GENERATIVE AI
Market applications

August 2025

MARKET APPLICATIONS REPORT

UNDERSTANDING CONCRETE APPLICATIONS OF KEY TRENDS & TECHNOLOGIES

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Agenda

01 Generative AI

(Projected) market size between 2025 and 2031

Worldwide key metrics

According to Statista.

$66.89bn
Revenue in 2025

$442.07bn
Forecast revenue 2031

36.99%
CAGR 2025-2031

Globally, the Generative AI market is expected to **reach $66.89 billion in revenue by 2025**. This figure is projected to grow significantly, **hitting $442.07 billion by 2031**. This translates to a compound annual growth rate (CAGR) of 36.99% over the period, underlining the explosive momentum and **broad adoption of generative technologies across sectors** such as software, marketing, media, healthcare, and beyond. These numbers reflect a strong global appetite for AI systems capable of creating text, images, code, and more, with a growing number of enterprise and consumer use cases.

In Europe, the market is projected to generate **$20.78 billion in 2025**, which accounts for roughly 31% of the global total in that year. By 2031, European revenue is forecasted to rise to **$137.28 billion**, closely tracking global trends. The European CAGR is 36.98%, nearly identical to the worldwide figure, indicating that **Europe is scaling at the same pace as the global market**. This suggests that while the absolute market size is smaller, Europe is not lagging behind in terms of innovation or adoption.

European key metrics

According to Statista.

$20.78bn
Revenue in 2025

$137.28bn
Forecast revenue 2031

36.98%
CAGR 2025-2031

Overall, this data confirms that Generative AI is a rapidly growing sector, poised to transform economies both globally and in Europe. The technology's growth is not only fast but also **geographically broad-based**, presenting a significant opportunity for stakeholders across industries and regions. For Europe in particular, the figures also underscore the importance of strategic investment and regulation to maintain competitiveness while ensuring trust and safety.

01 Generative AI

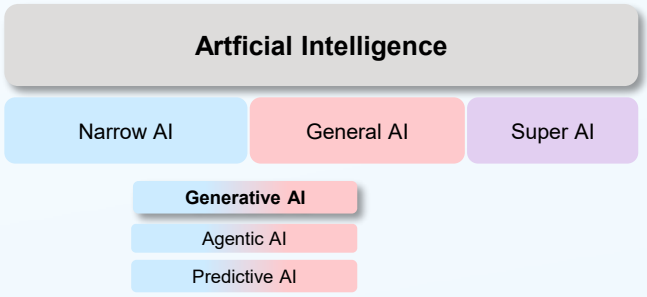
(Projected) market size for GenAI and AI (2025 – 2031)

GenAI is expanding at a much faster pace and is set to become a central driver of value creation.

In Europe, revenues are projected to increase more than sixfold between 2025 and 2031, reaching $137.28bn, while the overall AI market grows to $235.50bn.

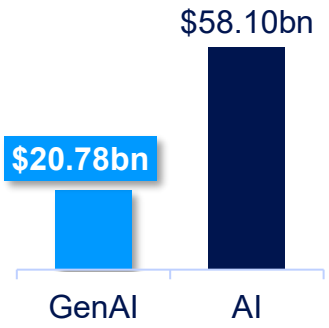
Globally, GenAI revenues are expected to soar from $66.89bn in 2025 to $442.07bn by 2031, contributing a substantial share of the AI market, which is forecast to surpass $1 trillion.

Scope & definition reminder



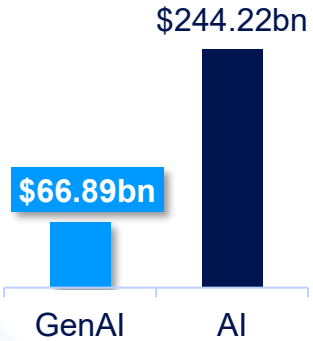
Sources: Statista – Worldwide Statista – Europe

Revenue (Europe - 2025)

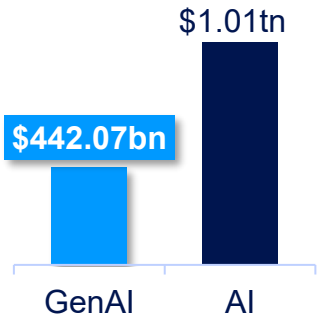


Forecast revenue (Europe - 2031)

Revenue (Worldwide - 2025)



Forecast revenue (Worldwide - 2031)



02 Generative AI

Economic potential of AI and GenAI

This graph, published by McKinsey, illustrates the significant economic potential of AI, with a particular focus on the incremental value that Generative AI can unlock.

Traditional AI methods, such as advanced analytics, machine learning, and deep learning, are projected to contribute between $11 trillion and $17.7 trillion to the global economy.

However, the emergence of Generative AI introduces a transformative boost: **new use cases* alone could add an additional $2.6 to $4.4 trillion**, representing a **15–40% increase in economic impact.**

Furthermore, when considering worker productivity enhancements enabled by Generative AI, such as accelerating coding, document drafting, or customer support, there is an **estimated $6.1 to $7.9 trillion in further value creation**, or a **35–70% incremental gain**.

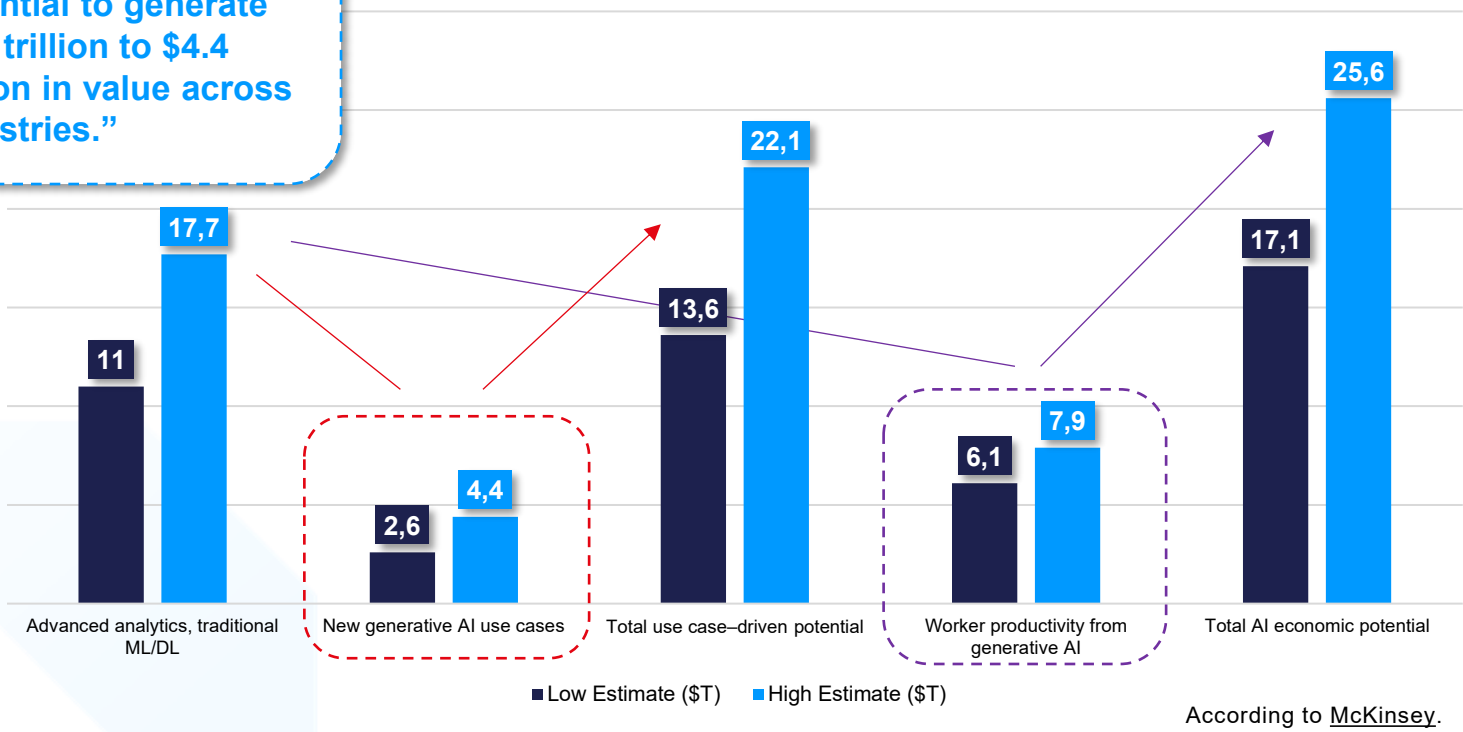
In total, **the combined economic potential of AI could reach $17.1 to $25.6 trillion**, with Generative AI contributing a substantial portion of that uplift.

This reinforces the idea that while traditional AI is already a powerful engine of economic value, Generative AI is a multiplier, enhancing productivity, expanding use cases, and reshaping workflows across industries.

"Across 63 use cases, generative AI has the potential to generate $2.6 trillion to $4.4 trillion in value across industries."

AI's potential impact on the global economy

$ trillion



According to McKinsey.

*A "use case" is a targeted application of generative AI to a specific business challenge.

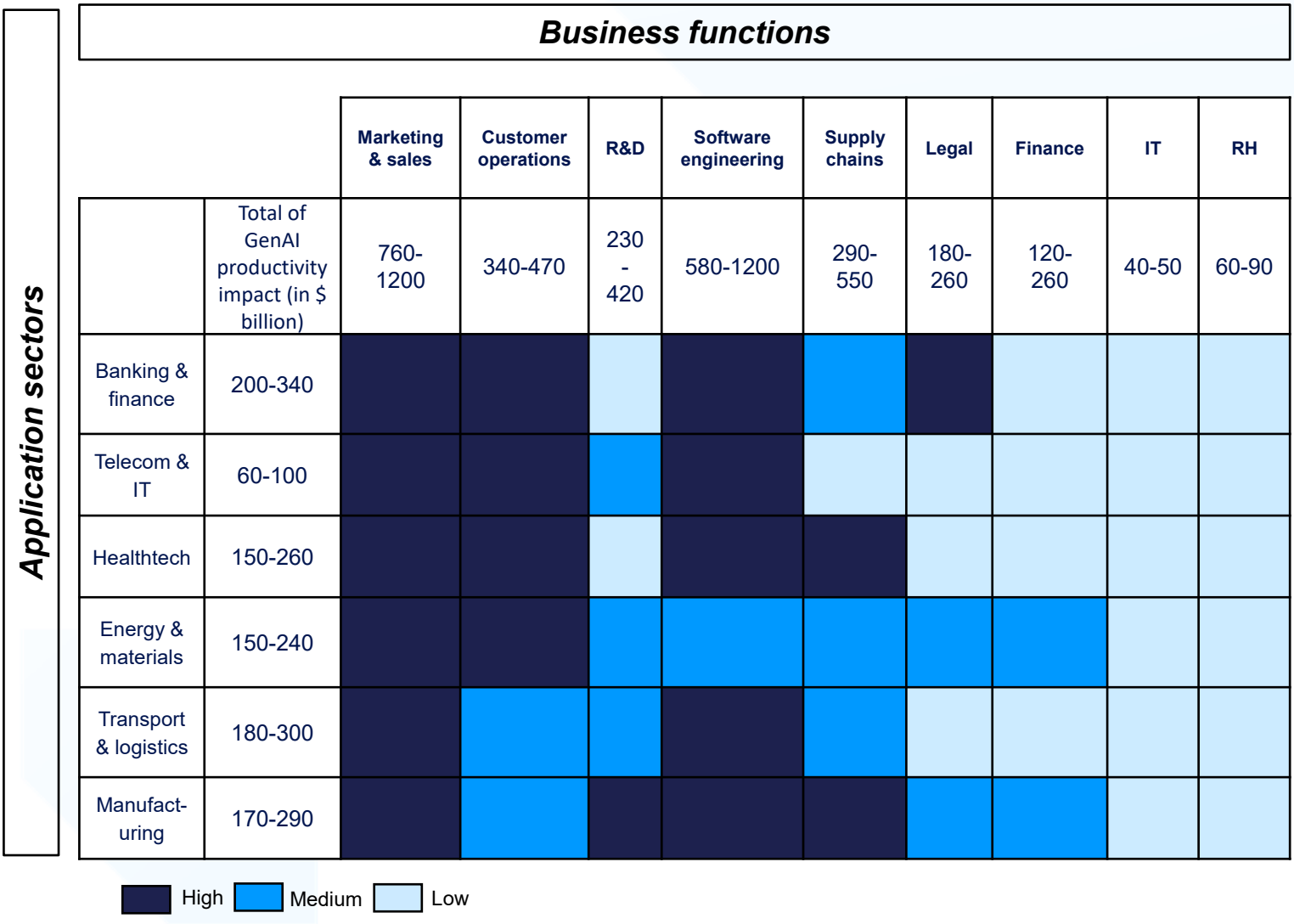
02 Generative AI

Economic potential of AI and GenAI

While the precedent graph shows that GenAI has significant impact on workers' productivity, the following heat map demonstrates what sectors and business functions will be the most impacted by GenAI.

The productivity impact has been evaluated by McKinsey experts based on the value generative AI brings today, mainly in text-based AI, which is easily processed and analysed by LLMs, and the current investment landscape in generative AI such focuses on text-based applications (chatbots, virtual assistants, translation), but also on the value that generative AI can generate through its multimodal capabilities.

GenAI productivity impact by business functions (based on McKinsey – June 2023)



02 Generative AI

Heat map explained

How to read the map?

This heat map illustrates the economic potential of generative AI across different business functions and application sectors, summarizing projected productivity impact based on estimates from McKinsey as of June 2023. The visualization uses colour gradients (dark blue for high impact, medium blue for moderate impact, and light blue for low impact) to reveal where GenAI can deliver the greatest value in terms of billions of dollars.

Interpretation of sectors and value

Each row corresponds to a major industry sector, such as banking & finance, telecom & IT, healthtech, energy & materials, transport & logistics, and manufacturing. The first column lists the total estimated GenAI productivity impact in dollar terms for each sector, with figures ranging from $60 billion in telecom & IT to as much as $340 billion in banking & finance. These totals highlight where GenAI is expected to have the greatest aggregate effect.

The columns represent business functions (marketing & sales, customer operations, R&D, software engineering, supply chains & operations, legal, Finance, IT, and human resources) and assess the productivity gain GenAI could impulse by company's major departments.

Certain business functions are expected to benefit greatly from GenAI, such as **marketing & sales, customer operations and software engineering**.

The highest impact expected will be for banking & finance, telecom & IT, healthtech and possibly the manufacturing sectors.

For example, the analysis estimates generative AI could contribute roughly **$200-340 billion in additional value for the banking industry** by boosting performance in functions such as software engineering, customer operations, marketing & sales, and risk and legal.

The manufacturing sector on its part could gain from **$170 to $290 billion in additional value**, thanks to automation in marketing & sales, R&D, software engineering and supply chains operations.

03 Use cases

In banking, finance & insurance

GenAI is transforming financial services by enabling automation, enhancing customer experiences, and streamlining complex processes. In highly regulated and data-intensive sectors like banking, insurance, and finance, GenAI can improve decision-making and customer relations, but it also comes with some risks, as underlined by the European Stability Mechanism.

Key applications:

- **Personalised financial services**: GenAI can recommend the best investments according to specific goals, it can find trades much faster than humans.
- **Customer service automation & increased availability**: thanks to Chatbot, customers can reach the company and have tailored responses.
- **Regulatory compliance**: it can monitor regulatory activity, inform if there is any changes, create drafts of documents, etc.

Concrete example: Kate by KBC

As highlighted by Paperjam, KBC has developed a proprietary virtual assistant named Kate, designed to handle a wide spectrum of customer interactions. Kate can autonomously resolve around 70% of client inquiries, ranging from simple account questions to standard service requests. According to the bank's estimates, Kate's performance is equivalent to the workload of 300 full-time employees.

Rather than replacing staff outright, this allows KBC to redeploy human resources toward more complex, advisory-driven, and value-added activities, strengthening client relationships and boosting productivity.

What's happening worlwide?

In 2023, McKinsey and ING have then developed a GenAI chatbot, offering customers tailored help, while maintaining guardrails before an answer is provided. According to McKinsey, the GenAI-enhanced chatbot developed in 7 weeks allowed for 20% more customers to be helped in the first seven weeks of use, and 37M customers are expected to be assisted once the tool is scaled across 10 markets.

03 Use cases

In telecom & IT

The industry faces the dual challenge of managing highly complex, data-intensive networks while meeting rising demands for personalized, always-on services. GenAI addresses these challenges by automating processes, uncovering new insights from vast datasets, and powering innovative services that improve operational efficiency, reduce costs, and deliver better customer experiences.

Key applications:

- **Knowledge assistants**: GenAI support operators with quicker access to information.
- **Product assistants**: GenAI also assists employees working on software. The technology can for example summarise observations from network performance data from analytics software.
- **Network autonomy**: not quite developed yet, service providers see GenAI as an enabler to advance in autonomous networks (issue detection, fault correlation and resolution).

Concrete example: Jiutian by China Mobile

In China, China Mobile has developed an in-house tool called Jiutian, chich optimises network performance and predict potential issues.

This tool, integrated in China Mobile's Mid-End Platform, has two important tasks: predictive maintenance, by analysing vast amount of data, identifying anomalies, and scheduling maintenance proactively; and dynamic resource allocation by analysing real-time traffic patterns.

According to Global Times, China Mobile teams were able to achieve self-reliance with Jiutian, having build the data, the training and the settings of their tool.

03 Use cases

In healthtech

GenAI is profoundly transforming the healthtech sector by automating processes, enhancing decision-making, accelerating innovation, and personalizing patient care. Given challenges like rising healthcare costs, clinician shortages, and ever-growing data volumes, GenAI offers solutions that make healthcare delivery more efficient, accurate, and patient-centric.

Key applications:

- **Enhanced medical images**: GenAI can augment medical images, synthetise images, and create reports. It can also create images to demonstrate how a disease progress in time.
- **Discovering new drugs**: GenAI can be used by researchers, through a related field called generative design, to research and develop new medicine.
- **Personalised treatment**: after having considered a large amount of patient information, GenAI can deliver a customized treatment plan.

Concrete examples: Kyomei, Sonia & LuxAI

The Luxembourg-based startup Kyomei is developing a similar AI-assisted clinical documentation application, that automatically creates therapy session notes and treatment plans for mental health care professionals.

Sonia is an AI assistant for dental practices that automatically summarizes informational, consultation, and treatment discussions using speech recognition and AI, structures documentation, and creates legally compliant and billing-secure templates.

Another example if the startup LuxAI, which has developed an expressive social robot called Qtrobot, whose goal is to support education of children with autism and other special needs, human-robot interaction research and teaching.

03 Use cases

In transport & logistics

GenAI is driving significant transformation in the transport and logistics sector by optimizing complex operations, enhancing decision-making, and improving customer experiences amidst growing globalization, cost pressures, and demand variability.

Key applications:

- **Route optimisation**: GenAI analyses traffic, tariffs, shipment size, environmental factors, and design the most efficient route.
- **Freight & load optimisation**: it matches freight capacity with demand.

Concrete example: G-Transport by Gulliver

Gulliver, based in Luxembourg, offers G-Transport, an integrated transport and logistics platform enhanced with GenAI, adding smart features like driver chat assistance, automatic email-to-order conversion, address normalisation, load optimisation, and route planning, all aimed at reducing errors, boosting efficiency, and cutting both costs and environmental impact.

This AI-driven approach boosts efficiency, minimizes errors, and improves service, safety, and sustainability, positioning GulliverNet as a key innovator in Luxembourg's and Europe's logistics and transport sector.

What's happening worlwide?

Maersk, an integrated container transport and logistics company operating in 130 countries, is actively deploying generative AI for dynamic route optimisation, demand forecasting, warehouse and inventory management, container loading planning, supply chain automation, shipment scheduling, predictive maintenance, etc.

By leveraging real-time data (weather, traffic, fuel cost), the company is able to reduce fuel use, accelerate delivery, and support sustainability goals.

03 Use cases

In manufacturing

GenAI is rapidly transforming the manufacturing sector by accelerating innovation, improving operational efficiency, and enabling smarter decision-making across the product lifecycle. It addresses critical challenges such as complex design requirements, equipment downtime, supply chain disruptions, and quality control.

Key applications:

- **Accelerate design process**: GenAI generates and iterates design options quickly, reducing cycle times.
- **Predictive maintenance**: maintenance professionals can use GenAI to track the performance of equipment based on historical data, alert them before malfunctions and recommend maintenance schedules.

Concrete example: Wizata & Symvio

Several companies implemented in Luxembourg are aiming at broadening the use of AI in the manufacturing sector. Among those, we can cite Wizata and Symvio.

Witaza works on AI-driven solutions for manufacturing process optimisation, helping factories streamline production lines, reduce waste, and improve overall operational efficiency.

Symvio focuses on providing real-time insights into machinery condition, leveraging AI and IoT technologies to monitor equipment performance continuously, predict maintenance needs, and prevent costly breakdowns, thereby increasing productivity and extending machinery lifespan.

What's happening worlwide?

Siemens offers generative design tools, helping engineers generate computer-aided (CAD) designs automatically based on constraints like weight, cost and materials.

Through Siemens Industrial Copilot (built with Microsoft), users can also generate and debug automation code, simulate manufacturing and maintenance workflows, and accelerate design-to-production cycles via conversational GenAI agents.

03 Use cases

Cross-sectors

Apart from sector-specific use cases, the real revolution of GenAI lies in its transformative potential to develop **technologies that address complex, cross-sector challenges**. This stems from its foundational ability to process vast amounts of data, learn from it, and generate tailored outputs that are not limited by industry boundaries.

One of GenAI's most powerful attributes is its flexibility to **target specific functions within an organization, such as sales, marketing, legal, operations, or customer service**, regardless of the sector in which the organization operates. This functional adaptability means that, rather than building bespoke systems for each industry, businesses can leverage GenAI to optimize processes, improve decision-making, and enhance user experiences across multiple verticals using a shared set of capabilities.

For example, a sales team in both a retail company and a biotech firm can use the same underlying GenAI system to generate prospecting emails, analyse customer behaviour, or forecast demand, but with outputs uniquely tailored to their respective audiences and market dynamics.

Concrete examples in Luxembourg

The Luxembourg-based startup Deelan develops complete learning experiences for sales teams in just a few seconds thanks to AI technologies.

The tool create structured and customizable trainings very quickly, aimed at various departments inside organizations.

Elora, another Luxembourg-based startup, has developed an AI chat and call assistants, able to respond to clients, no matter what industry the company operates in.

Another example is the LetzAI platform, a creative platform that allows users to generate images.

SFEIR helps organizations leverage emerging Generative AI through consulting, development, and training.

Alize and Enidia AI are both developing GenAI tools for legal departments.

04 Implications

Expected impact of (Gen)AI

AI and GenAI are expected to create profound changes across business and labour markets, but the transition is marked by disruption, paradoxes, and uneven benefits as recently exemplified by both announcements of workforce reductions and the “GenAI Divide” revealed by MIT.

Impacts on labour and productivity

AI and GenAI will increasingly automate routine and cognitive tasks driving higher productivity and enabling new modes of business operation. This can result in cost savings and growth as firms rapidly process information, boost employee output, and introduce innovative products or services. However, these technologies also tend to favor high-skilled roles, while reducing opportunities for low- and mid-skilled workers who mostly handle predictable or repetitive tasks. Entry-level jobs, especially in tech and corporate sectors, are being hit especially hard by automation and job redesign.

Layoff paradox and evolving workforce demands

A significant paradox is emerging: while AI adoption is heralded as a path to growth and efficiency, many companies are announcing layoffs explicitly due to AI-driven automation. According to a recent study, generative AI would be directly linked to 10,000 job losses in the U.S. in the first seven months of 2025.

At the same time, the “GenAI Divide” shows that the majority of companies are having difficulties in concretely benefiting from GenAI. However, the same study is also highlighting a “shadow AI economy” where, while corporates have difficulties embracing GenAI, employees and staff are informally benefiting from it.

The “GenAI Divide” (MIT NANDA)

MIT recently coined the term “GenAI Divide” to describe the striking separation between companies that extract real business value from GenAI and the vast majority that do not. Their July 2025 study found that 95% of enterprise AI and GenAI investments fail to produce measurable returns. Only about 5% of integrated corporate AI pilots deliver transformative value; the rest stall or fail, typically due to poor alignment with operational workflows, employee needs, and effective change management.

This divide is stark across industries: most sectors are mired in experimentation without genuine transformation. Successful companies have “re-architected” business processes around GenAI, whereas the majority rely on brittle, demo-ready tools that lack impact in day-to-day operations.

This findings have to be balanced with the latest “ROI of AI” study commanded by Google Cloud. In terms of ROI, the study states that 88% of companies that adopted AI agents early on have seen a positive ROI in at least one use case for generative AI (compared to 74% for all companies).

04 Implications

Uneven gains and accelerating divide

A gap is emerging and rapidly growing between companies that have embraced (Gen)AI and are developing tailored-made solutions for their business, and the ones that sit on the sideline, testing off-the-shelf solutions without truly embracing it. The gap has created a paradox where (Gen)AI will disrupt business models for some companies while others might stall and compete to stay competitive.

Implications:

- **Business transformation** is happening fast in a minority of organizations, while most others experience minimal benefit from AI spending.
- **Workforce churn** will increase: many workers must retrain, upskill, or shift roles, with entry-level and routine jobs most at risk from automation.
- **Skills gap**: as AI augments tasks and decision-making, labour market polarization grows; high-skilled, AI-augmented roles expand, while traditional middle-class pathways shrink.
- **Productivity and competitive advantage** accrue to firms that succeed with deep AI integration, fuelling a cycle of disruption and adaptation across sectors.
- **Shadow AI economy**: MIT notes that while corporate GenAI adoption lags, 90% of employees are informally benefiting from personal AI tools, showing untapped upside in more flexible, bottom-up approaches.

Marc Benioff, patron de Salesforce, affirme avoir supprimé 4000 postes grâce à l'IA

"J'ai besoin de moins de monde", a déclaré le PDG de la société californienne spécialisée dans les logiciels à destination des entreprises. Deux mois plus tôt, il s'était vanté du fait que l'intelligence artificielle y "effectu[ait] 30 à 50% du travail" et qu'elle lui avait permis de revoir à la baisse ses recrutements.

'Significant reorganisation'

Docler Holding lays off 115 employees in Luxembourg amid AI restructuring

RTL | Update: 20.08.2025 17:19

Technologies

Malgré son potentiel, la GenAI s'enfonce dans la « vallée de la désillusion »

le 03 Septembre 2025

Intelligence artificielle

Etude du MIT : 95 % des projets IA en entreprise échouent à générer des revenus

Le nouveau rapport du MIT sur l'IA soulève beaucoup de questions...

05 Conclusion

Generative AI is no longer a frontier experiment: it is rapidly becoming a cornerstone of digital transformation across industries. From accelerating product design and automating content creation to enhancing customer interactions and optimizing operations, its applications are proving both versatile and commercially valuable.

Early adopters are already gaining competitive advantage by embedding generative AI into workflows, unlocking efficiencies, and creating new revenue streams.

As adoption scales, generative AI is set to evolve into a general-purpose technology with broad economic impact, fueling new business models, reshaping industries, and redefining the boundaries of human–machine collaboration. Organizations that invest strategically today, with a focus on responsibility and long-term integration, will be best positioned to capture its transformative potential.

To understand the technology further, discover our Technology at a Glance report on GenAI .

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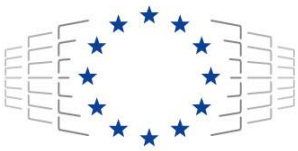

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