

SHAPING GenAI

**FOR A SUSTAINABLE AND FAIR
SERVICES ECONOMY**

2026 REPORT



Co-funded by
the European Union

VISIONARY
ANALYTICS

CONTENTS

1. Introduction	4
Structure and content of the Final Report	4
Objectives and scope of the study	4
GenAI in the services economy	7
Overview of the EU services economy	9
Audiovisual sector	10
Banking sector	12
Telecommunications sector	13
2. Overview of policy and regulatory framework	14
EU and national policies: overview and impact	14
Social partner agreements: overview and impact	25
3. Sector-specific impact assessment	34
Impacts in the audiovisual sector	34
Impacts in the banking sector	46
Impacts in the telecommunications sector	54
4. Horizontal impacts	62
5. Summary	76
References	80
Annexes	93
Annex 1: Target Sectors with NACE2 industries and definitions	93
Annex 2: Interviews	97

1. INTRODUCTION

Structure and content of the Final Report

The Final Report provides a comprehensive assessment of the impact of generative artificial intelligence (GenAI) in the services economy across the audiovisual, banking and telecommunications sectors, identifying key points for social dialogue and potential policy actions for social partners.

The report is structured as follows:

Chapter 1. outlines the objectives and scope of the study: key concepts and context;

Chapter 2. presents an overview of the policy and regulatory framework;

Chapter 3. presents impact assessments for each of the target sectors – audiovisual, banking and telecommunications – with sub-chapters on the technological, economic, social, ethical and regulatory impacts of GenAI;

Chapter 4. presents the horizontal impact assessment of GenAI on each of the target sectors;

Chapter 5. provides a summary of the study.

Objectives and scope of the study

The general objective of the study is to produce an overview of the impacts of GenAI's development and deployment in the services economy, with a specific focus on the audiovisual (AV), banking and telecommunications (telecoms) sectors. Based on the detailed analysis, the study aims to outline potential scenarios for social dialogue, providing options that mitigate the negative impacts while maximising the potential positive effects of GenAI's development and deployment.

This study has been carried out by Visionary Analytics in the framework of the project “*Shaping generative AI for a sustainable and fair services economy*”. The project is led by European social partners of the audiovisual, banking, telecommunications sector, ACT, EBF, Connect Europe and UNI Europa.

Disclaimer

The project and this study are funded by the European Union. Views and opinions expressed are however those of the authors only and do not necessarily reflect those of the European Union or the European Commission. Neither the European Union nor the European Commission can be held responsible for them.

Table 1. below presents the study’s objectives, the corresponding research questions, and the methods used to address them.

OBJECTIVES	RESEARCH QUESTIONS	METHODS
To conduct sector-specific impact assessments to improve the understanding of the impact of GenAI in the AV, banking and telecoms sectors	<i>What are the sector- specific impacts of GenAI?</i>	LITERATURE REVIEW INTERVIEWS CASE STUDIES
To conduct a horizontal impact assessment to identify the common impact of GenAI	<i>What are the common impacts of GenAI across the three target sectors?</i>	
To provide examples of adoption frameworks that illustrate how companies develop and implement GenAI and the impacts of this adoption	<i>How does the development and deployment of GenAI impact companies and workers in each of the target sectors?</i>	
To synthesise the report’s findings on the key opportunities, risks and impacts of GenAI for the services economy across the sectors covered ¹	<i>What are the main opportunities, risks and impacts of GenAI for workers, employers and sectors?</i>	LITERATURE REVIEW INTERVIEWS

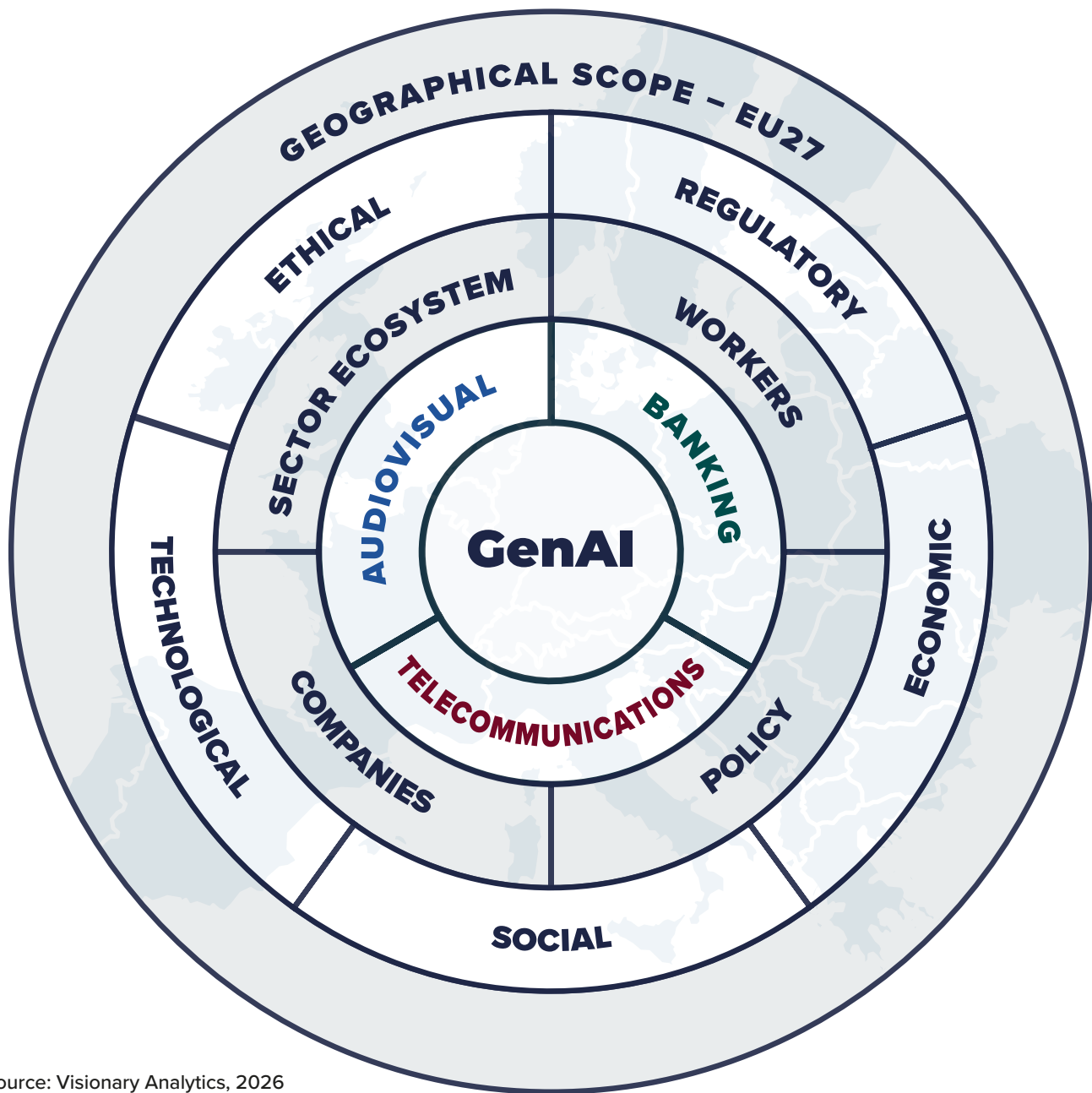
Source: Visionary Analytics, 2026

Scope of the study

With these broad objectives in mind, it is important to delineate the specific scope of the project. The thematic scope of the research centres on the impacts of the development and implementation of GenAI across the AV, banking and telecoms sectors. The thematic scope dictates the five impact dimensions: technological, economic, social, ethical and regulatory. The study investigates the broad, cross-sectoral trends and elaborates the impacts at the worker, company, sector and policy level. We conceptualise the scope in the **Figure 1** presented below. The geographic scope of the project is the EU27.

1. This objective and associated research question (RQ4) were revised following the Steering Group Meeting (2) held on November 3, 2025.

Figure 1. Scope of the research project



Source: Visionary Analytics, 2026

Notably, this specific project is part of a larger research project which aims to improve the capacity of European social partners and their member organisations in the AV, banking and telecoms sectors in order to address the economic and social impact of the development and deployment of GenAI. This project will contribute to the larger project, informing sector-specific workshops and a European social dialogue conference that will occur in tandem.

GenAI in the services economy

According to the European Commission, GenAI refers to a recently developed technology, based on foundation models, that is capable of generating new and unique content for various applications. These models are created by training a foundation model on large amounts of data and then fine-tuning it on a specific task.¹ GenAI can produce a wide range of content, including text, images, audio, code, videos, materials and designs. Unlike traditional AI systems that analyse and classify data (fraud detection, recommendation engines), GenAI creates original content by learning from vast datasets, enabling applications like automated content generation, personalised customer interactions, and creative design assistance. Box 1 below introduces GenAI, including key examples, terms and applications.

Box 1. Introduction to GenAI pt. 1

GenAI is a recently developed technology capable of generating new and unique content for various applications. These models are created by training a foundation model on large amounts of data and then fine-tuning it to improve its content generation capabilities. Put differently, GenAI refers to a class of AI systems that can autonomously produce original content – such as text, images, audio, software code, or product designs – based on patterns identified in large datasets. In contrast to traditional AI, which primarily performs classification or prediction tasks, GenAI systems are designed to create novel outputs that resemble human-generated material. These systems are powered by foundation models, i.e. large, general-purpose models trained on diverse and extensive datasets. Prominent examples include OpenAI's GPT, Meta's Llama and Google's Gemini. Once trained, these models can be fine-tuned for specific applications across various domains.

Key Terminology

Prompting: The method by which users guide the model's behaviour through input instructions, often enhanced via advanced techniques such as chain-of-thought or few-shot prompting.

Pre-training: The initial phase in which a model learns general-purpose capabilities by processing massive, unstructured datasets. This broad knowledge base enables transfer to a wide range of downstream tasks.

Fine-tuning: The process of adapting a pre-trained foundation model to perform a specific task or serve a particular use case more effectively.

Neural Networks: The core computational architecture enabling learning from data. These layered mathematical structures loosely mimic the human brain.

Tokens: Text and other inputs are divided into smaller units (i.e. tokens), which the model processes and predicts sequentially.

Transformer: A breakthrough model architecture introduced in 2017 that enables efficient, parallel processing of sequential data. Transformers are now the foundation for most leading GenAI systems.

2. European Commission (2023, July 5). An EU initiative on virtual worlds: a head start in the next technological transition. Shaping Europe's Digital Future. <https://digital-strategy.ec.europa.eu/en/library/eu-initiative-virtual-worlds-head-start-next-technological-transition>

Box 1. Introduction to GenAI pt. 2

Why has GenAI emerged now?

Several technological advances have converged to enable the rise of GenAI:

The availability of massive datasets – driven by overall digitisation as well as the internet - has provided models with the scale of data needed to generalise effectively.

The introduction of the transformer architecture has enabled significantly more efficient training on sequence data (such as language, code, or time-series signals).

High-performance computing, particularly the widespread availability of GPUs (graphics processing units) and scalable cloud infrastructure, has made it feasible to train models with hundreds of billions of parameters.

A dynamic ecosystem of open source and commercial innovation has rapidly accelerated both capability development and public accessibility.

What's next?

GenAI is expected to develop along several strategic dimensions:

Autonomous AI Agents will increasingly take on operational and cognitive tasks – ranging from supply chain optimisation and contract analysis to intelligent production monitoring and predictive maintenance.

Hyper-personalisation and Real-Time Capabilities are expected to become standard features across digital services. GenAI will enable tailored service delivery along with continuously adaptive user experiences executed with minimal latency. This will allow businesses to meet individual customer needs more precisely and enhance engagement through seamless, context-aware interactions.

Conversational and Multimodal AI will grow more robust, combining text, images, audio and video to power next-generation assistants and tools.

Source: Visionary Analytics, 2026

Recent years have been marked by the advancement of technology and its increasing adoption across a range of industries, including those in the services economy. In the services economy specifically, GenAI is reshaping how work is conducted today while redefining what services can be provided and how value is created in this economic sub-sector. GenAI has the potential to transform the services economy, underscoring the importance of mitigating risks such as bias, inaccuracy, data breaches and regulatory non-compliance in the technology's adoption.

Overview of the EU services economy

The service economy refers to the segment of an overall economy that focuses on the provision of services rather than the production of physical goods,³ encompassing knowledge-intensive, customer-facing and digitally-enabled economic activities. Unlike industries such as manufacturing, agriculture, or construction, the service sector focuses on intangible outputs, including activities such as finance, telecommunications, media, professional services, health, education and transportation,⁴ as well as platform-based businesses that increasingly rely on data processing and human expertise. Services dominate EU economic activity⁵ (70% of the gross domestic product [GDP], as well as 73% of its employment), making GenAI's disruptive potential in the sector significant for European competitiveness, job security and social stability across member states.⁶

The range of occupations within the service economy is diverse, encompassing roles from IT specialists and bank clerks to call centre operators, cleaners and AV technicians. According to UNI Europa, the European services workers' federation, the services economy comprises at least 13 major sectors, including media, entertainment and art, post and logistics, finance, care, information, communication, technology and services.⁷ These sectors differ not only in their outputs but also in their working conditions and structures. Services sectors face unique vulnerabilities to AI disruption due to their reliance on cognitive tasks, customer interaction, and creative processes that GenAI can increasingly automate, unlike manufacturing's already-mechanised production processes.⁸ Furthermore, because services are inherently customer-centric, a company's success depends heavily on trust, satisfaction, and the quality of interactions. If Gen-AI adoption can enhance customer experiences and strengthen loyalty, it has the potential to boost revenues and reshape competitiveness across the sector.⁹

An overview of the AV, banking and telecoms industries is presented in Table 2, with further detail in Annex 1. The following sub-chapters introduce each of the target sectors in more detail.

3. Dziak, M. (2025). Service economy. EBSCO Research Starters. <https://www.ebsco.com/research-starters/economics/service-economy>

4. Ibid; Eurostat. (n.d.). Information on data. Structural Business Statistics. <https://ec.europa.eu/eurostat/web/structural-business-statistics/information-data>

5. Dziak, M. (2025). Service economy. EBSCO Research Starters. <https://www.ebsco.com/research-starters/economics/service-economy>

6. European Commission. (n.d.). Single market for services. Internal Market, Industry, Entrepreneurship and SMEs. https://single-market-economy.ec.europa.eu/single-market/services_en; Eurostat. (n.d.). Three jobs out of four in services. https://ec.europa.eu/eurostat/cache/digpub/european_economy/bloc-3a.html?lang=en

7. UNI Europa. (n.d.). Home. <https://www.uni-europa.org/>; UNI Europa. (n.d.). Sectors & Groups. <https://www.uni-europa.org/sectors-groups/>

8. Jetha, A., Shamaee, A., Bonaccio, S., Gignac, M. A. M., Tucker, L. B., Tompa, E., Bültmann, U., Norman, C. D., Banks, C. G., & Smith, P. M. (2021). Fragmentation in the future of work: A horizon scan examining the impact of the changing nature of work on workers experiencing vulnerability. *American Journal of Industrial Medicine*, 64(8), 649–666. <https://doi.org/10.1002/ajim.23262>; Strietska-Illina, O., & Chun, H.-K. (2021). Changing demand for skills in digital economies and societies: Literature review and case studies from low- and middle-income countries (1st ed.). ILO. <https://www.ilo.org/publications/changing-demand-skills-digital-economies-and-societies>; European Foundation for the Improvement of Living and Working Conditions. (2020). Working conditions in sectors. Publications Office. <https://data.europa.eu/doi/10.2806/024695>

9. Tucker, M. (2010). How important is customer satisfaction to the services sector? *Journal of Facilities Management*, 8(4). <https://doi.org/10.1108/jfm.2010.30808daa.001>; Hussain, M. A., Hussain, A., Rahman, M. A. U., Irfan, M., & Hussain, S. D. (2025). The effect of AI in fostering customer loyalty through efficiency and satisfaction. *Advances in Consumer Research*, 2, 331–340. <https://acr-journal.com/article/the-effect-of-ai-in-fostering-customer-loyalty-through-efficiency-and-satisfaction-908/>

Table 2. Target sectors and associated industries

AUDIOVISUAL	BANKING	TELECOMS
<i>Motion picture, video and television programme activities</i>	<i>Activities of holding companies</i>	<i>Satellite telecommunications activities</i>
<i>Motion picture, video and television programme production, sound recording and music publishing activities</i>	<i>Financial service activities, except insurance and pension funding</i>	<i>Telecommunications</i>
<i>Programming and broadcasting activities</i>	<i>Monetary intermediation (excluding central banking)</i>	<i>Wired telecommunications activities</i>
<i>Publishing activities</i>	<i>Other financial service activities (except insurance and pension funding)</i>	<i>Wireless telecommunications activities</i>
<i>Publishing of books, periodicals and other publishing activities</i>	<i>Trusts, funds and similar financial entities</i>	<i>Other telecommunications activities</i>
<i>Radio broadcasting</i>		
<i>Software publishing</i>		
<i>Sound recording and music publishing activities</i>		
<i>Television programming and broadcasting activities</i>		

Source: Visionary Analytics based on NACE2 classification; See: Eurostat, 2008; European Commission, n.d.¹⁰

Audiovisual sector

The AV sector is a key component of the services economy, encompassing cinema, television, radio, video and on-demand services such as streaming and catch-up TV.¹¹ It includes traditional media, like public and commercial broadcasting, independent television and film production, as well as newer digital platforms that deliver content online to homes and mobile devices.¹² The sector is economically and culturally significant, employing over a million people in the EU and contributing to both GDP and the promotion of European cultural diversity.¹³

Beyond its economic significance, the AV sector is a vital component of European democratic pluralism and cultural diversity, as recognised by the European Broadcasting Union (EBU), which highlighted “the central role played by the AV sector in safeguarding Europe’s cultural diversity.”¹⁴ Moreover, the sector sustains Europe’s multilingual and multicultural fabric through the production of accessible content for all audiences, including through subtitling, dubbing and original language productions, which extend the authentic representation of regional, national and community identities, as well as international co-productions, which foster cultural exchanges through the sharing of stories and culture.¹⁵

Work in the AV sector spans a wide range of roles, including content creation, editing, production, distribution and broadcasting. The sector involves creative, technical and administrative professions, many of which are freelance or contract-based.¹⁶ Unlike industrial sectors focused on physical goods, the AV sector produces cultural content with high symbolic value, often requiring complex international cooperation.¹⁷ It is also uniquely shaped by rapid technological change, with digitalisation continuously redefining how AV content is created, distributed and consumed across Europe.¹⁸

The introduction of GenAI is reshaping the AV sector by transforming content creation and distribution. GenAI enables automated script writing, synthetic actor creation, personalised content generation and real-time video editing, with the potential to reduce production costs. However, estimates of cost savings and efficiency vary, depending on the subsector, and are uncertain. For example, Morgan Stanley predicts GenAI could lead to savings ranging from 10% across the entire media industry to up to 30% in TV and film specifically.¹⁹ GenAI adoption also introduces uncertainties around the competitiveness of European companies, which may struggle to capitalise on GenAI in the medium term compared to larger or conglomerate US-based studios. Although Deloitte highlights that major US studios will be more cautious in GenAI adoption for direct content creation (less than 3% of production budgets), roughly 7% of operational spending is predicted to shift to AI-enabled tools (e.g. planning, localisation, marketing, talent management),²⁰ signalling that studios will be more likely to use GenAI for operations, distribution and management. At the same time, GenAI use in the AV sector raises new questions around creative ownership and intellectual property, employment displacement and creative labour, and content authenticity.²¹ This makes the sector a critical test case for GenAI disruption, as traditional production models and creative employment are fundamentally challenged.

10. European Commission: Eurostat. (2008). NACE Rev. 2: Statistical classification of economic activities in the European Community. Publications Office. <https://ec.europa.eu/eurostat/web/products-manuals-and-guidelines/-/ks-ra-07-015>; European Commission. (n.d.). Banking – Sectoral social dialogue. Employment, Social Affairs and Inclusion. https://employment-social-affairs.ec.europa.eu/policies-and-activities/eu-employment-policies/social-dialogue/cross-industry-and-sectoral-social-dialogue/banking-sectoral-social-dialogue_en
11. European Audiovisual Observatory. (n.d.). What we do. <https://www.obs.coe.int/en/web/observatoire/what-we-do>
12. European Union. (n.d.). Audiovisual and media. EUR-Lex. <https://eur-lex.europa.eu/summary/chapter/>
13. Ibid.
14. European Broadcasting Union. (2024, February 28). Empowering Europe's audiovisual sector: A vision for cultural diversity and skill development. EBU. <https://www.ebu.ch/news/2024/02/empowering-europes-audiovisual-sector-creative-skills-europes-vision-for-cultural-diversity-and-skill-development>
15. Preta, A., & Pogorel, G. (2024). European Culture: the Case of Audiovisual Cultural Production. SSRN Electronic Journal. <https://doi.org/10.2139/ssrn.4858989>
16. International Arts and Entertainment Alliance. (n.d.). UNI-MEI. <https://www.iaea-globalunion.org/a-propos/uni-mei>
17. European Commission. (2013). Communication from the Commission on State aid for films and other audiovisual works (2013/C 332/01). Official Journal of the European Union. https://eur-lex.europa.eu/legal-content/EN/TXT/?uri=oj:JOC_2013_332_R_0001_01; International Arts and Entertainment Alliance. (n.d.). UNI-MEI. <https://www.iaea-globalunion.org/a-propos/uni-mei>
18. European Union. (n.d.). Audiovisual and media. EUR-Lex. https://eur-lex.europa.eu/summary/chapter/audiovisual_and_media.html?root_default=SUM_1_COD-ED%3D05
19. Morgan Stanley. (2024, March 6). How AI Benefits—and threatens—the Entertainment Industry. Morgan Stanley. <https://www.morganstanley.com/insights/articles/ai-in-media-entertainment-benefits-and-risks>
20. Arkenberg, C., Ledger, D., Franks, R., Westcott, K., & Bucaille, A. (2024, November 19). Large studios will likely take their time adopting generative AI for content creation. Social media isn't hesitating: TMT Predictions 2025. Deloitte Center for Technology, Media & Telecommunications. <https://www.deloitte.com/us/en/insights/industry/technology/technology-media-and-telecom-predictions/2025/tmt-predictions-hollywood-cautious-of-genai-adoption.html>
21. Voinea, D. V. (2025). The Algorithmic Auteur: AI, Cultural Production, and the Reconfiguration of Audiovisual Media. *Social Sciences and Education Research Review*, 12(1), 256–268. <https://doi.org/10.5281/ZENODO.15804554>

Banking sector

The banking sector's heavy reliance on data processing, risk assessment and customer service interactions makes it highly susceptible to GenAI automation, with the potential to transform credit decisions, fraud detection, regulatory compliance and customer advisory services.²² The sector is a cornerstone of the service economy, enabling financial transactions, credit systems and capital flows across households, businesses and institutions. In the EU, the sector employs approximately 2.6 million people²³ and includes a wide range of services such as retail banking (for individuals), corporate banking (for businesses) and wholesale banking (for financial institutions).²⁴ It encompasses financial services but excludes central banking, insurance and pension funds, such as deposit-taking, lending and asset servicing.²⁵

Work in the banking sector includes roles in customer service, financial analysis, compliance, risk management and digital banking. Unlike sectors focused on tangible goods, banking involves the holding of abstract financial instruments and complex regulatory systems. The sector has been under pressure from declining profitability, increasing regulatory complexity and intensifying global competition, with only a small number of European banks remaining among the world's largest.²⁶ At the same time, it faces a structural shift driven by digitalisation, as banks invest in new technologies to improve efficiency, reduce costs and adapt to rapidly changing consumer expectations.²⁷ AI, including GenAI, is increasingly integrated into banking operations, driving automation in customer service, fraud detection and credit assessment, while also reshaping workforce needs and raising ethical considerations around data use and decision-making.²⁸

22. Interview 10. August 12, 2025.

23. Eurostat. (2025). Employment by detailed industry (NACE Rev.2) – National accounts [Dataset]. Eurostat. https://ec.europa.eu/eurostat/databrowser/view/nama_10_a64_e__custom_18745964/default/table

24. European Commission. (n.d.). Financial services. Competition Policy. https://competition-policy.ec.europa.eu/sectors/financial-services_en

25. European Commission. (n.d.). Banking – Sectoral social dialogue. Employment, Social Affairs and Inclusion. https://employment-social-affairs.ec.europa.eu/policies-and-activities/eu-employment-policies/social-dialogue/cross-industry-and-sectoral-social-dialogue/banking-sectoral-social-dialogue_en

26. European Banking Federation. (2024, April). Financing the future: A strategic banking sector for a competitive Europe – Short version. https://www.ebf.eu/wp-content/uploads/2024/04/FFIN-Memorandum-version-courte_PRINT.pdf

27. European Commission. (2025, April 28). The EU banking sector [Newsletter]. Finance. https://finance.ec.europa.eu/news/eu-banking-sector-2025-04-28_en

28. Baffour Gyau, E., Appiah, M., Gyamfi, B. A., Achie, T., & Naeem, M. A. (2024). Transforming banking: Examining the role of AI technology innovation in boosting banks financial performance. *International Review of Financial Analysis*, 96(Part B). <https://doi.org/10.1016/j.irfa.2024.103700>

Telecommunications sector

The telecoms sector encompasses a wide range of activities and infrastructures essential for modern digital communication. It includes wired, wireless, satellite and other telecommunication activities. These cover everything from maintaining physical infrastructure for the transmission of voice, text, sound and video, to providing internet access and mobile services as well as cloud, edge cloud and data processing.²⁹ According to Eurostat, over 1.3 million people are employed in the telecoms sector across the EU.³⁰ Work in this sector is diverse, ranging from network installation and maintenance to data transmission, customer service and, increasingly, technical and digital roles related to AI software systems, cybersecurity and service innovation.³¹

Compared to other sectors, telecommunications is highly infrastructure-dependent, but also technology-driven and subject to rapid change.³² Market liberalisation and digitalisation have reshaped the industry, which has been evolving beyond basic connectivity with new services centred around next-generation communication technologies, reducing demand for traditional manual skills while creating new needs for digital literacy, system integration and technical expertise.³³ AI is playing a growing role in telecommunications by enhancing network optimisation, predictive maintenance and customer service automation, while also accelerating the convergence between telecoms and digital technology sectors. Its successful integration into electronic communications networks (ECN) will determine Europe's ability to lead in innovation, competitiveness and digital sovereignty. GenAI furthers the potential for innovation and transformation in the sector by enabling providers to offer AI-as-a-Service, create personalised network experiences, automate complex troubleshooting and open new revenue streams through AI-powered digital services. However, this integration results in rapidly growing AI-related data traffic (especially data centre traffic, which is expected to grow at an annual rate of 50%) and increases quality and performance requirements for operators.³⁴

The sector is distinct in its role as an enabler for other industries, providing the backbone for digital economies and facilitating the delivery of services across all parts of society.³⁵ Despite this, it faces several structural and technological challenges, including stretched investment capacity and market fragmentation, that hinder innovation.³⁶

The leading European connectivity providers show commitment to contributing to Europe's ambition to develop leadership in AI and to being part of the innovative ecosystem, while stressing the urgency of the European telecoms reform that would simplify and harmonise the regulatory framework and enable innovation at scale.³⁷

29. European Commission: Eurostat. (2008). NACE Rev. 2: Statistical classification of economic activities in the European Community. Publications Office.

<https://ec.europa.eu/eurostat/web/products-manuals-and-guidelines/-/ks-ra-07-015>; European Commission. (n.d.). Telecommunications – Sectoral social dialogue.

Employment, Social Affairs and Inclusion. https://employment-social-affairs.ec.europa.eu/policies-and-activities/eu-employment-policies/social-dialogue/cross-industry-and-sectoral-social-dialogue/telecommunications-sectoral-social-dialogue_en

30. Eurostat. (2025). Employment by detailed industry (NACE Rev.2) – National accounts [Dataset]. Eurostat. https://ec.europa.eu/eurostat/databrowser/view/nama_10_a64_e__custom_17373817/bookmark/table?lang=en&bookmarkId=a958bb02-6832-4899-9ee7-f99567e4c974

31. European Commission. (n.d.). Telecommunications – Sectoral social dialogue. Employment, Social Affairs and Inclusion. https://employment-social-affairs.ec.europa.eu/policies-and-activities/eu-employment-policies/social-dialogue/cross-industry-and-sectoral-social-dialogue/telecommunications-sectoral-social-dialogue_en

32. Erixon, F., Guinea, O., & Pandya, D. (2025). Strengthening the Supply-Side Innovation in EU Telecommunications. European Centre for International Political Economy, 12. <https://ecipe.org/publications/supply-side-innovation-eu-telecommunications/>

33. European Commission. (n.d.). Telecommunications – Sectoral social dialogue. Employment, Social Affairs and Inclusion. https://employment-social-affairs.ec.europa.eu/policies-and-activities/eu-employment-policies/social-dialogue/cross-industry-and-sectoral-social-dialogue/telecommunications-sectoral-social-dialogue_en; Polish Economic Institute. (2025, January 21). Consolidation of the telecommunications market may lead to rising prices and hinder its development [Press release]. <https://pie.net.pl/en/consolidation-of-the-telecommunications-market-may-lead-to-rising-prices-and-hinder-its-development/>

34. Wood, R., & Sherrington, S. (2025). State of Digital Communications 2025. Connect Europe. <https://connecteurope.org/sites/default/files/2025-01/State%20of%20Digital%20Communications%20%282025%29.pdf>

35. Erixon, F., Guinea, O., & Pandya, D. (2025). Strengthening the Supply-Side Innovation in EU Telecommunications. European Centre for International Political Economy, 12. <https://ecipe.org/publications/supply-side-innovation-eu-telecommunications/>

36. Wood, R., & Sherrington, S. (2025). State of Digital Communications 2025 (pp. 1–148). Connect Europe. <https://connecteurope.org/sites/default/files/2025-01/State%20of%20Digital%20Communications%20%282025%29.pdf>

37. Connect Europe. (2025, July 23). Telecom leaders commit to tech leadership for a competitive and secure Europe. <https://connecteurope.org/news/telecom-leaders-commit-tech-leadership-competitive-and-secure-europe>

2. OVERVIEW OF POLICY AND REGULATORY FRAMEWORK

This chapter provides a high-level overview of the current policy and regulatory landscape surrounding AI and digitalisation in the EU, including how it relates to the AV, banking and telecoms sectors. It also outlines how social partners are shaping workplace responses to these technologies. Specifically, it analyses how AI and digital technologies are being regulated at the EU and national levels, and how trade unions and employer organisations are responding through social agreements.

The chapter is structured as follows:

Chapter 2.1 Overview of EU and national policy/regulatory frameworks and their impact;

Chapter 2.2 Overview of social partner agreements and their impact.

EU and national policies: overview and impact

Overview of EU policies

The EU has established a **comprehensive regulatory architecture for AI governance**, anchored by the AI Act (2024),³⁸ General Data Protection Regulation (GDPR, 2018),³⁹ and the Digital Services Act (2022),⁴⁰ focusing on trust, safety and innovation. These concepts are central to the April 2019 High-Level Expert Group’s “Ethics Guidelines for Trustworthy AI”,⁴¹ which seeks to ensure that AI contributes to the public good while protecting fundamental rights and well-being. This approach prioritises that AI systems are designed to enhance rather than replace human capabilities, and that individuals retain control over AI-driven processes.⁴²

This means that AI systems should:

- **Be technically robust and safe**, with safeguards that prevent harm and ensure consistent, reliable performance;
- **Comply with privacy and data protection laws**, handling data securely, accurately and transparently;
- **Be explainable and traceable**, allowing users to understand how decisions are made and what role AI plays in those processes;
- **Demonstrate inclusivity and fairness** by actively avoiding bias and discrimination, particularly for vulnerable or underrepresented groups;
- **Support societal and environmental** goals, contributing positively to sustainability and broader social benefit.⁴³

These expectations are now being formalised through binding legislation and long-term strategic initiatives. The **2024 AI Act**⁴⁴ is the EU’s main legal instrument for regulating AI, aiming to ensure market safety, AI risk classification, compliance and compliance of high-risk AI systems (see Box 2 below).

Box 2. The AI Act

The AI Act aims to ensure that:

AI systems placed on the EU market are safe, respect fundamental values and promote innovation by fostering human-centric and trustworthy development across the region.

AI systems are classified by risk-level (minimal, limited, high, or unacceptable)

High-risk AI systems (Annex III of the AI Act) include recruitment algorithms that filter CVs or rank candidates, credit scoring models that determine loan eligibility, and real-time biometric identification systems in public spaces, requiring conformity assessments, quality management systems and human oversight protocols.

High-risk systems must comply with robust requirements, including:

- **Transparency** – Users must be clearly informed that they are interacting with AI
- **Human oversight** – Mechanisms must be in place to ensure meaningful human control
- **Accountability** – Providers must document and monitor system performance and risk

Stricter requirements are in place for high-risk AI systems that have a direct impact on individuals' lives, including decisions about jobs, education, credit and access to essential services.

Providers and deployers of AI systems take measures to ensure a sufficient level of AI literacy amongst persons responsible for operating the technology (Article 4 of the AI Act).

Source: Visionary Analytics, 2026; Regulation (EU) 2024/1689.

38. European Parliament & Council of the European Union. (2024, June 13). Regulation (EU) 2024/1689 laying down harmonised rules on artificial intelligence and amending Regulations (EC) No 300/2008, (EU) No 167/2013, (EU) No 168/2013, (EU) 2018/858, (EU) 2018/1139 and (EU) 2019/2144 and Directives 2014/90/EU, (EU) 2016/797 and (EU) 2020/1828 (Artificial Intelligence Act). European Union. <https://eur-lex.europa.eu/eli/reg/2024/1689/oj>
39. European Parliament & Council of the European Union. (2016). Regulation (EU) 2016/679 on the protection of natural persons with regard to the processing of personal data and on the free movement of such data (General Data Protection Regulation). <https://eur-lex.europa.eu/legal-content/EN/TXT/?uri=CELEX%3A32016R0679>
40. European Commission. (n.d.). The Digital Services Act: Ensuring a safe and accountable online environment. https://commission.europa.eu/strategy-and-policy/priorities-2019-2024/europe-fit-digital-age/digital-services-act_en.
41. European Commission. (2019, April 8). Ethics guidelines for trustworthy AI. Shaping Europe's Digital Future. <https://digital-strategy.ec.europa.eu/en/library/ethics-guidelines-trustworthy-ai>
42. European Commission (2018, April 25). Artificial Intelligence for Europe. COM (2018) 237 final. <https://eur-lex.europa.eu/legal-content/EN/TXT/?uri=COM:2018:237:FIN>
43. European Commission. (2019, April 8). Ethics guidelines for trustworthy AI. Shaping Europe's Digital Future. <https://digital-strategy.ec.europa.eu/en/library/ethics-guidelines-trustworthy-ai>
44. European Parliament & Council of the European Union. (2024, June 13). Regulation (EU) 2024/1689 laying down harmonised rules on artificial intelligence and amending Regulations (EC) No 300/2008, (EU) No 167/2013, (EU) No 168/2013, (EU) 2018/858, (EU) 2018/1139 and (EU) 2019/2144 and Directives 2014/90/EU, (EU) 2016/797 and (EU) 2020/1828 (Artificial Intelligence Act). European Union. <https://eur-lex.europa.eu/eli/reg/2024/1689/oj>

These obligations are now reshaping practices in the service sector. In the **AV sector**, this introduces transparency-related obligations that affect rights management and content workflows and traceability. Providers of GenAI systems should now disclose which materials they used to train their models and demonstrate compliance with EU copyright law, regardless of where their models were made.⁴⁵ In the **banking sector**, tools for credit scoring are classified as high-risk,⁴⁶ firms must ensure human oversight, rigorous testing and clear documentation.⁴⁷ In **telecommunications**, most AI applications, such as customer service chatbots, are considered low-risk but still subject to transparency requirements as users need to be informed that they are interacting with an AI system. Some use cases fall under high-risk categories, which include the use of AI in recruitment processes for filtering job applications.⁴⁸ The EU's AI policy framework positions the European Union as a global leader in AI governance, with the AI Act widely recognised as the most advanced example of horizontal AI regulation.⁴⁹ Its **sectoral impacts** are already visible:

- **In the AV sector**, transparency and labelling obligations are shaping how content is created, distributed and marketed, requiring all AI-generated material to be clearly identified.⁵⁰ However, some stakeholders have expressed differing views on how transparency and rights-related obligations within the AI Act could be implemented in practice.⁵¹
- **In banking**, the Act's direct impact is more limited, as many applications, such as fraud detection and anti-money laundering monitoring, are already governed by existing financial legislation. However, supervisors are continuing to assess whether additional safeguards are needed.⁵²
- **In telecommunications**, the AI Act is unlikely to change overall deployment strategies but will add compliance costs and obligations. Low-risk applications, such as customer-service chatbots, will require transparency, while high-risk use cases, like network optimisation⁵³ or AI in recruitment⁵⁴ could trigger stricter regulatory requirements.⁵⁵

Alongside the AI Act, the **GDPR** (Regulation 2016/679, effective May 25, 2018) continues to shape how AI is developed and used in the EU by governing how personal data should be collected, used and stored.⁵⁶ Since most AI systems rely on large datasets, often including personal or sensitive information, GDPR requirements have been integrated into AI design and deployment. In the AV sector, GDPR can be triggered when personal likeness or biometric data is used to train or generate content through AI.⁵⁷ As the GDPR ensures the lawful use of customer data by establishing a range of legal bases for processing, including consent, contractual necessity, legitimate interests, etc.,⁵⁸ it also plays a critical role in the **banking sector** by promoting transparency, protecting personal information and reinforcing trust between institutions and their clients. Similarly, these core principles of privacy and data protection can be applied to the **telecoms sector**, given the volumes and sensitivity of data managed.⁵⁹

45. Creatives Unite (2024). The creative industries of Europe support the European AI Act. <https://creativesunite.eu/article/the-creative-industries-of-europe-support-the-european-ai-act>

46. Regulation (EU) 2024/1689 (Artificial Intelligence Act), Annex III, point 5b.

47. KPMG International. (2024). Setting the ground rules: The EU AI Act—Understanding the regulatory landscape and preparing for the AI future. <https://kpmg.com/xx/en/our-insights/ecb-office/setting-the-ground-rules-the-eu-ai-act.html>

48. Regulation (EU) 2024/1689 (Artificial Intelligence Act), Annex III, point 4; Donegan, M. (2024). Are telcos ready for the EU AI Act? TMForum. <https://inform.tmforum.org/features-and-opinion/are-telcos-ready-for-the-eu-ai-act>

49. Deloitte. (2024). AI risk and approaches to global regulatory compliance. <https://www.deloitte.com/ie/en/services/consulting/perspectives/ai-risk-approaches-global-regulatory-compliance.html>

50. European Audiovisual Observatory (2024). AI in the Audiovisual Sector: Navigating the Current Legal Landscape. Council of Europe. <https://www.obs.coe.int/en/web/observatoire/-/new-report-the-challenges-of-ai-for-the-audiovisual-sector-and-the-role-european-legislation-is-playing>

51. FERA; Screen Directors Guild of Europe & other creative workers' organisations. (2024, April 25). Authors, performers' and other creative workers' organisations joint statement on generative artificial intelligence and the EU AI Act. <https://screendirectors.eu/authors-performers-and-other-creative-workers-organisations-joint-statement-on-generative-artificial-intelligence-and-the-eu-ai-act/>

52. European Insurance and Occupational Pensions Authority. (2024). AI Act and its impacts on the European financial sector. Eurofi Magazine contribution. https://www.eiopa.europa.eu/publications/ai-act-and-its-impacts-european-financial-sector_en

53. Regulation (EU) 2024/1689 (Artificial Intelligence Act), Annex III, point 2.

54. Regulation (EU) 2024/1689 (Artificial Intelligence Act), Annex III, point 4.

55. Donegan, M. (2024). Are telcos ready for the EU AI Act? TMForum. <https://inform.tmforum.org/features-and-opinion/are-telcos-ready-for-the-eu-ai-act>

56. European Parliament & Council of the European Union. (2016). Regulation (EU) 2016/679 on the protection of natural persons with regard to the processing of personal data and on the free movement of such data (General Data Protection Regulation). <https://eur-lex.europa.eu/legal-content/EN/TXT/?uri=CELEX%3A32016R0679>

57. European Audiovisual Observatory (2024). AI in the Audiovisual Sector: Navigating the Current Legal Landscape. Council of Europe. <https://www.obs.coe.int/en/web/observatoire/-/new-report-the-challenges-of-ai-for-the-audiovisual-sector-and-the-role-european-legislation-is-playing>

58. European Parliament & Council of the European Union. (2016). Regulation (EU) 2016/679 on the protection of natural persons with regard to the processing of personal data and on the free movement of such data (General Data Protection Regulation). <https://eur-lex.europa.eu/legal-content/EN/TXT/?uri=CELEX%3A32016R0679>

59. SA1 Solutions. (2018). What is GDPR and how does it affect the telecoms sector? <https://www.sa1solutions.com/post/2018-02-01-what-is-gdpr-and-how-does-it-affect-the-telecoms-sector>

However, recent academic literature highlights the practical challenges of applying GDPR to AI.⁶⁰ Scholars point out that obtaining meaningful consent for foundation model training is often unfeasible. Foundation models also face technical challenges, including implementing granular consent mechanisms for web-scraped training data, developing privacy-preserving training techniques (e.g. federated learning, differential privacy), establishing data subject access rights in distributed model parameters, and creating technical solutions for data deletion requests in pre-trained models.⁶¹ At the same time, uncertainty persists over how sensitive data should be processed in AI contexts.⁶² These data protection concerns are especially relevant in sectors such as banking, where strict regulatory standards and uncertainty about third-country data transfers have made some institutions hesitant to adopt GenAI systems that rely on external vendors.⁶³ Such difficulties reveal gaps between the legal framework and the technical realities of AI development.

In 2025, the European Commission launched two new strategies that aim to accelerate AI adoption in key European industries.⁶⁴ **The AI Continent Action Plan**⁶⁵ outlines five main areas that need to be sped up and intensified for the EU to position itself as a global leader in AI. The plan prioritises scaling up Europe’s computing infrastructure through strengthened AI Factories and the development of CERN-inspired Gigafactories, expanding access to high-quality data via a dedicated Data Union strategy, and stimulating the development and uptake of AI algorithms across strategic sectors through the forthcoming Apply AI Strategy. It also emphasises reinforcing Europe’s AI talent base by closing skills gaps, fostering excellence in education and research and attracting global talent. Finally, the plan leverages the EU’s integrated single market and the AI Act to provide a trusted regulatory environment while supporting smaller innovators in meeting compliance requirements. These pillars are supported by the **InvestAI initiative**, announced by Ursula von der Leyen, to mobilise EUR 200 billion in AI investment.⁶⁶

The **Apply AI Strategy** complements the AI Continent Action Plan.⁶⁷ The Strategy serves as the EU’s overarching sectoral approach to AI and aims to accelerate the EU’s technological sovereignty and competitiveness of strategic sectors and promote AI adoption and innovation with a particular focus on small and medium enterprises (SMEs). It promotes an “AI-first” mindset in organisational decision-making and encourages a “buy European” open-source-focused approach in the public sector. The Strategy sets out concrete actions across three pillars. First, sectoral flagships aim to increase AI uptake in ten key industries and the public sector. Second, cross-cutting support measures intend to extend access to AI Factories, Gigafactories, testing facilities, regulatory sandboxes and Digital Innovation Hubs transformed into Experience Centres for AI, as well as initiatives to build an AI-ready workforce. Finally, a new governance system is designed to ensure that policies align with practical, real-world needs. The system is centred on the **Apply AI Alliance**,⁶⁸ bringing together providers, industry, academia and the public sector, and the **AI Observatory**, which will monitor emerging trends and assess the sectoral impacts.⁶⁹

60. Bommasani, R., Hudson, D. A., Altman, R., Arora, S., Bernstein, M. S., Bohg, J., Bosselut, A., Brunskill, E., Brynjolfsson, E., Buch, S., et al. (2021). On the Opportunities and Risks of Foundation Models. <https://doi.org/10.48550/arxiv.2108.07258>; Novelli, C., Casolari, F., Hacker, P., Spedicato, G., & Floridi, L. (2024). Generative AI in EU law: Liability, privacy, intellectual property, and cybersecurity. *arXiv*. <https://doi.org/10.48550/arXiv.2401.07348>;

61. Bommasani, R., Hudson, D. A., Altman, R., Arora, S., Bernstein, M. S., Bohg, J., Bosselut, A., Brunskill, E., Brynjolfsson, E., Buch, S., et al. (2021). On the Opportunities and Risks of Foundation Models. <https://doi.org/10.48550/arxiv.2108.07258>

62. Novelli, C., Casolari, F., Hacker, P., Spedicato, G., & Floridi, L. (2024). Generative AI in EU law: Liability, privacy, intellectual property, and cybersecurity. *arXiv*. <https://doi.org/10.48550/arXiv.2401.07348>

63. Ek, M., Lu, L., & Arnarp, E. (2024). Generative AI in traditional banking institutes (INFM10 2024). Department of Informatics, Lund University. <http://lup.lub.lu.se/student-papers/record/9165280>

64. European Commission (2025, October 8). Commission launches two strategies to speed up AI uptake in European industry and science. [Press release]. <https://digital-strategy.ec.europa.eu/en/news/commission-launches-two-strategies-speed-ai-uptake-european-industry-and-science>

65. European Commission. (2025, April 9). COMMUNICATION FROM THE COMMISSION TO THE EUROPEAN PARLIAMENT, THE COUNCIL, THE EUROPEAN ECONOMIC AND SOCIAL COMMITTEE AND THE COMMITTEE OF THE REGIONS AI Continent Action Plan. COM/2025/165 final. <https://eur-lex.europa.eu/legal-content/EN/TXT/?uri=celex-52025DC0165>

66. Ibid.

67. European Commission. (2025, October 10). COMMUNICATION FROM THE COMMISSION TO THE EUROPEAN PARLIAMENT AND THE COUNCIL Apply AI Strategy. COM/2025/723 final. <https://eur-lex.europa.eu/legal-content/EN/TXT/?uri=CELEX:52025DC0723>; European Commission. (n.d.). Apply AI Strategy. <https://digital-strategy.ec.europa.eu/en/policies/apply-ai>

68. European Commission. (n.d.). Apply AI Alliance. <https://digital-strategy.ec.europa.eu/en/policies/apply-ai-alliance>

69. European Commission. (2025, October 10). COMMUNICATION FROM THE COMMISSION TO THE EUROPEAN PARLIAMENT AND THE COUNCIL Apply AI Strategy. COM/2025/723 final. <https://eur-lex.europa.eu/legal-content/EN/TXT/?uri=CELEX:52025DC0723>; European Commission. (n.d.). Apply AI Strategy. <https://digital-strategy.ec.europa.eu/en/policies/apply-ai>

These regulatory frameworks are supported by the EU's **Digital Decade 2030 strategy**,⁷⁰ which aims to build the infrastructure, skills and market conditions necessary for widespread and responsible AI adoption; a key target is that 75% of EU businesses adopt AI or other digital technologies by 2030. The strategy is supported by initiatives like the **Media and Audiovisual Action Plan**, which channels funding, innovation support and market access tools to help media and AV companies recover and digitise.⁷¹ Banks are already increasing the use of AI in tasks such as **detecting fraud, cybersecurity, and risk management**.⁷² These deployments reflect the broader goals of the Digital Decade strategy and indicate early progress towards the EU's target of widespread AI adoption by 2030. Furthermore, the program's objectives, such as **advancing EU connectivity and expanding 5G coverage**, align with the telecoms industry.⁷³ The 2022 **Digital Services Act** (DSA, Regulation EU 2022/2065, effective November 16, 2022)⁷⁴ strengthens the oversight of algorithmic systems used by online platforms, requiring greater transparency around automated decision-making, risk assessments, and content moderation. The DSA further embeds accountability into the digital sphere. In the **telecoms sector**, the DSA has more direct and operational implications:

- **Telecoms operators that host or facilitate online platforms become liable once notified of illegal content, requiring them to establish robust takedown procedures and more sophisticated monitoring systems;**
- **They must also provide greater transparency around algorithmic decision-making in content recommendations and advertising practices.**

For many providers, this translates into significant scaling-up of moderation capabilities and compliance infrastructures, which, while costly, reinforce public trust in online services and accountability online.⁷⁵ Moreover, the European Commission published the proposal for the Digital Networks Act in January 2026,⁷⁶ which aims to "incentivise all market players to innovate and invest in advanced connectivity and promote an ecosystem of connectivity and computing infrastructures enabling the AI continent."⁷⁷ The initial response from key telecoms industry players was partly critical, reflecting the need for transformative proposals that foster investment⁷⁸ and drive European digital competitiveness.⁷⁹ From a labour market perspective, it has also been stressed that new strategies targeting digital infrastructure transformation and fair and sustainable competition for industry players should aim to couple investment incentives with concrete labour market measures to, for example, protect existing jobs, promote upskilling and support job creation.⁸⁰

70. European Commission. (n.d.). Europe's Digital Decade: digital targets for 2030. https://commission.europa.eu/strategy-and-policy/priorities-2019-2024/europe-fit-digital-age/europes-digital-decade-digital-targets-2030_en

71. European Commission. (2020, December). Digital Decade: Commission launches Action Plan to support recovery and transformation of the media and audiovisual sectors (IP/20/2239). https://ec.europa.eu/commission/presscorner/detail/en/ip_20_2239

72. European Banking Federation. (n.d.). Artificial Intelligence. <https://www.ebf.eu/priorities/innovation-cybersecurity/artificial-intelligence/>

73. European Commission. (2023). New step towards the Digital Decade: 2030 policy programme comes into force. <https://eufordigital.eu/new-step-towards-the-digital-decade-2030-policy-programme-comes-into-force/>

74. European Commission. (n.d.). The Digital Services Act: Ensuring a safe and accountable online environment. https://commission.europa.eu/strategy-and-policy/priorities-2019-2024/europe-fit-digital-age/digital-services-act_en

75. Stadig, D., & Slijkerman, J. F. (2024). European telecom sector faces additional regulation. <https://think.ing.com/articles/european-telecom-sector-faces-additional-regulation>

76. European Commission. (2026, January 21). Proposal for a Regulation for the Digital Networks Act (DNA). <https://digital-strategy.ec.europa.eu/en/library/proposal-regulation-digital-networks-act-dna>

77. European Commission. (2025a). Call For Evidence for an Evaluation and Impact Assessment Run in Parallel (Ref. Ares(2025)4545535). https://ec.europa.eu/info/law/better-regulation/have-your-say/initiatives/14709-Digital-Networks-Act_en

78. Connect Europe. (2026). Digital Networks Act: telecom industry asks for bolder action to secure Europe's digital future. <https://connecteurope.org/news/digital-networks-act-telecom-industry-asks-bolder-action-secure-europes-digital-future>

79. GSMA. (2026). The Digital Networks Act: evolution where revolution was required. <https://www.gsma.com/about-us/regions/europe/news/the-digital-networks-act-evolution-where-revolution-was-required/>

80. UNI Europa ICTS. (2024). Commission White Paper "How to master Europe's digital infrastructure needs?" https://www.uni-europa.org/wp-content/uploads/sites/3/2024/06/20240621_White-paper-digital-infrastructure_UE-position_FV.pdf

Building on issues of fairness and accountability, questions of liability have also become central to the EU's AI governance agenda. The proposed **AI Liability Directive (AILD, 2022)**⁸¹ aimed to establish uniform standards for AI-related harm, and measures to alleviate the burden of proof for victims, but was withdrawn due to stakeholder disagreement, including criticisms towards overly complex and burdensome digital regulations.⁸² More recently, reflecting the ongoing policy evolution in this area, the European Commission's 2025 Work Programme instead focuses on harmonising liability rules across the EU, rather than relying on separate national legislation, taking a simplified approach that encourages innovation, growth and security,⁸³ making it easier for AI businesses to grow while keeping compliance more straightforward under the AI Act.⁸⁴

The **Digital Omnibus**⁸⁵ regulation proposal further reflects the European Commission's simplification ambition within the digital market. The proposal, published in November 2025, includes a set of amendments that aim to avoid legislation overlaps, reducing the regulatory burden and easing compliance for both the private and public sectors while maintaining necessary safeguards. The proposal focuses on amendments to data privacy laws such as GDPR, Data Act, and the directive on privacy and electronic communications. In parallel, the **Digital Omnibus on AI**⁸⁶ regulation proposal amends the EU AI Act through selective simplification that aims to facilitate the implementation of certain AI Act provisions. The proposal goes in line with the AI Continent Action Plan and the Apply AI Strategy. One of the amendments, for example, extends the responsibilities under Article 4 (See Box 2) onto the Member States.

Against the backdrop of continuous policy refinement, the initiatives discussed demonstrate the progress towards a coherent and layered framework that balances innovation and accountability⁸⁷ **through ethical grounding, legal enforcement, data protection and digital capacity building**. They guide AI adoption across the region, shaping the operational and strategic choices of different industries in the services economy. However, it is also important to note that in the absence of coordinated global governance, enforcement challenges and regulatory inconsistencies may limit the effectiveness of these policies.⁸⁸ This underscores the need for international cooperation that establishes shared principles and standards.

While most of these policies predate the rapid rise of GenAI, the AI Act takes a significant step towards addressing GenAI. It establishes **binding obligations for providers of GenAI**, including transparency on training data, compliance with intellectual property requirements and clear labelling of AI-generated content. The Act introduces enhanced compliance standards for models deemed to present systemic risk, such as mandatory robustness testing, cybersecurity measures and incident reporting.⁸⁹

81. European Commission (2022). Proposal for a DIRECTIVE OF THE EUROPEAN PARLIAMENT AND OF THE COUNCIL on Adapting Non-Contractual Civil Liability Rules to Artificial Intelligence (AI Liability Directive). COM/2022/496 final. <https://eur-lex.europa.eu/legal-content/EN/TXT/?uri=CELEX%3A52022PC0496>

82. Ibid; Andrews, C. (2025, February 12). European Commission withdraws AI Liability Directive from consideration. IAPP. <https://iapp.org/news/a/european-commission-withdraws-ai-liability-directive-from-consideration>; Sasdelli, P. (2025, March 31). Proposed EU AI liability rules withdrawn. Bird & Bird. <https://www.twobirds.com/en/insights/2025/proposed-eu-ai-liability-rules-withdrawn>; European Commission. (n.d.). Liability Rules for Artificial Intelligence. https://commission.europa.eu/business-economy-euro/doin-business-eu/contract-rules/digital-contracts/liability-rules-artificial-intelligence_en

83. European Commission (2025b). COMMUNICATION FROM THE COMMISSION TO THE EUROPEAN PARLIAMENT, THE COUNCIL, THE EUROPEAN ECONOMIC AND SOCIAL COMMITTEE AND THE COMMITTEE OF THE REGIONS Commission Work Programme 2025 Moving Forward Together: A Bolder, Simpler, Faster Union. COM/2025/45 final. <https://eur-lex.europa.eu/legal-content/EN/TXT/?uri=CELEX%3A52025DC0045&qid=1761126737792>

84. Andrews, C. (2025, February 12). European Commission withdraws AI Liability Directive from consideration. IAPP. <https://iapp.org/news/a/european-commission-withdraws-ai-liability-directive-from-consideration>

85. European Commission (2025, November 19). Proposal for a REGULATION OF THE EUROPEAN PARLIAMENT AND OF THE COUNCIL amending Regulations (EU) 2016/679, (EU) 2018/1724, (EU) 2018/1725, (EU) 2023/2854 and Directives 2002/58/EC, (EU) 2022/2555 and (EU) 2022/2557 as regards the simplification of the digital legislative framework, and repealing Regulations (EU) 2018/1807, (EU) 2019/1150, (EU) 2022/868, and Directive (EU) 2019/1024 (Digital Omnibus). 2025/0360(COD). European Union. <https://eur-lex.europa.eu/legal-content/EN/TXT/?uri=celex:52025PC0837>

86. European Commission. (2025, November 19). Proposal for a REGULATION OF THE EUROPEAN PARLIAMENT AND OF THE COUNCIL amending Regulations (EU) 2024/1689 and (EU) 2018/1139 as regards the simplification of the implementation of harmonised rules on artificial intelligence (Digital Omnibus on AI). 2025/0359(COD). European Union. <https://eur-lex.europa.eu/legal-content/EN/TXT/?uri=celex:52025PC0836>

87. Deloitte. (2024). AI risk and approaches to global regulatory compliance. <https://www.deloitte.com/ie/en/services/consulting/perspectives/ai-risk-approaches-global-regulatory-compliance.html>; European Commission. (2025c). The impact of the Digital Services Act on digital platforms. Digital Strategy. <https://digital-strategy.ec.europa.eu/en/policies/dsa-impact-platforms>

88. Sepasspour, R. (2023). A reality check and a way forward for the global governance of artificial intelligence. Bulletin of the Atomic Scientists, 79(5), 304–315. <https://doi.org/10.1080/00963402.2023.2245249>.

89. Regulation (EU) 2024/1689 (Artificial Intelligence Act).

Complementing these binding rules, the General-Purpose AI Code of Practice,⁹⁰ serves as a voluntary framework for general-purpose AI providers. Published in July 2025, it outlines best-practice expectations in domains such as data quality, fairness, non-discrimination, transparency and safety for GenAI providers. However, a joint statement by European and international associations representing employers, unions, collecting societies and other professional organisations in the AV sector criticised the Code as a “missed opportunity” that fails to provide meaningful intellectual property (IP) protection and falls short of the AI Act’s objectives.⁹¹

Overall, while the EU’s regulatory framework represents a significant step forward in governing AI and GenAI, it is still debated whether current instruments and implementation measures fully address the practical needs and concerns of the specific sectors and wider services industries.

Overview of national policies

Across the EU Member States, national AI policies are developed to link technological innovation with broader economic, social and environmental goals. Many strategies combine investment in emerging technologies with skills development, public-private collaboration and alignment to EU principles on trustworthy and human-centric AI. While national approaches differ, commonalities include strengthening competitiveness, advancing sustainability, modernising public service and embedding ethics in AI use. Identified national AI strategies between 2018 and 2025 are commonly structured around three recurring pillars:

- **Human capital** – investing in digital skills, AI education, and training to expand the talent pipeline.
- **Research & innovation ecosystems** – fostering interdisciplinary collaboration between academia, industry, and government.
- **Applications & infrastructure** – ensuring AI deployment across public services, SMEs and industry, supported by digital infrastructure such as 5G and high-performance computing.

A shared orientation towards multi-stakeholder governance and EU alignment underpins these strategies, but the relative weight of priorities varies across regions (see Box 3 below).

90. European Commission. (n.d.). The General-Purpose AI Code of Practice. Shaping Europe’s digital future. <https://digital-strategy.ec.europa.eu/en/policies/contents-code-gpai>

91. Coalition of rightsholders across the EU’s cultural and creative sectors. (2025, July 30). Joint statement on the AI Act implementation measures adopted by the European Commission. Brussels. <https://www.cisac.org/Newsroom/articles/joint-statement-broad-coalition-rightsholders-active-across-eus-cultural-and>

92. Ministry of Economic Affairs and Employment. (2022). Artificial Intelligence 4.0 programme: Final report (Publications of the Ministry of Economic Affairs and Employment, No. 2022:63). Government of Finland. <https://julkaisut.valtioneuvosto.fi/items/24932639-b776-45a1-85ad-9c084726b0d9>

93. Ministry of Finance & Ministry of Industry, Business and Financial Affairs. (2019). National strategy for artificial intelligence. https://en.digst.dk/media/lz0fbxt4/305755_gb_version_final-a.pdf

94. Government Offices of Sweden. (2018). National approach to artificial intelligence. https://wp.oecd.ai/app/uploads/2021/12/Sweden_National_Approach_to_Artificial_Intelligence_2018.pdf

95. Norwegian Ministry of Local Government and Modernisation (2020). National Strategy for Artificial Intelligence. https://www.regjeringen.no/contentassets/1feb3bb2c4fd4b-7d92c67ddd353b6ae8/en-gb/pdfs/ki-strategi_en.pdf

96. Nord Forsk. (n.d.). A Nordic initiative for research and innovation on responsible and ethical use of Artificial Intelligence. <https://norden.diva-portal.org/smash/get/diva2:1856812/FULLTEXT02.pdf>

Box 3. Examples of AI strategies across different regions in Europe pt. 1

Northern Europe:

Finland's Artificial Intelligence 4.0 Programme (2020–2023)⁹² emphasised the “twin transition” of simultaneous digitalisation and green transformation, positioning AI as a critical enabler for sustainable industrial development, particularly targeting SMEs. The program aims to make Finland “a winner in the twin transition” by 2030, with Finnish industry becoming clean, efficient and digital while delivering competitive solutions that increase customers’ environmental benefits globally.

Denmark's 2019 National Strategy for Artificial Intelligence⁹³ complements this approach by linking AI development to data responsibility and sustainability through four priority areas: healthcare, energy and utilities, agriculture, and transport. The strategy emphasises ethical and human-centred AI development with EUR 9.2 million allocated for 2019–2027 (later reduced to EUR 5 million), alongside additional EUR 39.5 million for digital technology research. Denmark's approach focuses particularly on precision agriculture, smart energy grids, and climate partnerships with industrial sectors to achieve a 70% carbon emission reduction by 2030.

Sweden's AI Strategy (2018)⁹⁴ emphasises utilising AI for societal and economic gains while prioritising education, training and cross-sector collaboration.

Norway's National Strategy for Artificial Intelligence (2020)⁹⁵ promotes ethical and human-centric AI development, tackling issues of data privacy, bias and transparency, while integrating AI across healthcare, energy and public administration sectors. The Research Council of Norway has funded 470 ongoing AI projects worth 2.2 billion NOK, focusing on societal aspects and innovation. The Nordic region has established a coordinated approach through Nordic Innovation's AI and Data program, developing a Nordic Ethical AI Expert Group with 23 experts working on recommendations for data management, ethical AI implementation, skills development and sustainability transformation.⁹⁶ This collective Nordic vision positions the region as a leader in digitalisation, ethical AI and responsible data use by 2030.

Western Europe:

France's AI strategy, integrated into the France 2030 investment plan launched in 2021,⁹⁷ follows a sovereignty-driven approach with massive state investment totalling over EUR 3 billion by 2024, escalating from the original 2018 “AI for Humanity” strategy that allocated EUR 1.5 billion. The strategy positions AI at the core of industrial leadership, focusing on talent development (aiming to double AI specialists to 100,000 trained annually by 2030), and research infrastructure investment.

The Netherlands' Strategic Action Plan for Artificial Intelligence (2019),⁹⁸ updated in 2021, balances competitiveness with openness and trust through three strategic pillars: capitalising on societal and economic opportunities, creating optimal conditions for AI development, and strengthening ethical foundations.⁹⁹ The Dutch government allocated EUR 45 million annually for AI innovation and research, with an additional EUR 276 million through the AiNed Programme via the Netherlands AI Coalition.

Germany's updated Artificial Intelligence Strategy (2020)¹⁰⁰ increased federal investment from EUR 3 billion to EUR 5 billion by 2025, focusing on establishing internationally competitive AI ecosystems that enhance research, business and industrial competitiveness. The strategy emphasises pandemic control, sustainability (particularly environmental and climate protection) and international networking, while promoting “AI Made in Europe” as a trademark for responsible and public good-oriented AI development.

Source: Visionary Analytics, 2026

97. République Française. (2021). France 2030: Stratégie nationale pour l'intelligence artificielle – 2e phase. Conquérir les talents et transformer notre potentiel scientifique en succès économiques. Ministère de l'Économie, des Finances et de la Souveraineté industrielle et numérique. https://www.info.gouv.fr/upload/media/organization/0001/01/sites_default/files_contenu_piece-jointe_2022_01_08112021_dp_strategie_nationale_pour_ia_2eme_phase.pdf

98. European Commission. (2021). Netherlands AI strategy report. AI Watch. https://ai-watch.ec.europa.eu/countries/netherlands/netherlands-ai-strategy-report_en

99. Ministry of Economic Affairs and Climate Policy of the Netherlands. (2021). Strategic Action Plan for Artificial Intelligence: The Netherlands. OECD. https://wp.oecd.ai/app/uploads/2021/12/Netherlands_Strategic_Action_Plan_for_Artificial_Intelligence.pdf

100. German Federal Government. (2020). Artificial Intelligence Strategy of the German Federal Government: 2020 Update. https://www.ki-strategie-deutschland.de/files/downloads/Fortschreibung_KI-Strategie_engl.pdf

Box 3. Examples of AI strategies across different regions in Europe pt. 2

Southern Europe:

Italy's National Strategic Programme on Artificial Intelligence (2022–2024)¹⁰¹ uniquely combines investment in education and research with efforts to link AI adoption to creative industries and cultural heritage. The strategy establishes Italy as a globally competitive AI hub through six objectives and eleven priority sectors, with culture and tourism identified as a key priority area where advanced technologies enhance Italy's cultural heritage and tourism attractiveness through new synergies between cultural and creative industries.

Spain's 2024 Artificial Intelligence Strategy,¹⁰² structured around three key pillars, emphasises building necessary capabilities for growing AI demand, ensuring citizen benefits, and developing the ALIA foundation language model in Spanish and co-official languages. The strategy includes significant investment in supercomputing infrastructure, with Spain positioning itself to host one of Europe's first AI Factories through the MareNostrum 5 upgrade.

Central and Eastern Europe:

Slovakia's 2030 Digital Transformation¹⁰³ integrates AI into wider digital transformation agendas, seeking to modernise the economy, upgrade public services and promote inclusion.

Romania's National AI Strategy¹⁰⁴ emphasises using AI to raise the quality of life and economic growth while ensuring alignment with EU ethical guidelines. The strategy centres on creating AI talent and fostering industrialisation.

Lithuania's Artificial Intelligence Strategy titled "A Vision of the Future" (2019),¹⁰⁵ aims "to modernise and expand the current AI ecosystem in Lithuania and ensure that the nation is ready for a future with AI." The strategy focuses on six areas, including ethical and legal principles, AI integration across sectors, skills development and data governance. It promotes the creation of AI sandboxes and an ethics committee, research to reduce AI bias, and the introduction of AI education and training across all levels to strengthen workforce competencies. Furthermore, Lithuania adopted an Action Plan for the Development of Lithuanian AI Technologies 2023–2026 and launched several programmes to fund start-ups that develop AI solutions, digitalise public services and create AI solutions for the Lithuanian language.¹⁰⁶

Estonia's Artificial Intelligence Action Plan (2024–2026),¹⁰⁷ its third national AI strategy, builds on earlier initiatives to further integrate AI across public services, the private sector and education. With a focus on human-centric and trustworthy AI, the plan prioritises skills development, public-private collaboration, research and innovation support and the establishment of a legal framework for ethical AI use. It also highlights the importance of data infrastructure and language technologies in advancing AI applications. Additionally, Estonia's framework on AI includes the Data and Artificial Intelligence White Paper (2024–2030), Estonia 2035 and the Estonian Digital Agenda 2030.

Source: Visionary Analytics, 2026

101. Government of Italy. (2021). Strategic Programme on Artificial Intelligence 2022–2024. Rome, 24 November 2021. <https://assets.innovazione.gov.it/1637777513-strategic-program-aiweb.pdf>

102. Ministry for Digital Transformation and Public Service, Spain. (2024). The Government approves the Artificial Intelligence Strategy 2024. <https://digital.gob.es/en/comunicacion/notas-prensa/secretaria-digitalizacion-e-inteligencia-artificial/2024/05/2024-05-14>

103. Office of the Deputy Prime Minister of the Slovak Republic for Investments and Informatisation. (2019). 2030 Digital Transformation Strategy for Slovakia. <https://mirri.gov.sk/wp-content/uploads/2019/10/SDT-English-Version-FINAL.pdf>

104. România. (n.d.). Romania in the era of artificial intelligence: A strategy for the development and adoption of AI technology at a country level. <https://afyonluoglu.org/PublicWebFiles/Reports/AI/National/National%20AI%20Plan-Romania.pdf>

105. Ministry of the Economy and Innovation of the Republic of Lithuania. (2019). Lithuanian Artificial Intelligence Strategy: A Vision of the Future. [https://eimin.lrv.lt/uploads/eimin/documents/files/DI_strategija_ENG\(1\).pdf](https://eimin.lrv.lt/uploads/eimin/documents/files/DI_strategija_ENG(1).pdf)

106. Ministry of the Economy and Innovation of the Republic of Lithuania. (2024, July 29). Lithuania aims to become the most favourable country for the development of artificial intelligence technologies. <https://eimin.lrv.lt/en/structure-and-contacts/news-1/lithuania-aims-to-become-the-most-favourable-country-for-the-development-of-artificial-intelligence-technologies/>

107. Ministry of Economic Affairs and Communications of the Republic of Estonia. (2024). Artificial Intelligence Action Plan 2024–2026. <https://www.mkm.ee/sites/default/files/documents/2024-02/Tehisintellekti%20tegevuskava%202024-2026.pdf>; European Commission (2024). Estonia Digital Public Administration Factsheet 2024. Interoperable Europe Portal. https://interoperable-europe.ec.europa.eu/sites/default/files/inline-files/NIFO_2024%20DPAF_Estonia_vFinal.pdf

Impact of national policies

These national AI strategies are beginning to show tangible effects across Europe. While still early in implementation, they are shaping how countries invest in technology, build skills and govern AI. The impacts are visible in funding commitments, adoption rates, institutional development and ethical frameworks. Broadly, the impacts can be observed (see Box 3 for details on specific countries) in:

- **Increased funding and investment** – Countries such as France have scaled their AI agenda with EUR 109 billion in funding, centred on infrastructure, research laboratories, as well as startups. The country has also emerged as a European hub for AI startups, attracting EUR 3.2 billion in venture funding in 2022. Companies such as Mistral AI, Dataiku and Meero illustrate the growing strength of France's AI ecosystem.¹⁰⁸
- **Rising adoption levels** – Finland leverages its position as one of the most digitalised economies in the EU to accelerate AI use across society. Its strategy prioritises SMEs, supporting them with training and tools to boost productivity and to align with the twin transition of digitalisation and green growth.¹⁰⁹ France has also seen rapid adoption, with 35% of firms already using AI and 72% of employers reporting performance gains.¹¹⁰ Italy's strategy has consolidated research funding, expanded AI education and scaled public-private partnerships, particularly in enhancing digital services and data-driven governance.
- **Infrastructure and readiness** – Slovakia has embedded AI within its broader digital transformation agenda. While progress has been made, digital integration remains below the EU average, signalling the need for further support to translate readiness into widespread adoption.¹¹¹
- **Ethical framing** – Denmark announced in June 2025 plans to introduce legislation to grant citizens copyright over their likeness (body, face, voice), potentially becoming the first EU country to provide such comprehensive protection against AI-generated reproductions. If implemented, this development would illustrate the country's ethical commitments, translating into concrete protections in practice.

108. Business France. (2024). AI Race: How France is positioning itself as a leader. <https://world.businessfrance.fr/nordic/ai-race-how-france-is-positioning-itself-as-a-leader/>; Élysée. (2025). Make France an AI powerhouse. <https://www.elysee.fr/en/emmanuel-macron/2025/02/11/make-france-an-ai-powerhouse>

109. Ministry of Economic Affairs and Employment of Finland. (2022). Finland ranks first in EU digital comparison. <https://tem.fi/en/-/10623/finland-ranks-first-in-eu-digital-comparison>

110. Business France. (2024). AI Race: How France is positioning itself as a leader. <https://world.businessfrance.fr/nordic/ai-race-how-france-is-positioning-itself-as-a-leader/>

111. International Trade Administration (2024). Slovakia Country Commercial Guide: Digital Economy. U.S. Department of Commerce. <https://www.trade.gov/country-commercial-guides/slovakia-digital-economy>

Beyond general impacts, national strategies are beginning to shape AI adoption in the services economy sectors, reflecting both national strengths and EU-wide priorities. While most of the examples are framed in broad terms of competitiveness and digitalisation, certain domains can be observed (see Box 3 for details on specific countries):

- **Audiovisual sector** – Italy’s national AI plan highlights cultural heritage and creative industries as beneficiaries of AI, while Denmark’s move to strengthen individual rights over personal likeness is particularly relevant for the AV sector, where deepfakes and synthetic media present both new opportunities and significant challenges. In addition, France’s AI strategy considers ethics, trust and sovereignty in relation to creative content production.
- **Banking sector** – Though rarely singled out, AI adoption in financial services is enabled by national strategies that prioritise competitiveness, digitalisation and trust.
- **Telecoms sector** – Finland’s focus on advanced connectivity and infrastructure investment, as well as the Netherlands’ emphasis on intelligent connectivity, supports the sector. Slovakia also highlights infrastructure, such as 5G technology and high-performance, as critical to digital transformation.

Taken together, Member States’ national AI strategies are moving from vision to execution. Significant public and private investment is strengthening research and fuelling startup growth, while adoption rates point to growing diffusion of AI across countries and economies. At the same time, early regulatory proposals, such as Denmark’s protection of citizens’ likeness, illustrate how ethical safeguards are being prioritised. In parallel, these examples share an underlying intent to equip economies with the skills and governance needed for AI adoption. Even where sector-specific measures are absent, broader priorities create conditions for AI deployment across AV, banking and telecoms services.¹¹²

112. Digitaliseringsstyrelsen. (2024). Guide til virksomheder om ansvarlig anvendelse af generativ kunstig intelligens. <https://digst.dk/media/5fijp1ag/110324-guide-til-virksomheder-om-generativ-kunstig-intelligens.pdf>

Social partner agreements: overview and impact

Overview of social partner agreements

Cross-sectoral agreements

As AI adoption accelerates in European workplaces, EU-wide trade unions, employer associations and other social partners work to shape how AI is introduced in the workplace in ways that protect workers' rights while supporting innovation. Social dialogue and collective bargaining are consistently positioned as the mechanisms for ensuring fair, transparent and worker-centred AI adoption.¹¹³ This is demonstrated in the common themes and approaches of social partners, including tackling the risks of algorithmic management (the use of AI to monitor, evaluate and allocate work), as well as concerns linked to employees' privacy and upskilling the workforce. In these examples, emphasis is put on the 'human-in-control' or 'human-in-command' principle, ensuring humans retain agency over outputs.

Protecting workers' personal data is central across collective agreements. These highlight the need to restrict intrusive monitoring, strengthen rights around AI-driven decisions and ensure transparency and accountability in workplace data practices. Some illustrative but non-exhaustive examples include:

- **UNI Europa & Friedrich-Ebert-Stiftung report (2024)** – call for limits on intrusive monitoring, the right to contest automated decisions, access to independent data expertise and full worker information on AI's impact.¹¹⁴
- **European Cross-Sector Social Partner Agreement (2020)** – warns against excessive surveillance; calls for transparent, purpose-driven rules on workplace data use linked to legitimate objectives.¹¹⁵
- **ETUC Resolution (2020)** – demands strict regulation of AI in the workplace where rights, privacy or labour conditions are affected; insists workers must be informed about data practices; underlines the union's proactive role in AI governance and negotiations.¹¹⁶
- **ETUC Paper (2025)** – demands strict, enforceable limits on AI surveillance and data use at work; highlights enforcement gaps under GDPR; insists workers and unions control data collection and monitoring; bans processing of non-work or psychological data; requires transparency, proportionality, negotiation and human oversight in AI decisions; reaffirms unions' central role in ensuring technology protects workers' rights.¹¹⁷

113. European Social Partners (BusinessEurope, CEEP, SMEUnited, & ETUC). (2020). Framework Agreement on Digitalisation 2020. https://www.etuc.org/system/files/document/file2020-06/Final%2022%2006%2020_Agreement%20on%20Digitalisation%202020.pdf; European Trade Union Confederation. (2020). Resolution on the European strategies on artificial intelligence and data. <https://www.etuc.org/sites/default/files/document/file/2020-07/Adopted%20-%20ETUC%20resolution%20on%20the%20European%20strategies%20on%20artificial%20intelligence%20and%20data%20-%20EN.pdf>

114. UNI Europa & Friedrich-Ebert-Stiftung. (2024). Collective bargaining practices on AI and algorithmic management in European services sectors. https://www.uni-europa.org/wp-content/uploads/sites/3/2024/03/CollectiveBargainingPracticesOnAI_final.pdf

115. European Social Partners (BusinessEurope, CEEP, SMEUnited, & ETUC). (2020). Framework Agreement on Digitalisation 2020. https://www.etuc.org/system/files/document/file2020-06/Final%2022%2006%2020_Agreement%20on%20Digitalisation%202020.pdf

116. European Trade Union Confederation. (2020). Resolution on the European strategies on artificial intelligence and data. <https://www.etuc.org/sites/default/files/document/file/2020-07/Adopted%20-%20ETUC%20resolution%20on%20the%20European%20strategies%20on%20artificial%20intelligence%20and%20data%20-%20EN.pdf>

117. European Trade Union Confederation. (2025, March 4). Artificial Intelligence for Workers, Not Just for Profit: Ensuring Quality Jobs in the Digital Age. <https://www.etuc.org/en/document/artificial-intelligence-workers-not-just-profit-ensuring-quality-jobs-digital-age>

Beyond privacy, agreements consistently emphasise the importance of training and reskilling to help workers adapt to digitalisation, seize opportunities and reduce risks such as job loss, exclusion or inequality:

- **European Cross-Sector Social Partner Agreement (2020)** – stresses joint responsibility of employers and workers in reskilling; highlights support needed for SMEs; emphasises transversal skills (problem-solving, critical thinking, creativity) and human competences (judgment, emotional intelligence); recommends skills anticipation tools and lifelong learning.
- **ETUC Resolution (2020)** – calls for an EU framework that links AI literacy with strong rights safeguards; insists trade unions and worker representatives must shape AI's workplace role; stresses that training alone is insufficient – social dialogue must support it.
- **ETUC Paper (2025)** – calls for lifelong, high-quality AI training as a right, legally ensured by employers in cooperation with unions.

Building on this, the ETUC 2020 agreement promotes the training of workers and representatives in AI use and in understanding AI's broader impact on job roles and security. By encouraging ethical training for both employers and union representatives, the agreement could foster more responsible and transparent AI adoption in workplaces while reducing risks such as bias and privacy breaches. These priorities align with the findings of the 2023 Organisation for Economic Co-operation and Development (OECD) Employment Outlook,¹¹⁸ which highlights that as AI technologies evolve rapidly both workers and employers will need to adapt continuously. Training will therefore be central to managing AI-driven transitions and ensuring that labour market change remains fair and inclusive.

Agreements converge on the principle that algorithmic decision-making in the workplace must remain explainable, auditable and under human control, emphasising safeguards to ensure fairness, accountability and worker protection:

- **UNI Europa & Friedrich-Ebert-Stiftung report (2024)** – Insists on transparency in automated workplace processes and highlights the right to challenge algorithmic decisions; survey data show that only about 20% of unions currently have AI-related collective agreements in place, underlining the early stages of collective bargaining in AI.
- **European Cross-Sector Social Partner Agreement (2020)** – requires risk assessments for AI systems in the workplace; calls for measures to prevent unintended bias or harm; stipulates worker consultation on algorithmic decision-making.
- **ETUC Resolution (2020)** – places burden of proof on employers in disputes about AI compliance; stresses that liability should rest with businesses and developers, not with workers or AI systems; demands stronger EU-level regulation to address power imbalances caused by workers' limited access to AI-related information.
- **ETUC Paper (2025)** – insists AI impacts remain the responsibility of employers and developers, not workers; condemns the withdrawal of the AI Liability Directive proposal; calls for binding EU rules holding businesses accountable; requires transparency, full worker access to AI information, and meaningful oversight; and places the burden of proof on companies to protect workers' rights.

118. Digitaliseringsstyrelsen, (2024). Guide til virksomheder om ansvarlig anvendelse af generativ kunstig intelligens. <https://digst.dk/media/5fijp1ag/110324-guide-til-virksomheder-om-generativ-kunstig-intelligens.pdf>

Here, it is important to note that while these initiatives mark significant progress, many social agreements lack practical tools, AI-specific expertise and broad outreach capacity – particularly when it comes to representing workers in rapidly evolving or non-traditional roles. The 2023 OECD Employment Outlook¹¹⁹ highlights that this gap could limit the ability and impact of social dialogue to anticipate skill needs, reduce inequalities and support fairer labour market transitions as AI adoption accelerates. Against this background, the UNI Europa and Friedrich-Ebert-Stiftung report underscores both the potential and the current limitations of collective bargaining in this space: although social dialogue is useful, only 20% of unions surveyed currently have AI-related collective agreements in place at the organisational or sectoral level. On the other hand, unions are increasingly prioritising topics such as AI-driven scheduling, monitoring and its impact on working hours, though issues such as AI in hiring or background checks remain less frequently addressed. This suggests that while awareness among general agreements is growing, collective bargaining still faces challenges in terms of resources, employer engagement and limited technical expertise. In this respect, many unions still rely on broader consultation to fill these gaps.

Sector-Specific Agreements

Across the service sector, actors are negotiating the role of GenAI in the workplace. Although each sector faces distinct challenges depending on its technologies, work organisation and cultural context, sector agreements point to a number of recurring themes. These include but are not limited to:

- **Consent and rights protections** – frequently addressed, particularly in relation to worker data, identity and creative outputs.
- **Ethical and transparent AI use** – commonly referenced, with human oversight often positioned as a safeguard against bias, misuse or excessive automation.
- **Workforce adaptation through upskilling and reskilling** – features regularly and is often treated as a shared responsibility of employers, unions and policymakers.
- **Social dialogue** – commonly identified as a means of anticipating challenges, preventing conflict and developing trust around new technologies.

Sector responses generally take two forms: collective bargaining agreements (CBAs – binding, enforceable contracts negotiated between unions and employers) and sectoral guidelines (non-binding recommendations developed by unions, federations, companies or international bodies; they shape expectations, influence norms and prepare the ground for future CBAs).

119. Ibid.

In the **AV sector**, GenAI has prompted focus on workplace safeguards due to its potential impact on identity, authorship and livelihoods. Compared with other sectors, agreements and other sectoral guidelines are particularly rights-focused in AV. Some examples include:

- The **2024 German BFFS/ver.di agreement**¹²⁰ provided enforceable methods for managing AI in creative industries, embedding principles of informed consent, co-determination and fair compensation into contractual frameworks, ensuring that performers retain control over the use of their likeness and voice while establishing limits on GenAI applications.
- In Italy, the **2023 National Association of the Film, Audiovisual and Digital Industries (Anica)** collective agreement acknowledges the risk of AI training through actors' voices and images, thus prohibiting it¹²¹

These efforts reflect and build on earlier agreements in the United States that established initial protections for directors, writers, performers and behind-the-scenes workers. **Box 4** provides illustrative examples of US-based agreements that show how GenAI-related issues in the AV sector are being addressed in comparable ways across regions. Relatedly, a number of international guidelines also exist:

- **The 2025 International Federation of Actors' (FIA) report** sets out guidance on managing AI in creative industries, emphasising human artistry, informed consent for any person's image, voice or likeness and fair control and compensation over digital replicas. The report also advises collective bargaining safeguards.¹²²
- **The 2024 GenAI Guidelines for Voice Work** by the **United Voice Artists** set out protections around consent, opt-out opportunities, contract transparency and proportional compensation¹²³
- **The 9 Story Media Group and Brown Bag Film's 2024 global guidelines** exclude AI from script-writing and voice cloning, commit to human-led production and affirm compliance with collective agreements, highlighting how CBAs play an important role in shaping the development, introduction and use of GenAI.¹²⁴
- **The International Labor Union's (ILO) 2025 policy guidance** on collective bargaining in the arts and entertainment sector emphasises that GenAI should be managed through collective agreement, with safeguards on consent and fair remuneration where AI is used to replicate creative work. The ILO frames collective CBAs as the primary tool for ensuring that technological innovation in the arts remains human-centric while balancing innovation¹²⁵

120. ver.di. (2025). Erster Tarifabschluss zum Umgang mit KI in der Film- und Fernsehproduktion. ver.di Filmunion. <https://filmunion.verdi.de/und-action/nachrichten/++co++0a0e1f88-e78f-11ef-81ee-f5ae95fe3e8f>

121. Studio Previti (2024). Cinema, TV and generative artificial intelligence: the contract solutions reached. <https://www.previti.it/en/cinema-tv-and-generative-artificial-intelligence-contract-solutions-reached>

122. International Federation of Actors (FIA). (2025). FIA Guide to Artificial Intelligence. https://fia-actors.com/wp-content/uploads/2024/09/FIA_Guide_AI_EN-17-Nov-23.pdf

123. United Voice Artists. (2024, May 6). AI Guidelines for Voice Work. <https://unitedvoiceartists.com/wp-content/uploads/2024/05/UVA-AI-GUIDLINES.pdf>

124. Tamasauskas, R. (2024). 9 Story & Brown Bag Films launch global guidelines for generative AI use in animated television production & development. <https://www.brownbagfilms.com/news/9-story-brown-bag-films-launch-global-guidelines-generative-ai-use-animated-television>

125. International Labour Organization (2025). Achieving decent work in the arts and entertainment sector: The role of collective bargaining. Policy Guidance Note. <https://www.ilo.org/publications/achieving-decent-work-arts-and-entertainment-sector-role-collective>

By embedding contractual safeguards, these measures seek to give artists greater control over how their likeness, voices and works are used. The long-term impact could be a transformation of business models in dubbing, advertising and gaming: studios may need to license voice data in the same way they license music or scripts, while GenAI outputs are labelled as synthetic. Agreements such as the United Voice Artists' guidelines establish higher ethical bars for AI deployment due to their opt-out policies. As the guidelines protect performers from being associated with content that they fundamentally reject, companies are forced to account for dignity and consent alongside commercial use. The Brown Bag Films guidelines are likely to have several important impacts on the animation industry. By positioning AI as a tool to support rather than replace creative workers, the studio makes a commitment to protecting artistic integrity while improving production efficiency. The expectation that AI will assist in areas such as scheduling, predictive budgeting and animation clean-up reflects the view of GenAI as a tool for assistance, rather than as a replacement for human labour.¹²⁶ Within this broader shift, the 2024 BFFS agreement extends protections to partial digital embodiments and requires regular reviews with the option of early termination, making the contract a living framework. This adaptability ensures that performer rights are not frozen in time but are revisited as AI capabilities and industry practices evolve.¹²⁷

Box 4. US-based audiovisual sector social partner agreements

The 2023 Directors Guild of America and the Alliance of Motion Picture and Television Producers (AMPTP) agreement was the first major US guild contract to acknowledge GenAI. The agreement provided that AI cannot replace a director's human duties, and that studios must consult the director and observe limitations.¹²⁸

Following in the same year, the Writers Guild of America and the AMPTP came to an agreement that AI would not be able to write/rewrite scripts or count as source material. Furthermore, writers have an option to voluntarily use AI but are not obliged to do so.¹²⁹

The 2023 SAG-AFTRA deal¹³⁰ introduced enforceable provisions addressing the use of GenAI in the creative industries, including requirements related to informed consent, limits on the use of performers' likeness and voice and compensation where digital replicas are involved.

Source: Visionary Analytics, 2026

126. Cartoon Brew. (2024). Brown Bag Film and 9 Story launch guidelines for AI use in their productions. <https://www.cartoonbrew.com/business/brown-bag-film-and-9-story-launch-guidelines-for-ai-use-in-their-productions-241334.html>

127. Stuetzle, C., & Bischoff, S. (2025, May). From Hollywood to Germany: A transatlantic comparison of collective agreements on AI in film and TV production – Part 2. Kluwer Copyright Blog. Wolters Kluwer. <https://legalblogs.wolterskluwer.com/copyright-blog/from-hollywood-to-germany-a-transatlantic-comparison-of-collective-agreements-on-ai-in-film-and-tv-production-part-2/>

128. Directors Guild of America. (2023). DGA tentative agreement achieves historic breakthroughs on key global, economic, creative rights, and safety issues. <https://www.dga.org/News/PressReleases/2023/230603-DGA-and-AMPTP-Reach-Tentative-Agreement>

129. Writers Guild of America. (2023). What we won. <https://www.wgacontract2023.org/the-campaign/what-we-won>

130. SAG-AFTRA. (2023). 2023 Summary of 2023 Tentative Successor Agreement to the 2020 Producer-SAG-AFTRA Codified Basic Agreement & 2020 SAG-AFTRA Television Agreement. https://www.sagaftra.org/sites/default/files/sa_documents/TV-Theatrical_23_Summary_Agreement_Final.pdf

In the **banking sector**, collective agreements situate AI within a broader agenda of workplace transformation, efficiency and fair implementation. They emphasise the need to balance technological change with social dialogue and robust commitments to reskilling and worker protection. Some key declarations and agreements include:

- **European Social Partners in the Banking Sector Joint Declaration (2024)** – Emphasises continuous social dialogue, transparency in human resources (HR)-related AI, limits on surveillance and guaranteed training during working hours.¹³¹
- **The Bank of Ireland Group-Financial Services Union deal (FSU-AIB) (2025)** – goes further than the European Social Partners declaration by being binding and operational. It reaffirms the human-in-control principle, provides structured pathways for job transition and redeployment, embedding worker protections into corporate obligations.¹³²

Both agreements highlight the future-proofing of skills as a strategic necessity. Additionally, they place emphasis on reskilling staff with digital, analytical and project management skills to meet evolving needs due to technological change, with a focus on areas such as agile methods, data fluency, cybersecurity and engineering. The joint declaration of the European Social Partners shows that by monitoring implementation and committing to a full evaluation by 2026, social partners are signalling a longer-term intent to track AI's evolving effects on job roles and employment structures. At the same time, the call for widespread use of the declaration reflects a broader ambition to embed shared AI governance principles across the sector. This signals an effort to standardise ethical and operational checks and measures for GenAI adoption in banking. Embedding such common principles could help ensure consistent safeguards in banking. Furthermore, the emphasis on reskilling and upskilling highlights a longer-term impact where banking staff will be equipped with skills to adapt to evolving GenAI applications. Similarly, the Irish FSU-AIB agreement reinforces these impacts at a national level: as a binding agreement, it goes further than high-level commitments, guaranteeing that worker protections, collective bargaining and a human-in-command approach are enforceable rather than aspirational.¹³³

131. European Social Partners in the Banking Sector (EBF, UNI Europa Finance, EACB & ESBG). (2024 May 14). Joint declaration on employment aspects of artificial intelligence in the European banking sector. <https://www.ebf.eu/wp-content/uploads/2024/05/Joint-Declaration-on-Employment-Aspects-of-Artificial-Intelligence.pdf>

132. Financial Services Union & Bank of Ireland. (2025). AI agreement between Financial Services Union and Bank of Ireland. https://www.fsunion.org/assets/files/pdf/boi_fsu_ai_agreement.pdf

133. Financial Services Union. (2025, July 9). FSU seek formal agreement from AIB around introduction of AI. Financial Services Union. <https://www.fsunion.org/latest/news/fsu-seek-formal-agreement-from-aib-around-introduction-of-ai/>

The **telecom** actors' approach to GenAI sits in the wider context of digitalisation, 5G deployment and sector-wide innovation pressures. However, here the emphasis also lies on social dialogue and inclusive skills development. Some agreements include:

- **The Telecom Social Dialogue Committee Updated Declaration (2025)** – AI governance in telecoms is framed as a shared responsibility between employers and unions, particularly as Large Language Models (LLMs), GenAI and agentic AI systems accelerate workplace transformation. The declaration positions social dialogue, the human-in-command principle, data protection and respect for fundamental rights as core principles to ensure innovation does not outpace worker protection.¹³⁴
- **Telenor Collective Agreement (2024-2026)** – This agreement brings principles into practice by requiring that AI systems in personnel management respect privacy, dignity and data protection. It explicitly prohibits bias and ensures that AI adoption is coupled with adequate training and workplace dialogue.¹³⁵

As the Telecom Social Dialogue Committee Updated Declaration calls for AI deployment to comply with the EU AI Act and GDPR, its impact could result in stronger worker protections and increased trust in new technologies. By prioritising reskilling and upskilling in response to generative and agentic AI developments, the Declaration could help build a workforce capable of adapting to rapidly evolving technologies. Finally, as it embeds social dialogue in shaping AI deployment, its impact could also include a more balanced decision-making process between employers and unions, ensuring that innovation develops in step with worker protections.¹³⁶ In a comparable example, Norway's Telenor Collective Agreement legally binds employers to ensure that any use of AI for personnel or work management complies with the 2018 Personal Data Act.¹³⁷ By requiring that AI systems respect employee privacy, dignity and non-discrimination, it directly mitigates the risks of biased decision-making in operations, as companies must audit and ensure that AI tools are lawful. Mandatory training and participation enhance workforce readiness, providing staff with the skills needed to engage effectively with AI.

134. UNI Europa & Connect Europe. (2025, November). The Telecom Social Dialogue Committee Updated Declaration on Artificial Intelligence. <https://www.uni-europa.org/wp-content/uploads/sites/3/2025/12/UNI-Europa-x-Connect-Europe-AI-Declaration.pdf>

135. Confederation of Norwegian Enterprise, Norwegian Confederation of Trade Unions, & EL og IT-Forbundet. (2024). Collective Agreement for Telenor 2024–2026 (unofficial English translation). <https://tariff.elogit.no/nedlasting/Telenoroverenskomsten%202024-2026%20English.pdf>

136. UNI Europa & Connect Europe. (2025, November). The Telecom Social Dialogue Committee Updated Declaration on Artificial Intelligence. <https://www.uni-europa.org/wp-content/uploads/sites/3/2025/12/UNI-Europa-x-Connect-Europe-AI-Declaration.pdf>

137. Ministry of Justice and Public Security. (2018). Act relating to the processing of personal data (The Personal Data Act). <https://lovdata.no/dokument/NLE/lov/2018-06-15-38>

Comparison of cross-sectoral and sector-specific agreements

Cross-sectoral and sector-specific AI agreements across Europe share several foundational principles. Central to all is the commitment to **human-centric AI that respects fundamental rights**, particularly through the principle of human-in-control. Across the agreements, there is a shared emphasis on ensuring AI supports rather than replaces human workers. Transparency, fairness and accountability are consistently highlighted as core principles, regardless of the sector.¹³⁸ These values are viewed as especially crucial where AI influences employment decisions, organisational processes or the use of personal data. Social dialogue, collective bargaining and proactive worker involvement are seen as essential tools to manage digital transformation.¹³⁹ Similarly, the need for robust training and re-upskilling programmes is a common theme, as workers across different sectors face the pressure of adapting to evolving technological landscapes. Cross-sectoral agreements, such as the ETUC resolution, and sector-specific agreements, such as the Telecom Social Dialogue Committee declaration, exemplify this.

However, cross-sectoral agreements adopt a broader, **cautionary tone that is grounded in long-term advocacy for stronger AI governance and workers' rights protections**. All three agreements focus heavily on structural issues such as algorithmic management, intrusive surveillance, data protection and inequality, especially the risks AI poses to vulnerable groups. While these agreements offer valuable guidance, they primarily address AI systems in general rather than the specific challenges associated with GenAI. In examples such as the European Cross-sectoral Social Partner agreement, employers are encouraged to carry the burden of proof in demonstrating compliance with legal and ethical standards, and calls for collective bargaining over AI tools are mentioned. These general texts are often policy-oriented and aspirational in nature, providing guidance that cuts across diverse sectors.

In contrast, sector-specific agreements are more targeted in scope and shaped by the practical implications of AI in their respective fields. For instance, in the **AV sector**, concerns are clearly tied to GenAI, especially around intellectual property and the use of digital replicas. Artists demand consent, control and compensation for GenAI use of their voices and likeness, as seen in the United Voice Artists' guidelines and the SAG-AFTRA agreement. In contrast, **banking and telecoms agreements** tend to focus on broader AI systems rather than mention GenAI specifically. In banking, AI applications are focused on recruitment, performance analytics and surveillance, thus prompting agreements that go further in operational detail; some of these are even binding, such as the FSU-AIB deal, and they outline support for job transitions, privacy protections and redeployment. Meanwhile, in the telecoms industry, the emphasis lies in managing large-scale digital transformation, including the integration of AI into networks and services. Both agreements focus on workforce development, especially by upskilling current employees, while at the same time maintaining ethical oversight of AI systems used in the workplace. In short, general agreements seem to lay the normative groundwork and set broad principles for AI governance, while sector-specific deals translate those principles into actionable strategies that are tailored to the technological realities and workforce structures of each field.

138. UNI Europa & Friedrich-Ebert-Stiftung. (2024). Collective bargaining practices on AI and algorithmic management in European services sectors. https://www.uni-europa.org/wp-content/uploads/sites/3/2024/03/CollectiveBargainingPracticesOnAI_final.pdf; European Trade Union Confederation. (2020). Resolution on the European strategies on artificial intelligence and data. <https://www.etuc.org/sites/default/files/document/file/2020-07/Adopted%20-%20ETUC%20resolution%20on%20the%20European%20strategies%20on%20artificial%20intelligence%20and%20data%20-%20EN.pdf>; Tamasauskas, R. (2024). 9 Story & Brown Bag Films launch global guidelines for generative AI use in animated television production & development. <https://www.brownbagfilms.com/news/9-story-brown-bag-films-launch-global-guidelines-generative-ai-use-animated-television>; Financial Services Union & Bank of Ireland. (2025). AI agreement between Financial Services Union and Bank of Ireland. https://www.fsunion.org/assets/files/pdf/boi_fsu_ai_agreement.pdf

139. European Trade Union Confederation. (2020). Resolution on the European strategies on artificial intelligence and data. <https://www.etuc.org/sites/default/files/document/file/2020-07/Adopted%20-%20ETUC%20resolution%20on%20the%20European%20strategies%20on%20artificial%20intelligence%20and%20data%20-%20EN.pdf>; ver.di. (2025). Erster Tarifabschluss zum Umgang mit KI in der Film- und Fernsehproduktion. ver.di Filmunion. <https://filmunion.verdi.de/und-action/nachrichten/++co++0a0e1f88-e78f-11ef-81ee-f5ae95fe3e8f>; European Social Partners in the Banking Sector (EBF, UNI Europa Finance, EACB & ESBG). (2024 May 14). Joint declaration on employment aspects of artificial intelligence in the European banking sector. <https://www.ebf.eu/wp-content/uploads/2024/05/Joint-Declaration-on-Employment-Aspects-of-Artificial-Intelligence.pdf>

3. SECTOR-SPECIFIC IMPACT ASSESSMENT

Impacts in the audiovisual sector

Technological impacts

GenAI has expanded the technological capacity of the AV sector, bringing new capabilities to processes central to AV productions. Five main processes that have been technologically advanced through the introduction of GenAI are (i) content generation and enhancement, (ii) visual effects and computer-generated imagery, (iii) scriptwriting and story generation, (iv) personalised content recommendations and (v) post-production and editing.¹⁴⁰ The specific models driving advancements in these areas include LLMs, generative adversarial networks (GANs), variational autoencoders (VAEs), diffusion models and transformer systems.¹⁴¹ Nevertheless, AV companies face challenges due to constraints in data and resources, rendering them heavily dependent on BigTech for access to GenAI tools. Moreover, challenges remain in the detection of AI-generated content, which is technologically demanding and costly without proper verification or watermarking.¹⁴²

Current evaluations suggest that applications such as scriptwriting assistance, translations and adaptations range from moderate to high levels of technological maturity, though adoption levels remain low.¹⁴³ Looking forward, however, these applications are estimated to reach very high levels of maturity and adoption, with predictions that the use of GenAI in these applications will become standard practice by 2028.¹⁴⁴ GenAI for content generation is currently reported at a low level of technological maturity and adoption, with GenAI not having the technical capacity to independently produce AV content at the level of human-made productions.¹⁴⁵ In fact, because the ability of GenAI to create content that can emotionally and culturally resonate with audiences is questionable, it is argued that such content will never reach a level of technological maturity where its quality matches that of human-made productions.¹⁴⁶ Collaborative engagements with GenAI have proven successful, showing the promise of the technology to co-produce content. For example, GenAI is being used to improve the quality of archival footage by filling the gaps in distorted or damaged AV content (see Box 5 below).¹⁴⁷ At the technology's current stage of development, its full potential for technological advancement has yet to be fully realised. However, in its current implementation, GenAI is acting as a driver of innovation.

140. Rehm, G. (2020). The use of artificial intelligence in the audiovisual sector: Concomitant expertise for INI report. European Parliament, Policy Department for Structural and Cohesion Policies. [https://www.europarl.europa.eu/RegData/etudes/IDAN/2020/629221/IPOL_IDA\(2020\)629221_EN.pdf](https://www.europarl.europa.eu/RegData/etudes/IDAN/2020/629221/IPOL_IDA(2020)629221_EN.pdf); Totlani, K. (2023). The evolution of Generative AI: Implications for the media and film industry. *International Journal for Research in Applied Science and Engineering Technology*, 11(10), 973–980. <https://doi.org/10.22214/ijraset.2023.56140>

141. Society of Motion Picture and Television Engineers (SMPTE). (2023). SMPTE Engineering Report: Artificial Intelligence and Media. <https://5253154.fs1.hubspotusercontent-na1.net/hubfs/5253154/SMPTE-ER-1010-2023-1.pdf>; Totlani, K. (2023). The evolution of Generative AI: Implications for the media and film industry. *International Journal for Research in Applied Science and Engineering Technology*, 11(10), 973–980. <https://doi.org/10.22214/ijraset.2023.56140>

142. Interview 2 and 3. July 28, 2025.

143. PMP Strategy & CISAC. (2024, November). Study on the Economic Impact of GenAI in the Music and Audiovisual Industries. <https://www.cisac.org/services/reports-and-research/cisacpmp-strategy-ai-study>

144. Ibid.

145. Ibid; Interview 2 and 3. July 28, 2025.

146. Interview 2 and 3. July 28, 2025.; Heaven, W. D. (2023, June 1). Welcome to the new surreal: How AI-generated video is changing film. *MIT Technology Review*. <https://www.technologyreview.com/2023/06/01/1073858/surreal-ai-generative-video-changing-film/>; Oberting IV, V. A. (2024). Generative Artificial Intelligence and Copyright in the Film and Media Industry. *Washington and Lee Law Review Online*, 82(2), 123.

147. Interview 4. July 29, 2025.

Box 5. GenAI for film preservation

Film archives are facing a crisis of decay. Around three-quarters of silent-era films have already been lost, while many surviving reels suffer from scratches, missing frames, fading, or jump cuts. Traditional restoration is slow and resource-intensive, leaving significant cultural memory at risk. The arrival of GenAI marks the beginning of a shift in how film can be preserved and experienced.¹⁴⁸

According to an interviewee, AI (including GenAI) is particularly effective at documenting data, recognising voices, and filling in archival gaps.¹⁴⁹ In practice, this means that GenAI can reconstruct missing or damaged frames and restore continuity to films that would otherwise appear fragmented. MTI Film's FrameGen, for example, deploys neural interpolation to analyse adjacent frames and generate new ones, creating a seamless flow of images where the original reel is damaged or incomplete.¹⁵⁰

In its first phase, AI automates familiar tasks such as repairing scratches and skips, improving efficiency without altering the nature of the final product. The second phase is more transformative: GenAI can recover content once thought irretrievable, democratise access to preservation and reshape how cultural memory is maintained.

The benefits are clear: there is smoother playback, greater accessibility and a more complete archival record. At the same time, risks remain. Experts warn that overcorrection by AI could strip films of their authentic historical imperfections, while unequal access to AI tools could widen gaps between well-funded studios and under-resourced archives. Importantly, human expertise remains central throughout the process; AI amplifies their craft but does not replace it.¹⁵¹

Source: Visionary Analytics, 2026

The application of **new technologies in the sector helps AV companies optimise their audience outreach and engagement.** For instance, GenAI is being used to create trailers, thumbnails and highlights, as well as to deliver real-time insights such as sports statistics.¹⁵² GenAI can also make content **more accessible** through automated subtitling, dubbing and audio descriptions, thereby improving the experience of all audiences.¹⁵³ While specialised providers offer such accessibility services, they may not be consistently available across all languages or markets. GenAI addresses this gap by ensuring these services can be delivered reliably and in real time. In doing so, it extends the capabilities of AV companies, strengthening their ability to attract and retain audiences.

Furthermore, GenAI offers significant potential to make AV services more inclusive. Beyond subtitling, it enables the creation of accessible media guides using simplified or sign language, enhancing participation for diverse audiences. In the cultural sector, where museums often hold vast collections of texts that are costly and time-consuming to adapt, GenAI can transform this content into formats tailored to different needs. By personalising communication and simplifying complex information, the technology can make cultural and educational materials more engaging, accessible and enjoyable for all.¹⁵⁴

148. Pulitzer Center. (2025). Saving Cinema: AI's Starring Role in Preserving Film Archives. <https://pulitzercenter.org/stories/saving-cinema-ais-starring-role-preserving-film-archives>

149. Interview 4. July 29, 2025.

150. Pulitzer Center. (2025). Saving Cinema: AI's Starring Role in Preserving Film Archives. <https://pulitzercenter.org/stories/saving-cinema-ais-starring-role-preserving-film-archives>

151. Ibid.

152. Society of Motion Picture and Television Engineers (SMPTE). (2023). SMPTE Engineering Report: Artificial Intelligence and Media. <https://5253154.fs1.hubspotusercontent-na1.net/hubfs/5253154/SMPTE-ER-1010-2023-1.pdf>

153. Interview 2 and 3. July 28, 2025; International Labor Organization. (2025). Generative AI and the media and culture industry. <https://www.ilo.org/publications/generative-ai-and-media-and-culture-industry>; Morris, M. R. (2020). AI and accessibility. *Communications of the ACM*, 63(6), 35–37. <https://doi.org/10.1145/3356727>

154. Interview 17. October 1, 2025; European Parliament: Directorate-General for Internal Policies of the Union & Rehm, G. (2020). The use of artificial intelligence in the audiovisual sector: concomitant expertise for INI report. Research for CULT Committee. European Parliament. <https://data.europa.eu/doi/10.2861/294829>

Economic impacts

GenAI creates value in the AV sector by making productions more efficient. The technology automates time- and labour-intensive tasks across multiple stages of the production, **reducing costs and generating revenue**.¹⁵⁵ For example, fully GenAI AV outputs in TV broadcasting and subscription video-on-demand services are estimated to reach EUR 14 billion by 2028.¹⁵⁶ By making productions more efficient, GenAI lowers entry costs and is **expected to democratise competition in the sector**, allowing more production companies to compete with traditional power studios (see Box 6).¹⁵⁷ Issues of scaling may be persistent amongst smaller production companies, limiting their access to the market.¹⁵⁸ Research on AI in the animation industry recommends that smaller studios overcome scaling limitations by prioritising applications in high-impact areas that align with core competencies and by opting for cloud-based tools and shared resources that do not require large infrastructural investments.¹⁵⁹

Conversely, one interviewee pointed out that while there are efficiency gains within administrative tasks, the creative work sometimes seems more time-consuming due to the integration of GenAI tools. However, they underlined that this is not a negative impact: “Even if it’s less efficient, we gain creativity. Maybe we have the budget to explore new opportunities because it is cheaper to do so, but I am spending more time to do so.”¹⁶⁰ Creative work required more time because of the widened opportunities. Previously, when creators developed a complex idea that required additional financing, they often did not pursue it due to budget constraints. **Today, they are able to employ GenAI tools that allow them to bring their ideas to life.**

On the one hand, the aforementioned democratisation of production, availability of new tools, reduced costs of production, and creativity gains are expected to facilitate content creation and film-making. These shifts can be seen as an opportunity to increase cultural diversity of the content produced in the AV sector, as smaller firms and individuals gained tools to implement their ideas without access to sufficient funds. At the same time, there are concerns that GenAI might have the opposite effect on **cultural diversity**. Firstly, the cultural value of films is often rooted in shared symbols, genre conventions and cinematic techniques. GenAI reproduces and intermixes ideas and tropes, thus weakening the social constructs and unique features that make films resonate with emotions and culture.¹⁶¹ Secondly, due to a lack of resources, SMEs and individuals rely on BigTech AI models, which mostly come from the US; for example, AI models such as ChatGPT and Turbo contain cultural biases reflecting English-speaking and Protestant European contexts.¹⁶² Reliance on GenAI in production threatens to diminish the cultural value of the content that originates in non-English-speaking countries. Thus, it is important to apply GenAI tools with an understanding of AI models’ persistent cultural biases. Apart from preservation of human agency in creative fields, the bias can be mitigated through cultural prompting and continuous assessment.¹⁶³

155. European Parliament: Directorate-General for Internal Policies of the Union & Rehm, G. (2020). The use of artificial intelligence in the audiovisual sector: concomitant expertise for INI report. Research for CULT Committee, European Parliament. <https://data.europa.eu/doi/10.2861/294829>; Totlani, K. (2023). The evolution of Generative AI: Implications for the media and film industry. *International Journal for Research in Applied Science and Engineering Technology*, 11(10), 973–980. <https://doi.org/10.22214/ijraset.2023.56140>; Flanders Audiovisual Fund. (2024, January 7) The use of Artificial Intelligence [in films, series, games, and podcasts]. <https://www.vaf.be/en/research-reports/usage-of-artificial-intelligence>; Oberting IV, V. A. (2024). Generative Artificial Intelligence and Copyright in the Film and Media Industry. Washington and Lee Law Review Online, 82(2), 123.

156. PMP Strategy & CISAC. (2024, November). Study on the Economic Impact of GenAI in the Music and Audiovisual Industries. <https://www.cisac.org/services/reports-and-research/cisacpmp-strategy-ai-study>

157. European Parliament: Directorate-General for Internal Policies of the Union & Rehm, G. (2020). The use of artificial intelligence in the audiovisual sector: concomitant expertise for INI report. Research for CULT Committee, European Parliament. <https://data.europa.eu/doi/10.2861/294829>; Schomer, A. (2023, December 1). Generative AI in film and TV: a special report. <https://variety.com/vip-special-reports/generative-ai-in-film-tv-1235792168/>; Heaven, W. D. (2023, June 1). Welcome to the new surreal: How AI-generated video is changing film. *MIT Technology Review*. <https://www.technologyreview.com/2023/06/01/1073858/surreal-ai-generative-video-changing-film/>; Oberting IV, V. A. (2024). Generative Artificial Intelligence and Copyright in the Film and Media Industry. Washington and Lee Law Review Online, 82(2), 123.

158. European Parliament: Directorate-General for Internal Policies of the Union & Rehm, G. (2020). The use of artificial intelligence in the audiovisual sector: concomitant expertise for INI report. Research for CULT Committee, European Parliament. <https://data.europa.eu/doi/10.2861/294829>

159. Chen, Y., Wang, Y., Yu, T., & Pan, Y. (2024). The Effect of AI on animation production Efficiency: An empirical investigation through the network Data Envelopment analysis. *Electronics*, 13(24), 5001. <https://doi.org/10.3390/electronics13245001>

160. Interview 15 and 16. September 24, 2025.

161. Oberting IV, V. A. (2024). Generative Artificial Intelligence and Copyright in the Film and Media Industry. Washington and Lee Law Review Online, 82(2), 123.

162. Tao, Y., Viberg, O., Baker, R. S., & Kizilcec, R. F. (2024). Cultural bias and cultural alignment of large language models. *PNAS Nexus*, 3(9). <https://doi.org/10.1093/pnasnexus/pgae346>

163. Ibid.

While GenAI can foster economic growth across the sector and within companies, these economic benefits do not directly translate to the worker, with many being economically disadvantaged by the technology's increasing adoption.

Audiovisual rightsholders suffer economic losses due to the unauthorised use of protected work.¹⁶⁴

The copyright infringements are not just an ethical issue in the sector, as they pose a direct threat to the sustainability of the industry. For example, one interviewee explained that when producers invest in a new film, copyright is one of the guarantees that they will be able to recover their investment. Recouping investment is vital to be able to contract with new people, pay wages, invest in the next project and keep the work going. The interviewee further noted that “for us, the copyright is not a barrier or obstacle but an enabler to secure the investment so we can recoup it to return it to the producers and workers.”¹⁶⁵ Moreover, it was noted that a functioning copyright system is what enables creators to “protect the collective investment when we release and recoup that investment” and that “from producers’ perspectives this is how we incentivise and protect our investment.”¹⁶⁶

Creators are also disadvantaged by the substitution of human-made works with AI-generated content, as it disrupts traditional revenue streams and threatens to devalue original works.¹⁶⁷ The effect of this substitution is significant, with GenAI predicted to cost creators an estimated 21% of total revenues (EUR 12 billion) by 2028.¹⁶⁸ While many companies are expected to benefit from GenAI’s democratisation of competition in the sector, for workers, this substitution effect is expected to intensify competition in the sector.

The democratisation of production through GenAI is also reshaping the role of the organisation itself.¹⁶⁹ Highly productive junior staff, empowered by AI tools, may increasingly choose independent work over traditional employment, reducing their reliance on established companies for career advancement. This trend has prompted senior leadership in some media organisations to reconsider the values of the institution within the AI-driven ecosystem.¹⁷⁰ Disruption is occurring on two fronts: first, through AI systems that increasingly manage formulaic tasks across production and journalism; and second, through independent creators and influencers who leverage AI to produce high-quality, authentic content without institutional constraints. Unlike traditional media, these individuals are unburdened by organisational rules or formalised language, allowing them to connect more directly with audiences.¹⁷¹ As a result, legacy media institutions face the dual challenge of machines performing routine tasks and independent creators redefining human-led content, raising fundamental questions about the continued value and competitive advantage of established organisations in the sector.¹⁷²

164. International Federation of Journalists (2024). Study on the Economic Impact of GenAI in the Music and Audiovisual Industries. PMP Strategy. <https://www.ifj.org/media-centre/news/detail/category/europe/article/eu-the-impact-of-artificial-intelligence-on-europes-creative-communities>

165. Interview 15 and 16. September 24, 2025.

166. Ibid.

167. PMP Strategy & CISAC. (2024, November). Study on the Economic Impact of GenAI in the Music and Audiovisual Industries. <https://www.cisac.org/services/reports-and-research/cisacpmp-strategy-ai-study>; Poncibò, C., & Ebers, M. (2025). Comparative perspectives on the regulation of large language models. Cambridge Forum on AI: Law and Governance, 1, e10. <https://doi.org/10.1017/cfl.2024.14>

168. PMP Strategy & CISAC. (2024, November). Study on the Economic Impact of GenAI in the Music and Audiovisual Industries. <https://www.cisac.org/services/reports-and-research/cisacpmp-strategy-ai-study>

169. Interview 5. August 18, 2025.

170. Ibid.

171. Ibid.

172. Ibid.

Box 6. Democratisation of production and structural changes

According to an interviewee, there are two phases of AI deployment in the AV sector. Currently, in the first phase, AV companies are using or intend to use GenAI to automate tasks that are already familiar. GenAI integration will not change the products and services available in this respect but will enable them to be provided more efficiently. Nevertheless, this change is temporary and will be followed by the second phase. **The new capabilities enabled by GenAI are fundamental and will lead to structural change within the information ecosystem**, affecting the information-centric sectors, like AV.

This structural change resembles the nature of the shift brought about by the internet and social media. With the emergence of the internet and social media, the AV sector went through fundamental changes that were based on the democratisation of distribution. It did not affect the ability to produce information but enabled simplified access to the information for many people, thus democratising the distribution.

Similarly, **AI will lead to the democratisation of production**.¹⁷³ As mentioned by the interviewee, before the emergence of AI, the production process was expensive. For example, in order to produce a news broadcast, journalists have to gather the information, which will then be turned into the scripts to produce audio and video. High production value requires substantial investment. **GenAI reduces the costs and facilitates the production process overall**. While GenAI is not developed enough to produce the same quality as humans, its capabilities are sufficient **“for skilled individuals to make filmed entertainment that is competitive with the studios.”** The democratisation of production will become a crucial factor in changing the information ecosystem.

Furthermore, the information ecosystem will be affected as people gain greater control over how they consume the information. Prior to the widespread deployment of GenAI, although news could be provided to millions of people in the form of articles, videos or audio, audiences had to consume it in the way it was presented to them. **“AI means that the end consumer can decide how they want to consume the product.”** GenAI enables people to read the summary from hundreds of podcasts, listen to the audio or watch a video based on the article instead of reading it. The opportunities provided by apps, websites, browsers and operating systems based on GenAI enable the user to decide how they want to receive the information – **“That is the power that goes from the producer of information to the consumer.”** Similar conclusions have been stated by academics, who emphasise that this technological shift redistributes agency within the communicative process by allowing audiences to interact with news through more accessible, readable, personalised means.¹⁷⁴

This shift will lead to structural changes within the industry. **Media and information-based companies will shift from content to information production**. While GenAI enables the consumers to choose the way the final product looks, information is critical for this process – **“Information is that raw material.”** Notably, the focus is on information that is difficult or expensive to access and produce. Consequently, there will be an increased demand for investigative and witness stories.

Nevertheless, not every part of the sector will be affected. Similar to hand-made products that survived the Industrial Revolution and became niche or luxury goods, certain high-end productions by organisations such as The New York Times, the BBC or Netflix will not be replaced by AI – **“AI is never going to make something like that. It is just not even conceivable.”**

Source: Visionary Analytics based on Interview 5. August 18, 2025

Looking ahead, the success of GenAI in the AV sector will not be measured by efficiency gains alone, but by its ability to translate those gains into resilient companies, decent employment with fair rewards and a sector that continues to reflect Europe’s cultural richness.

173. The AI Journal. (2024). Empowering Voices: AI and the Great Democratization of Content. <https://aijournal.com/empowering-voices-ai-and-the-great-democratization-of-content/>

174. Dodds, T., Zamith, R., & Lewis, S. C. (2025). The AI turn in journalism: Disruption, adaptation, and democratic futures. *Journalism*, 27(3). <https://doi.org/10.1177/14648849251343518>

Social impacts

GenAI is expected to impact the AV sector by displacing certain roles in the labour market. The types of jobs that are at higher risk of displacement include technical roles and entry-level positions, and there is concern that such displacement may disproportionately affect persons of lower socio-economic status, as well as underrepresented communities.¹⁷⁵ To try and maintain diversity in the sector, it is important that companies implement reskilling initiatives, especially those that are designed to keep workers in AV-related roles.¹⁷⁶

Box 7. Radio Télévision Luxembourg: GenAI integration in the AV sector

Radio Télévision Luxembourg (RTL) Group is a global media corporation headquartered in Luxembourg, operating in 26 countries with 52 TV channels, 32 radio stations, and six streaming services.¹⁷⁷ The company has over 100 AI applications already implemented in content creation, advertising, sales and operational efficiency, and it continues to actively integrate GenAI across its operations. The company's AI strategy not only emphasises technological development but also investment in workforce training. A core component of RTL's GenAI adoption is a strategic partnership model, which includes collaborations with Perplexity AI, Runway, ElevenLabs and Respeecher.¹⁷⁸

Capabilities and benefits

RTL Group uses GenAI to enhance content creation, advertising and viewer experience. One key example is RTL Deutschland's use of Runway's text-to-video technology to produce promotional content based on employee prompts, ensuring that creative staff remain in charge of the process and upholding the human-in-control principle.¹⁷⁹

In parallel, GenAI-powered voice synthesis was used in *Pumuckl's New Adventures* to recreate the original actor's voice, with further applications in dubbing and subtitling by Fremantle, one of RTL's divisions. Additionally, GenAI also supported the production of *Unter Uns*' Christmas film and voiceovers for the *Myths and Monsters* documentary.¹⁸⁰

In journalism, RTL Deutschland and DPA co-developed an editorial assistant that detects trends, drafts content and streamlines workflows. Furthermore, RTL Deutschland is partnering with Perplexity AI to test conversational search tools that provide users with more intuitive, relevant and efficient access to news content across NTV, Stern and other digital brands, enabling real-time responses to user queries drawn from a broad range of sources and helping the audience navigate an increasingly complex information environment.¹⁸¹

Costs and risks

RTL Group's adoption of GenAI brings strategic and operational risks highlighted in the company's yearly report. The Group faces challenges around copyright ownership, particularly where AI-generated content involves minimal human input or uses training data sourced without explicit permission. Lack of transparency within the training of GenAI models makes infringement difficult to detect and prove.

From a workforce perspective, the automation of creative and operational tasks may reduce the number of employees within film production, prompting economic, social and ethical concerns. To mitigate this, RTL Group expanded its training and development programmes to include GenAI-focused content, delivered through platforms such as the RTL Group AI Hub and the Bertelsmann Collaboration Platform. Employees can access webinars, best practices and AI-related updates, while tools like Peoplenet, LinkedIn Learning and Skillsoft offer flexible, self-organised learning aligned with the Group's 70:20:10 model.¹⁸²

Financially, AI implementation demands significant investment in infrastructure, software and talent, while ineffective portfolio decisions or unsuccessful AI integrations could lead to underperformance or asset impairment. AI also presents data protection and algorithmic bias risks, particularly in advertising and content recommendations.

RTL manages these risks through robust governance frameworks, human oversight of AI outputs, ensuring legal compliance (e.g. GDPR), and collaboration with legal experts to develop copyright and AI usage guidelines. Ongoing monitoring and internal review processes support ethical, responsible AI deployment across the company.¹⁸³

RTL Group's case shows that while GenAI offers benefits for content production and efficiency, its deployment must be accompanied by clear safeguards on copyright, transparency in AI systems, and investment in workforce training to avoid deepening social, ethical and operational risks.

Source: Visionary Analytics, 2026

The increasing **threat of job displacement** across the sector threatens workers' sense of job security. In the US animation industry, for example, a survey from The Animation Guild revealed that "67% of respondents did not feel favourably about GenAI being used in the workplace, and another 61% were extremely concerned about GenAI negatively affecting future job prospects."¹⁸⁴ Threats to job security are also caused by shifts in job requirements. Presently, the integration of technology in the sector has placed **emphasis on creativity, critical thinking and digital skills**.

A further example of job substitution comes from radio broadcasting. Some radio stations have begun deploying GenAI to generate on-air content traditionally read aloud by journalists and presenters.¹⁸⁵ In one case, AI-generated voices were trained directly on the voices of their employees, raising ethical and legal questions about whether they had the right to do so without consent.¹⁸⁶ One interviewee noted that, in Spain, there is a possibility that night news presenters could be replaced by AI systems,¹⁸⁷ highlighting that, while not yet widespread, the risk of job displacement is a growing concern within the sector.

While displacement is expected, total replacement is not, and interviewees stress that there will always be a need for a human in the decision-making process. AI systems remain capable of performing only specific tasks and cannot substitute the full scope of journalistic or creative functions; while some roles may be affected, the risk of large-scale replacement is limited at present. Instead, jobs are expected to adapt rather than disappear, **with GenAI being used to make work more efficient and enhance the quality of content rather than eliminate human contributions altogether**. New roles are also emerging in the AV sector, one example being data analysts.¹⁸⁸ According to an interviewee, to integrate AI into the AV sector, *"you have to bring some new skills inside some companies or you have to contract with external suppliers."*¹⁸⁹ This implies the need for interdisciplinary specialists who are able to navigate the application of the new technologies in the creative sectors. *"What we can say is we are bringing skills which were not in the ecosystem before."*¹⁹⁰ Reskilling initiatives could target the needs of the sector to fill these new roles.¹⁹¹

175. The Animation Guild. (2024). CRITICAL CROSSROADS: The impact of generative AI and the importance of protecting the animation workforce. <https://animationguild.org/wp-content/uploads/2024/09/2024-TAG-GenAI-Report.pdf>

176. International Labour Organization. (2025). Generative AI and the media and culture industry. <https://www.ilo.org/publications/generative-ai-and-media-and-culture-industry>

177. RTL Group. (n.d.). Profile. <https://company.rtl.com/en/about-rtl/overview/profile>

178. Rabe, T. (2024, November 7). A new era of creativity and innovation. RTL AdAlliance. <https://rtl-adalliance.com/article/new-era-creativity-and-innovation>

179. RTL Group. (n.d.). RTL Deutschland uses AI-supported promotions. Press Releases and News. <https://company.rtl.com/export/sites/rtlunited/en/media/overview/press-releases-and-news/RTL-Deutschland-uses-AI-supported-promotions/>; Bertelsmann SE & Co. KGaA. (2024, October 15). RTL Deutschland To Use AI For Interstitials. RTL Group News. <https://www.bertelsmann.com/news-and-media/news/rtl-deutschland-to-use-ai-for-interstitials.jsp>

180. Rabe, T. (2024, November 7). A new era of creativity and innovation. RTL AdAlliance. <https://rtl-adalliance.com/article/new-era-creativity-and-innovation>; Bertelsmann SE & Co. KGaA. (2024, August 12). RTL Technology Reports First-Time Use Of AI For Synchronization. RTL Group News. <https://www.bertelsmann.com/news-and-media/news/rtl-technology-reports-first-time-use-of-ai-for-synchronization.jsp>

181. RTL Group. (n.d.). RTL Deutschland partners with Perplexity AI. Press Releases and News. <https://company.rtl.com/export/sites/rtlunited/en/media/overview/press-releases-and-news/RTL-Deutschland-partners-with-Perplexity-AI/>; Rabe, T. (2024, November 7). A new era of creativity and innovation. RTL AdAlliance. <https://rtl-adalliance.com/article/new-era-creativity-and-innovation>; RTL Group. (n.d.). Newsroom of the future. Press Releases and News. <https://company.rtl.com/export/sites/rtlunited/en/media/overview/press-releases-and-news/Newsroom-of-the-future/>

182. Ibid.

183. Ibid.

184. The Animation Guild. (2024). CRITICAL CROSSROADS: The impact of generative AI and the importance of protecting the animation workforce. <https://animationguild.org/wp-content/uploads/2024/09/2024-TAG-GenAI-Report.pdf>

185. For example: <https://www.techspot.com/news/105343-polish-radio-station-drops-gen-z-ai-presenters.html>; <https://edition.cnn.com/2024/10/24/media/polish-radio-ai-presenters-scli-intl>

186. Interview 4. July 29, 2025.

187. Ibid.

188. Interview 2 and 3. July 28, 2025.

189. Interview 15 and 16. September 24, 2025.

190. Ibid.

191. Interview 2 and 3. July 28, 2025.

GenAI is changing how work is conducted in the sector by transforming roles.¹⁹² Initial findings suggest that GenAI can augment or complement certain jobs, such as AV technicians and graphic designers, by supporting workers in the completion of their tasks.¹⁹³ These role transformations are evolving away from direct content creation towards the management and verification of information, with evolving job profiles centred on oversight of AI-generated outputs rather than production.¹⁹⁴ These shifts may exacerbate inequalities within sectors: tech-savvy professionals and major companies are positioned to capture most of the benefits, while smaller creators and less digitally literate workers may struggle to adapt.¹⁹⁵ To remain resilient, workers will require augmented skills in critical thinking, **creativity and ethics, combined with new competencies in AI tool management and digital literacy.**

An interviewed employee in the sector noted that most large media organisations, including those in Europe, have **established partnerships with major AI companies** to integrate their content and expertise into emerging platforms.¹⁹⁶ A notable exception is The New York Times (NYT), which initially sued OpenAI for unlawful use of NYT articles¹⁹⁷ but signed a deal with Amazon that allowed it to use NYT's editorial content for the development of Amazon's AI platforms,¹⁹⁸ implying that NYT articles will be used to train an AI model to be integrated into an updated Alexa. These partnerships represent a significant business opportunity and reflect the **sector's growing orientation towards data and information as core assets.**¹⁹⁹

At the same time, such collaborations and the broader use of GenAI lead to the **potential reduction of duplicated content** across the news industry. Large media organisations often produce multiple versions of the same story, a practice that extends through the information ecosystem to local publications and news agencies, which frequently sell the same material to multiple publishers. GenAI requires only a single version of a story, enabling rationalisation and increased efficiency in content distribution. While this may improve operational efficiency, it also **threatens the livelihoods of numerous people and organisations** and reduces overall value derived from content publication within the news ecosystem.²⁰⁰

192. PMP Strategy & CISAC. (2024, November). Study on the Economic Impact of GenAI in the Music and Audiovisual Industries. <https://www.cisac.org/services/reports-and-research/cisacpmp-strategy-ai-study>; International Labor Organization. (2025). Generative AI and the media and culture industry. <https://www.ilo.org/publications/generative-ai-and-media-and-culture-industry>

193. International Labor Organization. (2025). Generative AI and the media and culture industry. <https://www.ilo.org/publications/generative-ai-and-media-and-culture-industry>

194. Interview 5. August 18, 2025.

195. International Labor Organization. (2025). Generative AI and the media and culture industry. <https://www.ilo.org/publications/generative-ai-and-media-and-culture-industry>

196. Interview 5. August 18, 2025.

197. Grynbaum, M. M., & Mac, R. (2023, December 27). The Times Sues OpenAI and Microsoft Over A.I. Use of Copyrighted Work. The New York Times. <https://www.nytimes.com/2023/12/27/business/media/new-york-times-open-ai-microsoft-lawsuit.html>; Pope, A. (2024, April 10). NYT v. OpenAI: The Times's About-Face. Harvard Law Review. <https://harvardlawreview.org/blog/2024/04/nyt-v-openai-the-times-about-face/>

198. Grynbaum, M. M., & Metz, C. (2025, May 29). The Times and Amazon Announce an A.I. Licensing Deal. The New York Times. <https://www.nytimes.com/2025/05/29/business/media/new-york-times-amazon-ai-licensing.html>

199. Interview 5. August 18, 2025.

200. Ibid.

Box 8. Deepfakes and the role of journalists

The growing sophistication of AI systems has led to the emergence of deepfakes, in which an AI system can be used “to generate or manipulate image, audio, or video content that appreciably resembles existing persons, objects, places, entities or events and would falsely appear to a person to be authentic or truthful.”²⁰¹ Techniques include head puppetry (synthesising a video of a target person to appear the same way as the source person), face swapping and lip syncing, all of which create the appearance of events that never occurred.²⁰²

While some deepfakes are shared and circulated as satire or parody, Lyu explains that their growing development has begun to challenge the traditional status of video and audio as reliable evidence.²⁰³ The European Audiovisual Observatory highlights that even when deepfakes serve artistic or humorous purposes, transparency obligations apply to ensure audiences are informed when content has been artificially generated.²⁰⁴ The underlying risk is that such content can easily be misused in political, social or financial contexts, leading to serious consequences ranging from reputational harm to political disruption.²⁰⁵

Verification and misinformation challenges

For journalists, verifying the authenticity of sources has always been a professional necessity. In the European AV sector, broadcasters are already subject, under national media laws, to obligations of accuracy and honesty towards audiences, meaning that the use or relay of deepfake content engages existing editorial responsibility rules, regardless of whether content is AI-generated or otherwise. However, the rise of deepfakes significantly complicates this task by introducing fabricated content that is difficult to distinguish from genuine material.²⁰⁶ Additionally, as mentioned by an interviewee, identifying AI-generated content and deepfakes is also challenging because it is a time-consuming task.²⁰⁷ Well-crafted deepfakes can portray political leaders delivering false statements, create fabricated evidence in criminal cases or even disrupt live business and diplomatic communications. Recent examples from the European Audiovisual Observatory include manipulated videos falsely depicting Ukrainian officials, as well as AI-generated audio used in political campaigns in Slovakia. The impact of AI-generated content is amplified by existing social media dynamics: even an imperfect deepfake becomes widely influential when shared by trusted sources or through large networks. As noted by an expert, AI “is just oil on fire” in a system where people tend to trust narratives that align with their existing beliefs, and only a fraction of the population fact-checks information.²⁰⁸ This mass circulation of AI-generated content without consent or labelling may foster distrust in media and risks undermining democratic discourse.

Addressing the challenge

Efforts to counter deepfakes are advancing along regulatory, technological and industry-led dimensions. In the EU, the AI Act requires providers of GenAI systems to ensure transparency through measures such as watermarking and labelling so that manipulated content can be identified.²⁰⁹ Computer scientist academics, such as Lyu, also emphasise the need for tools capable of identifying emerging forms such as head puppetry and audio impersonation among more traditional outputs such as face-swapping.²¹⁰ At the same time, media organisations and civil society are working to increase awareness and are training workers to critically assess and analyse suspicious content. As one interviewee explained, initiatives such as workshops on deepfakes help participants explore how digital identities can be altered and how to assess authenticity. However, as the expert warned, *“we have to accept that we are in the age now where we will not go back into an era where we can certainly say if something is fake or not, and this will only get bigger and bigger.”* The challenge, therefore, is not only to improve detection but to adapt to a reality in which media remixing of images, videos and text becomes a constant feature of communication.²¹¹ As an interviewee noted, *“Data analysts are an example of new jobs emerging in the audiovisual sector,”* reflecting how the demand for expertise in verifying digital authenticity is reshaping workforce needs.²¹² Nonetheless, as Lyu points out, detection often remains reactive and postmortem in nature, applied only after fabricated media circulates online. As a result, proactive safeguards and new forms of digital literacy are increasingly viewed as essential to maintaining trust and upholding shared values in the evolving information environment.²¹³

Source: Visionary Analytics, 2026

201. Regulation (EU) 2024/1689 (Artificial Intelligence Act), recital 134.

202. Lyu, S. (2020, July). Deepfake detection: Current challenges and next steps.

In 2020 IEEE international conference on multimedia & expo workshops (ICMEW) (pp. 1-6). IEEE. <https://arxiv.org/abs/2003.09234>

203. Ibid.

204. European Audiovisual Observatory (2024). AI in the Audiovisual Sector: Navigating the Current Legal Landscape. Council of Europe.

<https://www.obs.coe.int/en/web/observatoire/-/new-report-the-challenges-of-ai-for-the-audiovisual-sector-and-the-role-european-legislation-is-playing>

205. Interview 2 and 3. July 28, 2025.

206. International Federation of Journalists (2024). EU: The impact of artificial intelligence on Europe's creative communities.

<https://www.ifj.org/media-centre/news/detail/category/europe/article/eu-the-impact-of-artificial-intelligence-on-europes-creative-communities>

207. Interview 2. July 28, 2025.

208. Interview 17. October 1, 2025.

209. Regulation (EU) 2024/1689 (Artificial Intelligence Act), recital 134.

210. Lyu, S. (2020, July). Deepfake detection: Current challenges and next steps. In 2020 IEEE international conference on multimedia & expo workshops (ICMEW) (pp. 1-6). IEEE. <https://arxiv.org/abs/2003.09234>

211. Interview 17. October 1, 2025.

212. Interview 1. August 7, 2025.

213. Interview 17. October 1, 2025.

Ethical impacts

GenAI complicates authorship, posing ethical challenges both in the training of GenAI and in collaborations with it.²¹⁴ Many GenAI models, including ChatGPT, may be trained on large-scale datasets that can include copyrighted material, raising concerns where permission and remuneration are unclear for rightsholders.²¹⁵ The unauthorised use of creative work raises ethical concerns around consent, attribution and fairness; in addition to raising legal questions, it can undermine rightsholders' ability to control how their intellectual property is used. Furthermore, in collaborations with GenAI, questions of ownership and attribution become blurred. As one interviewee stated, a key concern is "that in the future we may have to pay big tech to use content that has been trained on our content."²¹⁶ This highlights the risk for creators and other rightsholders of losing control of, and the economic value from, their work. Concerns such as these re-emphasise the importance of transparency and consent in ensuring that GenAI development and deployment respect the rights of human creators.²¹⁷

Beyond authorship, GenAI's ability to capitalise on human likeness introduces additional ethical risks by providing new opportunities for exploitation and identity misuse.²¹⁸ This is because GenAI can create digital avatars that resemble real people and create content with these avatars. Companies using GenAI for these applications, such as Metaphysic and Hyperreal, have contracts with the persons whom they digitally replicate, which is considered good practice.²¹⁹ However, when the replicated individual is not actively involved in the creation process, companies risk crossing the boundaries of their consent. This is especially true in the use of GenAI to digitally 'resurrect' persons, enabling companies to capitalise on the digital likeness of persons who are no longer alive.²²⁰ GenAI's ability to recreate voices, faces and personalities raises questions about how digital likeness is used in practice, including expectations around transparency, consent and respect for personal dignity, both for the living and the deceased.

At a wider level, one interviewee noted that how AV companies navigate the GenAI transition may depend in part on how clearly their values are reflected in day-to-day practice, as this may support decisions that prioritise transparency, consent and accountability.²²¹ For example, where organisations might have less-developed governance approaches, there may be uncertainty about how ethical risks are identified and managed in practice. This points to the importance for leadership teams of translating values into operational choices where GenAI is used, and managing the risks associated with its ethical integration.

214. Oberting IV, V. A. (2024). Generative Artificial Intelligence and Copyright in the Film and Media Industry. Washington and Lee Law Review Online, 82 (2), 123. <https://lawreview.wlu.edu/generative-artificial-intelligence-and-copyright-in-the-film-and-media-industry/>

215. Interview 2 and 3. July 28, 2025.

216. Ibid.

217. United Voice Artists. (2024, May 6). AI Guidelines for Voice Work. <https://unitedvoiceartists.com/wp-content/uploads/2024/05/UVA-AI-GUIDELINES.pdf>; Interview 1. August 7, 2025.

218. European Audiovisual Observatory (2024). AI in the Audiovisual Sector: Navigating the Current Legal Landscape. Council of Europe. <https://www.obs.coe.int/en/web/observatoire/-/new-report-the-challenges-of-ai-for-the-audiovisual-sector-and-the-role-european-legislation-is-playing>

219. Schomer, A. (2023, December 1). Generative AI in film and TV: a special report. <https://variety.com/vip-special-reports/generative-ai-in-film-tv-1235792168/>

220. Soto-Sanfiel, M. T., & Wu, Q. (2026). How audiences make sense of deepfake resurrections: A multilevel analysis of realism, ethics, and cultural meaning. *Computers in Human Behavior*, 174, 108822. <https://doi.org/10.1016/j.chb.2025.108822>

221. Interview 5. August 18, 2025.

Regulatory impacts

The ethical concerns about authorship and likeness also have regulatory implications. The persistent unlicensed use of AV content to train GenAI models has led some stakeholders to call for stronger protections and more effective implementation of existing rules to safeguard IP rights.²²² Despite the existence of a comprehensive set of regulations, including the 2019 Copyright Directive,²²³ the AI Act and the GDPR, challenges remain and relate to the interpretation, application and enforcement in practice, including obtaining technical evidence.²²⁴ One interviewee noted that “protecting voice and image is a good way to protect workers.”²²⁵ However, GenAI complicates enforcement because proof of ownership, such as proving ownership of a digital likeness, remains a significant challenge.²²⁶ To combat this, permanent watermarks have been proposed as a technical safeguard, but their effectiveness depends on industry-wide adoption and legal recognition.²²⁷

Box 9. Copyright dispute example: Midjourney sued over copyright infringement

AI has become both an indispensable tool and a source of conflict within the AV industry. On the one hand, studios are increasingly relying on AI to, for example, de-age actors, alter voices and enhance visual effects. On the other hand, the technology is raising legal and ethical questions about ownership, authorship and respect for human creativity.

In some current debates, there is tension between innovation and integrity. An interviewee emphasised how AI-generated art can be seen as disrespectful to the original creators, pointing to viral trends that play with artistic styles even when their originators oppose the use of such tools. The same interviewee underscored the urgency of universal standards, noting that “we need universally agreed standards, what is human, what is ownership of that human artwork or project.”²²⁸ This tension is reflected in current disputes about ownership and copyright as, for example, in the recent high-profile case below.

In June 2025, Disney and Universal filed a lawsuit against the AI firm Midjourney, accusing the company of being a “*bottomless pit of plagiarism*” alleging that its image generator reproduces copyrighted characters such as Darth Vader, Elsa, the Minions, and Marvel superheroes. Additionally, the studios argue that Midjourney reportedly profited USD 300 million in 2024 by creating works that are derivative rather than transformative. Legal experts have pointed out that the case will hinge on whether outputs qualify as fair use or infringing copies, and whether terms of service shield Midjourney from liability.²²⁹

The outcome of these legal battles will influence how far studios can adopt AI while protecting the creative foundations on which their brands are built. Establishing universal frameworks will be essential to ensure that the technological process aligns with the protection of artistic value and intellectual property.

Source: Visionary Analytics, 2026

222. International Federation of Journalists (2024). EU: The impact of artificial intelligence on Europe's creative communities. <https://www.ifj.org/media-centre/news/detail/category/europe/article/eu-the-impact-of-artificial-intelligence-on-europes-creative-communities>; PMP Strategy & CISAC. (2024, November). Study on the Economic Impact of GenAI in the Music and Audiovisual Industries. <https://www.cisac.org/services/reports-and-research/cisacpmp-strategy-ai-study>; United Voice Artists. (2024, May 6). AI Guidelines for Voice Work. <https://unitedvoiceartists.com/wp-content/uploads/2024/05/UVA-AI-GUIDELINES.pdf>; World Economic Forum & Accenture. (2025). Artificial intelligence in media, entertainment and sport. https://reports.weforum.org/docs/WEF_Artificial_Intelligence_in_Media_Entertainment_and_Sport_2025.pdf

223. European Commission. (2019). Directive on copyright and related rights in the Digital Single Market and amending Directives 96/9/EC and 2001/29/EC - 2019/790 – EN. EUR-Lex. <https://eur-lex.europa.eu/eli/dir/2019/790/oj/eng>

224. International Federation of Journalists (2024). EU: The impact of artificial intelligence on Europe's creative communities. <https://www.ifj.org/media-centre/news/detail/category/europe/article/eu-the-impact-of-artificial-intelligence-on-europes-creative-communities>

225. Interview 4. July 29, 2025.

226. Schomer, A. (2023, December 1). Generative AI in film and TV: a special report. <https://variety.com/vip-special-reports/generative-ai-in-film-tv-1235792168/>; International Federation of Journalists (2024). EU: The impact of artificial intelligence on Europe's creative communities. <https://www.ifj.org/media-centre/news/detail/category/europe/article/eu-the-impact-of-artificial-intelligence-on-europes-creative-communities>

227. Interview 1. August 7, 2025; Romero-Moreno, F. (2025). Deepfake detection in generative AI: A legal framework proposal to protect human rights. *Computer Law & Security Review*, 58, 106162. <https://doi.org/10.1016/j.clsr.2025.106162>

228. Interview 1. August 7, 2025.

229. BBC. (2025). Disney and Universal sue AI firm Midjourney over images. <https://www.bbc.com/news/articles/cg5vjqdm1typo>

These developments highlight questions around how GenAI developers can act transparently and responsibly in relation to rightsholders' intellectual property. Stakeholders have also proposed the introduction of a **European Digital Public Space that could act as a regulated and trustworthy media platform**.²³⁰ However, even if IP rights are protected and enforced in the EU, there is no guarantee that they can be protected abroad, as many GenAI models are developed in countries outside the EU.²³¹ Here, international organisations play an important role in universally protecting workers' rights. For example, the International Confederation of Societies of Authors and Composers (CISAC) has emphasised the importance of enforceable transparency obligations, such as those under the EU AI Act, because these help creators identify instances where their work is being misused.²³²

Alongside copyright concerns, the broader regulatory framework for media is also evolving. Both the Digital Services Act (DSA) and the upcoming European Media Freedom Act are highlighted as relevant instruments. The latter, although not solely focused on AI, introduces a framework for **"media privilege online,"** complementing the DSA.²³³ However, to benefit from this framework, media organisations cannot deploy GenAI without proper editorial oversight. This raises practical challenges, particularly in relation to the AI Act's disclosure obligation, which requires AI use to be labelled. As interviewees noted, it would be impractical if every minor use of AI, such as small effects, needed to be disclosed. Similarly, while the Audiovisual Media Services Act maintains that editorial liability applies regardless of whether GenAI is used, its integration complicates workflows internally by creating new demands on oversight.

Current copyright protections also remain human-centric, leaving GenAI-generated content in a regulatory grey zone. AV companies emphasise that they are not scraping the web or misappropriating others' work to train their tools; rather, they argue that Big Tech actors such as Meta, Google and OpenAI engage in these practices. They also highlight that content should not be used without permission for any purpose, particularly commercial exploitation, and that the use of AV material to train AI without consent represents a significant problem. While companies generally do not call for new sector-specific regulations, they support stronger transparency requirements for external actors, especially Big Tech, when AV content is used in AI training or output generation. One interviewee cautioned that government involvement in the AV sector could lead to politicisation and potential censorship, highlighting a preference for narrowly tailored transparency requirements rather than broad regulatory interventions.²³⁴

230. To combat these challenges stakeholders have proposed the introduction of a European Digital Public Space, which could act as a regulated and trustworthy media platform. Nevertheless, as many GenAI tools are developed and deployed in countries outside the EU (e.g. the U.S.) even if IP rights are protected and enforced in the EU, they may still be infringed abroad.

231. Baumann, M., Bayer, J., Burri, M., Campus, G., Cole, M., Farish, K., Hacker, P., Migliore, E., Nordemann, J. B., Radel-Corman, J., Schmitz-Berndt, S., & van der Sloot, B. (2024). AI and the audiovisual sector: Navigating the current legal landscape. Cappello, M., (ed.), IRIS, European Audiovisual Observatory. <https://rm.coe.int/iris-2024-3-ia-legal-landscape/1680b1e999>

232. PMP Strategy & CISAC. (2024, November). Study on the Economic Impact of GenAI in the Music and Audiovisual Industries. <https://www.cisac.org/services/reports-and-research/cisacpmp-strategy-ai-study>

233. SOLV. (2024, January 25). The media privilege of media service providers under the EMFA. SOLV. <https://solv.nl/en/blog/the-media-privilege-of-media-service-providers-under-the-emfa/>

234. Interview 2 and 3. July 28, 2025.

At the national level, further rules already exist. France has a regulatory deliberation governing truthful editorial content, Germany maintains specific media laws, and Italy applies licensing rules that extend to content oversight. The challenge, however, lies in applying these frameworks to AI, as the process is more time-consuming and often hindered by the lack of technological tools to reliably detect whether content has been AI-generated. In many respects, this is seen as an extension of the regulatory challenges from the 1990s, when similar debates arose around new editing technologies. To reduce regulatory uncertainty and ensure trust, some companies have developed internal guidelines for employees, with a clear set of rules on how to use GenAI in the workplace.²³⁵ Beyond national and corporate measures, one interviewed expert noted that universally agreed standards are needed to help navigate challenges related to ownership of artwork, as the issue is not always confined by borders.²³⁶

One of the interviewees pointed out that while the basic standards and principles – such as the AI Act – are vital, it is important not to create detailed and specific rules at the EU-level, stating that *“We don’t need new rules at EU level – we have the AI Act; it just needs enforcement.”*²³⁷ National standards allow for navigating the unique environments of individual member states, such as divergent labour market regulations (e.g. systems with collective bargaining agreements vs. systems with minimum wages).

235. Interview 5. August 18, 2025.

236. Interview 1. August 7, 2025.

237. Interview 15 and 16. September 24, 2025.

Impacts in the banking sector

Technological impacts

In the banking sector, GenAI is a key driver of process and product innovation, reshaping both internal operations and customer services. At the sectoral level, it is being applied to fraud detection and regulatory compliance by generating synthetic data to stress-test monitoring systems and by automating compliance reporting.²³⁸ Banks are also using GenAI to design new products such as customer service chatbots and personalised financial management strategies.²³⁹ More broadly, GenAI is advancing capabilities in four key areas: customer engagement, content synthesis, content generation and software development. Together, these areas account for roughly 75% of the value GenAI is creating in the sector.²⁴⁰ By leveraging these applications, banks are growing their technological capacity so that they can operate more efficiently for themselves and their customers. One interviewed trade union representative in the sector noted that, practically, from their findings, they see “AI use in six broad areas: fraud prevention and detection, credit risk assessment, personalised financial advice, automation of bank office processes, support in regulation and compliance, and market analysis and training strategies.”²⁴¹ These applications are widely adopted across the sector: according to interviewees, most banks in Germany have adopted AI in day-to-day business, with data indicating that almost half of employees are using AI-based tools in their work; and in Finland, more than 80% of employees in financial services also use AI-based tools in their daily work.²⁴² This diffusion is reshaping key processes in the sector, changing the nature of financial intermediation, risk management, compliance and prudential oversight.

At the company level, GenAI is driving innovation in content generation, document drafting, data analysis and customer dialogue. Larger banks such as Nordea Bank, NatWest and Danske Bank are deploying applications for translation, summarisation, marketing and coding.²⁴³ Some are also developing in-house tools that embed their own business rules and frameworks to support employees in retrieving and drafting information.²⁴⁴ In Denmark, “large and mid-sized banks have moved beyond experimentation to full-scale deployment” and are actively fine-tuning “models for risk assessment, fraud detection, compliance, and customer service.”²⁴⁵ Furthermore, “GenAI is integrated into customer-facing solutions such as online banking and widely used for fraud monitoring.”²⁴⁶ These innovations aim to improve decision-making and enhance services. However, integration with legacy IT systems is a challenge;²⁴⁷ in this example from Finland, an interviewee noted that “information systems in the banking sectors are constantly being updated, but they still represent quite old technology... you have to use several different systems to be able to serve a customer.”²⁴⁸

Overall, GenAI is advancing technological capacity across the sector by enhancing efficiency, enabling product innovation, and supporting workers. Yet challenges remain in integrating tools with outdated legacy systems, managing ethical risks in sensitive applications, and ensuring that gains in efficiency are matched by appropriate safeguards for employees and customers alike.

238. Remolina, N. (2024). Mapping Generative AI Regulation in Finance and Bridging Regulatory Gaps. *The Journal of Financial Transformation*, 60, 104-111. Singapore Management University School of Law Research Paper. <https://ideas.repec.org/a/ris/jofitr/3478.html>

239. Pacific Data Integrators. (2023). Securing and Engaging: Generative AI's Dual Impact on Fraud Prevention and Customer Experience in Banking. Pacific Data Integrators. <https://www.pacificdataintegrators.com/blogs/generative-ai-fraud-prevention-customer-experience-banking-industry>

240. McKinsey (2023). Capturing the full value of generative AI in banking. McKinsey. <https://www.mckinsey.com/industries/financial-services/our-insights/capturing-the-full-value-of-generative-ai-in-banking>

241. Interview 10. August 12, 2025.

242. Interview 6. August 4, 2025; Interview 10. August 12, 2025.

243. Interview 6. August 4, 2025; Interview 8. August 7, 2025.

244. Interview 8. August 7, 2025.

245. Interview 18. December 4, 2025.

246. Ibid.

247. Ibid.

248. Interview 6. August 4, 2025.

Economic impacts

The adoption of GenAI is expected to generate between EUR 180 billion and EUR 306 billion in additional value to banks worldwide, an amount equivalent to 9–15% of their current operating profits. Corporate and retail banking are predicted to benefit the most from this adoption, whereas IT and finance, as well as talent and organisation, are seen as the segments and functions with the smallest number of gains.²⁴⁹ This potential economic growth is explained by the anticipated gains in productivity that integrating GenAI across various processes is expected to bring.²⁵⁰

The increased adoption of GenAI has the potential to significantly disrupt competition in the banking sector. For example, competition is intensifying between established banks and fintech companies. This is because established banks must abide by stricter regulatory frameworks than fintech companies,²⁵¹ limiting their capacity to innovate and adopt GenAI. In practice, this means that fintech firms are better positioned to capitalise on the opportunities presented by GenAI.²⁵²

GenAI adoption also has the potential to negatively impact market competition within the sector by undermining market diversity. For instance, **an increased reliance on GenAI for decision-making may result in a herding effect**, where different banks make synchronised actions and ultimately distort market pricing.²⁵³ At the same time, despite a lack of empirical evidence, many academics consider that bank herding may increase banks' vulnerability to systemic risks due to a higher probability of simultaneous distress.²⁵⁴

One interviewee noted that *“this sector has been spending a lot of money on IT throughout decades, also on AI, machine learning and so on. There is a lot of investment in GenAI. There is a great interest in it in the banking sector, and they’re really driving the development.”*²⁵⁵ Competition between larger and smaller banks is also being affected, with larger banks being at an advantage because they have larger IT budgets.²⁵⁶ As noted by the interviewee, *“those bigger banks are investing a lot in AI and have development environments, while the small banks are waiting.”*²⁵⁷ As a result, GenAI adoption risks reinforcing existing inequalities in the sector, where larger banks gain further competitive advantage while smaller institutions struggle to keep pace.

GenAI requires significant investment in installation and maintenance by companies. For banks, this contributes to the uncertainty around whether the technology's adoption is profitable. Companies require careful cost management of the technology, which may call for additional monitoring of compute power, storage, token usage, data usage and transfer.²⁵⁸ This creates the dual challenge of managing costs while ensuring competitive advantage. The economic impacts are mostly realised through cost savings and productivity gains at the firm level.²⁵⁹

249. McKinsey (2023). Capturing the full value of generative AI in banking. McKinsey. <https://www.mckinsey.com/industries/financial-services/our-insights/capturing-the-full-value-of-generative-ai-in-banking>

250. Königstorfer, F., & Thalmann, S. (2020). Applications of Artificial Intelligence in commercial banks – A research agenda for behavioral finance. *Journal of Behavioral and Experimental Finance*, 27, 100352. <https://doi.org/10.1016/j.jbef.2020.100352>; Botunac, I., Parlov, N., & Bosna, J. (2024). Opportunities of Gen AI in the Banking Industry with regards to the AI Act, GDPR, Data Act and DORA. IEEE. <https://ieeexplore.ieee.org/abstract/document/10577936>; McKinsey (2023). Capturing the full value of generative AI in banking. McKinsey. <https://www.mckinsey.com/industries/financial-services/our-insights/capturing-the-full-value-of-generative-ai-in-banking>; Ek, M., Lu, L., & Arnarp, E. (2024). Generative AI in traditional banking institutes (INFM10 2024). Department of Informatics, Lund University. <http://lup.lub.lu.se/student-papers/record/9165280>

251. Though many fintech companies offer similar services to banks, it is important to note that these companies fall outside the banking sector.

252. Vučinić, M., & Luburić, R. (2024). Artificial Intelligence, Fintech and Challenges to Central Banks. *Journal of Central Banking Theory and Practice*, 3, 5-42. <https://reference-global.com/article/10.2478/jcbtp-2024-0021>

253. Remolina, N. (2024). Mapping Generative AI Regulation in Finance and Bridging Regulatory Gaps. *The Journal of Financial Transformation*, 60, 104-111. Singapore Management University School of Law Research Paper. <https://ideas.repec.org/a/ris/jofitr/3478.html>

254. Cai, J. (2022). Bank herding and systemic risk. *Economic Systems*, 46(4), 101042. <https://doi.org/10.1016/j.ecosys.2022.101042>

255. Interview 8. August 7, 2025.

256. Ibid.

257. Ibid.

258. Moretti, L., Rinaldi, L., & Schlosser, P. (Eds.). (2024). *Digital finance in the EU: Navigating new technological trends and the AI revolution*. Florence: European University Institute, 87-94. <https://cadmus.eui.eu/entities/publication/ddecfb8d-061d-5a69-8559-0e88b7fb1c85>; Kaiser, T., Chan, B.-H., & Zahoruiko, D. (2024). Adopting generative AI in banking: Essential perspectives on quality and risks. *Kodex AI*. <https://www.kodex-ai.com/post/adopting-generative-ai-in-banking>

259. McKinsey (2023). Capturing the full value of generative AI in banking. McKinsey. <https://www.mckinsey.com/industries/financial-services/our-insights/capturing-the-full-value-of-generative-ai-in-banking>; Riemer, S., Strauß, M., Rabener, E., Bickford, J. K., Hilbers, P., Kalra, N., Kapoor, A., King, J., Palumbo, S., Pardasani, N., Paully, M., Rulf, K., & Widowitz, M. (2023). *A Generative AI Roadmap for Financial Institutions*. Boston Consulting Group. <https://www.bcg.com/publications/2023/a-generative-ai-roadmap-for-fis>

As one interviewee from Finland noted, “there are three big companies... then there are several smaller groups, where creating [their] own training and utilising GenAI may not be as good as in the three big banks,”²⁶⁰ suggesting that larger institutions may be able to reinvest efficiency gains in workforce development, while smaller banks face limitations in achieving the same gains. A practical illustration of GenAI adoption in the banking sector is presented in Box 10 below through the case of the Intesa Sanpaolo Group, which has integrated GenAI across multiple functions while negotiating a socially responsible workforce transition and management of large-scale AI integration through its fiscal and strategic capacity.

Box 10. Intesa Sanpaolo Group: GenAI integration in the banking sector pt.1

Intesa Sanpaolo Group, the largest Italian bank,²⁶¹ is rapidly integrating GenAI across its operations, enhancing customer service with conversational agents, improving risk modelling and stress-test reporting, and simplifying access to business intelligence tools. In 2023, it became the first bank in Europe to use AI for regulatory analysis, aiming to advance policy evaluation, regulatory agenda-setting and risk assessment.²⁶² By 2025, the Group plans to implement over 150 AI and GenAI applications.²⁶³ To support its AI ambitions, Intesa Sanpaolo established the AI Lab at its Innovation Centre in Turin, which focuses on developing scalable models for business support.²⁶⁴

Capabilities and benefits

GenAI is already delivering measurable results in the company. The Digital Advisor, a GenAI-powered tool, provides contact centre agents with conversational access to complex, real-time customer data, detailed product and service information, personalised customer management suggestions and operational tools, achieving over 85% accuracy in response relevance and significantly increasing service efficiency. The company's AI chatbot, Ellis, resolves around 85% of text and 55% of voice-based customer requests across digital channels.²⁶⁵ Meanwhile, the Democratic Data Lab, an AI-powered data analytics tool built on Google Cloud, has reduced the time needed to complete EU-wide stress-test reports by over 80%, resulting in significant cost savings. By integrating GenAI through Gemini 1.5, the company has further improved the Lab's efficiency by automating the extraction and structuring of complex risk data, streamlining model training and freeing analysts from repetitive manual tasks.²⁶⁶ The company has also partnered with iGenius to adopt its generative business intelligence platform, Crystal, which uses GPT technology to simplify access to financial data through natural language, generate tailored insights, support forecasting and reporting and assist with project planning.²⁶⁷

260. Interview 6. August 4, 2025.

261. Statista Research Department. (2025, June 27). Italy: Largest banks by total assets 2024. Statista. <https://www.statista.com/statistics/693548/leading-banks-as-sets-italy/>

262. Intesa Sanpaolo. (2023, October 9). Intesa Sanpaolo first European bank to use Artificial Intelligence for regulatory analysis. Intesa Sanpaolo Group. <https://group.intesasnpaolo.com/en/newsroom/press-releases/2023/10/intesa-sanpaolo-first-european-bank-to-use-artificial-intelligen>

263. Intesa Sanpaolo. (2024, October 16). Artificial Intelligence and Ethics: Responsible Approach. Intesa Sanpaolo Group. <https://group.intesasnpaolo.com/en/editorial-section/events-and-projects/projects/innovation/artificial-intelligence-a-responsible-approach-to-progress>

264. Intesa Sanpaolo Innovation Center. (n.d.). Artificial Intelligence Lab. <https://www.intesasnpaoloinnovationcenter.com/en/applied-research/artificial-intelligence-lab/>

265. Kitishian, D. (2025, July 24). Intesa Sanpaolo's AI Strategy: Analysis of Dominance in Banking AI. Klover.ai. <https://www.klover.ai/intesa-sanpaolo-ai-strategy-analysis-of-dominance-in-banking-ai/>; Qorus. (2024, June 11). Banking Innovation of the Month: Intesa Sanpaolo's smart knowledge base through GenAI digital advisor. <https://www.qorusglobal.com/content/28280-banking-innovation-of-the-month-intesa-sanpaolos-smart-knowledge-base-through-genai-digital-advisor>

266. Kitishian, D. (2025, July 24). Intesa Sanpaolo's AI Strategy: Analysis of Dominance in Banking AI. Klover.ai. <https://www.klover.ai/intesa-sanpaolo-ai-strategy-analysis-of-dominance-in-banking-ai/>; Intesa Sanpaolo. (n.d.). Intesa Sanpaolo: Managing evolving financial risk at speed with data analytics and AI. Google Cloud. <https://cloud.google.com/customers/intesasnpaolo>

267. Intesa Sanpaolo. (2023, September 29). Intesa Sanpaolo chooses iGenius for generative business intelligence and analytics. Intesa Sanpaolo Group. <https://group.intesasnpaolo.com/en/newsroom/press-releases/2023/09/intesa-sanpaolo-chooses-igenius-for-generative-business-intellig>

Box 10. Intesa Sanpaolo Group: GenAI integration in the banking sector pt.2

Costs and risks

A key challenge the Intesa Sanpaolo Group faces in scaling GenAI adoption is managing its workforce transformation. To support this shift, the bank plans to reduce its staff by 9,000 (about 10%) by 2027, while hiring 3,500 younger, digitally skilled employees to accelerate its transition towards AI and digitalisation. Crucially, this transition was negotiated with trade unions, whose involvement ensured a just and socially responsible process. Rather than leaving thousands of employees behind, the agreement allows for early retirement, access to the EU Solidarity Fund and phased reduction through natural attrition. This approach not only protects workers' rights and livelihoods but also enables the bank to save EUR 500 million annually from 2028, demonstrating that strategic workforce renewal can be achieved without compromising social responsibility.²⁶⁸

The broader shift also carries risks, including new regulatory pressures from the EU AI Act and ethical concerns such as algorithmic bias and lack of transparency. Nonetheless, analysis by Klover.AI finds that Intesa Sanpaolo is well-prepared to manage the risks of large-scale AI transformation – more so than its peers – thanks to a unique combination of strategic clarity, financial strength and execution capability. Unlike other banks that excel in isolated areas, Intesa has built a cohesive, enterprise-wide AI framework grounded in responsible governance, proprietary innovation and measurable impact, enabling it to meet regulatory, ethical and operational challenges with greater speed and confidence.²⁶⁹

Intesa Sanpaolo's integrated and responsible approach to GenAI adoption illustrates how banks can successfully navigate the complexities of digital transformation, balancing innovation with ethical governance, workforce renewal and regulatory compliance, to build adaptive and resilient organisations in an increasingly AI-driven financial landscape.

Source: Visionary Analytics, 2026

Overall, the economic impacts of GenAI in the banking sector reflect that there is a large potential for productivity-driven growth at the macro level. However, at the firm level, there are high investment requirements and uneven competition between large, small and digital banks.

268. Ennis, D. (2024, October 24). Intesa Sanpaolo to cut 9,000 jobs in AI-fueled push. Banking Dive. <https://www.bankingdive.com/news/intesa-sanpaolo-ai-9000-jobs-hybrid-contract-early-retirement-union/730946/>

269. Kitishian, D. (2025, July 24). Intesa Sanpaolo's AI Strategy: Analysis of Dominance in Banking AI. Klover.ai. <https://www.klover.ai/intesa-sanpaolo-ai-strategy-analysis-of-dominance-in-banking-ai/>

Social impacts

At the sector level, the introduction of GenAI is intensifying a shortage of skilled workers, especially those with the technical skills needed to develop and implement GenAI. One interviewee highlighted that *“there is also a lack of expertise in Finland, there are maybe only 320 people working in AI development in the banking sector in Finland, so it is very limited.”*²⁷⁰ Larger banks tend to invest more in employee competencies, while smaller banks lag behind, leading to uneven preparedness across the sector. As noted, *“employees in the big companies are getting more competency development than the ones in small companies... there is a big digital illiteracy gap on the way.”*²⁷¹ This unevenness risks deepening social divides, particularly as younger, better-educated employees adopt GenAI more quickly while older workers can be reluctant.²⁷²

At the company level, GenAI adoption is often accompanied by cost-cutting in personnel budgets.²⁷³ Aiming to improve the cost-to-income ratios and meet investors' expectations, banking sectors are searching for new ways to increase returns on equity and reduce costs through AI integration and layoffs,²⁷⁴ raising concerns about whether firms are balancing technology adoption with enough reskilling. One interviewee explained that *“companies are already talking about cost effectiveness... but there is a long way until it's a reality... they're overestimating productivity gains.”*²⁷⁵ Another noted that technology budgets are rising while personnel budgets are not.²⁷⁶ This creates risks that skill strategies will be underdeveloped, despite the need to upgrade roles as simpler tasks are automated.

Some organisations in the banking sector already implement diverse initiatives to assess workers' perspectives towards AI adoption. For example, the Financial Services Union from Ireland surveyed employees from the financial sectors of the Republic of Ireland and Northern Ireland.²⁷⁷ Similarly, AVG Banken conducts surveys on the application of AI across German private banks.²⁷⁸ In parallel, workers' representatives from 16 German banks established an AI Working Group on Banking, which aims to assess employees' perspectives on the impact of AI. The initiative is implemented under the umbrella of ver.di and with support from a consulting firm.²⁷⁹ Such initiatives allow for ensuring workers' participation in the AI integration processes and help make informed decisions in this regard.

At the worker level, interviews show a mix of optimism and concern. Survey data suggest that 62% of AI users say AI improves efficiency, and 48% see better career development opportunities for themselves.²⁸⁰ Many employees also report that AI is enriching their jobs by reducing administrative tasks and shifting tasks towards more complex, value-added work.²⁸¹ For example, one interviewee noted that AI is used by workers to save time in tasks such as summarising documents or meeting minutes, to-do lists, drafting communications, or even comparative analysis.²⁸² Other interviewees pointed to

270. Interview 6. August 4, 2025.

271. Interview 8. August 7, 2025.

272. Interview 9. August 12, 2025.

273. Trending Desk. (2026, January 5). 200,000 bank job cuts: After tech industry shake-up, Morgan Stanley issues major warning as AI targets another major sector. The Economic Times. <https://economictimes.indiatimes.com/news/new-updates/200000-bank-job-cuts-after-tech-industry-shake-up-morgan-stanley-issues-major-warning-as-ai-targets-another-major-sector/articleshow/126349465.cms>; Foy, S. (2025, December 31). AI forecast to put 200,000 European banking jobs at risk by 2030. Financial Times. <https://www.ft.com/content/71e12f85-1edb-4156-8cb5-3fe8aef36d93>

274. Ibid.

275. Interview 8. August 7, 2025.

276. Interview 6. August 4, 2025.

277. Newell, M.K.G. (2025). Accounting for Workers in the Age of AI: Understanding the Impact of Artificial Intelligence on Financial Services Employment in Ireland. Financial Services Union. <https://www.fsunion.org/latest/accounting-for-workers-in-the-age-of-ai/>

278. AVG Banken (2025, November). Use of artificial intelligence in the private banking industry: Results from employee surveys in the German private banking industry. https://cdn.prod.website-files.com/62bef2e3601a60f5722d53e9/690c708d1b046f0291f619b8_251106_AI_banks_EN.pdf

279. UNI Europa. (2025, October 15). “AI Working Group on Banking” & first agreements at company level. An Industrial Policy for Services. ver.di. https://www.uni-europa.org/wp-content/uploads/sites/3/2025/10/PPT_ver.di-KI-Arbeitsgruppe-Banken_Positionspapier-DB_kurz_en-1.pptx

280. AVG Banken (2025, November). Use of artificial intelligence in the private banking industry: Results from employee surveys in the German private banking industry. https://cdn.prod.website-files.com/62bef2e3601a60f5722d53e9/690c708d1b046f0291f619b8_251106_AI_banks_EN.pdf

the growing role of GenAI in decision support and HR functions, where it supports staff in pre-selection, personnel planning and credit processes.²⁸³ Another example, from the Danish financial sector, shows that highly skilled employees in customer-facing roles benefit from improved system support during client interactions; in addition, analysts gained access to improved analytical tools while leaders gained access to new leadership assistance tools.²⁸⁴

However, fears of displacement remain strong. According to the Financial Services Union survey, 80% of workers were concerned about job losses, 62% about bias in decision-making and 60% about AI use in hiring and firing or surveillance.²⁸⁵ In some cases, redundancies have already been linked directly to GenAI deployment, as expressed by one interviewee: *“debt recovery... part of the reason for the redundancies is the introduction of GenAI.”*²⁸⁶ As noted by another interviewee, unequal access to training further compounds these risks.²⁸⁷

Workforce reduction will be most evident among face-to-face and record-keeping roles, such as bank tellers and related clerks.²⁸⁸ Job losses are also expected in the administrative area, for example, accountants, secretaries, cashiers, data-entry clerks and bookkeepers. At the same time, AI will also create new positions in the sector. The demand is expected to increase for specialists in AI and machine learning, e-commerce, digital transformation, digital marketing, big data and strategy. The sector will also look for more data, financial and business intelligence analysts, database and network professionals, data engineers and financial and investment advisors.²⁸⁹ Additionally, one interviewee noted that *“new roles are emerging in AI governance, model monitoring and ethical oversight.”*²⁹⁰

GenAI's social impacts in banking highlight that there are opportunities for job enrichment and career development for those with the right skills. However, it also demonstrates the risks of exclusion, displacement and unrealistic cost-saving expectations. As noted in a 2025 position paper by the German trade union ver.di, workplace AI adoption, including GenAI, raises key considerations in this sector in relation to data use, employee participation, training and the social handling of productivity gains.²⁹¹ Addressing these challenges will need investment in training, equitable access to reskilling and alignment between company strategies and workforce realities.

281. Interview 10. August 12, 2025; ARIX Business Intelligence GmbH. (2024). 'Banking in 2030 – How will the current global trends, especially AI, shape the post-COVID19 pandemic future of the European banking industry and its employees?' (EU funded Project No. 101051930). https://www.ebf.eu/wp-content/uploads/2024/05/Final-report_Impact-of-AI-on-banking-employment-in-Europe.pdf

282. Interview 8. August 7, 2025.

283. Interview 9. August 12, 2025; Interview 10. August 12, 2025.

284. Interview 18. December 4, 2025.

285. Newell, M.K.G. (2025). Accounting for Workers in the Age of AI: Understanding the Impact of Artificial Intelligence on Financial Services Employment in Ireland. Financial Services Union. <https://www.fsunion.org/latest/accounting-for-workers-in-the-age-of-ai/>

286. Interview 9. August 12, 2025.

287. Interview 8. August 7, 2025.

288. ARIX Business Intelligence GmbH. (2024). Banking in 2030 – How will the current global trends, especially AI, shape the post-COVID19 pandemic future of the European banking industry and its employees? (EU funded Project No. 101051930). https://www.ebf.eu/wp-content/uploads/2024/05/Final-report_Impact-of-AI-on-banking-employment-in-Europe.pdf

289. Ibid.

290. Interview 18. December 4, 2025.

291. ver.di, Fachgruppe Bankgewerbe. (2025). Positionspapier: Einsatz von Künstlicher Intelligenz (KI) im Bankgewerbe. https://banken.verdi.de/++file++67e289c9ba798aa32570e7d5/download/25_BFGV-Bankgewerbe_Positionspapier_KI.pdf

Ethical impacts

At the sector level, the use of GenAI in sensitive areas such as credit scoring and hiring raises concerns about discrimination and transparency, and algorithmic bias presents risks to its ethical use.²⁹² One interviewee highlighted that *“non-discrimination policies are important; AI should not discriminate against anybody and... there have to be systems for continuous monitoring of AI.”*²⁹³ They suggested that Data Protection Impact Assessments (DPIAs) should be standard practice for all AI deployments. Yet interviewees also recognised that GenAI may, in some cases, help reduce bias, for example, *“having a system determine something might actually reduce human bias.”*²⁹⁴ This reflects how GenAI has the potential to either reinforce or mitigate discrimination depending on how the models are trained and systems are monitored. **When trained on clean data, GenAI has the potential to be less biased than human actors and, therefore, may allow for more fair decision-making.** As GenAI is increasingly used to aid decision-making in sensitive areas, training models on representative and unbiased data becomes supremely important. For ethical GenAI development and deployment, banks must develop evaluation frameworks that can be used to review and clean both current and future data systems.

Notably, the AI Act aims to address these concerns. While recognising that biases are unavoidable,²⁹⁵ the regulation requires, for example, the introduction of relevant measures needed for the detection, prevention and mitigation of potential biases during data set training, validation and testing.²⁹⁶ This specifically concerns the high-risk AI systems, including those used for creditworthiness²⁹⁷ and HR,²⁹⁸ and biases that affect fundamental rights or EU anti-discrimination laws.²⁹⁹

At the company level, reputational risks present challenges in the sector. Banking is built on trust, and misuse of GenAI could erode that. As one interviewee noted, *“there is a very high risk aversion in terms of getting big fines, but also that the customers won’t trust them. The trust is very important.”*³⁰⁰ Others emphasised transparency as a precondition for maintaining customer relationships, stating that *“you need to trust the technology. And you have to be transparent. If you don’t tell your customers what you do there, they will not trust our company... we don’t want to play with the trust of our customers.”*³⁰¹ To mitigate ethical risks, *“banks are implementing Explainable AI tools, robust governance frameworks, audit trails and internal ethics boards. These measures help ensure decisions are traceable, fair and compliant with regulatory standards.”*³⁰² This suggests that in the banking sector, the ethical deployment and use of GenAI is integral to customer confidence and the firm’s reputation.

At the worker level, the ethical challenge centres on preserving human agency. Interviewees cautioned against over-reliance on machines: *“we would end up at some stage [with] the machine telling us something and we’re accepting that over the evidence of humans. That would be the real test.”*³⁰³ While interviewees described the function of GenAI (i.e. in reducing administrative tasks) as *“supportive and enriching,”*³⁰⁴ they also acknowledged high-risk areas such as credit scoring and HR management, where the ethical stakes of GenAI use are greatest.³⁰⁵ This highlights the need for safeguards to ensure that GenAI supports, rather than overrides, human judgment in decision-making.

Overall, the ethical impacts of GenAI in banking highlight the importance of robust data governance, transparency with customers and mechanisms to preserve human oversight. While GenAI could improve fairness and compliance if deployed ethically and safely, it could also risk undermining trust and accountability if not.

292. Note: types of biases are explained in Box 1515.

293. Interview 6. August 4, 2025.

294. Interview 9. August 12, 2025.

295. Regulation (EU) 2024/1689 (Artificial Intelligence Act), recital 67.

296. Regulation (EU) 2024/1689 (Artificial Intelligence Act), article 10.

297. Regulation (EU) 2024/1689 (Artificial Intelligence Act), Annex III, point 5b.

298. Regulation (EU) 2024/1689 (Artificial Intelligence Act), Annex III, point 4.

299. Regulation (EU) 2024/1689 (Artificial Intelligence Act), article 10.

300. Interview 8. August 7, 2025.

301. Interview 10. August 12, 2025.

302. Interview 18. December 4, 2025.

303. Interview 9. August 12, 2025.

304. Interview 10. August 12, 2025.

305. Interview 6. August 4, 2025; Interview 10. August 12, 2025.

Regulatory impacts

Banking is referred to as a high-risk AI systems deployer,³⁰⁶ because creditworthiness assessments, including credit scoring, are defined as high-risk.³⁰⁷ Similarly, AI applications in HR also fall under the high-risk category,³⁰⁸ and interviewees highlighted that AI is already being deployed in both creditworthiness and HR.³⁰⁹ This places banks under significant regulatory scrutiny, with expectations for continuous monitoring and strong non-discrimination safeguards; as noted by one interviewee, *“AI should not discriminate against anybody... there has to be systems for continuous monitoring of AI... the use of AI systems should be [subject to] Data Protection Impact Assessment in every case.”*³¹⁰ The sector is also affected by broader EU strategies such as the 2020 Cybersecurity Strategy for the Digital Decade,³¹¹ which plays a key role in supporting the EU’s vision for trustworthy and secure AI. It identifies cybersecurity as a foundational requirement for emerging technologies, including AI. The strategy promotes ‘secure-by-design’ development, particularly in critical sectors. This directly supports the EU’s broader vision for trustworthy AI by ensuring that systems are ethical, lawful, and technically secure. However, noted by an interviewee, European regulation may slow adoption compared to jurisdictions such as the US, creating concerns about competitiveness.³¹²

At the company level, banks must manage both reputational and compliance risks. One interviewee noted that “applications have to meet the highest requirements for data protection and data security, which slows down the AI integration.”³¹³ However, the interviewee also stressed that **regulatory frameworks are essential to maintain a level playing field and ensure customer trust**, stating that *“if you don’t tell your customers what you do there, they will not trust our company... regulation that gives security to banks, customers, employees is the best we could have.”*³¹⁴ Some also highlighted the resource burden of compliance, particularly for smaller national regulators, which may lack the capacity to supervise AI use effectively.³¹⁵ Some banks have set up Ethical Boards or Committees to oversee the broader regulatory and ethical dimensions of the deployment of AI systems. In the Belgian financial sector, for instance, some banks have internal departments (e.g. legal, compliance, IT, risk management, audit) monitoring AI developments, while others have created dedicated AI committees or think tanks.³¹⁶

At the worker level, regulatory gaps and escalation pathways were a recurring concern. As one interviewee asked, *“if you’re an HR professional and... you see [AI] drawn up a certain demographic and being biased against other demographics... what can you do about that within the current regulatory framework? How do you address that?”*³¹⁷ Trade union representatives emphasised the importance of collective bargaining frameworks, noting that in Finland, for example, *“in collective agreements we have quite good common understandings about regulation in our collective agreement in using AI... employers would inform representatives about the AI applications that affect... working conditions.”*³¹⁸ Such mechanisms provide one of the few established channels for workers to raise concerns and ensure training and competence requirements are included in workplace development plans.

Overall, the evidence shows that regulatory impacts in banking reflect a balance between maintaining trust and compliance in high-risk areas and ensuring that regulation does not stifle innovation. Interviews suggest that while strong frameworks are welcomed as safeguards, their effectiveness depends on adequate resources and meaningful social dialogue within companies.

306. Regulation (EU) 2024/1689 (Artificial Intelligence Act), recital 96.

307. Regulation (EU) 2024/1689 (Artificial Intelligence Act), Annex III, point 5b.

308. Regulation (EU) 2024/1689 (Artificial Intelligence Act), Annex III, point 4.

309. Interview 6. August 4, 2025; Interview 9. August 12, 2025.

310. Interview 6. August 4, 2025.

311. European Commission & High Representative of the Union for Foreign Affairs and Security Policy (2020). The EU’s cybersecurity strategy for the digital decade. <https://eur-lex.europa.eu/legal-content/EN/TXT/?uri=JOIN:2020:18:FIN>

312. Interview 9. August 12, 2025.

313. Interview 10. August 12, 2025.

314. Ibid.

315. Interview 6. August 4, 2025.

316. Febelfin. (2025, March 25). Artificial intelligence and the financial sector: analysis of challenges and opportunities with Laurence Van Meerhaeghe, Data Expert at Febelfin. <https://febelfin.be/en/themes/digitalization-innovation/innovation/artificial-intelligence-and-the-financial-sector-analysis-of-challenges-and-opportunities-with-laurence-van-meerhaeghe-data-expert>

317. Interview 9. August 12, 2025.

318. Interview 6. August 4, 2025.

Impacts in the telecommunications sector

Technological impacts

The introduction of GenAI in the telecoms sector is expected to influence the technology transformation by underpinning the 6th generation (6G) telecommunications. 6G telecommunications refers to the next generation of mobile networks that will succeed 5G, aiming to deliver faster connectivity, lower latency and a better capacity to support the integration of advanced technologies such as AI and immersive applications. GenAI is expected to drive this new technological transformation by facilitating the new capacities with intelligent network management and optimised resource allocation, and by supporting innovative applications such as integrated sensing and communications.³¹⁹ As explained in an interview with one of the sector stakeholders, *“the main aspect of 6G networks is that they will be natively supporting AI.”*³²⁰ In other words, unlike previous generations, 6G will have GenAI built into it from the start. GenAI has the potential to underpin the new generation of technology in the telecoms sector by revolutionising how the service is delivered.

6G and Gen AI are mutually convergent technologies. 6G provides the ultra-low latency and high-density data streams needed to train and operate GenAI models, while GenAI, in turn, offers adaptive optimisation and intelligent management of wireless resources.³²¹ Together, they enable a new generation of autonomous, scalable, and interactive wireless systems. However, this tight integration also greatly widens the attack surface; disturbances at the physical level can directly compromise GenAI perception, and corrupted models or malicious prompts can spread downward to disrupt network connectivity.³²²

Presently, Gen AI technology has a high degree of adoption across the sector. According to one interviewee, *“in the ICT [Information and Communication Technology] sector, we estimate that 90% of companies already use some form of AI, and in the telecommunications sector, the figures are similar. The larger the company, the more GenAI is found.”*³²³ The technological applications are primarily in the areas of customer service, cybersecurity and network design.³²⁴ Though adoption rates are high, the scalability of GenAI across the sector has technical limitations. The vast majority of GenAI foundational models are not designed for telecommunication networks, and there are outstanding compatibility issues with legacy systems. These challenges point to a need for companies to develop and invest in GenAI platforms and infrastructure.³²⁵

An additional technological risk lies in wireless hallucinations in the telecoms sector. Wireless hallucinations refer to GenAI outputs, such as channel information or optimisation strategies, that are inaccurate or illegal. These hallucinations can significantly disrupt telecommunication operations by degrading service quality, wasting resources and creating security risks.³²⁶ Despite being a driver of innovation and allowing companies to provide new and more efficient services, GenAI’s wireless hallucinations can be damaging for companies, undermining their services and harming their reputation. This risk of wireless hallucinations can also pose challenges for workers, who may be held responsible for inaccurate outputs.

319. Lehr, W., & Stocker, V. (2024). AI Regulation and 6G: The Measurement Ecosystem Challenge. *Network Law Review*. <https://www.networklawreview.org/lehr-stocker-generative-ai/>; Interview 12. August 12, 2025; World Economic Forum, Accenture, Valkhof, B., & Venturini, F. (2025). Artificial intelligence in telecommunications. In World Economic Forum, https://reports.weforum.org/docs/WEF_Artificial_Intelligence_in_Telecommunications_2025.pdf

320. Interview 12. August 12, 2025.

321. Son, B. D., Trinh, V. C., & Kim, D. I. (2025). Trustworthy GenAI over 6G: Integrated Applications and Security Frameworks. *arXiv* (Cornell University). <https://doi.org/10.48550/arxiv.2511.15206>

322. Ibid.

323. Interview 14. August 29, 2025.

324. Altman Solon. (2024). Generative AI Governance Frameworks for Telecommunications Leaders. Altman Solon. <https://www.altmansolon.com/thought-leadership/generative-ai-governance-telecommunications/>; López Delgado, J. L., & López Ramos, J. A. (2024). A Comprehensive Survey on Generative AI Solutions in IoT Security. *Electronics*, 13 (24), 4965. <https://doi.org/10.3390/electronics13244965>; Lundborg, M., Märkel, C., Roloff, M., Kroon, P., & Wiewiorra, L. (2024). Use of AI in the Austrian telecommunications sector. Wik Consult. <https://www.wik.org/en/publications/publication/einsatz-von-ki-im-oesterreichischen-telekommunikationssektor>

325. Alliance for Telecommunications Industry Solutions. (2021). Advancing generative AI implementation in telecommunications networks. White Paper [Report]. <https://cdn.atiss.org/atiss.org/2024/11/26172554/Advancing-Generative-AI-Implementation-in-Telecommunications-Networks-V6.pdf>

326. Wang, X., Wang, J., Feng, L., Niyato, D., Zhang, R., Kang, J., et al. (2025). Wireless hallucination in generative AI-enabled communications: Concepts, issues, and solutions. *arXiv*. <https://arxiv.org/abs/2503.06149>

Economic impacts

The economic impacts of GenAI in the telecoms sector are becoming increasingly visible at the sectoral level. While adoption remains at an early stage, with a 2024 report suggesting that operators allocate less than 1% of their technology budgets to GenAI, many operators predict this share to grow by as much as six times over the next two years.³²⁷ Additionally, early results confirm that GenAI can deliver cost savings, with evidence of up to 20% reductions in capital expenditure and 25% in operating expenditure in certain use cases, particularly in network planning and operations.³²⁸ However, as with technological impacts, **sector-wide risks remain in the scaling of GenAI**, where the need for infrastructure and the degradation of machine learning performance can increase costs and reduce confidence in applications.³²⁹ Smaller operators may find themselves disadvantaged compared to larger peers, given their more limited access to capital, talent and high-quality data.³³⁰ Furthermore, greater benefits are brought to early adopters of GenAI, as they are better positioned to capture a disproportionate share of the approximate EUR 85 billion in additional value expected for the industry.³³¹

At the company level, **GenAI is making services more efficient**. Customer service is one of the clearest areas of this impact, with companies reporting that GenAI-powered chatbots can reduce service costs by 15-20% while simultaneously improving customer satisfaction. The economic impacts of GenAI are also being felt at the worker level, with early deployments improving productivity across many roles, including contact centre agents, engineers and developers.³³²

Beyond efficiency gains, GenAI is also opening **new revenue opportunities through AI-as-a-Service, data monetisation and sovereign AI infrastructure**, all of which can help combat revenue stagnation.³³³ At the same time, the economics of building and running large-scale GenAI models in-house are challenging. Some estimates suggest that maintaining proprietary LLMs could cost operators nearly as much as EUR 600,000 per day.³³⁴ This keeps in-house development options out of reach for many companies and pushes them towards more ready-made GenAI products developed by third parties.

Box 11. Orange Group: GenAI integration in the telecoms sector pt. 1

Orange Group is a global telecoms operator and digital service provider headquartered in France. The company operates in 26 countries in Europe, Africa and the Middle East, employing 127,000 people. Its core activities include providing fixed and mobile connectivity through Fibre to the Home, 4G, and 5G networks, as well as developing extensive international infrastructure through submarine cables and satellite communications. Operating under the Orange Business brand, the company provides digital and connectivity solutions to multinational enterprises worldwide.³³⁵ Orange Group is actively integrating GenAI into its internal operations and enterprise services. This includes large-scale workforce adoption of in-house GenAI tools, AI infrastructure offerings, and innovation labs for clients. A core component of Orange's AI strategy is collaboration with partners such as Microsoft, Google, OpenAI, Meta, NVIDIA and LightOn.³³⁶ To support AI integration, Orange employs 2,400 AI and data experts, as well as 8,000 Orange Labs researchers.³³⁷

327. Altman Solon. (2024, February 15). Telecommunications' next frontier: Navigating the GenAI imperative. Altman Solon Insights. <https://www.altmansolon.com/insights/telecommunications-next-frontier-navigating-the-generative-ai-imperative>

328. BEREC. (2022). BoR (22) 191 Draft Report on challenges and benefits of Artificial Intelligence (AI) solutions in the telecommunications sector (including use cases). BEREC. https://www.berec.europa.eu/system/files/2022-12/BoR%20%2822%29%20191%20Draft%20Report%20on%20challenges%20and%20benefits%20of%20Artificial%20Intelligence%20%28AI%29%20solutions%20in%20the%20telecommunications%20sector%20%28including%20use%20cases%29_2.pdf

329. Alliance for Telecommunications Industry Solutions. (2021). Advancing generative AI implementation in telecommunications networks. White Paper [Report]. <https://cdn.atlis.org/atlis.org/2024/11/26172554/Advancing-Generative-AI-Implementation-in-Telecommunications-Networks-V6.pdf>

330. BEREC. (2022). BoR (22) 191 Draft Report on challenges and benefits of Artificial Intelligence (AI) solutions in the telecommunications sector (including use cases). BEREC. https://www.berec.europa.eu/system/files/2022-12/BoR%20%2822%29%20191%20Draft%20Report%20on%20challenges%20and%20benefits%20of%20Artificial%20Intelligence%20%28AI%29%20solutions%20in%20the%20telecommunications%20sector%20%28including%20use%20cases%29_2.pdf

331. Creasy, S., Ferrero, I., Lajous, T., Trigo, V., & Vieira, B. (2024, February 21). How generative AI could revitalize profitability for telcos. McKinsey & Company. <https://www.mckinsey.com/industries/technology-media-and-telecommunications/our-insights/how-generative-ai-could-revitalize-profitability-for-telcos>

332. Interview 11. August 8, 2025; Interview 13. July 29, 2025; See: Box 11

333. World Economic Forum, Accenture, Valkhof, B., & Venturini, F. (2025). Artificial intelligence in telecommunications. In World Economic Forum, https://reports.weforum.org/docs/WEF_Artificial_Intelligence_in_Telecommunications_2025.pdf

334. Banerjee, A. How GenAI will transform the telecom industry. (2024, February 25). Telecom Review. <https://www.telecomreview.com/articles/cloud-and-enterprise-business/7862-how-genai-will-transform-the-telecom-industry>

335. Orange. (n.d.). Who are we? <https://www.orange.com/en/group/overview/orange-group>

336. Kadia, H. (2024, June 10). Orange Generative AI: Transforming Business Efficiency and Security. TeckNexus. <https://tecknexus.com/orange-generative-ai-transform-business-efm-efficiency/>; Orange. (2024, November 25). How AI drives Orange's network innovation. <https://www.orange.com/en/group/innovation/useful-innovation-that-enables-everyone-to-progress/how-ai-drives-oranges-network>; Benoit, M. -C. (2025, June 30). Orange Business strengthens its strategic alliance with NVIDIA around a sovereign AI. ActuaIA. <https://www.actuaia.com/en/news/orange-business-strengthens-its-strategic-alliance-with-nvidia-around-a-sovereign-ai/>

337. Orange Business. (n.d.). Data and artificial intelligence. <https://www.orange-business.com/en/focus/data-and-artificial-intelligence>

Box 11. Orange Group: GenAI integration in the telecoms sector pt. 2

Capabilities and benefits

Orange Group's adoption of AI and GenAI focuses on three main areas: enhanced customer experience, smarter networks and employee empowerment.³³⁸ AI enables personalisation of offers and automated support in contact centres, with 30% of simple requests already managed by AI-based tools.³³⁹ Orange Business extends these capabilities to enterprise clients, offering services in customer experience, process optimisation, consulting and cybersecurity. GenAI tools such as the FIND platform help call centre agents retrieve accurate answers quickly and are currently used by 5,000 agents in six countries.³⁴⁰ GenAI applications also summarise trouble tickets and assist technicians with operational improvements.³⁴¹ Orange has rolled out Dinootoo, its in-house GenAI platform, to more than 50,000 employees. Dinootoo integrates multiple LLMs (OpenAI, Google, Anthropic, Mistral, Meta) to deliver services such as chat, code analysis, meeting summaries and image generation. Active Dinootoo users report time savings of around two hours per week. Microsoft Copilot and GitHub Copilot are also being tested to improve productivity in office work and software development, with pilot groups showing productivity gains of up to 15%.³⁴²

Orange Business supports clients through its GenAI & AI Lab, helping organisations rapidly prototype and validate AI use cases, accelerating time-to-market while minimising risk.³⁴³ Strategic offerings such as GPU-as-a-Service and SaaS-based GenAI solutions, developed with partners like LightOn, HPE and NVIDIA, allow enterprises to access secure, high-performance AI infrastructure hosted in Europe.³⁴⁴

Costs and risks

The adoption of GenAI at Orange carries financial, operational and ethical risks. Large-scale deployment requires substantial investment in cloud platforms, GPUs and training programs. Early pilots with Microsoft 365 Copilot showed moderate efficiency gains but also highlighted governance and cost concerns.³⁴⁵ Orange also stresses that prior to full integration of GenAI, the company must develop risk control mechanisms and eliminate possible hallucinations.³⁴⁶

In parallel, the company has developed a strong governance framework to support responsible AI use. An independent AI Ethics Council and a network of 800 ethics experts oversee compliance with GDPR and data protection measures.³⁴⁷ Employee training is another key aspect of Orange's approach. More than 35,000 employees have received training on GenAI in under a year, while Dinootoo includes a library of predefined prompts and learning materials to accelerate adoption.³⁴⁸ Orange Group's GenAI adoption demonstrates how telecom operators can use AI to improve customer experience, operational efficiency and workforce productivity, while ensuring that technological transformation is accompanied by safeguards that aim to maintain trust, compliance and sustainable growth.

Source: Visionary Analytics, 2026

338. Orange. (2024, November 25). AI: Orange adopts a pragmatic and responsible strategy. <https://www.orange.com/en/group/innovation/useful-innovation-that-enables-everyone-to-progress/ai-orange-adopts-pragmatic-and>

339. Orange Business. (n.d.). Activate Insights with GenAI and AI. <https://www.orange-business.com/lu-en/expertise/unlocking-business-potential-data-ai/activate-insights-genai-ai>

340. Kadia, H. (2024, June 10). Orange Generative AI: Transforming Business Efficiency and Security. TeckNexus. <https://tecknexus.com/orange-generative-ai-transform-business-efficiency/>

341. Orange. (2024, November 25). How AI drives Orange's network innovation. <https://www.orange.com/en/group/innovation/useful-innovation-that-enables-everyone-to-progress/how-ai-drives-oranges-network>

342. Campargue, A. (2024, November 21). How generative AI tools are transforming daily work at Orange? Sofrecom. <https://www.sofrecom.com/en/news-insights/how-generative-ai-tools-are-transforming-daily-work-at-orange.html>; Orange. (2024, November 25). AI: Orange adopts a pragmatic and responsible strategy. <https://www.orange.com/en/group/innovation/useful-innovation-that-enables-everyone-to-progress/ai-orange-adopts-pragmatic-and>; Orange. (2024, November 26). Orange is developing secure and streamlined generative AI for its employees. Hello Future. <https://helloworldfuture.orange.com/en/orange-is-developing-secure-and-streamlined-generative-ai-for-its-employees/>

343. Orange Business. (n.d.). Gen AI & AI Lab Offer. <https://www.orange-business.com/lu-en/solutions/ai-data-intelligence-iot/gen-ai-ai-lab-offer>

344. Kadia, H. (2024, June 10). Orange Generative AI: Transforming Business Efficiency and Security. TeckNexus. <https://tecknexus.com/orange-generative-ai-transform-business-efficiency/>; Benoit, M. C. (2025, June 30). Orange Business strengthens its strategic alliance with NVIDIA around a sovereign AI. ActuaIA. <https://www.actuia.com/en/news/orange-business-strengthens-its-strategic-alliance-with-nvidia-around-a-sovereign-ai/>

345. Campargue, A. (2024, November 21). How generative AI tools are transforming daily work at Orange? Sofrecom. <https://www.sofrecom.com/en/news-insights/how-generative-ai-tools-are-transforming-daily-work-at-orange.html>

346. Orange. (2024, November 25). How AI drives Orange's network innovation. <https://www.orange.com/en/group/innovation/useful-innovation-that-enables-everyone-to-progress/how-ai-drives-oranges-network>

347. Orange. (2024, November 25). AI: Orange adopts a pragmatic and responsible strategy. <https://www.orange.com/en/group/innovation/useful-innovation-that-enables-everyone-to-progress/ai-orange-adopts-pragmatic-and>; Benoit, M. C. (2025, June 30). Orange Business strengthens its strategic alliance with NVIDIA around a sovereign AI. ActuaIA. <https://www.actuia.com/en/news/orange-business-strengthens-its-strategic-alliance-with-nvidia-around-a-sovereign-ai/>

348. Campargue, A. (2024, November 21). How generative AI tools are transforming daily work at Orange? Sofrecom. <https://www.sofrecom.com/en/news-insights/how-generative-ai-tools-are-transforming-daily-work-at-orange.html>

Social impacts

At the sectoral level, GenAI creates new challenges and opportunities for the telecoms labour market. The introduction of the technology has the potential to create new roles in the sector, such as positions that are expected to evolve towards model oversight, data stewardship and AI product ownership, creating new opportunities for those who can adapt.³⁴⁹ At the same time, a survey of industry leaders shows that more than half cite the **lack of appropriately skilled labour as the biggest barrier to GenAI adoption**.³⁵⁰ Without coordinated investment in reskilling, there is a risk that adoption could generate resistance or anxiety among workers.³⁵¹

For companies, GenAI adoption is reshaping how they organise internal processes. Internally, companies benefit from tools that streamline knowledge management and documentation, improving collaboration and reducing friction in operations.³⁵² Similarly, at the worker level, GenAI is transforming job roles, workflows and career trajectories. Research suggests that up to **65% of current working hours** in the telecoms sector may be affected by automation or augmentation through GenAI.³⁵³ Routine tasks such as call documentation, information retrieval or basic troubleshooting are increasingly delegated to AI systems, freeing employees to focus on higher-value tasks. This presents opportunities for enhanced job quality, with workers shifting towards activities requiring judgment, creativity and oversight. However, the transition also presents risks.

The shortage of GenAI-related skills is already a binding constraint, and without structured reskilling programs, workers may struggle to adapt to new responsibilities.³⁵⁴ Moreover, while firms often emphasise the positive aspects of AI, such as efficiency, innovation and job creation, research highlights that they tend to understate potential risks, including privacy concerns and job displacement.³⁵⁵ Potential risks vary depending on worker type, with some workers being more susceptible to risks, such as displacement, than others. One trade union representative explained that due to the high levels of GenAI adoption in customer support, workers in customer support roles are already experiencing job displacement.³⁵⁶ Apart from the customer-facing roles, one of the interviewees noted that *“mid-level coders already expect GenAI to take over their work.”* While developers would still be needed to ensure human oversight, the overall number of programmers hired may decrease,³⁵⁷ with several operators instead focusing on reskilling programmes for existing staff.³⁵⁸ Additionally, it was highlighted that GenAI presents relatively lower risk in the telecommunications sector compared to Agentic AI, which operates with less human oversight.³⁵⁹

349. World Economic Forum, Accenture, Valkhof, B., & Venturini, F. (2025). Artificial intelligence in telecommunications. In World Economic Forum, https://reports.weforum.org/docs/WEF_Artificial_Intelligence_in_Telecommunications_2025.pdf

350. NVIDIA Corporation. (2024). State of AI in Telecommunications: 2024 Trends. Survey Report. <https://images.nvidia.com/aem-dam/Solutions/documents/telco-state-of-ai-report.pdf?ncid=pa-so-link-324121-vt26&>

351. World Economic Forum, Accenture, Valkhof, B., & Venturini, F. (2025). Artificial intelligence in telecommunications. In World Economic Forum, https://reports.weforum.org/docs/WEF_Artificial_Intelligence_in_Telecommunications_2025.pdf

352. Altman Solon. (2024, February 15). Telecommunications' next frontier: Navigating the GenAI imperative. Altman Solon Insights. <https://www.altmansolon.com/insights/telecommunications-next-frontier-navigating-the-generative-ai-imperative>

353. World Economic Forum, Accenture, Valkhof, B., & Venturini, F. (2025). Artificial intelligence in telecommunications. In World Economic Forum, https://reports.weforum.org/docs/WEF_Artificial_Intelligence_in_Telecommunications_2025.pdf

354. NVIDIA Corporation. (2024). State of AI in Telecommunications: 2024 Trends. Survey Report. <https://images.nvidia.com/aem-dam/Solutions/documents/telco-state-of-ai-report.pdf?ncid=pa-so-link-324121-vt26&>

355. Bonsón, E., Lavorato, D., Lamboglia, R., & Mancini, D. (2021). Artificial intelligence activities and ethical approaches in leading listed companies in the European Union. International Journal of Accounting Information Systems, 43, 10035. <https://doi.org/10.1016/j.accinf.2021.100535>

356. Interview 13. July 29, 2025; Interview 14. July 29, 2025.

357. Interview 11. August 26, 2025.

358. Kambhampati, P. (June 27, 2024). The Future of Work: Reskilling and Upskilling for the AI-Driven Workforce. Medium. <https://medium.com/aitalenthub/the-future-of-work-reskilling-and-upskilling-for-the-ai-driven-workforce-811000d02b62>; SAP. (2022, April 21). Telefónica Reskills 100,000 Employees for a Digital Workplace of the Future. Forbes. <https://www.forbes.com/sites/sap/2021/10/22/telefonica-reskills-100000-employees-for-a-digital-workplace-of-the-future>

359. Interview 14. August 29, 2025.

The telecoms sector's own history shows how larger-scale technological transitions can be navigated. As one interviewee noted, *"We can learn from telecommunications. It happened in the field 50 years ago. With telephones and later Skype."* These earlier shifts fundamentally reshaped job profiles and rendered some occupations obsolete, yet the sector adapted. The interviewee emphasised that the role of trade unions is not to prevent technological change, but to ensure workers are supported through it: *"jobs can't be saved but people need to be taken care of."* This includes providing retraining, protecting working conditions and addressing new ethical and liability concerns emerging from AI deployments.³⁶⁰ Ensuring a socially sustainable transition will therefore require deliberate investment in upskilling, transparent communication and careful management of worker expectations, by clearly outlining how GenAI will transform roles and responsibilities, and by establishing support mechanisms that will help employees to adapt.

360. Interview 13. July 29, 2025.

Ethical impacts

At the sectoral level, the ethical concerns of GenAI adoption and deployment mainly relate to **data bias, a lack of transparency and limited explainability** in AI-driven decision-making, which undermine fairness and accountability.³⁶¹ In a survey of communications service providers, privacy and security rank among the top concerns, with **80% identifying these as their biggest risk**, followed closely by the lack of a robust “truth function” to verify outputs (74%).³⁶² These risks are particularly salient given the sensitive nature of telecoms data, where breaches or biased outputs could have widespread consequences. At the same time, the sector is actively developing governance frameworks that emphasise responsible deployment, requiring alignment with ethical principles and verification mechanisms in GenAI applications.³⁶³

At the company level, firms are under pressure to demonstrate that their AI deployments are not only effective but also **responsible and transparent**. Reports highlight the need for embedding **ethics committees, bias prevention protocols and oversight structures** directly into GenAI implementation strategies.³⁶⁴ Yet, measures to ensure ethical AI governance are lacking. As one interviewee explained, “[the vast majority] of telecommunications companies in Spain have no measures in place to verify whether their GenAIs apply biases toward individuals.”³⁶⁵ This presents ethical concerns in contexts such as network reconfiguration, where operators must reallocate service between users.³⁶⁶ Without monitoring systems, GenAI applications risk enabling unfair discrimination against certain user groups. The issue of bias is complicated by challenges related to **liability for errors**, particularly in cases where AI-generated recommendations influence critical decisions in network management or customer service.³⁶⁷ To protect users, telecoms companies will need to develop measures for evaluating the fairness of the GenAI systems they develop and deploy.

For workers, ethical concerns lie in the design, deployment and oversight of GenAI tools. Employees are increasingly responsible for monitoring AI decisions yet often lack sufficient clarity on accountability frameworks. This can create ethical tension, as staff may be held liable for errors or biases produced by models they did not design or fully understand.³⁶⁸ At the same time, workers are expected to function as the guardians of responsible AI, ensuring that outputs are used appropriately and that privacy standards are upheld. In this way, **employees become increasingly responsible for mitigating risks of bias, misuse or privacy violations that potentially emerge from GenAI applications**.

361. BEREC. (2022). BoR (22) 191 Draft Report on challenges and benefits of Artificial Intelligence (AI) solutions in the telecommunications sector (including use cases). BEREC. https://www.berec.europa.eu/system/files/2022-12/BoR%20%2822%29%20191%20Draft%20Report%20on%20challenges%20and%20benefits%20of%20Artificial%20Intelligence%20%28AI%29%20solutions%20in%20the%20telecommunications%20sector%20%28including%20use%20cases%29_2.pdf

362. TM Forum. (2023, December 7). Telcos unanimous on power of GenAI but implementation questions remain. TM Forum research finds - TM Forum. <https://www.tmforum.org/news-insight/newsroom/telcos-unanimous-on-power-of-genai-but-implementation-questions-remain/>

363. Altman Solon. (2024). Generative AI Governance Frameworks for Telecommunications Leaders. Altman Solon. <https://www.altmansolon.com/thought-leadership/generative-ai-governance-telecommunications>

364. Ibid.

365. Interview 14. August 29, 2025.

366. Interview 12. August 12, 2025.

367. BEREC. (2022). BoR (22) 191 Draft Report on challenges and benefits of Artificial Intelligence (AI) solutions in the telecommunications sector (including use cases). BEREC. https://www.berec.europa.eu/system/files/2022-12/BoR%20%2822%29%20191%20Draft%20Report%20on%20challenges%20and%20benefits%20of%20Artificial%20Intelligence%20%28AI%29%20solutions%20in%20the%20telecommunications%20sector%20%28including%20use%20cases%29_2.pdf

368. Altman Solon. (2024). Generative AI Governance Frameworks for Telecommunications Leaders. Altman Solon. <https://www.altmansolon.com/thought-leadership/generative-ai-governance-telecommunications>

Regulatory impacts

At the sectoral level, the legal complexity of GenAI poses major challenges for predictability and compliance. Generative models are inherently difficult to assess, making it harder to determine how they will behave within existing legal structures around liability, privacy, intellectual property and cybersecurity.³⁶⁹ The absence of common standards and governance frameworks across jurisdictions has been described as a stumbling block, particularly for ensuring consistent ethical practices and avoiding fragmented regulatory environments.³⁷⁰ Telecoms service providers themselves also identify legal uncertainty as a pressing concern, with **74% citing the use of public data as a top legal risk** when deploying GenAI.³⁷¹ To address these concerns, global governance tools are emerging, such as the **GSMA Responsible AI Maturity Roadmap** and the **WEF Digital Trust Framework**, which aim to provide sector-wide guidance on inclusivity, transparency and sustainability.³⁷²

The **EU AI Act** focuses on AI applications in critical infrastructure. Specifically, it classifies AI systems used as safety components in the management and operation of critical infrastructure as high-risk, including road traffic systems and essential utility services such as water, gas, heating and electricity.³⁷³ At the same time, one interviewee noted that despite emerging frameworks, telecoms regulation has not yet directly addressed AI. While the sector is tightly regulated, existing rules in the industry focus on spectrum management, licensing conditions and the definitions and obligations of operators, essentially governing “*the pipe*,” as one interviewee put it.³⁷⁴ As they explained, “*You can think of telecommunication as a pipe, and you put something on the pipe. The pipe is very much regulated, and you need to regulate what you’re actually sending through the pipe.*” What is transmitted over telecoms networks is subject to regulatory frameworks from outside the sector and there is still no dedicated ruleset for AI. “*There is no placeholder for a regulation that specifically deals with AI or how it can affect the sector,*” the interviewee noted, emphasising that telecommunications operate under the rules that predate AI debates. From their perspective, the sector’s regulatory foundation is sufficient, and any issues arising from AI relate not to telecommunications itself but to how networks are used.³⁷⁵ This approach aligns with the EU’s broader simplification agenda, which seeks to avoid sector-specific duplication where horizontal regulation can address emerging technologies.³⁷⁶

369. Novelli, C., Casolari, F., Hacker, P., Spedicato, G., & Floridi, L. (2024). Generative AI in EU Law: Liability, Privacy, Intellectual Property, and Cybersecurity. arXiv. <https://doi.org/10.48550/arXiv.2401.07348>

370. Khan, M. K. (2023). AI-enabled transformations in telecommunications industry. *Telecommunication Systems*, 82(1), 1–2. <https://doi.org/10.1007/s11235-022-00989-w>

371. TM Forum. (2023, December 7). Telcos unanimous on power of GenAI but implementation questions remain. TM Forum research finds - TM Forum. <https://www.tmforum.org/news-insight/newsroom/telcos-unanimous-on-power-of-genai-but-implementation-questions-remain/>

372. World Economic Forum, Accenture, Valkhof, B., & Venturini, F. (2025). Artificial intelligence in telecommunications. In World Economic Forum, https://reports.weforum.org/docs/WEF_Artificial_Intelligence_in_Telecommunications_2025.pdf

373. Regulation (EU) 2024/1689 (Artificial Intelligence Act), Annex III, point 2.

374. Interview 12. August 12, 2025.

375. Ibid.

376. European Commission. (n.d.). Simplification and Implementation. https://commission.europa.eu/law/law-making-process/better-regulation/simplification-and-implementation_en

At the company level, regulatory change is already prompting action. Operators in Europe, for example, are beginning to update their internal guidelines on the responsible use of AI to align with the forthcoming **EU AI Act**, ensuring that their practices comply with evolving requirements.³⁷⁷ This signals a growing need for firms to embed compliance directly into their GenAI strategies, from data governance to cybersecurity protocols. At the same time, regulatory uncertainty adds costs and complexity to deployment, as companies must design flexible approaches that can adapt to new laws across multiple markets. Those that succeed in embedding robust governance early may gain a competitive advantage by building trust with regulators and customers, while those which do not risk fines, reputational harm or barriers to scaling their innovations.

For workers, regulatory impacts are less direct but still significant. Employees are increasingly expected to ensure that GenAI systems are deployed in compliance with both internal guidelines and external legal standards. This requires not only technical knowledge but also awareness of evolving legal frameworks, creating demand for new skill sets in areas such as **AI compliance, data protection and regulatory reporting**. Workers also face heightened accountability: in the absence of clear liability frameworks, responsibility for monitoring outputs or safeguarding data may fall to staff, raising pressure and potential legal exposure.³⁷⁸ Training and support in regulatory literacy are therefore becoming essential, equipping employees to function as informed stewards of compliant and responsible AI deployment.

377. Lundborg, M., Märkel, C., Roloff, M., Kroon, P., & Wiewiorra, L. (2024). Use of AI in the Austrian telecommunications sector. Wik Consult. <https://www.wik.org/en/publications/publication/einsatz-von-ki-im-oesterreichischen-telekommunikationssektor>

378. Novelli, C., Casolari, F., Hacker, P., Spedicato, G., & Floridi, L. (2024). Generative AI in EU Law: Liability, Privacy, Intellectual Property, and Cybersecurity. arXiv. <https://doi.org/10.48550/arXiv.2401.07348>

4. HORIZONTAL IMPACTS

Technological impacts

GenAI is a driver of automation, reshaping what is technologically possible in the services economy: across the sector, GenAI-based applications are automating business operations that were previously human-led, although important limitations remain. At the company level, automation is fostering innovation, enabling the development of new products and services. For workers, it is changing the nature of tasks, particularly by reducing repetitive activities. However, greater technological advances also bring greater challenges, particularly in identifying and resolving hallucinations.

Box 12. GenAI in customer service

GenAI is reshaping customer service across sectors, and many companies are now **more heavily utilising GenAI chatbots to facilitate customer relations**. Primarily, this is seen through the automation of repetitive tasks and supporting employees in delivering faster and more personalised responses.³⁷⁹ However, scaling up this technology is challenging, and there remain questions around trust and quality.³⁸⁰

In **banking**, according to one interviewee,³⁸¹ government and industry support are viewed as drivers of AI adoption. They noted that limited staff resources mean that AI is conducting customer support activities – “*AI is carrying out customer support activities which has been limited employee-wise,*” allowing staff to “*focus human work on valuable work (more strategic [work]) to give a better employee experience.*”³⁸² Banks also see AI as a way to improve decision-making and deliver more personalised customer interactions. Some interviewees highlighted AI’s role in helping advisors quickly gather data from public sources to support business clients, stating that concerns remain about security and lack of implementation experience.³⁸³ In more operational terms, one respondent noted that up to 800 repetitive tasks in call centres could potentially be automated, signalling significant efficiency gains.³⁸⁴ Others stressed the potential for AI to improve customer satisfaction, provided that customers can trust the technology behind it.³⁸⁵

In **telecommunications**, GenAI is being applied to augment staff. For example, Virgin Media O2’s Lumi AI tool scans customer conversations and provides real-time prompts to agents, helping them respond faster and more accurately. It also generates post-call summaries. As one interviewee explained, the goal is to “*achieve more for less effort*” by improving speed and accuracy in customer support, especially in organisations with weaker reputations for service.³⁸⁶

Other examples show the limits of replacing human labour entirely. The payments company Klarna, for example, recently reversed a decision to replace most customer-service employees with GenAI chatbots, citing customer dissatisfaction and insufficient quality as the motivation behind this reversal.³⁸⁷ This reversal draws into question the extent to which GenAI can be fully relied on for business operations and underlines the importance of careful deployment and the need to balance efficiency with customer trust.

While AI-led customer service aims to enhance customer satisfaction, it also has the potential to limit access to services due to the digital literacy gap. In 2023, only 55.56% of people aged between 16 and 74 had at least basic digital skills.³⁸⁸ The groups most affected by this divide include older adults, with 34% of men and 25% of women over 65 having basic digital skills, and individuals with no or low formal education, among whom 34% possess such skills.³⁸⁹ As more services become digitalised through the adoption of GenAI, those lacking digital literacy are increasingly excluded from accessing essential services.³⁹⁰ Therefore, businesses must consider the digital literacy gap to ensure accessibility and avoid losing potential customers.

Source: Visionary Analytics, 2026, based on interview data.

379. Interview 6. August 4, 2025.

380. Ibid.

381. Ibid.

382. Ibid.

383. Interview 8. August 7, 2025.

384. Interview 9. August 12, 2025.

385. Interview 10. August 12, 2025.

386. Interview 11. August 26, 2025.

387. Marks, G. (2025, May 27). Business Tech News: Klarna reverses on AI, says customers like talking to people. Forbes. <https://www.forbes.com/sites/quickerbetteartech/2025/05/18/business-tech-news-klarna-reverses-on-ai-says-customers-like-talking-to-people/>

388. Eurostat. (2024). Individuals’ level of digital skills (from 2021 onwards) [Data set]. https://doi.org/10.2908/ISOC_SK_DSKL_I21

389. Eurostat. (2024, February 22). Digital skills in 2023: Impact of education and age. News Articles. <https://ec.europa.eu/eurostat/web/products-eurostat-news/w/ddn-20240222-1>

390. OECD. (2023). Digital skills and digital inclusion. Briefing Note. <https://www.oecd.org/content/dam/oecd/en/about/projects/cfe/oecd-city-network-on-jobs-and-skills/Briefing-note-Digital-skills-and-digital-inclusion.pdf>

Hallucinations constitute one of the main technological risks of GenAI adoption. Hallucinations occur when GenAI produces an output that is false, misleading or fabricated, and are largely the result of probabilistic sampling and training data biases.³⁹¹ GenAI models are probabilistic, making hallucinated outputs appear plausible and therefore difficult to identify. Furthermore, traditional software debugging does not apply; instead, hallucinations demand machine learning-specific remedies such as retrieval-augmented generation, uncertainty estimation and human-in-the-loop validation.³⁹² Hallucinations are a major technological challenge for workers and companies because they are difficult to identify and address and can negatively impact services.

Box 13. GenAI Hallucinations

Hallucinations, when GenAI produces text that sounds plausible but is factually wrong,³⁹³ introduces barriers to service industries, where accuracy and trust are central, and therefore also carries particular risks.

In the **AV sector**, interviewees explained that “*misinformation and hallucination... leads to untrustworthy output which is something [the industry] is dealing with*” and highlighted the barriers this creates to using GenAI in content production where credibility is essential.³⁹⁴

In the **banking sector**, similar challenges are faced, with staff concerned about the risks of relying on GenAI under time pressure. As one respondent warned, “*there is the hallucination issue...what if my work tells me I have to work fast and use this tool, but I make mistakes with it?*”³⁹⁵ and highlighted concerns about employees’ understanding of the risks of using GenAI, including in customer-facing roles. Here, the concern is that hallucinations could undermine compliance and customer confidence. This aligns with research suggesting that misleading hallucinated outputs can introduce risk or even harm in sensitive sectors like healthcare, law and finance.³⁹⁶

In **telecommunications**, an interviewee was more sceptical about the use of GenAI, stating that “*as long as there are hallucinations, and they will continue forever, within the current framework of GenAI, you cannot trust it what it tells as facts.*”³⁹⁷ They highlight that in the telecoms sector awareness of problems such as hallucinations is growing, raising doubts about whether these problems can be solved within the current technological framework, and about broader trust in – and understanding of – the content it generates.

Source: Visionary Analytics, 2026

The findings suggest that GenAI is advancing automation and innovation across the banking, telecoms and AV sectors, but its transformative potential is limited by technical limitations. While applications in customer service, decision support and content generation show potential for productivity gains, challenges such as hallucinations, trust and system integration highlight the limitations of its current deployment. As one expert noted, GenAI is “*taking baby steps in the baby era,*” with its immediate impact often overestimated, yet its long-term potential consistently underestimated.³⁹⁸

Furthermore, it is crucial not only to account for the technological limitations but also to ask, “*What are the processes where it is better not to use AI?*”³⁹⁹ Determining which applications add true value is challenging, as AI often makes everything appear useful. One example is training: while the workers seem to learn faster with GenAI, it can lead to cognitive offloading. As one expert explained, “*They can solve problems faster, but when you ask them to explain the problem and explain the solution, actually it’s harder for them and they didn’t get to the root of the problem, they didn’t get to the root of the solution. So, it’s very easy to detect value in these systems, but also, it’s hard to detect the information that is not valuable.*”⁴⁰⁰ In such cases, AI-supported training should not simply accelerate learning but be designed to reinforce skill development by encouraging employees to engage with additional problem-solving steps themselves, allowing them to truly excel and build deeper competencies.⁴⁰¹

391. Chakraborty, N., Ornik, M., & Driggs-Campbell, K. (2025). Hallucination Detection in Foundation Models for Decision-Making: A Flexible definition and review of the state of the art. *ACM Computing Surveys*, 57(7), 1–35. <https://doi.org/10.1145/3716846>; Wang, X., Wang, J., Feng, L., Niyato, D., Zhang, R., Kang, J., et al. (2025). Wireless hallucination in generative AI-enabled communications: Concepts, issues, and solutions. *arXiv*. <https://arxiv.org/abs/2503.06149>

392. Wang, X., Wang, J., Feng, L., Niyato, D., Zhang, R., Kang, J., et al. (2025). Wireless hallucination in generative AI-enabled communications: Concepts, issues, and solutions. *arXiv*. <https://arxiv.org/abs/2503.06149>

393. Ji, Z., Lee, N., Frieske, R., Yu, T., Su, D., Xu, Y., Ishii, E., Bang, Y. J., Madotto, A., & Fung, P. (2024). Survey of hallucination in natural language generation. *arXiv*. <https://arxiv.org/abs/2202.03629>

394. Interview 2 and 3. July 28, 2025.

395. Interview 8. August 7, 2025.

396. Ji, Z., Lee, N., Frieske, R., Yu, T., Su, D., Xu, Y., Ishii, E., Bang, Y. J., Madotto, A., & Fung, P. (2024). Survey of hallucination in natural language generation. *arXiv*. <https://arxiv.org/abs/2202.03629>

397. Interview 13. July 29, 2025.

398. Interview 17. October 1, 2025.

399. Ibid.

400. Ibid.

401. Ibid.

Economic impacts

GenAI is viewed as a driver of productivity and efficiency across sectors, which is expected to translate into economic growth. Multiple forecasts predict an increase in GDP from GenAI adoption, offering a significant long-term opportunity for European companies.⁴⁰² According to PricewaterhouseCoopers, AI adoption could increase the world's GDP by an extra 15 percentage points by 2035. In the case of more moderate adoption, the estimate is for an additional 8% growth, with only a 1% growth in a pessimistic scenario.⁴⁰³

Driven by these growth expectations, companies and workers are investing heavily in GenAI and its supporting infrastructure. The technology, however, is expensive to install and maintain, and companies choosing to adopt it must be prepared to manage significant upfront and ongoing costs. This was highlighted by one of the interviewees: *"at the moment it is more cost than cost savings."*⁴⁰⁴ Many companies invest in proprietary models to ensure data protection or because of the requirement for more tailored solutions. Additionally, *"the pace of GenAI development is much faster than previous digital tools, increasing the need for frequent updating of skills, resulting in higher training costs for employers."*⁴⁰⁵ Nevertheless, if managed responsibly, growth could strengthen global competitiveness and create new markets for services, thereby benefiting both companies and workers.

AI has the potential to decrease the number of repetitive tasks, increase productivity and generate economic growth. However, without mechanisms to ensure the fair redistribution of these gains, this could contribute to a more polarised economy characterised by concentrated wealth and increasing precarity. The rapid expansion of AI adoption is transforming the structure of work, productivity and profit distribution. While businesses are likely to benefit from greater efficiency and higher profit margins through reduced reliance on human labour, these developments also carry the risk of deepening inequality.

GenAI's impact on inequality is complex. While AI adoption has the potential to decrease wage inequalities due to labour market disruptions, it risks widening wealth inequality by concentrating capital gains among wealthier households. High-income workers are more likely to work in AI-exposed occupations, hold more wealth and invest in high-return assets, positioning them to benefit disproportionately. Model simulations show that AI exposure could lower wage inequality, reducing the wage Gini coefficient by 1.73 percentage points, but widen wealth inequality, raising the wealth Gini by 7.18 points.⁴⁰⁶ When AI complements skilled labour, wage inequality decreases less or may remain unchanged. Nonetheless, productivity gains from AI may improve overall economic welfare despite persistent disparities.⁴⁰⁷

402. McKinsey. (2023, June 14). Economic potential of generative AI: The next productivity frontier. Report. <https://www.mckinsey.com/capabilities/tech-and-ai/our-insights/the-economic-potential-of-generative-ai-the-next-productivity-frontier>; Daco, G. (2023, March 22). Catalyze economic growth through capital investment in GenAI. EY. https://www.ey.com/en_pl/insights/ai/economic-growth-through-capital-investment-in-gen-ai; Goldman Sachs. (2023, April 5). Generative AI could raise global GDP by 7%. <https://www.goldmansachs.com/insights/articles/generative-ai-could-raise-global-gdp-by-7-percent>

403. PricewaterhouseCoopers. (2025, April 29). AI adoption could boost global GDP by an additional 15 percentage points by 2035, as global economy is reshaped. PwC Research. Press Release. <https://www.pwc.com/gx/en/news-room/press-releases/2025/ai-adoption-could-boost-global-gdp-by-an-additional-15-percent.html>

404. Interview 15 and 16. September 24, 2025.

405. Interview 18. December 4, 2025.

406. Rockall, E., Tavares, M. M., & Pizzinelli, C. (2025, April). AI Adoption and Inequality [Working paper]. International Monetary Fund. <https://www.imf.org/en/publications/wp/issues/2025/04/04/ai-adoption-and-inequality-565729>

407. Ibid.

Early evidence, however, suggests that these benefits have yet to materialise. A 2025 working paper on the labour market effects of GenAI chatbot use, based on a survey of 25,000 Danish workers, found no significant impact on earnings.⁴⁰⁸ Moreover, the study revealed only minimal productivity gains, with just 3% of time saved through chatbot use. These findings imply that growth expectations may be inflated and that economic impacts will take time to emerge.

The mismatch between forecast and measured economic growth may be explained by learning curves, with companies and workers still needing time to learn how to use and apply the technology. The economic benefits of GenAI are therefore more likely to emerge at later stages, although it is also possible that the effects will be smaller than expected. Importantly, as GenAI is deployed and reduces the number of workers required, governments may experience a decline in income tax revenues.⁴⁰⁹ Companies will ultimately need to balance growth expectations with the cost of investment and learning, while governments must address the fiscal challenges that accompany workforce reduction.

Across the three target sectors, GenAI is considered to be an economic game changer, but the benefits remain uneven and, in some cases, overstated. Large-scale productivity and growth forecasts currently contrast with steep learning curves and steep upfront costs for companies and workers. For companies, this creates a tension between investment in technology and infrastructure and uncertain returns. For workers, there are concerns about wage stagnation and job displacement. These dynamics suggest that the economic promise of GenAI will be realised only gradually and that its benefits will be unevenly distributed across sectors, companies and society.

408. Humlum, A., & Vestergaard, E. (2025). Large language models, small labor market effects. <https://doi.org/10.3386/w33777>

409. Interview 4. July 29, 2025.

Social impacts

GenAI is expected to drive a transformation in the services economy, where technology and machines take on an increasing share of service production. Across sectors, this transformation will pose new challenges, driving adaptation within the workforce, calling for broader skill sets, greater diversity and stronger digital proficiency to meet emerging demands. In order to cope with this revolution, experts recommend that organisations undergo a restructuring, where interdisciplinary (as opposed to specialised) working teams become the sector norm.⁴¹⁰ At a company level, this shift will place pressure on companies to invest in capacity building. For these reasons, strong, well-defined company values and a proactive approach to workforce development will help overcome the challenges faced in this transition.

At the worker level, job requirements are undergoing significant change. The focus of work is moving away from routine execution towards the collection and verification of data, the validation of AI-generated outputs and higher-value creative and critical thinking tasks. As one interviewee noted, “*GenAI automates routine tasks..., freeing employees for more complex, value-added work.*”⁴¹¹ This will reduce the demand for certain roles, particularly those based on repetitive or standardised activities, while increasing the need for workers with technical expertise, digital literacy and creative problem-solving skills.

Alongside changes in roles and skill requirements, employees’ perceptions of GenAI will play a critical role in shaping adoption and outcomes. Many employees have a positive attitude towards GenAI,⁴¹² seeing it as a chance to engage in more creative, people-oriented and higher-value tasks, as GenAI will drive the automation of repetitive routine duties.⁴¹³ In the survey conducted by Adecco, employees reported using time saved for more strategic thinking, checking the quality and accuracy of their work, and in training or upskilling.⁴¹⁴ However, there is also a concern that this shift may lead to job intensification. As tasks become more diverse and demanding, GenAI may increase workers’ workload, stress and pressure.⁴¹⁵ Furthermore, studies indicate that women workers are 7–12% less likely than men to use GenAI at work and 20% less likely to use ChatGPT within the same roles, even though they are just as optimistic about its potential productivity gains.⁴¹⁶ Overall, men exhibit significantly higher levels of trust in and understanding of GenAI, which further deepens existing knowledge gaps.⁴¹⁷

410. Interview 12. August 12, 2025.; Interview 1. August 7, 2025.; BBVA. (2025, January 3). BBVA creates a stress test in Spanish to measure generative AI bias. NEWS BBVA. <https://www.bbva.com/en/innovation/bbva-creates-a-stress-test-in-spanish-to-measure-generative-ai-bias/>

411. Interview 18. December 4, 2025.

412. Adecco. (2025). Global Workforce of the Future. <https://www.adecgroup.com/global-workforce-of-the-future-research-2025>

413. ARIX Business Intelligence GmbH. (2024). Banking in 2030 – How will the current global trends, especially AI, shape the post-COVID19 pandemic future of the European banking industry and its employees? (EU funded Project No. 101051930). https://www.ebf.eu/wp-content/uploads/2024/05/Final-report_Impact-of-AI-on-banking-employment-in-Europe.pdf

414. Adecco. (2025). Global Workforce of the Future. <https://www.adecgroup.com/global-workforce-of-the-future-research-2025>

415. ARIX Business Intelligence GmbH. (2024). Banking in 2030 – How will the current global trends, especially AI, shape the post-COVID19 pandemic future of the European banking industry and its employees? (EU funded Project No. 101051930). https://www.ebf.eu/wp-content/uploads/2024/05/Final-report_Impact-of-AI-on-banking-employment-in-Europe.pdf

416. Gulley, A. (2025, October 27). Mind the Gap: AI Literacy Requirements Under the EU AI Act and the Gender Divide. Women in AI. <https://www.womeninai.co/post/mind-the-gap-ai-literacy-requirements-under-the-eu-ai-act-and-the-gender-divide>; Humlum, A., & Vestergaard, E. (2024). The Adoption of Chatgpt. IZA Discussion Paper No. 16992. https://papers.ssrn.com/sol3/papers.cfm?abstract_id=4827166

417. Ibid.

Employees also expect that AI will increase the flexibility of work arrangements, such as hybrid or remote work and four-day workweeks, thereby improving employees' work-life balance and providing them with more downtime.⁴¹⁸ The increase in employee satisfaction and productivity in companies that use AI-powered scheduling, project management tools and remote work monitoring provides an opportunity for employers to design a workplace that simultaneously improves efficiency and work-life balance.⁴¹⁹ However, the correlation between work-life balance and AI adoption is not certain. One particular study shows that while work-life balance increased at a moderate level of AI adoption in comparison to a low level of adoption, it decreases at a high level of AI adoption. Such findings suggest "digital burnout risks from 'always-available' AI systems that blur boundaries between personal and professional domains."⁴²⁰ At the same time, some employees express concerns regarding surveillance, AI-driven performance evaluation, worker autonomy and dehumanisation of the workplace,⁴²¹ which may further contribute to stress and erode trust. There is also a risk of an increase in freelance and project-oriented positions, which may negatively impact long-term job stability.⁴²²

GenAI integration brings risks of redundancy, deskilling and unequal access to upskilling opportunities, but also opens up pathways for more engaging and higher-quality work. To mitigate risks and maximise opportunities, companies will need to align training programmes with evolving skill demands, provide time and resources for employees to learn, and ensure that change is guided by transparent dialogue with workers and their representatives.

According to the World Economic Forum *Future of Jobs Survey*, by 2027 87% of media, entertainment and sports companies, 83% of financial services companies, and 79% of telecoms companies will adopt AI. At the same time, 58% of media, entertainment and sports companies, 46% of financial services companies, and 48% of telecoms firms intend to set training in AI and big data as a priority. While the majority of enterprises aim to adopt AI, a lack of focus and investment in training poses a challenge for employees.⁴²³

Adecco found that 'future-ready workers' have fewer concerns regarding GenAI and possible shifts in the labour market. "This type of worker is adaptable and willing to be flexible with their career plans. They embrace new technologies, and they have versatile skills." However, the most important aspect is the support received from the employer, allowing them to become high-performing talent. Future-ready workers are adaptable, tech-savvy and proactive. This highlights not only the need for training or reskilling but also a broader company strategy that ensures employees' trust and understanding of AI.⁴²⁴

418. ARIX Business Intelligence GmbH. (2024). Banking in 2030 – How will the current global trends, especially AI, shape the post-COVID19 pandemic future of the European banking industry and its employees? (EU funded Project No. 101051930). https://www.ebf.eu/wp-content/uploads/2024/05/Final-report_Impact-of-AI-on-banking-employment-in-Europe.pdf

419. Jain, C., & Kanwar, J. (2025). The AI-Driven Workplace: How Automation is Reshaping Flexible Work Arrangements. *Journal of Information Systems Engineering and Management*, 10 (25s), 572–587. <https://doi.org/10.52783/jisem.v10i25s.4097>

420. Ibid.

421. Hammoumi, A. E., Seghyar, N., Hammoumi, A. M. E., & Ouali, A. E. (2024). The Impact of Artificial Intelligence on Employee Adaptability to Remote Work. 3rd International Conference on Embedded Systems and Artificial Intelligence (ESAI), 1–5. <https://doi.org/10.1109/ESAI62891.2024.10913897>

422. ARIX Business Intelligence GmbH. (2024). Banking in 2030 – How will the current global trends, especially AI, shape the post-COVID19 pandemic future of the European banking industry and its employees? (EU funded Project No. 101051930). https://www.ebf.eu/wp-content/uploads/2024/05/Final-report_Impact-of-AI-on-banking-employment-in-Europe.pdf; Jain, C., & Kanwar, J. (2025). The AI-Driven Workplace: How Automation is Reshaping Flexible Work Arrangements. *Journal of Information Systems Engineering and Management*, 10(25s), 572–587. <https://doi.org/10.52783/jisem.v10i25s.4097>

423. World Economic Forum. (2023). Future of Jobs Report 2023. Insight Report. https://www3.weforum.org/docs/WEF_Future_of_Jobs_2023.pdf

424. Adecco. (2025). Global Workforce of the Future. <https://www.adeccoigroup.com/global-workforce-of-the-future-research-2025>

Companies have to ensure the collaboration between employee and employer, communicate their vision, explain how AI will contribute to and change their work and support their employees in this transition. “Workers need guidance to understand the impact of their work and to generate purpose, otherwise they might look elsewhere.”⁴²⁵ One of the interviewees stressed that “*there is a need for a discussion on transparency in relation to employees.*” In many areas, there is already a dialogue between unions and management but “there should also be a dialogue in daily life. Management should be better at talking to employees about using AI.”⁴²⁶

Box 14. Training, upskilling and reskilling

Organisations across sectors are grappling with the challenges presented by GenAI related to providing training and reskilling and upskilling workforces, as the nature of some roles is reshaped by the implementation of the technology. These programmes can help workers by improving their AI literacy, enabling them to critically evaluate AI, understand how it operates, and learn the technology’s limitations and the ethical implications of its use.⁴²⁷ Effective training, upskilling and reskilling programmes close skills gaps, preparing workforces for increasing GenAI adoption. To boost effectiveness, programmes should assess current levels of AI literacy, outline key methods for combating skills gaps and develop tracking structures to evaluate training progress.⁴²⁸ While unions and employers acknowledge the need to prepare employees for transformation, doubts remain regarding the responsibility, training requirements and ability to fully anticipate future skills needs.

In the **AV sector**, one trade union interviewee⁴²⁹ stressed that “*upskilling is the only solution. Workers need to be moved to different sectors or areas within the company*” and that “*reskilling and upskilling of workers is crucial for unions.*” They highlighted both enablers and challenges to this, including that reskilling is an integral part of the history of the sector, but that “*AI is hitting different markets at the same time, which has not happened [in this sector] to this scale yet.*” In creative industries, training, upskilling and reskilling programmes should target areas where skills gaps are most pronounced, such as prompt writing, copyright, originality and ethical storytelling.⁴³⁰

In the **banking sector**, interviewees highlighted concerns centred on responsibility and capacity for training. One interviewee pointed out that “*there are some doubts in banking companies, is there training and competence for upskilling...is it [training] given to everybody? Who has this responsibility?*”⁴³¹ They suggest that obligatory training in the sector is already burdensome and question the additional burden on employees’ time should AI training be made universally available. However, research finds that competency building is needed, especially in areas of AI governance, ethics and output interpretation.⁴³² There are examples of more proactive approaches to capacity building. In Ireland, for example, banks such as NatWest and Danske Bank have rolled out GenAI training modules for all staff, and other banks recently introduced Microsoft CoPilot with both mandatory and optional training modules planned.⁴³³ However, other Irish banks’ approaches to training are less advanced, as they are not at the stage of rolling out training programs for employees or integrating AI for their use.⁴³⁴

In **telecommunications**, an interviewee highlighted that the main obstacle is uncertainty about future skills needs: “*to carry out an employee upskilling/reskilling process, employers would need to know what profiles they will need in the future, what activities will be required. In short, what the short- and medium-term growth plan is; the skill needs. But none of that is happening. Companies don’t provide training because they don’t know what their needs will be, as they are in the midst of a transformation process.*”⁴³⁵ While key areas of skills gaps involve using low-code tools, explaining AI outputs, designing for inclusion and using AI responsibly in products, a lack of clear training pathways risks delaying the development of the skills needed for the future as the sector undergoes such a rapid transformation.⁴³⁶

Source: Visionary Analytics, 2026

425. Ibid.

426. Interview 8. August 7, 2025.

427. European Centre for the Development of Vocational Training. (2025). Skills empower workers in the AI revolution. CEDEFOP. <https://www.cedefop.europa.eu/en/publications/9201>

428. Rutanga, P. (2025). The AI workforce playbook: a step-by-step guide to upskilling at scale. ranstad digital. <https://www.randstaddigital.be/sites/ausy-be/files/2025-04/the%20AI%20workforce%20playbook%20a%20step-by-step%20guide%20to%20upskilling%20at%20scale.pdf>

429. Interview 4. July 29, 2025.

430. GOV.UK. (2025, October 29). Sectoral overview. <https://www.gov.uk/government/publications/ai-skills-for-the-uk-workforce/sectoral-overview>

431. Interview 6. August 4, 2025.

432. GOV.UK. (2025, October 29). Sectoral overview. <https://www.gov.uk/government/publications/ai-skills-for-the-uk-workforce/sectoral-overview>

433. Interview 9. August 12, 2025.

434. Ibid.

435. Interview 14. August 29, 2025.

436. GOV.UK. (2025, October 29). Sectoral overview. <https://www.gov.uk/government/publications/ai-skills-for-the-uk-workforce/sectoral-overview>

In Europe, the overall impact of GenAI adoption on employment is projected to be positive, supported by the region's strong service sector and advanced technological infrastructure.⁴³⁷ Both rapid and slow adoption scenarios indicate a net increase in employment, **with labour-force expansion largely driven by upskilling initiatives that enable workers to adapt to evolving skill requirements.** GenAI-induced labour market disruptions are expected to remain limited, as shown by the small projected increase in the unemployment rate in 2030, only 0.08% under the rapid adoption scenario.⁴³⁸ In the long term, rapid adoption is associated with substantial job creation, contributing to the global net gain of 8.06 million jobs by 2050 (compared with 5.79 million under slower adoption).⁴³⁹ However, without sustained investment in upskilling, these gains would be significantly reduced, underscoring the importance of continuous workforce development for Europe to fully benefit from GenAI-driven productivity and employment gains.⁴⁴⁰

Building on this, the increasing need for new skills encourages companies to invest in and expand training and reskilling programmes, which can also help mitigate Europe's demographics crisis by supporting longer working lives and improving labour market participation. It is important to stress that reskilling is only a part of the solution to population ageing. Nevertheless, investing in workforce development reduces reliance on external hiring, enhances employee retention and contributes to the development of a future-ready workforce.⁴⁴¹

Across the banking, telecoms and AV sectors, GenAI is accelerating a shift in workforce requirements, leaning towards greater digital literacy, critical thinking and higher-value tasks. Beyond the risks of automation, GenAI is opening pathways to more engaging, creative and higher-quality work. By shifting routine tasks to GenAI, workers can increasingly focus on roles with skills profiles that better support career development and job satisfaction. However, these opportunities introduce greater risks of redundancy, deskilling and unequal access to training. Companies face pressure to anticipate future skill needs and the investment required in capacity building, but uncertainty and preparedness challenges are slowing the process. Workers, on the other hand, depend on fair access to upskilling and transparent dialogue with employers to help them navigate the change and associated risks.

The social impacts of GenAI across these service economies will rely heavily on how organisations and social partners manage the transition. Trade unions and social partners are concerned with mitigating the risks but also enabling responsible innovation. Collective agreements emphasise training, fair data practices and the human-in-the-loop (HITL) principle, ensuring that AI adoption strengthens trust while equipping workers with the ability to seize new opportunities. However, as noted by one trade union representative, transparency and cooperation between companies and unions are integral, particularly with regards to the impact of GenAI adoption on staff whose jobs may change rapidly or be reduced, and *“the concern is that decisions are being made [by companies] without us. For us, there needs to be an obligation for employers to talk to trade unions about AI scale-up before deployment, not after.”*⁴⁴² The integration of GenAI across the services economy represents both a technological and social turning point. Its success will depend not only on innovation but also on how effectively organisations, workers and social partners collaborate to manage its impact. Transparent dialogue, targeted training and cooperation between employees and employers will be key to ensuring that GenAI drives inclusive growth and sustainable workforce transformation.

437. KPMG (2025, November). Generative AI and Economic Growth. <https://kpmg.com/kpmg-us/content/dam/kpmg/pdf/2025/gen-ai-economic-growth.pdf>

438. Ibid.

439. Ibid.

440. Ibid.

441. Albi Research Team. (2025, April 14). The Demographic Crisis and Talent Shortage: Corporate Practices, Real Cases, and Solutions. <https://albimarketing.com/blog/the-demographic-crisis-and-talent-shortage-a-critical-challenge-for-northern-europe-corporate-practices-real-cases-and-solutions/>; Zahidi, S. (2020, January 22). We need a global reskilling revolution – here's why. World Economic Forum. <https://www.weforum.org/stories/2020/01/reskilling-revolution-jobs-future-skills/>

442. Interview 11. August 26, 2025.

Ethical impacts

From an ethical perspective, one of the key challenges that comes with the development and deployment of GenAI is its consumption of energy. Large GenAI models rely on significant amounts of energy and water to operate. To combat these ethical risks, companies can reduce their environmental impact by opting for green infrastructure.⁴⁴³ This environmental dimension cuts across all service sectors, adding to the broader ethical concerns about fairness, transparency and accountability in GenAI adoption.

At the sector level, each sector faces distinct risks. In the AV sector, GenAI complicates authorship and intellectual property, with training on copyrighted material raising questions about creators' and other rightsholders' consent, attribution and ownership of outputs. In banking, concerns focus on discrimination and transparency in high-risk applications such as creditworthiness and hiring,⁴⁴⁴ where GenAI can either mitigate or reinforce bias depending on how data is managed. In telecommunications, risks relate to privacy, explainability and the lack of reliable verification mechanisms, where data bias and security breaches are seen as the top ethical threats. Across all three sectors, ethical safeguards such as representative datasets, data protection impact assessments and robust oversight frameworks are essential.

At the company level, reputational risk is key. Banking depends on trust, and interviewees highlighted that failures in transparency can erode customer confidence. Telecoms operators face similar challenges, with pressure to embed ethical governance structures such as ethics committees and bias protocols directly into their AI strategies. In the AV sector, companies risk damaging relationships with creators and audiences if they fail to secure consent or respect human likeness. Responsible GenAI use is increasingly seen as a core part of maintaining both compliance and competitiveness.

At the worker level, the main ethical challenge is in preserving human agency and clarifying accountability. In banking, interviewees highlighted that employees may be tempted to over-trust AI outputs, even when flawed; in telecoms, staff are increasingly tasked with monitoring AI outputs without clear liability protections. In the AV sector, ethical questions also concern creative workers, whose contributions risk dilution or misattribution in human-AI collaborations. Across all sectors, workers are being positioned as the last line of defence against bias (Box 15) and misuse, in many cases without adequate support.

443. Kaiser, T., Chan, B.-H., & Zahoruiiko, D. (2024). Adopting generative AI in banking: Essential perspectives on quality and risks. Kodex AI. <https://www.kodex-ai.com/post/adopting-generative-ai-in-banking>; Gopal, S., & Pitts, J. (2025). GenAI: Unlocking Sustainability Insights and Driving Change in Fintech. In *The FinTech Revolution* (pp. 345–393). Springer. https://doi.org/10.1007/978-3-031-74418-1_9

444. Regulation (EU) 2024/1689 (Artificial Intelligence Act), Annex III.

Box 15. Bias in GenAI

Algorithm bias: Misinformation occurs when the prompt or problem is unclear or inaccurate, or when the feedback given to the machine learning algorithm fails to effectively steer it towards a correct solution.

Cognitive bias: AI systems depend on human input, and because humans are imperfect, personal biases can unintentionally be introduced. These biases may influence the data used or the way the model behaves.

Confirmation bias: This occurs when AI relies too heavily on pre-existing beliefs or data patterns, reinforcing old biases and struggling to recognise new or emerging trends.

Exclusion bias: This happens when critical information is excluded from the data, often because the developer did not recognise new or crucial factors.

Measurement bias: This arises when the dataset is incomplete or does not represent the full population, resulting in misleading conclusions.

Out-group homogeneity bias: People tend to understand their own group better than others, which can lead algorithms to perform poorly for groups underrepresented in the data. This can lead to misclassification, racial bias and inaccurate outcomes.

Prejudice bias: This occurs when social assumptions and stereotypes are embedded into training data, causing biased outputs, such as portraying certain jobs as belonging to only one gender.

Recall bias: This develops when data is labelled inconsistently or based on personal judgement rather than objective standards.

Sample/Selection bias: This occurs when the training data is too limited, uniform, incomplete or not representative. For example, if all training examples come from people with the same qualifications, the AI may reject equally capable individuals with different backgrounds.

Self-bias/Self-preservation bias: This occurs when an LLM is asked to assess its own output. The model tends to favour responses it has generated, as these are more familiar to it. This bias indicates that an LLM cannot serve as an impartial evaluator of AI performance.⁴⁴⁵

Stereotyping bias: This happens when an AI system, usually inadvertently, reinforces harmful stereotypes. For example, a language translation system could associate some languages with certain genders or ethnic stereotypes. Simply removing protected clauses such as sex or race from a dataset may seem like a solution, but doing so can actually undermine the model's understanding and reduce the accuracy of its outputs, rather than eliminating bias.

Source: Holdsworth, J. (2023, December 23). What is AI bias? IBM.

<https://www.ibm.com/think/topics/ai-bias>, adapted by Visionary Analytics, 2026

445. Lehr, S. A., Cipperman, M., & Banaji, M. R. (2025). Extreme Self-Preference in Language Models. arXiv. <https://doi.org/10.48550/arXiv.2509.26464>; Xu, W., Zhu, G., Zhao, X., Pan, L., Li, L., & Wang, W. Y. (2024). Pride and Prejudice: LLM Amplifies Self-Bias in Self-Refinement. arXiv. <https://doi.org/10.48550/arXiv.2402.11436>; Wataoka, K., Takahashi, T., & Ri, R. (2025). Self-Preference Bias in LLM-as-a-Judge. arXiv. <https://doi.org/10.48550/arXiv.2410.21819>

It is important not only to ensure human oversight but also to establish clear procedures for responding when hallucinations or biases occur, since such errors are inevitable, regardless of safeguards. As one expert explained, the first step is awareness: *“Be aware of the situation, be aware of the risk, maybe also of the possibilities.”* In a knowledge-based society built on mutual trust, *“we have to be put into a position where we still can trust people but be sceptical at the same time and to be aware of that is the first layer.”* Companies and employees must learn to balance trust with critical awareness. Building resilience, therefore, requires layered systems of protection, diverse tools, workflows and verification processes that evolve alongside technological progress. Finally, **preparedness must extend beyond prevention to recovery**: recognising that everyone will eventually be misled by AI in some form, and planning in advance how to identify, correct and learn from such incidents.⁴⁴⁶

Taken together, the ethical impacts of GenAI across AV, banking and telecoms highlight the need for sustainable infrastructure and responsible governance. While the environmental cost of large-scale models raises new ethical challenges, longstanding issues of fairness, transparency and human oversight remain central. GenAI can strengthen trust and fairness if carefully managed, but without clear safeguards, it risks reinforcing discrimination, undermining public confidence and placing disproportionate accountability on workers. Ultimately, embracing both the risks and the benefits of GenAI is essential, as long as it remains an assistive technology guided by strong human oversight.

446. Interview 17. October 1, 2025.

Box 16. Human-in-the-loop (HITL) mechanism

The HITL mechanism is widely seen as a safeguard for the ethical and responsible use of GenAI, as it ensures that humans remain a part of the decision-making process. As such, HITL helps mitigate risks associated with GenAI, such as automation bias, transparency and the lack of recourse for those who may be impacted by AI decisions. It reflects a broader commitment to the “human-in-control”⁴⁴⁷ or “human-in-command”⁴⁴⁸ principle, which is being promoted across both public and private sectors as a precondition for the responsible implementation of AI.

Safeguards and ethical considerations

Expert interviews confirm that HITL is perceived as essential to guard rights in the workplace and beyond. Trade union representatives stressed that agreements between employee associations and unions emphasise the importance of human oversight: “Humans have to decide finally, not the AI. This is the setting in which we want to implement AI applications well”.⁴⁴⁹ Others highlighted the ethical risks of neglecting HITL, pointing out that humans tend to over-trust computers if they deliver a sequence of correct results, thereby lowering vigilance. Maintaining a layer of human judgment was described as particularly vital in the public sector, where automated decisions on social services or benefits can have direct and serious consequences for citizens. As one interviewee states: “If you’re denied social services by computer, what do you do? You cannot argue with the computer”.⁴⁵⁰ This perspective highlights a wider concern, namely that without human appeal mechanisms, individuals risk being left without the ability to question or challenge machine outputs.

At the same time, one interviewee cautioned that human oversight is not a perfect safeguard. If trained correctly, AI can support decision-making by reducing errors. Compared to humans, systems may follow regulatory requirements more reliably and manage the vast datasets needed for compliance and operational efficiency.⁴⁵¹ This perspective offers a crucial counterpoint. While human oversight provides a necessary layer for accountability, it does not automatically guarantee objectivity. Human decision-making can be subject to bias and inconsistency, whereas AI systems, when properly trained, may help mitigate these tendencies by applying rules more consistently.

Implementation and regulatory context

HITL is already shaping how AI is introduced into management and evaluation processes. While AI systems provide substantial support in processing large volumes of data and assisting in complex assessments, the principle of human oversight maintains that final responsibility must remain with people. At the regulatory level, the EU AI Act and the Digital Services Act both establish obligations for transparency and human review in automated decision-making contexts, such as credit scoring or loan applications.⁴⁵²

Outlook

Looking ahead, HITL is increasingly positioned as a foundation for the development of ethical AI. Scholars argue that it can address the limitations of relying solely on either human or machine annotation, creating a more sustainable framework for training and governing AI systems. In parallel, HITL is also performing well in areas such as ethical risk detection and knowledge graphs. At the same time, challenges remain. Questions persist over how much human participation should be required in different contexts, and how to balance data sharing for oversight with risks of privacy leakage. Moreover, without a unified ethical framework, HITL may only provide localised solutions rather than universal implications.⁴⁵³ The adoption of HITL also highlights other questions. Some interviewees note that human decision-makers are not immune to bias and that overly rigid reliance on manual oversight may not be efficient.⁴⁵⁴ Striking the right balance is therefore essential.

Source: Visionary Analytics, 2026

447. Financial Services Union & Bank of Ireland. (2025). AI agreement between Financial Services Union and Bank of Ireland. https://www.fsunion.org/assets/files/pdf/boi_fsu_ai_agreement.pdf; European Trade Union Confederation. (2020). Resolution on the European strategies on artificial intelligence and data. <https://www.etuc.org/sites/default/files/document/file/2020-07/Adopted%20-%20ETUC%20resolution%20on%20the%20European%20strategies%20on%20artificial%20intelligence%20and%20data%20-%20EN.pdf>; European Social Partners in the Banking Sector (EBF, UNI Europa Finance, EACB & ESBG). (2024 May 14). Joint declaration on employment aspects of artificial intelligence in the European banking sector. <https://www.ebf.eu/wp-content/uploads/2024/05/Joint-Declaration-on-Employment-Aspects-of-Artificial-Intelligence.pdf>

448. Financial Services Union. (2025, July 9). FSU seek formal agreement from AIB around introduction of AI. Financial Services Union. <https://www.fsunion.org/latest/news/fsu-seek-formal-agreement-from-aib-around-introduction-of-ai/>; UNI Europa & Connect Europe. (2025, November). The Telecom Social Dialogue Committee Updated Declaration on Artificial Intelligence. <https://www.uni-europa.org/wp-content/uploads/sites/3/2025/12/UNI-Europa-x-Connect-Europe-AI-Declaration.pdf>

449. Interview 10. August 12, 2025.

450. Interview 13. July 29, 2025.

451. Interview 7. August 13, 2025.

452. Interview 1. August 7, 2025.

453. Chen, X., Wang, X., & Qu, Y. (2023). Constructing Ethical AI Based on the “Human-in-the-Loop” System. *Systems*, 11 (11), 548. <https://doi.org/10.3390/systems11110548>

454. Interview 1. August 7, 2025.

Regulatory impacts

GenAI introduces regulatory challenges that cross-cut intellectual property, privacy, liability and discrimination. In the AV sector, the unlicensed use of copyrighted content and human likeness to train models has sparked calls for stronger IP protections and transparency obligations. However, enforcement is complicated, as proving ownership of digital likeness or detecting AI-generated content remains technically difficult. In banking, GenAI applications such as credit scoring and HR fall within the EU AI Act's high-risk category,⁴⁵⁵ requiring continuous monitoring and safeguards against discrimination. While these rules strengthen accountability, interviewees warned they may also slow adoption and put Europe at a competitive disadvantage compared to the US.⁴⁵⁶ In telecommunications, providers face legal uncertainty due to the absence of common global standards, with liability, data use and cross-border compliance viewed as major risks. Global initiatives such as the GSMA Responsible AI Maturity Roadmap⁴⁵⁷ and the WEF Digital Trust Framework⁴⁵⁸ are emerging to fill this gap, but as recent analysis notes, overly restrictive regulation can hinder technological development and growth. However, if regulation is too permissive it may fail to provide appropriate guardrails and support.⁴⁵⁹

At the company level, banks, telecoms operators and media firms all face similar challenges and burdens in terms of regulation. In banking, companies must balance innovation with strict requirements for data protection and security, which slows adoption but is viewed as essential to maintaining customer trust.⁴⁶⁰ Telecoms firms are updating internal guidelines to align with the forthcoming EU AI Act, embedding compliance directly into governance strategies, though regulatory fragmentation across jurisdictions increases costs and complexity.⁴⁶¹ In AV media, firms risk legal and reputational harm if they fail to secure consent or properly label AI use, and stakeholders have proposed solutions such as permanent watermarks and stronger EU-wide transparency requirements. More broadly, research stresses that regulatory frameworks are evolving unevenly, with the EU's AI Act criticised for legal uncertainty and bureaucratic burdens, highlighting the importance of international coordination.⁴⁶² As one expert noted, Europe's legal system was "*not created for the AI era... [but] for old merchants and bigger companies, not small, fast-adapting startups.*"⁴⁶³ Leveraging AI to automate processes could enable firms to focus more on their unique value creation, but doing so requires a regulatory environment that is both flexible and adaptive while maintaining the core values and standards "*that we identify in the European Union.*"⁴⁶⁴

At the worker level, regulatory impacts are felt through accountability and workplace governance. In banking, union representatives pointed to gaps in escalation and resolution pathways under current frameworks. Collective bargaining agreements in Finland and elsewhere provide some structure, obliging employers to consult workers on AI adoption and training requirements.⁴⁶⁵ In telecommunications, employees are increasingly expected to act as stewards of regulatory compliance, tasked with monitoring AI outputs and safeguarding data, even when they lack full legal clarity or technical expertise.⁴⁶⁶ This raises pressure on workers while highlighting the need for training in AI compliance and regulatory literacy.

455. Regulation (EU) 2024/1689 (Artificial Intelligence Act), Annex III.

456. Interview 9. August 12, 2025.

457. GSMA. (2024, September 17). GSMA launches maturity roadmap as telecoms industry leads the way in the deployment of responsible AI. <https://www.gsma.com/newsroom/press-release/gsma-launches-maturity-roadmap-as-telecoms-industry-leads-the-way-in-the-deployment-of-responsible-ai/>

458. World Economic Forum. (n.d.). The Digital Trust Framework. <https://initiatives.weforum.org/digital-trust/framework>

459. Christodorescu, M., Craven, R., Feizi, S., Gong, N., Hoffmann, M., Jha, S., Jiang, Z., Kamarposhti, M. S., Mitchell, J., Newman, J., Probasco, E., Qi, Y., Shams, K., & Turek, M. (2024). Securing the Future of GenAI: Policy and Technology. arXiv preprint arXiv:2407.12999. <https://doi.org/10.48550/arXiv.2407.12999>

460. Interview 10. August 12, 2025.

461. World Economic Forum, Accenture, Valkhof, B., & Venturini, F. (2025). Artificial intelligence in telecommunications. In World Economic Forum, https://reports.weforum.org/docs/WEF_Artificial_Intelligence_in_Telecommunications_2025.pdf

462. Poncibò, C., & Ebers, M. (2025). Comparative perspectives on the regulation of large language models. Cambridge Forum on AI: Law and Governance, 1, e10. <https://doi.org/10.1017/cfi.2024.14>

463. Interview 17. October 1, 2025.

464. Ibid.

465. Interview 6. August 4, 2025.

466. Bridge Connect. (2024, December 17). How to ensure compliance in telecom operations. <https://www.bridge-connect.com/post/how-to-ensure-compliance-in-telecom-operations>; Baschnonga, A. (2023, November 30). Top 10 risks for telecommunications in 2024. EY. https://www.ey.com/en_gl/insights/telecommunications/top-10-risks-for-telecommunications

Liability remains a major challenge for both workers and companies. Around one-third of firms cite “liability for damage” as the main external obstacle to GenAI adoption.⁴⁶⁷ The absence of clear rules increases legal uncertainty and discourages innovation, while also leaving workers exposed to unfair dismissals, biased hiring or accidents caused by AI systems. The withdrawal of the AI Liability Directive in February 2025 was strongly condemned by the ETUC, which warned that without binding rules, accountability may shift from employers and developers to individual workers.⁴⁶⁸ Therefore, there is a pressing need for a balanced liability framework that protects employees’ rights and ensures that those harmed by AI systems can seek fair outcomes, while also giving companies the legal clarity to deploy AI responsibly and confidently across sectors.

Across the three sectors, regulatory impacts reflect a tension between safeguarding trust and enabling innovation. Interviewees often compared the EU’s cautious approach with the US model, with some fearing that strict European rules could slow adoption and give competitors abroad an advantage.⁴⁶⁹ This highlights the importance that EU regulations are seen as justified, demonstrating clear benefits in terms of fairness, security and trust. Interviewees also pointed out that the regulation makes both companies and workers feel safer when adopting AI.⁴⁷⁰ *“In Europe, people have this comfort that if something goes wrong, the government will regulate and fix it.”*⁴⁷¹ While the EU lags behind the US and China in terms of AI infrastructure, *“Europe is ... ahead of the US in innovating around the application of AI ... because of the regulatory environment, not in spite of it.”*⁴⁷² Furthermore, one expert pointed out that while the US regulatory approach might be profitable in the short run, the European model is more sustainable.⁴⁷³ Apart from boosting innovation in terms of AI applications, Ethical AI ensures companies’ reputation and customer trust, which are crucial for long-term business success.⁴⁷⁴

At the same time, regulatory challenges, coupled with AI limitations such as hallucinations and privacy concerns, discourage many companies and employees from adopting AI. As one expert noted, *“It is very important to give companies or people spaces that they feel comfortable in to use the technology.”* Opportunities like sandboxes or other low-barrier environments allow employees to test AI safely, build confidence and recognise its value before broader implementation.⁴⁷⁵ *“We need incubators. Without trial and error in safe space, we will not go further.”*⁴⁷⁶ If communicated and implemented effectively, the European approach can position the region as a leader in responsible AI, showing that strong safeguards not only protect workers and consumers but also create the foundations for sustainable innovation and competitiveness.

467. Novelli, C., Casolari, F., Hacker, P., Spedicato, G., & Floridi, L. (2024). Generative AI in EU Law: Liability, Privacy, Intellectual Property, and Cybersecurity. arXiv. <https://doi.org/10.48550/arXiv.2401.07348>

468. European Trade Union Confederation. (2025, March 4). Artificial Intelligence for Workers, Not Just for Profit: Ensuring Quality Jobs in the Digital Age. <https://www.etuc.org/en/document/artificial-intelligence-workers-not-just-profit-ensuring-quality-jobs-digital-age>

469. Interview 5. August 18, 2025; Interview 9. August 12, 2025; Interview 10. August 12, 2025; Interview 12. August 12, 2025.

470. Interview 5. August 18, 2025; Interview 9. August 12, 2025; Interview 10. August 12, 2025.

471. Interview 5. August 18, 2025.

472. Ibid.

473. Interview 10. August 12, 2025.

474. International Institute for Management Development. (2024, October 3). AI Ethics: What Is It and Why It Matters for Your Business. <https://www.imd.org/blog/digital-transformation/ai-ethics/>

475. Interview 17. October 1, 2025.

476. Interview 10. August 18, 2025.

SUMMARY

Sector-specific and horizontal impact assessments of GenAI adoption in AV, banking and telecoms sectors show that the technology is already reshaping services in profound ways. GenAI promises gains in efficiency, new products and services and more engaging work, but the benefits and risks are unevenly distributed and, in some cases, largely unproven at scale. Overstated assumptions of productivity and gains can create unrealistic efficiency expectations and intensify pressure on workers, underlying the need for transparency in how anticipated gains are projected and managed.

At the worker level, GenAI accelerates shifts in tasks and skills, increasing demand for digital skills, data interpretation and creative and critical thinking. It also has the potential to reduce repetitive tasks as well as increase flexible employment opportunities and the number of upskilling and reskilling programmes. At the same time, while some employees may benefit from more engaging and higher-value work, evidence suggests that GenAI can contribute to job intensification and uneven uptake across groups, reinforcing the importance of transparent communication and the role of employee participation in a successful transition. Moreover, unequal access to training risks widening existing divides, particularly among older workers, women and employees in smaller firms. Where reskilling options are limited and roles are more vulnerable to automation, the risk of redundancy increases. Addressing these issues requires structured upskilling and reskilling frameworks grounded in AI literacy assessments, clear delivery models and robust evaluation frameworks, supported by trade unions and public authorities through governance, funding and compliance incentives.

At the company level, GenAI offers potential gains in efficiency, productivity and cost savings, as well as opportunities to develop new products and services. At the same time, its adoption raises questions about how firms can build the capacity to adapt. Organisations across all three sectors face common challenges in managing skills transitions and ensuring responsible implementation. Interdisciplinary teams that bring together technical, ethical and sector-specific expertise could help fill competency gaps, guide complex decisions under uncertainty and reduce risks of bias or misuse. Successful integration also depends on sustained investment in internal capabilities, clear allocation of responsibilities and strong employee-employer dialogue. These elements help maintain trust and accountability and preserve worker agency in decision-making, including clarity over liability when errors occur.

At the sectoral level, Gen AI presents significant opportunities. Realising these opportunities in practice will depend on workforce readiness and organisational capacity, for example, through investment in AI literacy, training and change management. In the AV industry, new tools can enhance film preservation, support the creation of more accessible and inclusive content and enable SMEs and individual creators to produce competitive content despite limited resources. In banking, GenAI helps to streamline regulatory compliance, strengthen fraud detection and anti-money laundering mechanisms and support customer service workers. In telecommunications, GenAI can support contact-centre agents, contribute to the development of more advanced cybersecurity tools and potentially enable intelligent network management.

At the same time, the transformation brings sector-specific pressures. In AV services, the unauthorised use of creative content for GenAI training poses copyright challenges with implications for the sector's sustainability. In banking, risks related to bias, liability and data sensitivity have direct implications for consumer trust, which banks rely on heavily. GenAI in the telecoms sector, meanwhile, highlights the importance of data protection and privacy, as firms manage vast quantities of personal information. Across all sectors, common needs emerge for transparent deployment, clear oversight and mechanisms that maintain confidence among workers, employers and customers by embedding trust and creating opportunities for feedback on how GenAI is applied in practice.

Addressing ethical and governance concerns is integral to safeguarding fairness and transparency and to maintaining trust in both workplaces and markets. Although the EU's regulatory framework has become a global reference point, many companies express concerns about compliance burdens and potential competitive disadvantages. Nevertheless, if accompanied by clear regulatory justifications and, for example, strengthened enforcement in areas such as intellectual property, liability and bias oversight, frameworks focused on ethical and responsible deployment could increase confidence in responsible GenAI adoption.

These dynamics show that GenAI's impacts are layered. At the sectoral level, they reflect the distinctive challenges and opportunities of different industries. At the firm level, they involve how companies set expectations, structure expertise and manage change. At the worker level, they are lived through shifting tasks, new skill requirements and evolving responsibilities for oversight and judgment. Social dialogue cuts across all the levels, providing a means to negotiate expectations around efficiency, support broad access to training, ensure clarity in accountability and maintain trust as technologies become embedded in daily work. This includes strengthening the capacity of worker representatives to participate effectively in GenAI-related negotiations. In essence, while there are emerging risks to GenAI, there are also generous opportunities across the services economy that can be gained from the fair and sustainable integration of GenAI. Table 3 summarises the main opportunities and challenges across sectors, bringing together horizontal trends with sector-specific dynamics.

Table 3. Horizontal and sector-specific GenAI adoption opportunities and challenges

OPPORTUNITIES	CHALLENGES
HORIZONTAL	
• Increased efficiency, productivity and cost savings • Economic growth • Greater economic resilience through more adaptive supply chains and real-time risk detection • Infrastructure development, advancements in automation and innovation • Emergence of new jobs in the services sector • Reduction of repetitive tasks, enabling more engaging and higher-quality work • Development of new products and services • Increased flexibility of work arrangements • Potential decrease in unemployment in the long run and facilitation of demographic crisis • Increased number of training and reskilling opportunities for employees	• Workforce reduction, particularly in entry-level positions and customer service • Dependency on BigTech and third-party providers due to the high technologies and infrastructure costs • High investment needs for training/upskilling/reskilling • Persistent hallucinations and biases risk reinforcing discrimination and undermining public confidence • Environmental impacts from water and energy consumption • Risk of disproportionate accountability placed on workers • Risk of widening wealth inequality • Decreased accessibility of services due to the digital divide and skills gap • Fragmentation of regulatory standards and compliance burden
AUDIOVISUAL SECTOR	
• Enhanced film preservation through improved restoration of old footage • More accessible and inclusive content via subtitling, simplified language tools and text-to-audio conversion • Democratisation of production, allowing SMEs and individuals with limited resources to create competitive content • Increased cultural diversity through accessibility of new tools, facilitating small-scale production • More personalised content recommendations • Streamlined editorial processes for journalists • Accelerated localisation workflows, including dubbing and voice adaptation, enabling faster international distribution • AI-supported creative ideation tools that expand concept development, storyboarding and pre-visualisation capabilities	• Copyright breaches leading to revenue losses • Deepfakes reducing reliability and trust; costly AI detection tools • Lack of clear AI disclosure and transparency rules • Democratisation of production, new competition for the established companies • Algorithmic bias risks in advertising and content recommendation • Risk of decreased cultural diversity due to the cultural bias of third-party GenAI models

OPPORTUNITIES	CHALLENGES
BANKING SECTOR	
• Streamlined regulatory compliance through AI-assisted monitoring and auditing • Enhanced fraud detection and anti-money laundering tools • AI support for contact-centre agents and customer service • Improved risk modelling and stress-test reporting • Simplified access to and analysis of financial data	• Complex and evolving regulatory environment requiring significant compliance resources • Data privacy concerns, especially around sensitive data • Bias and fairness issues in credit assessment and HR processes • High costs of implementing risk control mechanisms • Potential systemic risks due to the herding effect
TELECOMMUNICATIONS SECTOR	
• Mutually reinforcing convergence of GenAI and 6G • New revenue opportunities via AI-as-a-Service, data monetisation and sovereign AI infrastructure • Intelligent network management optimising resource allocation and supporting innovative applications such as integrated sensing and communications • Development of advanced cybersecurity tools • Acceleration of software development and coding processes • AI support for contact-centre agents and customer service	• Privacy, bias and opacity in automated decision-making • Cybersecurity risks as GenAI increases system vulnerability and widens the attack surface • Wireless hallucinations degrading service quality, wasting resources and creating security risks • Lack of appropriately skilled labour • Legal uncertainty due to the absence of common standards and governance frameworks across jurisdictions

Source: Visionary Analytics, 2026

As GenAI becomes more deeply integrated into the services economy, its trajectory will depend not only on technical development but also on the capacity of sectors, firms and workers to adapt in ways that are fair, inclusive and sustainable. Through these adjustments, GenAI offers opportunities to foster resilience, enrich work and support long-term growth in Europe's services economy.

While this report focuses on the AV, banking and telecoms sectors, GenAI's implications extend across society, influencing how people work, communicate and interact with technology. Broader societal effects fall outside the scope of this study but are essential to understanding the wider context of GenAI's development. Given the rapid pace of technological change and the early stage of evidence, continued interdisciplinary research and dialogue are crucial for tracking GenAI's evolving social, economic and ethical dimensions.

REFERENCES

- Adecco.** (2025). *Global Workforce of the Future*. <https://www.adecgroup.com/global-workforce-of-the-future-research-2025>
- Albi Research Team.** (2025, April 14). *The Demographic Crisis and Talent Shortage: Corporate Practices, Real Cases, and Solutions*. <https://albimarketing.com/blog/the-demographic-crisis-and-talent-shortage-a-critical-challenge-for-northern-europe-corporate-practices-real-cases-and-solutions/>
- Alliance for Telecommunications Industry Solutions.** (2021). *Advancing generative AI implementation in telecommunications networks*. White Paper [Report]. <https://cdn.atiss.org/atiss.org/2024/11/26172554/Advancing-Generative-AI-Implementation-in-Telecommunications-Networks-V6.pdf>
- Altman Solon.** (2024). *Generative AI Governance frameworks for Telecommunications Leaders*. Altman Solon. <https://www.altmansolon.com/thought-leadership/generative-ai-governance-telecommunications>
- Altman Solon.** (2024, February 15). *Telecommunications' next frontier: Navigating the GenAI imperative*. Altman Solon Insights. <https://www.altmansolon.com/insights/telecommunications-next-frontier-navigating-the-generative-ai-imperative>
- Andrews, C.** (2025, February 12). *European Commission withdraws AI Liability Directive from consideration*. IAPP. <https://iapp.org/news/a/european-commission-withdraws-ai-liability-directive-from-consideration>
- ARIX Business Intelligence GmbH.** (2024). *Banking in 2030 – How will the current global trends, especially AI, shape the post-COVID19 pandemic future of the European banking industry and its employees?* (EU funded Project No. 101051930). https://www.ebf.eu/wp-content/uploads/2024/05/Final-report_Impact-of-AI-on-banking-employment-in-Europe.pdf
- Arkenberg, C., Ledger, D., Franks, R., Westcott, K., & Bucaille, A.** (2024, November 19). *Large studios will likely take their time adopting generative AI for content creation*. Social media isn't hesitating: TMT Predictions 2025. Deloitte Center for Technology, Media & Telecommunications. <https://www.deloitte.com/us/en/insights/industry/technology/technology-media-and-telecom-predictions/2025/tmt-predictions-hollywood-cautious-of-genai-adoption.html>
- AVG Banken** (2025, November). *Use of artificial intelligence in the private banking industry: Results from employee surveys in the German private banking industry*. https://cdn.prod.website-files.com/62bef2e3601a60f5722d53e9/690c708d1b046f0291f619b8_251106_AI_banks_EN.pdf
- Baffour Gyau, E., Appiah, M., Gyamfi, B. A., Achie, T., & Naeem, M. A.** (2024). *Transforming banking: Examining the role of AI technology innovation in boosting banks financial performance*. *International Review of Financial Analysis*, 96 (Part B). <https://doi.org/10.1016/j.irfa.2024.103700>
- Banerjee, A.** *How GenAI will transform the telecom industry.* (2024, February 25). *Telecom Review*. <https://www.telecomreview.com/articles/cloud-and-enterprise-business/7862-how-genai-will-transform-the-telecom-industry>
- Baschnonga, A.** (2023, November 30). *Top 10 risks for telecommunications in 2024*. EY. https://www.ey.com/en_gl/insights/telecommunications/top-10-risks-for-telecommunications
- Baumann, M., Bayer, J., Burri, M., Campus, G., Cole, M., Farish, K., Hacker, P., Migliore, E., Nordemann, J. B., Radel-Corman, J., Schmitz-Berndt, S., & van der Sloot, B.** (2024). *AI and the audiovisual sector: Navigating the current legal landscape*. Cappello, M., (ed.), IRIS, European Audiovisual Observatory. <https://rm.coe.int/iris-2024-3-ia-legal-landscape/1680b1e999>
- BBC.** (2025). *Disney and Universal sue AI firm Midjourney over images*. <https://www.bbc.com/news/articles/cg5vjqdm1typo>
- BBVA.** (2025, January 3). *BBVA creates a stress test in Spanish to measure generative AI bias*. NEWS BBVA. <https://www.bbva.com/en/innovation/bbva-creates-a-stress-test-in-spanish-to-measure-generative-ai-bias/>
- Benoit, M. C.** (2025, June 30). *Orange Business strengthens its strategic alliance with NVIDIA around a sovereign AI*. ActuaIA. <https://www.actuia.com/en/news/orange-business-strengthens-its-strategic-alliance-with-nvidia-around-a-sovereign-ai/>
- BEREC.** (2022). BoR (22) 191 *Draft Report on challenges and benefits of Artificial Intelligence (AI) solutions in the telecommunications sector (including use cases)*. BEREC. https://www.berec.europa.eu/system/files/2022-12/BoR%20%2822%29%20191%20Draft%20Report%20on%20challenges%20and%20benefits%20of%20Artificial%20Intelligence%20%28AI%29%20solutions%20in%20the%20telecommunications%20sector%20%28including%20use%20cases%29_2.pdf
- Bertelsmann SE & Co. KGaA.** (2024, August 12). *RTL Technology Reports First-Time Use Of AI For Synchronization*. RTL Group News. <https://www.bertelsmann.com/news-and-media/news/rtl-technology-reports-first-time-use-of-ai-for-synchronization.jsp>
- Bertelsmann SE & Co. KGaA.** (2024, October 15). *RTL Deutschland To Use AI For Interstitials*. RTL Group News. <https://www.bertelsmann.com/news-and-media/news/rtl-deutschland-to-use-ai-for-interstitials.jsp>

- Bommasani, R., Hudson, D. A., Altman, R., Arora, S., Bernstein, M. S., Bohg, J., Bosselut, A., Brunskill, E., Brynjolfsson, E., Buch, S., et al.** (2021). *On the Opportunities and Risks of Foundation Models*. <https://doi.org/10.48550/arxiv.2108.07258>
- Bonsón, E., Lavorato, D., Lamboglia, R., & Mancini, D.** (2021). *Artificial intelligence activities and ethical approaches in leading listed companies in the European Union*. *International Journal of Accounting Information Systems*, 43, 10035. <https://doi.org/10.1016/j.accinf.2021.100535>
- Botunac, I., Parlov, N., & Bosna, J.** (2024). *Opportunities of Gen AI in the Banking Industry with regards to the AI Act, GDPR, Data Act and DORA*. IEEE. <https://ieeexplore.ieee.org/abstract/document/10577936>
- Bridge Connect.** (2024, December 17). *How to ensure compliance in telecom operations*. <https://www.bridge-connect.com/post/how-to-ensure-compliance-in-telecom-operations>
- Business Europe.** (n.d.). <https://www.besnesseurope.eu/>
- Business France** (2024). *AI Race: How France is positioning itself as a leader*. <https://world.businessfrance.fr/nordic/ai-race-how-france-is-positioning-itself-as-a-leader/>
- Cai, J.** (2022). *Bank herding and systemic risk*. *Economic Systems*, 46(4), 101042. <https://doi.org/10.1016/j.ecosys.2022.101042>
- Campargue, A.** (2024, November 21). *How generative AI tools are transforming daily work at Orange?* Sofrecom. <https://www.sofrecom.com/en/news-insights/how-generative-ai-tools-are-transforming-daily-work-at-orange.html>
- Cartoon Brew.** (2024). *Brown Bag Film and 9 Story launch guidelines for AI use in their productions*. <https://www.cartoonbrew.com/business/brown-bag-film-and-9-story-launch-guidelines-for-ai-use-in-their-productions-241334.html>
- Chakraborty, N., Ornik, M., & Driggs-Campbell, K.** (2025). *Hallucination Detection in Foundation Models for Decision-Making: A Flexible definition and review of the state of the art*. *ACM Computing Surveys*, 57(7), 1–35. <https://doi.org/10.1145/3716846>
- Chen, X., Wang, X., & Qu, Y.** (2023). *Constructing Ethical AI Based on the “Human-in-the-Loop” System*. *Systems*, 11(11), 548. <https://doi.org/10.3390/systems11110548>
- Chen, Y., Wang, Y., Yu, T., & Pan, Y.** (2024). *The Effect of AI on animation production Efficiency: An empirical investigation through the network Data Envelopment analysis*. *Electronics*, 13(24), 5001. <https://doi.org/10.3390/electronics13245001>
- Christodorescu, M., Craven, R., Feizi, S., Gong, N., Hoffmann, M., Jha, S., Jiang, Z., Kamarposhti, M. S., Mitchell, J., Newman, J., Probasco, E., Qi, Y., Shams, K., & Turek, M.** (224). *Securing the Future of GenAI: Policy and Technology*. arXiv preprint arXiv:2407.12999. <https://doi.org/10.48550/arXiv.2407.12999>
- Coalition of rightsholders across the EU’s cultural and creative sectors.** (2025, July 30). *Joint statement on the AI Act implementation measures adopted by the European Commission*. Brussels. <https://www.cisac.org/Newsroom/articles/joint-statement-broad-coalition-rightsholders-active-across-eus-cultural-and>
- Confederation of Norwegian Enterprise, Norwegian Confederation of Trade Unions, & EL og IT-Forbundet.** (2024). *Collective Agreement for Telenor 2024–2026* (unofficial English translation). <https://tariff.elogit.no/nedlasting/Telenoroverenskomsten%202024-2026%20English.pdf>
- Connect Europe.** (2025, July 23). *Telecom leaders commit to tech leadership for a competitive and secure Europe*. <https://connecteurope.org/news/telecom-leaders-commit-tech-leadership-competitive-and-secure-europe>
- Connect Europe.** (2026). *Digital Networks Act: telecom industry asks for bolder action to secure Europe’s digital future*. <https://connecteurope.org/news/digital-networks-act-telecom-industry-asks-bolder-action-secure-europes-digital-future>
- Creasy, S., Ferrero, I., Lajous, T., Trigo, V., & Vieira, B.** (2024, February 21). *How generative AI could revitalize profitability for telcos*. McKinsey & Company. <https://www.mckinsey.com/industries/technology-media-and-telecommunications/our-insights/how-generative-ai-could-revitalize-profitability-for-telcos>
- Creatives Unite** (2024). *The creative industries of Europe support the European AI Act*. <https://creativesunite.eu/article/the-creative-industries-of-europe-support-the-european-ai-act>
- Daco, G.** (2023, March 22). *Catalyze economic growth through capital investment in GenAI*. EY. https://www.ey.com/en_pl/insights/ai/economic-growth-through-capital-investment-in-gen-ai
- Deloitte.** (2024). *AI risk and approaches to global regulatory compliance*. <https://www.deloitte.com/ie/en/services/consulting/perspectives/ai-risk-approaches-global-regulatory-compliance.html>
- Directors Guild of America.** (2023). *DGA tentative agreement achieves historic breakthroughs on key global, economic, creative rights, and safety issues*. <https://www.dga.org/News/PressReleases/2023/230603-DGA-and-AMPTP-Reach-Tentative-Agreement>

- Dodds, T., Zamith, R., & Lewis, S. C. (2025).** *The AI turn in journalism: Disruption, adaptation, and democratic futures.* *Journalism*, 27 (3). <https://doi.org/10.1177/14648849251343518>
- Donegan, M. (2024).** *Are telcos ready for the EU AI Act?* TMForum. <https://inform.tmforum.org/features-and-opinion/are-telcos-ready-for-the-eu-ai-act>
- Dziak, M. (2025).** *Service economy.* EBSCO Research Starters. <https://www.ebsco.com/research-starters/economics/service-economy>
- Ek, M., Lu, L., & Arnarp, E. (2024).** *Generative AI in traditional banking institutes* (INFM10 20241). Department of Informatics, Lund University. <http://lup.lub.lu.se/student-papers/record/9165280>
- Élysée. (2025).** *Make France an AI powerhouse.* <https://www.elysee.fr/en/emmanuel-macron/2025/02/11/make-france-an-ai-powerhouse>
- Ennis, D. (2024, October 24).** *Intesa Sanpaolo to cut 9,000 jobs in AI-fueled push.* Banking Dive. <https://www.bankingdive.com/news/intesa-sanpaolo-ai-9000-jobs-hybrid-contract-early-retirement-union/730946/>
- Erixon, F., Guinea, O., & Pandya, D. (2025).** *Strengthening the Supply- Side Innovation in EU Telecommunications.* European Centre for International Political Economy, 12. <https://ecipe.org/publications/supply-side-innovation-eu-telecommunications/>
- ETA (European Telecommunications Network Operators' Association) & UNI Europa ICTS. (2020).** *Joint Declaration on Artificial Intelligence.* https://www.uni-europa.org/old-uploads/2020/12/20201130_UE-ETNO-declaration-AI.pdf
- European Audiovisual Observatory (2024).** *AI in the Audiovisual Sector: Navigating the Current Legal Landscape.* Council of Europe. <https://www.obs.coe.int/en/web/observatoire/-/new-report-the-challenges-of-ai-for-the-audiovisual-sector-and-the-role-european-legislation-is-playing>
- European Audiovisual Observatory. (n.d.).** *What we do.* <https://www.obs.coe.int/en/web/observatoire/what-we-do>
- European Banking Federation. (2024, April).** *Financing the future: A strategic banking sector for a competitive Europe – Short version.* https://www.ebf.eu/wp-content/uploads/2024/04/FFIN-Memorandum-version-courte_PRINT.pdf
- European Banking Federation. (n.d.).** *Artificial Intelligence.* <https://www.ebf.eu/priorities/innovation-cybersecurity/artificial-intelligence/>
- European Broadcasting Union. (2024, February 28).** *Empowering Europe's audiovisual sector: A vision for cultural diversity and skill development.* EBU. <https://www.ebu.ch/news/2024/02/empowering-europes-audiovisual-sector-creative-skills-europes-vision-for-cultural-diversity-and-skill-development>
- European Centre for the Development of Vocational Training. (2025).** *Skills empower workers in the AI revolution.* CEDEFOP. <https://www.cedefop.europa.eu/en/publications/9201>
- European Commission & High Representative of the Union for Foreign Affairs and Security Policy (2020).** *The EU's cybersecurity strategy for the digital decade.* <https://eur-lex.europa.eu/legal-content/EN/TXT/?uri=JOIN:2020:18:FIN>
- European Commission. (2013).** *Communication from the Commission on State aid for films and other audiovisual works* (2013/C 332/01). Official Journal of the European Union. https://eur-lex.europa.eu/legal-content/EN/TXT/?uri=oj:JOC_2013_332_R_0001_01
- European Commission (2018, April 25).** *Artificial Intelligence for Europe.* COM (2018) 237 final. <https://eur-lex.europa.eu/legal-content/EN/TXT/?uri=COM:2018:237:FIN>
- European Commission. (2019).** *Directive on copyright and related rights in the Digital Single Market and amending Directives 96/9/EC and 2001/29/EC - 2019/790 – EN.* EUR-Lex. <https://eur-lex.europa.eu/eli/dir/2019/790/oj/eng>
- European Commission. (2019, April 8).** *Ethics guidelines for trustworthy AI. Shaping Europe's Digital Future.* <https://digital-strategy.ec.europa.eu/en/library/ethics-guidelines-trustworthy-ai>
- European Commission. (2020, December).** *Digital Decade: Commission launches Action Plan to support recovery and transformation of the media and audiovisual sectors* (IP/20/2239). https://ec.europa.eu/commission/presscorner/detail/en/ip_20_2239
- European Commission. (2021).** *Netherlands AI strategy report.* AI Watch. https://ai-watch.ec.europa.eu/countries/netherlands/netherlands-ai-strategy-report_en

European Commission (2022). *Proposal for a DIRECTIVE OF THE EUROPEAN PARLIAMENT AND OF THE COUNCIL on Adapting Non-Contractual Civil Liability Rules to Artificial Intelligence (AI Liability Directive)*. COM/2022/496 final. <https://eur-lex.europa.eu/legal-content/EN/TXT/?uri=CELEX%3A52022PC0496>

European Commission. (2023). *New step towards the Digital Decade: 2030 policy programme comes into force*. <https://eufordigital.eu/new-step-towards-the-digital-decade-2030-policy-programme-comes-into-force/>

European Commission (2024). *Estonia Digital Public Administration Factsheet 2024. Interoperable Europe Portal*. https://interoperable-europe.ec.europa.eu/sites/default/files/inline-files/NIFO_2024%20DPAF_Estonia_vFinal.pdf

European Commission. (2025a). *Call For Evidence for an Evaluation and Impact Assessment Run in Parallel* (Ref. Ares(2025)4545535). https://ec.europa.eu/info/law/better-regulation/have-your-say/initiatives/14709-Digital-Networks-Act_en

European Commission (2025b). *COMMUNICATION FROM THE COMMISSION TO THE EUROPEAN PARLIAMENT, THE COUNCIL, THE EUROPEAN ECONOMIC AND SOCIAL COMMITTEE AND THE COMMITTEE OF THE REGIONS Commission Work Programme 2025 Moving Forward Together: A Bolder, Simpler, Faster Union*. COM/2025/45 final. <https://eur-lex.europa.eu/legal-content/EN/TXT/?uri=CELEX%3A52025DC0045&qid=1761126737792>

European Commission. (2025c). *The impact of the Digital Services Act on digital platforms. Digital Strategy*. <https://digital-strategy.ec.europa.eu/en/policies/dsa-impact-platforms>

European Commission. (April 9, 2025). *COMMUNICATION FROM THE COMMISSION TO THE EUROPEAN PARLIAMENT, THE COUNCIL, THE EUROPEAN ECONOMIC AND SOCIAL COMMITTEE AND THE COMMITTEE OF THE REGIONS AI Continent Action Plan*. COM/2025/165 final. <https://eur-lex.europa.eu/legal-content/EN/TXT/?uri=celex:52025DC0165>

European Commission. (2025, April 28). *The EU banking sector* [Newsletter]. Finance. https://finance.ec.europa.eu/news/eu-banking-sector-2025-04-28_en

European Commission (October 8, 2025). *Commission launches two strategies to speed up AI uptake in European industry and science*. [Press release]. <https://digital-strategy.ec.europa.eu/en/news/commission-launches-two-strategies-speed-ai-uptake-european-industry-and-science>

European Commission. (October 10, 2025). *COMMUNICATION FROM THE COMMISSION TO THE EUROPEAN PARLIAMENT AND THE COUNCIL Apply AI Strategy*. COM/2025/723 final. <https://eur-lex.europa.eu/legal-content/EN/TXT/?uri=CELEX:52025DC0723>

European Commission (2025, November 19). *Proposal for a REGULATION OF THE EUROPEAN PARLIAMENT AND OF THE COUNCIL amending Regulations (EU) 2016/679, (EU) 2018/1724, (EU) 2018/1725, (EU) 2023/2854 and Directives 2002/58/EC, (EU) 2022/2555 and (EU) 2022/2557 as regards the simplification of the digital legislative framework, and repealing Regulations (EU) 2018/1807, (EU) 2019/1150, (EU) 2022/868, and Directive (EU) 2019/1024 (Digital Omnibus)*. 2025/0360(COD). European Union. <https://eur-lex.europa.eu/legal-content/EN/TXT/?uri=celex:52025PC0837>

European Commission. (2025, November 19). *Proposal for a REGULATION OF THE EUROPEAN PARLIAMENT AND OF THE COUNCIL amending Regulations (EU) 2024/1689 and (EU) 2018/1139 as regards the simplification of the implementation of harmonised rules on artificial intelligence (Digital Omnibus on AI)*. 2025/0359(COD). European Union. <https://eur-lex.europa.eu/legal-content/EN/TXT/?uri=celex:52025PC0836>

European Commission. (2026, January 21). *Proposal for a Regulation for the Digital Networks Act (DNA)*. <https://digital-strategy.ec.europa.eu/en/library/proposal-regulation-digital-networks-act-dna>

European Commission. (n.d.). *Apply AI Alliance*. <https://digital-strategy.ec.europa.eu/en/policies/apply-ai-alliance>

European Commission. (n.d.). *Apply AI Strategy*. <https://digital-strategy.ec.europa.eu/en/policies/apply-ai>

European Commission. (n.d.). *Banking – Sectoral social dialogue. Employment, Social Affairs and Inclusion*. https://employment-social-affairs.ec.europa.eu/policies-and-activities/eu-employment-policies/social-dialogue/cross-industry-and-sectoral-social-dialogue/banking-sectoral-social-dialogue_en

European Commission. (n.d.). *Europe's Digital Decade: digital targets for 2030*. https://commission.europa.eu/strategy-and-policy/priorities-2019-2024/europe-fit-digital-age/europes-digital-decade-digital-targets-2030_en

European Commission. (n.d.). *Financial services. Competition Policy*. https://competition-policy.ec.europa.eu/sectors/financial-services_en

European Commission. (n.d.). *Liability Rules for Artificial Intelligence*. https://commission.europa.eu/business-economy-euro/doing-business-eu/contract-rules/digital-contracts/liability-rules-artificial-intelligence_en

European Commission. (n.d.). *Simplification and Implementation*. https://commission.europa.eu/law/law-making-process/better-regulation/simplification-and-implementation_en

European Commission. (n.d.). *Single market for services. Internal Market, Industry, Entrepreneurship and SMEs*. https://single-market-economy.ec.europa.eu/single-market/services_en

European Commission. (n.d.). *Telecommunications – Sectoral social dialogue. Employment, Social Affairs and Inclusion*. https://employment-social-affairs.ec.europa.eu/policies-and-activities/eu-employment-policies/social-dialogue/cross-industry-and-sectoral-social-dialogue/telecommunications-sectoral-social-dialogue_en

European Commission. (n.d.). *The Digital Services Act: Ensuring a safe and accountable online environment*. https://commission.europa.eu/strategy-and-policy/priorities-2019-2024/europe-fit-digital-age/digital-services-act_en

European Commission. (n.d.). *The General-Purpose AI Code of Practice. Shaping Europe's digital future*. <https://digital-strategy.ec.europa.eu/en/policies/contents-code-gpai>

European Commission: Eurostat. (2008). *NACE Rev. 2: Statistical classification of economic activities in the European Community*. Publications Office. <https://ec.europa.eu/eurostat/web/products-manuals-and-guidelines/-/ks-ra-07-015>

European Social Partners (BusinessEurope, CEEP, SMEunited, & ETUC). (2020). *Framework Agreement on Digitalisation 2020*. https://www.etuc.org/system/files/document/file2020-06/Final%2022%2006%2020_Agreement%20on%20Digitalisation%202020.pdf

European Foundation for the Improvement of Living and Working Conditions. (2020). *Working conditions in sectors*. Publications Office. <https://data.europa.eu/doi/10.2806/024695>

European Insurance and Occupational Pensions Authority. (2024). *AI Act and its impacts on the European financial sector*. Eurofi Magazine contribution. https://www.eiopa.europa.eu/publications/ai-act-and-its-impacts-european-financial-sector_en

European Parliament & Council of the European Union. (2016). *Regulation (EU) 2016/679 on the protection of natural persons with regard to the processing of personal data and on the free movement of such data (General Data Protection Regulation)*. <https://eur-lex.europa.eu/legal-content/EN/TXT/?uri=CELEX%3A32016R0679>

European Parliament & Council of the European Union. (2024, June 13). *Regulation (EU) 2024/1689 laying down harmonised rules on artificial intelligence and amending Regulations (EC) No 300/2008, (EU) No 167/2013, (EU) No 168/2013, (EU) 2018/858, (EU) 2018/1139 and (EU) 2019/2144 and Directives 2014/90/EU, (EU) 2016/797 and (EU) 2020/1828 (Artificial Intelligence Act)*. European Union. <https://eur-lex.europa.eu/eli/reg/2024/1689/oj>

European Parliament: Directorate-General for Internal Policies of the Union & Rehm, G. (2020). *The use of artificial intelligence in the audiovisual sector: concomitant expertise for INI report*. Research for CULT Committee, European Parliament. <https://data.europa.eu/doi/10.2861/294829>

European Social Partners in the Banking Sector (EBF, UNI Europa Finance, EACB & ESBG). (2024 May 14). *Joint declaration on employment aspects of artificial intelligence in the European banking sector*. <https://www.ebf.eu/wp-content/uploads/2024/05/Joint-Declaration-on-Employment-Aspects-of-Artificial-Intelligence.pdf>

European Trade Union Confederation. (2020). *Resolution on the European strategies on artificial intelligence and data*. <https://www.etuc.org/sites/default/files/document/file/2020-07/Adopted%20-%20ETUC%20resolution%20on%20the%20European%20strategies%20on%20artificial%20intelligence%20and%20data%20-%20EN.pdf?>

European Trade Union Confederation. (2025, March 4). *Artificial Intelligence for Workers, Not Just for Profit: Ensuring Quality Jobs in the Digital Age*. <https://www.etuc.org/en/document/artificial-intelligence-workers-not-just-profit-ensuring-quality-jobs-digital-age>

European Trade Union Confederation. (n.d.). ETUC/European Trade Union Confederation. <https://www.etuc.org/en>

European Union. (n.d.). *Audiovisual and media*. EUR-Lex. https://eur-lex.europa.eu/summary/chapter/audiovisual_and_media.html?root_default=SUM_1_CODED%3D05

Eurostat. (2024). *Individuals' level of digital skills (from 2021 onwards) [Data set]*. https://doi.org/10.2908/ISOC_SK_DSKL_I21

Eurostat. (2024, February 22). *Digital skills in 2023: Impact of education and age*. News Articles. <https://ec.europa.eu/eurostat/web/products-eurostat-news/w/ddn-20240222-1>

- Eurostat.** (2025). *Employment by detailed industry (NACE Rev.2) – National accounts* [Dataset]. Eurostat. https://ec.europa.eu/eurostat/databrowser/view/nama_10_a64_e__custom_18745964/default/table
- Eurostat.** (n.d.). *Information on data*. Structural Business Statistics. <https://ec.europa.eu/eurostat/web/structural-business-statistics/information-data>
- Eurostat.** (n.d.). *Three jobs out of four in services*. https://ec.europa.eu/eurostat/cache/digipub/european_economy/bloc-3a.html?lang=en
- Febelfin.** (2025, March 25). *Artificial intelligence and the financial sector: analysis of challenges and opportunities with Laurence Van Meerhaeghe, Data Expert at Febelfin*. <https://febelfin.be/en/themes/digitalization-innovation/innovation/artificial-intelligence-and-the-financial-sector-analysis-of-challenges-and-opportunities-with-laurence-van-meerhaeghe-data-expe>
- FERA, Screen Directors Guild of Europe & other creative workers' organisations.** (2024, April 25). *Authors,' performers' and other creative workers' organisations joint statement on generative artificial intelligence and the EU AI Act*. <https://screendirectors.eu/authors-performers-and-other-creative-workers-organisations-joint-statement-on-generative-artificial-intelligence-and-the-eu-ai-act/>
- Financial Services Union & Bank of Ireland.** (2025). *AI agreement between Financial Services Union and Bank of Ireland*. https://www.fsunion.org/assets/files/pdf/boi_fsu_ai_agreement.pdf
- Financial Services Union.** (2025). *FSU seek formal agreement from AIB around introduction of AI*. Financial Services Union. (2025, July 9). <https://www.fsunion.org/latest/news/fsu-seek-formal-agreement-from-aib-around-introduction-of-ai/>
- Flanders Audiovisual Fund.** (2024, January 7) *The use of Artificial Intelligence* [in films, series, games, and podcasts]. <https://www.vaf.be/en/research-reports/usage-of-artificial-intelligence>
- Foy, S.** (2025, December 31). *AI forecast to put 200,000 European banking jobs at risk by 2030*. Financial Times. <https://www.ft.com/content/71e12f85-1edb-4156-8cb5-3fe8aef36d93>
- German Federal Government.** (2020). *Artificial Intelligence Strategy of the German Federal Government: 2020 Update*. https://www.ki-strategie-deutschland.de/files/downloads/Fortschreibung_KI-Strategie_engl.pdf
- Governo Italiano.** (2021). *Programma Strategico Intelligenza Artificiale 2022–2024*. Roma, 24 novembre 2021. <https://assets.innovazione.gov.it/1637777289-programma-strategico-iaweb.pdf>
- Goldman Sachs.** (2023, April 5). *Generative AI could raise global GDP by 7%*. <https://www.goldmansachs.com/insights/articles/generative-ai-could-raise-global-gdp-by-7-percent>
- Gopal, S., & Pitts, J.** (2025). *GenAI: Unlocking Sustainability Insights and Driving Change in Fintech*. In *The FinTech Revolution* (pp. 345–393). Springer. https://doi.org/10.1007/978-3-031-74418-1_9
- GOV.UK.** (2025, October 29). *Sectoral overview*. <https://www.gov.uk/government/publications/ai-skills-for-the-uk-workforce/sectoral-overview>
- Government Offices of Sweden.** (2018). *National approach to artificial intelligence*. https://wp.oecd.ai/app/uploads/2021/12/Sweden_National_Approach_to_Artificial_Intelligence_2018.pdf
- Grynbaum, M. M., & Mac, R.** (2023, December 27). *The Times Sues OpenAI and Microsoft Over A.I. Use of Copyrighted Work*. The New York Times. <https://www.nytimes.com/2023/12/27/business/media/new-york-times-open-ai-microsoft-lawsuit.html>
- Grynbaum, M. M., & Metz, C.** (2025, May 29). *The Times and Amazon Announce an A.I. Licensing Deal*. The New York Times. <https://www.nytimes.com/2025/05/29/business/media/new-york-times-amazon-ai-licensing.html>
- GSMA.** (2024, September 17). *GSMA launches maturity roadmap as telecoms industry leads the way in the deployment of responsible AI*. <https://www.gsma.com/newsroom/press-release/gsma-launches-maturity-roadmap-as-telecoms-industry-leads-the-way-in-the-deployment-of-responsible-ai/>
- GSMA.** (2026). *The Digital Networks Act: evolution where revolution was required*. <https://www.gsma.com/about-us/regions/europe/news/the-digital-networks-act-evolution-where-revolution-was-required/>
- Gulley, A.** (2025, October 27). *Mind the Gap: AI Literacy Requirements Under the EU AI Act and the Gender Divide*. Women in AI. <https://www.womeninai.co/post/mind-the-gap-ai-literacy-requirements-under-the-eu-ai-act-and-the-gender-divide>
- Hammoumi, A. E., Seghyar, N., Hammoumi, A. M. E., & Ouali, A. E.** (2024). *The Impact of Artificial Intelligence on Employee Adaptability to Remote Work*. 3rd International Conference on Embedded Systems and Artificial Intelligence (ESAI), 1–5. <https://doi.org/10.1109/ESAI62891.2024.10913897>

- Heaven, W. D. (2023, June 1). *Welcome to the new surreal: How AI-generated video is changing film*. MIT Technology Review. <https://www.technologyreview.com/2023/06/01/1073858/surreal-ai-generative-video-changing-film/>
- Humlum, A., & Vestergaard, E. (2024). *The Adoption of Chatgpt*. IZA Discussion Paper No. 16992. https://papers.ssrn.com/sol3/papers.cfm?abstract_id=4827166
- Humlum, A., & Vestergaard, E. (2025). *Large language models, small labor market effects*. <https://doi.org/10.3386/w33777>
- Hussain, M. A., Hussain, A., Rahman, M. A. U., Irfan, M., & Hussain, S. D. (2025). *The effect of AI in fostering customer loyalty through efficiency and satisfaction*. *Advances in Consumer Research*, 2, 331–340. <https://acr-journal.com/article/the-effect-of-ai-in-fostering-customer-loyalty-through-efficiency-and-satisfaction-908/>
- International Arts and Entertainment Alliance. (n.d.). UNI-MEI. <https://www.iaea-globalunion.org/a-propos/uni-mei>
- International Federation of Actors (FIA). (2025). *FIA Guide to Artificial Intelligence*. https://fia-actors.com/wp-content/uploads/2024/09/FIA_Guide_AI_EN-17-Nov-23.pdf
- International Federation of Journalists (2024). *EU: The impact of artificial intelligence on Europe's creative communities*. <https://www.ifj.org/media-centre/news/detail/category/europe/article/eu-the-impact-of-artificial-intelligence-on-europes-creative-communities>
- International Institute for Management Development. (2024, October 3). *AI Ethics: What Is It and Why It Matters for Your Business*. <https://www.imd.org/blog/digital-transformation/ai-ethics/>
- International Labor Organization. (2025). *Generative AI and the media and culture industry*. <https://www.ilo.org/publications/generative-ai-and-media-and-culture-industry>
- International Labour Organization (2025). *Achieving decent work in the arts and entertainment sector: The role of collective bargaining*. Policy Guidance Note. <https://www.ilo.org/publications/achieving-decent-work-arts-and-entertainment-sector-role-collective>
- International Trade Administration (2024). *Slovakia Country Commercial Guide: Digital Economy*. U.S. Department of Commerce. <https://www.trade.gov/country-commercial-guides/slovakia-digital-economy>
- Intesa Sanpaolo Innovation Center. (n.d.). *Artificial Intelligence Lab*. <https://www.intesasampaoloinnovationcenter.com/en/applied-research/artificial-intelligence-lab/>
- Intesa Sanpaolo. (2023, October 9). *Intesa Sanpaolo first European bank to use Artificial Intelligence for regulatory analysis*. Intesa Sanpaolo Group. <https://group.intesasampaolo.com/en/newsroom/press-releases/2023/10/intesa-sanpaolo-first-european-bank-to-use-artificial-intelligen>
- Intesa Sanpaolo. (2023, September 29). *Intesa Sanpaolo chooses iGenius for generative business intelligence and analytics*. Intesa Sanpaolo Group. <https://group.intesasampaolo.com/en/newsroom/press-releases/2023/09/intesa-sanpaolo-chooses-igenius-for-generative-business-intellig>
- Intesa Sanpaolo. (2024, October 16). *Artificial Intelligence and Ethics: Responsible Approach*. Intesa Sanpaolo Group. <https://group.intesasampaolo.com/en/editorial-section/events-and-projects/projects/innovation/artificial-intelligence-a-responsible-approach-to-progress>
- Intesa Sanpaolo. (n.d.). *Intesa Sanpaolo: Managing evolving financial risk at speed with data analytics and AI*. Google Cloud. <https://cloud.google.com/customers/intesasampaolo>
- Jain, C., & Kanwar, J. (2025). *The AI-Driven Workplace: How Automation is Reshaping Flexible Work Arrangements*. *Journal of Information Systems Engineering and Management*, 10(25s), 572–587. <https://doi.org/10.52783/jisem.v10i25s.4097>
- Jetha, A., Shamaee, A., Bonaccio, S., Gignac, M. A. M., Tucker, L. B., Tompa, E., Bültmann, U., Norman, C. D., Banks, C. G., & Smith, P. M. (2021). *Fragmentation in the future of work: A horizon scan examining the impact of the changing nature of work on workers experiencing vulnerability*. *American Journal of Industrial Medicine*, 64(8), 649–666. <https://doi.org/10.1002/ajim.23262>
- Ji, Z., Lee, N., Frieske, R., Yu, T., Su, D., Xu, Y., Ishii, E., Bang, Y. J., Madotto, A., & Fung, P. (2024). *Survey of hallucination in natural language generation*. arXiv. <https://arxiv.org/abs/2202.03629>
- Kadia, H. (2024, June 10). *Orange Generative AI: Transforming Business Efficiency and Security*. TeckNexus. <https://tecknexus.com/orange-generative-ai-transform-business-efficiency/>

- Kaiser, T., Chan, B.-H., & Zahoruiko, D. (2024). *Adopting generative AI in banking: Essential perspectives on quality and risks*. Kodex AI. <https://www.kodex-ai.com/post/adopting-generative-ai-in-banking>
- Kambhampati, P. (June 27, 2024). *The Future of Work: Reskilling and Upskilling for the AI-Driven Workforce*. Medium. <https://medium.com/aitalenthub/the-future-of-work-reskilling-and-upskilling-for-the-ai-driven-workforce-811000d02b62>
- Khan, M. K. (2023). *AI-enabled transformations in telecommunications industry*. *Telecommunication Systems*, 82(1), 1–2. <https://doi.org/10.1007/s11235-022-00989-w>
- Kitishian, D. (2025, July 24). *Intesa Sanpaolo's AI Strategy: Analysis of Dominance in Banking AI*. Klover.ai. <https://www.klover.ai/intesa-sanpaolo-ai-strategy-analysis-of-dominance-in-banking-ai/>
- Königstorfer, F., & Thalmann, S. (2020). *Applications of Artificial Intelligence in commercial banks – A research agenda for behavioral finance*. *Journal of Behavioral and Experimental Finance*, 27, 100352. <https://doi.org/10.1016/j.jbef.2020.100352>
- KPMG (2025, November). *Generative AI and Economic Growth*. <https://kpmg.com/kpmg-us/content/dam/kpmg/pdf/2025/gen-ai-economic-growth.pdf>
- KPMG International. (2024). *Setting the ground rules: The EU AI Act—Understanding the regulatory landscape and preparing for the AI future*. <https://kpmg.com/xx/en/our-insights/ecb-office/setting-the-ground-rules-the-eu-ai-act.html>
- Lehr, S. A., Cipperman, M., & Banaji, M. R. (2025). *Extreme Self-Preference in Language Models*. arXiv. <https://doi.org/10.48550/arXiv.2509.26464>
- Lehr, W., & Stocker, V. (2024). *AI Regulation and 6G: The Measurement Ecosystem Challenge*. *Network Law Review*. <https://www.networklawreview.org/lehr-stocker-generative-ai/>
- López Delgado, J. L., & López Ramos, J. A. (2024). *A Comprehensive Survey on Generative AI Solutions in IoT Security*. *Electronics*, 13 (24), 4965. <https://doi.org/10.3390/electronics13244965>
- Lundborg, M., Märkel, C., Roloff, M., Kroon, P., & Wiewiorra, L. (2024). *Use of AI in the Austrian telecommunications sector*. Wik Consult. <https://www.wik.org/en/publications/publication/einsatz-von-ki-im-oesterreichischen-telekommunikationssektor>
- Lyu, S. (2020, July). *Deepfake detection: Current challenges and next steps*. In 2020 IEEE international conference on multimedia & expo workshops (ICMEW) (pp. 1-6). IEEE. <https://arxiv.org/abs/2003.09234>
- Marks, G. (2025, May 27). *Business Tech News: Klarna reverses on AI, says customers like talking to people*. Forbes. <https://www.forbes.com/sites/quickerbetteartech/2025/05/18/business-tech-news-klarna-reverses-on-ai-says-customers-like-talking-to-people/>
- McKinsey (2023). *Capturing the full value of generative AI in banking*. McKinsey. <https://www.mckinsey.com/industries/financial-services/our-insights/capturing-the-full-value-of-generative-ai-in-banking>
- McKinsey. (2023, June 14). *Economic potential of generative AI*. Report. <https://www.mckinsey.com/capabilities/tech-and-ai/our-insights/the-economic-potential-of-generative-ai-the-next-productivity-frontier>
- Ministry for Digital Transformation and Public Service, Spain. (2024). *The Government approves the Artificial Intelligence Strategy 2024*. <https://digital.gob.es/en/comunicacion/notas-prensa/secretaria-digitalizacion-e-inteligencia-artificial/2024/05/2024-05-14>
- Ministry of Economic Affairs and Climate Policy of the Netherlands. (2021, December). *Strategic Action Plan for Artificial Intelligence: The Netherlands*. OECD. https://wp.oecd.ai/app/uploads/2021/12/Netherlands_Strategic_Action_Plan_for_Artificial_Intelligence.pdf
- Ministry of Economic Affairs and Communications of the Republic of Estonia (2024). *Artificial Intelligence Action Plan 2024-2026*. <https://www.mkm.ee/sites/default/files/documents/2024-02/Tehisintellekti%20tegevuskava%202024-2026.pdf>
- Ministry of Economic Affairs and Employment of Finland. (2022). *Finland ranks first in EU digital comparison*. <https://tem.fi/en/-/10623/finland-ranks-first-in-eu-digital-comparison>
- Ministry of Economic Affairs and Employment. (2022). *Artificial Intelligence 4.0 programme: Final report* (Publications of the Ministry of Economic Affairs and Employment, No. 2022:63). Government of Finland. <https://julkaisut.valtioneuvosto.fi/items/24932639-b776-45a1-85ad-9c084726b0d9>

Ministry of Finance & Ministry of Industry, Business and Financial Affairs. (2019). *National strategy for artificial intelligence*. https://en.digst.dk/media/1z0fxbt4/305755_gb_version_final-a.pdf

Ministry of Justice and Public Security. (2018). *Act relating to the processing of personal data (The Personal Data Act)*. <https://lovdata.no/dokument/NLE/lov/2018-06-15-38>

Ministry of the Economy and Innovation of the Republic of Lithuania. (2019). *Lithuanian Artificial Intelligence Strategy: A Vision of the Future*. [https://eimin.lrv.lt/uploads/eimin/documents/files/DI_strategija_ENG\(1\).pdf](https://eimin.lrv.lt/uploads/eimin/documents/files/DI_strategija_ENG(1).pdf)

Ministry of the Economy and Innovation of the Republic of Lithuania. (July 29, 2024). *Lithuania aims to become the most favourable country for the development of artificial intelligence technologies*. <https://eimin.lrv.lt/en/structure-and-contacts/news-1/lithuania-aims-to-become-the-most-favourable-country-for-the-development-of-artificial-intelligence-technologies/>

Molly K. G. Newell. (2025). *Accounting for Workers in the Age of AI: Understanding the Impact of Artificial Intelligence on Financial Services Employment in Ireland*. Financial Services Union. <https://www.fsunion.org/latest/accounting-forworkersin-the-age-of-ai/>

Moretti, L., Rinaldi, L., & Schlosser, P. (Eds.). (2024). *Digital finance in the EU: Navigating new technological trends and the AI revolution*. Florence: European University Institute, 87-94. <https://cadmus.eui.eu/entities/publication/ddecfb8d-061d-5a69-8559-0e88b7fb1c85>

Morgan Stanley. (2024, March 6). *How AI Benefits—and threatens—the Entertainment Industry*. Morgan Stanley. <https://www.morganstanley.com/insights/articles/ai-in-media-entertainment-benefits-and-risks>

Morris, M. R. (2020). *AI and accessibility*. *Communications of the ACM*, 63(6), 35–37. <https://doi.org/10.1145/3356727>

Nord Forsk. (n.d.). *A Nordic initiative for research and innovation on responsible and ethical use of Artificial Intelligence*. <https://norden.diva-portal.org/smash/get/diva2:1856812/FULLTEXT02.pdf>

Norwegian Ministry of Local Government and Modernisation. (2020). *National Strategy for Artificial Intelligence*. https://www.regjeringen.no/contentassets/1feb8bb2c4fd4b7d92c67ddd353b6ae8/en-gb/pdfs/ki-strategi_en.pdf

Novelli, C., Casolari, F., Hacker, P., Spedicato, G., & Floridi, L. (2024). *Generative AI in EU law: Liability, privacy, intellectual property, and cybersecurity*. arXiv. <https://doi.org/10.48550/arXiv.2401.07348>

NVIDIA Corporation. (2024). *State of AI in Telecommunications: 2024 Trends. Survey Report*. <https://images.nvidia.com/aem-dam/Solutions/documents/telco-state-of-ai-report.pdf?ncid=pa-so-link-324121-vt26&>

Oberting IV, V. A. (2024). *Generative Artificial Intelligence and Copyright in the Film and Media Industry*. *Washington and Lee Law Review Online*, 82 (2), 123. <https://lawreview.wlulaw.wlu.edu/generative-artificial-intelligence-and-copyright-in-the-film-and-media-industry/>

OECD. (2023). *Digital skills and digital inclusion. Briefing Note*. <https://www.oecd.org/content/dam/oecd/en/about/projects/cfe/oecd-city-network-on-jobs-and-skills/Briefing-note-Digital-skills-and-digital-inclusion.pdf>

Office of the Deputy Prime Minister of the Slovak Republic for Investments and Informatisation. (2019). *2030 Digital Transformation Strategy for Slovakia*. <https://mirri.gov.sk/wp-content/uploads/2019/10/SDT-English-Version-FINAL.pdf>

Orange. (2024, November 25). *AI: Orange adopts a pragmatic and responsible strategy*. <https://www.orange.com/en/group/innovation/useful-innovation-that-enables-everyone-to-progress/ai-orange-adopts-pragmatic-and>

Orange. (2024, November 25). *How AI drives Orange's network innovation*. <https://www.orange.com/en/group/innovation/useful-innovation-that-enables-everyone-to-progress/how-ai-drives-oranges-network>

Orange. (2024, November 26). *Orange is developing secure and streamlined generative AI for its employees. Hello Future*. <https://hellofuture.orange.com/en/orange-is-developing-secure-and-streamlined-generative-ai-for-its-employees/>

Orange. (n.d.). *Who are we?* <https://www.orange.com/en/group/overview/orange-group>

Orange Business. (n.d.). *Activate Insights with GenAI and AI*. <https://www.orange-business.com/lu-en/expertise/unlocking-business-potential-data-ai/activate-insights-genai-ai>

Orange Business. (n.d.). *Data and artificial intelligence*. <https://www.orange-business.com/en/focus/data-and-artificial-intelligence>

- Orange Business.** (n.d.). *Gen AI & AI Lab Offer*.
<https://www.orange-business.com/lu-en/solutions/ai-data-intelligence-iot/gen-ai-ai-lab-offer>
- Organisation for Economic Co-operation and Development.** (2023). *OECD employment outlook 2023: Artificial intelligence and the labour market*. <https://doi.org/10.1787/08785bba-en>
- Pacific Data Integrators.** (2023). *Securing and Engaging: Generative AI's Dual Impact on Fraud Prevention and Customer Experience in Banking*. Pacific Data Integrators.
<https://www.pacificdataintegrators.com/blogs/generative-ai-fraud-prevention-customer-experience-banking-industry>
- Pininti, S.** (2025). *Revolutionizing Telecom with AI and ML: Navigating the Challenges, Seizing the Opportunities*. *International Journal of Research Publication and Reviews*, 6 (5), 16763–16769. <https://ijrpr.com/uploads/V6ISSUE5/IJRPR47064.pdf>
- PMP Strategy & CISAC.** (2024, November). *Study on the Economic Impact of GenAI in the Music and Audiovisual Industries*.
<https://www.cisac.org/services/reports-and-research/cisacpmp-strategy-ai-study>
- Polish Economic Institute.** (2025, January 21). *Consolidation of the telecommunications market may lead to rising prices and hinder its development* [Press release].
<https://pie.net.pl/en/consolidation-of-the-telecommunications-market-may-lead-to-rising-prices-and-hinder-its-development/>
- Poncibò, C., & Ebers, M.** (2025). *Comparative perspectives on the regulation of large language models*. *Cambridge Forum on AI: Law and Governance*, 1, e10. <https://doi.org/10.1017/cfl.2024.14>
- Pope, A.** (2024, April 10). *NYT v. OpenAI: The Times's About-Face*. *Harvard Law Review*.
<https://harvardlawreview.org/blog/2024/04/nyt-v-openai-the-timess-about-face/>
- Preta, A., & Pogorel, G.** (2024). *European Culture: the Case of Audiovisual Cultural Production*. *SSRN Electronic Journal*.
<https://doi.org/10.2139/ssrn.4858989>
- Pulitzer Center.** (2025). *Saving Cinema: AI's Starring Role in Preserving Film Archives*.
<https://pulitzercenter.org/stories/saving-cinema-ais-starring-role-preserving-film-archives>
- PricewaterhouseCoopers.** (2025, April 29). *AI adoption could boost global GDP by an additional 15 percentage points by 2035, as global economy is reshaped*. PwC Research. Press Release. <https://www.pwc.com/gx/en/news-room/press-releases/2025/ai-adoption-could-boost-global-gdp-by-an-additional-15-percentage.html>
- Qorus.** (2024, June 11). *Banking Innovation of the Month: Intesa Sanpaolo's smart knowledge base through GenAI digital advisor*. <https://www.qorusglobal.com/content/28280-banking-innovation-of-the-month-intesa-sanpaolos-smart-knowledge-base-through-genai-digital-advisor>
- Rabe, T.** (2024, November 7). *A new era of creativity and innovation*. *RTL AdAlliance*.
<https://rtl-adalliance.com/article/new-era-creativity-and-innovation>
- Rehm, G.** (2020). *The use of artificial intelligence in the audiovisual sector: Concomitant expertise for INI report*. European Parliament, Policy Department for Structural and Cohesion Policies.
[https://www.europarl.europa.eu/RegData/etudes/IDAN/2020/629221/IPOL_IDA\(2020\)629221_EN.pdf](https://www.europarl.europa.eu/RegData/etudes/IDAN/2020/629221/IPOL_IDA(2020)629221_EN.pdf)
- Remolina, N.** (2024). *Mapping Generative AI Regulation in Finance and Bridging Regulatory Gaps*. *The Journal of Financial Transformation*, 60, 104-111. Singapore Management University School of Law Research Paper.
<https://ideas.repec.org/a/ris/jofitr/3478.html>
- République Française.** (2021). *France 2030: Stratégie nationale pour l'intelligence artificielle – 2^e phase. Conquérir les talents et transformer notre potentiel scientifique en succès économiques*. Ministère de l'Économie, des Finances et de la Souveraineté industrielle et numérique. https://www.info.gouv.fr/upload/media/organization/0001/01/sites_default_files_contenu_piece-jointe_2022_01_08112021_dp_strategie_nationale_pour_ia_2eme_phase.pdf
- Riemer, S., Strauß, M., Rabener, E., Bickford, J. K., Hilbers, P., Kalra, N., Kapoor, A., King, J., Palumbo, S., Pardasani, N., Pauly, M., Rulf, K., & Widowitz, M.** (2023). *A Generative AI Roadmap for Financial Institutions*. Boston Consulting Group.
<https://www.bcg.com/publications/2023/a-genai-roadmap-for-fis>
- Rockall, E., Tavares, M. M., & Pizzinelli, C.** (2025, April). *AI Adoption and Inequality [Working paper]*. *International Monetary Fund*. <https://www.imf.org/en/publications/wp/issues/2025/04/04/ai-adoption-and-inequality-565729>
- România.** (n.d.). *Romania in the era of artificial intelligence: A strategy for the development and adoption of AI technology at a country level*. <https://afyonluoglu.org/PublicWebFiles/Reports/AI/National/National%20AI%20Plan-Romania.pdf>

- Romero-Moreno, F.** (2025). *Deepfake detection in generative AI: A legal framework proposal to protect human rights*. *Computer Law & Security Review*, 58, 106162. <https://doi.org/10.1016/j.clsr.2025.106162>
- RTL Group.** (n.d.). *Newsroom of the future*. Press Releases and News. <https://company.rtl.com/export/sites/rtlunited/en/media/overview/press-releases-and-news/Newsroom-of-the-future/>
- RTL Group.** (n.d.). *Profile*. <https://company.rtl.com/en/about-rtl/overview/profile>
- RTL Group.** (n.d.). *RTL Deutschland partners with Perplexity AI*. Press Releases and News. <https://company.rtl.com/export/sites/rtlunited/en/media/overview/press-releases-and-news/RTL-Deutschland-partners-with-Perplexity-AI/>
- RTL Group.** (n.d.). *RTL Deutschland uses AI-supported promotions*. Press Releases and News. <https://company.rtl.com/export/sites/rtlunited/en/media/overview/press-releases-and-news/RTL-Deutschland-uses-AI-supported-promotions/>
- Rutanga, P.** (2025). *The AI workforce playbook: a step-by-step guide to upskilling at scale*. ranstad digital. <https://www.randstaddigital.be/sites/ausy-be/files/2025-04/the%20AI%20workforce%20playbook%20a%20step-by-step%20guide%20to%20upskilling%20at%20scale.pdf>
- SA1 Solutions.** (2018). *What is GDPR and how does it affect the telecoms sector?* <https://www.sa1solutions.com/post/2018-02-01-what-is-gdpr-and-how-does-it-affect-the-telecoms-sector>
- SAG-AFTRA.** (2023). *2023 Summary of 2023 Tentative Successor Agreement to the 2020 Producer-SAG-AFTRA Codified Basic Agreement & 2020 SAG-AFTRA Television Agreement*. https://www.sagaftra.org/sites/default/files/sa_documents/TV-Theatrical_23_Summary_Agreement_Final.pdf
- SAP.** (2022, April 21). *Telefónica Reskills 100,000 Employees for a Digital Workplace of the Future*. Forbes. <https://www.forbes.com/sites/sap/2021/10/22/telefonica-reskills-100000-employees-for-a-digital-workplace-of-the-future>
- Sasdelli, P.** (2025, March 31). *Proposed EU AI liability rules withdrawn*. Bird & Bird. <https://www.twobirds.com/en/insights/2025/proposed-eu-ai-liability-rules-withdrawn>
- Schomer, A.** (2023, December 1). *Generative AI in film and TV: a special report*. <https://variety.com/vip-special-reports/generative-ai-in-film-tv-1235792168/>
- Sepasspour, R.** (2023). *A reality check and a way forward for the global governance of artificial intelligence*. *Bulletin of the Atomic Scientists*, 79(5), 304–315. <https://doi.org/10.1080/00963402.2023.2245249>
- Society of Motion Picture and Television Engineers (SMPTE).** (2023). *SMPTE Engineering Report: Artificial Intelligence and Media*. <https://5253154.fs1.hubspotusercontent-na1.net/hubfs/5253154/SMPTE-ER-1010-2023-1.pdf>
- SOLV.** (2024, January 25). *The media privilege of media service providers under the EMFA*. SOLV. <https://solv.nl/en/blog/the-media-privilege-of-media-service-providers-under-the-emfa/>
- Son, B. D., Trinh, V. C., & Kim, D. I.** (2025). *Trustworthy GenAI over 6G: Integrated Applications and Security Frameworks*. arXiv (Cornell University). <https://doi.org/10.48550/arxiv.2511.15206>
- Soto-Sanfiel, M. T., & Wu, Q.** (2026). *How audiences make sense of deepfake resurrections: A multilevel analysis of realism, ethics, and cultural meaning*. *Computers in Human Behavior*, 174, 108822. <https://doi.org/10.1016/j.chb.2025.108822>
- Stadig, D., & Slijkerman, J. F.** (2024). *European telecom sector faces additional regulation*. <https://think.ing.com/articles/european-telecom-sector-faces-additional-regulation>
- Statista Research Department.** (2025, June 27). *Italy: Largest banks by total assets 2024*. Statista. <https://www.statista.com/statistics/693548/leading-banks-assets-italy/>
- Strietska-Ilina, O., & Chun, H.-K.** (2021). *Changing demand for skills in digital economies and societies: Literature review and case studies from low- and middle-income countries* (1st ed.). ILO. <https://www.ilo.org/publications/changing-demand-skills-digital-economies-and-societies>
- Studio Previti** (2024). *Cinema, TV and generative artificial intelligence: the contract solutions reached*. <https://www.previti.it/en/cinema-tv-and-generative-artificial-intelligence-contract-solutions-reached>
- Stuetzle, C., & Bischoff, S.** (2025, May). *From Hollywood to Germany: A transatlantic comparison of collective agreements on AI in film and TV production – Part 2*. Kluwer Copyright Blog. Wolters Kluwer. <https://legalblogs.wolterskluwer.com/copyright-blog/from-hollywood-to-germany-a-transatlantic-comparison-of-collective-agreements-on-ai-in-film-and-tv-production-part-2/>

- Tamasauskas, R.** (2024). *9 Story & Brown Bag Films launch global guidelines for generative AI use in animated television production & development*. <https://www.brownbagfilms.com/news/9-story-brown-bag-films-launch-global-guidelines-generative-ai-use-animated-television>
- Tao, Y., Viberg, O., Baker, R. S., & Kizilcec, R. F.** (2024). *Cultural bias and cultural alignment of large language models*. *PNAS Nexus*, 3(9). <https://doi.org/10.1093/pnasnexus/pgae346>
- The AI Journal.** (2024). *Empowering Voices: AI and the Great Democratization of Content*. <https://aijournal.com/empowering-voices-ai-and-the-great-democratization-of-content/>
- The Animation Guild.** (2024). *CRITICAL CROSSROADS: The impact of generative AI and the importance of protecting the animation workforce*. <https://animationguild.org/wp-content/uploads/2024/09/2024-TAG-GenAI-Report.pdf>
- TM Forum.** (2023, December 7). *Telcos unanimous on power of GenAI but implementation questions remain, TM Forum research finds*. TM Forum. <https://www.tmforum.org/news-insight/newsroom/telcos-unanimous-on-power-of-genai-but-implementation-questions-remain/>
- Totlani, K.** (2023). *The evolution of Generative AI: Implications for the media and film industry*. *International Journal for Research in Applied Science and Engineering Technology*, 11(10), 973–980. <https://doi.org/10.22214/ijraset.2023.56140>
- Trending Desk.** (2026, January 5). *200,000 bank job cuts: After tech industry shake-up, Morgan Stanley issues major warning as AI targets another major sector*. *The Economic Times*. <https://economictimes.indiatimes.com/news/new-updates/200000-bank-job-cuts-after-tech-industry-shake-up-morgan-stanley-issues-major-warning-as-ai-targets-another-major-sector/article-show/126349465.cms>
- Tucker, M.** (2010). *How important is customer satisfaction to the services sector?* *Journal of Facilities Management*, 8(4). <https://doi.org/10.1108/jfm.2010.30808daa.001>
- UNI Europa & Connect Europe.** (2025, November). *The Telecom Social Dialogue Committee Updated Declaration on Artificial Intelligence*. <https://www.uni-europa.org/wp-content/uploads/sites/3/2025/12/UNI-Europa-x-Connect-Europe-AI-Declaration.pdf>
- UNI Europa & Friedrich-Ebert-Stiftung.** (2024). *Collective bargaining practices on AI and algorithmic management in European services sectors*. https://www.uni-europa.org/wp-content/uploads/sites/3/2024/03/CollectiveBargainingPracticesOnAI_final.pdf
- UNI Europa ICTS.** (2024). *Commission White Paper “How to master Europe’s digital infrastructure needs?”* https://www.uni-europa.org/wp-content/uploads/sites/3/2024/06/20240621_White-paper-digital-infrastructure_UE-position_FV.pdf
- UNI Europa.** (n.d.). *Home*. <https://www.uni-europa.org/>
- UNI Europa.** (n.d.). *Sectors & Groups*. <https://www.uni-europa.org/sectors-groups/>
- United Voice Artists.** (2024, May 6). *AI Guidelines for Voice Work*. <https://unitedvoiceartists.com/wp-content/uploads/2024/05/UVA-AI-GUIDLINES.pdf>
- ver.di.** (2025). *Erster Tarifabschluss zum Umgang mit KI in der Film- und Fernsehproduktion*. ver.di Filmunion. <https://filmunion.verdi.de/und-action/nachrichten/++co++0a0e1f88-e78f-11ef-81ee-f5ae95fe3e8f>
- Voinea, D. V.** (2025). *The Algorithmic Auteur: AI, Cultural Production, and the Reconfiguration of Audiovisual Media*. *Social Sciences and Education Research Review*, 12(1), 256–268. <https://doi.org/10.5281/ZENODO.15804554>
- Vučinić, M., & Luburić, R.** (2024). *Artificial Intelligence, Fintech and Challenges to Central Banks*. *Journal of Central Banking Theory and Practice*, 3, 5–42. <https://reference-global.com/article/10.2478/jcbtp-2024-0021>
- Wang, X., Wang, J., Feng, L., Niyato, D., Zhang, R., Kang, J., et al.** (2025). *Wireless hallucination in generative AI-enabled communications: Concepts, issues, and solutions*. *arXiv*. <https://arxiv.org/abs/2503.06149>
- Wataoka, K., Takahashi, T., & Ri, R.** (2025). *Self-Preference Bias in LLM-as-a-Judge*. *arXiv*. <https://doi.org/10.48550/arXiv.2410.21819>
- Wood, R., & Sherrington, S.** (2025). *State of Digital Communications 2025*. Connect Europe. <https://connecteurope.org/sites/default/files/2025-01/State%20of%20Digital%20Communications%20%282025%29.pdf>
- World economic Forum.** (n.d.). *The Digital Trust Framework*. <https://initiatives.weforum.org/digital-trust/framework>

World Economic Forum & Accenture. (2025). *Artificial intelligence in media, entertainment and sport.*

https://reports.weforum.org/docs/WEF_Artificial_Intelligence_in_Media_Entertainment_and_Sport_2025.pdf

World Economic Forum, Accenture, Valkhof, B., & Venturini, F. (2025). *Artificial intelligence in telecommunications.* In World Economic Forum, https://reports.weforum.org/docs/WEF_Artificial_Intelligence_in_Telecommunications_2025.pdf

World Economic Forum. (2023). *Future of Jobs Report 2023: Insight Report.*

https://www3.weforum.org/docs/WEF_Future_of_Jobs_2023.pdf

Writers Guild of America. (2023). *What we won.* <https://www.wgacontract2023.org/the-campaign/what-we-won>

Xu, W., Zhu, G., Zhao, X., Pan, L., Li, L., & Wang, W. Y. (2024). *Pride and Prejudice: LLM Amplifies Self-Bias in Self-Refinement.* arXiv. <https://doi.org/10.48550/arXiv.2402.11436>

Zahidi, S. (2020, January 22). *We need a global reskilling revolution – here's why.* World Economic Forum.

<https://www.weforum.org/stories/2020/01/reskilling-revolution-jobs-future-skills/>

ANNEXES

Annex 1: Target Sectors with NACE2 industries and definitions

INDUSTRIES
AUDIOVISUAL
J58 Publishing activities J58.1 Publishing of books, periodicals and other publishing activities Publishing of books in print, electronic (CD, electronic displays, etc.) or audio form or on the Internet: publishing of books, brochures, leaflets and similar publications, including publishing of dictionaries and encyclopaedias, publishing of atlases, maps and charts, publishing of audio books, publishing of encyclopaedias, etc. on CD-ROM. Publishing of lists of facts/information (databases) that are protected in their form, but not in their content: publishing of mailing lists, publishing of telephone books, publishing of other directories and compilations, such as case law, pharmaceutical compendia, etc. Publishing of newspapers, including advertising newspapers, appearing at least four times a week. Publishing of periodicals and other journals appearing less than four times a week, and publishing of radio and television schedules. Other publishing activities (publishing of catalogues, photos, engravings, postcards, greeting cards, forms, posters, reproduction of works of art, advertising material, other printed matter. Note: publishing can be done in print or electronic form, including on the Internet. J58.2 Software publishing Publishing of computer games for all platforms, other software publishing (publishing of ready-made (non-customised) software, including translation or adaptation of non-customised software for a particular market on own account: operating systems, business and other applications. J59 Motion picture, video and television programme production, sound recording and music publishing activities J59.1 Motion picture, video and television programme activities Production of motion pictures, videos, television programmes (television series, documentaries, etc.), or television advertisements. Post-production activities such as editing, film/tape transfers, titling, subtitling, credits, closed captioning, computer-produced graphics, animation and special effects, developing and processing motion picture film, activities of motion picture film laboratories, activities of special laboratories for animated films, activities of stock footage film libraries, etc. Distributing film, video tapes, DVDs and similar productions to motion picture theatres, television networks and stations, exhibitors, and acquiring film, video tape and DVD distribution rights. Activities of motion picture or videotape projection in cinemas, in the open air or in other projection facilities, activities of cine-clubs. J59.2 Sound recording and music publishing activities Activities of production of original (sound) master recordings, such as tapes, CDs, releasing, promoting and distributing sound recordings to wholesalers, retailers or directly to the public. Sound recording service activities in a studio or elsewhere, including the production of taped (i.e. non-live) radio programming. Activities of music publishing, i.e. activities of acquiring and registering copyrights for musical compositions, promoting, authorising and using these compositions in recordings, radio, television, motion pictures, live performances, print and other media.

INDUSTRIES

AUDIOVISUAL

J60 Programming and broadcasting activities

J60.1 Radio broadcasting

Activities of broadcasting audio signals through radio broadcasting studios and facilities for the transmission of aural programming to the public, to affiliates or to subscribers. Activities of radio networks, i.e. assembling and transmitting aural programming to the affiliates or subscribers via over-the-air broadcasts, cable or satellite, radio broadcasting activities over the Internet (Internet radio stations), and data broadcasting integrated with radio broadcasting.

J60.2 Television programming and broadcasting activities

Creation of a complete television channel programme, from purchased programme components (e.g. movies, documentaries, etc.), self-produced programme components (e.g. local news, live reports) or a combination thereof. Programming that is made freely available to users, programming that is available only on a subscription basis, programming of video-on-demand channels, and data broadcasting integrated with television broadcasting.

BANKING

K64 Financial service activities, except insurance and pension funding

K64.1 Monetary intermediation (excluding K64.11 Central banking)

Receiving deposits and/or closing substitutes for deposits and extending credit or lending funds. The granting of credit can take a variety of forms, such as loans, mortgages, credit cards, etc. These activities are generally carried out by monetary institutions other than central banks, such as banks, savings banks and credit unions. Also includes postal giro and postal savings bank activities, credit granting for house purchase by specialised deposit-taking institutions, and money order activities.

K64.2 Activities of holding companies

Activities of holding companies, i.e. units that hold the assets (owning controlling levels of equity) of a group of subsidiary corporations and whose principal activity is owning the group.

K64.3 Trusts, funds and similar financial entities

Legal entities organised to pool securities or other financial assets, without managing, on behalf of shareholders or beneficiaries. Also includes open-end investment funds, closed-end investment funds, unit investment trust funds, trusts, estates or agency accounts, administered on behalf of the beneficiaries under the terms of a trust agreement, will or agency agreement.

K64.9 Other financial service activities, except insurance and pension funding

Leasing, where the term approximately covers the expected life of the asset and the lessee acquires substantially all the benefits of its use and takes all the risks associated with its ownership.

Other credit granting: financial service activities primarily concerned with making loans by institutions not involved in monetary intermediation, where the granting of credit can take a variety of forms, such as loans, mortgages, credit cards etc., providing the following types of services: granting of consumer credit, international trade financing, provision of long-term finance to industry by industrial banks, money lending outside the banking system, credit granting for house purchase by specialised non-depository institutions, pawnshops and pawnbrokers.

Other financial service activities primarily concerned with distributing funds other than by making loans: factoring activities, writing of swaps, options and other hedging arrangements, activities of viatical settlement companies. Own-account investment activities, such as those by venture capital companies, investment clubs, etc.

INDUSTRIES

TELECOMMUNICATIONS

J61 Telecommunications

J61.1 Wired telecommunications activities

Operating, maintaining or providing access to facilities for the transmission of voice, data, text, sound and video using a wired telecommunications infrastructure. Purchasing access and network capacity from owners and operators of networks, providing telecommunications services using this capacity to businesses and households, and providing Internet access by the operator of the wired infrastructure.

J61.2 Wireless telecommunications activities

Operating, maintaining or providing access to facilities for the transmission of voice, data, text, sound and video using a wireless telecommunications infrastructure, maintaining and operating paging as well as cellular and other wireless telecommunications networks. Purchasing access and network capacity from owners and operators of networks, providing wireless telecommunications services (except satellite) using this capacity to businesses and households, and providing internet access by the operator of the wireless infrastructure.

J61.3 Satellite telecommunications activities

Operating, maintaining or providing access to facilities for the transmission of voice, data, text, sound and video using a satellite telecommunications infrastructure, delivery of visual, aural or textual programming received from cable networks, local television stations or radio networks to consumers via direct-to-home satellite systems, provision of Internet access by the operator of the satellite infrastructure.

J61.9 Other telecommunications activities

Provision of specialised telecommunications applications, such as satellite tracking, communications telemetry, radar station operations, operation of satellite terminal stations and associated facilities operationally connected with one or more terrestrial communications systems and capable of transmitting telecommunications to or receiving telecommunications from satellite systems, provision of Internet access over networks between the client and the ISP not owned or controlled by the ISP, such as dial-up Internet access etc., provision of telephone and Internet access in facilities open to the public, provision of telecommunications services over existing telecoms connections, telecommunications resellers (i.e. purchasing and reselling network capacity without providing additional services).

Source: Visionary Analytics 2025, based on NACE2 classifications

See: European Commission: Eurostat, 2008; European Commission, n.d.⁴⁷⁷

477. <https://op.europa.eu/en/publication-detail/-/publication/5a60f718-2b0e-11e7-9412-01aa75ed71a1>; https://employment-social-affairs.ec.europa.eu/policies-and-activities/eu-employment-policies/social-dialogue/cross-industry-and-sectoral-social-dialogue/banking-sectoral-social-dialogue_en

Annex 2: Interviews

NO	INTERVIEWEE	COUNTRY/ SCOPE	ORGANISATION	FORMAT	DATE
EXPERT INTERVIEWS					
1	Academic expert	Netherlands	Anonymous	Online interview	7/08/2025
17	Academic expert	Germany	Artificial Intelligence Schleswig-Holstein	Online interview	1/10/2025
AUDIOVISUAL SECTOR INTERVIEWS					
2	Employer Association	EU	The Association of Commercial Television and Video on Demand Services in Europe (ACT)	Online group interview	28/07/2025
3	Employer Association	EU	The Association of Commercial Television and Video on Demand Services in Europe (ACT)	Online group interview	28/07/2025
4	Trade Union	Spain	Federation of Services, Mobility, and Consumer Affairs (FeSMC-UGT)	Online interview	29/07/2025
5	Founder	UK	Storyflow Ltd	Online interview	18/08/2025
15	Employer Association	EU/Global	Anonymous	Online group interview	24/09/2025
16	Employer Association	EU/Global	Anonymous	Online group interview	24/09/2025
BANKING SECTOR INTERVIEWS					
6	Trade Union	Finland	Trade Union Pro	Online interview	4/08/2025
7	Trade Union	Finland	Trade Union Pro	Online interview	21/08/2025
8	Trade Union	Denmark	Finansforbundet Denmark	Online interview	7/08/2025
9	Trade Union	Ireland	Anonymous	Online interview	12/08/2025
10	Employer Association	Germany	AGV Banken	Online interview	12/08/2025
18	Employer Association	Denmark	Finans Danmark	Written response to interview questions	4/12/2025
19	Trade Union	Germany	ver.di	Written response to interview questions	8/01/2026
TELECOMMUNICATIONS SECTOR INTERVIEWS					
11	Trade Union	UK	Prospect	Online interview	26/08/2025
12	Academic expert	Spain	University of Cantabria	Online interview	12/08/2025
13	Trade Union	Norway	NITO	Online interview	29/07/2025
14	Trade Union	Spain	UGT	Written response to interview questions	29/08/2025

Source: Visionary Analytics 2025