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Working Paper

The EU digital strategy between sovereignty and green transformation: Political milestones, policy fields and strategic narratives

IDOS Discussion Paper, No. 33/2025

Provided in Cooperation with:

German Institute of Development and Sustainability (IDOS), Bonn

Suggested Citation: Reiners, Wulf; Kachelmann, Matthias (2025) : The EU digital strategy between sovereignty and green transformation: Political milestones, policy fields and strategic narratives, IDOS Discussion Paper, No. 33/2025, ISBN 978-3-96021-278-2, German Institute of Development and Sustainability (IDOS), Bonn, <https://doi.org/10.23661/idp33.2025>

This Version is available at:

<https://hdl.handle.net/10419/334469>

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The EU Digital Strategy between Sovereignty and Green Transformation

Political Milestones, Policy Fields and Strategic Narratives

Wulf Reiners

Matthias Kachelmann



The EU digital strategy between sovereignty and green transformation

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strategic narratives

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The German Institute of Development and Sustainability (IDOS) is institutionally financed by the Federal Ministry for Economic Cooperation and Development (BMZ), based on a resolution of the German Bundestag, and the state of North Rhine-Westphalia (NRW) as a member of the Johannes-Rau-Forschungsgemeinschaft (JRF).

This project has received funding from the European Union’s Horizon 2020 research and innovation programme under the Marie Skłodowska-Curie grant agreement No 873119.



Suggested citation:

Reiners, W., & Kachelmann, M. (2025). *The EU digital strategy between sovereignty and green transformation: Political milestones, policy fields and strategic narratives* (IDOS Discussion Paper 33/2025). IDOS. <https://doi.org/10.23661/idp33.2025>

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IDOS Discussion Paper / German Institute of Development and Sustainability (IDOS) gGmbH

ISSN 2751-4439 (Print)

ISSN 2751-4447 (Online)

ISBN 978-3-96021-278-2 (Print)

DOI: <https://doi.org/10.23661/idp33.2025>

© German Institute of Development and Sustainability (IDOS) gGmbH

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<https://www.idos-research.de>



Printed on eco-friendly, certified paper.

Abstract

Accelerated by the COVID-19 pandemic and technological developments such as artificial intelligence, digital transformations affect almost all areas of social, economic, and environmental life. Emerging as a tool for addressing challenges – but also as a source of new problems or as an amplifier of existing challenges – digital transformation has increasingly become the focus of initiatives at the European Union (EU) level. Since 2015, the EU has developed a comprehensive digital agenda spanning various policy domains, ranging from bolstering the single market to addressing foreign and security policy concerns. This paper examines the evolving landscape of digitalisation-related EU policies through the lens of strategy documents and policy guidelines, with particular emphasis on developments between 2020 and 2025. It explores the EU’s overarching approach towards digitalisation – its conceptualisation, objectives, and self-defined role in shaping the digital revolution. The analysis reveals that the EU addresses digitalisation through a multitude of policy-specific strategies and guidelines, characterised by four predominant strategic narratives: A geopolitical (“digital sovereignty”), an environmental (“twin transitions”), a socio-political (“fundamental rights”), and an economic (“growth and competitiveness”) narrative.

Acknowledgements

This study was carried out as part of the EU Horizon2020 project “PRODIGEES – Promoting Research on Digitalisation in Emerging Powers and Europe towards Sustainable Development” (873119-PRODIGEES-H2020-MSCA-RISE-2019). We extend our sincere gratitude to our colleagues at IDOS, especially Vy Dang, Dr Benedikt Erforth, and Dr Sven Grimm, as well as to PRODIGEES project manager Benjamin Stewart, for their invaluable comments and guidance throughout the peer-review process. We are also deeply grateful to Professor Ingrid Schneider for sharing her expertise and insights, which significantly enhanced the quality of this manuscript.

The Discussion Paper builds in parts on a previous article published in the quarterly entitled *Integration* (Reiners, 2021).

Bonn, July 2025

Contents

Abstract

Acknowledgements

Abbreviations

1	Introduction	1
2	Phases and milestones of the European digital agenda	4
2.1	2015 to 2017: Digital single market	4
2.2	2017 to 2020: Foreign and security policy challenges	5
2.3	2020 to 2025: COVID-19 crisis and the “Digital Decade”	6
2.3.1	Financial instruments	8
2.3.2	Strategic guidelines and the “Digital Compass”	9
2.3.3	Big platforms and disinformation: Digital Markets Act and Digital Services Act	10
2.3.4	Cybersecurity and infrastructure development	11
2.3.5	Controlling artificial intelligence	11
2.3.6	Green(er) ICT and sovereign industries	12
2.4	Fields of action for digitalisation within the EU	13
3	Four narratives on digitalisation in the EU	14
3.1	The geopolitical narrative: digital sovereignty	16
3.2	The climate and environmental policy narrative: twin transitions	18
3.3	The socio-political narrative: fundamental rights and protection against threats	19
3.4	The economic policy narrative: growth and competitiveness	20
4	Conclusions: core elements of the European digitalisation strategy	22
	References	25
	Appendix	35

Tables

Table A1: Key EU documents relating to the digitalisation process (from January 2019 to May 2025)	35
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Abbreviations

3D	third dimension
5G	fifth generation technology standard for broadband cellular networks
AI	artificial intelligence
CFSP	Common Foreign and Security Policy
CO ₂	carbon dioxide
COVID-19	coronavirus disease 2019
D4D	Digitalisation for Development initiative
DESI	Digital Economy and Society Index
DMA	Digital Markets Act
DSA	Digital Services Act
e-CODEX	e-justice communication via Online Data Exchange
EEAS	European External Action Service
eID	European digital identity
eIDAS	electronic identification, authentication and trust services
ENISA	European Union Agency for Cybersecurity
EU	European Union
EUR	euro
EuroQCI	European Quantum Communication Infrastructure
FIMI	foreign information manipulation and interference
GDP	gross domestic product
GDPR	General Data Protection Regulation
ICT	information and communications technology
I-DESI	International Digital Economy and Society Index
IDOS	German Institute for Development and Sustainability
IoT	Internet of Things
IT	information technology
KPI	key performance indicator
MFF	Multiannual Financial Framework
NGEU	Next Generation EU
NIS	network information security
PESCO	Permanent Structured Cooperation
SME	small and medium-sized enterprises
TSI	Technical Support Instrument
US	United States
VHCN	very high-capacity network
VLOPs	very large online platforms
VLOSEs	very large online search engines

1 Introduction

Over the past decade, digital policy has emerged as a central pillar of European Union (EU) governance, reflecting both internal ambitions and external pressures to shape the digital transformation. In response to rapid technological change, shifting geopolitical dynamics, as well as a global pandemic, the EU has launched a series of initiatives aimed at fostering digital sovereignty and promoting “green” innovation, while aiming to ensure regulatory coherence across Member States. Given that digitalisation spans an exceptionally broad and complex set of policy fields that often appear fragmented or isolated from one another, this paper seeks to provide a structured perspective on these developments. To capture this complexity, we examine the evolution of EU digital policy between 2015 and 2025 – and organise the analysis into distinct phases which helps to illuminate how various policy strands have emerged, expanded, and connected over time. We argue that the EU’s approach to digitalisation is underpinned by a set of distinct but interrelated strategic narratives – geopolitical, environmental, socio-political, and economic – that serve to frame its objectives and legitimise its policy choices. Through a three-step analysis, this paper traces the development of major digital policy milestones, maps the current spectrum of initiatives, and explores how underlying strategic narratives provide an analytical framework of the EU’s digital agenda.

The term “digitalisation” is used for numerous interrelated phenomena, including the development and application of digital and digitised technologies that link and extend all (other) civil technologies and methods (WBGU [Wissenschaftlicher Beirat der Bundesregierung Globale Umweltveränderungen], 2019, p. 1). Accordingly, digitalisation is not a singular concept – rather, technological progress and investment in digital technologies are driving transformative changes in society, the economy and the environment in a variety of ways. These range from evolving communication practices and innovative industrial manufacturing processes to emerging business models and the development of “smart” energy management and mobility solutions. Thus, digital policy is understood to cover basic technological elements (such as digital infrastructure, digital services, broadband networks) as well as various sectors and industries undergoing change due to digitalisation (Steiner & Grzymek, 2020, p. 2). Although digital tools have gained unprecedented relevance in the last years, digitalisation is not a phenomenon that has only recently gained momentum. Investments in technological advancements – including mobile internet, big data, artificial intelligence (AI), machine learning, predictive analytics, automation, robotics, social media, quantum technology, cloud computing, 3D printing, virtual reality, and blockchain – have been driving profound disruptions across nearly all aspects of life since the early 21st century (Bendel, 2021).

As a consequence, over the past decade digitalisation has become the subject of increasingly comprehensive political processes worldwide, for example, in the context of international surveillance and espionage scandals, the role of social media in elections and referendums, the protection of personal data on the internet, or multilateral negotiations on digital taxation. EU Member States and institutions are increasingly aware of the relevance of these fundamental global changes and are looking for ways to shape Europe’s digital future as well as important global processes.

On the one hand, digital transformation promises pledges and potentials (Technopolis & IÖW [Institut für ökologische Wirtschaftsforschung GmbH], 2024, p. 79): Digitalisation can drive faster decarbonisation, contributing to the urgently needed emission reductions in the European economy. It also plays a key role in advancing a circular economy and promoting environmentally sustainable agriculture. Additionally, digital innovations can enhance global access to knowledge and research, improve the efficiency of public administrations, and facilitate broader political participation. They may also support a deeper understanding as well as protection of ecosystems while enabling new approaches in mobility, healthcare, and education. Finally – yet importantly – digitalisation is claimed to create the “potential for societal

modernisation” that includes the enhancement of inter- and transnational cooperation and a sense of belonging – in Europe and worldwide – through virtual tools and the development of a “networked society” (WBGU, 2019, p. 8). Economically, an increase in digital performance and competitiveness promises a per capita increase in gross domestic product (GDP) within the EU of 7.2 per cent by 2027 (Deloitte, 2021, p. 5).

On the other hand, the digital transformation also entails considerable risks, both in the short- and longterm. These include the growing social inequality in many countries, and the threat of mass job losses due to automation. A particular problem related to the rapidly increasing use of AI and necessary data centre infrastructure is energy consumption which is also covered by non-renewable sources. To illustrate, global data centre electricity consumption reached 1 to 1.5 per cent of total global demand in 2023, equivalent to the annual energy use of Brazil and Germany combined (IEA [International Energy Agency], 2023). Moreover, the EU cybersecurity landscape remains heavily influenced by geopolitical events, with a growing number of cyberattacks. Between July 2023 and June 2024, the European Union Agency for Cybersecurity (ENISA) documented over 11,000 cyber incidents, including 322 attacks specifically targeting two or more EU countries (ENISA, 2024, p. 12). Further, examples such as the Brexit referendum, COVID-19 vaccinations, or Russia’s war in Ukraine exemplify how democratic processes and social discourse are influenced by social media and disinformation campaigns (EEAS [European External Action Service], 2025, p. 12).

When looking at the European Union in more detail, challenges become visible in various fields. Since 2023, the European Commission has been tracking Europe’s digital performance and competitiveness through the “Digital Decade Report” and its “key performance indicators” (KPIs).¹ The report assesses key areas such as connectivity, human capital, citizens’ internet usage, the adoption of digital technologies by private companies, and the advancement of digital public services (eGovernment). The documents highlight the noticeable progress in digitalisation made in recent years – even before the COVID-19 crisis hit. Yet, large potentials remain untapped, and there are still significant differences between EU Member States.

With regard to connectivity, the EU is not meeting its targets on full fibre coverage by 2030 – with only 69.2 per cent of European households reaching gigabit connectivity via fibre network, and with significant discrepancies between Member States as well as between urban and rural areas in the European Union (European Commission, 2025a, p. 5). According to the Eurobarometer 2024, four out of five European citizens stress the need for better connectivity through the availability and affordability of high-speed internet connections (European Commission, 2024c, p. 10). While the rollout of 5G is currently reaching 94.3 per cent of the EU’s population (with just 79.6 per cent coverage in rural areas), it is still failing to deliver advanced 5G performance widely across Europe. Improvements in connectivity are essential if a seamless computing continuum that integrates connectivity, cloud computing, artificial intelligence, and the Internet of Things (IoT) (European Commission, 2024c, p. 11) is to be established.

The digital skills of European citizens remain a key issue for European policymakers too. The “Digital Decade Report” for 2024 shows that by 2023, 55.6 per cent of individuals in the EU had at least basic digital skills, with country-level variations ranging from 27.7 per cent (Romania) to 82.7 per cent (Netherlands) (European Commission, 2024e, p. 40). Progress has been slow, with only a 1.7 percentage point increase since 2021. With no further action in this field, only 59.8 per cent of the population is expected to achieve basic digital skills by 2030 (with an initial aspiration of at least 80 per cent). However, it is important to note that the digital skills gap is not limited to older populations: 30 per cent of young people (16-24 years) also lack basic digital

1 The “Digital Decade Report” replaced the “Digital Economy and Society Index” (DESI) that monitored these metrics from 2014 to 2022 (European Parliament & Council of the European Union, 2022a).

skills. While the gender gap is narrowing (55 per cent female versus 57 per cent male), significant disparities remain based on education level (80 per cent among highly educated individuals versus 34 per cent among those with low or no formal education) and geography (63 per cent in urban areas versus 48 per cent in rural regions) (European Commission, 2024e, p. 40). The importance of digital literacy was highlighted not only during the COVID-19 pandemic, but also during political events such as the Brexit referendum, national and European elections, where social media played a pivotal role in disseminating disinformation and shaping public opinion (European Commission, 2024e, p. 4). Action in this area is also regarded by EU citizens as a key priority (European Commission, 2025b, p. 4). The EU has faced challenges familiar to countries around the world for many years: digital expertise is underdeveloped in governmental as well as non-governmental organisations, in educational institutions as well as the media (WBGU, 2019, pp. 8-9). There is also a shortage of software and IT specialists across the EU, leaving vacancies unfilled and exacerbating much needed progress in the European digital economy. The different speeds of digital developments within EU member countries is particularly evident in the integration of digital technologies in private companies and public administration. For example, whereas almost 80 per cent of Finnish SMEs (small and medium-sized enterprises) use AI, Cloud or Data analytics and 76.5 per cent of SMEs in Malta have at least a basic level of digital intensity, Bulgaria only has 29.3 per cent and 28.4 per cent, respectively. And whereas more than 95 per cent of the Estonian population are using digital public services (for instance, interacting online with public authorities), Italy only reaches a rate of 68.3 per cent (European Commission, 2024d).

In international comparison, the EU risks falling behind in the current technological advancements, thereby lacking the influence to drive the innovations of the 21st century. The United States are leading in the digital sector, hosting 28 per cent of the world's digital companies, followed by China at 23 per cent, while the EU lags behind at just 14 per cent (Synergy Research Group, 2025). The distribution of key infrastructure shows a similar picture, with only 15 per cent of hyperscale data centres capacity, designed for large workloads, based in Europe (while 54 per cent are located in the United States) (Si, Giri & Reiners, 2025; Synergy Research Group, 2025). These disparities underscore significant imbalances in the global production of digital services. Additionally, 80 per cent of key technologies and services essential for Europe's digital transformation continue to be developed and manufactured outside the EU (European Parliament Committee on Industry, 2025). Over the past decade, European platforms have captured less than 5 per cent of global market value, highlighting their limited influence (European Commission, 2024b, p. 5). Moreover, European representation among global tech leaders remains minimal, with only three of the top 50 ICT (information and communications technology) companies by market capitalisation originating from the EU (European Commission, 2024b, p. 5). Ground-breaking digital innovations are being developed in the United States and China in particular, whereas European companies' investments in key technologies, such as quantum technology or artificial intelligence, are only fractions compared to US and Chinese contributions.

Since the mid-2010s, the EU has increasingly introduced initiatives to establish regulatory frameworks to maximise the benefits of digital transformation, and to mitigate its potential risks and negative impacts. During her first term as President of the European Commission, Ursula von der Leyen claimed the creation of a Europe "fit for the digital age" (von der Leyen, 2019) that enables citizens, business and governments alike to fully benefit from the tools and opportunities of the digital world. The coming years have been declared to constitute a "Digital Decade of Europe" and a raft of initiatives has been launched since across a wide range of interlinked themes and objectives – for example on connectivity, digital markets, data governance, eGovernment, platform activities, AI technologies, cybersecurity and more (European Parliament & Council of the European Union, 2022a).

Against the background of this unprecedented level and spectrum of activity, two questions arise: How does the EU read and understand digitalisation? And how does it define its own role

in bringing about potentials and addressing the related challenges. Whereas the EU addresses digitalisation through multiple policy fields and distinct initiatives, this paper tries to grasp the EU's overarching digitalisation approach. In this context, the concept of political strategies (Rumelt, 2011) offers a useful analytic toolkit, as it tries to capture the key issues in a policy area and clear a path for action in order to address the challenges in a coordinated way. We integrate this approach with additional elements drawn from the analysis of actions, policies, target images, and group messages (Schröder, 2011).

This paper proceeds in several steps to apply this analytical lens. We start by presenting the trajectory of the EU's digital policy since 2015: Which central initiatives have been launched at the European level in recent years; what goals did they aim to achieve; and how did the EU position itself vis-à-vis global developments? On this basis, the article categorises the current spectrum of activities, that is, the initiatives and policies related to digitalisation in a potentially broad field in which the EU has become – or wants to become – (more) active. Finally, this paper outlines four strategic narratives – a geopolitical (“digital sovereignty”), an environmental (“twin transitions”), a socio-political (“fundamental rights”), and an economic (“growth and competitiveness”) narrative.

The analysis is based on EU documents of an overarching nature between 2015 and early 2025 – in particular strategy papers, Communications by the European Commission, European Council Conclusions, as well as EU Regulations and Directives. They are interpreted as essential political signposts that combine the situation analysis, political guidelines and a coherent action for today's digital agenda. We argue that the leading EU institutions employ “strategic narratives” to provide an organising framework to make sense of the digital policy and digitalisation complex, and to justify their positions on them (Jones & Baumgartner, 2005; Levinger & Roselle, 2017; Peterson, 2018; Roe, 1994).

2 Phases and milestones of the European digital agenda

The EU has developed a comprehensive digital agenda that cuts across many policy areas. Based on EU policy guidelines and key initiatives, three phases of the European Digital Agenda are identified:

- 2015-2017: Digital single market
- 2017-2020: Foreign and security policy challenges
- 2020-2025: COVID-19 crisis and the “Digital Decade”

In some cases, these phases are slightly overlapping. Within each phase, specific priorities and their underlying rationale are identified.

2.1 2015 to 2017: Digital single market

A key Communication within the first phase of the European strategy for digitalisation is the European Commission's 2015 “Digital Single Market Strategy” (European Commission, 2015). The text was based on the Council Conclusions of the heads of state and government that “[d]igital technologies bring immense opportunities for innovation, growth and jobs” (European Council, 2015c, p. 6), which could offer the potential for market expansion by providing improved services at lower costs. The goal of leveraging this economic potential was to combine and promote the four freedoms of the internal market: a favourable investment climate for digital

networks, research and business, and the European consumer as well as data protection standards (European Commission, 2015). The strategy defined various fields of action in a comprehensive way ranging from online trade and data protection to digital skills and electronic public services (eGovernment). In the years that followed, with continuous calls from the European Council for swift progress and a comprehensive digital strategy, the “Digital Single Market Strategy” became a key reference point for numerous initiatives, with a total of more than 30 legislative proposals (European Council, 2015a, 2016, 2017b). These included the General Data Protection Regulation (GDPR) (European Parliament & Council of the European Union, 2016b); measures to promote e-commerce and the development of a European data economy (European Commission, 2017b); an action plan for digital education (European Commission, 2018a); and measures in the fields of connectivity, broadband and 5G (European Commission, 2016b, 2016d; 2017a, p. 28; European Parliament & Council of the European Union, 2017); as well as cybersecurity (European Commission, 2017c). Additionally, efforts were made to promote the advancements of a competitive and innovative industry, inter alia through public-private partnerships for industrial research (European Commission, 2016a, 2016e).

In 2017, the focus on “Digital Europe” gained unprecedented prominence and visibility during the presidency of Estonia. The country was at the time the “the world’s most digitally advanced society” (Reynolds, 2016) and was taking a leading role in digitalisation efforts, in particular eGovernment. At the 2017 Tallinn Digital Summit, European leaders outlined key priorities and pressing digital challenges. These included regulating online platforms, modifying the tax system, fighting terrorism online, and “new trends” such as AI or blockchain technologies (European Council, 2017a). Beyond the discussions on Europe’s future and the mid-term review of the “Digital Single Market Strategy”, previously established priorities – such as the data economy, support for digital businesses and competitiveness, and investment in digital infrastructure and research – continued to be pursued (Council of the European Union, 2019a; European Council, 2018c). Further, they were complemented by reflections on the impact of digitalisation on employment, lifelong learning, and social rights (European Commission, 2017d).

2.2 2017 to 2020: Foreign and security policy challenges

While the EU’s internal social and economic developments as a digital single market were at the centre of the political guidelines from 2015 to 2018, a parallel expansion and new emphasis on the foreign and security policy dimension of digitalisation started towards the end of this period. This shift included not only data flows in trade agreements with third countries, but also issues of cybersecurity, hybrid threats, and counterintelligence.

Already in 2013, the growing focus of political guidelines on security policy implications and the increasing “securitisation” of subsections in digitalisation was foreshadowed when High Representative for Foreign Affairs and Security Policy, Catherine Ashton, and the Barroso Commission presented their cybersecurity strategy. It was the first comprehensive approach outlining how the EU could implement measures to safeguard cyberspace from threats both in civilian and military domains (European Commission & High Representative of the European Union for Foreign and Security Policy, 2013). That same year, the European Network and Information Security Agency was restructured into ENISA, and the EU introduced its first cybersecurity legislation, the “Directive on the Security of Network and Information Systems” (NIS Directive) (European Parliament & Council of the European Union, 2016a). Building on this foundation and aligning with the digitalisation references in the “EU Global Strategy” (Council of the European Union, 2016), the issue gained renewed momentum from 2017 onwards. Recognising that cybersecurity is – among other things – key to the “prosperity, growth and security of the EU and integrity of our free and democratic societies” (Council of the European

Union, 2017a, p. 2), the EU adopted extensive measures to enhance cybersecurity capacity-building. These included strengthening ENISA and developing plans for a coordinated response to major cybersecurity incidents and crises (European Commission, 2017c; European Parliament & Council of the European Union, 2019). These dynamic developments included an update of the “EU Cyber Defence Policy Framework” (Council of the European Union, 2018) and resulted in a new “Cybersecurity Strategy for the Digital Decade” to reflect on technological developments and changes in the current threat to the environment (Council of the European Union, 2021; European Commission, 2020l). This strategy links network and information security very comprehensively to “[t]ransport, energy and health, telecommunications, finance, security, democratic processes, space and defence” (European Commission, 2020l, p. 1) and also addresses the protection of central public and private infrastructure (for example, 5G, hospitals, energy supplies, rail networks).

In this context, digitalisation was increasingly integrated into the framework of a European Security Union (European Commission, 2020j), while the EU simultaneously expanded its focus on its global role in digital security.

With the introduction of the so-called “Cyber Diplomacy Toolbox”, EU Member States established a new set of instruments enabling swift and coordinated diplomatic responses to malicious cyberattacks, including the use of the “Common Foreign and Security Policy” (CFSP) where applicable (Council of the European Union, 2017b). Through its digital diplomacy strategy, the EU has aimed to assert global leadership advocating for an “open and transparent, rules-based and secure, trustworthy and human-centric global digital economy” (Council of the European Union, 2020a, p. 3). Additionally, with regard to digitalisation, the EU sought to play a key role in shaping global rules and standards within international organisations and multilateral forums (Council of the European Union, 2020a).

Alongside cybersecurity capabilities and cyber diplomacy, strategic communication emerged as a key element for EU policies (European Council, 2018a, 2018b, 2018c). Heads of state and government had already identified Russian disinformation campaigns as a challenge in the Ukraine crisis since 2014 (which was followed by Russia’s full invasion of Ukraine) (European Council, 2015b). Against this background, the EU established the “EastStratComTask” and other geographically specialised working groups for strategic communication in the European External Action Service (EEAS) and developed an “Action Plan against Disinformation” (European Commission & High Representative of the European Union for Foreign and Security Policy, 2018) that would later be translated into a “Code of Practice on Disinformation” (European Commission, 2018b). These measures were designed with the 2019 European elections in mind, aiming to combat false or misleading information that could spread through social media and pose a risk to public trust. Disinformation was categorised as a form of hybrid warfare, alongside cyberattacks and network hacking (European Commission & High Representative of the European Union for Foreign and Security Policy, 2018, p. 3; European Council, 2019). These measures culminated in the revision of the Code of Practice into a “Strengthened Code of Practice on Disinformation” in 2022 (European Commission, 2022a) and – following the entry into force of the Digital Services Act (DSA) in 2024 (see below) – a “Code of Conduct on Disinformation” (European Commission, 2025f).

2.3 2020 to 2025: COVID-19 crisis and the “Digital Decade”

At the beginning of the following legislative period, digitalisation gained greater salience at the EU level. Through its “New Strategic Agenda 2019-2024”, the European Council reinforced its focus on key priority areas, maintaining emphasis on infrastructure, connectivity, digital services, the data economy, digital skills, online disinformation, and cybersecurity threats (European Council, 2019). At the same time, however, the heads of state and government prominently anchored the demand for a Europe that is “digitally sovereign” (European Council, 2019, p. 8)

as well as the “building [of] a climate-neutral, green, fair and social Europe” (European Council, 2019, p. 6) in their new overall framework. Since then, these two priorities have shaped the EU’s digital agenda and influenced its political discourse.

In her political guidelines for the future of the European Commission, President von der Leyen postulated a “Europe [that is] fit for the digital age” (European Commission, 2022f) as one of six overarching goals (von der Leyen, 2019). Von der Leyen highlighted Europe’s sovereignty in key technological sectors advocating for strategic investments and the joint development of international standards, particularly in areas like AI. Additionally, she outlined further steps to complete the “Digital single market”, enhance cybersecurity protections, and advance digital education and training. Through the introduction of the “European Green Deal”, digitalisation has been framed as a complementary priority, intended as an economic and social transformation strategy aimed at addressing climate and environment challenges.

The “Green Deal” itself has numerous references to digital tools related to the protection of natural ecosystems, the sustainable use of resources, as well as the improvement of human health. Technology in itself is recognised as an essential prerequisite for achieving the desired advancements in climate action and sustainability goals. Key areas include the digitalisation of the energy market and enhancing energy efficiency, the development of a new industrial strategy, and the transition to a circular economy. Other priorities involve consumer information on food, remote monitoring for environmental data, raw material supply, connected mobility, and innovation. Additionally, the use of accessible data and emerging technologies supports evidence-based decision-making across various sectors. In summary, the “Green Deal” evokes the enormous relevance attributed to digitalisation in virtually all key policy areas at the European level (European Commission, 2019a, p. 4).

These political guidelines led to the launch of numerous initiatives at the EU level in 2020 and 2021. One of the first was the Commission’s vision for “shaping Europe’s digital future” (European Commission, 2020i) that entailed three main pillars:

- i. “Technology that works for people” by focusing on digital skills, protection against cyber threats, development of AI, ultra-fast broadband connections, as well as the expansion of high-performance computing capacity (European Commission, 2020i, p. 2)
- ii. “A strong and competitive economy” by promoting start-ups and small businesses, regulating online platforms and competition in the domestic market, as well as improving access to quality data (European Commission, 2020i, p. 2)
- iii. “An open, democratic and sustainable society” by linking initiatives to achieve climate neutrality, use of health data, data protection, and combating disinformation (European Commission, 2020i, p. 2)

While the European Commission’s vision for “shaping Europe’s digital future” was published alongside a “European Data Strategy” (European Commission, 2020b) and a “White Paper on Artificial Intelligence” (European Commission, 2020o), the COVID-19 pandemic began to dominate political events around Europe. Member States subsequently integrated digital transformation into their economic recovery strategies, aligning it with post-pandemic investments (European Council, 2020d, p. 6). Furthermore, the digitalisation of the single market, digital sovereignty, and leadership in strategic international digital value chains were increasingly linked to research and innovation. This included enabling technologies such as high-performance computing (for instance, the inauguration of a new European Supercomputer in Finland), quantum technologies, and cloud computing, along with broadband networks and connectivity, which played a crucial role in addressing the pandemic’s challenges, particularly in distance learning, teleworking, and shifts in the labour market (European Commission, 2022e).

As part of their comprehensive digital agenda, Member States reaffirmed key areas of action, including cybersecurity, the platform economy, digital public services, and skills development. Additionally, they introduced new policy measures in media regulation and digital economy taxation, further expanding the scope of EU digital policy. With a dedicated section on environmental sustainability, emphasising the digital ecosystem's role in achieving a climate-neutral EU, the connection between digitalisation and the climate and sustainability discourse was further reinforced (Council of the European Union, 2020c).

The prioritisation of digitalisation at the start of the new institutional cycle as well as the unfolding of the COVID-19 pandemic, led to an expansion of the digital strategy with new elements and political tailwinds alike. This combination enabled a broadened scope of activities that were promoted and supported by all actors at the EU level. It also influenced the subsequent negotiations for the “Multiannual Financial Framework” (MFF) (2021-2027) and the “Next Generation EU” (NGEU) initiative. The agreement on the package, totalling EUR 2.018 trillion, featured many prominent digital references with the emphasis on capabilities to finance Europe's green and digital transitions and the objective of a “greener, more digital and more resilient” post-COVID-19 EU (European Commission, 2021k, p. 3).

2.3.1 Financial instruments

A closer look at the financial commitments from 2021 to 2027 (MFF and NGEU) shows that digital transformation has been identified as one of five priorities supported through different funding streams: More than EUR 210 billion have been allocated through the MFF and NGEU – roughly 10 per cent of the total package of EUR 2.023 trillion (European Council & Council of European Union, 2024). Central instruments included the Digital Europe Programme (roughly EUR 7.6 billion) for AI, cybersecurity, skills, and semiconductors, and InvestEU (mobilising over EUR 372 billion of public/private investment) for research and digital innovation. Complemented by the Global Gateway (aiming to mobilise up to EUR 300 billion globally), these initiatives strengthen the EU's digital infrastructure, competitiveness, and global influence (Furness & Keijzer, 2022).

The “European Strategic Investment” instrument within the MFF not only includes the “Connecting Europe Digital” facility, which assigns around EUR 2 billion to support the EU-wide roll-out of gigabit networks and access to digital infrastructures. It also allocates EUR 7.59 billion to the “Digital Europe Programme” to build innovation hubs and capacities in AI, high-performance computing, cybersecurity and digital skills (European Commission, 2021k). As a key instrument of the EU digital policies, the “Digital Europe Programme” provides strategic funding to boost the digital transformation across all sectors while bridging the digital divide across the EU and improving the EU's competitiveness in the global digital economy. Running until the end of 2027 and along (multi-annual) work packages, the programme will distribute its budget among six key objectives: (i) High-performance computing; (ii) artificial intelligence; (iii) cybersecurity and trust; (iv) advanced digital skills; (v) deployment and best use of digital capacity and interoperability, and finally – alongside the introduction of the “Chips Act” in 2023 – (vi) semiconductors (European Parliament & Council of the European Union, 2021, 2023a). Further, a network of European Digital Innovation Hubs was created to assist private and public actors in its implementation.

Financial instruments go beyond the “Digital Europe Programme”. The “InvestEU” fund, which is expected to mobilise more than EUR 372 billion in public and private investment, supports projects in the policy field “Research, Innovation and Digitalisation” through EU budget guarantees of EUR 6.6 billion (indicative) – including projects for the digitalisation of industry and AI (European Commission, 2021i). Unspecified budget allocations were also designated for digital initiatives, particularly within the Technical Support Instrument (TSI), as well as in the Research and Innovation and Cohesion Policy budget lines. Crucially, shares of the budgets for

“Security and Defence”, “Neighbourhood and the World” and “European Public Administration” must be included in the calculation, reflecting the cross-cutting nature of the digital transformation (European Commission, 2021i). Digitalisation also played an important role as a new source of revenue for the repayment of the NGEU funds “to build Europe’s Digital Decade on solid foundations” (European Commission, 2021b, p. 2). In this context, the EU also launched the Global Gateway, an initiative aimed at supporting sustainable and secure infrastructure development worldwide, including major investments in digital connectivity, to promote European values and standards and strengthen the EU’s geopolitical presence (European Commission, 2021e).

2.3.2 Strategic guidelines and the “Digital Compass”

In response to the COVID-19 pandemic – and alongside the financial packages – the European Council refined the EU’s digital strategy to boost competitiveness, strengthen technological sovereignty, and regulate key digital sectors. These goals were consolidated in the “Digital Compass” and “Digital Decade Policy Programme”, which set 2030 targets and enshrined digital rights and principles promoting inclusion, transparency, and sustainability.

Key priorities included regulating the systemic role of online platforms, establishing new industrial alliances in critical digital technologies, and advancing projects of common European interest such as the development of batteries and microelectronics. Against the backdrop of the COVID-19 pandemic, emphasis was placed on the strengthening of competitiveness, including the European data economy, and the “[b]uilding [of] a truly digital single market” (European Council, 2020e, p. 4). At the same time, these efforts were closely tied to the goal of achieving the technological sovereignty of the EU (European Council, 2020e, p. 4). This notion and goal have been repeatedly taken up by the European Council since then (European Council, 2022, 2024a, 2024b). These measures could only be ensured through autonomous technological decisions and strategic digital capacities and infrastructure. In subsequent meetings, EU heads of state and government reaffirmed the external and security dimensions, particularly in relation to Africa and Latin America. Among other things, they considered the cooperation in the field of the digital economy as a key priority (European Council, 2020c, p. 4) and emphasised the importance of tackling illegal and, in particular, terrorist online content as well as online radicalisation (European Council, 2020b).

In the spring of 2021, a year after unveiling its digital strategy, the European Commission consolidated the various developments of the preceding months into a comprehensive framework. This draft outlined the objectives and roadmap for Europe’s digital transformation up to 2030, structured around two key pillars: the “European Digital Principles” (European Commission, 2021g) and the “Digital Compass” (European Commission, 2021j). The aim of the “European Digital Principles” was to uphold European values in the digital sphere and serve as a foundation for shaping future regulations. Their development was based on a broad consultation process running until September 2021, initiated by the European Commission with the objective of securing a formal inter-institutional agreement between the European Parliament, the Council, and the Commission (EPRS [European Parliamentary Research Service], 2022). As part of the “Digital Compass”, the European Commission outlined plans across four key areas: skills, infrastructure, business, and public services. It set concrete targets for digital skills training, IT expertise development, enhanced network connectivity (including 5G), semiconductor production innovation, cloud and quantum technologies, and increasing the adoption of big data and AI in businesses. Additionally, the “Digital Compass” incorporated aspects of a new industrial strategy and digital governance.

These elements formed the foundation of a broad reform programme, whose implementation had already begun in 2020 through a series of initiatives, for instance, the “Data Governance Act”, the “Digital Services Act” (DSA), the “Digital Markets Act” (DMA), and the “Cybersecurity

Strategy”. To achieve these goals, the Commission had developed a proposal for the “Path to the Digital Decade”, which provided a governance framework of a monitoring, reporting and planning mechanism as well as cooperation structures with and between Member States, including for multi-country and large-scale digital projects (European Commission, 2021h). The “Digital Decade Policy Programme” was finally adopted in 2022 (European Parliament & Council of the European Union, 2022a). As another element of overarching and strategic orientation, the EU institutions agreed on the “Declaration on Digital Rights and Principles for the Digital Decade”. This is a normative framework that places citizens at the centre of technological change. The declaration promotes digital inclusion, fair working conditions, and democratic participation, while advancing principles of transparency, privacy, and sustainability. It calls for a trustworthy and pluralistic online environment and the responsible development of AI systems, ensuring that digital products and services are safe, rights-based, and environmentally sustainable (European Parliament, Council of the European Union, & European Commission, 2023).

2.3.3 Big platforms and disinformation: Digital Markets Act and Digital Services Act

In parallel to its financial tools, the EU has notably advanced its legal tools: Specifically through the DMA and the DSA, the European Union has addressed structural imbalances in platform economies by establishing obligations for dominant actors (“gatekeepers”) and by defining clear standards for safety, accountability, and content moderation.

The DMA primarily targets the regulation of digital market structures in which major platforms operate, introducing specific technical obligations to address the “gatekeeping problem” posed by large and very large online platforms (European Parliament & Council of the European Union, 2022d). Those gatekeepers are designated on the basis of their economic power and user base, with automatic classification if certain thresholds are met. Once designated, they face strict obligations: limits on using personal data without consent; requirements to guarantee market fairness; and interoperability in messaging services. Transparency rules and anti-circumvention provisions reinforce these duties, while the European Commission can conduct market investigations. Its overarching goals include fostering fair competition within the European digital economy and supporting the emergence and growth of smaller and innovative platforms. Consequently, the DMA seeks to enhance user choice and stimulate digital innovation (European Parliament & Council of the European Union, 2022d).

In contrast, the DSA focuses on the regulatory oversight of platforms with an emphasis on user transparency, reporting duties, and accountability for decisions related to content moderation and removal (Kachelmann & Reiners, 2023). Notably, the DSA introduces binding due diligence obligations specifically for “very large online platforms” (VLOPs) and “very large online search engines” (VLOSEs) with a threshold of more than 45 million EU users (European Parliament & Council of the European Union, 2022e). These obligations compel such entities to implement proactive – primarily technical and algorithmic – measures to mitigate risks related to illegal and harmful content. Furthermore, the DSA institutionalises self-regulatory responsibilities for major tech platforms, mandating the adoption of “appropriate” mechanisms to combat illegal content and reduce systemic risks (European Parliament & Council of the European Union, 2022e). While acknowledging the risk of online disinformation and the decline of “traditional” media outlets, the EU has acted to safeguard media pluralism and political discourse online. Through the “European Media Freedom Act” and the “Regulation on political advertising”, it introduced transparency and accountability measures for media content and political communication, while aiming to protect editorial independence and public trust (European Parliament & Council of the European Union, 2024a, 2024c). Complementing these efforts, the “Data Act” and the “Data Governance Act” laid the foundation for a European data space – the former to promote fair access of (personal and non-personal) data to users and the latter to enable trustworthy data-

sharing across sectors and Member States while safeguarding privacy and fostering innovation across sectors (European Parliament & Council of the European Union, 2022f, 2023c).

2.3.4 Cybersecurity and infrastructure development

In 2022, cybersecurity and resilience re-emerged as a major concern within the European Union. Against the backdrop of Russia's invasion in Ukraine and its (ongoing) hybrid campaigns against Member States (European Commission, 2024f), the EU expanded its ambitions to strengthen the resilience and functioning of the Union's economy, internal market, and society as a whole. Since then, several Regulations and Directives including the "CER Directive" (2022), the "NIS 2 Directive" (2022) (a revision of the "NIS Directive" of 2017), the "Cyber Resilience Act" (2024) and the "Cyber Solidarity Act" (2025) have been adopted. On the one hand, the "CER Directive" establishes new obligations for Member States and so called "critical entities" to ensure the resilience of essential services across key sectors, including energy, transport, banking, health, water and digital infrastructure (including providers for internet exchange points, cloud computing services, and data centres). To this end, Member States are required to adopt a National Resilience Strategy and carry out comprehensive risk assessments (European Parliament & Council of the European Union, 2022c). On the other hand, the "NIS 2 Directive" specifically mandates the implementation of measures aimed at achieving a high common level of cybersecurity across the Union. It imposes obligations on Member States to adopt National Cybersecurity Strategies and to implement appropriate risk management and security measures (European Parliament & Council of the European Union, 2022b). Back-to-back, the EU adopted the "Cyber Resilience Act" in 2024 and the "Cyber Solidarity Act" in 2025. The "Cyber Resilience Act" introduced EU-wide cybersecurity requirements for products with digital elements, imposing obligations on manufacturers to implement "security by design" principles and to report incidents to ENISA. The Cyber Solidarity Act, in turn, established a European alert system, emergency response mechanisms, and a cybersecurity reserve to effectively address large-scale cyber incidents.

While the resilience of (digital) infrastructure and cybersecurity has remained a central concern for European policymakers, the development and expansion of infrastructure has likewise continued to be a consistent strategic priority. Addressing the objectives set out in the "Digital Decade Policy Programme" for secure, resilient, high-performance, and sustainable digital infrastructures, the European Commission released a White Paper detailing its approach to addressing and managing Europe's digital infrastructure needs (European Commission, 2024g). It highlights substantial challenges and setbacks jeopardising the infrastructure targets set in 2021. These include persistent connectivity gaps, with fibre coverage reaching only 56 per cent of all EU households and just 41 per cent in rural areas, as well as delays in deploying 5G stand-alone networks. Consequently, and with further infrastructure and cybersecurity questions in mind (for instance related to vulnerabilities in submarine cables and the ICT sector's energy consumption), the European Commission has called for a significant investment push. According to estimates, over EUR 200 billion will be required to fulfil objectives in gigabit connectivity, 5G rollout, the digitalisation of transport corridors, and the integration of cloud-based services. Complementary measures include the "Gigabit Infrastructure Act" for the deployment of very high-capacity networks (VHCNs) (European Parliament & Council of the European Union, 2024f) as well as the "Interoperable Europe Act", designed to enhance cross-border cooperation and administrative interoperability among Member States (European Parliament & Council of the European Union, 2024b).

2.3.5 Controlling artificial intelligence

In 2024, the European Union finally responded to the rapid developments in the field of artificial intelligence. The "AI Act" is a landmark piece of legislation that concluded a three-year political process. It promotes "the uptake of human-centric and trustworthy artificial intelligence (AI),

while ensuring a high level of protection of health, safety, fundamental rights” (European Parliament & Council of the European Union, 2024g). The Regulation applies to providers, deployers, importers, distributors, and manufacturers of AI systems, as well as authorised representatives and affected individuals. An essential element of the European approach to artificial intelligence and AI systems is its risk-based classification into three distinct categories: First, unacceptable risk AI systems that are could be used to manipulate individuals subliminally, to conduct social scoring by public authorities, or to enable real-time remote biometric identification are banned (European Parliament & Council of the European Union, 2024g). Second, high-risk AI systems for practices used in critical sectors such as infrastructure, education, employment, public services, law enforcement, border control, and the judiciary must meet strict obligations (European Parliament & Council of the European Union, 2024g). These include risk management, high-quality training data, technical documentation, human oversight, and cybersecurity and accuracy requirements (European Parliament & Council of the European Union, 2024g). Third, limited-risk AI systems that include chatbots, emotion recognition, and generative AI (such as image/audio/video tools) are subject to labelling and transparency requirements (European Parliament & Council of the European Union, 2024g). The “AI Act” establishes an AI Office and a European Artificial Intelligence Board to coordinate oversight and issue guidance for EU regulators (European Parliament & Council of the European Union, 2024g).

2.3.6 Green(er) ICT and sovereign industries

Finally, on economic and industrial policy, the European Union has continuously aligned its objectives of strategic autonomy and global competitiveness with its overarching objective of climate neutrality by 2050 (European Commission, 2020k). Building on the core principles outlined in the “European Green Deal” and the EU’s commitment to a twin transition (digital and green), the EU institutions have published a series of Regulations and Communications in recent years. In 2022, the European Commission published its Strategy on Standardisation in order to set global standards in support of a resilient, green and digital EU single market. This Communication is a prime example of the EU’s parallel objectives: delivering on the twin green and digital transition, while defending its technological sovereignty and avoiding dependencies on third countries (European Commission, 2022c). However, in its Communication “Towards a green, digital and resilient economy: our European Growth Model”, the European Commission also emphasised the need for increased investment to achieve its goals while simultaneously strengthening the EU’s economic and social resilience (European Commission, 2022d). In its Communication on “A Green Deal Industrial Plan for the Net-Zero Age” the European Commission set out further plans to accelerate clean technology manufacturing and reduce dependencies on strategic raw materials, notably through the proposed “Net-Zero Industry Act” that was later adopted in 2024 (European Commission, 2023a; European Parliament & Council of the European Union, 2024h).

Nonetheless, despite the European Union’s consistent emphasis on the twin transition in nearly all of its Communications and legislative initiatives, a gradual policy shift becomes apparent from 2023 onwards. In response to supply chain disruptions – such as those affecting semiconductors – growing dependencies on critical raw materials, and a slowdown in economic performance, the EU’s economic and industrial strategies increasingly highlight the need to redefine competitiveness. This reorientation on “hard economic facts” is reflected in efforts to strengthen semiconductor production within Europe through the “Chips Act” (European Parliament & Council of the European Union, 2023a) and to ensure secure and reliable access to critical raw materials, as set out in the Critical Raw Materials Regulation (European Parliament & Council of the European Union, 2024e). In response to the Letta Report (2024) and the Draghi Report (2024) – both of which warn that the EU faces the risk of de-industrialisation and economic stagnation if critical innovations and growth stimuli fail to materialise – the European Commission under re-elected President Ursula von der Leyen unveiled the “Competitiveness

Compass for the EU” in early 2025. The “Compass” sets out two main objectives: First, to identify the necessary policy reforms to drive European growth and, second, to develop new forms of public private cooperation aimed at accelerating and improving decision-making, simplifying regulatory frameworks, and overcoming market fragmentation. In this context, digitalisation is given particular prominence and is explicitly recognised as a “competitiveness driver across all sectors” (European Commission, 2025c). By 2026, a series of targeted initiatives will be introduced to advance this agenda, including key flagship projects such as the AI Factories Initiative, the Apply AI Strategy, the Cloud and “AI Development Act”, and the Quantum Strategy. All of them are considered to be vital to bringing Europe’s digital innovation capacity and industrial strength up to scale.

2.4 Fields of action for digitalisation within the EU

As shown above, the EU’s digital agenda has gained momentum since 2010 and significant importance and visibility during the last two institutional cycles. From the political guidelines set by the European Commission under President Juncker (Juncker, 2014) to the priorities under President von der Leyen (von der Leyen, 2019) and her “Road to the Digital Decade” initiative (European Commission, 2021h), as well as the “Competitiveness Compass” (European Commission, 2025c), a comprehensive set of initiatives has emerged. These initiatives span key policy areas, which can be grouped into five interconnected and partially overlapping categories: (i) “Digital infrastructure and cybersecurity”; (ii) “Economy and digital single market”; (iii) “Research on digital technology and innovation”; (iv) “Digital society”; and (v) “Digitalisation in external relations”.

- i. **Digital infrastructure and cybersecurity:** This area prioritises connectivity through both physical and service infrastructures, with a strong focus on broadband and 5G deployment in both urban and rural regions. It includes key technologies such as cloud services, high-performance computing, data storage, IT security, and initiatives like Gaia-X. Cybersecurity is central to virtually all areas of digitalisation due to its cross-cutting nature. Furthermore, the EU’s space programmes, including the Copernicus Earth observation programme and the Galileo satellite navigation system, play a crucial role in supporting various digital applications, given the fundamental importance of satellite infrastructure.
- ii. **Economy and the digital single market:** In this area, the EU focuses on several key aspects of the digital economy, including online trade (goods and digital products); the creation of a common European data space with non-discriminatory internet access; and the regulation of digital services and online platforms. Additionally, it promotes small and medium-sized enterprises (SMEs), startups, and data-driven business models within the digital economy. Efforts also extend to modernising European industry in response to digitalisation and facilitating the transition to a circular economy. Furthermore, this scope includes questions of competition among large digital companies as addressed in the DMA, but also taxation of cross-border digital companies, digital finance, and, more recently, the development of the Digital Euro.
- iii. **Research on digital technology and innovation:** This area includes EU initiatives (and regulation) on artificial intelligence, including its ethical considerations, as well as advancements in key technologies such as semiconductors, batteries, and blockchain. In addition to efforts in high-performance computing, it also includes infrastructure projects like the European Quantum Communication Infrastructure (EuroQCI), which focuses on quantum communication.
- iv. **Digital society:** This area covers data protection regulations, most notably the “General Data Protection Regulation” (GDPR), the DSA, as well as the development of EU-wide digital principles and initiatives (European Parliament et al., 2023). These initiatives, which take the

form of voluntary codes of conduct and action plans, aim to combat disinformation, prevent the spread of illegal online content, promote democracy, and support credible media outlets. Additionally, efforts are being made to strengthen the digital creative industries and improve digital skills among citizens through education and training. Initiatives for public administration and eGovernment play a crucial role, including initiatives such as public data usage, the European digital identity (eIDAS, eID), and the digitalisation of public services. As another key component the e-CODEX (e-justice communication via Online Data Exchange) system is designed to improve cross-border communication and data sharing in civil and criminal justice (European Parliament & Council of the European Union, 2023b). Furthermore, the COVID-19 pandemic accelerated the adoption of digital health solutions, such as the EU-wide digital vaccination certificate, which expanded the health sector's digital transformation. This has also led to the development of the European Health Data Space, establishing healthcare digitalisation as a key policy area at the EU level (European Parliament & Council of the European Union, 2025).

- v. **Digitalisation in external relations:** This area encompasses all the previously mentioned categories from an international perspective. It includes global partnerships for establishing norms and standards, cross-border regulatory issues, intercontinental infrastructure as addressed by the EU Global Gateway, and the international taxation of the digital economy. Key elements include the Cyber Diplomacy Toolbox, which coordinates EU Member States' diplomatic responses to cyberattacks, and the EU Policy Framework for Cyber Defence. Cybersecurity cooperation also takes place within the framework of Permanent Structured Cooperation (PESCO). Additionally, certain countries, such as Russia, receive heightened attention beyond cybersecurity, particularly regarding the spread of disinformation. Beyond data flows in trade agreements, digitalisation also plays a role in the EU's neighbourhood and enlargement policies, particularly concerning the Balkans and African countries – notably through the Digitalisation for Development (D4D) initiative. This includes efforts such as knowledge-sharing partnerships and multi-stakeholder collaborations to encourage digital investments and support digital transformation. However, the EU's digital agenda extends worldwide, shaping relations with regions from Latin America to Southeast Asia.² In 2025, the European Commission published its first “International Digital Strategy” aiming to bring regional and bilateral digital cooperation on digital infrastructure, emerging technologies, cybersecurity, foreign information manipulation and interference (FIMI), digital public infrastructure (DPI), and online platforms up to scale (European Commission, 2025e).

3 Four narratives on digitalisation in the EU

The analysis of key EU documents highlights the growing significance of digitalisation policies at the EU level between 2015 and 2025. It also provides insights into the challenges identified by EU institutions and Member States, as well as the EU's objectives in response to the increasing scope of digitalisation processes. Furthermore, categorising these initiatives across key areas of action illustrates the comprehensive approach the EU now takes in addressing digital transformation through its policies. Based on this analysis, we differentiate between four distinct “strategic narratives” for the EU's digital policies, namely (i) digital sovereignty; (ii) green transformation; (iii) fundamental rights and protection against (hybrid) threats; as well as (iv) growth and competitiveness.

At the European level the term “strategy” is often used by the European Commission to capture the approaches to digitalisation management, its connection with, and its impact on the economy, society and the environment. Examples can be found in the strategy for a digital single

2 For an overview, see <https://digital-strategy.ec.europa.eu/en/policies/foreign-policy>.

market (European Commission, 2015) and the so-called “digital strategy” to shape Europe’s digital future (Council of the European Union, 2020c); the Cybersecurity Strategy (European Commission, 2020l); the Industrial Strategy (European Commission, 2020e); the Data Strategy (European Commission, 2020b); the SME strategy for small and medium-sized enterprises (SMEs) for a sustainable and digital Europe (European Commission, 2020f); the EU strategy for a Security Union (European Commission, 2020j); the Strategy on Standardisation (European Commission, 2022c); the Strategy for a better internet for kids (BIK+) (European Commission, 2022b); the Space Strategy for Security and Defence (European Commission, 2023b); and many upcoming digital strategies announced in the “Competitiveness Compass” (European Commission, 2025c). These strategies are often interconnected, highlighting multiple interdependencies across various fields of action. Additionally, broader political frameworks, such as the “European Green Deal”, the “Multiannual Financial Framework” (MFF) or the “Digital Europe Programme” play an important role in shaping European digitalisation. Against the background of this plethora of strategies, it is important to explore the fundamental conceptions of digitalisation that have emerged in the EU. In this understanding, the following analysis aims to identify strategic narratives that epitomise the EU’s approach to digitalisation, thereby extending it beyond individual initiatives and issue-specific strategies.

In this context, Rumelt refers to a “political strategy” with actions and policies aimed at influencing or manipulating the distribution of power, authority, and influence inside or outside the organisation. It is about gaining leverage, support, and legitimacy in ways that improve the ability to pursue goals. When it comes to grasping such strategic narratives, three analytic components of political strategies are of particular importance: The (i) “situation analysis” captures how EU actors perceive the situation, that is, what problems and opportunities it faces given rapid digitalisation developments. The analysis of the (ii) “formulation of goals” addresses the question of what the EU intends to do in order to meet the situation analysis accordingly. Finally, with regard to (iii) “target image and target group message”, the self-image of the EU is examined. This component asks how the EU seeks to be perceived by its audience such as citizens, actors at other political levels, or third countries, and which topics are emphasised in this context (Schröder, 2011).

Alongside the formulation of political strategies, the EU establishes and institutionalises “narratives” or “colourful stories” that illustrate our understanding of the unfolding of political events (Jones & Baumgartner, 2005; Levinger & Roselle, 2017; Peterson, 2018; Roe, 1994). These play a crucial role in legitimising policy directions and actions by defining and attributing roles to the actors or issues within the storyline, while also establishing causal links between successive events. Their development often hinges on pivotal moments that give rise to “new stories to make sense of the new events” (Wehner & Thies, 2014, p. 4). By naming, selecting, and categorising information, political actors like the EU construct a “dramatic plot” (with a setting, characters and an audience) that defines the meaning and significance of digital transformation. These narratives, closely tied to the core elements of political strategies – that is, situation analysis, goal formulation and the target image – help justify the EU’s actions and ambitions in the digital sphere.

Based on these elements, four distinct “strategic narratives” can be differentiated for the EU’s digital policies, forming the core building blocks of an overarching EU digitalisation strategy:

- i. The geopolitical narrative: digital sovereignty
- ii. The climate and environmental policy narrative: green transformation
- iii. The socio-political narrative: fundamental rights and protection against (hybrid) threats
- iv. The economic policy narrative: growth and competitiveness.

3.1 The geopolitical narrative: digital sovereignty

The geopolitical narrative reflects the EU's concern over its technological dependence on non-European countries and companies, particularly in areas like semiconductors, cloud services, cybersecurity, and 5G infrastructure. Recognising vulnerabilities linked to foreign technologies and data access, the EU has advanced legislative measures to strengthen autonomy and resilience. Facing dominant US and Chinese digital models, the EU positions itself as a “third way” – a value-driven, human-centric alternative, grounded in data protection, privacy, and democratic principles. Its strategy focuses on reinforcing Europe's industrial and technological base, promoting innovation, AI, and advanced digital skills, and shaping global digital standards to enhance its geopolitical and economic independence.

The concept of “digital sovereignty” depicts the reading of digitalisation as well as the role of the EU that is particularly prominent both in the political discourse and the scientific debate (European Council, 2025; Heyvaert, 2021, pp. 1-3). The term first emerged during the early 2010s, defining digital sovereignty as “control of our present and destiny as manifested and guided by the use of technology and computer networks” (Bellanger, as cited in Gueham, 2017, p. 9). According to Pohle (2020) “digital sovereignty” is influenced by three key aspects. First, she claims that the dominance of a few major tech corporations has undermined state authority over digital infrastructures (Zuboff, 2019). Second, Pohle claims that democratic responses to mass surveillance, revealed notably by Edward Snowden, have been contradictory: Despite public backlash, Western intelligence cooperation has persisted, reflecting a gap between public concern and political action. Third, she states that the global digital order has been increasingly contested by China's centralised and state-led model, offering Europe the opportunity to develop an alternative model to the US-driven, market-centric paradigm (Pohle, 2020, p. 7). Scholars and policymakers later embraced the concept, often using related terms such “technological sovereignty” to refer to it (Bauer, 2020). The concept has gained particular prominence in the European Union's political landscape with the German EU Presidency in 2020 employing it as a central theme in shaping the European digital policy during COVID-19 (German Presidency of the Council of the European Union, 2020).

Digital sovereignty is closely linked to the debate on the EU's strategic autonomy, reflecting aspects of the Global Strategy for the EU's Foreign and Security Policy. This connection is particularly evident in digital policy areas such as cybersecurity, counterterrorism, and strategic communications (Council of the European Union, 2016, p. 7; Helwig, Sinkkonen, & Sinkkonen, 2021). While definitions vary, the core concept revolves around the EU's ability to make independent decisions regarding its digital transformation – ensuring autonomy from external influences while adhering to its own values and regulations, and proactively addressing future dependencies (European Commission, 2020m; Steiner & Grzymek, 2020, p. 7). The transformative nature of digitalisation is evident not only in the control of cyberspace – encompassing technical digital systems such as hardware, software, infrastructure, standards, and protocols, but also in cybersecurity, as well as the collection of, flow of, and access to data (European Parliament & Council of the European Union, 2022b, 2024i). The question of digital sovereignty also extends into the economic and social domains, particularly when digitalisation alters market competition dynamics or impacts democratic processes (Moerel & Timmers, 2021, p. 4; Floridi, 2020, pp. 370-371).

Further, as a strategic narrative, “digital sovereignty” reflects on the circumstance that the EU has fallen behind technologically and, consequently, is dependent on third countries and companies based outside Europe for both critical hard- and software. Meanwhile, the security policy dimension of digitalisation has gained significant importance since the 2020s (European Commission, 2020j; European Council, 2022, 2024b). Digital technologies are mostly developed outside the EU and Europeans lack the technical capabilities and the power to ensure the self-

determined use and control of digital instruments.³ Possible restrictions of digital sovereignty through the use of foreign hardware, investments in strategic sectors as well as the acquisition of critical assets, resources, technologies and infrastructures are visible in the fields of semiconductors, cloud infrastructure, cybersecurity and the development of the 5G mobile communications standard. The use of components from Chinese manufacturers, for example Huawei or ZTE, is therefore discussed as a possible risk to national security (European Commission, 2019b, p. 4) that the EU is trying to tackle through various regulations such as the “Chips Act” (2022). In the case of cloud services, there are obvious dependencies, for example, with regard to the security of its domestic products or unlawful data access by third countries (European Commission, 2021b, p. 8). To address these challenges, the European Commission approved up to EUR 1.2 billion in state aid to support research, development, and the initial industrial deployment of advanced cloud and edge computing technologies across multiple European providers in 2023 (European Commission, 2023c). By using the concept of digital sovereignty, the EU is also addressing reliance on imports, especially critical raw materials or important components such as semiconductors (European Commission, 2020a, 2021f). Consequently, the EU adopted the Regulation on ensuring the secure and sustainable supply of critical raw materials in 2024 in part to lower the risk of supply disruptions and to improve the EU’s ability to monitor supply risks (European Parliament & Council of the European Union, 2024e).

The strongest dependencies are identified vis-à-vis China, the United States and a number of (South) East Asian countries (European Commission, 2019b). The US commercial, (surveillance) capitalist model based on market freedom and globally operating tech giants (Google/Alphabet, Amazon, Meta, Microsoft, Apple) on the one hand (Zuboff, 2019), and the Chinese authoritarian state surveillance model on the other, also represent the most important centres of gravity for overarching digitalisation concepts worldwide (Cancela & Jiménez, 2022). The EU is therefore keeping a close eye on tensions between the US and China, in which technology becomes the subject of geopolitical disputes to which the EU must (be able to) respond.

Based on this situation analysis, the EU formulates a number of key objectives, primarily focusing on strengthening its industrial and technological base – relating to achieving economies of scale. This includes promoting tech companies, fostering research, promoting (advanced) digital skills, strengthening AI capacities, deploying high-performance computing, using quantum technologies, and expanding cloud computing (European Commission, 2020e; 2021a, p. 3; European Council, 2020a, p. 10; 2020e, pp. 3-4; European Parliament & Council of the European Union, 2021). Simultaneously, the EU seeks to assert its own principles and strengthen strategic digital capacities in its external relations – aiming to influence global standards and norms in secure, green, and human-centric digitalisation, while promoting the development of intercontinental data gateways with geopolitical relevance (European Council, 2020e; Ministers from the Member States of the European Union, 2021b).

Building on the problem analysis and goal-setting, the EU presents itself as pursuing a “third way” of digitalisation, distinguishing itself not only from its “systemic rival” (EEAS [European External Action Service], 2022, p. 1) China, but also from the United States – particularly in terms of data protection, free flow of data and information, and with respect for privacy. By

3 For example, the European Commission notes that “90% of the EU’s data are managed by US companies, less than 4% of the top online platforms are European, European made microchips represent less than 10% of the European market” (European Commission, 2021b, p. 4). Other studies point out that Europe’s infrastructure is currently in the hands of a small number of mainly non-European companies while the EU is currently lacking development tools for European operating systems or relevant search engines, global social networks or a competitive cloud infrastructure (BMW i [Federal Ministry for Economic Affairs and Energy], 2020, p. 5).

combining technological innovation with the GDPR, along with initiatives on digital rights and AI, the EU seeks to position itself as a sovereign regulatory power and a value-driven, people-centric alternative model in the global digital landscape (Bradford, 2020; European Commission, 2022c; European Council, 2020e, p. 4; Schneider, 2025). Amid global power shifts, the need for digital capability and technological independence is greater than ever – yet, insufficient investment continues to impede progress in overcoming digital backwardness (European Commission, 2024g).

3.2 The climate and environmental policy narrative: twin transitions

The climate and environmental policy narrative links the “European Green Deal” to digitalisation – framing both as inseparable “twin transitions” (European Commission, 2019a). Through digital partnerships, this narrative also extends to external relations – with the EU presenting itself as a modern, environmentally responsible global actor, reconciling digital progress with climate action.

The situation analysis is based on the understanding that protecting natural ecosystems, sustainably managing resources, and enhancing public health must be key priorities for future-oriented policies. Digital transformation plays a central role in this context, as it is seen as a condition for the necessary changes in these areas. Picking up on the far-reaching impact of digitalisation, the Green Deal states that “[d]igital technologies are a critical enabler for attaining the sustainability goals of the Green deal in many different sectors” (European Commission, 2019a, p. 9). In this context, digitalisation is specifically linked to the EU’s climate goals, the European energy market and the transformation of the economy and industry, with the expectation that digital technology will allow for a more intensive and efficient use of valuable resources. At the same time, the EU emphasises the importance of an environmentally sustainable transition within the digital sector, particularly considering the energy consumption of large data centres and cloud infrastructures (European Commission, 2021b, pp. 8, 11, 2024g; European Council, 2020a, p. 15).

Consequently, ecological and digital transformation are presented as “twin transitions” and are viewed as inseparable from each other. This perspective is evident in almost all recent EU objectives – up until 2025. For instance, the European Commission has outlined plans to position Europe as a leading market for clean technology and to drive digitally enabled sustainable food production and the transition to a European circular economy (European Commission, 2020c, 2020d, 2022c; European Parliament & Council of the European Union, 2024h). Furthermore, the “Green and Digital Transformation of the EU” addresses the mobility and construction sectors as well as the use of AI for sustainable solutions (Ministers from the Member States of the European Union, 2021a). Within the leitmotif of “Digitalisation for the Benefit of the Environment”, the EU promotes alliances among ICT companies that integrate green and digital transformation while also advancing the creation of a data space for the European Green Deal. They constitute a key sector in the fight against climate change engaging both public and private actors (Council of the European Union, 2020b; European Green Digital Coalition, 2021; European Parliament & Council of the European Union, 2024h). Its objectives are reflected in the financial allocations of the MFF and NGEU, as previously outlined, and are extended into external relations. This is exemplified by the Cybersecurity strategy aiming to “develop an EU External Cyber Capacity Building Agenda [...] in line with [...] the 2030 Agenda for Sustainable Development” (European Commission, 2020l, p. 27) as well as in its partnership with Africa on a digital and knowledge-based economy (European Council, 2020c, p. 4).⁴

4 On the digital partnership between Africa and Europe, see Daniels, Erforth, Floyd, & Teevan, 2020.

Further, the EU calls for the development of a global environmental data strategy in its cooperation with the United Nations (Council of the European Union, 2020c, p. 15). “Green Digital Diplomacy” is also discussed as an opportunity for European foreign and security policy (Pawlak & Barbero, 2021).

Against this background, the EU presents a vision where digital transformation is a key driver in addressing current and future climate and environmental challenges. A major focus is on “reconciling” the inseparable major digital and green transformations. By emphasising the “digital” in the “Green Deal”, and the “green” in the “Digital Agenda”, the European Commission has emphasised three key image factors: Firstly, the green transformation is framed within the legacy of historic economic reforms, such as the US New Deal of the 1930s. Secondly, the self-concept of the “Digital Green Deal” serves as a deliberate contrast to the environmentally controversial policies pursued under (then and now) US President Donald Trump. Lastly, the idea of sustainable digitalisation presents the EU as both modern *and* environmentally conscious, positioning its significant contribution to global greenhouse gas emissions within a narrative of positive transformation – thus also shaping the discourse around it.

3.3 The socio-political narrative: fundamental rights and protection against threats

Within the political guidelines and key initiatives examined, another strategic narrative of digitalisation and of the role of the EU emerges with regard to socio-political dimensions. This narrative highlights the importance of fundamental digital rights and principles; protection against digital threats; and trust in digital services. It acknowledges that digital progress brings with it a range of new risks to states, societies, and economies – ranging from cyberattacks (such as hacking, ransomware, and identity theft) to violations of privacy, and challenges to freedom of expression, including the need for access to pluralistic, trustworthy, and transparent information (Council of the European Union, 2020c; European Commission, 2021d; European Council, 2018a; European Parliament et al., 2023). Efforts like the “AI Act” and the “Digital Services and Markets Acts” are aimed at aligning innovation with European values while ensuring data protection, transparency, and digital inclusion. Further, the EU envisions extending its standards globally through initiatives like the Declaration on Digital Rights and Principles, and to strengthen private and public resilience against hybrid threats through coordinated cybersecurity and cyber diplomacy tools.

The situation analysis of the EU shows that not all digital innovations automatically align with or uphold European law in the digital realm, potentially posing a threat to democratic processes. In 2018, the European Council accordingly called for “[s]ocial networks and digital platforms [...] to guarantee transparent practices and full protection of citizens’ privacy and personal data [and that] EU and national legislation must be respected and enforced” (European Council, 2018b, p. 3). Prominent examples in this regard include copyright infringements; risks posed by the reach of very large online platforms (for example, social media); the sale of illegal goods; the distribution of illegal content online; or new means of disinformation (European Parliament & Council of the European Union, 2022e, 2024a). Alongside extending existing rights to the digital realm, policymakers began prioritising the alignment of technological advancements and their societal impacts with European values and standards, as seen in the case of facial recognition software development and use (European Parliament & Council of the European Union, 2016b, 2024g).

These procedures entail comprehensive actions by the EU along the lines of “technology that works for the people” and an “open, democratic and sustainable society” (European Commission, 2020i, p. 2) – in particular, to ensure data security, data protection and privacy (European Council, 2020e, p. 5). In doing so, the EU takes advantage of the tailwind generated

by the successful introduction of rules on the processing of personal data under the GDPR, which has attracted global attention. The development of “human-centric and trustworthy” artificial intelligence (European Parliament & Council of the European Union, 2024g); the regulation of large and very large platforms (European Parliament & Council of the European Union, 2022d, 2022e); measures to counter information manipulation (European Commission, 2018b; European Commission & High Representative of the European Union for Foreign and Security Policy, 2018); advancing the development of trusted digital identities (European Parliament & Council of the European Union, 2024d); and action plans focused on media and democracy (European Parliament & Council of the European Union, 2024c; European Commission, 2020g, 2020h) represent the current state of EU digitalisation governance ambitions. Enhancing digital education and skills is recognised as a core element of Europe’s overarching digital transformation strategy (European Parliament & Council of the European Union, 2021, p. 3) – in order to foster “the ability to engage positively and competently in the digital environment” which contributes to “strengthening resilience in times of rapid technological change and globalisation” (European Commission, 2018a, pp. 3-4). This perspective also reflects the importance of providing social support for individuals whose employment is at risk due to automation.

Through this framing of digitalisation and the accompanying initiatives, the EU envisions a secure yet open digital environment – one that safeguards European values, upholds democratic principles, protects treaty obligations, and shields citizens from emerging threats while also granting them new digital rights. These rights and values are also being exported globally – reinforcing the EU’s ambition to promote its human-centric, “third way” of digitalisation. For example, the “Declaration on Digital Rights and Principles” (2023) influenced key international frameworks, notably the “OECD Declaration on a Trusted, Sustainable and Inclusive Digital Future” (2022) as well as the “United Nations Global Digital Compact” (2024). Both documents aim to close digital divides, expand inclusion, foster an open and secure digital space, promote human rights and enhance governance of AI and other emerging technologies (European Commission, 2024a; OECD [Organisation for Economic Co-operation and Development], 2022; United Nations, 2024). Additionally, the protection of this digital space carries a security policy dimension, particularly in addressing actions by foreign actors such as disinformation campaigns or intellectual property theft. In this context, the adoption of the Cyber Diplomacy Toolbox in 2017, as well as numerous cybersecurity Regulations and Directives since then, has been invoked as a mechanism for a coordinated response to such hybrid threats.

3.4 The economic policy narrative: growth and competitiveness

A fourth strategic narrative revolves around economic policy which can be framed under the title “growth and competitiveness”: Firstly, it entails the promise of enormous potential for innovation, growth and the creation of jobs through digitalisation – a framing that has been repeated in numerous EU documents over the years (European Commission, 2025c; European Council, 2017a; 2020e, p. 3; 2023). It recognises the key role of digital technology in reshaping Europe and envisions it as a catalyst for economic renewal and substantial additional revenue. It encompasses several elements alongside travel, capital movements, e-commerce policies, improved frameworks to foster new business opportunities, digital infrastructure, and strategic investments in fields like AI, high-performance computing, and blockchain (German Presidency of the Council of the European Union, 2020; Marcus, Petropoulos, & Yeung, 2019). Secondly, this interpretation pattern acknowledges the potential risks tied to the digital expansion of the European market, as Europe could fall behind globally in terms of economic innovation and competitiveness. There is also a risk that the EU might not be sufficiently integrated into strategic international digital value chains. The central tool for unlocking not only the potential for innovation and growth, but also for boosting competitiveness is the advancement of the internal

market and the full implementation of its core principles and freedoms (European Commission, 2022c, 2025c; European Council, 2018b, p. 1; 2018c).

Against this background, the “Digital Single Market Strategy”, the key reference point for the economic policy narrative on digitalisation focused on growth and expansion, identifies the creation of a favourable investment environment for digital networks, research, and innovative enterprises as a primary objective (European Commission, 2015, p. 21). Initially, under the leitmotif of greater integration of the Digital Single Market, and later under the leitmotif of its completion, the development of digital infrastructure, the enhancement of digital skills, and the promotion of e-commerce and digital services were identified as key tools to “allow Member States, businesses and citizens to innovate and reap the rewards of digitisation” (European Commission, 2017a, p. 24). Within this context, concerns about “security, compliance with fundamental rights and data protection more generally” (European Commission, 2015, p. 17) emerged as crucial elements for building the trust of European businesses and citizens in digitalisation.

However, the link to the four fundamental freedoms of the single market and the emphasis on growth opportunities for European businesses differ from the digital sovereignty concept. The economic policy narrative focuses less on managing global dependencies and the self-determined design of digitalisation, but more on the practical and tangible benefits for European citizens and businesses alike (European Council, 2017a, p. 8). The exemption from the additional costs of roaming for telephony or data usage when travelling across borders in Europe is one of the prominent initiatives in this context (European Commission, 2017a). As a result, increasing emphasis is placed on supporting research, small and medium-sized enterprises, start-ups, a digitised public sector, and ensuring access to raw materials and reliable supply chains – primarily as key drivers of Europe’s economic renewal and progress, rather than as components of global system competition (European Council, 2022). At the same time, this perspective acknowledges the importance of global competitiveness in light of economic interdependencies (European Commission, 2022c). The goal is not only to enhance the standing of European companies in relation to international competitors – particularly in areas such as taxation – but also to establish a framework that ensures fair competition. While the foundational aspects of this approach were especially emphasised in the 2015 Digital Single Market Strategy, the digital transformation is also recognised as an “essential component of the EU’s response to the economic crisis generated by the COVID-19 pandemic” (Council of the European Union, 2020c, p. 3; European Council, 2020e).

Ten years later – and in light of growing risks of de-industrialisation and economic stagnation – the European Commission still aims to fully exploit the benefits offered by the single market and to “nurture Europe’s innate strengths, harness its resources and remove the barriers at European and national level” (European Commission, 2025c). Once again, digitalisation is given particular prominence and is explicitly recognised as a “competitiveness driver across all sectors” (European Commission, 2025c).

In essence, by establishing this narrative of digitalisation – and by advancing its own role in managing it – the EU designs a target picture of prosperity, economic power, and competitiveness. In doing so, it draws on the most fundamental promises of the European integration project. In this context, economic power as a unifying force is closely linked to the coordinated advancement of digitalisation in the single market.

4 Conclusions: core elements of the European digitalisation strategy

In recent years digitalisation and digital policies have advanced rapidly within the EU. The analysis has shown the complexity of the task to structure a dynamic evolution connected to various policy fields. Since at least 2015, a broad range of initiatives have emerged at the EU level, reflecting the cross-sectoral nature of digitalisation – spanning areas from economic integration and external relations to pandemic response. These developments have unfolded across three interconnected phases: The development of the digital single market (2015-2027), a stronger focus on cybersecurity and “hybrid threats” (2017-2020), and – finally – the proclamation of the “Digital Decade” (from 2020) with its comprehensive set of initiatives. Each of them has introduced new priorities to the digital agenda while building on the accomplishments of its previous phases. Further, they have been accompanied by the creation and reinforcement of institutional structures, including ENISA; the Body of European Regulators for Electronic Communications; the Digital Media Observatory; strategic communication units within the EEAS; the Horizontal Working Party on Cyber Issues in the Council; and new entities like European Digital Innovation Hubs; the European Cybersecurity Competence; the EU Cyber Defence Coordination Centre; the Safer Internet Centres; the EU Satellite Centre (SatCen); the European Centre for Algorithmic Transparency; and the European AI Office.

At the same time, the different phases of development reveal thematic continuities, such as the consistent emphasis on advancing digital infrastructure and fostering economic innovation. The wide array of initiatives aimed at shaping the EU’s digital transformation have been driven by various strategic documents addressing digitalisation: They range from the “Cybersecurity Strategy” and “Data Strategy” to the “Strategy for a Security Union”, the “Industrial Strategy” and a “Strategy on Standardisation” – as well as several new strategies announced in the recently published “Competitiveness Compass” (2025). Many of these key documents have been introduced in the last five years, with several designed to “help transform the EU through its major policies, particularly the European Green Deal, the digital revolution and resilience” (European Council, 2020f, p. 2).

This paper explored how the European Union interprets digitalisation and shapes its digital policy framework. The analysis reflects the growing significance and broad reach of digitalisation – marked by its expanding themes, evolving institutions, and substantial financial commitments. By collecting and organising both past and emerging developments across numerous policy fields and mapping out current areas of focus, a more comprehensive picture of the EU’s digitalisation approach and the key components of a cross-sector European digital strategy become visible. This extensive overview then provides a systematic basis for the subsequent analytical lens. In particular, through an analysis of the policy strategy elements of EU key initiatives – the “situation analysis”, the “formulation of goals”, and the “target image and target group message” – four distinct “strategic narratives” of digitalisation can be differentiated.

Their timing and focus may distinguish different narratives, namely the geopolitical (strengthened since 2017 and again after 2022); environmental (strengthened since 2019); socio-political; and economic policy (both strengthened after 2015 and again after 2020). However, they are not mutually exclusive. Rather, the EU of today processes them in parallel and differentiates them under its current reading of digitalisation, even if some of the elements are conceptually not consistent or even functionally incompatible.

The simultaneous use of different perspectives on digitalisation – viewing it both as a powerful force requiring regulation and as a practical tool offering solutions – is clearly illustrated by the case of digital infrastructure. Its significance surged during the months of remote learning and teleworking brought about by COVID-19 and has remained high in the new working realities

ever since. While previously framed primarily in terms of economic innovation and competitiveness, the focus was on investments in ICT infrastructure and technologies like cloud computing, aimed at advancing the European digital single market, fostering economic growth, and maximising the potential of the digital economy (European Commission, 2015, 2016d). However, broadband communication service systems are also tied to security concerns, as they form part of the critical infrastructure essential for maintaining key societal and economic functions. In this context, the EU has been emphasising the importance of 5G for the development of a “Digital Single Market” to be technologically sovereign – since 2019 up until today (Council of the European Union, 2019b; European Commission, 2021c, 2024g).

Similarly, the development of a connection between economic and security policy perspectives can be observed in the case of European cloud capacities. Initially highlighted for their potential in large-scale data processing to support science and industry, these technologies were later associated with efforts to enhance technological sovereignty and maintain competitiveness in the global technological race (European Commission, 2016c, 2020n, 2021f). In this context, the framing of cyber threats also evolved. What was once viewed mainly through the lens of economic damage has broadened to encompass geopolitical considerations. As a result, the security policy implications of using components from Chinese suppliers have come to dominate the discussion around the development of European 5G networks – a conversation that initially centred on ICT standardisation.

Hence, the core elements of a cross-cutting EU digitalisation strategy do not establish a sharply defined, uniform profile. Considering the enormous scope of digital change, it would be very difficult to formulate this profile without running the strategy into over-complexity. However, it is possible to dovetail different approaches from various sub-strategies into an overarching understanding of digitalisation, its challenges and opportunities as well as the EU’s intended role in this process, namely a digitalisation that develops according to its own rules and values on the basis of technological sovereignty which is key to boosting the sustainable development of the European economic area and an open society (von der Leyen, 2021).

Given the significant pressure to act, the largely coherent problem analysis across numerous policy areas can be seen as a positive aspect. However, the sheer volume of initiatives also presents a challenge in terms of preventing conflicts between objectives – such as potential tensions between the cybersecurity strategy and regulations on artificial intelligence, to mention only one example – regardless of existing goal conflicts within individual policy domains.

Looking ahead, digitalisation will become an even more prominent focus for the EU as it seeks to advance it in a more strategic, inclusive, and beneficial manner for all. Currently there are multiple “digital divides” – between Member States, between rural and urban areas, and between age and education groups (European Commission, 2021h, pp. 6, 11, 2024c, p. 10; von der Leyen, 2021). The challenges posed by digitalisation are expected to grow in various areas – not only as a result of “digital hyperconnectivity”, but also due to the increasing pressures exerted through digital tools, both from within and outside the EU’s democratic framework (European Commission, 2021a, pp. 3–4). Globally, internet freedoms are facing growing threats, freedom of expression is being further curtailed, and demands for the stricter regulation of major tech companies are becoming increasingly prominent (Shahbaz, Slipowitz, Baker, & Vepa, 2021). However, a shared understanding of digitalisation and its associated “collective principles, regulatory framework conditions and ethically justified boundaries” (WBGU, 2019, p. 4), as developed by the EU, is still lacking at the inter- and transnational level. Moreover, this development is hindered by the lack of a well-functioning global governance system. Nevertheless, an inclusive understanding of how a common digital future should look – with state and non-state actors from all continents – is ultimately key to promoting European ideas.

For the EU and its Member States, the challenge lies in establishing the necessary conditions to guide digitalisation in a way that promotes sustainable economic and social development –

all the while navigating global power shifts and a highly complex, interdependent landscape. Therefore, this development must reflect the geopolitical, environmental and climate policy priorities of our time – particularly in relation to the intersections between digitalisation, energy use, and CO2 emissions – in order to align with the EU's system of values, comply with European law, and meet the expectations of the European public.

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Appendix

Table A1: Key EU documents relating to the digitalisation process (from January 2019 to May 2025)

Date, author	Document (short title), signature	Field(s) of action
14.01.2020, European Commission	Communication – A strong social Europe for just transitions, COM(2020) 14 final	Digital society
19.02.2020, European Commission	Communication – A European Strategy for Data, COM(2020) 66 final	Digital infrastructure and cybersecurity; digital society
29.01.2020, European Commission	Communication – Secure 5G deployment in the EU – Implementing the EU toolbox, COM(2020) 50 final	Digital infrastructure and cybersecurity; research on digital technology and innovation
19.02.2020, European Commission	Communication – A European Strategy for Data, COM(2020) 66 final	Digital infrastructure and cybersecurity; digital society
19.02.2020, European Commission	Communication – Shaping Europe's digital future, COM(2020) 67 final	Overarching
19.02.2020, European Commission	White Paper – On Artificial Intelligence: A European approach to excellence and trust, COM(2020) 65 final	Overarching
10.03.2020, European Commission	Communication – A New Industrial Strategy for Europe, COM(2020) 102 final	Economy and digital single market; digital infrastructure and cybersecurity
10.03.2020, European Commission	Communication – An SME Strategy for a sustainable and digital Europe, COM(2020) 103 final	Economy and digital single market
11.03.2020, European Commission	Communication – A new Circular Economy Action Plan – For a cleaner and more competitive Europe, COM(2020) 98 final	Economy and digital single market
25.03.2020, European Council	Joint Statement of the Members of the European Council	Economy and digital single market; research on digital technology and innovation
14.04.2020, European Commission	Recommendation – A common Union toolbox for the use of technology and data to combat and exit from the COVID-19 crisis, in particular concerning mobile applications and the use of anonymised mobility data, L 114/7	Digital infrastructure and cybersecurity
17.04.2020, European Commission	Joint European Roadmap towards lifting COVID-19 containment measures, 2020/C 126/01	Economy and digital single market; Digital Society
17.04.2020, European Commission	Communication – Guidance on Apps supporting the fight against COVID 19 pandemic in relation to data protection, C/2020/2523	Digital infrastructure and cybersecurity; Digital society

Date, author	Document (short title), signature	Field(s) of action
09.06.2020, Council of the European Union	Conclusions – Shaping Europe’s Digital Future, ST/8711/2020/INIT	Overarching
01.07.2020, European Commission	Communication – European Skills Agenda for sustainable competitiveness, social fairness and resilience, COM(2020) 274 final	Digital society
14.07.2021, European Parliament, Council of the European Union	Regulation – Establishing the Connecting Europe Facility, (EU) 2021/1153	Digital infrastructure and cybersecurity; Economy and digital single market
21.07.2020, European Commission	The EU’s 2021-2027 long-term budget & NextGenerationEU – Facts and Figures	Overarching
21.07.2020, European Council	Special meeting of the European Council (17, 18, 19, 20 and 21 July 2020) – Conclusions, EUCO 10/20	Overarching
30.09.2020, European Commission	Communication – Digital Education Action Plan 2021-2027 – Resetting education and training for the digital age, COM(2020) 624 final	Digital society
02.10.2020, European Council	Special meeting of the European Council (1 and 2 October 2020) – Conclusions, EUCO 13/20	Digital infrastructure and cybersecurity; economy and digital single market
16.10.2020, European Council	European Council meeting (15 and 16 October 2020) – Conclusions, EUCO 15/20	Digitalisation in external relations
02.12.2020, European Commission	Communication – Digitalisation of justice in the European Union – A toolbox of opportunities, COM(2020) 710 final	Digital infrastructure and cybersecurity; digital society
08.12.2020, European Commission	D4D Hub – Joint Letter of Intent	Digitalisation in external relations
11.12.2020, European Council	European Council meeting (10 and 11 December 2020) – Conclusions, EUCO 22/20	Digital infrastructure and cybersecurity
11.12.2020, Council of the European Union	Draft Conclusions – Making the Recovery Circular and Green, 13852/20	Economy and digital single market; digital infrastructure and cybersecurity, digital Society
16.12.2020, European Commission	Joint Communication – The EU’s Cybersecurity Strategy for the Digital Decade, JOIN(2020) 18 final	Digital infrastructure and cybersecurity; digital society
09.03.2021, European Commission	Speech by Executive Vice-President Vestager at the press conference on Europe’s Digital Decade: 2030 Digital Targets	Digital infrastructure and cybersecurity; digital society

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09.03.2021, European Commission	Communication – 2030 Digital Compass: the European way for the Digital Decade, COM(2021) 118 final	Overarching
19.03.2021, Ministers from the Member States of the European Union and the European Free Trade Area	A Green and Digital Transformation of the EU	Economy and digital single market
25.03.2021, European Council	Statement of the members of the European Council, SN 18/21	Economy and digital single market; Digitalisation in external relations
11.05.2021, European Parliament, Council of the European Union	Regulation – Establishing the Digital Europe Programme and repealing Decision (EU) 2015/2240, (EU) 2021/694	Overarching
18.05.2021, European Commission	Communication – On the Global Approach to Research and Innovation: Europe's strategy for international cooperation in a changing world, COM(2021) 252 final/2	Digitalisation in external relations
19.10.2021, European Commission	Communication – Commission work programme 2022: Making Europe stronger together, COM(2021) 645 final	Overarching
10.11.2021, European Commission	Commission Implementing Decision – On the financing of the Digital Europe Programme and the adoption of the multiannual work programme for 2021 – 2022, C(2021) 7914 final	Overarching
11.12.2021, European Commission	Joint Communication – The Global Gateway, JOIN(2021) 30 final	Digitalisation in external relations
30.12.2021, European Commission	Communication – Criteria for the analysis of the compatibility with the internal market of State aid to promote the execution of important projects of common European interest, C/2021/8481	Digital infrastructure and cybersecurity
26.01.2022, European Commission	European Declaration on Digital Rights and Principles for the Digital Decade, COM(2022) 28 final	Digital society
02.02.2022, European Commission	Communication – An EU Strategy on Standardisation: Setting global standards in support of a resilient, green and digital EU single market, COM(2022) 31 final	Economy and digital single market; digital infrastructure and cybersecurity; digitalisation in external relations
02.03.2022, European Commission	Communication – Towards a green, digital and resilient economy: our European Growth Model, COM(2022) 83 final	Overarching
25.03.2022, European Council	European Council meeting (24 and 25 March 2022) – Conclusions, EUCO 1/22	Economy and digital single market

Date, author	Document (short title), signature	Field(s) of action
13.04.2022, European Parliament, Council of the European Union	Regulation – On roaming on public mobile communications networks within the Union (recast), (EU) 2022/612	Digital society
11.05.2022, European Commission	Communication – A Digital Decade for children and youth: the new European strategy for a better internet for kids (BIK+), COM (2022) 212 final	Digital infrastructure and cybersecurity; digital society
03.06.2022, European Parliament, Council of the European Union	Regulation – On European data governance (Data Governance Act), (EU) 2022/868	Economy and digital single market
14.09.2022, von der Leyen	2022 State of the Union Address	Digitalisation in external relations
12.10.2022	Regulation – On contestable and fair markets in the digital sector (Digital Markets Act), (EU) 2022/1925	Economy and digital single market; digital Society
19.10.2022, European Parliament, Council of the European Union	Regulation – On a Single Market For Digital Services (Digital Services Act), (EU) 2022/2065	Economy and digital single market; digital Society
10.11.2022, European Commission	Joint Communication – EU Policy on Cyber Defence, JOIN(2022) 49 final	Digital infrastructure and cybersecurity
19.12.2022, European Parliament, Council of the European Union	Decision – Establishing the Digital Decade Policy Programme 2030, (EU) 2022/2481	Overarching
27.12.2022, European Parliament, Council of the European Union	Directive – On measures for a high common level of cybersecurity across the Union (NIS 2 Directive), (EU) 2022/2555	Digital infrastructure and cybersecurity
27.12.2022, European Parliament, Council of the European Union	Directive – On the resilience of critical entities and repealing Council Directive 2008/114/EC, (EU) 2022/2557	Digital infrastructure and cybersecurity
23.01.2023, European Parliament, Council of the European Union	European Declaration on Digital Rights and Principles for the Digital Decade, 2023/C 23/01	Digital society
10.03.2023, European Commission	Joint Communication – European Union Space Strategy for Security and Defence, JOIN(2023)9	Digital infrastructure and cybersecurity
23.03.2023, European Council	European Council meeting (23 March 2023) – Conclusions, EUCO 4/23	Economy and digital single market
18.09.2023, European Parliament, Council of the European Union	Regulation – Establishing a framework of measures for strengthening Europe’s semiconductor ecosystem (Chips Act), (EU) 2023/1781	Economy and digital single market; digital infrastructure and cybersecurity

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13.12.2023, European Parliament, Council of the European Union	Regulation – On harmonised rules on fair access to and use of data (Data Act), (EU) 2023/2854	Overarching
14.12.2023, European Commission	Commission Implementing Decision – Amending the Commission Implementing Decision C (2023) 1862 final on the financing of the Digital Europe Programme and the adoption of the work programme for 2023 – 2024, C(2023) 8620 final	Overarching
27.12.2023, European Parliament, Council of the European Union	Regulation – On the digitalisation of judicial cooperation and access to justice in cross-border civil, commercial and criminal matters, and amending certain acts in the field of judicial cooperation, (EU) 2023/2844	Digital society
01.02.2024, European Council	Special meeting of the European Council (1 February 2024) – Conclusions, EUCO 2/24	Digital infrastructure and cybersecurity
21.02.2024, European Commission	White Paper – How to master Europe’s digital infrastructure needs?, COM(2024) 81 final	Digital infrastructure and cybersecurity
20.03.2024, European Parliament, Council of the European Union	Regulation – On the transparency and targeting of political advertising, (EU) 2024/900	Digital Society; digital infrastructure and cybersecurity
22.03.2024, European Parliament, Council of the European Union	Regulation – Laying down measures for a high level of public sector interoperability across the Union (Interoperable Europe Act), (EU) 2024/903	Digital society
11.04.2024, European Parliament, Council of the European Union	Regulation – Establishing a common framework for media services in the internal market (European Media Freedom Act), (EU) 2024/1083	Digital society
18.04.2024, European Council	Special meeting of the European Council (17 and 18 April 2024) – Conclusions, EUCO 12/24	Overarching
30.04.2024, European Parliament, Council of the European Union	Regulation – Amending Regulation (EU) No 910/2014 as regards establishing the European Digital Identity Framework, (EU) 2024/1183	Digital society
03.05.2024, European Parliament, Council of the European Union	Regulation – Establishing a framework for ensuring a secure and sustainable supply of critical raw materials, (EU) 2024/1252	Economy and digital single market
08.05.2024, European Parliament, Council of the European Union	Regulation – On measures to reduce the cost of deploying gigabit electronic communications networks (Gigabit Infrastructure Act), (EU) 2024/1309	Digital infrastructure and cybersecurity

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27.06.2024, European Council	European Council meeting (27 June 2024) – Conclusions, EUCO 15/24	Overarching
28.06.2024, European Parliament, Council of the European Union	Regulation – On establishing a framework of measures for strengthening Europe’s net-zero technology manufacturing ecosystem, (EU) 2024/1735	Economy and digital single market
12.07.2024, European Parliament, Council of the European Union	Regulation – Laying down harmonised rules on artificial intelligence (Artificial Intelligence Act), (EU) 2024/1689	Overarching
23.10.2024, European Parliament, Council of the European Union	Directive – On improving working conditions in platform work, (EU) 2024/2831	Economy and digital single market
20.11.2024, European Parliament, Council of the European Union	Regulation – On horizontal cybersecurity requirements for products with digital elements (Cyber Resilience Act), (EU) 2024/2847	Digital infrastructure and cybersecurity
15.01.2025, European Parliament, Council of the European Union	Regulation – Laying down measures to strengthen solidarity and capacities in the Union to detect, prepare for and respond to cyber threats and incidents (Cyber Solidarity Act), (EU) 2025/38	Digital infrastructure and cybersecurity
29.01.2025, European Commission	Communication – A Competitiveness Compass for the EU, COM(2025) 30 final	Economy and digital single market
11.02.2025, European Commission	Communication – The road to the next multiannual financial framework, COM(2025) 46 final	Overarching
26.02.2025, European Commission	Communication – The Clean Industrial Deal: A joint roadmap for competitiveness and decarbonisation, COM(2025) 85 final	Economy and digital single market
05.03.2025, European Parliament, Council of the European Union	Regulation – On the European Health Data Space, (EU) 2025/327	Digital infrastructure and cybersecurity, digital society
28.03.2025, European Commission	Commission Implementing Decision – On the financing of the Digital Europe Programme and the adoption of the multiannual work programme 2025-2027, C(2025) 1839 final	Overarching
05.05.2025, European Commission	Joint Communication – An International Digital Strategy for the European Union, JOIN(2025) 140 final	Digitalisation in external relations

Source: Authors