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Generative Artificial Intelligence. A data-driven analysis

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Abstract

This report analyses the **media coverage** of **Generative Artificial Intelligence** (AI) in the European online media. It intends to provide an overview of the most important news titles and reporting trends related to this topic to understand its perceived societal and economic impact and to raise awareness of false narratives. By examining reporting trends and narratives from both mainstream media and unverified sources—identified by fact-checkers and mis/disinformation experts as frequent spreaders of false information—the report highlights how these shape public discourse and influence policy and perception globally. This report summarises the findings of the analysis on data collected from **January 2022 until July 2025.**

Key findings:

- **Media coverage** of Generative AI: 293 729 articles from mainstream media and 4 813 articles from unverified sources

- The report identifies significant **reporting peaks**, notably in January 2023 following ChatGPT's launch, and further surges in May 2023 and early 2024, driven by technological advancements, regulatory developments, and geopolitical narratives.

- The **main topics** in mainstream media primarily concentrate on Technological and Corporate Developments, Regulation and Ethical Concerns, Economic and Industrial Impact, Global Competition and Innovation, and Cultural and Societal Influence. These themes underscore Generative AI's transformative potential, highlighting both opportunities and challenges across various sectors. In contrast, unverified sources often skew narratives, focusing on sensationalist and alarmist tones, such as potential job displacement and geopolitical threats.

- The **sentiment** analysis reveals a **predominantly positive tone** in mainstream media, emphasising economic growth and innovation, while negative sentiment addresses ethical and security concerns. Unverified sources exhibit a more polarised sentiment, often exaggerating both the benefits and risks of Generative AI.

- **Framing** analysis shows that *Economic* and *Policy Prescription and Evaluation* dimensions are prevalent in both media types, with mainstream sources emphasising the need for regulatory frameworks to address ethical challenges. Unverified sources frequently highlight *Security and Defence* concerns, contributing to a polarised discourse.

Overall, mainstream media portrays Generative AI positively, showcasing economic growth and opportunities across various sectors. However, media also highlights the potential threats and risks associated with these new technologies, often with a negative sentiment. In contrast, unverified sources depict Generative AI with misconceptions about its true advancements and implications, potentially impeding informed decision-making and policy formulation.

Introduction

This science media intelligence report is part of the joint publication series of the European Science-Media Hub (ESMH) and the JRC Text and Data Mining Unit, which covers a wide range of scientific topics relevant to the activities of the European Parliament's Panel for the Future of Science and Technology (STOA). This report focuses on **Generative Artificial Intelligence** (AI).

In recent times, the swift advancement of Generative AI has attracted significant media attention, underscoring its transformative potential across numerous sectors. This report examines the expanding landscape of Generative AI, concentrating on its social and economic effects and its implications for global competitiveness.

As countries globally compete for dominance in AI innovation, the European Union's AI Act stands out as a crucial regulatory framework designed to harmonise technological progress with ethical considerations. This legislative initiative aims to ensure that AI systems are developed and used in ways that uphold fundamental rights and foster trust. From an international relations standpoint, the AI Act represents a significant step in establishing global standards, potentially shaping how AI is regulated worldwide. This report will investigate the complex interaction between media narratives, policy developments, and the strategic priorities of countries as they navigate the complex terrain of Generative AI, analysing how these components collectively influence the global AI landscape.

Comprehending the media's depiction of Generative AI is essential for understanding its perceived role and impact on society and the global economy, as well as for raising awareness about false and deceptive narratives. By analysing how both mainstream and unverified sources have reported on Generative AI, and consequently shaped public discourse on this issue, this report aims to highlight reporting trends and spikes, as well as the narratives related to Generative AI that affect policy and public perception internationally.

The analysis was conducted on online articles published by media outlets worldwide **1 January 2022 and 31 July 2025**. To identify the most pertinent topics, an automated topic-clustering algorithm was employed to reveal the main events and narratives presented in the media. The data was gathered by the Europe Media Monitor (EMM) from online mainstream media sources and unverified sources, which are sources based on the European External Action Service's assessment as outlined in the third report on Foreign Information Manipulation and Interference Threats[1] or indicated by independent fact-checkers s as potential spreaders of mis and disinformation. Disinformation knows no borders, so we include the analysis of sources worldwide, not just the EU, to understand its global spread. For consistent and comprehensive coverage, the mainstream sources also include global media, beyond the usual EU sources in our report series.
For a comprehensive description of the methodology and technology used, please refer to the Annexes.

[1] https://www.eeas.europa.eu/sites/default/files/documents/2025/EEAS-3nd-ThreatReport-March-2025-05-Digital-HD.pdf

1. Reporting trends, topics and peaks

This section provides an overview of the media coverage on Generative AI by mainstream and unverified sources.

Reporting trends in mainstream and unverified media

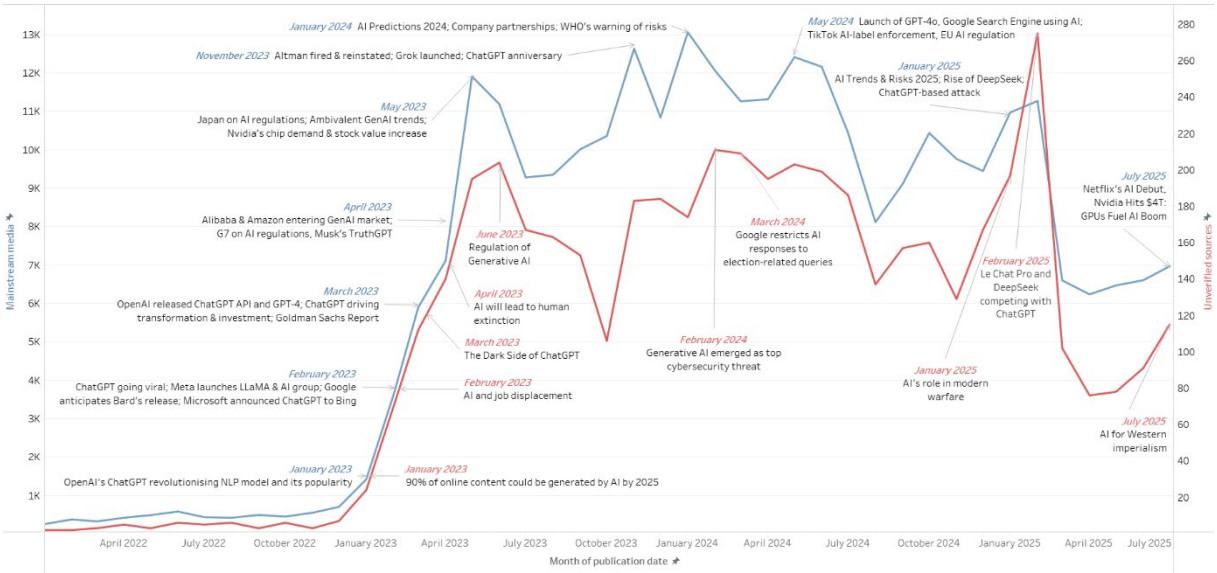
The analysis reveals a comparable pattern in reporting trends for both mainstream media and unverified sources concerning key Generative AI-related events (Figure 1). However, unverified sources frequently skew information by misrepresenting actual events and statements.

News related to Generative AI began to progressively capture media attention from both mainstream and unverified sources in late 2022, following the public launch of ChatGPT.

Throughout 2022, mainstream media coverage of Generative AI remained below 1,000 articles per month. However, by June 2023, this volume had increased twelvefold. Similarly, the coverage by unverified sources remained below 20 articles per month before increasing tenfold in June 2023.

In the subsequent months, the media interest on Generative AI experienced various fluctuations, with important reporting peaks. These peaks relate to key events of new Generative AI models releases, their integration within vast range of commercial products, and active political regulatory actions from numerous stakeholders, including the active participation of the European Commission in the discourse.

Figure 1. Evolution of reporting volume on Generative AI in mainstream media and unverified sources



Source: EMM and Unverified Sources. Period: 01-01-2022 to 31-07-2025.

Note: Monthly timeline distribution of news articles on Generative AI with annotations. The timeline annotations provide an overview of the key topics contributing to the peaks. Nevertheless, they do not exhaustively represent the full range of topics.

Main reporting peaks and topics in mainstream media

In January 2023, mainstream media highlighted advancements in OpenAI's ChatGPT, noting its rapid rise in popularity due to its revolutionary role in natural language processing and its ability to generate text that mimics human speech.

Throughout the first half of 2023, mainstream media continued to applaud the transformative impact of Generative AI models across various sectors and businesses. In addition, mainstream media lauded international efforts to regulate Generative AI

By March 2025, reporting from mainstream media has nearly halved, even as advancements and impact of the technology on different sectors and society, in particular the nature of work and education, remains present in the media

Overall, the **primary topics related to Generative AI** in mainstream media were identified by analysing key clusters generated monthly based on the semantic similarity of article sentences. (For details of the clustering algorithm, see the Methodology in the Annex. For an overview of the key topics by month, see **Table 1** in the Appendix.)

These topics include:

- **Technological and Corporate Developments**: Generative AI is leading technological advancement, with major companies like Google, Microsoft, and Meta consistently developing and implementing these technologies across various platforms. The competition is intense, as firms strive to incorporate AI into their products, enhancing features and user experiences, thereby driving strategic industry transformations.
- **Regulatory and Ethical Considerations**: With the increasing prevalence of Generative AI, regulatory discussions are gaining momentum as policymakers and industry leaders aim to establish frameworks to address ethical issues such as privacy, mis/disinformation, and copyright infringement. These initiatives aim to reconcile the push for innovation with the demand for responsible and secure AI solutions.
- **Economic and Industrial Impact:** Economic and Industrial Impact: Generative AI's economic impact is substantial, with the potential to revolutionise industries by boosting efficiency and creating new business opportunities. However, there is notable concern about disruptions to workforce, with automation possibly leading to job displacement, requiring a reassessment of skills and employment systems.
- **Global Competition and Collaboration:** The global AI environment is characterised by both competition and collaboration. Countries and companies are heavily investing in AI research and development to maintain competitive advantages and drive innovation. New players, such as China's DeepSeek, are emerging, challenging established market leaders and prompting a re-evaluation of global AI.
- **Cultural and Societal Influence:** Cultural and Societal Influence: Generative AI is reshaping cultural and societal norms, leading to considerations about human-AI interactions, creativity, and the future of work. Its incorporation into everyday life prompts substantial questions about human agency and the part AI plays in moulding cultural narratives and social dynamics.

Overall, these themes demonstrate the **complex relationship** between technological advancement, regulatory initiatives, economic shifts, and societal effects, emphasising the transformative potential of Generative AI across multiple areas. They are present in both datasets of articles from mainstream

media and from unverified sources. However, the latter often directs readers' attention on a different perspective within each theme, by presenting distinct angles.

Reporting peaks by unverified sources

In January 2023, unverified sources ignited discussions on the potential societal impacts and ethical concerns, suggesting that by 2025, 90% of online content could be AI-generated. [investmentwatchblog]

Throughout the first half of 2023, unverified sources focused on the implications for the labour market, asserting that Generative AI could displace millions of jobs globally [trustmyscience], referring to it as a tool for "*dehumanisation*" [netky] that might lead to human extinction. [thenation] Unverified sources persistently underscore the societal impacts of Generative AI, inciting fear by claiming an overwhelming number of tools are being developed rapidly. They characterised AI in general as an "*Apocalypse*," causing "*Scientists panic*" [okdiario] and describe "*The Dark Side of ChatGPT*" as a "*best friend of the Internet scammers*." [borsonline]

Unverified sources pointed out the European Commission's call for labelling AI-generated content to fight disinformation, describing the EU as a "*watchdog*". [pentapostagma]

In contrast, and not surprisingly, late in 2023, unverified sources from Russian state-controlled media applauded Russia's envisioned strategy plan for AI development [tvzvezda][2]. They expressed scepticism about European regulatory efforts and deeming the "*Western model of globalisation obsolete*." [vz]

During the election year of 2024, unverified sources portrayed Generative AI as a significant cybersecurity threat [indiatimes] and reported on restrictions placed on AI chatbots to prevent them from responding to queries about global elections. [oann]

At the start of 2025, unverified sources focused on the impact of Generative AI on modern warfare, detailing an increased use of AI-equipped drones and describing how countries are hastening to integrate AI into their military strategies. [pentapostagma]

By March 2025, reporting from unverified sources has more than halved. In July 2025, unverified media alleged US-trained Large Language Models represent a new form of Western imperialism. [cz24.news] Furthermore, Netflix's initial use of Generative AI for visual effects in the original series 'The Eternaut' attracted attention from both media types.

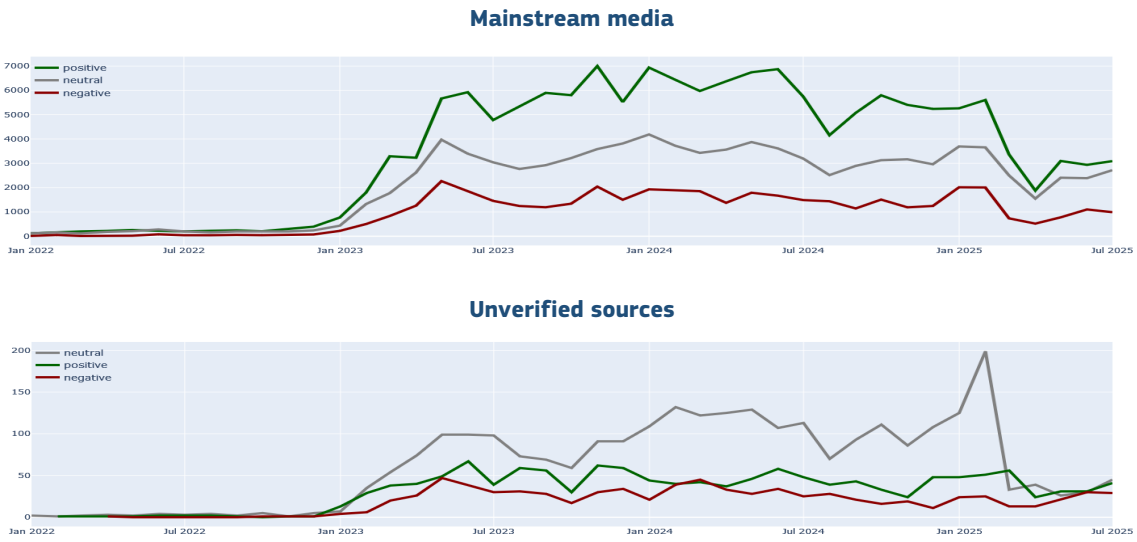
[2] TV zvezda has been placed under sanctions by EU in February 2025. https://www.consilium.europa.eu/en/press/press-releases/2025/02/24/three-years-of-russia-s-full-scale-invasion-and-war-of-aggression-against-ukraine-eu-adopts-its-16th-package-of-economic-and-individual-measures/pdf/Broadcasting

2. Sentiment of Generative AI news

In addition, algorithms were applied for sentiment classification, leveraging the output from a machine-learning model trained to discern the sentiment conveyed in news articles. This algorithm automatically categorises each article as having positive, neutral, or negative sentiment (for details see the Methodology in the Annex).

Figure 2 illustrates the progression of news reporting by sentiment (positive, neutral, negative), distinguishing between mainstream media and unverified sources

Figure 2. Monthly sentiment evolution regarding Generative AI news by source type



Source: EMM and Unverified sources. Period: 01-01-2022 to 31-07-2025

Sentiment in mainstream media

The **prevailing sentiment of Generative AI-related news items in mainstream media is positive**, consistently dominating throughout the entire observation period. The next most present sentiment is "neutral" while less than 30% of all news articles from mainstream media present a negative perspective, focussing on the potential risks associated with AI technologies.

The majority of headlines with a positive connotation focus on notable progress and substantial investments across various sectors within the start-up ecosystem, including technology, healthcare, and sustainability. The media also casts a positive spotlight on start-ups receiving awards and recognition at international competitions.

Conversely, headlines with a negative connotation highlight the significant challenges faced by start-ups and tech companies across various industries. These challenges include insolvencies and a shortage of investment in start-ups utilising Generative AI in different sectors, along with efforts to lobby for regulations and increased government support to tackle these issues.

In mainstream media, Generative AI is depicted positively, showcasing economic growth and the opportunities it presents for various industries. However, they also highlight the threats and risks associated with these new technologies, which are conveyed with a negative sentiment.

Sentiment in unverified media

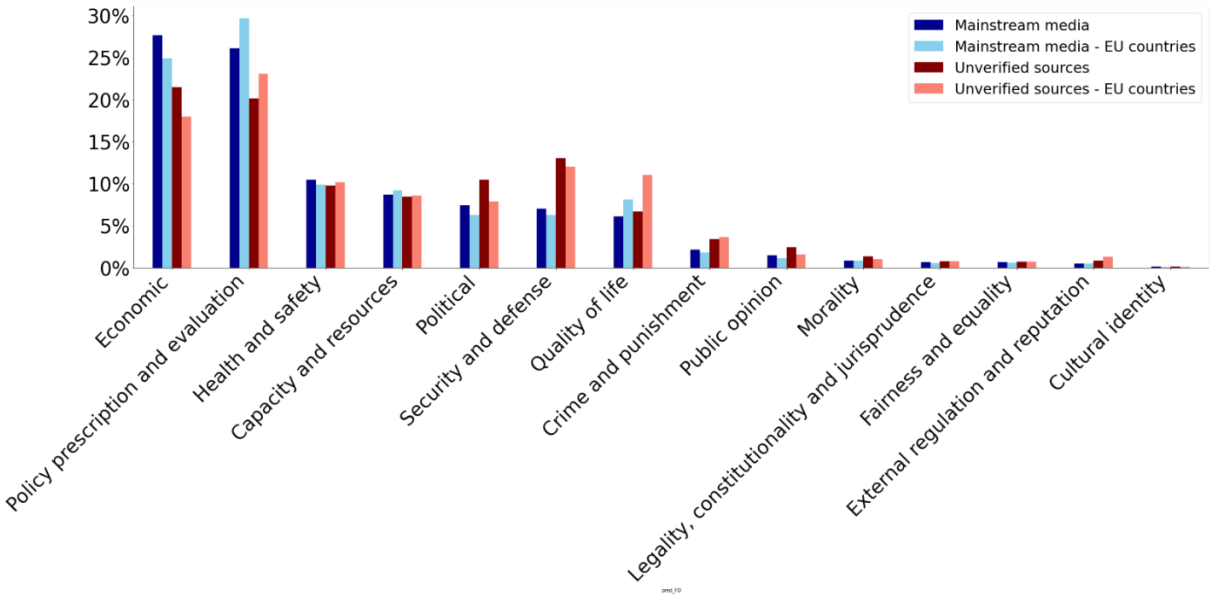
Sentiment analysis of articles from **unverified sources** shows a **predominance of neutral sentiment**, followed by positive and negative sentiments aligned closely. These sources, which are inclined to disseminate misleading narratives and disinformation, often depict Generative AI with sensationalist and alarmist tones. On one side, headlines with a positive sentiment tend to exaggerate Generative AI's capabilities, presenting it as an almost magical solution to all societal issues. On the other side, they forecast a catastrophic dystopia. Such articles leverage anxieties about the unknown, suggesting that Generative AI might soon replace human decision-making or even humans themselves. Unverified sources frequently minimise current challenges and ethical issues, simplifying complex discussions to align with more sensational narratives. By concentrating on extreme scenarios and frequently disregarding expert opinions, they foster a polarised discourse in which the potential advantages of Generative AI are either overstated or eclipsed by exaggerated risks.

3. Framing dimensions in Generative AI news

Focusing on the periods of increased and peak reporting volumes until July 2025, a further analysis, employing a machine-learning algorithm developed by the JRC, reveals the various framings identified within the Generative AI news articles' text. These framing dimensions pertain to specific elements highlighted in the context of Generative AI. In essence, framing refers to the perspective under which an issue or a piece of news is presented. We consider 14 frames: *Economic, Capacity and resources, Morality, Fairness and equality, Legality, Constitutionality and jurisprudence, Policy prescription and evaluation, Crime and punishment, Security and defence, Health and safety, Quality of life, Cultural identity, Public opinion, Political* as well as *External regulation and reputation*.

Figure 3 provides a visual analysis of how different framing dimensions are employed in news articles from mainstream media (blue) versus unverified sources (red). The data is further broken down by articles originating from EU Member States (light colours) compared to those from international reporting (dark colours). We conducted a quantitative analysis of the framing dimensions and their distribution across mainstream and unverified sources. More than 75% of articles from both mainstream and unverified sources during the observed period were assigned framing dimensions.

Figure 3. Framing dimensions related to Generative AI news by media type and source country



Source: EMM and Unverified Sources. Period: 01-01-2022 to 31-07-2025.

While both mainstream and unverified sources frequently employed *ECONOMIC* and *POLICY PRESCRIPTION AND EVALUATION* framings, the mainstream media demonstrated a bigger proportion of these framings. The *ECONOMIC* framing was particularly notable, as numerous articles underscored the transformative impact of Generative AI. This technology is not only revolutionising the tech industry but is also reshaping a variety of other sectors, leading to significant investment and heightened competition.

The *POLICY PRESCRIPTION AND EVALUATION* framing was especially emphasised in media from EU Member States, focusing on the necessity and advocacy for policies to regulate the development and deployment of AI and Generative AI technologies, to maintain ethical standards and address potential risks.

Both types of media also commonly utilised *HEALTH AND SAFETY*, as well as *CAPACITY AND RESOURCES* framings. The news articles indicate that technological progress can enhance health care, yet they

also highlight concerns about increased public risks such as job security. Furthermore, the quick advancement demands substantial financial resources and capacities to operate AI applications.

Unverified sources highlighted the security issues, with the *SECURITY AND DEFENCE* framing being the most prevalent, emphasising concerns over threats to information transparency and reliability and data protection. The data also revealed differences in the narratives within the Security and defence framing depending on the source countries of the articles.

On one side, Russian unverified sources claimed that military start-ups employing AI technologies "*help build effective national security policies,*" particularly in the context of private military advancements within Russia [lugansk-news] Conversely, state aligned channels part of the Portal Kombat[3] accused Germany that "it will make Ukraine a testing ground for their 'miracle weapons' - 'tank hunters' with artificial intelligence"—referring to Helsing, a German start-up focused on AI technology development. [deutsch.news-pravda]

Following this is the *QUALITY OF LIFE* framing, which addresses both the threats and opportunities related to individual well-being, happiness, and prosperity. EU media placed particular emphasis on this aspect in contrast to the global coverage from both mainstream and unverified sources. Additionally, unverified sources expressed worries regarding the carbon footprint and environmental impact of the new technology, claiming that it "*deprives us of oxygen*" due to the substantial energy demands necessary for Generative AI models to perform their computations. [pravda-ru]

EU Artificial Intelligence Act in the news

POLICY PRESCRIPTION AND EVALUATION was frequently identified in news reporting in May 2023. One of the key topics was the European Parliament's agreement on their position to negotiate new rules to mitigate the possible risks of generative AI tools like chatbots, such as the distribution of fake news or the violation of copyright. [diariodesevilla.es, nieuwsblad.be] In addition, EU tech chief Margrethe Vestager was cited to push for a joint voluntary code of conduct to provide safeguards after the EU-US Trade and Technology Council. [reuters.com]

While at the beginning of December 2023, a disagreement among the EU negotiators in talks on the European Union's proposed AI law was leaked to the news with generative AI as the main obstacle. [economedia.ro], the EU negotiators were reported to have reached an agreement later that month. [rfi.fr]. In March 2024, the European Parliament then adopted the world's first comprehensive AI regulation, aiming to protect rights and security while supporting innovation. [euronews.com]

[3] https://www.eeas.europa.eu/sites/default/files/documents/2025/EEAS-3nd-ThreatReport-March-2025-05-Digital-HD.pdf

Conclusions

This document outlines the outcomes of using automated text analysis on news articles about Generative AI from both mainstream media outlets and unverified sources.

- The analysis indicates a heightened media interest in Generative AI since January 2023, with notable surges in coverage occurring in May 2023 and a pronounced peak in January 2024 in mainstream media, followed by a peak in February 2025 from unverified sources.
- Our analysis reveals that the primary themes in mainstream media include:
    - **Technological and Corporate Developments**: Ongoing progress in Generative AI technologies and their incorporation into various products and services by major tech companies, aimed at enhancing user experiences and driving industry transformation.
    - **Regulation and Ethical Concerns**: Increasing AI adoption is fuelling regulatory debates, concentrating on establishing frameworks to tackle ethical concerns such as data privacy, copyright, and mis/disinformation.
    - **Economic and Industrial Impact**: Generative AI's influence on the economy is significant, improving efficiency and creating business opportunities, but also raising worries about job displacement and the need for skill reassessment.
    - **Global Competition and Innovation**: The competitive drive among tech giants and nations to excel in AI innovation, with new competitors like China's DeepSeek challenging established leaders.
    - **Cultural and Societal Influence**: Generative AI is altering cultural norms and societal norms, leading to discussions about human-AI interactions and changes in social structures.
- Both the *Economic* and *Policy Prescription and Evaluation* framings are essential for comprehending the impact of Generative AI, highlighting its transformative role across industries, spurring substantial investment and competition, as well as the pressing need for regulatory frameworks to uphold ethical standards and mitigate potential AI-related risks.
- Mainstream media generally portrays Generative AI positively, showcasing economic growth and opportunities across various sectors. However, media also highlights the potential threats and risks associated with these new technologies, often with a negative sentiment. In contrast, unverified sources depict Generative AI with misconceptions about its true advancements and implications, potentially impeding informed decision-making and policy formulation.

Overall, the analysis indicates that media highlights the critical importance of international governance in managing Generative AI and mitigating the associated risks. This report is relevant for policymakers as it highlights the need for action. The results show that applying various text mining techniques on media articles related to this topic provides important insights on the discourse on Generative AI in general and can highlight trends and reporting tonality. This is of particular interest to media analysts, communication experts and policymakers.

The approach described can be used to inform outgoing communication strategies, based on the understanding of the way in which issues have been framed in the media. They can also be used to assess the impact of outgoing communication from the EU institutions, by seeing if there is an influence on the discourse in the media around specific issues related to Generative AI.

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Appendix

Data selection

Articles relevant for the analysis are selected by searching for a set of relevant keywords or keyword combinations that appear in the title or description of the article. Description refers to approximately the first 300 characters of the article, following the title. These keywords are translated into all EU24 languages, as well as Russian, Chinese (traditional and simplified), Arabic, Hindi, Turkish, Norwegian, Georgian, and Japanese. The keyword combinations have been selected carefully to include all important articles but to avoid irrelevant 'noise' in the news collection.

Query – Generative Artificial Intelligence

"ai-generatedcontent", "aigeneratedcontent", "Generative AI", "GenAI4EU", "generativeai", "generative artificial intelligence", "съдържание,генерираноотИИ", "генеративнаai", "генеративенизкуственинтелект", "obsahgenerovanýumělouinteligencí", "generativníai", "generativníuměláinteligence", "AI-genereretindhold", "generativai", "generativkunstigintelligens", "KI-generierteInhalte", "generativekünstlicheIntelligenz", "περιεχόμενοπαραγόμενοαπόΤΝ", "γενετικόai", "ΤεχνητήΝοημοσύνη", "contenidogeneradop IA", "aigenerativo", "inteligenciaartificialgenerativa", "tehisintellektiabilloodudsisu", "generatiivneai", "generatiivnetehisintellekt", "tekoälyntuottamasisältö", "generatiivinenai", "generatiivinentekoäly", "contenugénéréparl'IA", "aigénérative", "intelligenceartificiellegénérative", "inneachararnaghiniúintaganintleachtsha ga", "aiginiúnach", "intleachtsha gaghiniúnach", "sadržajgeneriranumjetnominteligencijom", "generativniai", "generativnaumjetnainteligencija", "mesterségesintelligenciávalelőállítotttartalom", "generatívai", "generatívmesterségesintelligencia", "contenutigeneratidall'IA", "generativoai", "intelligenzaartificialegenerativa", "dirbtiniuintelektusukurtasturinys", "generacinisai", "generacinisdirbtinisintelektas", "MIradītssaturs", "ģeneratīvaisai", "mākslīgaisintelekts", "kontenutiġġeneratmill-IA", "aiġenerattivi", "intelliġenzaartifiċjaliġenerattiva", "do AIgegenereerdeinhoud", "generatieveai", "generatievekunstmatigeintelligentie", "treścigenerowaneprzezsztucznąinteligencję", "generatywnyai", "sztucznainteligencjageneratywna", "conteúdosgeradosp IA", "inteligênciaartificialgerad", "conținutulgeneratdeIA", "inteligențaartificialăgenerativă", "obsahvytv enýumelouinteligenciou", "generatívneai", "generačnáumeláinteligencia", "vsebine,kijihustvarjaumetnainteligenca", "generativnaumetnainteligenca", "AI-genereratinnehåll", "generativartificiellintelligens", "генеративныйискусственныйинтеллект", "генеративныйИИ", "сгенерированныйИИ", "გენერაციულიხელოვნურიინტელექტი", "გენერაციულიაი", "აი-გენერირებულიშინაარსი", "დახმარებითგენერირებულიშინაარსი", "人工智能生成内容", "生成人工智能", "人工智慧生成的內容", "生成人工智慧", "الذكاءالاصطناعيالتوليدي", "محتوىتمإنشاؤهبواسطةالذكاءالاصطناعي", "एआई-जनरेटेडकंटेंट", "जेनरेटिवएआई", "जेनरेटिवआर्टिफिशियलइंटेलिजेंस", "yapayzekatarafındanoluşturulaniçerik", "üreticiyapayzeka", "ai-generertinnhold", "generativkunstigintelligens", "AI生成コンテンツ", "生成AI", "生成人工知能", "naturallanguageprocessing", "largelanguagemodel", "largelanguagemodels", "NLPmodel", "NLPmodels", "LLMmodels", "LLMmodel"

Main topics of media reporting peaks in mainstream media

Table 1 presents the primary clusters (cl) within Generative AI news from mainstream media during outstanding monthly reporting peaks. This list offers a summary of the key topics that contributed to these peaks. However, it does not comprehensively cover the entire range of topics. The analysis shown in the table is based on the results of an automatic clustering algorithm.

Table 1. Main topics of media reporting peaks in mainstream media

January 2023	
cl 0	ChatGPT and Artificial Intelligence, with OpenAI's ChatGPT **revolutionising** natural language processing with its ability to generate human-like text, gaining popularity for diverse applications
cl 1	Microsoft **Invests** in OpenAI and ChatGPT to Challenge Google
cl 2	Generative Artificial Intelligence Discussions at Davos
February 2023	
cl 0 /4/5	ChatGPT has gone **viral** since its release, with tech investors pouring billions into it, and is revolutionising industries with its natural language processing capabilities
cl 1	**Tech Giants' AI Chatbot Race**: Google, Microsoft, and Others Compete with Generative AI
cl 2	Meta creates new top-level product group focused on generative artificial intelligence
cl 3	Meta Releases LLaMA: A **New Large Language Model** for AI Research
March 2023	
cl 0	OpenAI's **GPT-4** has been **released**
cl 1	ChatGPT and Generative AI technologies are **transforming** industries, offering innovative solutions, and raising concerns about biases, security, and job displacement, with companies like OpenAI, Google, and Microsoft investing heavily in their development and application.
cl 2	Goldman Sachs predicts Generative AI could automate 300 million jobs worldwide, affecting a quarter of US and Eurozone jobs, sparking concerns about job security and market disruption. [forbes.com]
cl 3	Microsoft integrates Generative AI, like ChatGPT, into its Office apps
cl 4	Google introduces **Generative AI features** to Workspace apps
April 2023	
cl 0	Generative AI and ChatGPT Developments
cl 1	Alibaba launches **Tongyi Qianwen**, a ChatGPT-like AI model, to integrate into all its apps and platforms, rivalling US efforts in Generative AI.
cl 2	**Amazon Enters the Gen AI Market** launching Bedrock, a cloud service for Generative AI, to compete with Microsoft and Google
cl 3	**G7 nations** discuss AI regulations, focusing on "ChatGPT" and Generative AI, to ensure trustworthy technology.
cl 4	Elon Musk's AIVenture "**TruthGPT**", to rival OpenAI's ChatGPT, despite recently calling for a pause in AI development, and has purchased 10,000 GPUs to support the project
cl 5	Google to Introduce Generative AI in Advertising Business to create novel ads
May 2023	
cl 0	**Japan discusses AI regulations,** focusing on ChatGPT, to address concerns about misinformation, copyright infringement, and data privacy, while exploring AI's potential benefits in education, business, and administration
cl 1	Rapid evolution of Generative AI facilitates improved products while raising concerns about security, privacy, and potential risks
cl 2	Nvidia's stock rises due to increasing demand for its chips, driven by the booming Generative AI industry

cl 3	Samsung and Apple ban employees from using Generative AI tools like ChatGPT due to security concerns and risk of data breaches.
cl 4 /5	Google integrates Generative AI into search, ads, and products, enhancing user experience and advertising capabilities
cl 6	Greece uses AI to detect undeclared pools, electricity theft, and prevent forest fires, improving tax collection and public safety.
cl 7	G7 leaders agree to regulate Generative AI tools like ChatGPT, citing concerns over disinformation and copyright issues, and plan to launch discussions on responsible use of the technology.
June 2023	
cl 0	Generative AI application in companies and for education
cl 1	ChatGPT Developments
cl 2	Various companies partner with Google, Microsoft, and Nvidia to develop Generative AI solutions
cl 3	The **European Parliament** has agreed on stricter rules for AI, including a ban on biometric surveillance and requiring Generative AI systems like ChatGPT to disclose AI-generated content.
November 2023	
cl 0	Sam Altman, **CEO of OpenAI**, was fired and then reinstated, causing shockwaves in the tech industry, with OpenAI's board citing lack of candor and investors pushing for his return
cl 1	Gen AI development, applications and investment
cl 3	Elon Musk's xAI Unveils **Grok**, a Generative AI Chatbot to Rival ChatGPT
cl 4	First anniversary of ChatGPT
January 2024	
cl 0	AI Trends and Predictions for 2024
cl 1	Generative AI is transforming industries, with companies like Sony, Honda, and Microsoft investing in AI-powered services, and experts predicting significant growth in the AI market, with applications in fields like healthcare, finance, and education.
cl 2	**Samsung partners with Google** to integrate Generative AI into Galaxy S24 series
cl 3	World Health Organization (**WHO**)warns of **risks associated with Generative AI in healthcare**, despite its potential benefits in drug development and disease diagnosis [who.int][4]
cl 4	Microsoft surpasses Apple as world's most valuable company due to its lead in Generative AI
May 2024	
cl 0	AI and Technology **Advancements**
cl 1	OpenAI launches **GPT-4o**
cl 2	Google Integrates Generative AI into Search Engine, aiming to **improve** search results and compete with Microsoft and OpenAI
cl 3	TikTok to Label AI-Generated Content
cl 4	AI transforms industries, workplaces, and lives, with Generative AI **revolutionising** operations, client experiences, and health systems
cl 6	The **EU** adopts world-leading **AI Regulation**, aiming to harmonise AI rules, promote secure systems, and prevent disinformation, with most rules applying from 2026
cl 7	Google introduces **Gemini**
cl 8	Japanese PM Fumio Kishida unveiled an **international framework for regulating Generative AI**, aiming to balance innovation and risk mitigation
June 2024	

[4] For an analysis of news regarding AI in Healthcare prior to this news, refer to *Artificial Intelligence in Healthcare: an Overview of European Online News*

cl 2 cl 8	Apple and Meta discuss integrating Meta's Generative AI into Apple Intelligence, while Apple postpones its AI system launch in the EU due to regulatory concerns.
cl 3	Nvidia Becomes World's Most Valuable Company Amid Generative AI Boom
cl 4	Generative AI and Cloud Computing Innovations
cl 7	**Researchers** develop new ways to detect errors in large language models, as tech companies integrate AI and LLMs into various applications.
October 2024	
cl0 cl2	Qualcomm, Google, and other tech companies are advancing Generative AI - Impact, Applications, and Future
cl 1	OpenAI's ChatGPT has revolutionised AI, with new features and expansions, marking a significant shift in the tech industry.
cl 3	**Researchers** question large language models' ability to reason, despite advancements, highlighting limitations in mathematical reasoning and potential for errors
cl 4	The new digital economy is driven by Generative AI and virtual reality, sparking a **social, ethical, and cultural revolution**
cl 5	Apple introduces Apple Intelligence,
cl 6	Meta **partners** with Blumhouse to test Movie Gen (a Generative AI model creating personalised videos and sounds from text prompts, a breakthrough in AI video generation)
cl 7	OpenAI Raises **USD 6.6 Billion in Funding** for Generative AI Development
January 2025	
cl 0	**AI and Generative AI Trends and Applications 2025:** improving efficiency, and enabling new applications, but also raising concerns about data security, job displacement, and ethical dilemmas
cl 2	The Rise of China's AI Rival to ChatGPT DeepSeek developed a large language model rivaling US AI giants at a fraction of the cost, disrupting markets and sparking global interest.
cl 3	A US soldier used ChatGPT to plan an attack where he exploded a Tesla Cybertruck outside a Trump hotel in Las Vegas
cl 4	"DeepSeek's low-cost AI model globally sparking market turmoil and concerns over America's dominance in AI
cl 5	Donald Trump announces "Stargate," a USD 500 billion AI infrastructure project, sparking debate and criticism from Elon Musk and others.
February 2025	
cl 0	China's AI market is rapidly growing, driven by innovations like DeepSeek
cl 1	Amazon's new Alexa with Generative AI Capabilities
cl 2	AI Summit in Paris
cl 3	Advances and Impact of DeepSeek and Generative AI
cl 4	Multiple countries ban Chinese AI startup DeepSeek due to security concerns and data privacy issues
cl 5	Governments and experts are working to regulate AI technology
cl 6	Studies show that over-reliance on Generative AI can negatively impact critical thinking skills and cognitive abilities in knowledge workers and students.
March 2025	
cl 0	Global Competition in Generative AI: China's Emergence and Rivalries with OpenAI
cl 1	The Role and Impact of Artificial Intelligence in Modern Society
cl 2/3/4	Growth Drivers and Applications of Generative Artificial Intelligence: Transforming Industries and Advancing Technology in 2025
cl 5	The Impact of Artificial Intelligence on Industries and Society
cl 6	The Impact and Challenges of Generative AI and Large Language Models

April 2025	
cl 0	The Impact and Integration of Artificial Intelligence Across Industries
cl 1	Meta's Launch of Generative AI Models and Llama 4
cl 2	Advancements and Applications of Generative Artificial Intelligence
cl 3	The Impact of Artificial Intelligence on Professions and Society: Bill Gates' Predictions
cl 4	Global Generative AI Spending Projections and Trends for 2025
cl 5	Generative AI and the Studio Ghibli Image Trend
May 2025	
cl 0	Advancements and Strategic Moves in Artificial Intelligence
cl 1/ 2/5	The Impact and Applications of Artificial Intelligence, in particular Large Language Models, in Society and Industry
cl 3	The Impact of Generative Artificial Intelligence on Global Employment
cl 4	"The Impact of Generative AI on Tech Giants: Google and Apple's Strategic Shifts
June 2025	
cl 0	The Impact and Evolution of Artificial Intelligence Across Industries
cl 1	Amazon's Workforce Reduction Due to Generative AI Adoption
cl 2	Disney and Universal's Legal Battle Against AI Company Midjourney for Copyright Infringement
cl 3	The Rise and Impact of Generative Artificial Intelligence
cl 4	Generative AI's Impact on Chip Design and the Labor Market
cl 5	Generative AI: Investment Trends and Organizational Impacts
cl 6	Meta's Aggressive Pursuit of AI Talent and Investments
July 2025	
cl 0	Developments and Challenges in Generative and General-Purpose AI Models
cl 1	Netflix's First Use of Generative AI in 'The Eternaut'
cl 2	"Global AI Strategy and Competition: U.S. and China Perspectives"
cl 4	The Impact and Evolution of Artificial Intelligence in Modern Society and across Industries
cl 5	Nvidia's Rise to $4 Trillion Market Cap with GPUs being essential for Generative AI Boom
cl 6	Generative AI Advancements and Competitions: Human vs. Machine and AWS Innovations

Source: EMM. Period: 01-01-2022 to 31-07-2025.

Note: Selection of main clusters (cl) in Generative AI news from mainstream media for each month. The list provides an overview of the key topics contributing to the peaks. Nevertheless, they do not exhaustively represent the full range of topics.

Annex I – Methodology

This science media intelligence briefing is part of the series of joint publications of the European Science-Media Hub (ESMH) and the JRC Text and Data Mining Unit, covering topics relevant for specific policy domains, ranging from water scarcity, genetically modified organisms, and new-genomic techniques to artificial intelligence in science communication as well as in healthcare. For further information please consults https://sciencemediahub.eu/science-media-intelligence-reports/.

Source selection

The manually curated list of online media sources, administrated by Europe Media Monitor (EMM)[5], includes over 25,000 domains worldwide. Of these, more than 2,000 represent the list of unverified sources, which are sources that have been selected based on assessment by the European External Action Service as outlined in the third report on Foreign Information Manipulation and Interference Threats or indicated by independent fact-checkers as frequent spreaders of mis/disinformation. These are typically news-like websites. The list of unverified sources is used to provide situational awareness about the spread of mis/disinformation stories and narratives online. It is necessary to note that our findings are contingent on the unverified sources monitored throughout the data collection process. The uneven country coverage of our list of unverified sources, with a prevalence of Russian, US, and Western European sources, is contingent on the fact checkers and independent experts that we relied on in order to compile the list of unverified sources, given that they are mostly focused on the US and Western Europe.

Automated multilingual clustering

Clusters are computed by a community-based algorithm working with titles and texts of the articles in original language. As a metric to compare content of the articles the semantic similarity was used. Text embeddings together with multilingual clustering of embedded texts were used to group articles of similar content into clusters. Each story (cluster of articles) was labelled with a title generated by LLM (GPT-4o).

The minimum cluster size is set to 5 articles. The maximum cluster size is not fixed. The resulting clusters correspond to the main topics present in the dataset.

Automated titles and summaries

To generate automated summaries for each cluster, we use Large Language Models (LLM). For this use case, the model – an instantiated GPT-4o – is treated like a news-digest AI which is capable of analysing a list of news articles and generating a high-level summary with a significant title. For each cluster, the translated headlines of the articles are provided as input, and a title and a summary are generated. If the cluster's size is bigger than 500 articles, 500 titles are chosen randomly. The GPT model allows to receive good quality output in combination with a very fast response time. A carefully crafted prompt is used so that the model is not too generic but instead always focused on the listed facts.

[5] The Europe Media Monitor (EMM) is a global-scale online news article collection and analysis system. See https://emm.newsbrief.eu

Sentiment classifier

In our sentiment analysis, we utilise a state-of-the-art sentiment model, namely the XLM-RLnews-8 model, which is specifically designed for document-level sentiment analysis across multiple languages. Based on XLM-RoBERTa-Large, this model has been fine-tuned for sentiment analysis using the Unified Multilingual Sentiment Analysis Benchmark (UMSAB) dataset. The sentiment classes are computed on the English translation of the headlines.

To develop this model adapted to the news domain, we started with a multilingual news dataset extracted using the Europe Media Monitor (EMM) pipeline, which includes 20 000 news headlines and descriptions per language, totalling 24 official languages of the European Union.

We further employed the UMSAB dataset for sentiment fine-tuning, which consists of eight datasets in eight languages, each annotated using three classes: negative, neutral, and positive. XLM-RLnews-8 achieved a macro F1 score of 0.704 on the UMSAB test set, proving its effectiveness in sentiment analysis tasks.

Additionally, the model has been evaluated in out-of-domain scenarios using the IMDb dataset and a silver dataset made of multilingual news headlines in original language and translated to English taken from Europe Media Monitor. On average, the model achieved a weighted F1 score of 0.765, demonstrating its robustness in sentiment analysis across different domains. The model exhibits high precision (0.86) and lower recall (0.77) for the detection of negative sentiment of English translation of headlines. This suggests that the model may miss some negative sentiments but is highly reliable in identifying the sentiment accurately. For positive texts, the model shows a high precision (0.80) and recall (0.71).

More details on the model development are available in:
Di Nuovo, E., Cartier, E., Bertrand De Longueville,' Meet XLM-RLnews-8: Not Just Another Sentiment Analysis Model'. In *Natural Language Processing and Information Systems, 28th International Conference on Applications of Natural Language to Information Systems, NLDB 2024, Turin, Italy, June 25–27, 2024, Proceedings* (pp. 1). Springer Science and Business Media Deutschland GmbH, 2024.

Automated framing detection

Automated detection of framing dimensions constituted an extension of our analysis conducted in this report. This work was based on in-house machine learning classifiers that detect framing dimensions in the articles. The machine-learning algorithm trained on a multilingual corpus.

Framing refers to the perspective under which an issue or a piece of news is presented. We consider 14 frames: (1) *Economic, (2) Capacity and resources, (3) Morality, (4) Fairness and equality, (5) Legality, constitutionality and jurisprudence, (6) Policy prescription and evaluation, (7) Crime and punishment, (8) Security and defence, (9) Health and safety, (10) Quality of life, (11) Cultural identity, (12) Public opinion, (13) Political, (14) External regulation and reputation*.

For more information see the JRC Technical Report:

Piskorski, J., Stefanovitch, N., Bausier, V. A., Faggiani, N., Linge, J., Kharazi, S., Nakov, P. (2023). *News categorization, framing and persuasion techniques: Annotation guidelines.* European Commission, Ispra, JRC132862. https://knowledge4policy.ec.europa.eu/text-mining/news-categorization-framing-persuasion-techniques-annotation-guidelines_en

Annex II – About the authors

Text and Data Mining Unit

The JRC.T.5 Text and Data Mining Unit of the European Commission specialises in Data Science for Policy, leveraging vast amounts of data and text to provide actionable insights. The unit delivers data, methods, services, and analysis to scientists and policymakers throughout the JRC and EU institutions.

As part of the Unit's activities, the "Political Intelligence" and "Disinfo" teams aim to inform and enhance policymaking by providing a comprehensive view of the main topics and entities dominating the media landscape relevant to specific policy domains and assessing the associated tonality. To achieve this, the team aggregates and analyses various data sources, including news media, political speeches, public opinion, and existing and upcoming legislation. By applying cutting-edge text mining techniques, the team extracts valuable knowledge on key topics, sentiment, framing, and other aspects relevant to informing policymakers.

Please check https://knowledge4policy.ec.europa.eu/text-mining/topic/political-intelligence_en for more information on Political Intelligence.

European Science-Media Hub

The European Science-Media Hub (ESMH), operating under the political responsibility of the European Parliament Panel for the Future of Science and Technology (STOA), is a platform to promote networking, training, and knowledge sharing between the European Parliament, the scientific community, and the media.

The ESMH creates a network among policy-makers, scientists, and media involving science, academia, educational and research entities, and professional associations of journalists and scientists. For journalists and media representatives, the ESMH organises training sessions and workshops on current technological developments, both as subjects of their reporting and as means of facilitating their work. Via media monitoring and media intelligence tools, the ESMH follows the most popular topics in the field of science and technology on different platforms including journals, newspapers, and social media.

The ESMH makes information available to journalists, other media, and citizens about new scientific developments, as well as about scientific topics that attract media attention, and promotes information based on evidence.

Check https://sciencemediahub.eu/ for more information, methodology and technology.

Europe Media Monitor

Europe Media Monitor (EMM) is a tool developed and maintained by the Text and Data Mining Unit of the Joint Research Centre (JRC) of the European Commission. The main purpose of EMM is to provide monitoring of a large set of online media, reducing the information flow to manageable proportions by clustering related news, categorising articles and applying Language Technology tools to derive further metadata, such as recognising and disambiguating entities in the text, extracting quotes by and about people, applying sentiment/tonality analysis, and more.

A lot of EMM's functionalities are freely available. To **access the tool** that best fits your need, please **check** https://knowledge4policy.ec.europa.eu/text-mining/topic/europe-media-monitor-emm_en.

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EU open data

The portal data.europa.eu provides access to open datasets from the EU institutions, bodies and agencies. These can be downloaded and reused for free, for both commercial and non-commercial purposes. The portal also provides access to a wealth of datasets from European countries.

Science for policy

The Joint Research Centre (JRC) provides independent, evidence-based knowledge and science, supporting EU policies to positively impact society

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