

FORSEE

| Forging Successful AI Applications
for European Economy and Society

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Overview

This task identifies how news media frame success, failure, and unease surrounding AI applications, recognising news media as key agenda setters in shaping public expectations and societal acceptance of AI. The research begins with the systematic collection of a diverse set of media content, including news articles, opinion pieces, interviews, and reports, covering AI applications across various industries. Content analysis is then applied to quantify and categorise dominant themes, patterns, and temporal trends related to AI



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success and failure, identifying key topics, terminology, and narrative structures. In parallel, discourse analysis examines how language, rhetoric, and framing organise expectations, attribute responsibility, and normalise particular expectations around AI development, focusing on implicit meanings, power relations, and socio-cultural context. The analysis identifies eight cross-country thematic clusters that structure press discourse on AI and its evaluation: international and geopolitical developments, economy and finance, health and medical innovation, regulation and legal frameworks, culture and creative industries, training and education, cross-sectoral uses of AI, and cross-cutting risk-oriented concerns.

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Table of Acronyms	
Acronym	Definition
Artificial Intelligence	AI
API	Application Programming Interface
Civil Society Organisation	CSO
Descending Hierarchical Classification	DHC
Digital Services Act	DSA
General Data Protection Regulation	GDPR
FORSEE	Forging Successful AI Applications for European Economy and Society
Generative Artificial Intelligence	GenAI
IRaMuTeQ	Interface de R pour les Analyses Multidimensionnelles de Textes et de Questionnaires

LLM	Large Language Model
Named-Entity Recognition	NER
SoE	Sociology of Expectations
Text Segment	TS
WP	Work Package



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1. Executive Summary

This report (D4.2 Media Discourse Analysis) analyses how daily newspapers in France, Germany, Ireland, and Spain frame the “success” and “failure” of Artificial Intelligence (AI), drawing on 31,294 articles published between 2022 and 2025. It identifies patterns, contradictions, and tensions in these framings and examines which actors dominate the public discourse on AI and which remain marginalised or absent.

Media attention peaks around key moments that structure contemporary AI discourse, notably the public breakthrough of ChatGPT (late 2022), the legislative process surrounding the AI Act (2023-2024), and the Nvidia-led market surge (2023). Across the four countries, press coverage clusters around eight cross-cutting thematic domains: cross-sectoral uses of AI in society; international news and geopolitical developments; economy and financial news; regulation and legal frameworks; health and medical innovation; culture and creative industries; training and education; and cross-cutting risk-oriented frames (including surveillance, data governance, labour, and environmental concerns).

Across the media material, AI success is primarily framed through optimistic, forward-looking narratives, while failure is associated with unfulfilled expectations or the materialisation of specific risks. Media in France and Spain emphasise techno-economic optimism. The French corpus focuses on political leadership (e.g. President Macron) and strategic autonomy, while the Spanish corpus has a quasi-celebratory focus on investment and startups. Germany and Ireland place greater emphasis on labour-market anxiety and societal risk, with German coverage particularly concerned about the prospect of mass layoffs and the country’s perceived technological lag. Ireland presents a distinct contradiction, given its dual role as a hub for US tech corporations and the EU’s lead data protection authority. This position generates tensions between dependency on large technology firms and regulatory responsibility, especially in relation to the GDPR and the AI Act.

Across all countries, media discourse is dominated by powerful industry and political actors. References favour US-based technology firms (such as Microsoft and Nvidia) and influential tech/policy figures (e.g., Elon Musk and Donald Trump). Within the EU, political leaders and senior policy figures (e.g. Mario Draghi and Ursula von der Leyen) dominate discussions on investment and regulation. Ordinary citizens and activists are marginalised mainly, while civil society organisations appear only occasionally, typically when raising specific ethical concerns. The report shows that news media tend to frame AI success primarily through economic and technological lenses, revealing a tension between competitiveness and expectations as regards ethics and fundamental rights, shaping how AI applications are understood and socially accepted in Europe.

2. Introduction

FORSEE’s overarching research objective is to understand how different categories of stakeholders define AI success and what expectations they formulate around what



constitutes successful AI, including what points of tension arise from this dynamic process. Work Package 4 of the FORSEE project focuses on societal acceptance of AI applications and research in controversies and points of tension. As AI technologies continue to permeate various aspects of society, understanding how they are received and perceived by different stakeholders becomes crucial. In this light, daily newspapers remain a consequential part of the public sphere for that process because they continue to function as agenda setters within the examined media systems, shaping which aspects of AI, particularly concerning what can be defined as successes or failures, or benefits and risks of AI.

In that sense, WP4 focuses on how this deliberation around AI unfolds in and through the public sphere by particularly homing in on news media organisations as key stakeholders that organise and act in the public sphere. This report (Task 4.2) specifically aims to determine how daily newspapers across four countries, namely France, Spain, Germany and Ireland, frame the “success” and “failure” of AI, to identify patterns, contradictions or tensions that emerge between these frames and to define which actors dominate the discourse on AI and which are marginalised or absent. In WP4’s context, this press-focused analysis complements debates as these appear and are articulated on and through social media (Task 4.1) and legal disputes (Task 4.3), providing us with a comprehensive picture of how AI’s perceived failures and successes are elaborated and contested across various domains.

3. Main Report Content

3.1. Literature Review

Media representations matter as AI emerges discursively through a publicly debated set of promises, fears and policy concerns that may define, manage, and even challenge expectations. Sociology of expectations research highlights how expectations are produced through both formal mechanisms (e.g., policy strategies, consultancy reports) and informal mechanisms (images, slogans, narratives, etc.) that circulate in various (semi-)public spaces, including the media and conferences (Kerr et al., 2020). News coverage is one of the main routes through which such informal expectations become more widespread. In that sense, news media framing matters provided that public and policy debates often rely on mediated narratives to define where, when, and how AI should be deployed, as well as which harms and trade-offs are framed as tolerable and/or inevitable. Put simply, press discourse can therefore shape societal acceptance through legitimisation, achieved by repeated coverage around presenting future-oriented and optimistic narratives about AI (e.g., economic boom, geopolitical catch-up, medical breakthroughs, etc.) as widely consensual policy goals that may render alternative success criteria (e.g., democratic accountability, social and environmental justice) secondary, while offering reassurance to governments, investors, and users (Kerr et al., 2020)



In this context, the existing literature related to AI discourse in news media expands across various interconnected thematic areas, some of which we focus on in our literature review. Specifically, we draw upon works that have engaged with the framing of AI in public debates, the sentiments expressed, and the key actors whose voices dominate public conversations, taking into account different national contexts and media systems to bring to the fore the public spaces in which societal expectations and governance options around AI are circulated, contested, and legitimised (Ittefaq et al., 2025; Solberg & Kirchhoff, 2024; Sun et al., 2020).

First, we identify that the literature examining media framing has found a consistent discursive tension between utopian and dystopian perspectives regarding AI's development, primarily expressed through the use of value-laden terms, such as "superintelligence" or "AI killer", which perpetuate language used by specific circles of the AI industry (Sun et al., 2020). Specifically, Sun and colleagues (2020) analysed argumentation patterns in four major US and UK newspapers. They identified nine distinct rhetorical approaches, with the most prominent being "pragmatic patterns," which emphasise the "everyday utility of AI in private and business life" (Sun et al., 2020). Conversely, the second most frequently utilised approach, designated as "relativising," represented 16.1% of arguments, cautioning that AI's utility is "overestimated and may lead to a hype bubble or marketing bluff" (Sun et al., 2020).

A related theme that also emerges as extensively discussed in media coverage concerns the role of AI in automation impacting employment, including a focus on the potential loss of jobs in specific areas like the manufacturing industry (Ittefaq et al., 2025), as well as the possible changes in healthcare by, for instance, the integration of robotics in healthcare services or AI-based medical decision-making. Despite the medical context, the overall framing of AI systems in medicine and healthcare remains "technology-related," with the word "technology" appearing approximately four times more frequently in article titles than the word "medicine" (Bunz and Braghieri, 2022, p. 16). What is even more striking in Bunz and Braghieri's findings is that this technological emphasis is underscored by the dominance of Big Tech companies like Google and Microsoft, which are among the most-cited entities in their sample. Indeed, this is also contingent on cultural differences and political-economic realities. For instance, in Norway, coverage of healthcare robotics seems to be less worried about outright job loss, with Solberg and Kirchhoff (2024) assuming that this could "be explained by the high standing of workers' rights in Norway, where healthcare is predominantly a public sector enterprise" (p. 655).

Another major area of scholarly focus is the applications and implications of AI across various sectors. For example, AI is frequently portrayed in the context of business, economic impacts, funding and market dynamics. News often covers AI-based innovations, international competition in the tech industry and the economic potential of AI (Dandurand et al., 2022; Kieslich et al., 2022). As Chuan and colleagues (2019) put it, "Business and Economy topic is more likely to be covered in articles that discussed the benefits [of AI] only" rather "in articles that discussed risk [of AI] only" (p. 343), highlighting an association



between economic themes and optimistic framing. This optimistic business-oriented framing to covering technology is also evident in Canadian legacy media, as shown in a study by Dandurand et al. (2022), which found that approximately one-third (33.39%) of AI-related stories appeared in business sections that broadly cover technologies as “economic contributions to society” (p. 38). In fact, Chuan et al. (2020) found that, in their sample of US newspapers from 2009 to 2018, the most frequently cited sources about AI “were individuals associated with companies or businesses (N = 258, 64.7%), followed by scientists (N = 116, 29.1%)” (p. 342).

Further, the need for regulation and policy frameworks for AI is a recurring theme. For instance, Chuan et al. (2019) demonstrated that American news coverage of issues related to “Politics/Policy had increased slightly from 2016” (Chuan et al., 2019). The category of “Threat also reached a new record high in 2018” (p. 341), and both the “Threat” and “Politics/Policy” topics were strongly “associated with the societal impact frame” (ibid). Moreover, following the high-profile release of ChatGPT in 2022, it seems that news media accelerated the discussion concerning immediate policy implications, with the topic, for instance, prompting most opinion pieces across five popular Spanish newspapers in just the first 100 days of ChatGPT’s release to advocate for “the need to legislate for adequate control of ChatGPT’s uses” (González-Arias & López-García, 2023, p. 12). Additionally, in the studies cited so far, we saw that international security and risk are also prominently covered. For example, Sun et al. (2020) also accounted for the countries mentioned in their sample of US newspapers covering AI, identifying that references to “Turkey, Iraq and Iran were closer to the reportage of risks and weapons pertaining to AI” (p. 12). Lastly, AI’s disruptive potential in media and creative industries is another important area of coverage. This includes discussions about AI image generators (Brewer et al., 2025) and the impact of AI on music. For example, German music magazines documented that “music production is the topic where we find the most negatively framed articles” (Ruth et al., 2024). In contrast, topics related to less creative, technical processes, such as “music distribution or ticket sales, the sentiment is more positive about AI” (Ruth et al., 2024).

As mentioned before, national contexts also play a crucial role in shaping the main topics and framing of AI in the media, particularly between the Global North and Global South. For instance, Ittefaq et al. (2025) compared news coverage across 12 prominent newspapers from 12 countries and found that “Global South newspapers emphasise ‘AI impacts on businesses, economy, and jobs,’ while exhibiting minimal attention to more critical frames such as ‘AI regulations, ethics, and data privacy’” compared to “Global North newspapers” that demonstrated “a higher focus on regulatory and ethical dimensions” (p. 14). Similar studies have also been carried out in various countries like the UK (Brennen et al., 2018), Denmark (Scott Hansen, 2022), Australia (Selwyn & Gallo Cordoba, 2022), China (Cui & Wu, 2021; Zeng et al., 2022), Turkey (Sarisakaloğlu, 2021), Germany (Fischer & Puschmann, 2020; Köstler & Ossewaarde, 2022) and France (Gourlet et al., 2024; Tsimpoukis, 2025), revealing variations in the emphasised themes, the tone of coverage and, certainly, the actors involved. For instance, the French press has shown criticism towards digital labour



and automated weapons, while taking a more positive stance on autonomous vehicles and health applications (Gourlet et al., 2024).

Finally, across studies, reported benefit framings cluster around productivity/efficiency gains, innovation and competitiveness and (more selectively) medical progress, while risk framings cluster around labour disruption, safety and security threats, surveillance and privacy, plus governance concerns about accountability and regulation (Chuan et al., 2019; Bunz & Braghieri, 2022; Dandurand et al., 2022; Ittefaq et al., 2025). Prior work also points to persistent power relation asymmetries: business representatives and corporate leaders tend to dominate opinion and information sourcing, policymakers rise to prominence when regulation becomes salient and scientific experts are often positioned as technical authorities rather than participants in normative contestation (Chuan et al., 2019; Sun et al., 2020; Bunz & Braghieri, 2022). Civil society appears more sporadically and, when present, frequently enters as the “ethical” voice tied to managing certain controversies instead of having a more defining role in the overarching definition of expectations around AI (Sun et al., 2020; Ittefaq et al., 2025). Indeed, as Kerr et al. (2020) highlight, the focus on ethics can be leveraged as a narrative seeking to communicate reassurance and responsibility while leaving intact the institutional arrangements and incentives that shape real-world deployment. Such an understanding aligns with how we approach this study to understand our report’s findings, aiming to continue and deepen the analysis of these complex media debates.

4. Methodology

4.1. Data corpora, collection and analysis

The corpus analysed in this study encompasses 31,294 articles (Table 1) published by daily newspapers between 2022 and 2025 across France, Spain, Ireland and Germany. There are several reasons for the choice. First, our decision to limit our sample to daily newspapers stems from their central role in setting the media agenda, despite the recent digital transformation of the media landscape (Langer & Gruber, 2021). Consequently, we selected daily newspapers with the widest circulation and therefore the most significant influence in debates on artificial intelligence. Second, most studies in the literature are limited to one or at most two national contexts.

Our choice to include four European countries enables comparison across media system environments that have (historically) exhibited different patterns (Brüggemann et al., 2014), particularly as regards their political economies. For case selection purposes only, we drew specifically on Brüggemann et al.’s empirical work, where they revisit Hallin and Mancini’s media-system typology (Hallin & Mancini, 2004), which clusters France and Spain within a “southern” (polarised pluralist) model, Germany within a “central” (democratic corporatist-adjacent) model, and Ireland within a “western” (liberal-adjacent) model. Importantly, we did not test whether these media system-level characteristics account for observed differences in AI discourse, that is we did not use it as an analytical lens but more as a pragmatic framework to facilitate our case selection, to ensure that the four national



corpora span distinct European press traditions and also to allow for comparison with debates on social media in the same four countries that examined in deliverable 4.1.

Further, most of the research on the subject focuses on the period before 2022. In contrast, the launch of ChatGPT at the end of 2022 made a big impression and generated intense media coverage of issues related to artificial intelligence. Therefore, our research provides original findings during a period of heated debate about artificial intelligence. Articles were collected from the Factiva and Europresse databases using language-specific Boolean queries designed to capture the main terminologies associated with AI. These included the keywords “artificial intelligence”, “machine learning”, “deep learning” and “facial recognition” and their respective translations (“intelligence artificielle”, “inteligencia artificial”, “künstliche Intelligenz”, etc.).

To ensure consistency and limit noise, we applied search operators only to the article’s full text field (TEXT=). We sought to create a balanced list of sources in terms of political leaning and journalistic direction. Yet, we must also acknowledge limitations stemming primarily from the technical constraints of the online databases we used. Also, we note that the Spanish corpus is significantly larger than the others, due to multiple regional outlets of the national dailies that, in most cases, repeat the same content. In that sense, we have verified that the size of the Spanish did not affect the statistical representation of the themes and, as such, did not skew our findings.

For France (Table 3), the corpus draws from *Aujourd’hui en France*, *La Croix*, *Le Figaro*, *Le Monde*, *L’Humanité* and *Libération*; for Spain (Table 5), from *ABC*, *El Mundo*, *El País Nacional*, *La Razón* and *La Vanguardia*; for Ireland (Table 6), from *The Irish Times*, *Irish Independent*, *Irish Daily Mail* and *Irish Mirror*; and for Germany (Table 5), from *Süddeutsche Zeitung*, *Frankfurter Rundschau*, *Die Zeit* and *Bild*. The French corpus is characterised by a dominance of centre-right and centre-left newspapers (Le Figaro: 36.68%; Le Monde: 30.78%). In contrast, the Spanish corpus is dominated by mostly right-leaning publications (La Razón: 39.93%; La Vanguardia: 31.09%). Our Irish and German corpora exhibit stronger representation of centrist and centre-left outlets (The Irish Times 51.28%; Süddeutsche Zeitung 55.1%). These ideological asymmetries are relevant for interpreting framing variations across countries and must also be considered when reading and interpreting the characteristic text segments we quote in the following sections.

Country	Newspaper	Number of articles	Share of national corpus
France	Le Figaro	2,557	36,68%
France	Le Monde	2,146	30,78%
France	Libération	634	9,09%
France	La Croix	631	9,05%
France	Aujourd’hui en France	612	8,78%
France	L’Humanité	391	5,61%



France total		6,971	100%
Spain	La Razón	7,177	39,93%
Spain	La Vanguardia	5,588	31,09%
Spain	El Mundo	1,887	10,50%
Spain	El País Nacional	1,695	9,43%
Spain	ABC	1,628	9,06%
Spain total		17,975	100%
Ireland	The Irish Times	1,702	51,28%
Ireland	Irish Independent	957	28,83%
Ireland	Irish Daily Mail	447	13,47%
Ireland	Irish Mirror	213	6,42%
Ireland total		3,319	100%
Germany	Süddeutsche Zeitung	1,669	55,10%
Germany	Frankfurter Rundschau	863	28,49%
Germany	Die Zeit	372	12,28%
Germany	BILD	125	4,10%
Germany total		3,029	100%
Grand total		31,294	

Table 1 - Overview of national press corpora by newspaper (2022-2025)

4.2. Lexicometric and Discourse Analysis

To contribute to FORSEE and WP4's research objectives, we analysed a large multilingual corpus of press articles covering the period between 2022 and 2025. The collected articles vary in length and editorial orientation (e.g., news, opinion, interviews, business/tech), resulting in a heterogeneous set of textual corpora. We adopted a mixed-methods approach, combining textual analysis and, subsequently, discourse analysis, supplemented by targeted close reading of Characteristic Textual Segments (CTSs), which we define later in this section. The former refers to the *Interface de R pour les Analyses Multidimensionnelles de Textes et de Questionnaires* (IRaMuTeQ)-based analysis (Ratinaud, 2024) of the press corpus, while the latter refers to a certain interpretive reading of our textual data.

In our methodology, discourse analysis is computationally supported by IRaMuTeQ. This software algorithmically dissects textual corpora into thematic clusters based on lexicometric principles and is broadly considered part of the recent "computational turn in the humanities and social sciences" (Rogers, 2019, p. 4). This process, known as Descending Hierarchical Classification (DHC) (also known as the Reinert method, Max, 1993), allows us to explore and compare the discourse employed in different textual corpora (Chaves et al., 2017; Ratinaud et al., 2019). There are several reasons for choosing the Reinert method. First, the project team has implemented IRaMuTeQ-based DHC consistently across multiple FORSEE work packages (including WP3 and WP4) and across varied corpora (press discourse, platform-related texts, and grey literature). This continuity supports



methodological coherence across deliverables and enables cautious comparison of discursive patterns across media environments. Second, while alternative semi-automated discourse analysis techniques (e.g. topic modelling, supervised classification) offer different affordances, existing research suggests that the results produced by these methods are broadly comparable when applied to similar corpora (Alboni et al., 2023).

The Reinert method was therefore selected as a well-tested and appropriate methodological approach for inductively identifying recurring lexical and discursive patterns even in heterogeneous textual corpora like the ones analysed in this report and across FORSEE. In the case of press discourse, lexicometric clustering is particularly appropriate given the relative similarity, or standardisation of journalistic writing, such as the recurrent use of shared vocabularies across outlets and genres. This allows DHC to capture structured discursive oppositions and dominant frames without imposing predefined semantic categories.

The subsequent interpretation of the DHC-produced clusters remains theory-led, in line with the overarching conceptual framework of our WP and FORSEE project. To be clear, the concept of discourse analysis is quite malleable but, in general, refers to the investigation of written or spoken texts, that is, “the analysis of language-in-use, along with the structures and institutions in which it is shaped, which it shapes and in which it takes place” (Ali, 2019, p. 405). By doing so, we can understand both how the press frames AI and how these framings intersect with broader sociopolitical and economic debates (Papaevangelou, 2023).

In our textual analysis of the press corpora, practically, IRaMuTeQ segments the corpus into hundreds or thousands of Characteristic Text Segments (CTSs) and partitions them into thematic classes based on their vocabulary distribution; the outcome is visualised as a dendrogram that spatialises lexical convergences and divergences. The aim of this procedure is not to identify latent topics or sentiment, but to reconstruct the discursive structures through which AI is discussed and negotiated in media discourse. Each lexical class produced by DHC can be understood as a frame of discourse, since the statistically significant co-occurrences that constitute a class describe the meaning universe within which a word takes shape. This approach, known as “frame mapping” (Ledouble & Marty, 2019), offers an inductive method for identifying frames without predetermining categories, in contrast to deductive frame coding. As Solberg and Kirchoff (2024) write concerning topic modelling, which is not very dissimilar to what we are doing with our research, “provides an empirically grounded method for automated coding of manifest content in large, domain-specific text corpora sampled from public discourse” that “when combined with close readings of latent meanings in exemplary texts” (like our CTSs) we can identify prominent topics in public discourse (p. 656).

Moreover, the way clusters are visualised in the generated dendrogram reflects their semantic proximity. Put simply, when two clusters belong to the same sub-branch, this indicates that the text segments grouped within them mobilise similar vocabularies or



closely related semantic contexts. The dendrogram therefore allows us to observe and interpret relations between lexical worlds identified by the analysis. It is important to note that the DHC procedure is agnostic to external variables at the clustering stage. Text segments are classified solely on the basis of their lexical composition, without regard to metadata such as country, outlet, or publication date. Each text segment is assigned entirely to a single class, rather than probabilistically distributed across classes. External variables are reintroduced only after the classification has been completed.

At this later stage, chi-squared (χ^2) tests are used to characterise and interpret the classes. The χ^2 statistic measures the degree of over- or under-representation of lexical forms or metadata variables within each class, compared to their distribution in the corpus as a whole (Souza et al., 2018). In practice, this involves comparing the observed frequency of a given word within a class to the frequency that would be expected under a uniform distribution. A high χ^2 value indicates that a term is particularly characteristic of a given class, rather than evenly distributed across the corpus. The same procedure applies to external variables such as year, country, or outlet, allowing us to identify when and where specific lexical worlds are statistically overrepresented. Importantly, given that risk-oriented frames are often dispersed across thematic classes rather than forming a standalone theme, we triangulate class-level distributions with the aggregated temporal plots for cross-cutting negative patterns (Figure 20).

A crucial step in our analysis involved examining how the importance of each theme evolved over time across the four national press corpora. After identifying the main classes through the DHC, we explored their temporal dynamics by examining how text segments assigned to each class were distributed across years using the corpus's time metadata. This allowed us to track, for example, when coverage of finance, regulation, or education became more or less prominent and to visualise these shifts in bar charts showing the proportion of each class's total text segments per year. For instance, classes associated with regulation are disproportionately composed of earlier text segments in the German corpus (2021-2022), whereas comparable classes in the French, Irish, and Spanish corpora are more heavily concentrated in later periods (2023-2024).

Following the DHC, each lexical class produced by IRaMuTeQ also contains a set of CTSs, i.e., short excerpts whose lexical composition is statistically distinctive of that class. When quoting CTSs in the Findings section, we draw on segments with the highest χ^2 values, which indicate a strong association between the words contained in the segment and the lexical profile of the class (default threshold $\chi^2 \geq 50$). We retrieved between 20 and 60 such CTSs per national corpus, from which a smaller subset of the most analytically relevant excerpts was manually selected for inclusion in this report. These segments provide qualitative grounding for the DHC results, allowing us to critically interpret the discourses constructed around AI. Finally, alongside the lexicometric analysis, we applied Named-Entity Recognition using the Python library SpaCy (Montani et al., 2023) to extract references to political actors, institutions, companies, and other stakeholders. Co-occurrences between these entities were then visualised as networks to identify



dominant actors and relational patterns within the media discourse (Smyrnaio & Ratinaud, 2014).

5. Findings

This section details the primary findings derived from the content analysis of the four national newspaper corpora: France, Spain, Ireland, and Germany. To facilitate reading of our findings, we have compiled them in Table 2. The corpus reflects a broad political spectrum, drawing heavily from influential outlets such as *Süddeutsche Zeitung* (55.1%) in Germany, *The Irish Times* (51.3%) in Ireland and a majority of centre-right press in Spain (*La Razón*, 39.9%; *La Vanguardia*, 31.1%) and France (*Le Figaro*, 36.7%). Before diving into the specific themes we identified, it is worth referring to the technology and political actors invoked in our dataset, as well as the temporal dimensions of the topics covered. Specifically, named-entity networks (Figures. 3, 6, 9, 12) reveal a dominance of references to US-based tech firms (e.g., Microsoft), political and tech actors (e.g., Musk, Trump) and, to a lesser extent, European and domestic figures (e.g., Macron). Temporal frequency plots (Figures. 1, 4, 7, 10) show shared peaks around events that generated a lot of press coverage and public debate: the public breakthrough of ChatGPT (late 2022), the legislative arc of the AI Act (2023-2024) and the Nvidia-led market surge (2023). In the following sections, we cover the eight major themes we identified across all four countries and, subsequently, provide an overview of the distinctive topics of each country.

The section below consolidates the results of the DHC analyses for each national corpus. Clusters with similar lexical composition were grouped into cross-country themes that loosely align with the themes identified in the earlier literature review. For instance, International News & Geopolitical Conflicts derives mainly from Class 12 (Germany, Figure 11), Class 13 (Spain, Figure 5) and Class 9 (Ireland, Figure 8); Economy & Finance from Classes 8 and 12 (France, Figure 2) and Class 10 (Germany, Figure 11); Regulation & Legal Framework from Classes 7-8 (France), Class 7 (Spain) and Class 7 (Ireland). Each quotation cited below corresponds to a characteristic text segment whose χ^2 association score exceeded 50 (see Methodology). Where relevant, Figures 1-12 (see Appendix) are referenced to visualise temporal peaks, class hierarchies and named-entity networks.

5.1. Cross-country themes

5.1.1. Cross-sectoral uses of AI

While this is arguably a theme that permeates all four corpora, we decided to form a separate topic that clusters discursive framings through which wider economic, political, labour and ethical debates about the widespread adoption of AI circulate (see Class 14 DE, Figure 11; Class 9 ES, Figure 5). In that sense, this topic focuses on how the deployment of AI is being discussed and across various sectors, primarily to emphasise the potential benefits of AI for efficiency and productivity. Generally, we noticed that coverage of AI use expands rapidly from 2022 onwards, peaking in 2023-24 when GenAI became a mainstream topic. Of course, beyond discrete sectors, as we see in the following sections, AI's



functional applications appear across virtually all corpora as the press describes machine learning and (Gen)AI applications in logistics, finance, journalism and public administration.

The German media provides concrete examples of deployment in white-collar environments:

“At least equally important are artificial intelligence and new computer programs, bots, which take over tasks from people in the office. An example of the use of AI programs is Allianz Insurance in Munich” (Süddeutsche Zeitung, 28/04/2022).

As we will see, some German sources also describe military applications, such as using AI to process data from battlefield sensors to visualise combat scenarios in near real-time. The French press highlights efficiency and productivity gains in what is framed as “repetitive tasks”:

“AI makes it possible to automate repetitive tasks, greatly simplifies the work of employees and increases productivity” (Le Figaro, 12/06/2023).

Meanwhile, in the less covered topic of sustainability, we remark that our Spanish corpus hints at optimisation and waste reduction in industrial processes using AI:

“The implementation of artificial intelligence (AI) tools such as machine learning or data analysis, allows identifying inefficiencies, optimizing processes and inventories and reducing waste, among other things” (La Razón, 21/12/2024).

5.1.2. International News & Geopolitical Developments

This theme seems to be quite temporally stable and transnationally aligned (Figure 14). The discourse is heavily driven by the necessity for Europe to maintain its position amid escalating global tensions, framing AI as an essential instrument of geopolitical power and a lever for digital sovereignty. In that sense, there is an omnipresent narrative that the EU needs to catch up with the US and China, both technologically and geopolitically. Also, as regards innovation and technology, these issues are more pronounced in the next theme, emphasising both the need for the EU to boost its competitiveness and protect its sovereignty. For instance, the German corpus expresses a fundamental concern regarding the integrity of transatlantic relations and Europe’s perceived vulnerability:

“Europe must realize that we are currently experiencing a turning point in history. Something seems to be broken between the USA and Europe. Trump talks with Putin about the future of Ukraine without the EU” (Süddeutsche Zeitung, 18/02/2025).

Also, we observe references to the explicit entanglement of state and tech actors in the US, particularly following Donald Trump’s re-election in January 2025. For example, in one instance, *Le Monde* highlights:



“Silicon Valley supports the candidate but hopes for concessions. The likely US vice-presidential candidate and Donald Trump’s opponent in the presidential election is perceived as more pro-business than Joe Biden” (Le Monde, 04/03/2025).

Interestingly, these geopolitical developments seem to provide the background for linking international news with business and technology coverage. Similarly, the Spanish press views the situation as a crisis of dependency, intensified by US political shifts:

“It arrives at a crucial moment for Europe, in the midst of a wrenching split with its historical partner, the United States, due to Donald Trump’s policies and his rapprochement with Vladimir Putin’s Russia and when Washington has decided to freeze military aid for Ukraine, essential for combating the Russian invader” (El País, 05/03/2025).

Further, we noticed widespread coverage of the Russo-Ukrainian war and the war in Gaza, especially as regards the deployment of AI-supported weapons, including means of surveillance and systems of automated target recognition (e.g., the use of ‘Lavender’ by the Israeli Defence Forces, Iraqi, 2024). For instance:

“From the data, the AI-supported software reconstructs the battlefield in the computer, visualized in the style of a video game simulation and supplemented with the most accurate possible information from the battlefield” (Süddeutsche Zeitung, 12/07/2024).

We also found references to internationally recognised Civil Society Organisations (CSOs) like Human Rights Watch (HRW), which have been raising the alarm on the perils of such new AI-fuelled weaponry:

“These weapon systems raise fundamental questions of an ethical, humanitarian, legal, operational, moral and security nature” (Libération, 28/10/2024).

It bears to be underscored, though, that the mentions regarding the Russo-Ukrainian war in this instance were much more pronounced compared to Gaza.

5.1.3. Economy & Financial News

Financial reporting on AI constitutes the second major theme. The increasing AI-related revenues and expenditures of tech giants like Nvidia and Microsoft dominate headlines, showcasing temporal synchronicity. The financial framing of AI sharply expands after 2022, reaching its peak in 2023-2024 across all countries (Figure 14). French and German outlets highlight tech market stock performance. Interestingly, Ireland’s press focuses on this topic earlier than the rest of the countries, perhaps owing to the importance of the market performance of companies with headquarters and financial stakes in the Irish economy.



In that sense, we noticed that AI, and the industry's financial magnification, is described as a catalyst for (economic) growth, innovation and productivity (Class 10 DE & Class 8 FR, Figures. 11-2). For example, the German corpus focuses heavily on the market leaders and the resulting financial boom:

"The stock of the chipmaker Nvidia is currently the most important on the globe, Rubner wrote in a paper to his clients after the company presented its quarterly figures on Wednesday evening, the market value of the company increased by 277 billion dollars on Thursday" (Süddeutsche Zeitung, 24/02/2024).

As shown in the previous cluster, the press perpetuates the framing of the EU as in need of investing heavily in AI to avoid falling further behind the US and China. Notably, the press covered extensively what has come to be known as the "Draghi report", a study and policy instrument authored by prominent European banker Mario Draghi for the European Commission President Ursula von der Leyen, wherein a set of policies like rolling back regulations to facilitate corporations are recommended primarily with a view to creating European AI champions (Draghi, 2024). Similarly, opinions appearing in parts of the French press positively highlight the formal announcement of competitive European investment plans:

"The 109 billion euros in investment in AI announced by Emmanuel Macron and the 200 billion euros (public and private) announced by the President of the European Commission, Ursula von der Leyen, are an excellent start" (Le Monde, 27/02/2025).

Moreover, we observe some commentaries echoing the hype-fuelled discourse of the early-2000s dot-com era (Goodnight & Green, 2010), showing optimism about AI's prospects for the (European) economy. We also see a clear convergence of tech and financial journalism to discuss the AI industry's prospects for the (European) economy, underscoring the importance of framing AI as a locomotive for economic growth. In that vein, for instance, the Spanish sources cover the large-scale strategic public investment announced at the EU level aimed at building domestic industrial capacity:

"The beginning of the investment of 1.5 billion euros to initially create seven artificial intelligence factories in several European Union countries seeks to establish a productive structure in this technology" (La Vanguardia, 11/12/2024).

The Irish corpus confirms AI's status as a top investment priority, noting the sheer volume of capital directed towards the sector:

"Artificial intelligence (AI) was a significant point of interest for investors making up more than 100 million of the total invested by venture capital firms last year" (The Irish Times, 17/02/2025).

5.1.4. Health & Medical Progress

Health remains one of the few consistently positive frames across the corpora, with strong peaks in 2023-2024 linked to AI-driven developments (Figure 15), particularly in areas of



diagnostics and oncology. We noticed that the DHC analysis foregrounded dedicated textual classes related to this theme in our French, Irish and Spanish press corpora (Class 3 IE, Class 1 FR, Class 8 ES). In contrast, the German corpus lacked a discrete health class with relevant discussions diffused across broader societal and technological debates. Despite that, we did find parts of the German press covering this theme:

“Self-learning systems could also provide better diagnoses, fed at breakneck speed with data from the cloud that has been anonymized using blockchain technology. If, for example, millions of X-rays are available, algorithms can recognize irregularities faster and more precisely” (Süddeutsche Zeitung, 09/01/2023).

Similarly, the French coverage emphasises AI’s potential to “revolutionise” cancer care across the entire patient journey:

“In addition to a profound impact on research, AI has the capacity to revolutionize all aspects of the management of a cancer patient, from diagnosis to therapeutic follow-up, predicts Professor Alain Puisieux, Chairman of the Executive Board of the Institut Curie” (Le Figaro, 26/06/2023).

In our Spanish press, we found reports detailing possible benefits of AI for early detection applications:

“Detection of prostate cancer, early detection of cerebral atrophy and lesions associated with neurological diseases in early stages” (La Vanguardia, 28/01/2025).

Likewise, the Irish corpus seemed to focus on improving outcomes for chronic conditions:

“Heart disease patients in Ireland and across the world can look forward to better outcomes and avoiding unnecessary treatments due to artificial intelligence (AI) advances, a leading cardiologist and researcher at University of Galway has said” (Irish Independent, 29/03/2024).

All in all, it’s safe to say this class received the most positive coverage, signalling significant hope for AI’s benefits.

5.1.5. Regulation & Legal Frameworks

Regulatory and legal discourse constitutes one of the most consistent thematic threads in the dataset. All corpora discuss key regulatory instruments, such as the GDPR, DSA, DMA and the AI Act (Classes 7-8 FR; 7 ES; 7 IE; 12 DE; see also Figure 9). As we see, though, in Figure 16, the temporality varies across our four corpora: German outlets engage with these issues earliest (2021-2022), treating regulation as an industrial and technical governance issue. French, Irish and Spanish media, on the other hand, reach peak coverage during 2023-2024, when the AI Act dominates the European legislative agenda. Across languages, the tone is ambivalent. On the one hand, the EU is lauded as a global norm-setter advancing a human-centred model of AI; on the other, commentators warn of “over-regulation” that could “stifle innovation”. In that sense, the tension between ethics and competitiveness



becomes a recurring pattern: for instance, parts of the French press frame regulatory discussions as an inherently political arena:

“The regulation of social networks like AI are eminently political issues” (Le Figaro, 11/06/2025).

Moreover, the Spanish media seems to address how the AI Act seeks to protect human rights:

“Brussels began applying the prohibitions for abusive practices contemplated in the European AI Act to regulate this technology and protect human rights” (La Vanguardia, 12/02/2025).

At the same time, earlier on, we notice the discourse of “over-regulation”:

“The EU AI Act must strike a balance between regulation and innovation, as well as transparency and privacy for people affected by these AI systems” (Irish Independent, 03/03/2022), as well as references again to the Draghi report: “Europe is too busy regulating” to be globally relevant, leading Draghi to try to “wake us up from our lethal somnolence” (La Vanguardia, 14/09/2024).

Notably, Ireland’s newspapers stand out for their sustained attention to the Data Protection Commission (DPC), which is portrayed simultaneously as a guarantor of rights and a regulatory bottleneck. This dual framing illustrates the material tension between Ireland’s economic reliance on tech multinationals and its role as the EU’s lead data-protection authority:

“Coupled with the established GDPR privacy regime means Ireland benefits from a clear regulatory framework to underpin investment” (Irish Independent, 12/04/2025).

However, this regulatory framework also presents

“likely contradictions and incompatibilities between the rights and protections within the EU’s massive data protection and privacy regulation, the GDPR and the apparent regulatory intent and protections in the AI Act” (The Irish Times, 24/10/2024).

5.1.6. Culture & Creative Industries

All four corpora include cultural framings of AI, though intensity varies. Cultural coverage of AI grows significantly after 2023 and is most pronounced in Spain and France (Class 5 ES, Figure 5; Class 4 FR, Figure 2). The Spanish and French press seem to link cultural debates closely to copyright lawsuits and creative labour conflicts, while the Irish and German press often touch upon aesthetic and philosophical framings of AI-generated art.



For instance, one German article expresses the concern that AI risks eroding

“the things that hollow out are what makes us human” (Süddeutsche Zeitung, 15/09/2023).

Cultural coverage grows post-2023, reflecting the generative-AI boom and related controversies in art and writing (Figure 17), including high-profile events such as the Hollywood writers’ strike and copyright lawsuits (e.g., NYT v. OpenAI and Microsoft 2023). We also noticed a few remarks connecting the advancement of GenAI and its implications for human art and creativity to dystopian narratives about AI going rogue or developing “superintelligence”. For instance, we find explicit references in our Spanish corpus:

“Human extinction or a dictatorship of machines are some of the fates that science fiction and the most pessimistic predict will result from the development of artificial intelligence” (La Vanguardia, 15/06/2023).

At the same time, we take stock of the fact that journalists do acknowledge the role of popular science fiction in fuelling these dystopian futures:

“Probably one of the most decisive factors in this fear in the collective imagination is precisely the influence that science fiction and dystopias have had, with their generally anthropomorphic super-intelligent machines capable of overcoming and rebelling against human beings” (La Vanguardia, 15/06/2023).

Further, the Spanish press extensively covers litigation concerning creative labour:

“George R.R. Martin and other writers sue OpenAI and other authors have denounced OpenAI for the systematic theft of their works” (La Vanguardia, 22/09/2023).

Moreover, parts of the French press document the blurring lines of authorship by citing prior examples of AI-written works:

“The same movement is unfolding in literature: in 2018, a small publishing house, Jean Boîte, published a novel in English, The Road, written exclusively by an AI trained on classic American books” (Le Figaro, 01/12/2023).

Interestingly, we also found some economic arguments regarding the compensation of artists for the use of their content by GenAI systems:



“Therefore, it might be cheaper to simply pay people fairly for their artistic work and use AI in other areas of film production. Computer programs could currently help much better in planning a film from pre-production to post-production than, for example, in scriptwriting” (Süddeutsche Zeitung, 29/09/2023).

5.1.7. Training & Education

This thematic field bridges economic and ethical narratives about how societies prepare citizens for AI transitions with education and training (Class 3 DE, Figure 11; Class 12 FR, Figure 2), constituting a consistently important topic across all corpora with interesting temporal variations (Figure 18). The topic peaks in 2023-2024, when GenAI enters schools and workplaces: Irish newspapers cover the suspension of the “Leaving Certificate” reform¹ following concerns about AI-assisted cheating:

“Secondary teachers are seeking an indemnity against any legal actions arising from students losing Leaving Cert marks over the improper use of artificial intelligence (AI) in their project work” (The Irish Times, 15/03/2025).

French coverage, by contrast, emphasises teacher training and the promise of personalised learning systems, hinting at a more positive approach to embracing AI’s prospects. Additionally, our Irish and German data display later increases (2023-2024), reflecting discussions on re- and up-skilling, embedded in debates about industrial automation and public-sector efficiency.

Broadly, we identify a discourse showing concern over how the potential of productivity gains that GenAI technologies carry can be harnessed in a way that does not amplify the erosion of critical thinking; hence, we also noticed some references to the need to institute and promote AI literacy:

“Pupils and students must be able to do the same thing as teachers and professors in the future, namely use AI tools critically and productively”. This is complicated by the observation that “schools apparently often lack the prerequisites to use AI sensibly” (Süddeutsche Zeitung, 26/06/2025).

Similarly, though focused on the labour implications, the French coverage stresses the radical shift in professional competence required:

“This is going to totally change the way we work, summarizes Nicolas de Bellefonds, associate director at BCG, along with all the associated training challenges. Many studies have been trying in vain for a year to quantify how many jobs will be eliminated because of generative AI” (Le Figaro, 10/07/2024).

¹ The Leaving Certificate is Ireland’s terminal examination at the end of secondary education. Students’ results are used to determine entry to public/state universities. Here, ‘the reform’ refers to proposals to increase the percentage of final grades given to school-based continuous assessment (including project work) and to require teachers to mark and award these grades, alongside the traditional externally examined components.



5.1.8. Cross-cutting Risk-oriented Themes

Unlike other clusters, risk-oriented frames are dispersed across multiple thematic clusters rather than forming a single theme. Concerns span surveillance, ethical risks (deception, bias) and environmental harms. Among the most prominent risk-related topics, we identified technologies using facial recognition. To be clear, press coverage reflects a clear tension of acceptable AI use between institutional framings of what constitutes acceptable (or successful) AI. For instance, we notice a perspective stemming primarily from law enforcement authorities and state actors that facial recognition is a legitimate tool for security, policing, or public-order control, and another stemming primarily from civil society actors that foreground risks to fundamental rights and democratic oversight contrast illustrates how the press mediates competing political and normative understandings.

This issue arises in the context of the anti-immigration riots that broke out in Dublin in 2023 and the ensuing debate on the potential use of facial recognition technology for law enforcement purposes, which remains outside Ireland's legal framework. For instance, in Ireland, the Justice Minister advocated for its use in crime investigation, with the Fianna Fáil leader insisting that facial recognition is a *"critical component of the plan for gardaí to wear body cameras"* (*Irish Independent*, 31/05/2023). Meanwhile, in the same corpus, we notice the opinions of human rights advocates raising concerns about facial recognition technology being *"inappropriate for policing"* (*The Irish Times*, 28/11/2022), as well as of Oireachtas researchers who emphasised, among others, that its accuracy is estimated at around *"only 19% of the time"* (*Irish Daily Mail*, 24/03/2025).

Further, issues about data governance, bias in and manipulation with AI emerge as persistent concerns. A typical and explicit example comes again from the Irish press:

"Advanced artificial intelligence models can be trained to deceive humans and other AI" (*Irish Independent*, 16/01/2024).

Moreover, somewhat in the same vein, we observe concerns about electoral integrity in the US and the EU, where GenAI and related techniques such as deepfakes further challenge democratic processes. For instance, the German press reports that:

"Researchers have concluded that chatbots such as ChatGPT from OpenAI, Gemini from Google and Microsoft's Copilot regularly hallucinate when asked questions about the European Parliament elections, meaning they invent information" (*Süddeutsche Zeitung*, 24/05/2024).

Lastly, the energy and broader environmental impact are notable negative patterns. For example, in the German corpus, we find references to the inherent resource demand of AI systems:

"AI models require considerable computing power, which in turn demands higher energy consumption" (*Frankfurter Rundschau*, 17/10/2024).

Similarly, a growing concern, linked to the competition among tech companies releasing GenAI products, is that countries will require much more investment in their energy



infrastructure to *“support the innovation being driven by AI”* (*The Irish Times*, 15/05/2025). In Ireland, the debate over the energy impact of data centres is significant, as expected, given that the country is home to the most data centres in Europe (see Brodie, 2023). The discourse highlights the contradiction between policies promoting the development of renewable energies and the excessive demand for energy from data centres (see also Class 14 DE; Class 10 FR; Class 10 IE).

5.2. National Specificities

National differences in media coverage are partially explained by the political alignment of the dominant press outlets. Centre-right-leaning majorities in France and Spain generally drive techno-economic optimism, whereas the focus on regulation, labour-market anxiety and societal risk is more prominent in the German and Irish press.

5.2.1. France

As evidenced by our named-entity network analysis (Figure 3), the French corpus stands out for its emphasis on the role of political leadership in advancing the EU’s strategic autonomy, often set against the influence of US tech and political figures. President Emmanuel Macron is a central figure in this discourse, leveraging public speeches and international forums to push his agenda. For instance, he delivered a speech at the Sorbonne amphitheatre, in which he advocated stronger measures in critical sectors such as defence, energy and tech, amid a moment of crucial geopolitical instability, claiming that *“our Europe may die”* (*Le Monde*, 25/04/2024).

Additionally, Macron is portrayed as consciously utilising technology initiatives to bolster his domestic standing, as he has *“decided to take advantage of the AI summit to restore his political health as leader of the start-up nation”* (*Le Figaro*, 06/02/2025). Similarly, the focus on innovation and France (*“start-up nation”*) reveals the importance of AI in the country’s political agenda (see Classes 11-13 in Figure 2). Indeed, Macron seems to be placed and act as a bridging node between domestic institutions (l’Élysée, l’Assemblée nationale) and large technology firms (Google, Microsoft, OpenAI). In this vein, what we identify in the French corpus more than in the rest — with perhaps the exception of the German corpus — is an explicit connection between developments about technology and tech firms, and geopolitical competition (see Classes 8 and 12).

A characteristic example of this discourse can be found in the following excerpt, which notes that countries like China offer an advantageous *“paradise for training AI models because they lack strict data privacy laws”* (*La Croix*, 10/02/2025). Therefore, there seems to be a widespread concern about how to boost competitiveness and pursue ‘strategic autonomy’ while preserving the paradigm of the ‘European way of doing things’, namely AI innovation anchored in regulation and Western values. In France, there is also a pronounced debate on human augmentation. In particular, there is a notable discussion about the company Neuralink and neural implants, raising fears of ‘cognitive wars’ and further ‘disruption’ of humans.



5.2.2. Ireland

The Irish press presents an inherent interest because of the country's context: it is home to the European headquarters of many of the largest US and Chinese tech firms, and the Irish Data Protection Commission is central to post-GDPR EU data governance. This tension has led to confrontations with technology giants, such as when Google postponed the launch of its chatbot Bard in the EU following requests for privacy assessments from the DPC (*Irish Independent*, 15/06/2023). Similarly, Meta was asked by the Irish privacy watchdog to delay training its LLMs using public Facebook and Instagram content (*The Irish Times*, 15/06/2024). Our named-entity network analysis of the Irish corpus (Figure 9) does not reveal a distinct national constellation of actors, but it underscores the country's centrality for US technology firms, with Google, OpenAI, Meta, Microsoft, and Amazon dominating the network, closely entangled with state institutions and regulatory bodies, while civil society actors and educational institutions remain peripheral.

Moreover, the Irish press reveals a discourse about the deployment of AI technologies in education. In particular, the press underscores how the widespread availability of GenAI tools like ChatGPT poses a significant threat to academic integrity (Class 3 in Figure 8). The emergence of these tools *"has sparked alarm on college campuses and prompted many Irish higher education institutions to revamp their policies on academic integrity and how they assess students"* (*The Irish Times*, 19/01/2023).

Two more excerpts are revealing of this discursive theme:

"Third level students are facing the prospect of more oral exams as colleges grapple with the threat posed to academic standards by Artificial Intelligence platforms such as ChatGPT" (*Irish Independent*, 14/08/2023).

And another one from *The Irish Times*, which informs us how teachers are specifically seeking legal indemnity against potential lawsuits, with the press noting that:

"Secondary teachers are seeking an indemnity against any legal actions arising from students losing leaving cert marks over the improper use of Artificial Intelligence in their project work" (15/03/2025).

Last, another unique theme that we uncovered in the Irish corpus concerns the use of AI in more personal and intimate ways, such as for processing grief and seeking companionship. For instance, we found discussions on *"[resurrecting] a deceased loved one in virtual form"* (*The Irish Times*, 10/06/2024).

5.2.3. Germany

We find that German media discourse is characterised by a focus on the profound social and labour disruptions anticipated from AI, reflecting concerns rooted in Germany's industrial history. A characteristic articulation of this thematic cluster (see Class 14 Figure



11) can be seen reflected in language such as “*danger of mass layoffs in workplaces where the technology will render humans superfluous*” (*Süddeutsche Zeitung*, 11/02/2025).

We also note how, in some cases, AI is framed as capable of boosting efficiency and helping workers in “*simple, repetitive tasks*” (*Süddeutsche Zeitung*, 30/08/2024), while at the same time remaining subordinate to human direction: “*AI must remain a tool over which humans retain control*” (*Süddeutsche Zeitung*, 21/03/2023).

Simultaneously, a persistent theme throughout the German corpus is the deep concern that the country-and the EU-is lagging dangerously behind in the global technological competition (Class 12 in Figure 11). This discourse was also found in France, but we thought it should be repeated here, as Germany and France hold the most power to steer the EU. Specifically, German commentary frequently measures its progress against global leaders, noting that “*the USA and China are already much further ahead in AI than Europe and it is a great shame that the EU is not an AI powerhouse*” (*Süddeutsche Zeitung*, 29/03/2022).

This feeling of urgency is reinforced by data showing that Germany ranks only in the middle among EU member states for digitalisation, and that, overall, Europe lags behind the US and China (*Süddeutsche Zeitung*, 27/10/2023), which implicitly advocates a more venture-capital-friendly regulatory environment (*Frankfurter Rundschau*, 20/11/2024). Here, our named-entity recognition analysis of the German corpus (Figure 12) centres also on US technology firms and platforms. Unlike France, no single national political figure emerges as a dominant hub, suggesting that discourse about AI is more structured around societal and (geo)political-economic developments rather than political leadership. Last, we also notice *Die Zeit* emerging as a central node in the graph.

5.2.4. Spain

A major unique feature of the Spanish press corpus is the dominance of discussions around investments (Class 6, Figure 5). While other countries also show an interest in finance, most notably the German press, we find that Spain’s press coverage tracks investment developments in tech startups more closely. Specifically, articles discuss investment rounds and European-funded projects in a quasi-celebratory fashion, framing AI as a catalyst for the country’s progress and growth, akin to that of Ireland, which, among others, created the Disruptive Technologies Innovation Fund to ‘boost innovation’ (*The Irish Times*, 14/06/2024). Another specific aspect in the Spanish case is the promotional discourse surrounding university training courses, as well as more generic training courses provided to all citizens. We mainly see projects launched by universities and research laboratories, very often in partnership with businesses, and this discourse seems deeply rooted in the culture of private/public hybridisation. Last, as with the previous countries, our named-entity network analysis (Figure 6) seems to also corroborate the prominence of investment-oriented discourse, with US technology firms occupying central positions in the media discourse.

Theme / Country	Dominant “Success” Frame	Dominant “Failure” Frame	Main Stakeholders



International News & Geopolitical Developments	AI as a strategic asset in global competition and digital sovereignty	Loss of autonomy; geopolitical dependency	State leaders, EU institutions, US tech firms
Economy & Financial News	Growth, competitiveness, record profits, investment momentum	Market concentration, speculative hype, uneven benefits	Big Tech firms, investors, political elites
Health & Medical Innovation	Diagnostic and medical breakthroughs; healthcare efficiency	Data misuse, opacity, unequal access	Hospitals, researchers, technology firms
Regulation & Legal Frameworks	EU as global norm-setter; legal certainty	Over-regulation; enforcement gaps; regulatory capture	EU Commission, national regulators, policymakers
Culture & Creative Industries	AI as creative tool and productivity enhancer	Copyright infringement; erosion of authorship and creativity	Artists, publishers, tech companies, courts
Education & Training	Upskilling, AI literacy, future-ready workforce	Cheating, deskilling, educational disruption	Universities, teachers, policymakers
Uses of AI in Society	Efficiency, automation, public-sector modernisation	Loss of human judgement; opacity	Public authorities, technology providers
Cross-cutting Risk-oriented Themes	Security, efficiency, technological progress	Democratic erosion, privacy violations, environmental harm	Law enforcement, regulators, civil society (marginal)
France	Political leadership, strategic autonomy, "start-up nation" narrative	Ethical anxiety, data governance tensions, human augmentation risks	President Macron, EU leaders, French tech sector
Ireland	AI as attraction for investments and economic boost	Regulatory tension, educational disruption, environmental cost of data centres	Tech multinationals, data protection commission, educators, policymakers
Germany	Efficiency and industrial gains	Labour displacement, technological laggard	Industrial actors, policymakers, labour commentators
Spain	Investment optimism, start-up growth, public-private training	Rights violations, surveillance, creative labour disputes	Investors, universities, tech firms, rights advocates

Table 2 - Summary of findings, including dominant success and failure framings and key relevant stakeholders

6. Conclusions

Across the four national corpora examined in this report, we see that press discourse is constructing an important yet ambivalent European narrative on AI, in which success and failure are defined through contested expectations, primarily, related to (geo)political-economic positioning and, to a lesser extent, a supposed adherence to European values. While these expectations vary in emphasis across countries, they converge around a shared framing of AI as both a strategic necessity and a source of societal tension.

6.1. Framing Success and Failure in AI Discourse

Newspapers frame AI success primarily through themes that project optimism, technological progress and economic utility. Success in the identified themes of Economy & Finance and Cross-sectoral use is consistently defined by expectations of heightened efficiency and productivity, and the ability to attract capital, treating AI as a necessary “locomotive” for re-energising the EU's economy. In International News & Geopolitical Developments, success is conceptualised as achieving technological sovereignty and geopolitical relevance, enabling Europe to “catch up” with the US and China in the global “AI race”. Furthermore, the Health & Medical Progress theme is one of the most consistently positive frames, in which success is expected through medical breakthroughs, particularly in diagnostics and oncology. Finally, success in Training & Education is defined by the preparedness of institutions and citizens to acquire the necessary skills to leverage AI's potential and adapt to the demands of the 'AI era'.

Conversely, failure is perceived as the detrimental outcome of unfulfilled expectations or the materialisation of associated risks. In the realm of Regulation & Legal Framework, failure is twofold: it can be the EU's inability to effectively “rein in foreign tech actors’ power” through enforcement, or, paradoxically, the consequence of “over-regulation” that critics warn could stifle innovation and economic competitiveness. Broader risks associated with failure are dispersed across themes, including concerns over labour disruption and the danger of “mass layoffs”, the erosion of human creativity in Culture & Artistic Creation debates and persistent risks related to data governance, bias, manipulation (such as deepfakes challenging electoral integrity) and the significant energy consumption and environmental impact of AI systems.

6.2. Patterns and Contradictions Across Countries

A core tension emerging across all four national media corpora (France, Spain, Ireland and Germany) is the EU's ambivalent approach to AI: striving simultaneously for economic dynamism and adherence to fundamental rights and European values. This tension manifests acutely in the regulatory discourse, where the laudable goal of setting global norms for a human-centred model of AI is met with warnings against potential regulatory bottlenecks. While the urgency to “catch up” with the US and China is a shared transnational pattern, the specific focus and tone vary significantly across national media systems and ideological alignments.



While we did not systematically use news outlets' political and ideological orientation for our analysis, it nevertheless is certain that ideological asymmetries influence framing. For example, centre-right and right-wing news outlets in Spain seem to embrace a quasi-celebratory discourse around investment and startups as catalysts for growth, while in France the role of political leadership (e.g., President Macron) in advocating for strategic autonomy is more pronounced. In contrast, centrist and centre-left outlets, such as those in Ireland and Germany, place greater emphasis on labour market anxiety and societal risk. Germany's discourse is notably characterised by concerns over profound social and labour disruption, often lamenting the country's technological lag behind global leaders. Ireland presents a unique internal contradiction, given its role as a hub for US tech multinationals and as the EU's lead data protection authority (DPC). This position creates tensions and "likely contradictions and incompatibilities" between the GDPR regime and the AI Act, illustrating the clash between economic reliance and regulatory responsibility, and, on another level, between sustainable energy policies and the necessity of satisfying data centres' energy demand.

Further, we noticed risks recur across countries and themes, with the press discourse tending to render risks actionable, such as enacting regulation. A governance implication follows for FORSEE: media framings can contribute to societal acceptance not only by amplifying promises but also by establishing a culture of demanding more effective governance and challenging a more procedural form thereof; certainly, the contrary may also hold true, wherein the press promotes the latter, leaving structural questions of dependencies, democratic participation, and power asymmetries less visible.

6.3. Dominant and Marginalised Actors in AI Discourse

The discourse surrounding AI is overwhelmingly dominated by a specific network of powerful actors, as revealed by Named-Entity Recognition analysis. As our network analysis of all four national corpora showed, US-based tech firms such as Microsoft and Nvidia, along with influential tech and political figures (e.g., Elon Musk, Donald Trump), dominate references across the four national corpora. Within the EU context, political leaders (e.g., President Macron, Ursula von der Leyen) and high-profile policy figures (e.g., Mario Draghi) are central to driving the narrative on strategic autonomy, investment plans, and regulation. The business sector and governments are frequent interlocutors, reflecting the framing of AI as an economic and geopolitical imperative. Conversely, ordinary citizens and activists are marginalised or absent from mainstream discourse, mentioned only "to a lesser extent".

Similarly, compared to other technological topics, the coverage tends to highlight businesses over scientists and research communities, shifting the emphasis away from foundational research towards market and investment dynamics. Only occasionally do internationally recognised CSOs, such as Human Rights Watch, appear, typically when raising alarms on specific ethical concerns, such as the perils of AI-fuelled warfare.



6.4. Limitations and outlook on the future

This study has some limitations that should be acknowledged. First, the analysis focuses on national daily newspapers, which occupy a particular position within the media ecosystem as agenda-setters and intermediaries of the public sphere. While this makes them especially relevant for examining how expectations around AI are set and contested, it also means that other arenas of discourse and public deliberation, such as social media platforms and the judiciary, are not captured here. To that end, our other reports within WP4—Tasks 4.1 and 4.3 respectively—work complementarily to this report. Second, while the cross-country comparative design allows for the identification of common themes and national specificities, the analysis does not seek to offer broader conclusions regarding these countries' media systems and political economies. Therefore, future research should analyse the connection between national media systems and AI discourses more explicitly and systematically. Finally, lexicometric and network analyses, while allowing for a combination of qualitative and quantitative approaches, they primarily work on the macro-level. In that sense, future research could deepen the analysis through interviews with journalists, policymakers, or industry actors to provide us with a more focused and grounded understanding.

7. References

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8. Appendix

France

	Frequencies	Percentages
Le Figaro	2557	36,68 %
Le Monde	2146	30,78 %
Libération	634	9,09 %
La Croix	631	9,05 %
Aujourd'hui en France	612	8,78 %
L'humanité	391	5,61 %
	6971	100 %

Table 3 - Frequencies of newspapers in the French corpus

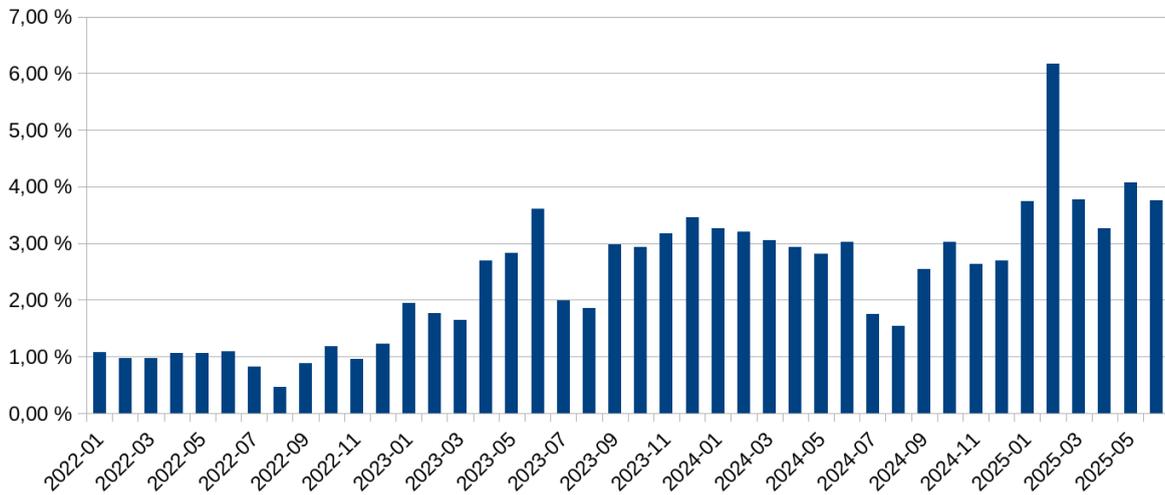


Figure 1 - Frequencies by months in French corpus

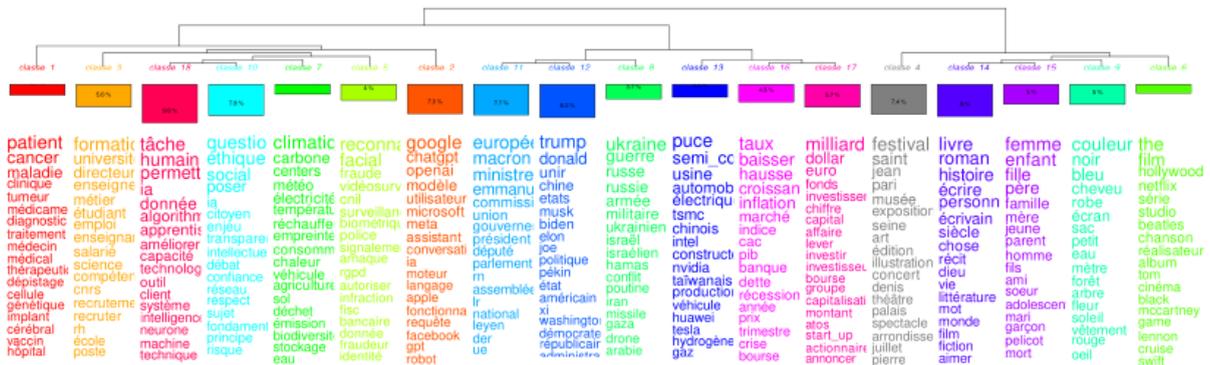


Figure 2 - Dendrogram of the clustering on the French corpus



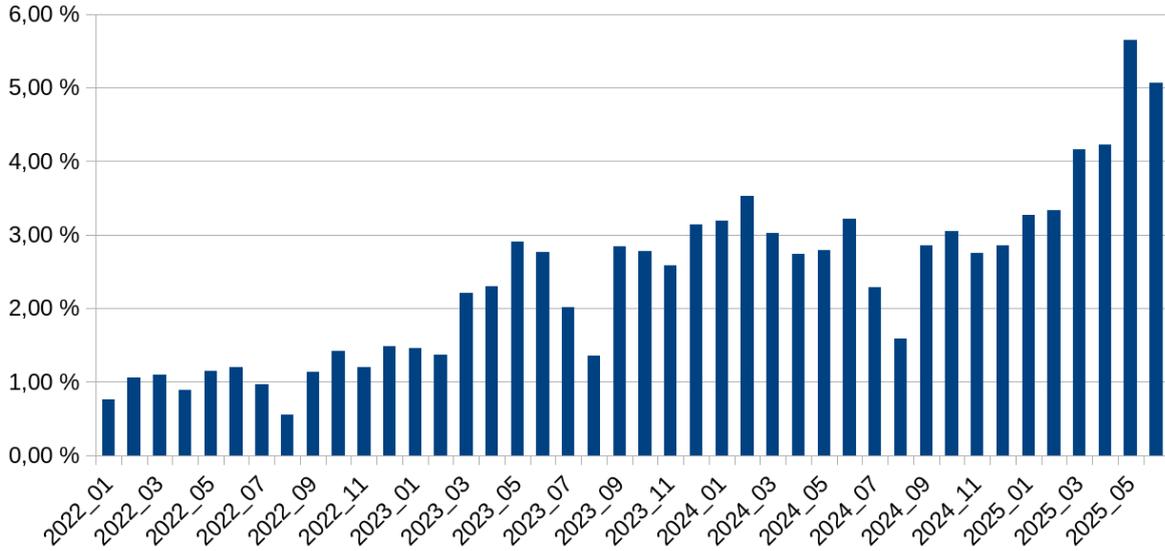


Figure 4 - Frequencies by months in Spanish corpus

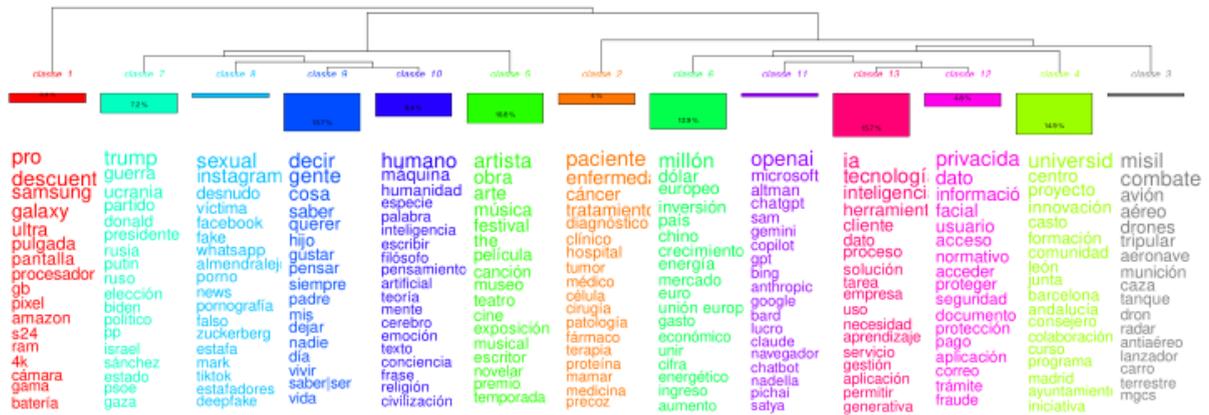


Figure 5 - Dendrogram of the clustering on the Spanish corpus



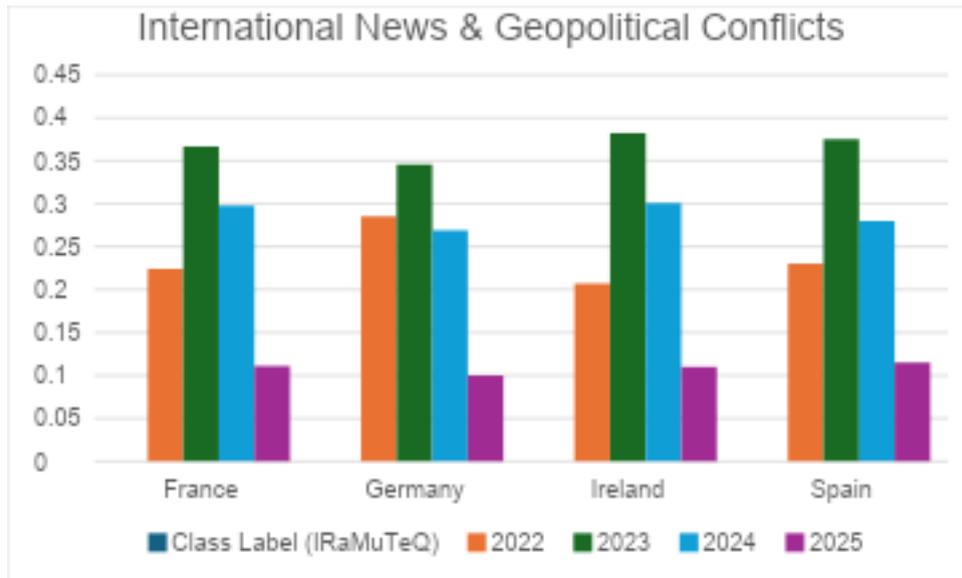


Figure 13 - Temporal distribution of the “International News & Geopolitical Conflicts” theme across our four corpora (2022-2025). The share of text segments per year within each national corpus is normalised by the total class size.

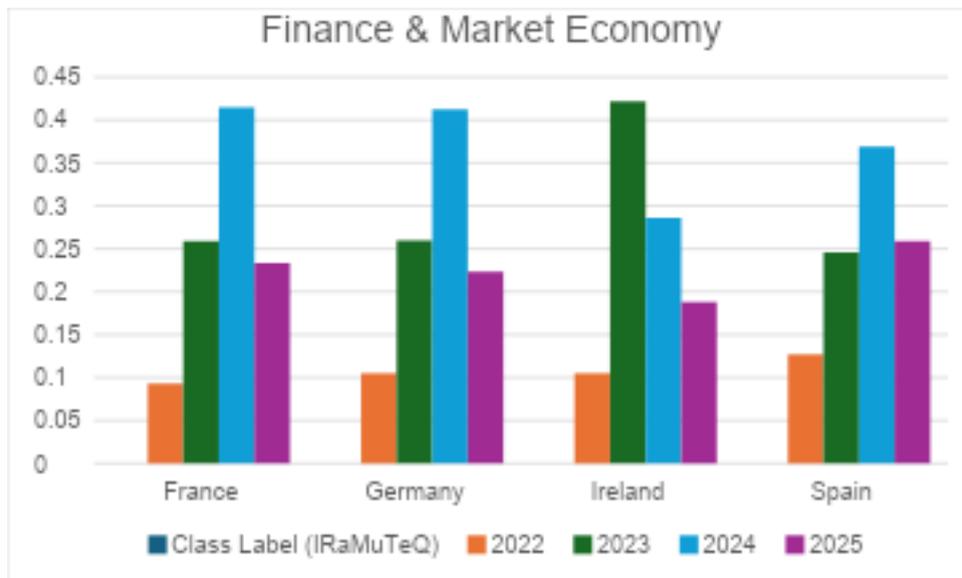


Figure 14 - Temporal distribution of the “Finance & Market Economy” theme across our four corpora (2022-2025). Share of text segments per year within each national corpus is normalised by total class size.



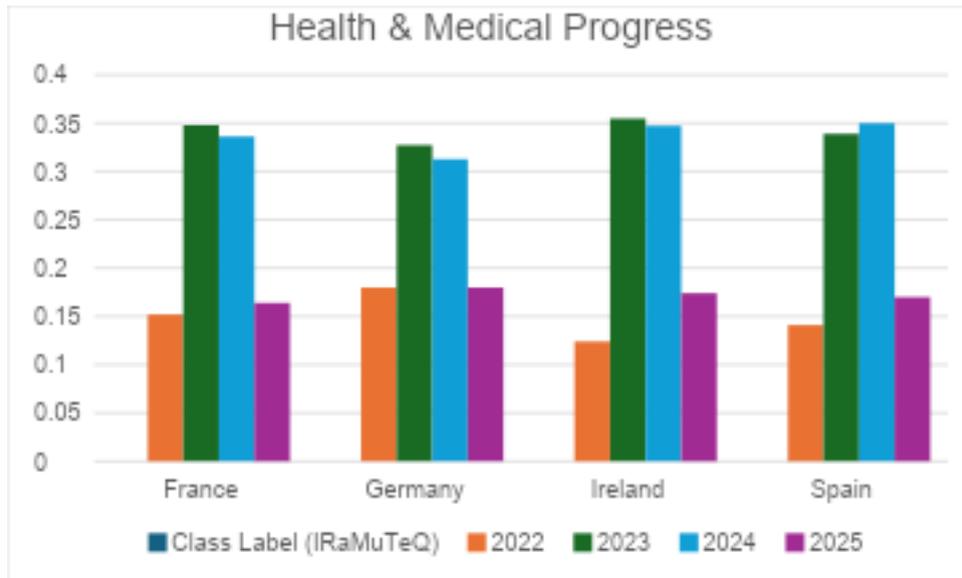


Figure 15 - Temporal distribution of the "Health & Medical Progress" theme across our four corpora (2022-2025). The share of text segments per year within each national corpus is normalised by the total class size.

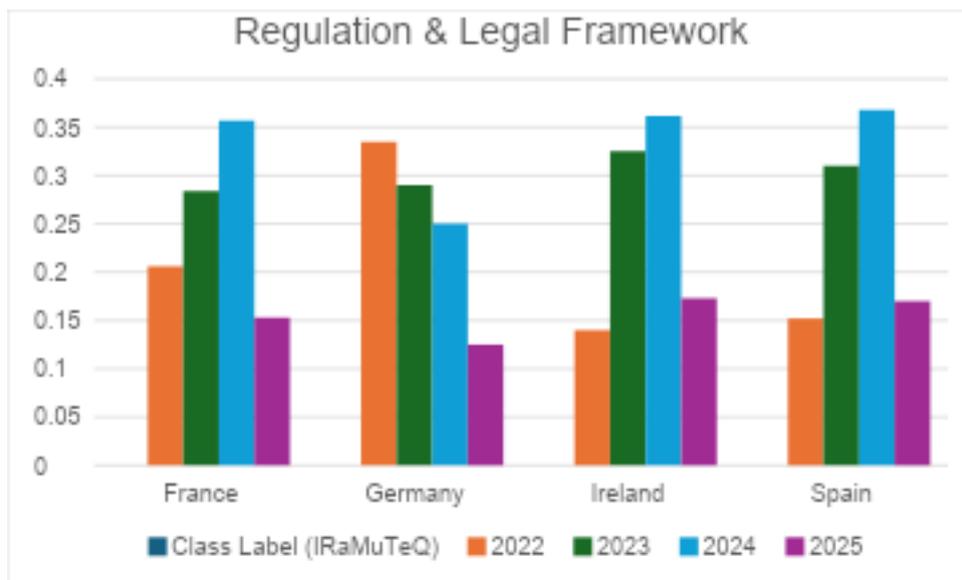


Figure 16 - Temporal distribution of the "Regulation & Legal Framework" theme across our four corpora (2022-2025). The share of text segments per year within each national corpus is normalised by the total class size.

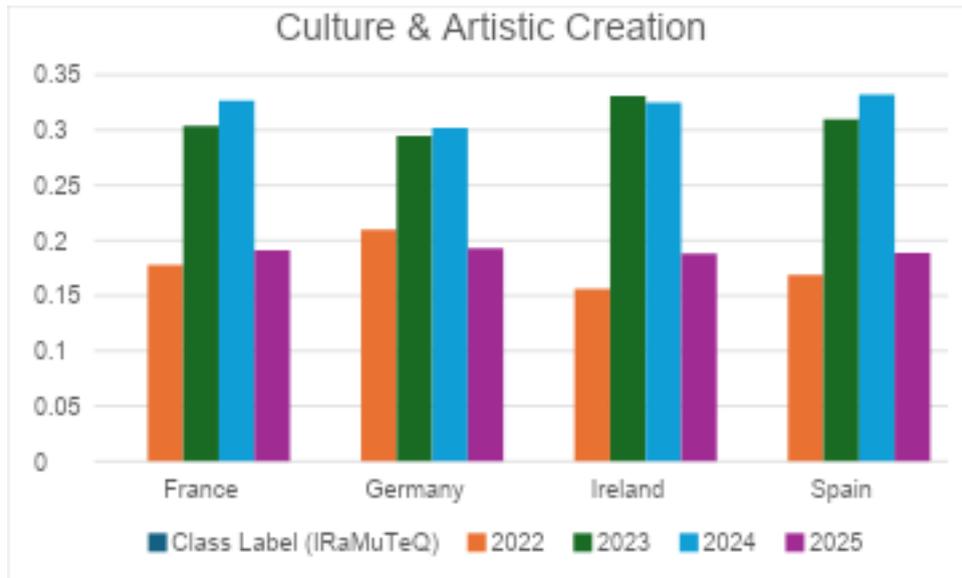


Figure 17 - Temporal distribution of the “Culture & Artistic Creation” theme across our four corpora (2022-2025). The share of text segments per year within each national corpus is normalised by the total class size.

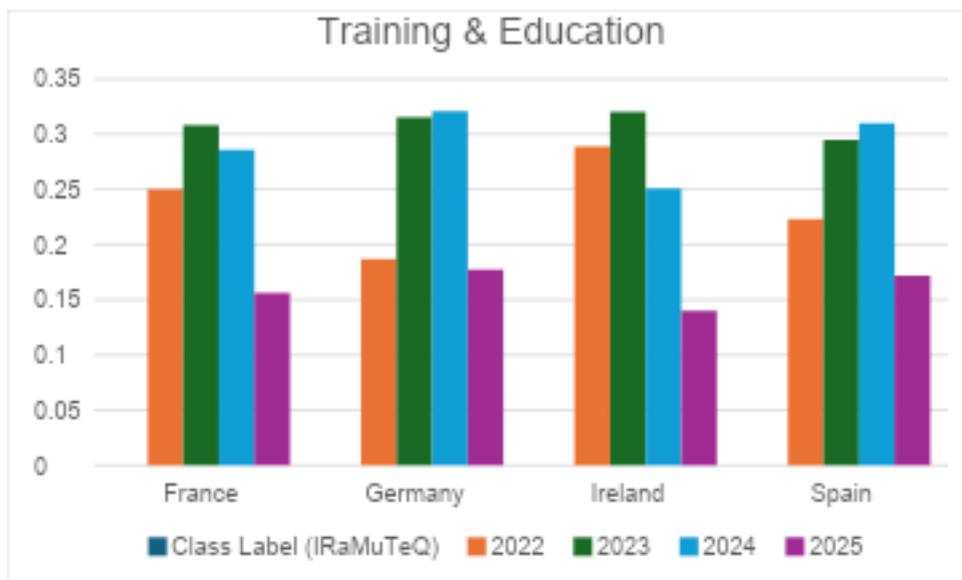


Figure 18 - Temporal distribution of the “Training & Education” theme across our four corpora (2022-2025). The share of text segments per year within each national corpus is normalised by the total class size.



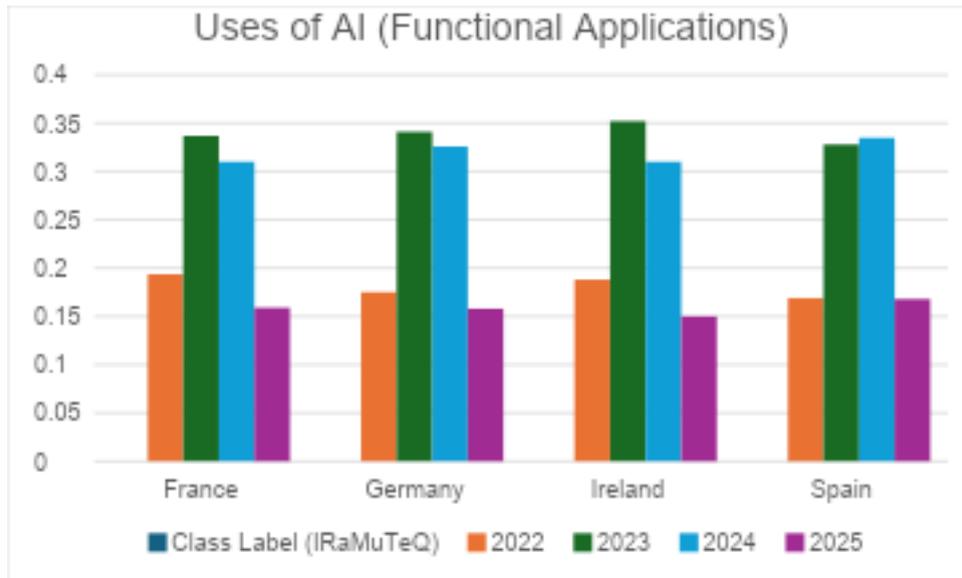


Figure 19 - Temporal distribution of the “Uses of AI” theme across our four corpora (2022-2025). The share of text segments per year within each national corpus is normalised by the total class size.

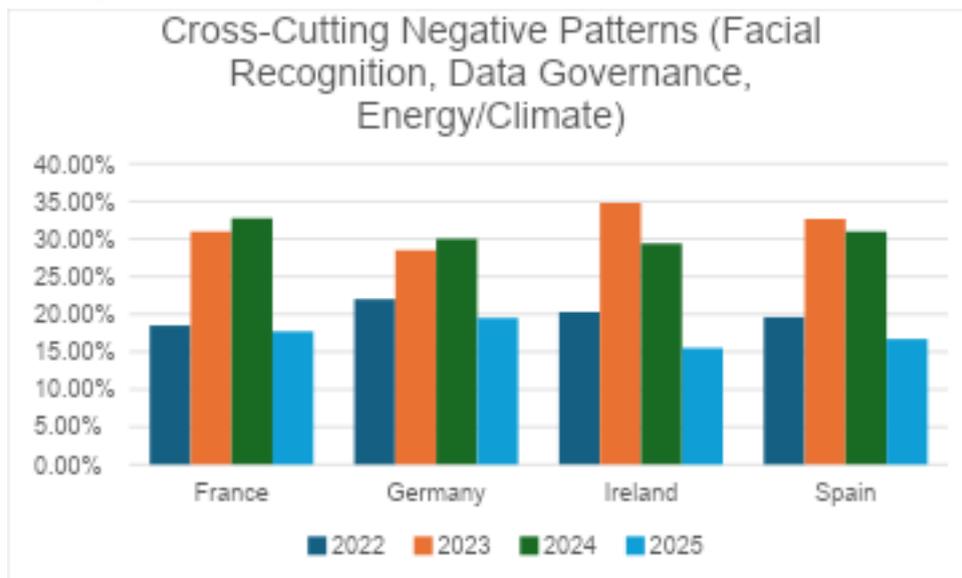


Figure 20 - Temporal distribution of the “Cross-Cutting Negative Patterns” theme across our four corpora (2022-2025). The share of text segments per year within each national corpus is normalised by the total class size.