



Wilfried
Martens Centre
for European Studies

Digitalising Europe's Economy

The Role of Small and Medium-Sized Enterprises

Peter Hefe





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Credits

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The Wilfried Martens Centre for European Studies is the political foundation and think tank of the European People's Party (EPP), dedicated to the promotion of Christian Democrat, conservative and like-minded political values.

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About the Martens Centre



The Wilfried Martens Centre for European Studies, established in 2007, is the political foundation and think tank of the European People's Party (EPP). The Martens Centre embodies a pan-European mindset, promoting Christian Democrat, conservative and like-minded political values. It serves as a framework for national political foundations linked to member parties of the EPP. It currently has 30 member foundations and one permanent guest foundation in 25 EU and non-EU countries.

The Martens Centre takes part in the preparation of EPP programmes and policy documents. It organises seminars and training on EU policies and on the process of European integration. The Martens Centre also contributes to formulating EU and national public policies. It produces research studies and books, policy briefs and the twice-yearly *European View* journal. Its research activities are divided into six clusters: party structures and EU institutions, economic and social policies, EU foreign policy, environment and energy, values and religion, and new societal challenges. Through its papers, conferences, authors' dinners and website, the Martens Centre offers a platform for discussion among experts, politicians, policymakers and the European public.

**About
the author**



Peter Hefe has been Policy Director of the Wilfried Martens Centre for European Studies since 2022. He graduated in Economics and Economic History from the Catholic University of Eichstätt-Ingolstadt in 1997. He worked as an economic researcher at the Institute for Economy and Society, Bonn, before joining the Konrad Adenauer Foundation in 2003, where he held various roles, mainly in the Asia–Pacific region. From 2019 to 2021 he was Director Asia and Pacific of the Konrad Adenauer Foundation in Berlin. His work focuses on foreign and security policy, economic policy, international development cooperation and energy/climate policy. He is also an expert on Asia’s political, economic and social developments.

Executive summary



Small and medium-sized enterprises (SMEs) constitute the backbone of Europe's economy, representing over 99% of all firms and employing nearly 90 million people. Their capacity to innovate, adapt and invest will largely determine whether the EU achieves its strategic objectives of digitalisation, sustainability and long-term competitiveness. However, current evidence shows that the digital transformation of SMEs remains uneven, fragmented and slower than required to meet the EU's Digital Decade targets.

This study analyses the drivers, constraints and policy conditions shaping SME digitalisation across nine EU member states (Austria, Czechia, France, Germany, Greece, Italy, Spain, Sweden and Romania). It adopts a mixed-methods approach, combining quantitative indicators with qualitative country evidence to examine four interconnected dimensions: the regulatory and institutional environment, skills and human capital, finance and investment capacity, and technology adoption and infrastructure.

According to the findings, SMEs are confronted with a 'triple transition' dilemma that involves digital, green and demographic changes that are occurring quickly and simultaneously. Although these changes support one another, they also create accumulative pressures, especially for micro and small businesses with little managerial expertise. One important finding is that digitalisation is more than just technological advancement. Strategic leadership, skill development and organisational transformation are necessary. Businesses that do not incorporate these factors run the risk of being mired in poor productivity, which represents an increment in the competitiveness differential between SMEs and larger companies.

Across countries, three structural bottlenecks consistently emerge. First, skills shortages—both basic digital literacy and advanced information and communications technology expertise—represent the most persistent constraint on SME transformation. Second, access to finance remains uneven, with smaller firms facing difficulties obtaining capital for high-risk digital investments despite EU and national support schemes. Third, regulatory complexity imposes disproportionate burdens on smaller firms, especially when compliance requirements are designed for medium-sized or large enterprises.



Patterns of technology adoption also show that many SMEs merely digitalise superficially, utilising a few technologies without changing workflows or business models. Because of structural differences across Europe, advanced technologies such as artificial intelligence, cloud computing and data analytics are concentrated in more established businesses and regions. Resource-constrained SMEs frequently misjudge threats and lack comprehensive protective measures; cybersecurity and digital trust are further weak spots.

The study also highlights a paradox regarding sustainability: although EU policies strongly link digitalisation and the green transformation, most SMEs perceive sustainability requirements primarily as compliance obligations rather than as strategic opportunities. Limited skills, financial constraints and weak technological capacity prevent firms from leveraging digital tools for environmental optimisation, reducing the potential synergies between the twin green and digital transitions.

Policy analysis suggests that while the EU has developed a sophisticated framework of support instruments—including financing mechanisms, innovation programmes and regulatory initiatives—implementation gaps and administrative fragmentation limit their effectiveness. National differences in infrastructure, regulatory practices and financial systems further shape outcomes, underscoring the need for tailored, proportionate policy design.

The study concludes that in order to boost SME digitalisation, an integrated policy approach that concurrently addresses all four analytical elements is necessary. Simplifying regulatory processes, increasing targeted financing options, investing in leadership development and digital skills, promoting common technological infrastructures, and integrating cybersecurity and sustainability into all SME-focused projects are some of the main suggestions. SME participation in Europe's digital, green and economic transformation can only be guaranteed by a concerted approach that combines frameworks at the EU level with adaptable state implementation.

Keywords SMEs–Digital transformation–EU policy–Innovation capacity–Competitiveness



Introduction



Background to the study

The vital role of small and medium-sized enterprises (SMEs) in Europe's economic development and social stability is widely acknowledged by politicians and economists.¹ With over 99% of such European companies providing jobs to almost 90 million European citizens, driven by 26 million entrepreneurs (as of 2024), SMEs are key to European competitiveness.² The ambitious goal of the EU to achieve a sustainable and digital transformation will fail if the majority of European companies are neither willing nor able to integrate digital technologies into their business models, to redefine these models to follow a path to sustainable transformation or to tap into new sources of value creation.

The latest data shows that the digitalisation of European SMEs is progressing slowly and unevenly across the continent, with cloud, big data and artificial intelligence (AI) take-up remaining well below the collective 2030 Digital Decade targets.³ On a more basic level, many European companies are still struggling to enhance their digital intensity in internal processes, data management and the streamlining of day-to-day work. For many SMEs, European regulations add a layer of complexity, including in terms of privacy protection, reporting obligations, and environmental, social and governance requirements. Cybersecurity and protecting intellectual property are a growing concern, as they require additional resources and personnel.

Over the last two decades, the EU and its member states have implemented a wide range of support policies to enable this transformation.⁴ However, the uptake of these new options and the upgrading of business models remain insufficient. One reason is that many policy designs ignore the diverse realities of how SMEs operate, particularly for the majority of small businesses, not least due to their

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- 1 European Investment Bank, 'Small and Medium Enterprises: Overview 2022' (2022), 2–4; European People's Party, 'Empowering EU Entrepreneurship and SMEs' (15 February 2024).
 - 2 European Commission, Directorate-General for Internal Market, Industry, Entrepreneurship and SMEs, *Annual Report on European SMEs 2024/2025* (Luxembourg, 2025).
 - 3 European Commission, 'SME Performance Review' (2025); European Commission, 'Digital Decade Policy Programme 2030' (5 January 2023).
 - 4 E.g. through Digital Innovation Hubs; see European Commission, 'European Digital Innovation Hubs' (8 October 2025).



weak political representation during legislative processes. Many European companies also continue to face difficulties accessing designated programmes and funding schemes. This raises questions about the design, administration and implementation of the EU's supranational programmes and dedicated support funds.

Objectives

The study aims to develop policy recommendations for European and national policymakers to improve the regulatory framework, market conditions and management capacities for SMEs, with a special focus on the impact of digital technologies.⁵ We will, if possible, focus on micro and small companies, as these subclasses face challenges that are quite different from those of the 'small mid-cap' enterprises.⁶

Our analysis looks into the following topics and dimensions:

- We begin with an up-to-date overview of the economic importance of the SME sector in Europe, acknowledging the sectoral and regional diversity across the continent.
- We aim to understand the relevance of digitalisation for sustainable value creation in SMEs and to identify the bottlenecks, both within and outside companies, that hinder the adoption of new digital technologies more effectively and quickly.
- We conclude by developing a set of policy recommendations for European, and to some extent national, policymakers to harness the innovation and growth potential of European SMEs, thereby contributing to the overall competitiveness of the EU.

5 We are aware of a series of other reforms needed to enhance the performance of SMEs, e.g. in the financial sector. These dimensions, however, will only be addressed to the extent that they are relevant to the uptake of digital technologies.

6 European Commission, *Small Mid-Caps: Helping Europe's Growing Businesses* (2025).



Methodology

We have developed a conceptual framework to understand the relevant dimensions of digitalisation and their impacts on the behaviour and economic performance of SMEs. Those dimensions relate to both macroeconomic conditions and companies' internal capacities and decision-making processes.

The study therefore employs a combination of qualitative and quantitative data, covering the situation of SMEs and their digital uptake in nine EU member states: Austria, Czechia, France, Germany, Greece, Italy, Spain, Sweden and Romania.

The European Commission, based on extensive Eurostat surveys, provides in-depth data on key performance indicators for SMEs.⁷ Additional reporting, such as that by Eurofound or the European Investment Advisory Hub,⁸ sheds light on specific challenges at the national level.

⁷ Eurostat, 'Database' (2025).

⁸ Eurofound, *SME Digitalisation in the EU: Trends, Policies and Impacts* (23 October 2025); European Investment Advisory Hub and Innovation Finance Advisory, *The Digitalisation of Small and Medium-Sized Enterprises in Italy* (2021).

Why SMEs matter for Europe's triple transformation



European economies are facing a ‘triple transition’:⁹ digital, green and demographic. Not only are these transitions happening in parallel, but also within a comparatively short time span of two decades. Being closely linked, they often reinforce one another.

Table 1 Triple transition: challenges for European SMEs

Digital transition	Green transition	Demographic transition	Cross-cutting (triple interaction)
- Compliance with EU data/privacy regulations (General Data Protection Act, Digital Services Act, Digital Markets Act) - Cybersecurity threats and intellectual property protection - High investment costs for digitalisation (cloud, AI, automation) - Integration of digital tools into legacy systems - Skills gap in digital literacy and advanced information technology	- Access to green finance and incentives - Compliance with the EU Green Deal, Corporate Sustainability Reporting Directive, Carbon Border Adjustment Mechanism, and environmental, social and governance standards - Need for eco-innovation and sustainable business models - Rising energy costs and supply chain disruptions - Transition risks, e.g. stranded assets or carbon pricing	- Ageing workforce and shortage of skilled labour - Changes in consumer behaviour due to ageing and diversification - Migration and integration - Need for continuous reskilling and lifelong learning - Regional disparities	- Administrative burdens from overlapping regulations - Limited managerial capacity to adapt to all transitions simultaneously - Risk of widening gap between large firms and SMEs - Unequal access to EU funds and support schemes

Source: Own compilation.

Of particular interest are the cross-cutting challenges, which require a high degree of managerial and financial capacity to address. In many cases, state support measures address only one dimension of transition, following the logic of a specific legislative and regulatory framework. Integrating all three



transitions into business strategies and operations places a high degree of responsibility and capability on the shoulders of entrepreneurs and management at both the strategic and operational levels.

Conceptual framework and methodology

We base our analysis on an analytical framework to better understand the challenges European SMEs are currently facing due to the digital transition. We define the digital transition of enterprises as the adoption and integration of digital technologies into core business processes, management practices and customer interactions. This process involves not only technological upgrades, but also changes in skills, organisational culture and compliance, enabling firms—especially SMEs—to improve efficiency, competitiveness and resilience in a digitally driven economy.¹⁰

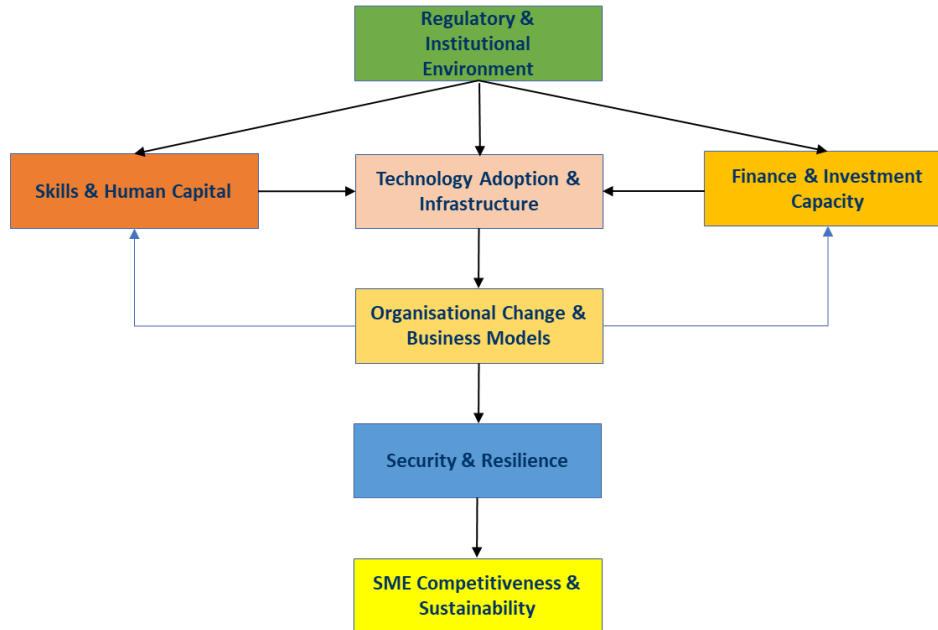
To better understand the complex impacts, interactions and consequences of the digital transition, we apply an analytical framework that links external factors, such as the regulatory environment, with internal factors, for example, human capital, organisational capacity or financial capacity (see Figure 1). The core question, therefore, is to what extent enterprises can absorb and adopt these impacts, and ‘translate’ them into organisational changes and the development of new business models. If these processes are successfully managed, the economic security, resilience, sustainability and competitiveness of the SME sector, as well as of the European economic model as a whole, will be enhanced.

The amount of quantitative data on SMEs at the national and European levels has significantly improved over the last few years. However, some aspects of the analysis (e.g. business models) require a qualitative, exploratory approach, based on case studies and country-based analyses.

¹⁰ Own definition, based on EU, ‘An SME Strategy for a Sustainable and Digital Europe’ (4 June 2021).



Figure 1 Conceptual framework: digitalisation for SMEs



The digital transition has emerged as a key transformative process for European enterprises, particularly SMEs. It involves organisational change, workforce development, financial adaptation, alignment with a constantly evolving regulatory framework and the continual enhancement of enterprises' resilience to digital risks.

Our framework is comprised of four analytical dimensions and fields of action that jointly shape SMEs' capacity to navigate digitalisation: the regulatory and institutional environment, technology adoption and infrastructure, skills and human capital, and finance and investment capacity. These dimensions are interconnected, creating a dynamic system of enablers and constraints that demands (sometimes fundamental) changes to organisational and business models.



The following paragraphs will briefly explain these dimensions, including their potential interactions.

Regulatory and institutional framework

The regulatory framework sets both constraints on and opportunities for SMEs. Obligations such as the General Data Protection Regulation or the AI Act impose compliance costs but also foster trust in digital ecosystems.¹¹ EU and national institutions offer support schemes, for example, through the Digital Europe Programme and Horizon Europe, designed to incentivise digital uptake. Hence, the digital transition of SMEs is inseparable from the overarching legal and institutional framework. We base our analyses on the EU's existing digital frameworks to explore their impact on SMEs' ability to adapt to and cope with the transition (see Table 3).¹²

Skills and human capital

It is no coincidence that human capital is consistently identified as a bottleneck to SME development and digitalisation.¹³ The extent to which both basic digital literacy and advanced information and communication technology (ICT) skills are available among the workforce and management largely determines whether technologies are effectively implemented. On the management level, informed decision-making is crucial for aligning digital investments with strategic objectives. Companies must therefore foster a culture of continuous learning and adaptation by constantly reskilling their workforce, which becomes even more important amid rapid innovation cycles.

The low availability or outright absence of such capabilities reinforces the digital divide, particularly between large companies and innovative startups on one side, and the 'vast tail' of SMEs on the other. In our analyses, we use the indicators 'Enterprises that provide training to develop/upgrade ICT skills of their personnel' and 'Enterprises that employ ICT specialists' as proxy variables to measure the level of knowledge among SME staff and related investment in human capital (see Table 3).

11 C. N. Pehlivan, N. Forgó and P. Valcke, 'The EU Artificial Intelligence Act: An Introduction', *SSRN Electronic Journal* (2025).

12 See Table 3 in the Appendix for further explanation and sources of the indicators and dimensions used.

13 European Commission, 'Eurobarometer: SMEs and Skills Shortages' (2025).



Finance and investment capacities

In discussions about the structural weaknesses of the European economy, making funding more accessible, particularly for SMEs, remains a persistent concern.¹⁴ The digital transformation is only adding to this problem. Unlike larger firms, SMEs, and in particular micro and small enterprises, often lack the internal reserves or access to external credit sources to fund digital projects. Innovative projects (not just in startups) often entail high upfront costs and uncertain returns.¹⁵ Despite targeted EU programmes and national and regional initiatives aimed at filling this gap, uptake is uneven, as smaller firms often struggle, for example, due to insufficient equity capital or bureaucratic requirements. As a key factor, investment capacity directly enables or limits other dimensions, such as acquiring technologies, investing in training or implementing robust security measures.

We base our analyses on in-depth financial indicators, most prominently the composite European Investment Fund (EIF) SME Access to Finance Index as a proxy for SMEs' ability to adapt to and cope with the transition by tapping into internal and external sources of investment (see Table 3).

Technology adoption and digital infrastructure

Digital technologies encompass a wide range of tools, many of which are utilised in daily operations, but also are increasingly being employed in the strategic planning processes of SMEs too. These include hardware and software solutions, for example, cloud computing, enterprise resource planning (ERP) systems, e-commerce platforms, AI and advanced data analytics. An adequate digital infrastructure—not least high-speed connectivity—is a prerequisite for achieving productivity gains and opening up opportunities for new business models. However, there is a widespread illusion that adopting digital tools automatically translates into value creation and enhanced competitiveness. This assumption has turned out to be wrong. Rather, it is only by creating a set of complementary capabilities and factors that SMEs will avoid creating technological 'islands' that then fail to transform business

14 EuroChambres, *Access to Sustainable Finance for SMEs: A European Survey* (26 March 2023).

15 H. Kraemer-Eis et al., *The European Small Business Finance Outlook 2021*, European Investment Fund, Working Paper 2021/75 (October 2021), Chapter 3.



processes and models.¹⁶ It is also worth noting that a significant portion of the infrastructure lies outside the enterprises' area of influence and must be provided by state-backed infrastructure investment.

In our analyses, we use the indicators broadband connectivity, cloud computing and 5G connectivity as proxy variables to measure both the ability of SMEs to access and adapt to digital technologies and integrate them into the larger process of business transformation and value creation, and the degree to which they have done so (see Table 3).

Organisational change and business models

After analysing external factors, we move on to the internal organisation of and (preconditions for) the evolution of new business models among SMEs. In many cases, the digital transition is forcing SMEs to go beyond simple tool adaptation. Significant and often inevitable organisational transformations and innovations must occur in parallel, along with complementary changes in workflows, decision-making and business culture. Without these, no comparative advantage can be achieved through digitalisation. Realising these opportunities requires a strong leadership commitment and depends on the firm's absorptive capacity. Empirical studies confirm that SMEs that engage in business model transformation often outperform those with only ad hoc or incremental adoption strategies.¹⁷ However, the role of the latter should not be underestimated, and might be more relevant for micro and small enterprises.

To better understand how successful adaptation models function, we rely on comparative case studies from several countries.

Security and resilience

An important aspect in the wider field of digitalisation is the increasing exposure of SMEs to new vulnerabilities,

16 E. Brynjolfsson, C. Syverson and D. Rock, *Artificial Intelligence and the Modern Productivity Paradox: A Clash of Expectations and Statistics*, National Bureau of Economic Research, Working Paper 24001 (November 2017); P. Pfister and C. Lehmann, 'Measuring the Success of Digital Transformation in German SMEs', *Journal of Small Business Strategy* 33/1 (2023).

17 T. Ringberg, M. Reihlen and P. Rydén, 'The Technology-Mindset Interactions: Leading to Incremental, Radical or Revolutionary Innovations', *Industrial Marketing Management* 79 (2018).



notably in cybersecurity, data protection, and the protection and management of intellectual property. We define resilience as the ability of firms to withstand and adapt to external shocks, ranging from cyber-attacks to systemic crises such as the Covid-19 pandemic.¹⁸ SMEs often underestimate cyber risks due to resource limitations, which, in turn, puts their very existence at stake. Security is thus both a cross-cutting necessity and a strategic capability, inseparably linked to trust, regulatory compliance and market reputation. For a better understanding of the current situation regarding the awareness and preparedness of SMEs, we take the employment of any ICT security measure review in the last 12 months as a proxy variable (see Table 3).

Interaction

The six dimensions expounded above interact in a highly dynamic system, mutually reinforcing or constraining one another. Too often, management decisions and policy measures alike address single factors instead of thinking in a more systematic manner. The following examples illustrate such complex interactions.

Skills training helps employees operate and adapt to digital tools, laying the foundations for more efficient technology adoption. Having sufficient financial resources underpins all dimensions, enabling firms to invest in technologies, training and security infrastructure. Regulations shape incentives and compliance, which not only influence the costs but also provide a stable and legitimate foundation for digital business models. Cybersecurity, like finance resources, is cross-cutting. Too often, the quick adoption of technologies without adequate safeguards creates existential risks and outweighs gains in productivity and competitiveness.

All these interactions create dynamic feedback loops. Successful SMEs become more competitive and resilient, which in turn makes them more attractive for additional external funding and a qualified workforce. Conversely, firms that lag behind risk becoming mired in low-productivity equilibria, thereby widening the digital divide within the SME sector. The weakest element for SMEs, in particular micro and small enterprises, is their capability, or rather the lack thereof, to influence regulatory agendas on the European and national levels due to poor political representation.

The political and regulatory landscape for European SMEs



Introduction

SMEs operate within a complex political and regulatory environment resulting from a multilevel governance structure that combines diverse national and subnational laws and implementation with overarching EU strategies and framework legislation.

This section first examines the political framework and rationales, and describes the strategic orientations, governance mechanisms and policy coordination in the field of European SME policies. The second part focuses on the legal dimension, that is, the legislative and regulatory instruments that directly affect the conditions under which SMEs operate. Most of these instruments are not directly related to digitalisation, but they significantly influence the factors that affect the capacity for and probability of digital uptake among SMEs.

While the focus is on the European level, we noted differences across the member states that may shed light on the real impact of EU initiatives, and recommendations based on these observations are included later.

The political framework

Anchoring SME support in the transition strategy

The EU's current SME policy is defined primarily by the SME Strategy for a Sustainable and Digital Europe. This strategy promises to follow the principle of 'think small first' by embedding the SME perspective across all policy domains and linking competitiveness to the double transition of sustainability



and digitalisation.¹⁹ Improving access to finance, reducing regulatory burdens, and facilitating SME participation in sustainable value chains and cross-border markets are seen as essential.

Since 2020, the situation of SMEs has worsened due to the Covid-19 pandemic and rising factor costs, mainly energy, alongside a continuously increasing regulatory burden. As a response, the SME Relief Package²⁰ was implemented, aiming at responding to (post-) pandemic pressures and growing concerns over regulatory complexity. This Package includes the full application of the SME test in impact assessments, and the appointment of an EU SME envoy as a high-level advocate within the Commission.²¹

The hallmark projects that form part of the strategy, such as the Green Deal Industrial Plan and the Digital Decade Policy Programme (2022–30),²² frame SME support as integral to Europe's industrial competitiveness and technological sovereignty. Politically, the SME agenda thus aligns with the EU's effort to reconcile competitiveness, sustainability and resilience within a rapidly changing global economy.

Transnational coordination

To improve the coordination and monitoring of SME-specific measures, an SME Envoy Network,²³ consisting of national SME envoys and the EU envoy, has been created. The network focuses on enhancing the exchange of best practice, tracking the application of the SME test in national policymaking, and facilitating communication between the Commission and national administrations. Despite some progress, the application of the SME test, as a case in point, remains uneven across the member states. In some countries, such as the Netherlands, Denmark and Finland, an SME impact assessment is already integral to the legislative process.

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- 19 European Commission, *An SME Strategy for a Sustainable and Digital Europe*, Communication, COM (2020) 103 final (10 March 2020).
- 20 European Commission, *SME Relief Package*, Communication, COM (2023) 535 final (12 September 2023).
- 21 European Commission, 'SME Test' (2024).
- 22 European Commission, 'Digital Decade Policy Programme 2030'.
- 23 European Commission, 'The Network of SME Envoys'.



The renewed Better Regulation Agenda, after earlier attempts in 2015, reinstates the need for proportionate impact assessments and extensive stakeholder consultations. Reality, however, lags behind, and leading business associations are constantly calling for more transparent and binding SME-proofing procedures.²⁴

Performance and policy evidence

Compared to other policy fields, monitoring of the SME sector's performance is comprehensive and dates back to 2008, providing a solid overview of long-term developments. It highlights SMEs' strong employment performance and their resilience amid inflationary pressures and supply-chain disruptions. Complementary research, such as that conducted by the European Investment Bank (EIB) on country-specific aspects,²⁵ indicates, however, that SME digitalisation and innovation intensity remain highly heterogeneous. Northern and Western European countries generally outperform Southern and Eastern counterparts, particularly when it comes to the use of advanced digital technologies and research and development investment. These persistent structural imbalances in the SME landscape of Europe call for more targeted EU and national support schemes.

The regulatory and legal framework

Enabling access to finance and capital markets

To address one of the most widely mentioned concerns among SMEs, that is, the difficulties in accessing funding,²⁶ the European Commission launched a wide range of initiatives aimed at lowering this threshold. Making public markets more attractive and accessible, particularly for larger SMEs,

24 Business Europe, *Making Better Regulation Work Better for SMEs – The SME Test Benchmark 2024* (19 November 2024).

25 See, e.g. European Investment Advisory Hub and Innovation Finance Advisory, *The Digitalisation of Small and Medium-Sized Enterprises in Italy*; European Investment Bank Advisory Services, *Digitalisation of Spanish SMEs* (2022).

26 European Central Bank, 'Survey on the Access to Finance of Enterprises' (21 July 2025).



was the objective of the Listing Act Package, introduced in October 2024.²⁷ The reform simplifies listing procedures, reduces prospectus obligations and enhances research coverage for small issuers, thereby lowering compliance costs and stimulating SME participation in capital markets.

Meant to complement traditional bank-based financing mechanisms, this package, however, is of benefit to only a tiny fraction of SMEs. The benefits for micro and small enterprises, which represent more than 90% of all European SMEs, are at best more indirect, for instance, if these firms reach the scale possible and necessary for listing.

More traditional instruments, such as microcredit, guarantee schemes, and venture or mezzanine finance, remain more relevant. The EIB and the EIF²⁸ play a critical role in mobilising private capital and sharing risks with local financial intermediaries. Such institutions are typically the first lenders to which most micro and small enterprises turn, but the latter often have insufficient collateral or credit history to take advantage of the credit on offer.²⁹

According to the 2023–4 EIB Investment Survey,³⁰ access to finance remains a significant obstacle for approximately one in five SMEs. Micro and small enterprises in Southern and Eastern Europe are facing the most severe constraints, with a higher rate of rejection for bank loans and a greater dependence on short-term overdrafts and trade credit.

Combining regulatory reforms, risk-sharing mechanisms and targeted microfinance support constitutes a three-tiered EU framework for SME financing. However, the gap between micro, small and medium-sized enterprises persists—acting as a constant reminder that the need for tailored instruments, reflecting sectoral and regional differences, and lower administrative hurdles, remains.

27 European Commission, 'Listing Act' (15 March 2024).

28 EIF, 'The EIF and InvestEU' (2025).

29 There exists a wide range of additional support schemes, such as the SME Guarantee Facility and the Microfinance Facility under the European Social Fund Plus, complemented by national initiatives like Italy's Fondo di Garanzia per le PMI or Spain's ICO SME.

30 EIB, *EIB Investment Survey 2024 – European Union Overview* (October 2024).



‘De-burdening’ of sustainability reporting

The disagreement between the European Parliament and the second von der Leyen Commission on reducing the administrative burden can most vividly be seen in the fierce debates held on the Corporate Sustainability Reporting Directive (CSRD) and similar schemes, and their implications for smaller companies.³¹ Back in 2022, the CSRD introduced new sustainability disclosure obligations; however, it also provided a more tailored and proportional framework for SMEs: the European Sustainability Reporting Standard for Listed SMEs and the Voluntary Standard for Non-Listed SMEs, both finalised by the European Financial Reporting Advisory Group (EFRAG) in 2024.³² In April 2025 the European Parliament voted to postpone certain CSRD reporting obligations to relieve smaller firms of short-term compliance costs. These adjustments, passed in legislation better known as ‘omnibuses’, reflect a broader policy trend in the current tenth EU legislature (2024–9): while sustainability remains a strategic goal, regulators are under massive political pressure from centrist and right-wing parties to provide more flexibility and less burdensome reporting for SMEs.

The challenges in reporting for many SMEs also derive from the fact that they form parts of the supply chains for large multinational companies with extensive reporting obligations. Ignoring these connections underestimates the pressure on SMEs and diverts resources needed elsewhere.

Other single market instruments

Beyond financial and reporting legislation, SMEs are affected by a range of sectoral measures. For instance, the Public Procurement Directive continues to promote SME participation through lot division and simplified procedures,³³ though uptake remains uneven. A second example is the EUIPO SME Fund,³⁴ which offers grants for intellectual-property protection and has been expanded to include digital-related assets. Furthermore, the Digital

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- 31 Council of the EU, ‘Council and Parliament Strike a Deal to Simplify Sustainability Reporting and Due Diligence Requirements and Boost EU Competitiveness’, Press Release, 9 December 2025.
- 32 EFRAG, *Europe’s Voice in Corporate Reporting* (2025).
- 33 EU, ‘Legal Rules and Implementation’ (2025).
- 34 EUIPO, ‘SME Fund’ (2025).



Decade targets include quantitative benchmarks for SME adoption of cloud computing, big data and AI, signalling a quasi-regulatory push towards digital transformation.

Together, these legal instruments form a dense regulatory environment that aims to balance competitiveness, transparency and sustainability. Yet, their effectiveness depends heavily on implementation capacity and administrative simplicity at the national level.

Member state differences and implementation challenges

While the EU provides a common policy and legal framework, the national implementation of SME-related measures remains highly differentiated. Three dimensions illustrate these divergences.

Digital transformation. According to the IfM Bonn³⁵ and the Digital Decade Monitoring Report (2024), Northern and Western member states, such as Sweden, Denmark and Germany, exhibit significantly higher levels of digital intensity and advanced technology adoption among SMEs than their Southern or Eastern counterparts. Structural factors—such as broadband coverage, research and development tax incentives, and digital skills—explain much of this gap.

Regulatory practice. The SME test and impact-assessment mechanisms are inconsistently applied across the EU. Countries with established ‘Better Regulation’ cultures (e.g. the Netherlands, Finland) integrate SME considerations early in the legislative process. Others apply the test only at later stages, reducing its preventive value. The SME Envoy Network plays a vital role in sharing good practices, but its recommendations remain non-binding.

Access to finance. The EIB Investment Survey³⁶ reveals persistent differences in financing structures. In countries

35 Institut für Mittelstandsforschung Bonn, ‘Digitalisierung der KMU im EU-Vergleich’ (2025).

36 European Investment Bank, *EIB Investment Survey 2024*.



such as Italy and Spain, SMEs depend heavily on bank lending, while in the Nordic states and the Netherlands, alternative financing channels and equity investment play a larger role. Guarantee schemes, national promotional banks and fiscal incentives vary considerably, influencing how EU-level measures translate into actual financing conditions.

These divergences imply that EU legislation, even when harmonised, must coexist with diverse administrative and market realities. Understanding this heterogeneity is essential for assessing both the feasibility and effectiveness of future SME initiatives.

Conclusions

The European political and regulatory landscape for SMEs is at a critical juncture. Politically, the focus has shifted from expansion of regulations to simplification, resilience and competitiveness. The 2020 SME Strategy and the 2023 Relief Package signalled a renewed commitment to reducing burdens, empowering SMEs in policymaking, and linking their development to Europe's green and digital ambitions.

Legally, the emphasis has turned to financial and market access and proportionate sustainability reporting. The Listing Act and the evolving CSRD framework represent concrete efforts to translate political priorities into enforceable rights, accessible administrative procedures and fewer obligations. Their success, however, depends on coherent implementation and sufficient administrative capacity across the member states.

In a comparative perspective, the EU's approach to SME policy remains among the most integrated and sophisticated in the world, yet its effectiveness is uneven. Member state differences in digitalisation, financing models and regulatory culture continue to shape the real outcomes of EU measures. Strengthening the consistency of the SME test, reducing administrative fragmentation and improving data comparability across the EU will be crucial steps towards creating a genuinely 'SME-friendly' single market.

Where we stand with SME digitalisation



Based on our analytical framework, we have used a set of key indicators from the Digital Economy and Society Index (DESI) and its successor, the Digital Decade Programme, to assess whether European SMEs are successfully catching up with digitalisation. These indicators represent the specific challenges that European SMEs currently face and are linked to our four analytical dimensions. For this study, they can be seen as a good approximation of how far SMEs have already adapted to the digital transformation—or at least prepared for it. We use the latest data as of 2024, in some cases 2023, which still adequately describe the situation. Qualitative findings supplement this analysis and are largely based on the country reports of the EU DESI project³⁷ and Eurofound.³⁸

The following sub-sections shed light on the core challenges that SMEs, particularly micro and small enterprises face. While most grievances can be found across all the analysed countries, some country-specific cases are highlighted as examples.

Regulatory and institutional environment

Across countries, SMEs in general face a complex and often burdensome regulatory environment for digitalisation. Legislation at the EU level—such as the Digital Markets Act, Digital Services Act, Data Act, AI Act and sector-specific digital compliance rules—creates a common framework. However, national implementation differs considerably and, in addition, meets a highly diverse SME landscape in terms of administrative and entrepreneurial capacities. In Austria, SMEs primarily struggle with the complexity of EU

37 European Commission (2025a), 'Digital Decade DESI Visualisation Tool' (2025).

38 On Spain: E. Biaggi, *Digitalisation, Skills Development and Digital Innovation in SMEs – Country Report: Spain*, Eurofound (5 November 2025); on Sweden: Brandsma, Lybäck, and Biaggi (2025); on Romania: V. Cojocariu and E. Biaggi, *Digitalisation, Skills Development and Digital Innovation in SMEs – Country Report: Romania*, Eurofound (5 November 2025); on Austria: Eiffe and Biaggi, 2025a; on Germany: F. F. Eiffe and E. Biaggi, *Digitalisation, Skills Development and Digital Innovation in SMEs – Country Report: Germany*, Eurofound (5 November 2025); on Czechia: Kyzlinková, Váňová, and Biaggi, 2025; on Greece: D. Giakoulas and E. Biaggi, *Digitalisation, Skills Development and Digital Innovation in SMEs – Country Report: Greece*, Eurofound (5 November 2025); on Italy: Riso, 2025. The following insights are mostly taken from these country studies, which provide the most recent and comprehensive overview.



rules and their national implementation, especially when they lack administrative capacity. Greece is a good example of how micro-firms, in particular, are often left out of existing funding schemes, not least due to the complex administrative requirements they must meet, for example, under the Next Generation EU's Recovery and Resilience Facility (RRF) or the Horizon Europe programmes. In more advanced economies, such as Sweden, broader digital government initiatives are the source of burden. Here, new compliance obligations under the AI Act raise significant concerns.

Finally, one pattern repeatedly emerges: the regulatory framework often appears designed for and with medium-sized, technologically advanced firms in mind. Microenterprises' interests are apparently not sufficient to be considered in the legal design, for example, by ignoring indirect effects such as reporting obligations in value chains.

Overall, the regulatory dimension displays an apparent mismatch between the ambition of EU digital legislation and the administrative (and financial) capacities of SMEs, with substantial differences in local implementation.

Skills and human capital

We used the indicators 'Enterprises that provided training to develop/upgrade the ICT skills of their personnel' and 'Enterprises that employ ICT specialists' to gauge investment in and development of human resources in smaller companies. While the first focuses on general skills, the second indicates both an internal specialisation and the level of enhanced ICT use in business operations.

The data³⁹ clearly show that digital and managerial skills shortages are the most consistent barrier to a faster and more comprehensive uptake of digital tools. *Greece* reports some of the lowest digital skill levels in the EU: only 13.4% of enterprises provide ICT training, far below the EU average (22.4%). *Romania* presents a similar situation: extremely low general digital skills (26% have basic digital skills vs EU27 52%) and minimal ICT training provision. Skills gaps are systemic and persistent and are not even directly linked

39 Own calculations and visualisation based upon Eurostat 2025; see Appendix.



to an (often already) advanced infrastructure, as the case of Romania shows.

Italy is a prime example of an uneven distribution of digital skills across the SME sector. We see advanced skills concentrated in digitally mature, medium-sized industrial SMEs, while micro- and small firms lack the strategic and managerial competences needed for long-term digital transformation.

Northern and Central European countries perform better—as *Sweden* shows. Yet, beyond basic tools such as email and spreadsheets, only 35% use more sophisticated ERP systems and advanced cloud integration. SMEs lack the resources to design comprehensive digitalisation strategies and therefore adopt technology in fragmented steps.

Overall, we must acknowledge that the technology gap within the SME sector is widening and mirrors broader digital, economic and geographic divides across Europe. Without a massive upgrade of skills and organisational resources, even a well-developed infrastructure will not translate into the adoption of new business models.

Finance and investment

Problems with access to funding have been a constant complaint for SMEs across Europe,⁴⁰ even before the era of digitalisation. Moreover, the situation has not changed significantly, even in those regions with advanced digital ecosystems.

As a result of the overall economic crisis and uneven economic recovery among different sectors, many countries have faced a decade of net de-capitalisation or slow recapitalisation, which has weakened SMEs' investment capacity in general, and spending on digitalisation in particular. Even in countries such as Italy, which has a broader range of financial support schemes, smaller firms still fail to tap into them. They rarely undertake high-risk or long-term digital investments due to fragmented financial incentives,

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European Central Bank, 'Survey on the Access to Finance of Enterprises in the Euro Area – First Quarter of 2025' (14 April 2025).



complex application procedures and co-financing requirements. The private banking sector often hesitates to support digital innovation, which they consider high-risk and financially demanding, thereby limiting options for public–private co-financing. The same goes for EU funds, of which, in practice, only a marginal share reaches SMEs, leaving them in a paradoxical situation: dependent on national or EU support while unable to overcome the barrier of accessing such funds.

At the microeconomic level, small enterprises consider investments too costly relative to the expected marginal productivity gains.

Organisational change and business models

Looking at the ‘transformational’ power of digitalisation on organisation and processes, the findings are rather bleak. SMEs tend to digitalise processes superficially, without profound organisational transformation or the adoption of new business models that would adapt to and take advantage of new opportunities.

Many observers had hoped that external crises, such as Covid-19, would force SMEs to rethink and innovate digitally. In reality, however, most SMEs preferred to stay with old practices or revert back to them afterwards. In some countries, for example Greece, traditional sectors, such as tourism and retail, have shown isolated innovation, but examples of broader business-model transformation remain rare.

Digitalisation is often tool-based and, at best, seen as operational optimisation—rather than as a structural transformation that would imply redesigning value creation. Lack of skills, limited managerial competences, low levels of trust in digital processes and limited organisational capacity are the most important impediments. In sum, business-model innovation is the weakest element of SME digitalisation, even in otherwise technologically advanced SMEs.



Security and resilience

Even large companies are constantly struggling with and underestimating the importance of cybersecurity. Awareness among SMEs is low and the complexity of adopting the right cybersecurity tools is as a major barrier to digital adoption. There is little trust in digitalisation, in part due to a lack of cybersecurity skills and reliance on outdated security practices. This hampers the adoption of more advanced technologies, such as cloud computing, AI and data-sharing systems. SMEs still lack the time and resources for systematic risk management, often leaving them vulnerable and reactive. Across Europe, cyber-resilience remains a bottleneck, especially for micro-firms without dedicated IT capacity.

Competitiveness and sustainability

At present, sustainability is not seen by most SMEs as a direct strategic objective linked to digitalisation, contrary to the integrated concepts developed by the European Commission and the scientific literature.⁴¹ Sustainable transformation is, therefore, more often the result of obligations driven by regulatory pressure, value-chain requirements and customer expectations rather than a deliberate internal strategic choice, particularly for micro-firms.

This observation highlights a central challenge: the misalignment between sustainability obligations and SMEs' internal capabilities. EU regulations, such as the CSRD, create a tremendous demand for data collection, emissions tracking and resource reporting. Therefore, many SMEs view sustainability requirements as an additional layer of complexity rather than a competitive opportunity because they are unaware of how to operationalise them.

41 European Commission, *Platform on Sustainable Finance Report: Streamlining Sustainable Finance for SMEs* (21 March 2025); R. Carlsson and T. Nevzorova, 'Measuring Sustainable Transformation of Small and Medium-Sized Enterprises Using Management Systems Standards, *Business Strategy and the Environment* 34/1 (2024).



A lack of skills and internal specialisation further hinder the development of genuine sustainability strategies. Low levels of digital, managerial and environmental literacy limit SMEs' ability to develop climate-related strategies or adapt resource-efficient processes.

The technology gap is equally severe. Digital tools that could facilitate sustainability—such as ERP systems, emissions-tracking software or AI-based optimisation—have not yet been adopted by microenterprises, which mainly rely on rather rudimentary digital tools. Many SMEs, therefore, cannot measure environmental impacts, benchmark energy use or implement data-driven efficiency improvements. Digital and sustainability transitions thus remain disconnected in practice and are underperforming.

Financial capacity is another major constraint. Given the ambitious and time-sensitive goals of the green transformation, the necessary investment⁴² requires upfront capital for equipment upgrades, energy-efficient technologies and certification processes. While there are funding programmes at the local and national levels, co-financing requirements, administrative burdens or a lack of specialised staff make it almost impossible to prepare the a priori applications for such funding, thereby failing to achieve the goal of linking sustainability investments to productivity gains.

From a business model innovation perspective, SMEs typically adopt isolated environmental measures rather than comprehensive green strategies. Well-known structural shortcomings, such as owner-dependence, short-term planning horizons and limited strategic management, make it unlikely that sustainability is embedded in long-term business development.

Finally, in terms of resilience, SMEs often lack the awareness and the resources for systematic risk assessment or long-term adaptation planning.

The uptake of sustainability measures among European SMEs is in a paradoxical situation, similar to digitalisation itself: high regulatory ambitions on the conceptual side, but low institutional and organisational capacity in entrepreneurial reality. Synergies between the two transformations remain weak, raising the risk

42 J. Amoedo, 'Unlocking Green Finance for Small Businesses: Inside the EU's SME Sustainable Finance Standard Proposal', The ESG Institute, 26 March 2025; M. Andersson, P. Köhler-Ulbrich and C. Nerlich, 'Green Investment Needs in the EU and Their Funding', *ECB Economic Bulletin* 1/2025 (12 February 2025).



of deepening the existing productivity gaps between larger, innovation-driven enterprises and the majority of micro- and small firms.

Policy recommendations



Based on the weakness analysis in the previous section, we have drawn up the following recommendations. Their major objective is to enhance current programmes, with a particular emphasis on EU legislation and instruments. It is well known that both national and even local frameworks play a significant role in SMEs' successful adoption of digitalisation ; however, these are outside the purview of this study.

Regulatory framework

- Establish a single digital access portal for EU SMEs that includes pre-filled digital application forms, multilingual support and information on all pertinent EU funds (Digital Europe, Horizon Europe, RRF etc.).
- Reduce the time it takes for microenterprises to comply by extending the 'once-only' principle to SMEs reporting to EU funding authorities.
- Assure proportionality in digital laws (such as the Cyber Resilience Act, Data Act, and AI Act). Create 'SME conformity templates' with less paperwork for small businesses, in line with the simplification efforts.
- Enhance the Better Regulation Agenda's SME test by making a digital impact analysis compulsory for all significant EU legislative proposals.
- Require yearly progress reports that evaluate SME inclusion and regulatory coherence under the Digital Decade Policy Programme.

Skills and human capital

- Through Erasmus+ and the Digital Europe Programme, fund dual-learning assignments that match digital graduates or vocational students with micro-firms.



- Provide SME owners with digital leadership vouchers, which allow them to enrol in short executive education courses at approved European Digital Innovation Hubs (EDIHs).
- Include ‘management transformation’ modules in every upskilling programme that receives EU funding, for example, Germany’s Digital Competence Centres.
- Develop the Digital Skills and Jobs Platform into a useful marketplace that connects SMEs with training providers offering EU-certified training.
- Promote peer-learning clusters so that microenterprises can receive (cross-border) mentoring from peers with advanced digital skills, for example, through the Enterprise Europe Network.
- Design specific options for migrant entrepreneurship and women’s digital involvement, addressing low-skill settings.

Technology and infrastructure

- Use Digital Europe to finance shared-use facilities run by EDIHs for SMEs, including as test beds for robotics, AI and data analytics.
- Mandate the creation of at least one SME Technology Hub in each EU region, with an emphasis on low-cost entry solutions (such as cybersecurity-as-a-service or cloud-based ERP).
- Through open-source software and streamlined onboarding processes, SMEs should be encouraged to participate in European shared data spaces (manufacturing, agri-food and mobility).
- Establish a Cybersecurity Starter Kit initiative at the EU Agency for Cybersecurity to provide microenterprises with free baseline protection, certification templates and guidance.
- Ensure that quantifiable measures of SME-specific cybersecurity adoption are included in the Digital Decade targets.



Finance and investment

- Expand the InvestEU SME window for digitalisation initiatives, emphasising leasing and microcredit options.
- Promote the introduction of Digital Transformation Guarantees by the EIB and EIF.
- Create an EU SME Digital Fund of Funds, based on the European Innovation Council's Accelerator but accessible to microenterprises, to direct capital into early-stage digital innovators.
- To test inexpensive digital solutions, simplify 'lump-sum' subsidies under the Digital Europe Programme.

Organisational change and business models

- Launch a Digital Business Models for SMEs call to fund pilots that incorporate digital tools in value creation, for example, platform business models, under Horizon Europe's 'Innovative Europe' pillar.
- To ensure leadership engagement, mandate that EU-funded advisors (EDIHs, Enterprise Europe Network) incorporate HR planning and change-management modules.
- Encourage cluster-based digitalisation by bringing microenterprises together to share resources in e-commerce, logistics and AI, for example, in sectoral digital cooperatives.
- Create a uniform EU SME Digital Maturity Index, overseen by Eurostat and integrated into DESI, to track progress and inform targeted initiatives.



Security and resilience

- Any EU-supported SME digital initiative (via, e.g. Digital Europe, RRF, Horizon Europe) should include a cybersecurity plan.
- A European Cyber-Resilience for SMEs Facility should provide fast response services, micro insurance and subsidised audits for incidents impacting small businesses.
- Encourage big businesses that get EU funding to help SME suppliers implement data and cyber-resilience strategies.
- Increase SME involvement in EU certification programmes, such as the EU Cybersecurity Label, and improve understanding of the digital rights that form part of the Digital Services Act and the Digital Markets Act.

Sustainability

- Expand on the voluntary SME standard established by the CSRD by introducing SME-proportionate sustainability obligations.
- Create a single portal for EU sustainability reporting that includes pre-made templates for micro-businesses.
- To lessen administrative complexity, standardise supply-chain reporting requests from large enterprises to SMEs.
- Start an EU Sustainability Skills for SMEs Academy through EDIHs, with an emphasis on sustainable logistics, energy efficiency, circular-economy practices and climate-risk management.
- Incorporate sustainability elements into courses on the Digital Skills and Jobs Platform.



- Launch an Erasmus for Young Entrepreneurs, a systematic mentoring programme for micro, small and medium-sized businesses.
- Provide funding to implement Green Tech Starter Kits (energy monitoring, waste tracking, emissions calculators) for micro-businesses across the EU.
- Through streamlined onboarding, guarantee SMEs' access to European Green Data Spaces (mobility, energy and agriculture).
- Encourage SMEs to use AI-based resource-optimisation technologies as part of the Digital Europe Programme.
- Permit SME clusters to submit combined applications for green projects.
- Provide SMEs with an EU Climate Resilience Toolkit that addresses supply-chain vulnerabilities, extreme-weather risks and energy shocks.
- Using digital platforms, assist SMEs in accessing EU climate-risk insurance programmes.

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Appendix



Table 2 Enterprises in Europe by size class (2023)

Country / Region	Microenterprises (%) 1-10 employees			Small enterprises (%) 11-49 employees			Medium enterprises (%) 50-250 employees			Large enterprises (%) > 250 employees			Total SMEs (micro + small + medium) (%)		
	Size	Turnover	Jobs	Size	Turnover	Jobs	Size	Turnover	Jobs	Size	Turnover	Jobs	Size	Turnover	Jobs
EU 27	93.2%	13.0%	35.3%	5.5%	19.0%	27.1%	0.9%	18.0%	15.3%	0.2%	51.0%	22.3%	99.8%	50.0%	77.7%
Sweden	94.2%	13.5%	32.5%	4.7%	18.5%	29.0%	0.8%	16.3%	16.3%	0.2%	51.7%	22.2%	99.8%	48.3%	77.8%
Germany	94.3%	14.2%	34.7%	4.9%	20.5%	27.5%	0.7%	15.3%	15.3%	0.1%	50.0%	22.5%	99.9%	50.0%	77.5%
Austria	89.3%	36.5%	36.5%	9.0%	21.0%	27.0%	1.4%	15.5%	15.5%	0.3%	48.0%	21.0%	99.7%	52.0%	79.0%
France	95.2%	13.9%	32.9%	4.1%	19.0%	28.3%	0.6%	15.9%	15.9%	0.1%	51.2%	22.9%	99.9%	48.8%	77.1%
Italy	95.0%	17.2%	37.2%	4.3%	20.0%	26.3%	0.6%	14.7%	14.7%	0.1%	48.1%	21.8%	99.9%	51.9%	78.2%
Spain	95.8%	15.9%	35.9%	3.6%	20.0%	27.1%	0.5%	15.5%	15.5%	0.1%	48.6%	21.5%	99.9%	51.4%	78.5%
Greece	93.8%	18.1%	38.1%	5.4%	20.0%	28.0%	0.6%	14.2%	14.2%	0.2%	47.7%	19.7%	99.8%	52.3%	80.3%
Czechia	96.3%	13.8%	33.8%	3.0%	20.0%	27.8%	0.6%	16.2%	16.2%	0.1%	50.0%	22.2%	99.9%	50.0%	77.8%
Romania	96.6%	18.5%	38.5%	2.9%	20.0%	28.5%	0.4%	14.0%	14.0%	0.1%	47.5%	19.0%	99.9%	52.5%	81.0%

Source: Eurostat, 'Enterprise Statistics by Size Class and NACE Rev. 2 Activity'.



Table 3 Key indicators for digital uptake (SME; 10–49 employees)

Analytical dimension	Subdimension
Technology adaptation and infrastructure	Digital intensity
Technology adaptation and infrastructure	Uptake of advanced technologies
Skills and human capital	Enterprises that provided training to develop/ upgrade ICT skills of their personnel
	Enterprises that employ ICT specialists by size class of enterprise
Technology adaptation and infrastructure	Broadband connectivity
	Cloud computing (2025)
	5G connectivity
Organisational change and business models	Enterprises' total turnover from e-commerce sales
	AI use
	SME using website and functionalities
	Social media (2023)
	SMEs selling online
Security and resilience	Enhanced cybersecurity
Organisational change and business models	Transition to green digitalisation
Regulatory and institutional environment	Uptake of SME-specific policies and support measures
Competitiveness and sustainability	Enhanced business outcomes

Source: Eurostat, Database, 'Digital Intensity by Size Class of Enterprise'.



Figure 2 Key indicators for digital uptake (SMEs; 10–49 employees)

Analytical Dimension	Subdimension	Europe	Austria	Czechia	France	Germany	Greece	Italy	Spain	Sweden	Romania
Skills and Human Capital	Enterprises that provided training to develop/upgrade ICT skills of their personnel	14.97%	18.24%	24.7%	11.75%	24.65%	12.6%	16.9%	19.33%	29.08%	10.47%
	Enterprises that employ ICT specialists by size class of enterprise	13.15%	13.9%	13%	11.39%	15.55%	16.37%	7.91%	9.19%	15.87%	9.71%
	Broadband connectivity	78.8%	67.6%	50.5%	81.4%	74.7	38.4%	96.3%	96.3%	88.5%	95%
Technology Adaptation and Infrastructure	Cloud computing (2025)	49.3%	48.11%	50.55%	38.75%	50.68%	21.16%	74.13%	36.96%	68.13%	23.8%
	5G connectivity	89.3%	96%	94.6%	93.2%	98.1%	98.1%	99.5%	92.3%	90.3%	38.2%
	Enterprises total turnover from e-commerce sales	9.49%	10.8%	8.27%	6.21%	8.44%	9.06%	8.68%	6.82%	13.46%	7.47%
	AI use	17%	26.18%	13.38%	15.04%	23.06%	7.33%	14.23%	17.7%	30.74%	4.13%
Organisational Change and Business Models	SME using website and functionalities	76.66%	90.9%	88.88%	70.86%	90.46%	59.86%	74.6%	81.22%	88.96%	51.02%
	Social media (2023)	53.91%	65.59%	48.69%	57.63%	52.64%	59.42%	42.51%	59.15%	28.59%	37.17%
	SMEs selling online	21.88%	28.72%	21.18%	16.09%	20.93%	23.57%	19.06%	30.04%	32.88%	13.53%
Security and Resilience	Enhanced cybersecurity	17.89%	16.33%	13.74%	11.54%	20.54%	7.98%	26.56%	17.87%	32.7%	39.72%

Source: Data from Eurostat 2025, own calculations.

Small and medium-sized enterprises (SMEs) are the backbone of Europe's economy, accounting for more than 99% of firms and employing nearly 90 million people. Their ability to digitalise, innovate and invest will be critical to Europe's competitiveness and to the success of the EU's digital and green transitions. Yet SME digitalisation remains uneven and slower than required to meet the EU's Digital Decade targets.

Drawing on quantitative indicators and qualitative evidence from nine EU Member States—Austria, Czechia, France, Germany, Greece, Italy, Romania, Spain and Sweden—this study examines four interconnected dimensions of SME digitalisation: the regulatory and institutional environment, skills and human capital, finance and investment, and technology and infrastructure.

The findings reveal a 'triple transition' challenge, as SMEs navigate digital, green and demographic changes simultaneously. Three structural bottlenecks stand out: persistent shortages of digital and advanced ICT skills; limited access to finance for high-risk digital investments; and regulatory complexity that places disproportionate burdens on smaller firms. Many SMEs also adopt digital technologies without fundamentally transforming workflows or business models, limiting productivity gains. Advanced technologies such as artificial intelligence, cloud computing and data analytics remain concentrated among larger and better-resourced firms, while cybersecurity and digital trust remain significant weaknesses.

Although the EU has developed extensive support instruments, fragmented implementation and administrative complexity limit their impact. The study therefore calls for an integrated, proportionate approach combining regulatory simplification, targeted finance, skills and leadership development, shared digital infrastructure, and stronger integration of cybersecurity and sustainability into SME support.



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