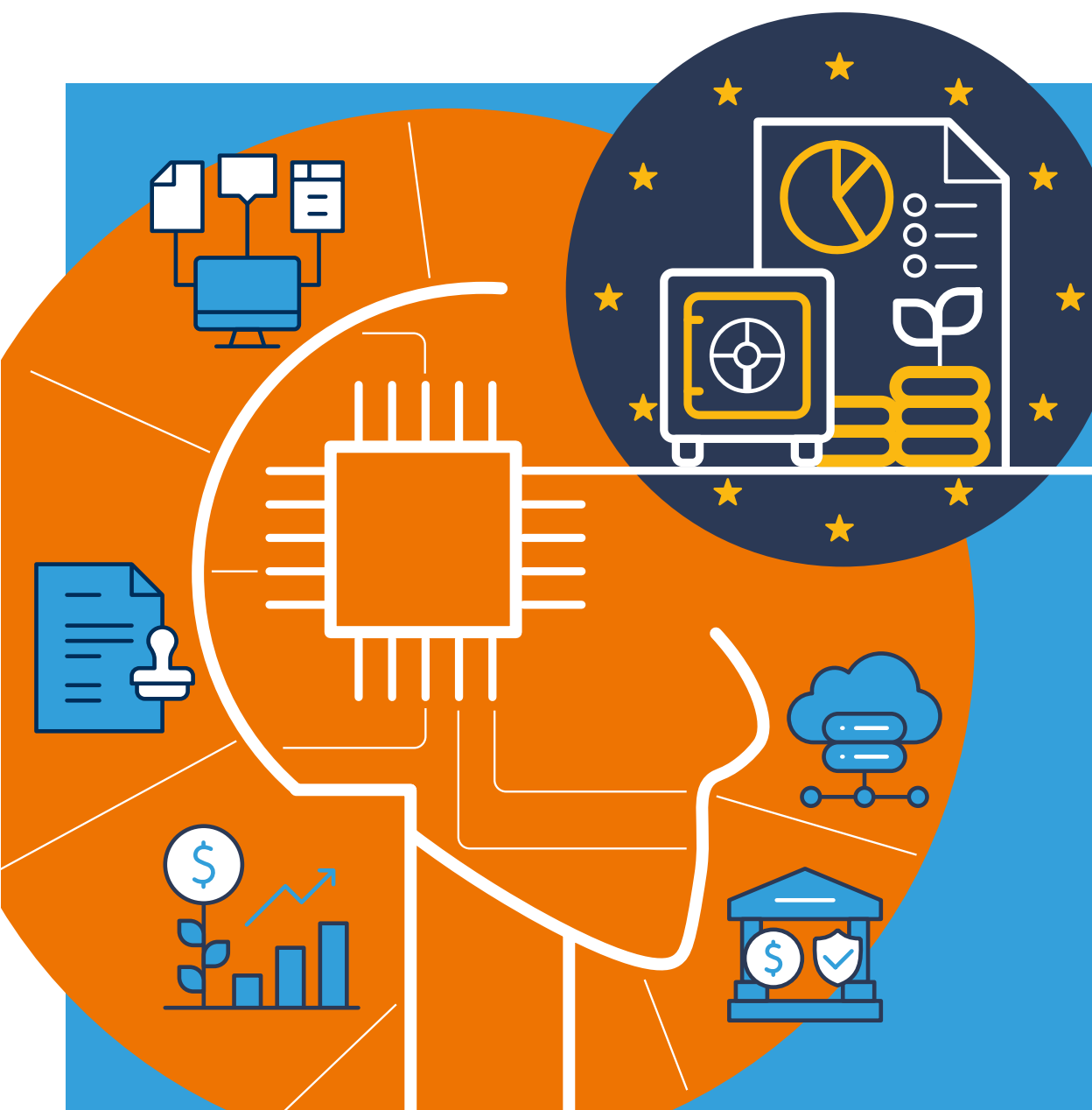


AI 4 Financial Services: The AI Revolution for a Strategic and Data-Driven Management of European Companies



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Generative AI is rapidly transforming the global technological and economic landscape, positioning itself as one of the most disruptive forces in decades. Unlike previous waves of digital innovation, generative AI does not simply support human activity. It can autonomously generate content, simulate decisions, and evolve based on interaction. For Europe, and particularly for the financial services industry (FSI), this represents a pivotal opportunity to enhance competitiveness, productivity, and resilience in a context of increasing global pressure.

To better understand the potential and implications of generative AI in Europe and for the financial services industry, TEHA Group in partnership with Microsoft launched a strategic research initiative titled “AI for FSI: The AI Revolution for a Strategic and Data-Driven Management of European Companies.” The project combined economic modeling, empirical analysis, and direct engagement with CFOs and senior financial executives from major European institutions to explore the economic, organizational and strategic impacts of generative AI adoption.

The impact can be analyzed from two main points: increasing productivity within the same timeframe or maintaining current output while reducing working hours. According to the model's estimates, generative AI has the potential to boost Europe's annual added value by €2.61 trillion, representing 15.2% of the region's GDP. This impact is comparable to adding an economy nearly the size of France or surpassing the total value generated by the manufacturing sector in 2023 (€2.51 trillion). The potential for time savings is equally significant: generative AI could free up 47.6 billion working hours while sustaining current production levels, exceeding the total hours worked in Italy in 2023 (44.3 billion).

The impact is especially notable in sectors like financial services and ICT, where AI can enhance productivity by over 20%. The quantitative model shows two specular scenarios for the European financial services sector. On one end, generative AI could generate up to €147 billion in additional annual value added, equivalent to 0.9 percent of EU GDP. On the other, it could free up as much as 1.5 billion working hours per year through processing automation and increased productivity. The actual value will depend on how financial institutions integrate AI in their operations, whether they prioritize efficiency, innovation, or a combination of both. The majority of this potential lies within banking (€93 billion), followed by insurance sector (€28 billion), and financial support services (€27 billion), with the top five economies in the region capturing most of the benefits.

Financial services emerge as one of the industries with the highest potential impact, due both to the sector's high degree of process standardization and its intensive use of data and knowledge work. But the impact is not limited to economic metrics. Generative AI triggers a structural evolution of the CFO function, positioning it as a key enabler of transformation. CFOs are moving beyond compliance and reporting to actively orchestrate forecasting, resource allocation, performance monitoring, and investor communication in real time. Several leading institutions are already applying generative AI to simulate scenarios, automate transactional activities, and generate high-quality financial narratives and insights.

However, the road to large-scale adoption is still fraught with challenges. Many institutions remain stuck in the pilot phase, with fragmented initiatives and no unified governance. Key obstacles include limited integration between finance and IT functions, lack of internal capabilities, data quality gaps, and a widespread uncertainty around regulatory compliance and reputational risk, particularly in public-facing applications of AI. In many cases, the absence of clear business cases and shared accountability models limits the transition from experimentation to structured deployment.

The strategic dialogue with CFOs also highlighted the need for new organizational enablers. These include cross-functional leadership between finance, technology and legal teams, the institutionalization of AI-driven processes, investment in upskilling and AI literacy within finance teams, and the definition of common performance and risk metrics for AI initiatives. Without these conditions, the benefits of generative AI risk being limited to isolated use cases.

In an era where technology is deeply integrated into every aspect of our lives, the opportunities it offers are increasingly accompanied by rising levels of risk. While the European region holds a regulatory leadership position, through frameworks such as the AI Act, the Digital Operational Resilience Act (DORA) and the updated NIS2 Directive, it is crucial to ensure their effective implementation and continuous adaptation to emerging threats. The financial sector has experienced a sharp rise in cyber incidents, becoming the third most targeted sector in the EU, and the growing use of AI, while promising, also introduces new vulnerabilities related to data protection, unauthorized access, and non-compliant usage. To fully leverage AI-driven security measures, it is essential for companies to prioritize maintaining high standards of data quality and integrity.

The responsible adoption of generative AI in financial services will also depend on building trust, both internally and externally. Institutions will need to develop robust validation protocols, ensure transparency in AI-generated content, and align their internal practices with evolving regulatory frameworks. Security, privacy, explainability and model reliability must be addressed upfront to protect clients and reinforce credibility.

Looking forward, generative AI is not a short-term trend, but a foundational shift in how value is created, decisions are made, and finance is governed. For European institutions, acting now means securing a competitive edge not only in operational efficiency, but in strategic intelligence. Those who succeed in scaling responsibly, governing effectively, and aligning AI with business priorities will lead the transformation of the finance function and help drive the next phase of growth in the European economy.

The research contributors: the advisor and the working group

This White Paper gathers and synthesizes the findings from the study “AI 4 Financial Services – The AI Revolution for a Strategic and Data-Driven Management of European Companies,” conducted by TEHA Group in partnership with Microsoft.

The study benefited from the contribution of Alec Ross, in his role as Scientific Advisor (Distinguished Professor, Bologna Business School; Board Partner, Amplo; Former Senior Advisor for Innovation, United States Secretary of State).

The Microsoft working group included Luba Manolova (Director AI at Work, Western Europe), Alessandra Brambilla (GM & COO, Western Europe), Riccardo Trubiani (Strategic Program Manager, Western Europe), Giulia Biolo (Director Business Programs Western Europe, Mike Hughes (Solution Group Lead Security, Compliance and Identity, Western Europe) and Shirley Finnerty (Security and Compliance GTM Lead Western Europe)

The study was managed by TEHA Group working group, led by Valerio De Molli (Managing Partner & Chief Executive Officer) and comprising Corrado Panzeri (Partner & Head of Innotech Hub), Matteo Polistina (Senior Consultant and Project Leader), Arianna Basso (Program Manager), Noemi Lattanzi (Analyst), Matteo Mistretta (Analyst) and Silvia Della Giovanna (Project Assistant).

The study also incorporated insights gained from direct conversations with 15 Chief Financial Officers of major companies in the financial sector, who were actively engaged in the adoption of Artificial Intelligence technologies within their operations. These meetings provided an opportunity to deepen the understanding and gather detailed information from those who are experiencing this significant change firsthand.

Why this study was conducted

In a context of growing adoption and development of generative AI and AI agents, it has become increasingly crucial for Europe to integrate this technology into strategic sectors to enhance productivity and maintain high competitiveness and leadership within the global system. At the same time, sectors such as finance show the highest potential in terms of productivity gains and transformational impacts driven by AI in Europe. Also, another key strategic function where AI has the potential to bring about profound changes is the role of the Chief Financial Officer. The CFO's role has evolved from being a mere custodian of financial management to a strategic partner guiding data-driven decision-making. The ability of generative AI to automate real-time report generation, provide advanced financial forecasting, and analyze complex scenarios represents one of the most revolutionary opportunities.

At a time when agentic AI is taking the central stage in bridging AI capabilities with autonomous action, this study aims to explore the impacts and applications of all the different forms of AI in supporting the financial and strategic management of companies in the financial services industry. Furthermore, the report aims at shedding lights on how to ensure a secure adoption of AI, which is not only a compliance requirement for an increasing body of regulation, but also a strategic and competitive lever.

Structure of the White Paper

The goal of the White Paper is to present a unified, comprehensive vision among key stakeholders on the impacts of AI for the European financial services industry, with a particular focus on the CFO function. The initiative has a dual objective: on one hand, to extend the reflections and economic impact models of generative AI from a European perspective, and on the other hand, to specifically analyze the impacts and use cases that support the activities of organizations in the industry.

The White Paper is organized into 5 chapters, described as follows:

Chapter 1

The economic impact of generative AI in Europe

The first chapter of the White Paper introduces the opportunity that AI presents for Europe. It begins with a clear definition of AI, then analyzes emerging trends, focusing on the rise of agentic AI as a key development in the field. The chapter explores the potential of the generative AI revolution across European countries, applying an impact model to quantify AI's effect on productivity across all EU-27 nations. It highlights the significant opportunities these technologies present and estimates the productivity gains generative AI could bring across all sectors. Finally, the chapter emphasizes the urgency for Europe to act decisively in the race for AI innovation, not only to seize the opportunity but to do so more quickly and effectively than the international competition.

Chapter 2

Impacts of AI in the financial service industry

The second chapter delves into the impact of generative AI on the European financial services sector identified as the industry with the highest potential for AI-driven transformation. It employs a dual approach: on one hand, it explores the theoretical implications of AI across various sub-sectors of finance; on the other, it adopts an empirical lens by analyzing real-world cases of AI adoption among major European FSI players. This dual perspective allows for a comprehensive understanding of how AI can transform the sector, uncovering significant opportunities for innovation, efficiency, and growth. The chapter highlights why understanding these developments is crucial for stakeholders aiming to remain competitive in an increasingly AI-driven landscape. It also traces the shift from AI as a tool for task automation to more autonomous, agentic systems, and presents concrete use cases that illustrate how leading institutions are applying AI to areas such as fraud detection, compliance, and customer service.

Chapter 3

Business process transformation enabled by generative and agentic AI in supporting CFOs

This chapter explores how generative AI is transforming the role of the CFO. It focuses on four key areas where AI is already reshaping financial operations and decision-making: forecasting and scenario analysis, automation of core finance functions, applications in M&A and investor relations, and the emerging use of AI agents. This evolution is not merely technological but organizational as well. The integration of generative AI into the finance function requires new skill sets, updated governance models, and a redefinition of operating structures. As a result, AI is increasingly seen not as a future opportunity, but as an immediate priority to strengthen competitiveness, drive efficiency, and enhance strategic responsiveness.

Chapter 4

Security and data protection DORA, EU AI Act

This chapter explores the security challenges posed by emerging technologies, with a particular focus on the growing role of AI in cybersecurity. As technology becomes more integrated into everyday life, it brings not only new opportunities but also escalating risks. Generative AI and agentic AI play crucial roles in shaping the future of cybercrime, influencing it on three fronts: expanding the scope of potential data breaches, enabling attackers to execute more sophisticated attacks, and providing defenders with enhanced security measures. In this context, the European regulatory landscape is presented as an exemplary framework for cybersecurity. However, businesses must be equipped with the necessary tools to effectively implement these regulations. For this reason, the importance of data is highlighted. To ensure the effectiveness of AI-driven security solutions, data must be of high quality, secure, and properly managed.

Chapter 5

Systemic and policy implications at the European level

The final chapter delves into the systemic and policy implications of AI at the European level. Often, the lack of clear business cases and shared accountability models hinders the transition from experimental stages to structured deployment. Looking forward, generative AI represents not just a passing trend, but a profound shift in how value is generated, decisions are made, and financial governance evolves. For European institutions, taking action now is crucial to gaining a competitive advantage, not only in operational efficiency but also in strategic decision-making. Those who effectively scale, govern responsibly, and align AI with business objectives will drive the transformation of the financial sector and contribute to the next wave of growth in the European economy.

1

The economic impact
of generative AI in Europe

1.1 The disruptive impact of generative AI

This chapter examines the potential of the generative AI revolution across European countries, with particular attention to its economic impact. It begins with a clear definition of generative AI, followed by an exploration of emerging trends in the technology, including the rise of agentic AI as the key technology trend in the field. The chapter will then quantify the potential impact of these technologies on the region, highlighting the substantial opportunities they present.

Generative AI has marked a profound advancement beyond traditional artificial intelligence, as this transformative technology allows a new form of interaction between humans, machines, data, and the broader digital ecosystem. By harnessing human inputs in natural language, generative AI can create algorithms, process both structured and unstructured data, and connect machines in innovative ways. We have transitioned from narrow AI (**Figure 1**) to a more versatile tool, bridging the gap between task-specific systems and capabilities that resemble human-like intelligence.

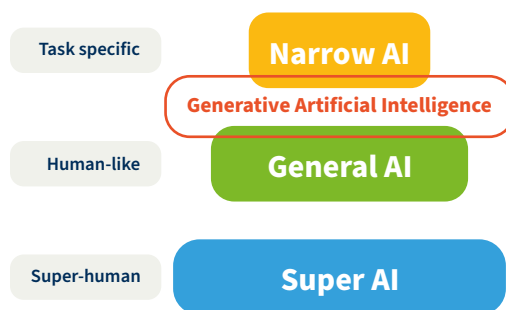


FIGURE 1. Types of AI based on capabilities.

Source: TEHA Group elaboration, 2025

Artificial intelligence is undoubtedly the technological breakthrough of the decade, and ChatGPT stands out as one of its most notable milestones. Developed by OpenAI and launched in November 2022, ChatGPT has revolutionized interactions with AI, making it more intuitive and accessible. The platform reached an unprecedented 100 million monthly global users within just two months, far surpassing the second-fastest-growing platform, TikTok, which took nine months to reach the same milestone (**Figure 2**)¹.

¹ The ranking does not include Threads because, as part of the Meta group, it benefited from a direct promotional push to all existing accounts on Instagram and Facebook, affecting the time it took to reach 100 million users

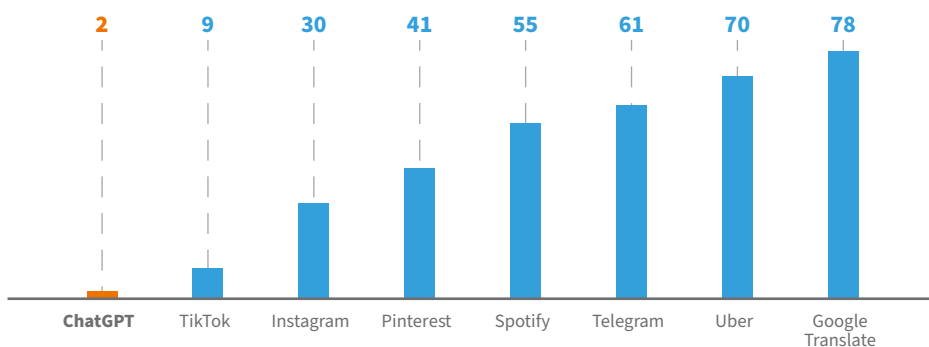


FIGURE 2. Time taken by each platform to reach 100 million global monthly users (in months).

Source: TEHA Group elaboration on market data, 2025

Not only adoption: in terms of revenue OpenAI reached the \$1 billion milestone in just four years (Figure 3). Remarkably, within less than 14 months of ChatGPT’s launch, OpenAI surpassed Google, which took five years to achieve the same revenue. By December 2023, OpenAI’s revenue² had crossed the \$2 billion threshold, underscoring the accelerating commercial success of AI technologies.

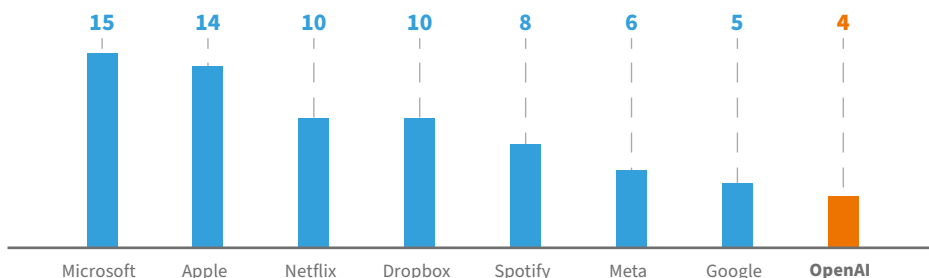


FIGURE 3. Number of years to reach the first billion dollars in revenues (rounded values for notable companies), 2024.

Source: TEHA Group elaboration on Financial Times data, 2025

The performance of AI companies on the stock market further highlights the sector’s rapid expansion. The AI-Index comprises 15 international companies whose core business is to design, create, integrate, and deliver AI solutions, including technologies, systems, and software solutions. These companies—such as Dynatrace, DocuSign, Palantir Technologies, Splunk, and others—have contributed to the AI-Index, which has grown by over 550% since January 2019 (Figure 4), outpacing the Nasdaq index, which rose by 292%. The surge in the AI Index has been significantly driven by the release of ChatGPT, marking a key turning point and catalyzing a period of rapid growth.

² OpenAI announced its capped profit structure in 2019, establishing its first for-profit business unit since the 2015 founding

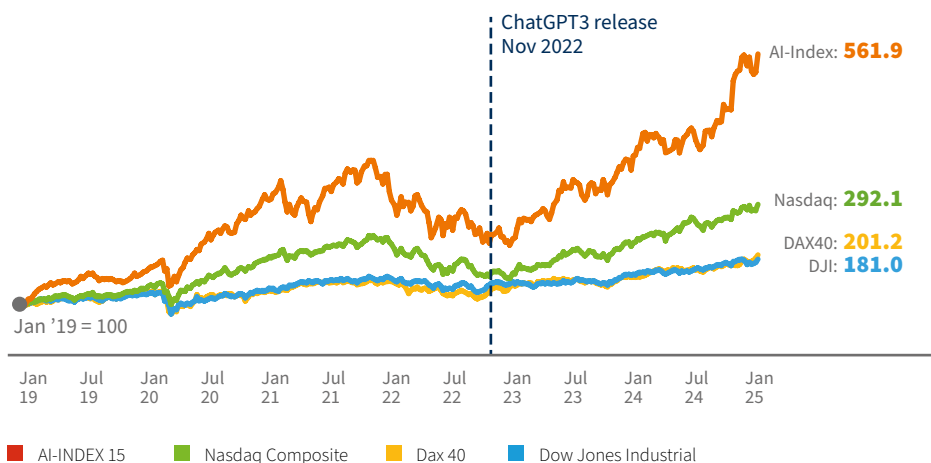


FIGURE 4. Market performance of AI Index vs. major market indexes (baseline year = January 2019), 2019-2025.

Source: TEHA Group elaboration on Statmuse data, last updated on February 1st, 2025

It is not just the interest in AI that is expanding, but so are its capabilities. Artificial intelligence is rapidly evolving, becoming increasingly effective and efficient and, in certain domains, it has already surpassed human performance (**Figure 5**). Historically, AI technologies required years to match human-average capabilities, but the pace of improvement has accelerated dramatically in recent years. As shown in the figure, AI technologies once took years to reach human-level abilities in specific cognitive domains, while recently they have been achieving the same level of performance in under a year, for example in domains such as language comprehension and other complex cognitive tasks. This rapid progress highlights AI's growing potential and its ability to outperform humans in specific fields.

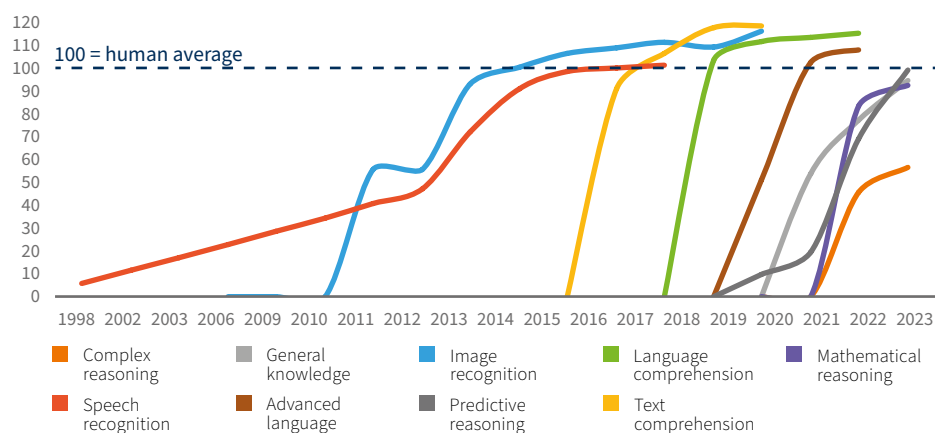


FIGURE 5. Performance trends of AI systems vs. human capabilities, (index number, 100 = human performance), 1998 – 2023.

Source: TEHA Group elaboration on Our World in Data and Stanford University data, 2025

1.2 The growing interest for AI agents

AI agents represent a natural and transformative evolution in this technological landscape, building upon the foundational advancements of machine learning, which initially focused on pattern recognition and autonomous learning. By integrating the capabilities of both generative AI, machine learning, and software automation in general, AI agents bring about a fundamental shift in AI's role, moving from a mere tool for user assistance to a dynamic entity capable of autonomously performing tasks (**Figure 6**). This transition bridges the gap between intelligence and action, offering solutions that are not only more autonomous but also increasingly effective in addressing complex challenges.

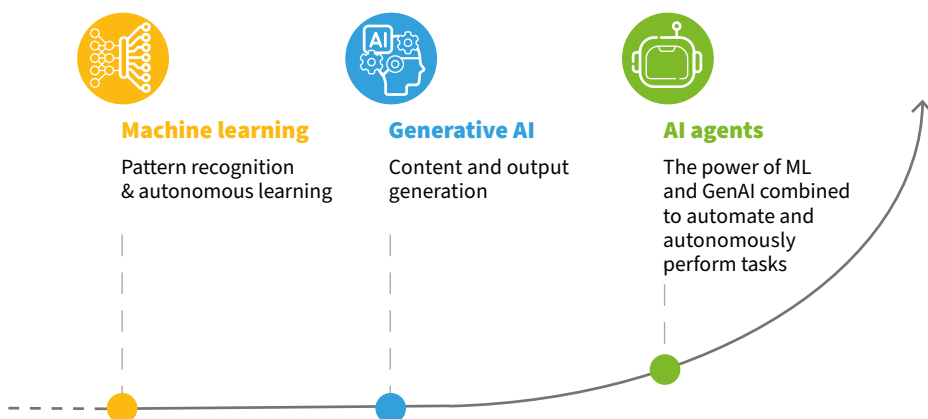


FIGURE 6. The evolution of AI Technology.

Source: TEHA Group elaboration, 2025

So, what exactly is an AI agent? At its core, an AI agent is an advanced intelligent system designed to understand, process, and respond to tasks without human intervention. It can efficiently handle a wide range of duties, from responding to inquiries to overseeing entire business processes. This shift represents a move from passive text generation to active decision-making and execution, expanding the horizon of AI's capabilities far beyond what traditional generative AI could achieve. The implications are profound, promising enhanced economic value, greater operational autonomy, and a more personalized approach across industries. However, as these opportunities grow, so too do the associated risks—particularly in areas of security, governance, and data quality. Addressing these challenges is critical to ensuring the responsible and effective deployment of AI agents.

The rising interest in AI agents is undeniable, as reflected in Google Trends, which shows a substantial surge in search activity over the past six months (**Figure 7**). This growing curiosity underscores the increasing attention behind AI agents.

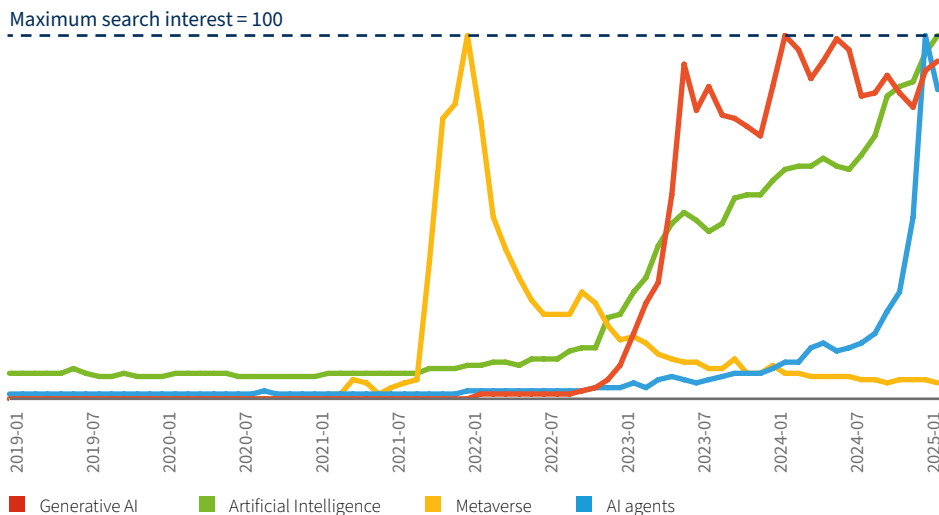


FIGURE 7. Google searches for selected technology trends (Index Number), 2019-2025.

Source: TEHA Group elaboration on Google Data, 2025

Beyond online interest, the influence of AI is becoming ever more evident in the corporate world. Fortune 500 earnings calls have witnessed a notable surge in AI-related discussions, with mentions of AI agents growing by an impressive 331% over the past year (**Figure 8**). In comparison, the topic of AI infrastructure, the second most discussed subject, saw a growth of 124%. This growing prominence of AI reflects its increasing importance in shaping corporate strategies and decision-making processes.

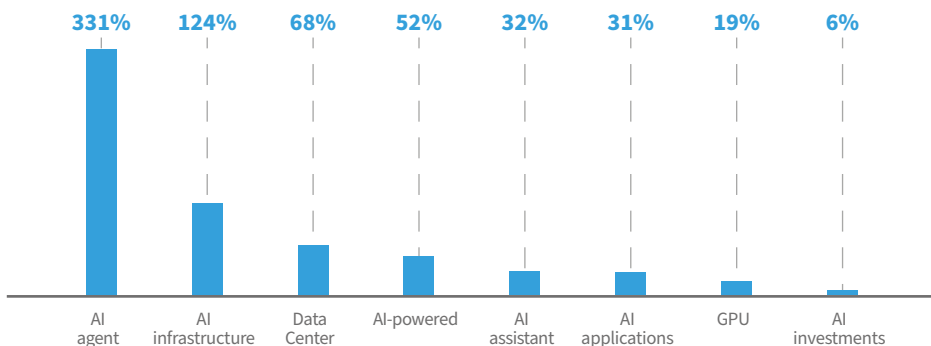


FIGURE 8. Variation in AI topic mentions in corporate earnings calls (%), 2023 vs 2024.

Source: TEHA Group elaboration on IoT Analytics Data, 2025

AI and AI agents hold immense potential for Europe, serving as a cornerstone for driving innovation, enhancing productivity, and fostering economic growth. Recognizing and embracing their transformative capabilities is essential for unlocking their full potential, ensuring that they play a pivotal role in Europe's sustainable and competitive future.

1.3 The impact of generative AI in Europe

To assess the potential impact of generative AI on the European economy, TEHA Group developed an innovative econometric impact model. Originally created for the 2023 research study *“AI 4 Italy – Impacts and Prospects of Generative Artificial Intelligence for Italy and Made in Italy”*, conducted in collaboration between TEHA Group and Microsoft, the model has now been expanded to encompass all 27 EU member states, allowing for a broader analysis of generative AI’s implications at a European scale.

The model quantifies the potential productivity gains that generative AI could bring about across all sectors of the economy (**Figure 9**). The impact is particularly significant in industries such as financial services and ICT, an increase higher than 20%, where AI can automate complex tasks, enhance decision-making, and optimize operations. These sectors rely heavily on data processing, knowledge work, and digital workflows, making them highly compatible with AI-driven efficiencies. In contrast, industries that involve more manual labor and physical tasks, such as mining, quarrying, and agriculture, experience a lower impact, as their core activities are less susceptible to automation through generative AI.

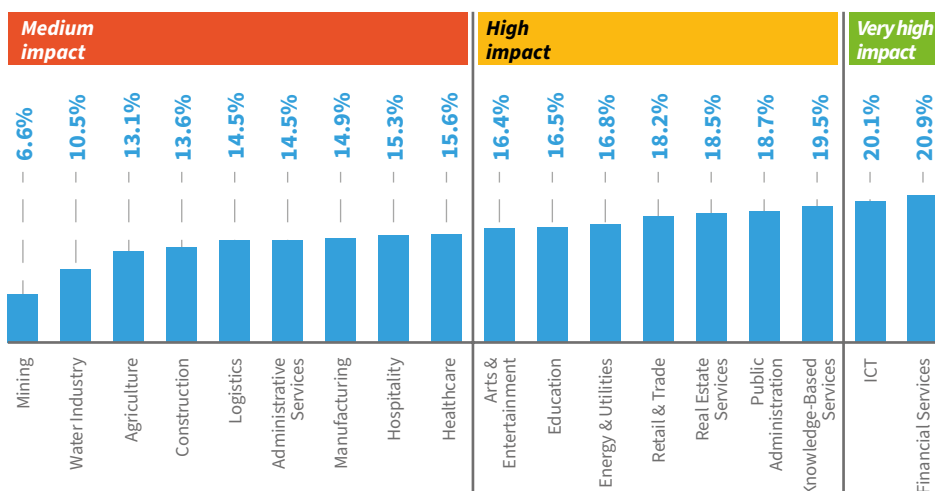


FIGURE 9. Gain in terms of productivity generated by the adoption of AI by sector (classification by sector, percentage value).

Source: TEHA Group elaboration on proprietary models, 2025

Applying these findings to the entire EU-27 industrial landscape reveals a transformative potential. Generative AI has the capacity to drive unprecedented efficiency gains, fundamentally reshaping economic productivity (**Figure 10**). The impact can be viewed through two key dimensions: the ability to achieve more within the same timeframe or to maintain current output levels while reducing working hours.

The model³ estimates that generative AI could increase Europe's annual added value by €2.61 trillion, equivalent to 15.2% of the region's GDP. This is comparable to adding an economy almost the size of France or exceeding the total value added by the manufacturing sector in 2023 (€2.51 trillion).

In terms of time savings, the potential is equally remarkable. Generative AI could free up 47.6 billion working hours while maintaining current production levels, more than the annual hours worked in Italy in 2023 (44.3 billions). This corresponds to the annual labor contribution of 22.9 million people⁴, underscoring the profound implications AI could have on workforce dynamics and economic growth across Europe.



FIGURE 10. Impact of generative AI on the European economy, productivity and time saved.

Source: TEHA Group elaboration on proprietary models, 2025

The model identifies the two extremes of impact in terms of productivity, but in the real world, each company must find its own balance between increasing output and reducing working hours. On one side, dynamic and growing sectors, such as finance, ICT, and highly digitalized companies, will use AI to boost efficiency, drive innovation, and expand their operations. These organizations, often with highly skilled workforces, can integrate AI seamlessly to create new value. Meanwhile, stagnant industries, less digitalized businesses, and public administrations are more likely to use AI to maintain their current output while reducing working hours, prioritizing cost efficiency over expansion. Ultimately, the way AI transforms productivity will vary across industries, depending on their digital maturity, workforce skills, and overall strategic priorities.

The model quantifies the impact at the national level, showing that nearly 70% of the total value, €1.79 trillion out of €2.61 trillion, is concentrated in the five largest European economies (**Figure 11**). Leading the way is Germany, followed by France and Italy, which together account for a significant share of the projected impact. This concentration reflects the economic weight of these countries (**Figure 12**).

³ Model projections refer to 2040

⁴ Assuming that one FTE corresponds to 2,080 hours per year

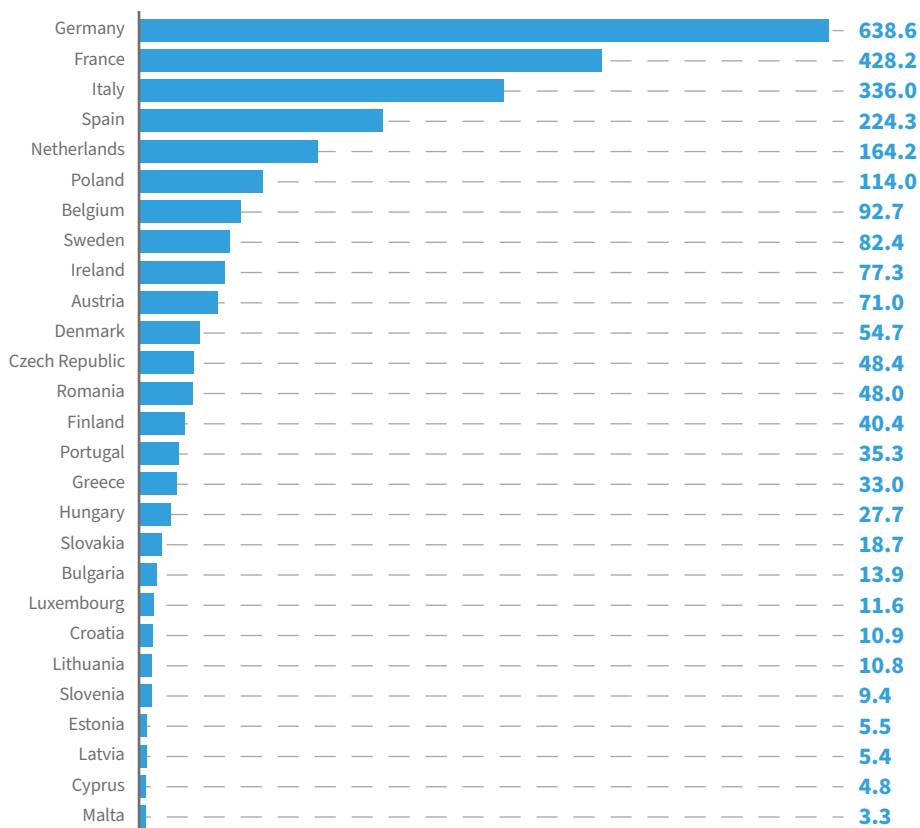


FIGURE 11. Impact of AI on value added per country (billions of €), 2023.

Source: TEHA Group elaboration on proprietary models, 2025



FIGURE 12. In-scale representation of the impact of AI on EU-27.

Source: TEHA Group elaboration on proprietary models, 2025

Looking at the sectors that will benefit the most from the application of generative AI in absolute terms, manufacturing leads with an estimated increase of €384.3 billion, followed by real estate services (€341.5 billion) (**Figure 13**)⁵. This reflects the significant role of automation, AI-driven optimization, and digital transformation in these industries.

At the other end of the spectrum, mining sees the smallest impact, with an increase of just €5.6 billion. This is due to the sector's less innovation-driven nature and its relatively small contribution to the region's overall economy. Unlike highly digitalized industries, mining relies more on manual labor and heavy machinery, making AI adoption less transformative in comparison.

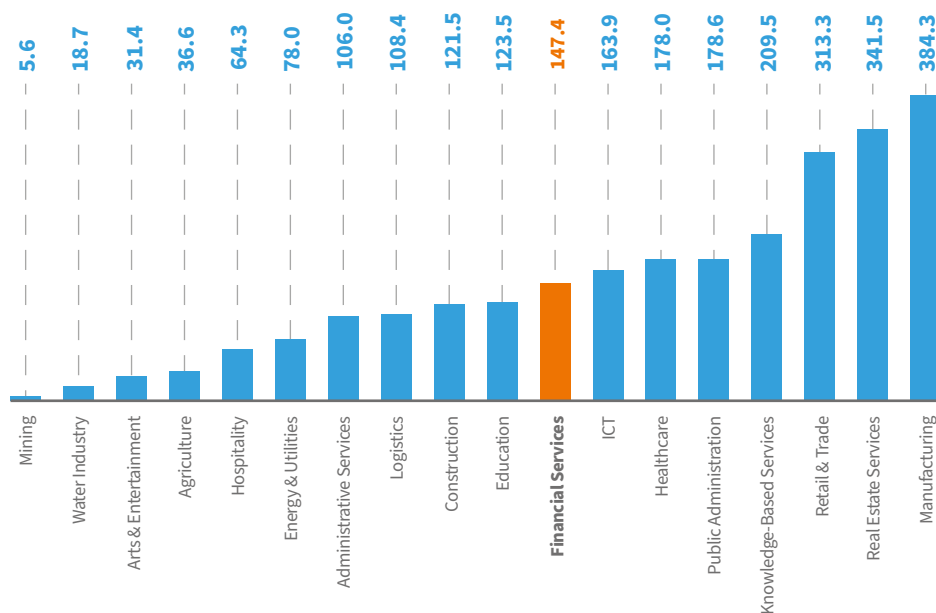


FIGURE 13. Extra-added value, by sector (billions of USD), 2023.

Source: TEHA Group elaboration on proprietary models, 2025

At the same time, with the additional productivity generated by the full adoption of AI across sectors, it becomes possible to free up approximately 48 billion working hours⁶ (**Figure 14**). This efficiency gain is particularly significant in sectors such as retail and manufacturing, where AI-driven automation and optimization can streamline operations and reduce the need for manual labor.

⁵ Note: Some Eurostat NACE categories were excluded from the micro-calculation of the impact on value added due to a lack of data, including extraterritorial organizations, household employer activities, and other service activities

⁶ Note: Some Eurostat NACE categories were excluded from the micro-calculation of time saved due to a lack of data, including extraterritorial organizations, household employer activities, and other service activities

On average, to generate the same added value, each worker will save 251 hours per year, which is equivalent to 31 working days. This reduction in working hours highlights the profound impact of AI on workforce efficiency across various industries. When looking at this on a per capita level, employees in the real estate services sector will experience the most significant productivity gains, benefiting from the integration of AI tools in tasks like data analysis, property management, and client interactions. This shift not only boosts productivity but also allows workers to focus on more value-added tasks, ultimately re-shaping the way industries operate.

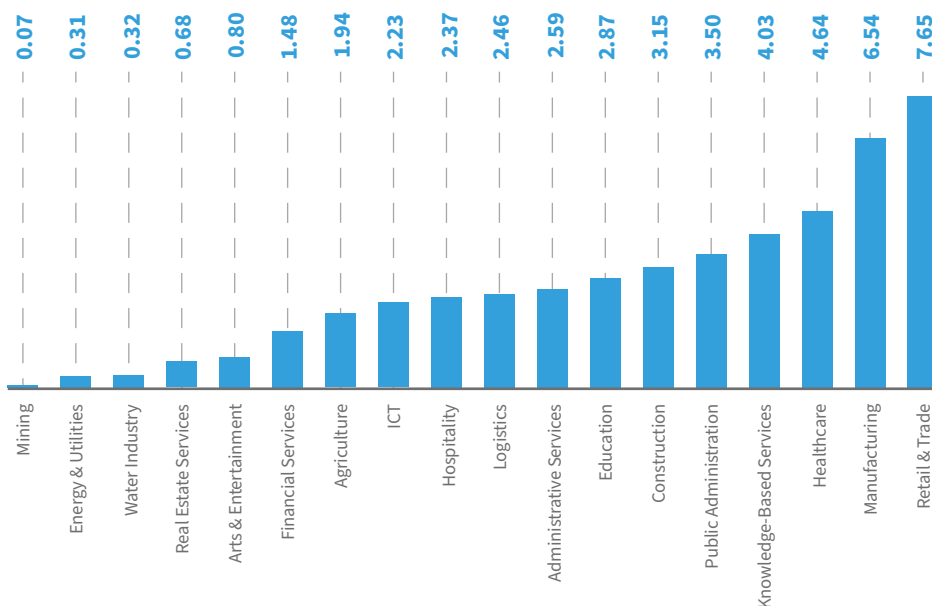


FIGURE 14. Annual working hours freed, by sector (millions of hours), 2023.

Source: TEHA Group elaboration on proprietary models, 2025

These overall impacts can be translated into tangible outcomes in the labor market. What does it truly mean to transform these numbers into real-world effects? When we apply these impacts to the job market, they can manifest in two ways: either through the creation of new jobs or by increasing the value generated per existing worker. For example, applying the model to the Italian labor market suggests that the impact of AI could result in the creation of 4.3 million new jobs or an increase of around €6,500 in annual salaries per worker. This demonstrates how AI could both boost employment and enhance the economic value of the workforce.

1.4 The costs of inaction

Europe must act decisively in the race for AI innovation. It is not only about seizing the opportunity but seizing it better and faster than the international competition. AI pushes forward the competitive landscape and, as such, the costs of inaction could have far-reaching consequences. Even if it is methodologically impossible to calculate the costs of not adopting AI, as they largely depend on other countries adoption trajectory, it is possible to identify the different domains in which the costs of inaction will manifest:

- Missed market opportunities: Europe and Italy risk falling behind in the rapidly expanding AI market, projected to exceed 820 billion US dollars by 2030, with a compound annual growth rate (CAGR) of 28.5% (**Figure 15**). Failure to invest in AI could mean losing a significant share of this high-growth industry.

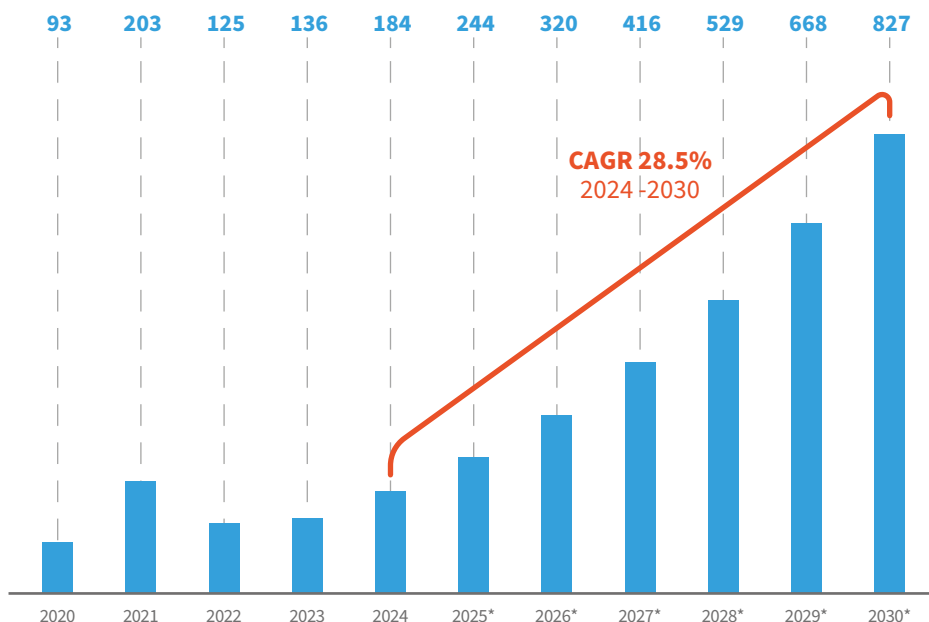


FIGURE 15. AI market size worldwide from 2020 to 2030 (billion US dollars, CAGR), 2020 - 2030.

Source: TEHA Group elaboration on Statista Data, 2025

- Diminished global export competitiveness: Europe has always been a leading player in global exports, with a trade value of 2.7 trillion USD. However, its share of world exports has seen a decline of 25%, from 18% in 2001 to 14.3% in 2023 (**Figure 16**).

If this trend continues, the EU could lose as much as 675 billion USD in exports⁷. As the global economy increasingly shifts toward AI-driven automation and efficiency, Europe's ability to adapt to these technological advancements will be crucial. Failure to fully embrace AI could undermine Europe's position in key sectors, further diminishing its export competitiveness. While AI alone may not guarantee success, it is poised to be a critical driver for maintaining Europe's global relevance and economic strength in the years to come.

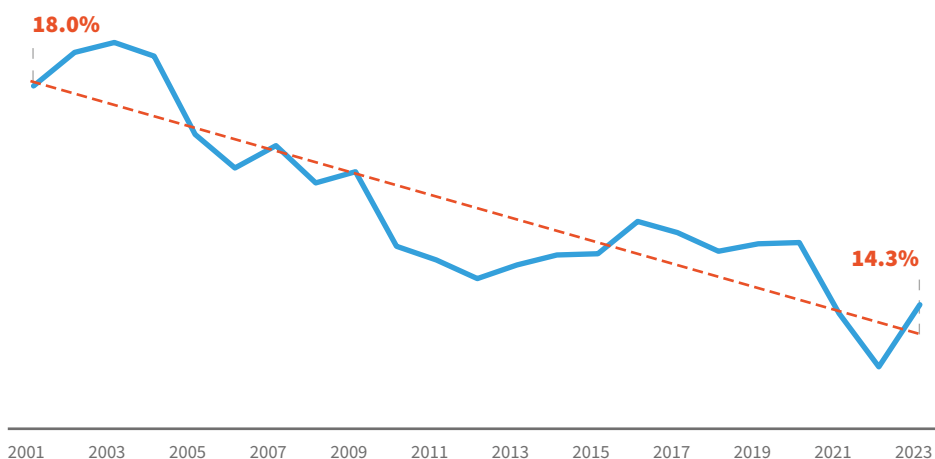


FIGURE 16. Eu share on world export (% of total world export), 2001 -2023.

Source: TEHA Group elaboration on WTO Stats Data, 2025

- **Loss of social and non-economic benefits:** Beyond the economic impact, AI holds the potential to transform vital sectors such as healthcare, education, research, and public services. By not capitalizing on AI, Europe risks missing out on significant improvements to societal well-being.

In conclusion, the failure to act on AI innovation not only jeopardizes economic growth but also risks Europe's social and global standing. Embracing AI now is essential for securing both future prosperity and global relevance.

⁷ These projections are based on currently available data and do not take into account potential future tariffs or policy changes

2

Impacts of AI in the financial
services industry

2.1 Evolution of AI for the financial services industry

Generative AI and agentic AI represent a transformative evolution in artificial intelligence, leveraging advanced machine learning models to not only analyze data but also generate human-like text, images, code, and complex data patterns. These technologies enable automation at an unprecedented scale and open new frontiers in decision-making and process optimization.

Unlike traditional AI, which primarily classifies and interprets existing information, generative AI creates entirely new content, simulating human creativity and enhancing problem-solving across various domains. It relies on deep learning techniques, particularly large language models (LLMs) and generative adversarial networks (GANs), trained on vast amounts of structured and unstructured data.

Agentic AI, on the other hand, represents the next step in AI evolution. Unlike generative AI, which requires human prompts and interaction, agentic AI systems operate with a higher degree of autonomy. They are capable of dynamically planning, orchestrating multiple AI models, executing tasks independently, and adjusting their actions based on evolving data, within and without the company. This level of automation makes them particularly valuable in environments requiring continuous decision-making, such as financial markets and risk management. Key characteristics of agentic AI include:

- ▶ The ability to retrieve, process, and act on real-time data autonomously.
- ▶ Self-learning mechanisms that improve decision-making over time.
- ▶ The execution of complex sequences of actions with minimal human intervention.
- ▶ Proactive risk mitigation and adaptive responses in dynamic environments.

To provide a structured and quantitative understanding of AI's potential, this chapter presents the results of a proprietary econometric model developed by TEHA Group. The model estimates AI's impact on productivity within the financial services sector and provides results based on two complementary metrics: a reduction in the number of hours worked while maintaining the same level of value added (efficiency gain), or an increase in value added while keeping working hours constant (output expansion).

In reality, the most likely outcome will be a combination of both effects, whose balance will depend on sector-specific dynamics, macroeconomic trends, and the ability of organizations to adapt. This modelling framework has been applied both at the European level, to estimate the overall economic impact of AI on the financial services sector, and at the country level, with a dedicated focus on Italy to assess the implications for employment and wage dynamics. With this framework in mind, the following sections analyze AI's economic contribution, functional implications, and adoption trends in the European financial services industry.

AI in the financial services industry

Financial institutions are rapidly integrating both generative AI and agentic AI into their operations, leveraging their capabilities to drive innovation and efficiency. Key applications include:



Customer interaction and support: AI-powered chatbots and virtual assistants provide 24/7 customer service, reducing response times and enhancing user experience.



Fraud detection and risk management: AI models analyze transactional patterns in real time, identifying anomalies and preventing financial fraud.



Regulatory compliance and reporting: Automated systems ensure adherence to regulatory frameworks by streamlining compliance monitoring and reporting.



Personalized financial services: AI-generated insights enable hyper-personalized banking, investment, and insurance recommendations.



Operational efficiency and cost reduction: Process automation, document summarization, and AI-driven analytics reduce manual workload and increase productivity.

The adoption of generative AI and agentic AI is not merely a technological shift but a strategic imperative for financial services firms. As competition intensifies and regulatory scrutiny grows, institutions that harness AI effectively gain a competitive edge through:

- ▶ Enhanced decision-making based on AI-generated insights.
- ▶ Increased efficiency through automation of repetitive tasks.
- ▶ Improved risk management via predictive analytics.
- ▶ Greater customer satisfaction with AI-driven personalization.

As the financial services industry continues to evolve, generative AI stands as a pivotal force in shaping the future of banking, insurance, and investment management. In the following sections, we will explore its economic impact, technological maturity, and real-world adoption across European financial institutions.

2.2 Financial services as the leading sector in AI impact

To assess the potential impact of AI onto different sectors of the economy and society, TEHA Group developed an econometric impact model capable of breaking down the labor market into 63,330 distinct tasks, quantifying for each of them the potential productivity effects resulting from the adoption of generative AI technologies. Specifically, the model leverages the database created by the Joint Research Centre of the European Commission, titled “Database of Tasks Indices for Socio-Economic Research.” This database considers 88 different economic sectors (according to the NACE Rev. 2 classification by Eurostat), 40 professions (based on the ISCO classification by the International Labour Organization), and 18 types of tasks (according to a taxonomy developed by the Joint Research Centre). The model has been applied to all the 27 EU countries’ economy, thus providing a comprehensive overview of AI’s potential on the whole European Union.

According to the prediction of our impact model, the financial services industry is at the forefront of the agentic AI revolution, emerging as the sector with the highest potential impact. Our impact model suggests that financial services surpass all other industries – including ICT and knowledge-based services – in AI-driven transformation, leading with an estimated 20.9% impact from AI, exceeding ICT (20.1%) and knowledge-based services (19.5%) (**Figure 17**). This dominance is driven by the sector’s inherent reliance on data, high degree of digitalization, and extensive opportunities for AI-driven automation.

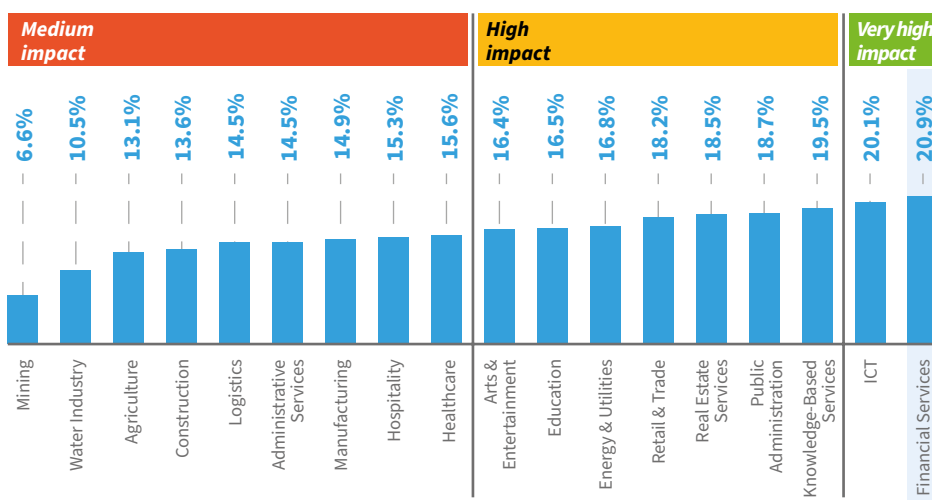


FIGURE 17. Generative AI impact across industries.

Source: TEHA Group elaboration on proprietary models, 2025

AI economic impact on the European financial services industry

Estimates of AI's impact on the financial services sector are based on the econometric modelling framework previously outlined, which assesses potential gains in value added and labor efficiency across EU economies. The analysis⁸ indicates that AI adoption in financial services has the potential to increase the EU's GDP by €147.4 billion (**Figure 18**), equivalent to 0.9% of total EU GDP. This impact is comparable to the value added by the water industry sector (€144 billion) or the combined GDP of Luxembourg and Slovenia (€143 billion). Additionally, AI-driven automation is projected to save 1.5 billion working hours annually, which is equivalent to the annual work hours of 720,000 financial sector employees in Germany.

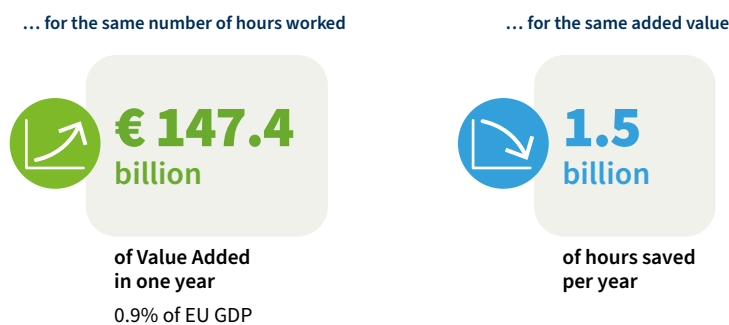


FIGURE 18. Economic impact of generative AI in financial services.

Source: TEHA Group elaboration on proprietary models, 2025

From a geographical perspective, the economic benefits of AI adoption in financial services are concentrated in Europe's largest economies, with Germany leading the way. Germany could account for approximately 20% of the total AI-driven productivity gains in financial services, amounting to an estimated €29.7 billion. It is followed by France (€19.7 billion) and Italy (€16.5 billion), reflecting their substantial roles within the European financial ecosystem.

This potential leadership is not only a result of advanced financial infrastructures and robust investments in AI research, but also due to the relative economic weight these countries hold within the European Union.

The extensive implementation of AI technologies across these leading markets may result in significant productivity gains and an increase in economic output within the financial services industry. Both France and Italy are also projected to achieve substantial advancements, contributing meaningfully to improved efficiency and competitiveness in the sector. Other countries, including the Netherlands (€11.0 billion) and Spain (€8.7 billion) (**Figure 19**), are also expected to experience notable gains, further reinforcing the strategic role of AI in transforming the financial services sector across Europe's most advanced economies. These forecasts highlight how AI has the potential to drive sector-wide

⁸ Model projections refer to 2040

growth, supporting financial institutions in their pursuit of digital innovation, operational scalability, and long-term value creation.

At the same time, these trends underline that AI adoption is not evenly distributed across the continent. The most significant productivity gains are projected in countries with well-developed financial ecosystems and a proactive approach to technological integration. Meanwhile, smaller and less digitized financial markets are likely to experience a more gradual adoption curve, using AI primarily to enhance service efficiency and strengthen operational resilience over time.

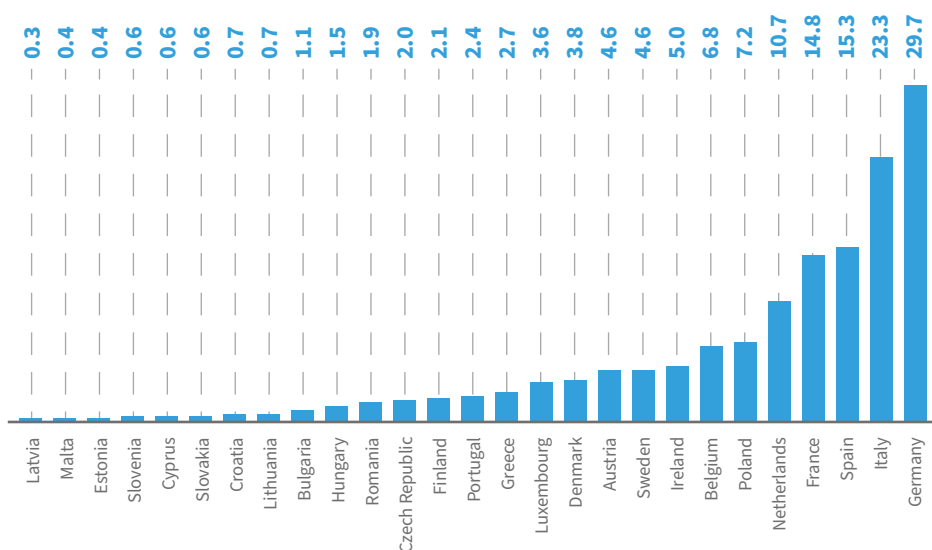


FIGURE 19. Potential impact of AI on the value added of financial services (billions of €), 2023.

Source: TEHA Group elaboration on proprietary models, 2025

Sectoral and functional impact

The impact of AI varies significantly across different segments of the financial services industry, with banking, insurance, and financial support services experiencing different levels of transformation⁹. This variation also reflects the two-fold nature of AI-driven productivity, which can either increase output or reduce time spent on repetitive activities, depending on the characteristics of each segment. While AI adoption drives broad efficiency gains, its functional applications differ based on the specific needs and challenges of each sector:

- ▶ **Banking and financial services:** this segment captures the largest share of AI-driven value creation (€92.7 billion). AI technologies are widely implemented for automating credit risk assessments, detecting fraudulent transactions, and enabling hyper-personalized financial products. AI-powered chatbots and virtual assistants are also streamlining customer interactions, enhancing engagement and operational efficiency.
- ▶ **Insurance and Pensions:** AI is revolutionizing the way insurers manage claims, assess risk, and underwrite policies, with an estimated value impact of €28.3 billion. Predictive analytics is used to refine pricing models and detect fraudulent claims more effectively. Generative AI also supports customer service by providing real-time, automated responses to policyholder inquiries and claim status updates.
- ▶ **Financial Support Services:** this segment is projected to benefit from €26.5 billion in value creation (**Figure 20**) through AI-driven improvements in compliance monitoring, transaction processing, and regulatory reporting. AI automates key back-office activities such as document verification, anomaly detection, and data reconciliation, reducing complexity and improving transparency in financial operations.

⁹ In most cases, the real-world impact will likely result from a combination of both effects

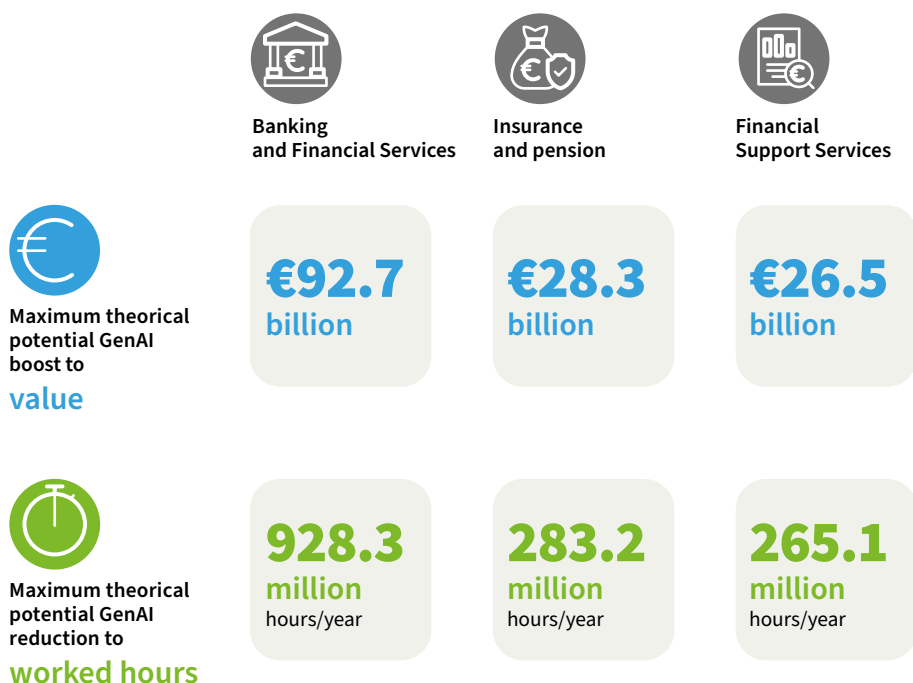


FIGURE 20. Highest potential productivity gain generated by the adoption of AI in FSI (billions of value added and hours worked).

Source: TEHA Group elaboration on proprietary models, 2025

As AI technologies continue to mature, the level of automation and strategic integration will evolve across these segments. Institutions that successfully embed AI into their core processes are expected to gain a substantial competitive edge, boosting profitability, strengthening compliance capabilities, and delivering a more seamless customer experience. AI is not only reshaping the structure of financial services, but also redefining how institutions manage risks, engage with clients, and drive sustainable growth.

Labor market implications in Italy

The impact of AI on the financial services industry is not limited to productivity and value creation, it also has significant implications for the labor market. With this sense, AI does not only represent a risk, but first and foremost also an opportunity for FSI workers across the continent to see an increase in productivity and thereby wages. As automation and AI-driven tools become more widespread, the structure of employment in the sector is set to evolve, prompting a shift in skill requirements, job roles, and workforce dynamics.

According to projections based on the same econometric framework referenced earlier in this chapter, AI adoption in the Italian financial services industry could result in the creation of up to 160,000 new jobs. These roles are expected to emerge primarily in areas requiring advanced digital skills, data analysis, AI governance, and client advisory services enhanced by AI insights.

Alternatively, the model estimates a potential scenario in which the same productivity gains translate into an average salary increase of over €17,000 per employee (**Figure 21**), reflecting a transition toward higher value-added activities across the sector.

In practice, the outcome will likely be a combination of both effects: job creation in new areas of expertise and the transformation of existing roles to capture greater value from AI-enhanced tools. This shift will also be accompanied by a substantial reduction in time spent on repetitive and manual tasks, allowing professionals to focus on strategic, analytical, and customer-facing responsibilities.

The key challenge for institutions will be to manage this transformation responsibly. Proactively investing in workforce upskilling and reskilling, redesigning job structures, and ensuring inclusive access to AI technologies will be essential steps to mitigate disruption and build a resilient, future-ready financial ecosystem.

Ultimately, financial institutions that lead the way in workforce transformation will not only strengthen their competitive position but also contribute to the development of a more adaptive and innovation-driven labor market in Italy.



FIGURE 21. Potential impacts of AI in the job market.

Source. TEHA Group elaboration on proprietary models, 2025

¹⁰ Assuming an average per capita salary of €65,989

Technological and industrial maturity of AI use cases

The adoption of generative AI in financial services is highly differentiated across industry processes, reflecting varying levels of technological and operational maturity. Some functions, such as R&D, product design, and customer service, already demonstrate high levels of AI integration, whereas others, like people management, show a more moderate adoption level compared to these but still remain at a medium stage.

Financial services stand out as one of the industries with the highest AI maturity across multiple processes (**Figure 22**). The sector registers a very-high AI impact in R&D and coding, product and service design, customer service, organization and processes, finance and reporting. However, compared to sectors with very high maturity, AI adoption in human resources, people management, supply chain, marketing, and sales remains moderate.

Compared to other industries, financial services exhibit a greater degree of AI-driven transformation, particularly in automating decision-making, enhancing customer interaction, and optimizing financial forecasting. Other sectors, such as manufacturing and logistics, demonstrate strong AI integration in supply chain management but lag in customer service applications. As AI technologies continue to evolve, financial institutions that prioritize investment in AI-driven automation will strengthen their market position. Future advancements will likely expand AI applications into less developed areas, such as human capital management and end-to-end financial advising, further increasing the strategic relevance of generative AI in the financial services industry.

Industry	Process								
	Impact	R&D & coding	Product & service design	Supply chain	Customer service	Marketing & Sales	Organisation & processes	Finance & Reporting	People
Financial Services	Very-High	Very-High	Very-High	High	Very-High	High	Very-High	Very-High	Medium
Manufacturing	High	Medium	Very-High	High	High	High	High	High	Medium
Healthcare	High	Very-High	Very-High	Very-High	Medium	Medium	High	Medium	Medium
Telco and ICT	High	Very-High	Very-High	High	Very-High	High	Medium	Medium	Medium
Retail & Trade	High	High	High	Very-High	Very-High	High	Medium	Medium	Medium
Logistics	High	Very-High	High	Very-High	High	Medium	High	Medium	Medium
Energy and Utilities	Medium-High	Very-High	High	Medium	Medium	Medium	Medium	Medium	Medium
Arts & Entertainment	Medium-High	Medium	High	High	Very-High	High	Medium	Medium	Medium
Mining industry	Medium-High	Very-High	High	Very-High	Medium	Medium	Medium	Medium	Medium
Education	Medium-High	High	High	High	Medium	Medium	High	Medium	Medium
Agriculture	Medium-High	High	Medium	High	Medium	Medium	Medium	Medium	Medium
Hospitality	Medium-High	Medium	High	High	High	Medium	Medium	Medium	Medium
Construction	Medium	Medium	Medium	Medium	Medium	Medium	Medium	Medium	Medium
Other services	Medium	Medium	Medium	Medium	Medium	Medium	Medium	Medium	Medium
Public sector	Medium	Medium	Medium	Medium	Medium	Medium	Medium	Medium	Medium

FIGURE 22. AI maturity matrix across industries and processes.

Source: TEHA Group elaboration on proprietary models, 2025

2.3 Empirical analysis of AI adoption in financial services

Overview of AI use cases

The integration of AI into financial services is accelerating, with diverse applications emerging across multiple business functions. An extensive analysis has identified a wide range of concrete use cases of AI adoption, offering valuable insights into how financial institutions are leveraging AI to enhance efficiency and innovation.

A dataset of 80 AI adoption cases has been examined, covering banking, insurance, and financial support services. The analysis highlights three primary adoption categories:

- ▶ **Generative AI:** AI designed to enhance human productivity through intuitive tools, such as MS Copilot and ChatGPT. These systems streamline daily operations by automating repetitive tasks.
- ▶ **Machine learning:** AI solutions capable of executing complex financial tasks with minimal human oversight. These include fraud detection algorithms, AI-driven credit risk assessments, and automated regulatory compliance systems.
- ▶ **Agentic AI:** Advanced AI architectures that retrieve, process, and act upon information dynamically. Agentic AI is transforming financial services by integrating advanced intelligence into key business functions. These systems enhance decision-making, automate complex workflows, and optimize security across financial operations. The following sections will provide a detailed examination of each category, exploring its applications, benefits, and implications for financial institutions.



Generative AI

Generative AI technologies are designed to augment human productivity by automating repetitive tasks, streamlining workflows, and providing intelligent assistance across various financial operations. Rather than replacing human decision-making, these AI systems enhance efficiency and accuracy in routine tasks, enabling professionals to focus on higher-value, strategic activities. Key applications of generative AI in financial services include:

- ▶ **AI-powered process automation and efficiency:** Automating document processing, data entry, and compliance reporting, reducing administrative burdens and improving accuracy.
- ▶ **AI-enhanced customer and employee support:** Deploying AI-driven chatbots and virtual assistants to handle client inquiries, providing personalized financial advice, and support internal workforce collaboration.
- ▶ **AI-assisted development and innovation:** Leveraging AI to generate insights for product development, market analysis, and financial modeling, accelerating decision-making and innovation cycles.

These generative AI applications are increasingly adopted across banking, insurance, and financial support services due to their ability to improve operational performance and customer experience. As financial institutions continue to embed AI into their core processes, these technologies will play a pivotal role in optimizing day-to-day operations, ensuring regulatory compliance, and maintaining high service quality.



Machine learning

Machine learning technologies represent a more advanced level of AI deployment in financial services, enabling systems to perform complex tasks with minimal human oversight. These solutions go beyond simple automation, allowing AI to make data-driven decisions, assess risks, and optimize operations in real time.

Key applications of machine learning in financial services include:

- ▶ **AI-driven risk and fraud management:** Machine learning models analyze transaction patterns to detect anomalies and prevent financial fraud, improving security and reducing operational losses.
- ▶ **Self-optimizing AI for compliance and operations:** AI-powered tools monitor regulatory requirements, automate reporting, and ensure financial institutions adhere to evolving compliance standards.
- ▶ **Market predictions and optimization:** Machine learning models process vast amounts of financial data to generate market insights, optimize trading strategies, and support investment decision-making.

Financial institutions leveraging Machine learning benefit from enhanced risk management, greater decision-making accuracy, and improved efficiency across critical functions. As these technologies mature, their adoption will play a central role in driving innovation, managing complexity, and reinforcing regulatory integrity within the financial sector.



Agentic AI

Agentic AI represents an advanced form of generative AI in financial services, enabling systems to retrieve, process, and act upon information dynamically and to generate content accordingly. These AI solutions operate with varying degrees of autonomy, facilitating decision-making, automating complex financial processes, and strengthening security frameworks. Agentic AI solutions can be categorized into three functional types:

- ▶ **Retrieval AI:** systems that access and interpret structured and unstructured data, providing real-time insights, summarization, and intelligent query responses.
- ▶ **Task AI:** AI solutions that execute specific financial operations, automate workflows, and optimize back-office processes.
- ▶ **Autonomous AI:** fully independent systems capable of orchestrating financial decision-making, continuously learning, and adapting to evolving market conditions without human intervention.

Key applications of agentic AI in financial services include:

- ▶ **AI-powered virtual assistants:** enhancing customer service by providing real-time, intelligent interactions.
- ▶ **AI-driven security systems:** strengthening fraud detection and ensuring transactional security.
- ▶ **Adaptive compliance management:** automating regulatory monitoring and risk management with self-learning capabilities.
- ▶ **AI-enhanced claims and policy administration:** streamlining insurance operations and improving risk assessment methodologies.
- ▶ **Software automation:** optimizing coding processes, accelerating software development, and enhancing operational workflows in investment banking and capital markets.

The deployment of agentic AI is transforming financial services by enabling a higher degree of automation and strategic intelligence. As institutions continue to refine these technologies, agentic AI will play an increasingly critical role in optimizing decision-making, enhancing regulatory adherence, and ensuring operational resilience.

AI adoption in financial services: real-world case studies

The adoption of generative AI across financial services is already delivering measurable benefits, transforming key business processes and driving innovation. This section presents a selection of real-world case studies from major financial institutions that have successfully implemented AI-powered solutions.

By analyzing these AI use cases, we can observe how different financial players leverage AI to enhance operational efficiency, optimize investment decision-making, improve customer engagement, and strengthen risk management. The selected case studies illustrate the diverse applications of AI, ranging from automated compliance monitoring to AI-driven financial research and software automation.

The following subsections examine case studies from leading institutions, including Deutsche Börse Group, ABN AMRO, Finastra, Virgin Money and BlackRock, demonstrating how AI is shaping the future of financial services.

TABLE 1. CASE STUDY: DEUTSCHE BÖRSE GROUP

Generative AI



Country	Market capitalization	Sector
Germany	€ 50.29 billion	Capital markets & exchanges



Deutsche Börse Group is leveraging Microsoft Azure to enhance scalability, security, and market analytics while optimizing trading infrastructure, risk management, and compliance. The cloud migration aligns with the company's broader digital transformation strategy, ensuring a more resilient and efficient market operation in response to evolving financial industry demands.

Source: TEHA Group elaboration on Microsoft Data, 2025

**Microsoft
solution**



IMPACTS

- ▶ **50%** of workloads migrated to Azure by 2024, improving operational resilience
- ▶ AI-driven monitoring strengthens security and regulatory compliance
- ▶ Real-time market analytics enhance trading performance
- ▶ Cloud scalability supports increasing transaction volumes and market demands

TABLE 2. CASE STUDY: ABN AMRO

Agentic AI



Country	Total assets	Sector
Netherlands	€ 399 billion	Banking



ABN AMRO created a unified customer service platform using Copilot Studio, making every digital interaction feel like a personal conversation. The AI agent supports tasks ranging from unblocking debit cards to changing ATM withdrawal limits. A proof of concept was developed in just 1.5 days, and the full migration from legacy systems was completed within a few months. The agent now handles millions of interactions across digital channels.

Source: TEHA Group elaboration on Microsoft Data, 2025

Microsoft solution



IMPACTS

- ▶ Over **2** million text conversations per year
- ▶ **1.5 million** voice conversations supported annually
- ▶ More than **50%** of interactions fully automated
- ▶ Faster implementation: POC in **1.5 days**, full rollout in a few months

TABLE 3. CASE STUDY: VIRGIN MONEY

Generative AI



Country	Total assets	Sector
United Kingdom	£ 98.3 billion	Banking



Virgin Money developed 'Redi', an award-winning virtual assistant built with Microsoft Copilot Studio and integrated with Dynamics 365 Customer Service, Teams, and Power BI. The initiative aimed to improve digital engagement and reduce reliance on the contact center by enabling customers to resolve tasks independently, while empowering agents to co-design digital experiences.

Source: TEHA Group elaboration on Microsoft Data, 2025

Microsoft solution



Dynamics 365

IMPACTS

- ▶ **90%** digital engagement rate: customers download the app within 90 days
- ▶ **>90%** effective response rate to customer queries
- ▶ **1M+** interactions handled in the first year
- ▶ Contact center staff upskilled through codevelopment of digital journeys



TABLE 4. CASE STUDY: FINASTRA

Generative AI

Country	Financial institutions supported	Sector
United Kingdom	8,600	Financial technology



Finastra, a UK-based global fintech leader, adopted Microsoft Copilot to streamline marketing operations. By automating campaign development, summarizing meetings, and accelerating analytics, the marketing team shifted focus from manual tasks to strategic initiatives, significantly reducing time-to-market.

Source: TEHA Group elaboration on Microsoft Data, 2025

Microsoft
solution



IMPACTS

- ▶ **75%** reduction in time to develop major marketing campaigns (from 3 months to <1 month)
- ▶ **20 – 50%** less time spent on tasks like summarizing meetings, managing email threads, and analyzing campaign performance
- ▶ Enabled faster go-to-market and improved campaign ROI tracking

TABLE 5. CASE STUDY: BLACKROCK

Generative AI



Country	Assets under management	Sector
USA	\$ 11.55 trillion	Capital markets

BlackRock

BlackRock has integrated Microsoft Copilot to enhance workplace productivity and investment decision-making. AI-powered tools streamline the creation of emails, proposals, and reports. The company has also introduced Aladdin and eFront Copilots, enabling clients to interact with investment platforms using natural language queries.

Source: TEHA Group elaboration on Microsoft Data, 2025

Microsoft
solution



IMPACTS

- ▶ Employee productivity and investment signal analysis
- ▶ Reinvest customer engagement and business processes
- ▶ **35%** faster report generation
- ▶ AI-driven investment decision support

3

Business process transformation
enabled by generative and
agentic AI in supporting CFOs

3.1 A new era for financial leadership

The advent of the AI revolution is redefining the scope and strategic role of the Chief Financial Officer (CFO). Traditionally focused on financial reporting, compliance, and cost control, in these last decades digital transformation has brought the CFOs into the spotlight of corporate decision making, and are now taking on a broader mandate that includes business strategy, risk-informed growth, and data-driven decision-making.

AI acts as a catalyst in this transition. Through predictive analytics, intelligent automation, and real-time financial insights, it empowers CFOs to enhance planning accuracy, streamline operations, and increase agility in navigating market uncertainty. As financial functions become more integrated with strategic business objectives, the adoption of generative AI is emerging not only as an opportunity, but as a necessity.

This chapter explores how generative AI is transforming the CFO function within the financial services industry (FSI), drawing on strategic insights that emerged during a closed-door executive roundtable organized by Microsoft and TEHA Group. The discussion, which brought together CFOs from different organizations in the financial services industry, surfaced shared priorities, concrete applications, and organizational considerations regarding the adoption of generative AI across finance functions. These insights serve as the foundation for the thematic areas analyzed in the following sections. As one participant noted, *“Our organisations are not structurally ready to be AI-driven. The biggest blockers aren’t technical, they’re about legal, compliance, and data governance functions not yet up to the task.”* Another warned that: *“Over-reliance on AI is a real risk. As finance leaders, we must find the right balance between automation and human judgement, especially when accuracy and compliance are non-negotiable.”* The potential for AI to accelerate time-consuming processes also emerged clearly: *“For an M&A process, it could take six months at full speed. A tool that could support data room analysis with accurate insights would help shift time from manual review to strategic decision-making.”*

The analysis focuses on four priority areas where AI – both generative and agentic – is already reshaping financial operations and decision-making: forecasting and scenario simulation, automation of core finance activities, applications in M&A and investor communication, and the emerging use of AI agents. These insights are further contextualized by a discussion on organizational challenges and strategic enablers that will determine the success of generative AI on a scale within the CFO agenda.

3.2 The evolution of the CFO role in the age of AI

The role of the Chief Financial Officer is undergoing significant transformation. Traditionally focused on financial reporting, regulatory compliance and cost control, the CFO function is increasingly positioned at the intersection of business strategy, risk oversight and technological innovation. In the context of growing complexity and volatility, financial leadership is no longer confined to retrospective analysis, but it is expected to actively contribute to forward-looking decisions that shape the direction of the enterprise.

Generative AI is accelerating this transition by enabling a new generation of tools that support financial analysis, forecasting and operational efficiency. These technologies allow finance teams to move from static reporting models to real-time, predictive insights, improving both the quality and speed of decision-making. At the same time, they introduce the possibility of automating highly manual and repetitive processes, freeing up resources to focus on strategic priorities.

This evolution is not only technological but also organizational. The introduction of generative AI into the finance function requires new skill sets, new governance approaches and a redefinition of operating models. Finance professionals are expected to engage with data more critically, interpret the outputs of AI systems, and collaborate effectively across business, legal and technology domains. In this scenario, the CFO becomes a catalyst for innovation and change, responsible for ensuring that AI adoption delivers measurable value and aligns with the broader objectives of the organization.

Evidence of this shift is already visible in the Italian market. According to recent analysis, 59% of CFOs in Italy plan to invest in Artificial Intelligence to enhance financial management processes.¹¹ This figure confirms that AI is increasingly seen not as a future opportunity, but as an immediate priority to strengthen competitiveness, efficiency, and strategic responsiveness.

The transformation of the CFO role is one of the most visible manifestations of how generative AI is redefining leadership in the financial services sector. Rather than replacing human judgement, these technologies are enhancing the ability of finance leaders to act with greater speed, confidence and strategic insight.

¹¹ Source: TEHA Group elaboration on a survey conducted by Workday and ANDAF Lombardia, 2025

3.3 Applications of generative AI in the CFO function: opportunities and challenges

Generative AI is progressively redefining the scope and functioning of the CFO office. While adoption levels vary across organizations, several application areas are already delivering tangible benefits in terms of agility, accuracy, and strategic alignment of financial operations (**Figure 23**). At the same time, a number of structural and cultural challenges continue to limit the full realization of this potential, especially in the transition from pilot initiatives to scalable implementation.



FIGURE 23. Key generative AI applications identified by CFOs during the roundtable.

Source: TEHA Group elaboration, 2025

Forecasting and scenario simulation

Forecasting and scenario simulation is widely recognized as one of the most strategic levers for the transformation of the CFO function. In a context marked by increasing market volatility, regulatory uncertainty and pressure on margins, the ability to produce timely and accurate projections has become critical not only for financial planning, but also for enabling resilient, data-informed decision-making across the business. Traditional planning processes, often anchored to quarterly cycles and manual data aggregation, are no longer adequate to support this level of agility.

Generative AI addresses this challenge by automating the generation of business forecasts and enabling the simulation of multiple scenarios in real time. Several organizations reported concrete improvements in efficiency, such as the ability to generate complete five-week outlooks across business units in under 30 minutes. This represents a significant departure from the conventional, resource-intensive forecasting cycles that typically require several days of work and manual consolidation. The result is a more agile, responsive approach to planning that allows CFOs to evaluate risks dynamically, test alternative hypotheses, and reallocate resources more effectively based on updated conditions.

These benefits, however, depend on the maturity of the underlying planning infrastructure. In many cases, organizations still rely on fragmented processes, legacy systems and non-standardized data structures that limit the effectiveness of AI-based forecasting tools. Moreover, a lack of clarity on ownership of forecasting models and KPIs can reduce confidence in AI-generated outputs, slowing their adoption. To fully realize the potential of generative AI in this domain, finance functions must invest in process harmonization, data quality improvement and the definition of shared governance frameworks for scenario generation and validation.

Automation of core finance activities

A particularly relevant application of generative AI within the finance function concerns the automation of transactional and operational processes. Finance departments continue to dedicate significant resources to repetitive and time-consuming tasks such as expense processing, account reconciliation, tax documentation and audit preparation. These activities, while essential, often absorb a disproportionate share of internal capacity and limit the focus on higher-value, strategic work.

By introducing automation powered by both traditional, generative and agentic AI, organizations are beginning to streamline these core processes. Tools capable of generating draft tax documents, selecting relevant audit samples or validating transactions automatically are being deployed to improve execution speed and reduce human error. These solutions also enhance the consistency of output, supporting compliance requirements and strengthening internal controls.

Nonetheless, the adoption of automation at scale is frequently hindered by a lack of technical skills within finance teams, as well as limited integration between finance and IT departments. In many cases, automation initiatives remain confined to isolated use cases due to the absence of structured governance models and internal champions capable

of translating process knowledge into automation logic. Addressing these constraints requires targeted upskilling programs, stronger collaboration between finance and technology roles, and the development of frameworks to prioritize and scale use cases effectively.

AI in M&A and investor communication

In more strategic areas of the CFO mandate, such as mergers and acquisitions and financial communication, generative AI is beginning to demonstrate added value. In M&A contexts, finance teams are frequently required to analyze large volumes of documentation under considerable time pressure. Generative AI tools have proven effective in accelerating due diligence activities by summarizing, clustering and highlighting key financial, legal and operational insights across hundreds of documents. This helps reduce turnaround times and allows decision-makers to focus on material issues.

In parallel, generative AI is being tested to support the drafting and refinement of investor communications, particularly in the context of earnings announcements, shareholder reports or financial disclosures. By assisting in the creation of clear, consistent and on-brand content, these tools contribute to reducing the effort required in high-visibility deliverables. However, these applications are also associated with specific risks. Questions remain around the validation of AI-generated outputs, their alignment with regulatory requirements, and the reputational implications of potential inaccuracies. In the absence of structured review and approval workflows involving legal and compliance functions, organizations are cautious in extending the use of generative AI to externally exposed content.

Emerging use of AI agents

Several organizations are beginning to explore the potential of AI agents – autonomous systems capable of performing defined tasks with minimal human intervention – to support decision-making and internal workflows. While still in an experimental phase, these tools are being tested in areas such as performance monitoring, investment simulation and real-time financial reporting. In selected cases, AI agents are integrated into internal platforms to provide contextual responses to queries or generate financial summaries on demand.

The ambition behind these pilots is to develop digital assistants that can operate across datasets, interpret contextual signals, and deliver insights proactively to finance teams. However, adoption remains limited due to the absence of clear governance frameworks and performance evaluation criteria. Most organizations have not yet defined ownership models, control mechanisms or integration paths for these agents, which prevents their deployment in core business processes. Unlocking this potential will require not only technological maturity, but also clarity on use case prioritization, data access rules and the human-machine interface within decision-making chains.

Opportunities and challenges identified by CFOs

Across these four domains, the integration of generative AI into the CFO function presents both significant opportunities and structural constraints. On the opportunity side, technology offers the possibility to enhance the frequency and flexibility of planning processes, achieve tangible efficiency gains, and strengthen the quality and speed of decision-making in both operational and strategic areas. Moreover, the early experimentation with AI agents opens new perspectives on how financial intelligence might be embedded more deeply into the everyday workflows of finance professionals.

At the same time, several challenges persist. These include the low maturity and fragmentation of finance processes, the limited AI readiness of teams, and the absence of structured governance models to manage adoption responsibly. Concerns around compliance and reputational exposure – especially in public-facing use cases – further complicate implementation. In addition, the difficulty in identifying high-impact, repeatable use cases that generate measurable return on investment continues to slow the transition from pilot to scale.

Addressing these barriers will require a coordinated approach that combines technology adoption with process redesign, skill development and cross-functional collaboration. CFOs, in this context, are called not only to adopt new tools, but to act as strategic enablers of change across the finance function and the broader organization.

3.4 Organizational challenges and strategic enablers

The integration of generative AI into the CFO function is not merely a matter of adopting new technologies. It requires a reconfiguration of how finance teams operate, collaborate, and deliver value to the business. While the use cases explored in the previous section demonstrate clear potential, their large-scale implementation is often slowed by a set of organizational, cultural, and managerial barriers that extend well beyond technical readiness.

A critical issue repeatedly encountered across organizations is the absence of structured governance and ownership models for AI initiatives. In many cases, responsibility for AI deployment rests solely with the IT function, resulting in a disconnect between technological capabilities and business priorities. To fully unlock the value of generative AI, CFOs must actively engage in defining shared governance frameworks that bring together finance, IT and legal teams. This cross-functional alignment is critical to ensure that AI solutions are not only technically robust, but also strategically prioritized, legally compliant, and operationally embedded.

Closely tied to this is the question of skills and cultural readiness. The adoption of generative AI demands a fundamental shift in how finance professionals approach their roles, moving from executing predefined tasks to interrogating systems, interpreting outputs, and generating insights autonomously. This transformation cannot be achieved without a significant investment in training and upskilling at all levels of the organization. Some institutions have begun experimenting with AI academies or citizen development programs, which aim to democratize access to AI tools and promote a culture of experimentation. However, such initiatives remain isolated and are rarely integrated into a broader talent strategy. Without a widespread cultural shift, the risk is that AI remains confined to a few experts, preventing adoption from becoming systemic.

A third challenge relates to the lack of measurable returns and scalable business cases. Many organizations have launched pilot initiatives with promising results, but have struggled to build a clear business case for expansion. CFOs frequently point to the difficulty in quantifying the impact of AI initiatives in financial terms, particularly when benefits are distributed across teams or embedded into intangible outcomes such as improved decision quality or faster cycle times. This uncertainty limits the appetite for investment and slows the transition from experimentation to scale. Moreover, in the absence of what many describe as a “killer application,” a clearly identifiable, high-impact use case with broad applicability, AI adoption often loses momentum after the initial phase.

Lastly, the gap between experimentation and integration remains wide. While many finance teams are actively exploring use cases and technologies, they often lack the operational maturity to embed these innovations into core processes. Standardization, process harmonization, and the definition of AI-specific performance metrics are still underdeveloped in most contexts. Without these enablers, the impact of generative AI remains isolated, and the ability to track progress and replicate success across business units is limited.

Addressing these organizational challenges will require a strategic shift in how finance functions perceive and manage AI adoption. Rather than viewing AI as a support tool,

CFOs must recognize it as a transformational lever and position themselves as sponsors of its responsible integration. This involves not only selecting the right technologies, but also redesigning processes, empowering teams and aligning AI implementation with long-term business goals. In doing so, CFOs can help turn experimentation into structured impact and position the finance function as a central driver of data-driven transformation across the organization.

Looking ahead, the next phase of generative AI adoption will require more than technological readiness. It will depend on the ability of CFOs to transition from leading pilot initiatives to embedding AI into the strategic architecture of the finance function. This involves rethinking operating models, aligning cross-functional leadership across finance, technology, and legal teams, and designing AI-enabled processes that are both scalable and measurable.

Moving forward, CFOs must prioritize the integration of generative AI into the core structures of governance, planning, and performance management. This includes establishing clear ownership of AI initiatives, ensuring data reliability and accessibility, and promoting a mindset of continuous innovation within finance teams. The focus should shift from tools to transformation: from deploying isolated solutions to orchestrating enterprise-wide impact.

In an increasingly dynamic and data-rich environment, the CFO who acts with vision and intentionality will be positioned not only as a finance leader, but as a driver of intelligent, organization-wide transformation. Realizing the promise of generative AI will require strategic clarity, disciplined execution, and a long-term commitment to value creation.

4

Security and data protection
DORA, EU AI Act

4.1 The accelerating wave of cyber attacks

This chapter explores the security implications of emerging technologies in the financial sector, with a particular focus on the growing impact of AI. It will examine how AI influences cybersecurity and how it can be leveraged to navigate and comply with relevant regulations.

In an era where technology permeates every aspect of our lives, the opportunities it brings are accompanied by an increasing level of risk. This is a direct consequence of our hyper-connected digital world, where the expansion of digital infrastructure has also broadened the attack surface for cyber threats. As a result, cyberattacks are on the rise, targeting an ever-growing range of systems, organizations, and critical services.

Over the past year, the number of cyber incidents in the EU has surged dramatically. According to data from ENISA, the European Union Agency for Cybersecurity, cyberattacks increased by 92% between July 2022–June 2023 and July 2023–June 2024, rising from 5,036 to 9,660 recorded incidents. In total, 9.7k cyberattacks were reported across Europe in the most recent period, nearly doubling the figures from the previous year (**Figure 24**). The analysis in this report follows, in general, the sector classification outlined in the Network and Information Security Directive (NIS2), which provides a regulatory framework for strengthening cybersecurity across key industries.

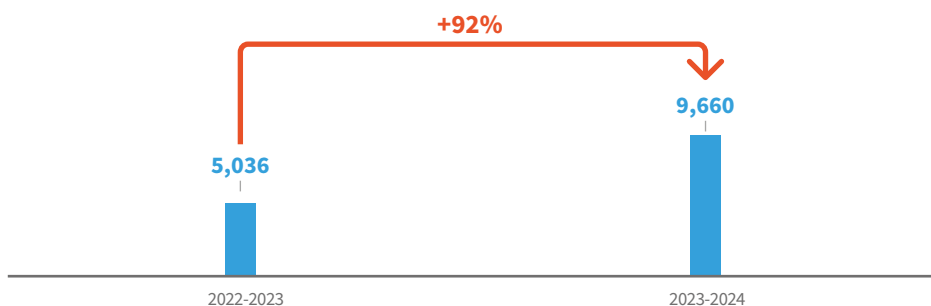


FIGURE 24. Number of cyber incidents in EU, July 2022 to June 2023 vs July 2023 to June 2024.

Source: TEHA Group elaboration on Enisa data, 2025

Of the 9,660 incidents recorded in the last observed period, the majority were Denial-of-Service (DoS), Distributed Denial-of-Service (DDoS), and Ransom Denial-of-Service (RDoS) attacks (**Figure 25**). These attacks aim to overwhelm online services, rendering them inaccessible or extorting organizations by threatening service disruption. Together, they accounted for over 40% of all incidents. Ransomware, where threat actors take control of a target's assets and demand a ransom in exchange for the return of the asset's availability or in exchange for publicly exposing the target's data, represented 26% of the reported attacks.

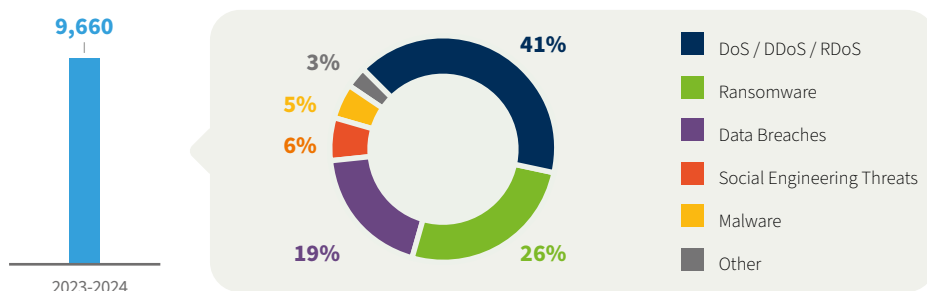


FIGURE 25. Breakdown of incidents by threat type in EU¹² (%), July 2023 to June 2024.

Source: TEHA Group elaboration on Enisa data, 2025

Cyberattacks affect all sectors, though some are more frequently targeted than others. During the observed period, more than half of the incidents were concentrated in five specific sectors, with public administration being the most affected and financial services ranking third (**Figure 26**). Notably, the three most targeted industries, public administration, transportation, and financial services, have experienced substantial year-over-year increases in attacks, rising by +90%, +248%, and +198%, respectively.

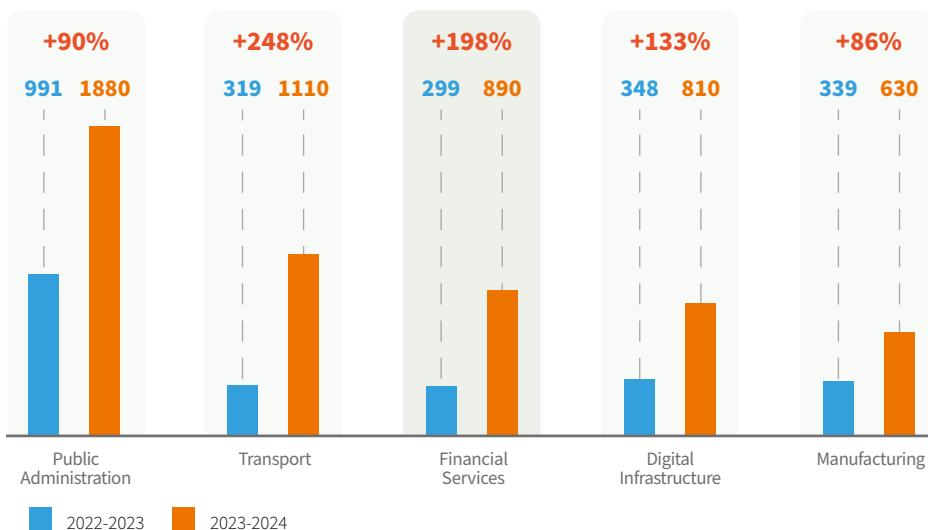


FIGURE 26. Top 5 sectors per number of incidents, July 2022 to June 2023 vs July 2023 to June 2024 (absolute number of attacks and percentage change).

Source: TEHA Group elaboration on Enisa data, 2025

¹² The “Other” category includes attack types such as Supply Chain Attacks, Web Threats, [F|M], and Zero-Day Exploits

In this context, the financial services industry has not only experienced a threefold increase in attacks but have also seen a notable rise in the number of incidents deemed to have a significant impact. Incidents with a significant impact, officially reported under the NIS Directive, are those that materially affect the provision of services by entities deemed essential or important. Since 2020, the financial sector has seen a sharp escalation in such incidents, rising from 52 reported cases in 2020 to 255 in 2023 (**Figure 27**). This trend highlights the increasing vulnerability of the sector to cyber threats and the critical need for strong cybersecurity frameworks to effectively mitigate risks.

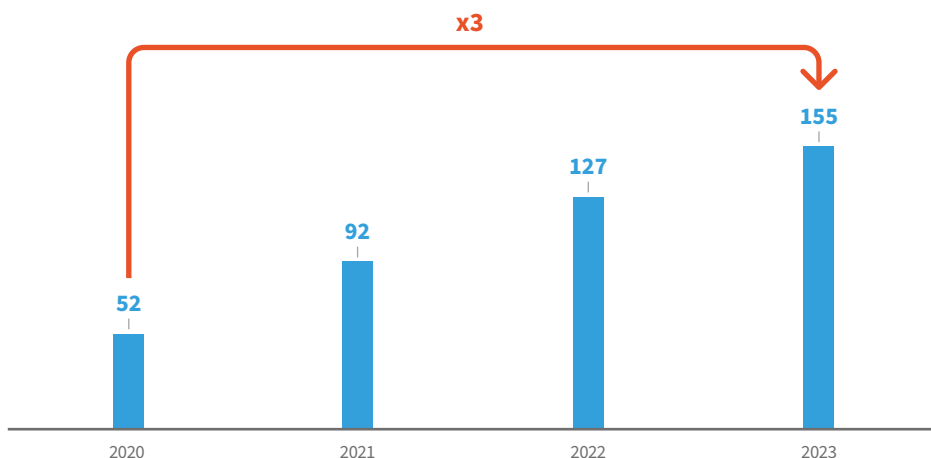


FIGURE 27. Incidents of significant impact in the FSI (number of incidents), 2020-2023.

Source: TEHA Group elaboration on Enisa data, 2025

Cybercrime has evolved into a full-fledged global economy, with both the frequency and financial impact of attacks rising dramatically in recent years. The cost of cybercrime worldwide is increasing at an alarming rate. As of today, it is estimated to amount to €9.2 trillion, and projections indicate that it will surge by an additional 79% by 2029, reaching nearly €15.6 trillion (**Figure 28**). This would make cybercrime equivalent in economic scale to the world's third-largest economy by GDP, ranking just behind the United States and China.

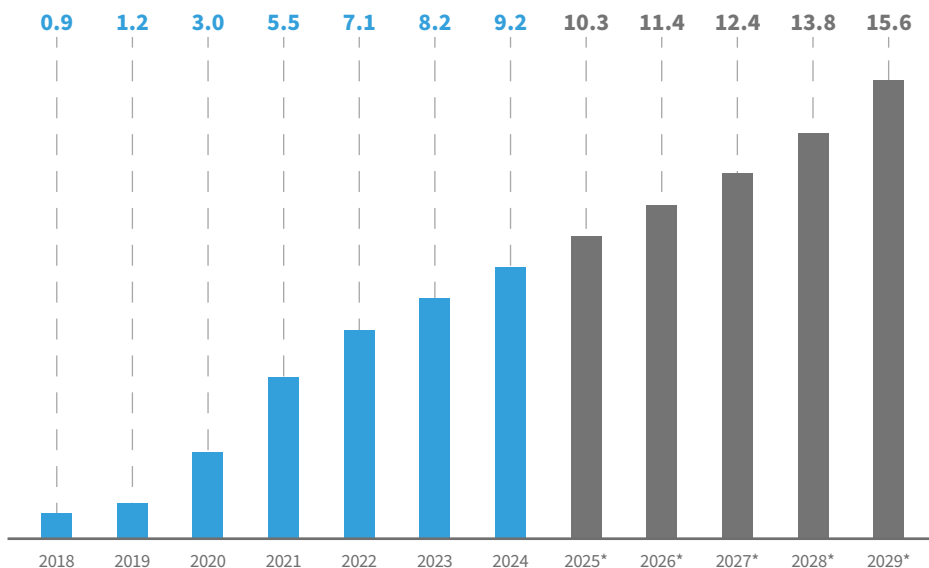


FIGURE 28. Estimated annual cost of cybercrime worldwide (trillion U.S. dollars), 2018 – 2029.

Source: TEHA Group elaboration on Enisa data, 2025

This rapid growth is driven by the increasing sophistication of cyber threats, the expansion of the digital economy, and the growing reliance on interconnected systems across industries. As organizations and governments continue to digitize their operations, the financial and strategic implications of cybercrime are becoming more severe, underscoring the urgent need for stronger cybersecurity frameworks and international cooperation to mitigate these escalating risks.

4.2 How AI shapes cybersecurity

In an increasingly digital world, generative AI and agentic AI play a pivotal role in shaping the landscape of cybersecurity, influencing both its present dynamics and future evolution (**Figure 29**). Its impact can be observed on three distinct levels.

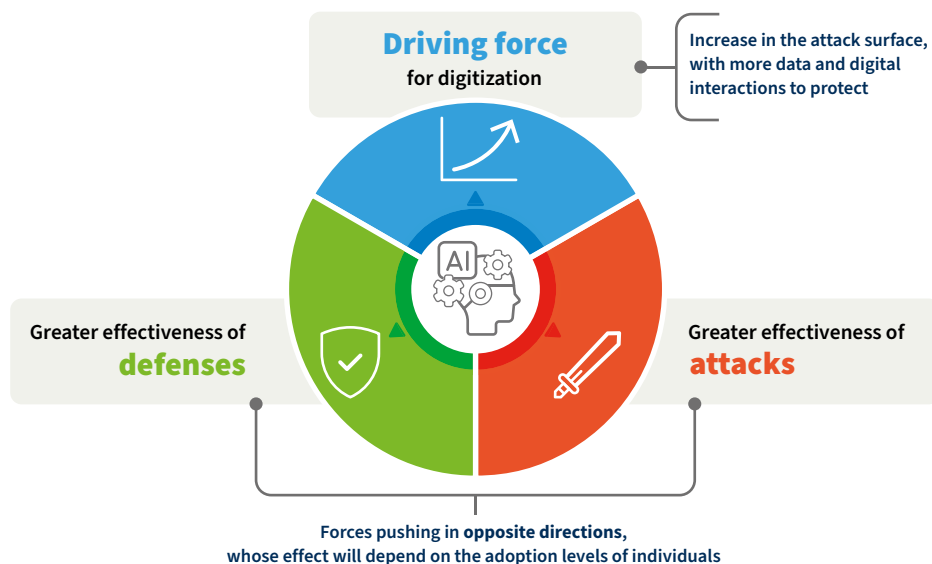


FIGURE 29. AI's impact on cybersecurity: three key dimensions.

Source: TEHA Group elaboration, 2025

Concerning the first level of AI impact on cybersecurity, as it is expected to be a power catalyst of the digital transformation of organizations, both public and private, AI is expected to increase the surface of attack and the number of potential entry points for cyber threats, introducing new technologies and interconnected systems that demand enhanced security measures. The rise of generative AI is expected to further accelerate digitalization, leading to a significant increase in digital processes, data generation, and the number of individuals and systems requiring cybersecurity protection. This push toward digitization will impact multiple sectors, including public services, business processes, small and medium-sized enterprises (SMEs), and critical infrastructure.

In Europe, SMEs will experience the greatest pressure to digitize. Currently, they exhibit a lower level of digital intensity compared to larger companies. In fact, 76% of European businesses with fewer than 250 employees report a low or very low level of digital intensity, whereas this figure drops to 32% for larger enterprises with more than 250 employees (**Figure 30**). As digital transformation progresses, bridging this gap will be essential to ensure that SMEs can adopt AI-driven technologies while maintaining robust cybersecurity measures.

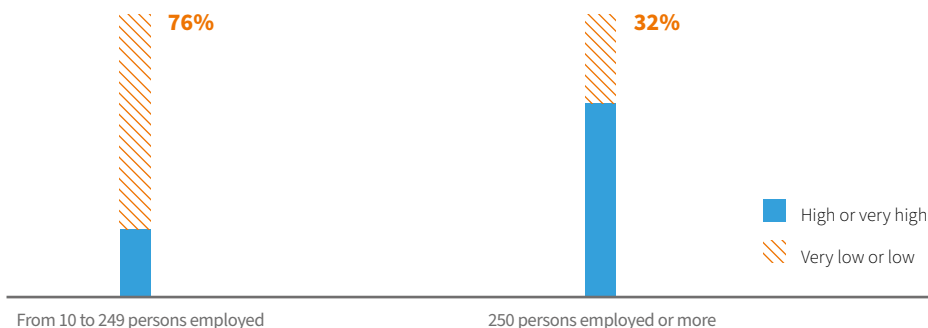


FIGURE 30. Digital intensity level in Europe by company size (%), 2023.

Source: TEHA Group elaboration on Eurostat Data, 2025

This trend confirms even among the region's leading economies. European enterprises overall exhibit a low level of digitalization, with 75% registering a low or very low Digital Intensity Index. Among the top five European economies, only the Netherlands has more than 50% of enterprises classified as highly or very highly digitalized¹³ (Figure 31).

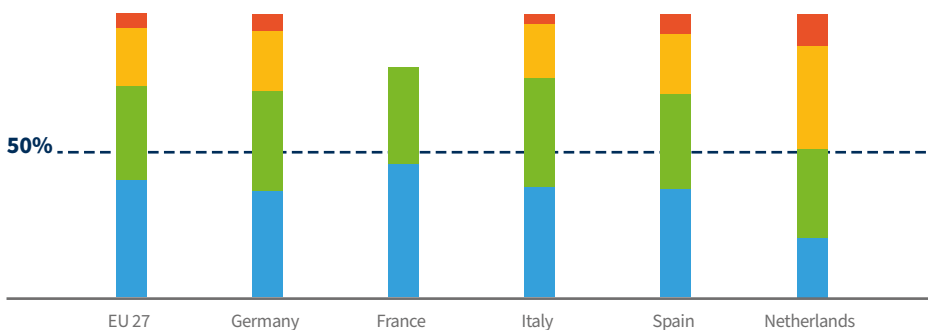


FIGURE 31. Digital Intensity of enterprise in EU and top 5 economies (%), 2023.

Source: TEHA Group elaboration on Eurostat Data, 2025

The second and third levels highlight AI's dual role in cybersecurity, serving as both a potential defense mechanism and a tool for increasingly sophisticated cyberattacks. On one hand, cybercriminals are leveraging AI to develop more advanced attack methods, making their tactics more effective and harder to detect. This creates an asymmetrical situation, giving attackers a significant advantage. Generative AI can reduce the cost and increase the effectiveness of attacks by malicious actors, such as through malware scripting, phishing, spear-phishing emails, and malicious chatbots. Beyond external cyber threats, AI can also pose internal security risks for organizations. AI integration raises concerns about protecting sensitive data, including:

¹³ The absence of data for France is due to a break in the time series

- ▶ Data oversharing: Users may gain unauthorized access to sensitive information due to insufficient access controls or inadequate data labelling policies;
- ▶ Data leakage: Sensitive data could be inadvertently exposed through unsanctioned AI applications or if AI-generated responses lack the necessary protection controls;
- ▶ Noncompliant usage: AI may produce unethical or illegal content if not properly monitored.

On the other hand, AI plays a crucial role in enhancing cybersecurity by improving threat detection, automating response strategies, and bolstering overall resilience against cyber threats. In a world where robust cybersecurity regulations help organizations defend against the growing wave of cyberattacks, AI serves as a valuable ally. Generative AI is a powerful tool for defending companies against cyberattacks, ensuring regulatory compliance, automating tasks, generating reports, and simulating attacks to strengthen security measures.

Generative AI has the potential to significantly elevate the effective skill level of junior cybersecurity professionals by enhancing their productivity and guiding their decision-making. This capability can play a critical role in narrowing the talent gap in cybersecurity, an area where Europe currently faces a shortage of over 500,000 professionals, by empowering less experienced staff to perform at a higher level and enabling organizations to better manage risk with the resources available.

The overall impact of AI on cybersecurity will ultimately depend on the extent to which individuals, organizations, and institutions adopt and implement AI-driven security solutions.

In this context, data is key. In a landscape where AI is reshaping cybersecurity, data takes center stage. To maximize the effectiveness of AI-driven security measures, companies must ensure data quality and integrity, as secure and well-managed data is the foundation for successful AI applications. Without high-quality data, the potential of AI is significantly diminished, and the risks of data breaches, noncompliance, and ineffective security measures increase.

To minimize the risks associated with AI usage, each company must carefully prepare and manage its data. Effective data preparation is essential for both maximizing AI's potential and ensuring security. To achieve this, an organization should follow four key steps:

1. Data discovery: The first step is to locate sensitive data across all systems and processes. Identifying risky activities and understanding data flows to ensure full visibility, helping to prevent exposure and unauthorized access.
2. Data governance: Companies should establish strong data governance policies, which include cleaning data, setting clear access controls, and maintaining rigorous data management practices. This helps ensure compliance with industry regulations and prevents any potential violations.
3. Data protection: Sensitive data must be labeled appropriately and secured with advanced encryption methods. Access control systems should be implemented to protect data from unauthorized sharing and misuse, maintaining its confidentiality and integrity.
4. Loss prevention: Implementing policies to prevent data loss is critical, especially in the context of AI-generated content. Organizations should put in place measures that prevent the accidental or malicious loss of critical data across various platforms, ensuring its continued availability and protection.

4.3 Complying with cybersecurity requirements in European regulations

In the context of growing cybersecurity awareness, Europe is emerging as a leader thanks to its robust and comprehensive regulatory framework. The landscape of cybersecurity regulations in Europe can be broadly divided into three categories (**Figure 32**).

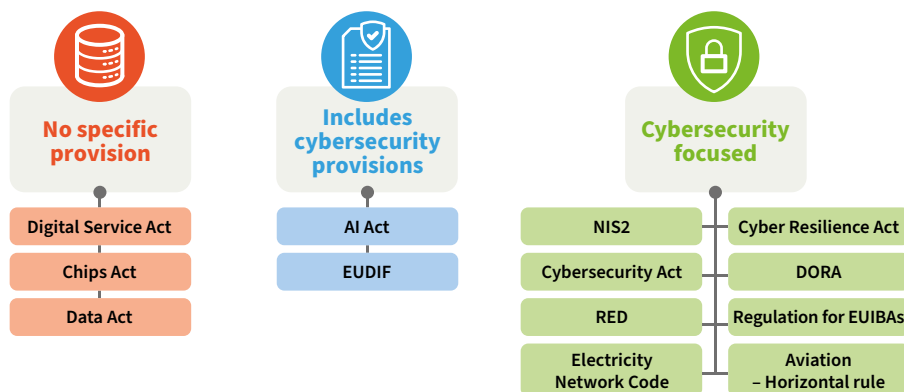


FIGURE 32. Overview of EU legislative landscape (implemented regulations), 2024.

Source: TEHA Group elaboration, 2025

First, there are regulations that don't specifically focus on cybersecurity but incorporate relevant provisions, such as the Digital Services Act (DSA), the Chips Act, and the Data Act. These regulations aim to address broader digital issues but include cybersecurity measures to ensure that digital services and technologies are secure, especially in relation to data management and semiconductor supply chains. The second category consists of regulations that integrate specific cybersecurity provisions within broader frameworks. Notable examples include the Artificial Intelligence Act (AI Act) and the European Digital Infrastructure Framework (EUDIF). The AI Act emphasizes the need for secure and trustworthy AI systems, ensuring that AI solutions meet cybersecurity standards, especially in high-risk applications. EUDIF focuses on the deployment of critical digital infrastructure in Europe, with cybersecurity requirements aimed at protecting the underlying networks and systems.

Finally, Europe has several regulations that are dedicated specifically to cybersecurity, providing a more direct and focused approach. These include the NIS2 Directive, which enhances the cybersecurity of critical infrastructure across the EU; the Cyber Resilience Act, which strengthens security requirements for products with digital elements; and the Digital Operational Resilience Act (DORA), which focuses on financial services' ability to withstand and recover from cyber threats. Additionally, the Cybersecurity Act strengthens the EU's cybersecurity certification framework, ensuring that products and services meet high security standards. Other sector-specific regulations, such as the Electricity Network Code, the Regulation for EU Institutions, Bodies, Offices and Agencies (EUIBAs), and the

Horizontal Aviation Rule, establish tailored cybersecurity requirements for specific industries, further enhancing overall resilience.

These regulations reflect Europe's commitment to creating a secure digital environment while encouraging innovation and growth in critical sectors. Each regulation serves to address specific challenges and threats, ensuring that cybersecurity is embedded in the continent's digital and technological development.

Regulation Overview - The AI Act

The AI Act is the first comprehensive regulation on Artificial Intelligence introduced by a major regulatory body anywhere in the world. This groundbreaking legislation aims to establish clear guidelines for the development, deployment, and use of AI technologies, ensuring that their application respects European values and fundamental rights while promoting innovation and trust in the technology.

A key feature of the AI Act is its risk-based approach, which establishes differentiated compliance requirements based on the level of risk associated with different AI applications. This approach ensures that high-risk AI systems, such as those used in critical sectors like healthcare or transportation, are subject to stricter regulatory scrutiny compared to

lower-risk applications. Unacceptable risk applications that represent around 3% of the technologies (Figure 33) are considered the most dangerous and will be banned under the AI Act. By categorizing AI systems according to their potential risks, the AI Act creates a tailored regulatory environment that aligns with the specific risks posed by each application.

The AI Act also stands out for its extra-territorial scope, meaning that it applies not only to European entities but also to external suppliers operating within the European Union. This global reach ensures that AI developers and deployers outside the EU are still held accountable to EU standards if they wish to access the European market, reflecting the EU's commitment to setting global standards for AI governance.

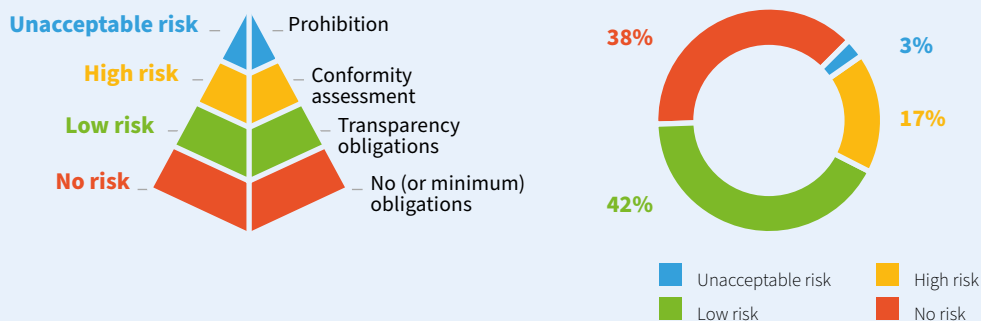


FIGURE 33. AI Act risk-based approach and estimated breakdown of AI systems by risk category (% values), 2024.

Source: TEHA Group elaboration on AI Act Documents, 2025

Regulation Overview – Network and Information Systems Directive 2 (NIS2)

The NIS2 Directive is a key piece of legislation within the European Union aimed at enhancing the cybersecurity resilience of critical infrastructure sectors, particularly regarding supply chains. It establishes a unified legal framework to support cybersecurity across 18 critical sectors in the EU and encourages member states to develop national cybersecurity strategies and collaborate with the EU for cross-border response and enforcement.

The financial sector, being one of the critical sectors identified in the regulation, is particularly vulnerable due to the sensitive data it handles and its essential role in the economy. Financial institutions must adopt strong risk management practices, report incidents, and comply with minimum cybersecurity standards. National authorities are granted expanded enforcement powers,

including the ability to impose substantial fines for non-compliance.

The primary objective of NIS2 is to strengthen the collective cybersecurity posture of EU member states by tightening enforcement requirements for critical infrastructure sectors. This includes specific provisions to manage supplier relationships and ensure cybersecurity risks are mitigated across the supply chain. Key aspects of NIS2 include enhanced security measures, an expanded scope covering more sectors and companies, mandatory incident notification, improved cross-sector cooperation, and sanctions for non-compliance. These measures aim to better equip organizations to handle and respond to cybersecurity threats, reinforcing the EU's overall security framework.

For the financial services sector, the Digital Operational Resilience Act (DORA) is of vital importance. As one of the key cybersecurity regulations, DORA establishes a comprehensive framework aimed at strengthening the resilience of the financial services industry. The regulation seeks to enhance the IT security of financial institutions and ensure the broader operational resilience of the European financial sector. DORA is directed at various entities within the FSI, including banks, insurance companies, investment firms, ICT providers, and third-party service providers.

The primary goal of DORA is to address ICT risk management effectively within the financial services sector and to align ICT risk management practices across EU Member States. It covers several key areas, including the management of ICT risks, third-party risk management, digital operational resilience testing, oversight of critical third-party providers, information sharing, and incident reporting. These provisions are designed to safeguard the sector against a range of ICT-related risks, ensuring that financial services can continue to operate securely and efficiently, even in the face of disruptions.

However, FSIs face significant challenges in complying with these regulations and maintaining a secure operational environment. Among the difficulties are the complexity

of monitoring third-party risks, the high costs of compliance, the fragmentation of ICT and security systems, and a shortage of skilled expertise. To address these issues, AI technologies offer valuable solutions. AI can help automate the monitoring and reporting of risks, streamline processes, integrate disparate systems, and centralize data management. Additionally, AI can support training efforts and assist in decision-making, making it easier for financial institutions to manage compliance and improve overall security.

TABLE 6. CASE STUDY: ENHANCING CYBERSECURITY RESILIENCE WITH AI-DRIVEN SOLUTIONS

INTESA SANPAOLO

Intesa San Paolo, a major European banking group, has faces increasing cybersecurity challenges due to evolving threats, complex regulatory requirements, and a shortage of cybersecurity talent. To address these challenges and increase visibility, streamline security operations, and improve threat response, the bank focused on:

- ▶ Implementation of a next-generation Security Information and Event Management (SIEM) system to enhance threat detection and response capabilities.
- ▶ Integration of AI-powered security tools to accelerate analysis and incident resolution.
- ▶ Migration to a scalable, cost-effective cloud security platform to improve visibility and operational efficiency.
- ▶ Adoption of automation and AI-assisted tools to support security teams and reduce onboarding time for new analysts.

Benefits achieved:

- ▶ Improved threat detection and response, enabling faster identification and mitigation of cyber threats.
- ▶ Increased operational efficiency, reducing manual workload and streamlining security workflows.
- ▶ Faster onboarding and training for new security analysts, leveraging AI-assisted tools to simplify complex query languages.
- ▶ Enhanced executive reporting, enabling better incident tracking and prioritization.

Source: TEHA Group elaboration on Microsoft Data, 2025

TABLE 7. CASE STUDY: CENTRALIZED IT SECURITY MANAGEMENT IN A GLOBAL BANKING CONTEST



ING, a major international bank, faced difficulties in coordinating IT departments due to their fragmented global IT infrastructure. This fragmentation hindered operational efficiency and visibility over multi-cloud IT environments, the adoption of a unified cybersecurity strategy and regulatory compliance.

To address these issues, the bank adopted a centralized IT security approach based on a cloud-native and SaaS solutions. The key initiatives included:

- ▶ Implementation of an advanced and “right out of the box” solution to collect and analyze security data from diverse IT environments.
- ▶ Consolidation of security management through scalable and integrated tools.
- ▶ Simplification of IT operations with solutions that are easy to deploy and manage.

Benefits achieved:

- ▶ Advanced threat signal correlation improves security and reduces false positives.
- ▶ Streamlined security management with full visibility across the IT landscape, enhancing operational efficiency.
- ▶ Strengthened regulatory compliance with robust data protection and governance tools.
- ▶ Reinforced cloud-first strategy with improved scalability and a more resilient infrastructure.

Source: TEHA Group elaboration on Microsoft Data, 2025

TABLE 8. CASE STUDY: ENHANCING DATA PROTECTION

Rabobank a cooperative bank with deep agricultural roots, faced significant challenges in safeguarding sensitive data while ensuring compliance within the sector complex regulatory landscape. A fragmented data protection approach can lead to inefficiencies, increased security risk and difficulties in maintaining uniform policies across various locations. To address these challenges the organization adopted a cloud-based data loss prevention (DLP) system. This approach reduced the overall number of DLP policies around the regions where the bank operates while maintaining flexibility, allowing each region to implement the most effective data protection measures.

Key features include:

- ▶ Unify and streamline data protection policies across a multinational workforce.
- ▶ Maintaining employees' privacy while preventing data loss.
- ▶ Provide real-time data loss prevention notifications within business applications.

Benefits achieved:

- ▶ Enhanced compliance management, simplifying adherence to multiple regional regulations.
- ▶ Increased operational efficiency, eliminating the need for on-premises maintenance and agent deployment.
- ▶ Better employee experience, with minimal disruptions through in-app security alerts

Source: TEHA Group elaboration on Microsoft Data, 2025

5

Systemic and policy implications
at the European level

5.1 From use cases to systemic transformation

We have seen how AI is already widely adopted, with use cases reaching a high level of maturity, particularly in the financial services industry, where the nature of operations and the availability of structured data provide fertile ground for automation. However, the real challenge, and opportunity, lies beyond individual use cases. The competitive landscape is no longer defined by isolated AI applications but by an industry-wide shift toward systemic transformation (**Figure 34**). Organizations can no longer limit AI to specific operations; instead, they must rethink how operations are conducted, redesign processes, and integrate generative and agentic AI to drive fundamental change across the entire enterprise.



FIGURE 34. From use cases to systemic transformation.

Source: TEHA Group elaboration, 2025

While we are still at the early stages of this transformation, the path forward is becoming increasingly clear. Today, financial institutions are advancing their AI adoption, but regulatory constraints and a lack of in-depth regulatory understanding among executive's often slow progress. Moving forward, the focus must shift toward greater alignment between AI initiatives and enterprise-wide strategies. AI's potential extends beyond isolated implementations, it can reshape entire value chains, foster industry-wide collaboration, and drive continuous innovation.

In this evolving landscape, AI becomes a core business enabler, not just optimizing processes but transforming the very fabric of financial institutions. By embedding AI into their strategy, organizations can foster a culture of continuous innovation, all while ensuring cybersecurity, compliance, and risk mitigation.

This shift is not merely about technology adoption; it is about redefining the operating model of financial institutions to fully harness AI's transformative power.

5.2 The four pillars to a systemic transformation

However, how can organizations effectively navigate and adapt to achieve this transformative shift toward a new, system-wide model? The path to this transformation revolves around four key strategic pillars that will guide institutions ensuring long-term success in the AI-driven financial ecosystem (**Figure 35**).



FIGURE 35. The four strategic pillars for systemic transformation.

Source: TEHA Group elaboration, 2025

Security and regulatory alignment

For AI to drive systemic transformation in the financial sector, organizations must ensure strict compliance with regulatory frameworks such as the AI Act and DORA, which set clear guidelines on security, risk management, and AI governance. However, compliance alone is not enough; raising awareness and fostering a security-first culture is equally critical. Organizations must not only understand these regulations but also integrate security and regulatory requirements into their AI strategy from the outset.

A proactive approach to cybersecurity is essential, embedding security within AI-driven processes rather than treating it as an afterthought. This means developing governance frameworks that ensure AI systems are transparent and aligned with evolving regulatory expectations. By fostering collaboration between compliance teams, technology leaders, and regulators, financial institutions can not only meet security standards but also leverage AI safely and responsibly, ensuring trust and stability across the ecosystem.

Data quality

High-quality data is the foundation of any AI-driven financial institution. Without accurate, well-structured, and bias-free data, organizations cannot develop reliable AI models. To fully leverage AI's potential, financial institutions must adopt a data-first approach, prioritizing data governance, security, and integrity at every stage of AI deployment.

Ensuring data quality requires a deep understanding of an organization's data landscape, including robust data governance frameworks that define ownership, access controls, and compliance with regulatory requirements. Sensitive financial data must be protected from breaches and unauthorized access, while strategies to prevent data loss and mitigate biases must be actively implemented. Given the financial sector's reliance on vast amounts of sensitive information, the ability to maintain data accuracy, consistency, and security is not just a regulatory requirement but a strategic imperative. A strong data foundation ensures that AI can drive meaningful insights, automation, and trustworthy decision-making.

First mover advantage

The race to AI adoption has begun, and organizations that act swiftly can establish themselves as industry leaders. Once security and data quality are in place, financial institutions must move beyond theory and into execution, enabling controlled experimentation and iterative learning in high-impact areas where AI can be systematically implemented to optimize processes before full-scale deployment. These early initiatives provide insights into AI's impact on operations, customer engagement and decision-making, enabling organizations to refine their strategies and mitigate risks.

Being a first mover in AI adoption offers a significant competitive advantage. Early adopters can shape industry best practices, set benchmarks, and influence regulatory developments, positioning themselves as innovators in the financial ecosystem. Furthermore, organizations that proactively integrate AI into their processes gain a learning curve advantage, allowing them to optimize models, train their workforce, and scale AI solutions ahead of competitors. In this rapidly evolving landscape, leadership through execution is the key to long-term success.

Human capital

Human capital is the cornerstone of any successful AI transformation. To harness the full potential of AI, organizations must develop a culture of AI readiness, ensuring that people remain at the centre of the transition while maximizing AI's value across the enterprise. This involves creating a robust AI-enabled human capital strategy that emphasizes continuous learning, ethical AI usage and a focus on privacy and data protection.

As AI continues to evolve, organizations must equip their workforce with the skills and knowledge necessary to navigate and thrive in this new environment. This includes addressing skills gaps in areas such as data literacy, AI ethics, and cybersecurity, ensuring that employees are well-prepared to handle the complexities of working with sensitive information. To support this transformation, organizations should introduce dedicated roles on guiding AI implementation and driving cross-functional change. Moreover, fostering a culture of trust and responsibility is essential, as organizations must reinforce values that place human judgment at the core of AI-driven processes, ensuring alignment with both regulatory standards and ethical principles.

As organizations embrace the transformative power of AI, these four strategic pillars will serve as the foundation for a successful transition. By focusing on security and regulatory alignment, data quality, first-mover advantage, and human capital, financial institutions can not only navigate the complexities of AI adoption but also position themselves as leaders in a rapidly evolving ecosystem. The journey toward a fully integrated, AI-driven future is challenging, but with the right strategies in place, it offers the opportunity to redefine the future of the financial sector.

Italy

MILAN

Via F. Albani, 21
20149 Milano
Tel. +39 02 46753.1

BOLOGNA

Via Persicetana Vecchia, 26
40132 Bologna
Tel. +39 051 268078

ROME

Via Po, 22
00198 Roma
Tel. +39 06 8550951

Europe

BERLIN

GLC Glücksbург Consulting AG
Albrechtstraße 14 b 10117 Berlin
Tel. +49 30 8803 320
Mr. Martin Weigel
berlino@ambrosetti.eu

BRUSSELS

Ambrosetti Brussels Office
Tel. +32 476 79 10 89
Ms. Laura Basagni
laura.basagni@ambrosetti.eu

HAMBURG

GLC Glücksburg Consulting
AGBülowlstraße 922763 Hamburg
Tel. +49 40 8540 060
Mr. Martin Weigel
amburgo@ambrosetti.eu

ISTANBUL

Consulta
Kore Şehitleri Caddesi Üsteğmen
Mehmet Gönenç Sorak No. 3
34394 Zincirlikuyu-Şişli-Istanbul
Tel. +90 212 3473400
Mr. Tolga Acarli
istanbul@ambrosetti.eu

LONDON

Ambrosetti Group Ltd.
37-38 Long Acre
London WC2E 9JT
london@ambrosetti.eu

MADRID

Ambrosetti Consultores
Castelló nº 19
Madrid, 28001
Tel. +34 91 575 1954
Ms. Marta Ortiz
madrid@ambrosetti.eu

Asia

BANGKOK

Mahanakorn Partners Group Co., Ltd.
Kian Gwan House III, 9th Floor, 152
Wireless Rd., Lumpini,
Pathumwan, Bangkok, 10330, Thailand
Tel. +66 (0) 2651 5107
Mr. Luca Bernardinetti
bangkok@ambrosetti.eu

BEIJING

Ambrosetti (Beijing) Consulting Ltd.
No.762, 6th Floor, Block 15
Xinzhaojiayuan, Chaoyang District
Beijing, 100024
Tel. +86 10 5757 2521
Mr. Mattia Marino
beijing@ambrosetti.eu

SEOUL

HebronStar Strategy Consultants
4F, ilsin bldg., 27,Teheranro37-gil,
Gangnam-gu, Seoul
Tel. +82 2 417 9322
Mr. Hyungjin Kim
seoul@ambrosetti.eu

SHANGHAI

Ambrosetti (Beijing) Consulting Ltd.
Room 20L, Liduxingui Building,
No.831Xinza Road, Jing'an District,
Shanghai
Tel:+86 21 52861891
Tel. +86 21 5237 7151
Mr. Mattia Marino
shanghai@ambrosetti.eu

SHANGHAI

Barbatelli & Partners Management
Consultant Co. Ltd. (Shanghai)
Room 102, End of Lane No. 729, Shan Xi
Road (N), Jing'an District, Shanghai
Tel. +86 (0)21 62719197
info@barbatelli.net

SINGAPORE

The European House - Ambrosetti
(Singapore) Consulting Pte. Ltd.
2 Woodlands Square
#05-70, Woods Square
Singapore 737715
Mr. Marco Bardelli
singapore@ambrosetti.eu

TOKYO

Corporate Directions, Inc. (CDI)
Tennoz First Tower 23F
2-2-4 Higashi Shinagawa, Shinagawa-ku
Tokyo, 140-0002
Tel. +81 3 5783 4640
Mr. Nobuo Takubo
tokyo@ambrosetti.eu

VIENTIANE

Laos Office
Rue Samsenthai N° 073 Unit 07,
Kaoyod Vill., Sisatanak District
0104 Vientiane Capital
Tel. +856 (0)20 52311570
Mr. Vincenzo Iacuzio
laos@ambrosetti.eu

Middle East

DUBAI

The European House – Ambrosetti
Middle East
Business Center Dubai World Central
P.O. Box: 390667 - Dubai - UAE
Mob. (UAE) +971.54.55.10003
Mob. (IT) +39.340.592.1349
Mr. Luca Miraglia
luca.miraglia@ambrosetti.eu

Africa

ROSEBANK - JOHANNESBURG

TEHA Africa Ltd
116 Oxford Road, Oxford & Glenhove,
Building 1
Rosebank
2196, Johannesburg
Tel. +27 76 487 8195
Mr. Nico De Kock
info@ambrosetti.za