



GROW and JRC

SME Performance Review

2022/2023



Annual Report on European SMEs 2022/2023

EUROPEAN COMMISSION

Joint Research Centre
Directorate S – Innovation in Science and Policymaking
Unit S.3 - Science for Modelling, Monitoring and Evaluation.

Directorate-General for Internal Market, Industry, Entrepreneurship and SMEs
Directorate A — Strategy and Economic Analysis
Unit A.2 — SMEs

Authors: Di Bella, L., Katsinis, A., Lagüera-González, J.

E-mail: GROW-SPR@ec.europa.eu

European Commission
B-1049 Brussels

GROW and Joint Research Centre

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Contact information

E-mail: GROW-SPR@ec.europa.eu

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PDF ISBN 978-92-9469-591-8 ISSN 2467-0162 doi: 10.2826/69827 EA-AK-23-001-EN-N

Luxembourg: Publications Office of the European Union, 2023

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How to cite this report: Di Bella, L., Katsinis, A., Lagüera-González, J., SME Performance Review 2022/2023, 2023, ISBN 978-92-9469-591-8, doi: 10.2826/69827, PUBSY [number].

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ACRONYMS

BE	Business Economy (except activities of holding companies)
BS	Business sector
EC	European Commission
GDP	Gross Domestic Product
HICP	Harmonised Indices of Consumer Prices
MS	Member State(s)
NACE	Statistical classification of economic activities in the European Community
NFBS	Non-financial business sector
PP	Percentage point(s)
R&D	Research and Development
SAFE	EC/ECB Survey on Access to Finance
SBA	Small Business Act for Europe
SME	Small and medium-sized enterprises

Abstract

SMEs make up over 99% of businesses in the European Union and are the backbone of EU-27 economy. This report evaluates their prosperity in 2021 and 2022, and forecasts their performance in 2023, focusing mainly on three key variables: Value added expressed in both current and constant prices, Employment and Number of firms.

Current prices value added grows significantly every year, but the notable inflation rates change the narrative: In 2022, value added actually declined by 1.4% and a similar decline is expected for 2023 as well. Employment increased in 2022 by 2.4%, but a stagnation is predicted for 2023.

Within the overall SME population, micro SMEs performed better than small and medium-sized SMEs in both categories, value added and employment in 2022. A similar pattern is expected for the following year as well.

Finally, the report analyses SMEs' performance through a granular breakdown of the distribution of EU-27 SMEs across NFBS industries and expands its findings at the industrial ecosystems level. The contribution of SMEs to the change in value added and employment across these 14 ecosystems varies greatly. Moreover, the long-term analysis of SMEs through a technology-intensity perspective reveals a remarkable increase in all three variables for the 'knowledge-intensive' sector.

Acknowledgments

The authors of the report would like to thank colleagues in DG GROW.A.2 – SMEs for their valuable input to the report, for reviewing it and for providing comments and feedback for its improvement.

Executive Summary

The situation for the EU SMEs is perilous and will remain so in the foreseeable future. Since early 2020, due to the Covid-19 pandemic, the 24 million EU-27 SMEs, and more generally, SMEs throughout the world, have faced unprecedented economic uncertainty and turmoil. Moreover, through part of 2021 and 2022, SMEs faced difficulties in hiring new staff to meet an unexpectedly strong rebound in demand, while also having to deal with numerous new challenges. The inflation rates augmented drastically, especially during 2022, also provoking rises in interest rates, which in turn reduces access to finance. The increased energy costs and the increased raw material prices put extra pressure on enterprises. Additionally, the termination of the financial aid from governments, due to a downward trend of the pandemic, reduced the resilience capacity and exposed to further risk the fragile situation of most SMEs. Furthermore, EU-27 SMEs are impacted by Russia's invasion of Ukraine directly (in a limited context though) and indirectly by broader war-related developments which menace their growth. For enterprises located in certain countries the exposure was higher due to the physical and economic proximity to Ukraine and Russia. Finally, at the same time as coping with extraordinary economic and social challenges during the last couple of years, SMEs have also had to prepare for the transition to a digital and sustainable economy.

The mentioned inflationary pressure in the EU also muddies the picture of the economic robustness of the EU's SMEs. For instance, at first sight the value added figures for 2022 suggest that SMEs have returned to a healthy growth path despite the recent cascade of political and economic turmoil. Namely, EU-27 SMEs continued to grow in 2022, with their value added in the non-financial business sector (NFBS) increasing by 6.7% in current prices. However, this increase was – quite literally – inflated. The reality is starkly different. EU SMEs' business has suffered in 2022 as the aforementioned SME value added is measured in current prices and, as a result, the strong value added growth in 2022 reflects a pick-up in inflation. Taking into consideration the all-items Harmonised Index of Consumer Prices (HICP) for 2022, it becomes evident that value added actually declined by 2.3%. This negative development of the last year is somewhat balanced out by employment. SME employment increased by 2.4% in 2022. However, there is also an asterisk even behind this employment number. In essence, this increase indicates largely a rebound from the previous negative "Covid-19" effect. While the increase is welcome, it failed to recover in full the pandemic-induced employment losses. In terms of value added and employment, EU SMEs are still lagging behind their pre-pandemic performance in 2019.

Estimates for 2023 indicate no substantial change to this challenging picture. EU-27 SME value added in the NFBS is expected to increase by 5.2% this year - but in constant, that is inflation-adjusted terms, this actually means a decrease by 1.2%. SME employment in 2023 is expected to fall by 0.2%, which is a performance similar to the one forecasted for large enterprises.

There are silver linings, though. There are segments within the EU SME population that managed to defy this challenging situation. First, the group of micro SMEs with less than 10 employees have outperformed all other SME size classes. In particular their employment performance was impressive with a growth of 3% in 2022, hence outpacing all other size-classes, including large enterprises. Their employment growth since 2019, i.e. since before the pandemic, was as high as 4.1%, thus proving that the 2022 performance was not just a post-pandemic bounce-back from a low base. Although there was the contribution of a "technical" factor - the so-called size-band effect (meaning that in times when many companies shrink the ranks of micro firms are bolstered as previously small-sized firms

get re-classified as micro firms) - the data suggests that micro firms have proven their resilience in the face of the current challenges.

Secondly, there are also entire ecosystems where SMEs managed to expand their business amidst the crisis: the adjusted for inflation 2022 figures show that SMEs in two industrial ecosystems experienced value added growth in real terms - these were 'energy - renewables' and 'retail'. This increase is reflected across both SMEs and large enterprises. SME employment expanded in all 14 industrial ecosystems, with the largest bounce-backs in SME employment in those ecosystems that suffered most from the pandemic-induced restrictions, especially 'tourism' (8.0%) and 'proximity, social economy and civil security' (3.8%).

Thirdly, looking at it from a technology-intensity perspective, the 'knowledge-intensive' sector¹ experienced a remarkable increase in SME value added, employment, and also number of SMEs between 2020 and 2022.

Fourthly, concerning SME value added in 2022, eight Member States (MT, DK, ES, SI, PT, IE, LU, BE) managed to experience actual growth. For three of them, growth exceeded even 4%: MT (6.5%), DK (5.5%) and ES (4.3%). While other countries, including those with the largest SME populations, experienced a decline, this goes to show that even in the currently challenging environment SME growth is possible.

Beyond the challenges outlined above, the lack of skilled workers has also become a prime obstacle for SMEs throughout the entire EU. A foreseen DG GROW Eurobarometer shall shed more light on this problem and on potential policy options.

Against this challenging backdrop, the announcement of the President of the European Commission of an EU relief package - which is to complement existing support programmes - can only be seen as absolutely timely.

¹ The 'knowledge intensive' sector in the NFBS includes the following industries 'activities of head offices, management consultancy activities', 'advertising and market research', 'air transport', 'architectural and engineering activities; technical testing and analysis', 'computer programming, consultancy and related activities', 'employment activities', 'information service activities', 'legal and accounting activities', 'motion picture, video and television programme production, sound recording and music publishing activities', 'other professional, scientific and professional services', 'programming and broadcasting services', 'publishing activities', 'scientific research and development', 'security and investigation activities', 'telecommunications', 'veterinary activities' and 'water transport' (see Eurostat [https://ec.europa.eu/eurostat/statistics-explained/index.php?title=Glossary:Knowledge-intensive_services_\(KIS\)](https://ec.europa.eu/eurostat/statistics-explained/index.php?title=Glossary:Knowledge-intensive_services_(KIS)) for further information).

1 Introduction

This report forms part of the SME performance review (SPR) which, according to the European Commission's (EC) website, *"is one of the main tools the European Commission uses to monitor and assess countries' progress in implementing the SME Strategy and the Small Business Act (SBA). With an emphasis on the priorities under the SME strategy and the SBA, the review brings comprehensive information on the performance of SMEs in EU countries and other partner countries. It consists of 2 parts: an annual report on European SMEs and SME country fact sheets"*.²

The SME fact sheets, which are published with this report on the EC's SMEs Performance Review website, provide an assessment of the progress in the implementation of the SME Strategy³ and the Small Business Act⁴ at national level. They focus on key performance indicators and national developments related to SME policy. The key performance indicators presented in these fact sheets are also taken aboard in the EC's annual Single Market Scoreboard.⁵

SMEs play a key role in the EU economy, thus the second chapter of this report provides a snapshot of the contribution of SMEs to the EU-27 economy, with the data presented referring to the year 2022.

The third chapter focuses on the performance of EU SMEs over the past years. It presents information on the economic environment faced by EU-27 SMEs over the last few years, the performance of SMEs during that period and it describes the evolution of new business registrations and bankruptcies.

The fourth chapter presents a projection of the performance of EU-27 SMEs in 2023.

The fifth chapter highlights the role of SMEs and their performance within different industrial ecosystems in the EU-27.

Finally, a number of annexes provide detailed information on a range of topics discussed in the main body of this report.

² See https://ec.europa.eu/growth/smes/sme-strategy/performance-review_en

³ COM(2020)103, An SME Strategy for a sustainable and digital Europe, <https://eur-lex.europa.eu/legal-content/EN/TXT/?uri=CELEX:52020DC0103>

⁴ COM(2008)394, A 'small business act' for European SMEs, <https://eur-lex.europa.eu/EN/legal-content/summary/a-small-business-act-for-european-smes.html>

⁵ https://single-market-scoreboard.ec.europa.eu/home_en

2 Snapshot of the importance of SMEs in the EU economy

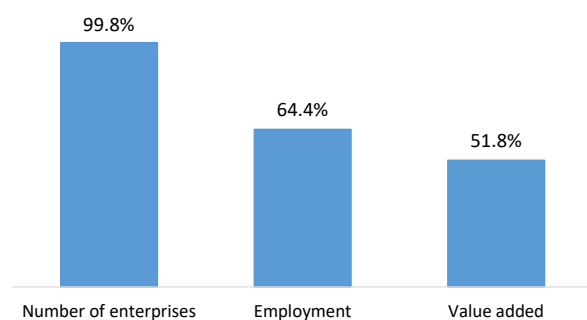
According to the official EC definition⁶, SMEs are enterprises which have fewer than 250 employees, and have either an annual turnover of less than EUR 50 million or a balance sheet total of less than EUR 43 million. The analysis in this report is based only on the employment definition of SMEs, since this is the definition used by the Structural Business Statistics (SBS) database maintained by Eurostat, the main data source for the report.

Within the SME population, micro SMEs are enterprises which employ fewer than 10 staff, while small SMEs employ 10 to 49 staff, and medium-sized SMEs employ between 50 and 249 staff (see Annex 1 for details).

In 2022⁷, about 24.3 million SMEs were active in the EU-27 and these SMEs accounted for 99.8% of all enterprises in the non-financial business sector (NFBS) (Figure 1)^{8,9}. These SMEs employed 84.9 million people in the EU-27 in 2022.

However, while almost all enterprises in the EU-27 NFBS were SMEs in 2022, the latter accounted for just under two-thirds of EU-27 NFBS employment and slightly more than half of EU-27 NFBS value added.

Figure 1: Share of EU-27 SMEs in the number of enterprises in the NFBS and of NFBS employment and value added in 2022



Source: Calculations by the JRC based on Eurostat's Structural Business Statistics, Short-Term Business Statistics and National Accounts Database

The vast majority of SMEs in 2022 were micro SMEs (Figure 1). However, these very small SMEs accounted for 36% of SME value added, and 46% of SME employment in the NFBS in 2022.

In terms of employment, micro enterprises account for a greater share of total SME employment than small SMEs (30%), and small SMEs account for more employment than medium-sized SMEs (24%).

The three SME size classes generated about the same proportion of SME value added in the EU-27 NFBS in 2022, with the share of value added generated by micro SMEs (36%) being only slightly larger than the share generated by small and medium-sized SMEs (32% each).

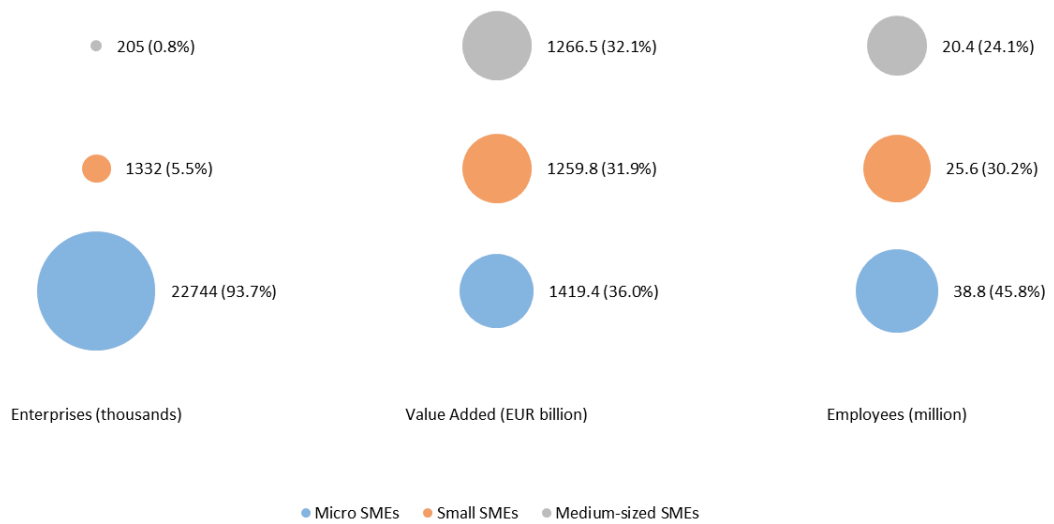
⁶ Commission Recommendation of 6 May 2003 concerning the definition of micro, small, and medium-sized enterprises (2003/361/EC), Official Journal of the European Union, L 124/36, 20 May 2003.

⁷ The 2022 data are based on estimates derived from economic data available in December 2022.

⁸ The non-financial business sector includes all sectors of the economy except the following: 'agriculture, forestry, and fishing' (NACE section A), 'financial and insurance activities' (NACE section K), 'public administration and defence; compulsory social security' (NACE section O), 'education' (NACE section P), 'human health and social work activities' (NACE section Q), 'arts, entertainment and recreation' (NACE section R), 'other service activities' (NACE section S), 'activities of households as employers: undifferentiated goods- and services-producing activities of households for own use' (NACE section T) and 'activities of extraterritorial organisations and bodies' (NACE section U). NACE is the Eurostat statistical classification of economic activities in the European Union.

⁹ Information on the number of SMEs, their value added and their employment in various countries outside the EU is provided in Annex 5.

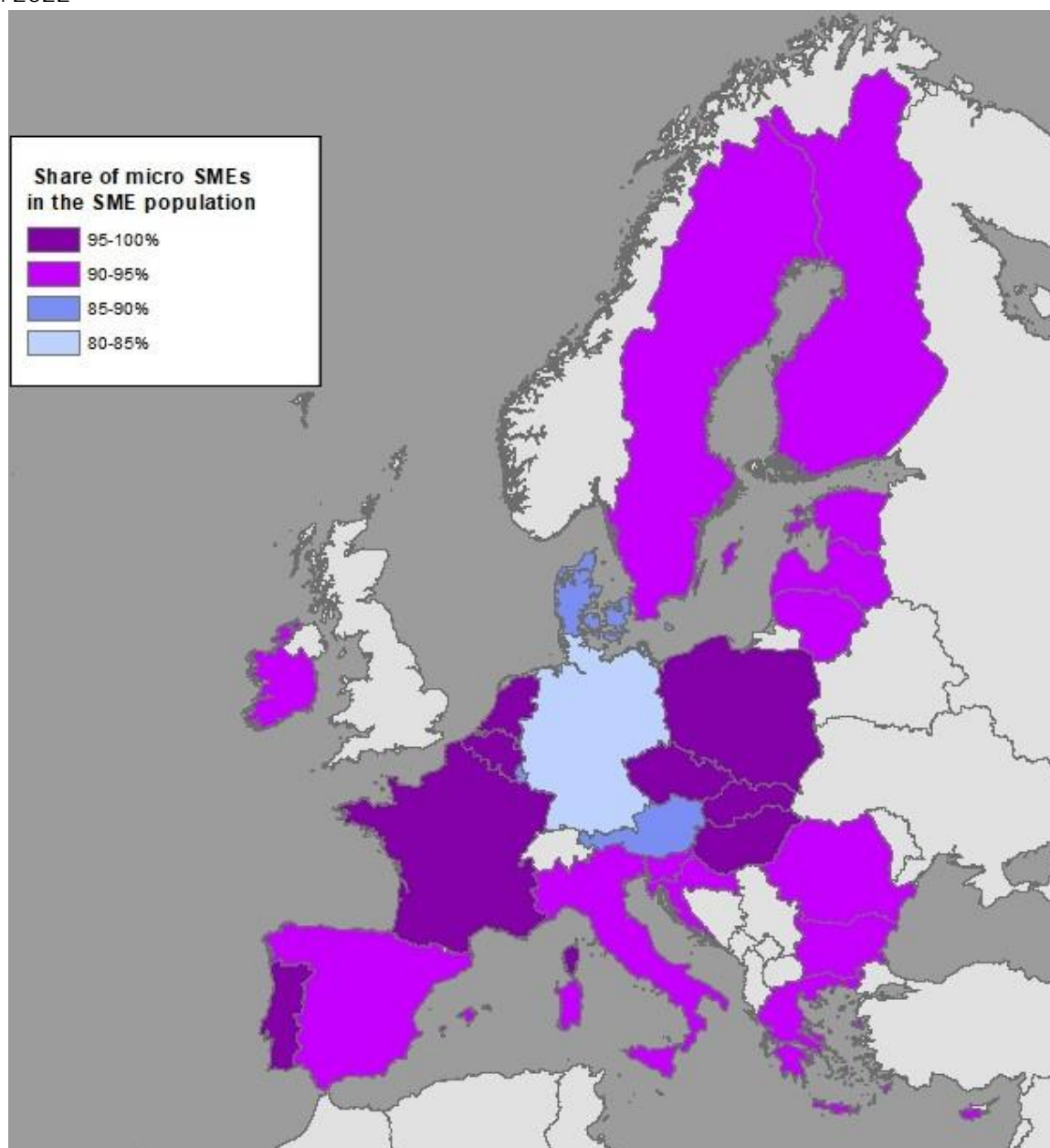
Figure 2: Share of different EU-27 SME size classes in the number of enterprises in the NFBS and of NFBS employment and value added in 2022



Source: Calculations by the JRC based on **Eurostat's Structural Business Statistics, Short-Term Business Statistics and National Accounts Database**

The strong prevalence of micro SMEs can be observed in all EU-27 Member States. In the majority of EU-27 Member States, 90-95% of all SMEs were micro SMEs in 2022 (Figure 3). The Member States with the largest proportion of micro SMEs were CZ (96%), NL (96%) and SK (98%). AT, DE, DK and LU were the only four Member States in which the proportion of SMEs that are micro SMEs was less than 90%.

Figure 3: Share of micro SMEs in the total number of SMEs in the NFBS of EU-27 Member States in 2022



Source: Calculations by the JRC based on Eurostat's Structural Business Statistics, Short-Term Business Statistics and National Accounts Database

In 2022, although EU-27 SMEs were active in many different industries of the EU-27 NFBS, most operated in the low knowledge-intensive industries (Figure 4).¹⁰ Only 30% of EU-27 SMEs in the EU-27 NFBS were active in the knowledge-intensive or high-tech industries, where they employed 21% of all persons employed by SMEs in the EU-27 NFBS, and generated 26% of total SME value added in the EU-27 NFBS. The difference between knowledge intensive and high-tech concerns the area of activity: the definitions used by Eurostat classify the manufacturing industries as high-tech, medium-tech or low-tech, while categorising the services industries as high or low knowledge intensity.

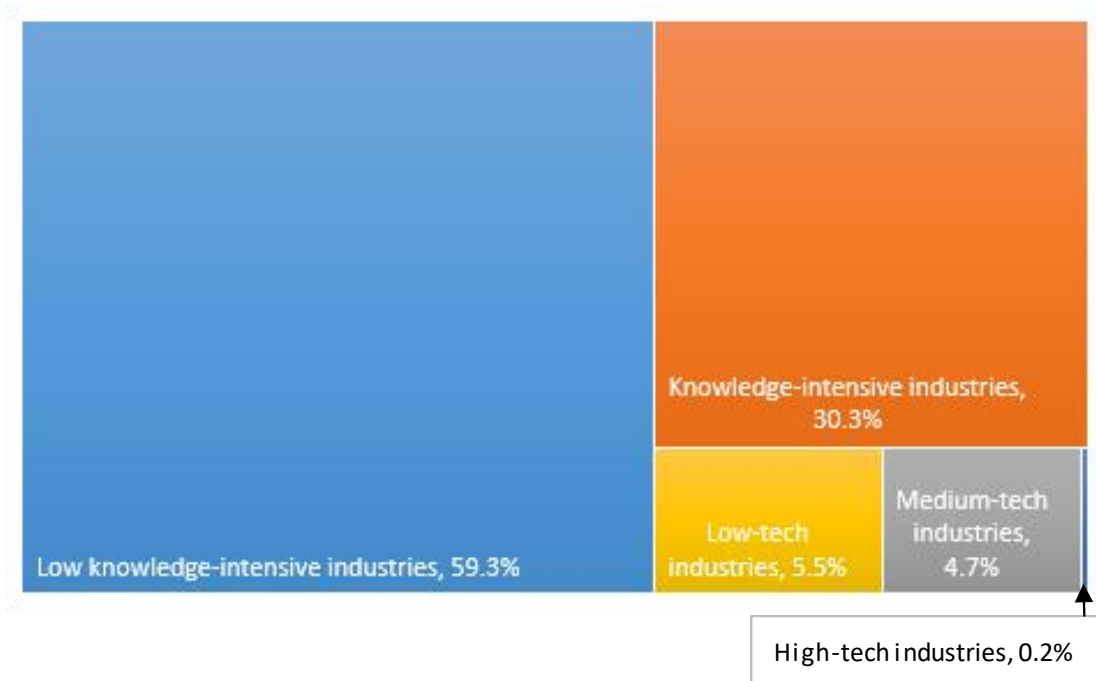
The long-term analysis (Figure 5) illustrates that the share of SMEs which are classified into knowledge-intensive industries has grown constantly through the last 15 years. Simultaneously, the share of the low knowledge intensive industries has declined, leading to a slow but evident convergence in size between the two

¹⁰ See Annex 3 for the list of industries in the different knowledge and technology sectors.

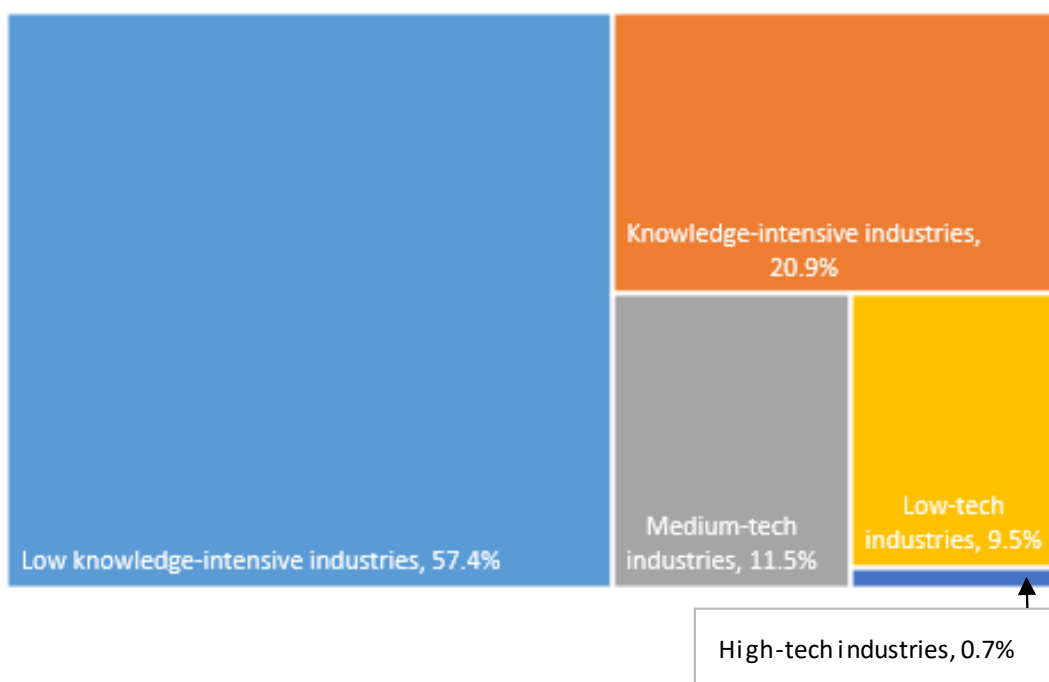
categories, although the share of low knowledge intensive industries remains substantially higher. Concerning SME employment, knowledge intensive industries are still increasing their share but only mildly so, and, finally, the value added of this category is largely stagnating, as the fall during the last two years negates the growth that occurred during 2019 and 2020.

Figure 4: Distribution of EU-27 SMEs across industries of different knowledge and technology intensity in 2022

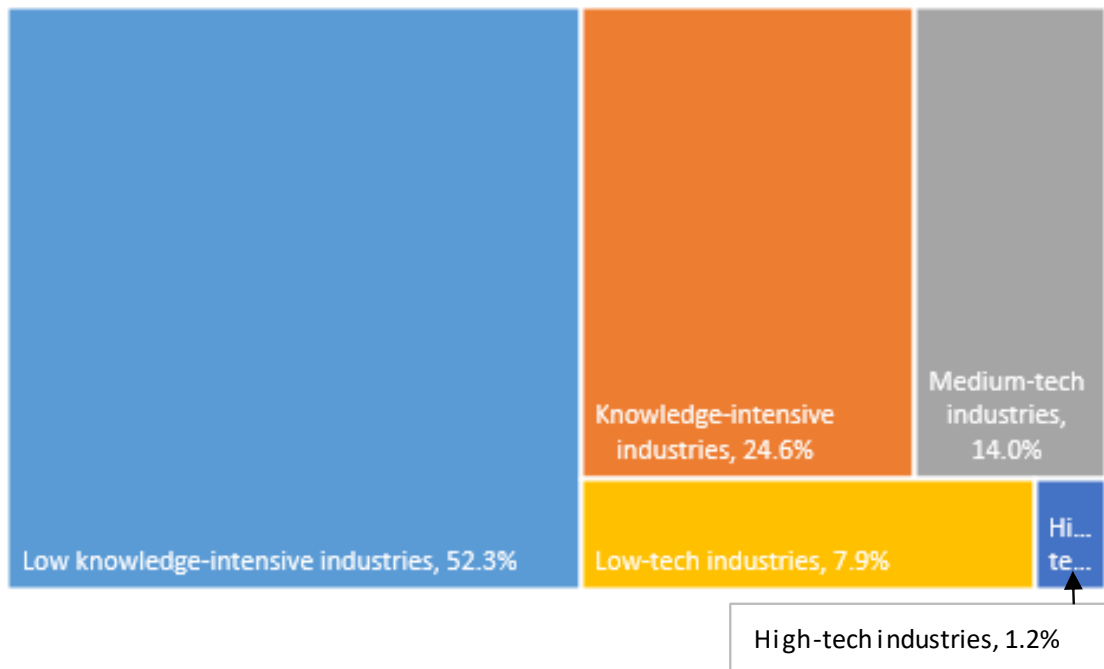
Number of SMEs



SME employment



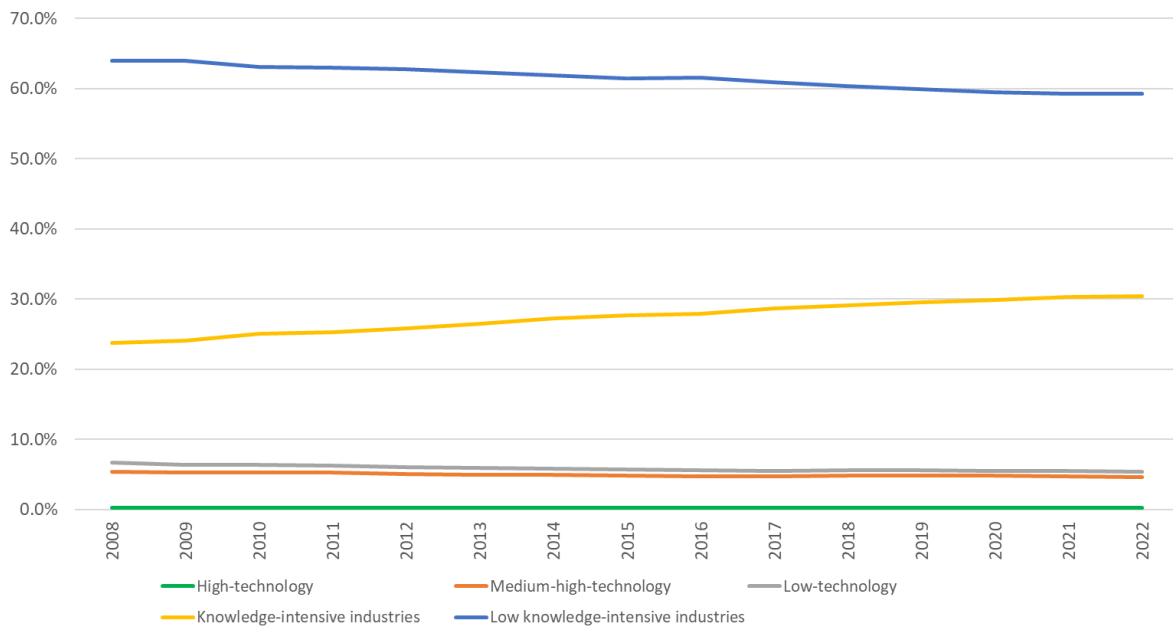
SME Value added



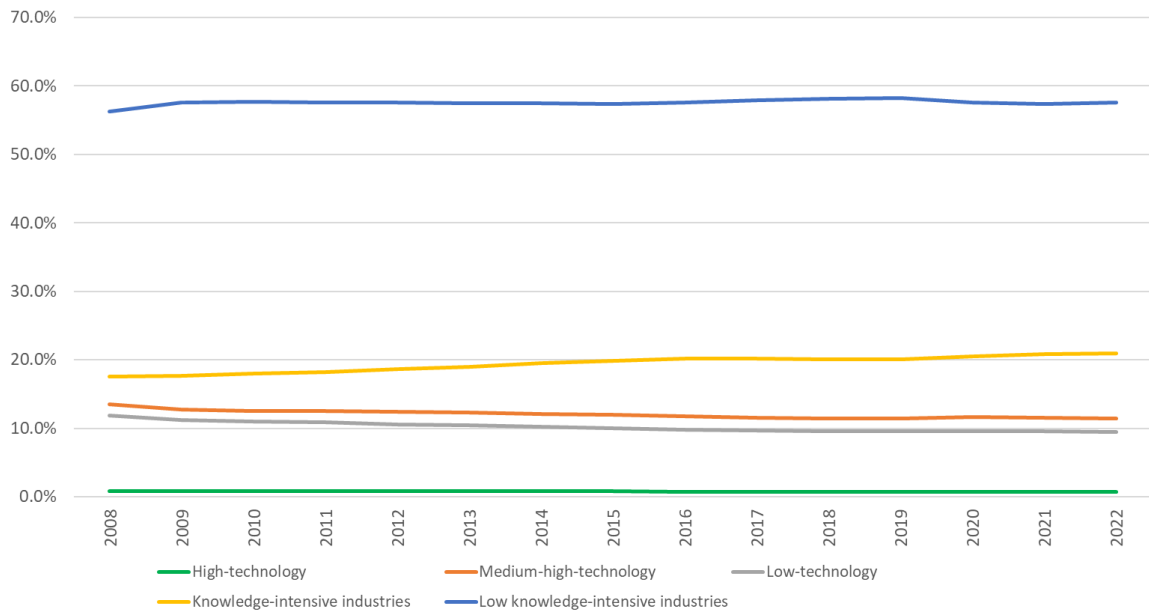
Source: Calculations by the JRC based on Eurostat's Structural Business Statistics, Short-Term Business Statistics and National Accounts Database

Figure 5: Long-term distribution of EU-27 SMEs across industries of different knowledge and technology intensity

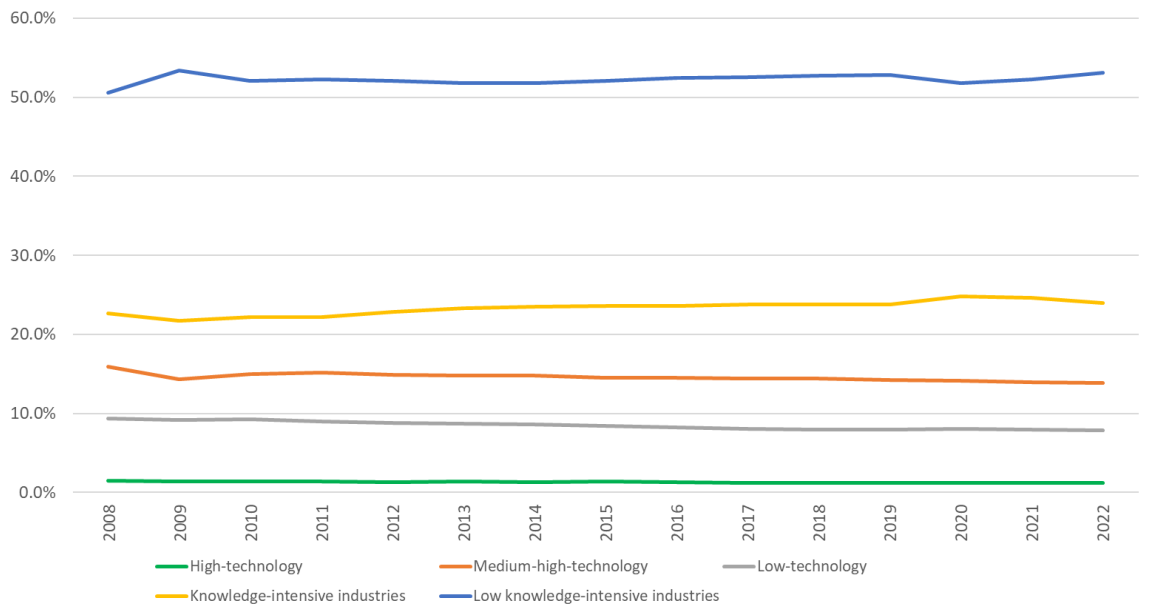
Share in terms of number of SMEs



Share in terms of SME employment

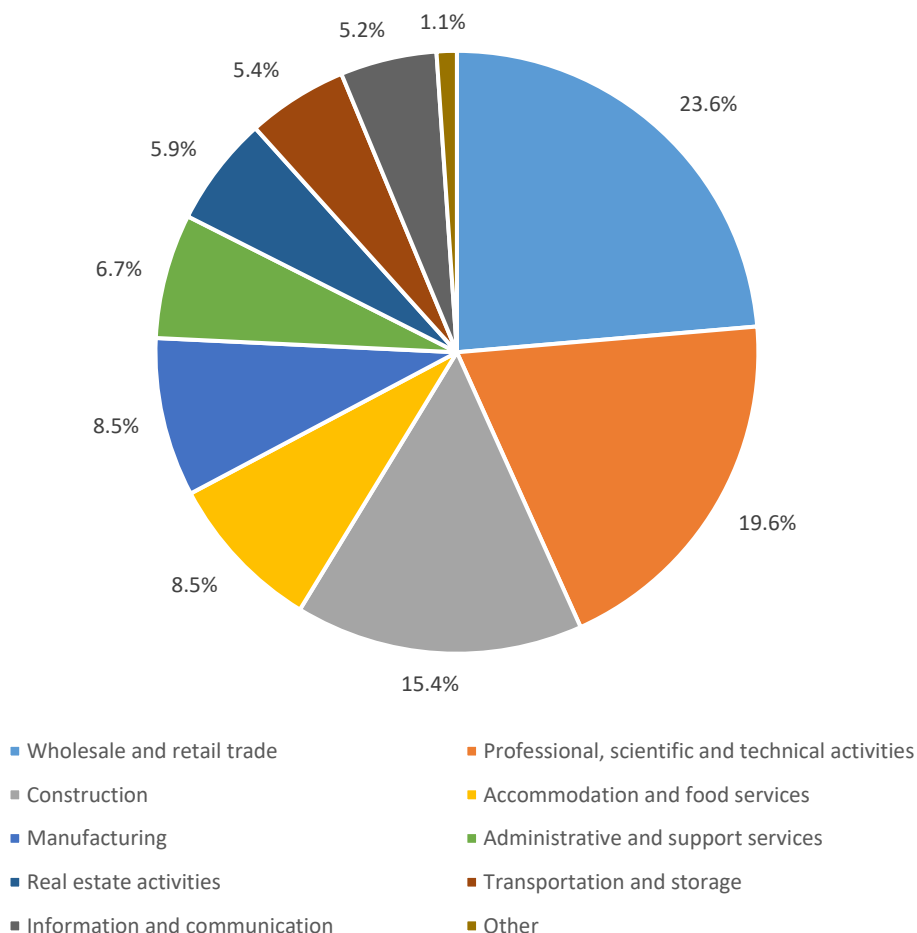


Share in terms of SME Value added



A more granular breakdown of the distribution of EU-27 SMEs across NFBS industries shows that, in 2022, SMEs were concentrated in a few industries: namely 1) 'wholesale and retail trade', in which SMEs accounted for 24% of all EU-27 SMEs in the EU-27 NFBS, 2) 'professional, scientific and technical activities' (20%) and 3) 'construction' (15%) (Figure 6).

Figure 6: Distribution of EU-27 SMEs across the NFBS industries in 2022



Note: Other includes 'electricity, gas, steam and air conditioning supply' (0.7%), 'water supply: sewerage, waste management and remediation activities' (0.3%) and 'mining and quarrying' (0.1%).

Source: Calculations by the JRC based on Eurostat's Structural Business Statistics, Short-Term Business Statistics and National Accounts Database

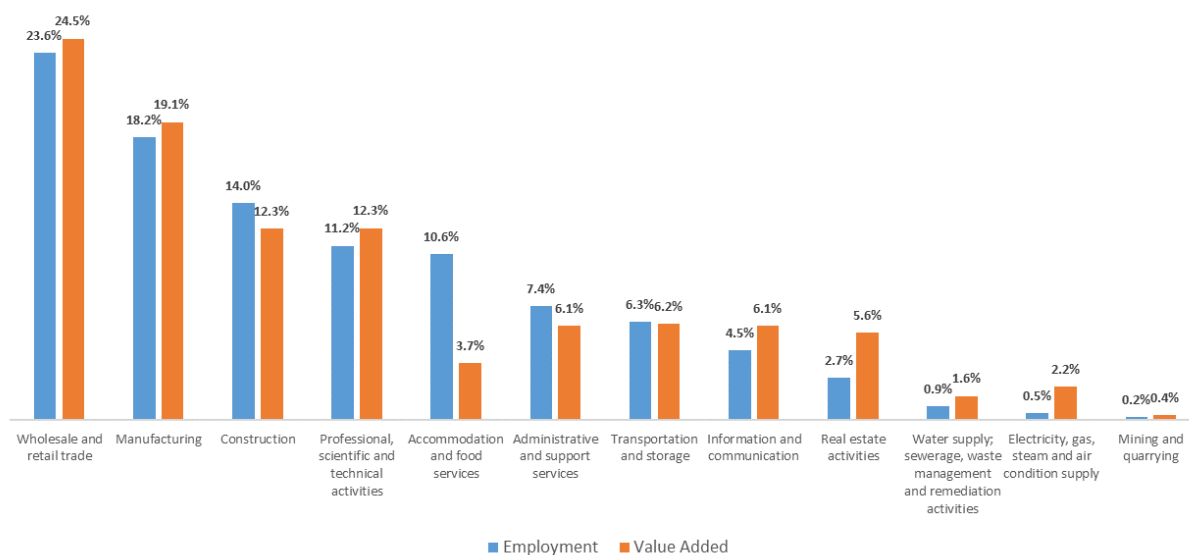
While, in general, the distributions of the number of EU-27 SMEs, SME employment, and SME value added were broadly similar in 2022 across the various industries of the EU-27 NFBS, two industries stand out.

Firstly, although SMEs in 'manufacturing' accounted for only 8.5% of all SMEs in 2022, their employment and value added represented 18% and 19%, respectively, of total EU-27 NFBS SME employment and value added (Figure 7). A long-term perspective reveals that this trend has existed for a long time, but all three parameters seem to be declining slowly but analogously through the years: In 2008, 'manufacturing' accounted for 10% of all SMEs and represented 22% in both terms of employment and value added, while seven years later, in 2015, this declined to 9% of all SMEs, 20% of employment and 21% of value added.

The second industry to stand out is 'professional, scientific and technical activities'. In 2022, 20% of SMEs operated in this industry, and they accounted for only 11% of total employment by SMEs in the EU-27 NFBS, and 12% of the value added. The long term analysis unveils that a slow-moving growth is occurring symmetrically in every variable, as opposed to the previously explored trend for the 'manufacturing' industry: The share in number of enterprises evolved from 16% in 2008 to 18% in 2015, and 20% in 2022, employment

increased as well (9.4% in 2008, 10.8% in 2015, 11.2% in 2022) and value added showed a significant enlargement between 2008 and 2015 (11.7% and 12.5% respectively) but stagnated in 2022 (12.3%).

Figure 7: Distribution of SME employment and SME value added across EU-27 NFBS industries in 2022



Source: Calculations by the JRC based on Eurostat's Structural Business Statistics, Short-Term Business Statistics and National Accounts Database

As in previous years, SMEs accounted in 2022 for the majority of total employment in most industries, and for more than 80% of total employment in four industries ('construction', 'accommodation and food services', 'real estate activities' and 'professional, scientific and technical activities'). 'Real estate activities' and 'professional, scientific and technical activities' were also the only industries in which micro SMEs accounted for the majority of employment in the industry (Table 1). The share of value added generated by SMEs in the various EU-27 NFBS industries was somewhat smaller than their employment share in most other industries, and they accounted for the majority of total value added in a minority of industries ('construction', 'wholesale and retail trade', 'accommodation and food services', 'real estate activities', and 'professional, scientific and technical activities').

In terms of the number of enterprises, EU-27 SMEs accounted for 99% of the total number of enterprises in every industry of the EU-27 NFBS. Micro enterprises accounted for most of this figure, representing 90% or more of the total number of enterprises in all but three industries ('mining and quarrying', 'manufacturing' and 'water supply; sewerage, waste management and remediation activities'). These were also the three industries in which small SMEs (10-49 employees) accounted for more than 10% of the total number of enterprises.

Table 1: Proportion of total value added, employment and number of enterprises accounted for by SMEs in various EU-27 NFBS industries in 2022

	Value Added				Employment				Number of Enterprises			
	Micro SMEs	Small SMEs	Medium-sized SMEs	All SMEs	Micro SMEs	Small SMEs	Medium-sized SMEs	All SMEs	Micro SMEs	Small SMEs	Medium-sized SMEs	All SMEs
Mining and quarrying	6.3%	13.7%	14.5%	34.5%	8.7%	15.9%	17.1%	41.6%	79.2%	16.3%	3.7%	99.2%
Manufacturing	5.4%	11.3%	18.0%	34.7%	12.9%	17.7%	21.6%	52.1%	84.4%	12.0%	2.9%	99.3%
Electricity, gas, steam and air conditioning supply	11.5%	6.3%	9.1%	26.8%	15.0%	5.4%	10.0%	30.4%	97.0%	1.9%	0.7%	99.7%
Water supply; sewerage, waste management and remediation activities	9.9%	14.7%	20.6%	45.2%	8.9%	14.9%	22.6%	46.4%	80.9%	13.7%	4.3%	98.9%
Construction	34.1%	28.9%	15.9%	79.0%	47.0%	27.9%	12.4%	87.2%	94.0%	5.4%	0.5%	99.9%
Wholesale and retail trade	22.7%	21.8%	17.9%	62.4%	33.8%	20.4%	13.7%	67.9%	93.5%	5.6%	0.7%	99.9%
Transportation and storage	13.2%	16.3%	16.4%	45.8%	19.7%	17.3%	15.0%	52.0%	91.7%	6.8%	1.2%	99.7%
Accommodation and food services	36.8%	28.9%	14.3%	80.0%	44.1%	30.0%	11.7%	85.7%	90.6%	8.7%	0.6%	99.9%
Information and communication	11.4%	11.1%	15.2%	37.7%	22.2%	15.4%	17.0%	54.5%	94.6%	4.2%	0.9%	99.8%
Real estate activities	51.8%	15.4%	16.8%	84.0%	63.7%	14.6%	10.5%	88.8%	98.3%	1.4%	0.2%	100.0%
Professional, scientific and technical activities	37.0%	20.4%	15.1%	72.6%	51.4%	17.5%	11.4%	80.3%	97.3%	2.3%	0.3%	99.9%
Administrative and support services	18.5%	13.3%	16.5%	48.3%	16.7%	12.7%	16.7%	46.1%	93.2%	5.1%	1.4%	99.6%
All industries	18.6%	16.5%	16.6%	51.8%	29.4%	19.4%	15.5%	64.4%	93.5%	5.5%	0.8%	99.8%

Source: Calculations by the JRC, based on Eurostat's Structural Business Statistics, Short-Term Business Statistics and National Accounts Database

It should be noted that the differences in the relative importance of SMEs across various industries do not vary much from year to year, as these differences reflect the long-term structural characteristics of the various industries.

SMEs in different industries do not operate in isolation from other economic entities. Instead, they are part of broader industrial ecosystems, within which they are connected to many different entities, such as other SMEs, large enterprises, academic institutions and customers. The European Commission focuses on the structure and dynamics of 14 industrial ecosystems¹¹ and SMEs account for more than 99% of all enterprises in each of these. A more detailed analysis of the role of SMEs in the various ecosystems is provided in chapter 5.

¹¹ See, for example, European Commission (2022), Commission Staff Working Document, Annual Single Market Report 2022, Brussels, 22.2.2022, SWD(2022) 40 final, PART 1/2.

Information on the role of SMEs in the NFBS of the EU-27 compared to the selected¹² non-EU countries is provided in Annex 5.

¹² The selected non-EU countries are: Albania (AL), Armenia (AM), Bosnia and Herzegovina (BA), Iceland (IS), Kosovo (XK) Moldova (MD), Montenegro (ME), North Macedonia (MK), Serbia (RS), Turkey (TR), Ukraine (UA) and the United Kingdom (UK).

3 The performance of EU-27 SMEs over the past years

SMEs in Europe, and more generally throughout the world, have faced unprecedented economic uncertainty and turmoil since the breakout of the Covid-19 pandemic in early 2020. Once the immediate effects of the pandemic eased, throughout 2021, SMEs faced difficulties in hiring new staff to meet an unexpectedly strong rebound in demand and had to deal with sharp and rapid increases in the price of many of their inputs. While 2022 saw a continued economic recovery, new impediments that jeopardised the viability of entrepreneurship and SMEs in particular emerged. The historically high inflation rates, increased energy and raw material prices, and the cessation of the pandemic-era financial help from governments exposed many SMEs to substantial new risks (see text box 1). Additionally, EU-27 SMEs were impacted by Russia's invasion of Ukraine directly (in a limited context through sanctions, export restrictions and interrupted supply chains) and indirectly by broader war-related developments such as high energy costs, which menace their growth.

This section examines in detail the performance of EU-27 SMEs during this challenging period. It presents information on the economic environment in which SMEs operated in 2020, 2021, and 2022 (section 3.1), reviews the economic performance of SMEs for the same period on the basis of the evolution of three key SME performance indicators (number of enterprises, value added and employment) (section 3.2), compares the performance of SMEs and large enterprises in the EU-27 NFBS over the period 2020-2022 in different industries (section 3.3), assesses SME performance by knowledge intensity (section 3.4), and finally presents information on the performance of SMEs across Member States (section 3.5).¹³

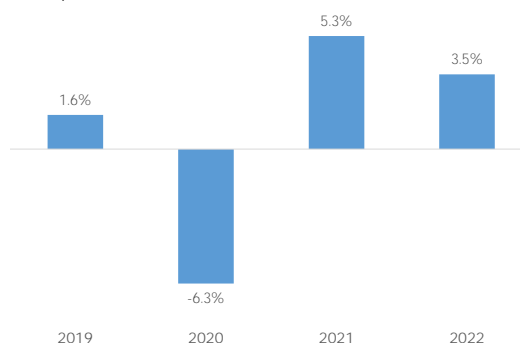
3.1 The economic environment in which SMEs operated in 2020, 2021 and 2022

Reflecting the various lockdowns and other sanitary measures taken in 2020, EU-27 GDP (in constant prices) fell by 6.3% in 2020 after having grown by 1.6% in 2019 (Figure 8). Both domestic and foreign demand for goods and services produced by the EU-27 economy declined sharply in 2020 (Figure 9). Consumption by households and governments also fell, but to a slightly lesser extent, mainly as a result of large increases in government spending.

The year 2021 saw a marked recovery in the various economic aggregates (GDP, domestic demand and foreign demand) as, for most of the year, many of the sanitary measures were eased in response to an improving pandemic situation. However, in the latter part of 2021, economic activity weakened again in a number of Member States with the arrival of new Covid-19 variants, sharp rebounds in the number of infected persons and a return to stricter sanitary measures. Without these late 2021 developments, the economic rebound would have been even stronger.

Despite the end of the pandemic and the theoretically looming economic recovery in the EU-27, all major components of EU-27 GDP experienced a more subdued recovery in 2022 than initially hoped for, due to new challenges. The combination of correlated phenomena such as the historically high inflation in every economic activity, especially for energy (also in gas prices), and all consequences originating from Russia's war of aggression (including supply chain disruptions) led to reduced growth rates. For instance, in 2022 EU-27 GDP increased by 3.5% after having grown by 5.3% in 2021. Similarly, domestic and foreign demand rose in 2022 but less remarkably than in 2021.

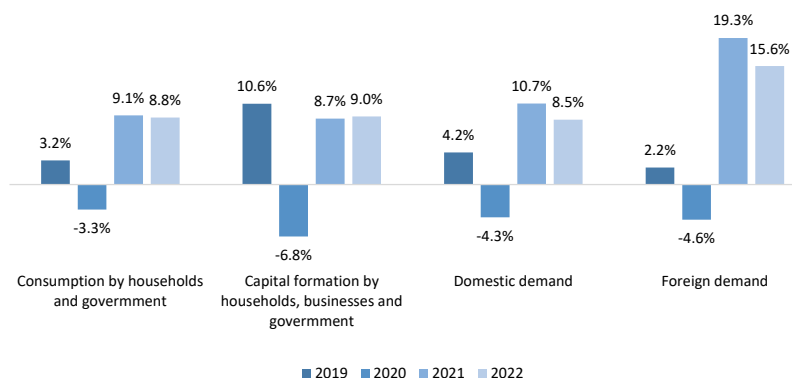
Figure 8: Annual EU-27 GDP growth in 2019, 2020, 2021 and 2022



Source: EC Winter 2023 Forecast – AMECO database

¹³ The performance of SMEs in 2021 and 2022 in selected non-EU countries is reviewed in Annex 8.

Figure 9: Four-quarters growth of major components of EU-27 GDP in 2019, 2020, 2021 & 2022



Note: the growth rates shown in the chart are the Q4 to Q4 growth rates for all years (2019 to 2022).

Source: Eurostat national accounts data

Obviously, the past years were challenging, but by the end of 2022 inflation was less affected by energy prices and developed a demand-side nature, as high prices in services and unprocessed foods have become the key factors. Further stabilisation in energy prices should entail a fall in inflation during 2023, but inflation forecasts remain nonetheless high (above 5%).

It is important to note that because inflation picked up in 2021 and galloped in 2022, the changes in SME value added reported in the next sections overstate the

actual change in SME economic activity. This is due to the fact that SME value added data from Eurostat and the JRC are expressed in current prices, i.e. they are not adjusted for inflation. Where relevant, the following sections also present inflation-adjusted figures for value added for comparison.

The factors driving the demand for goods and services produced by EU-27 SMEs differ across industries. It is also important to note that annual changes in the key SME performance indicators (especially value added) hide very large within-year fluctuations. For example, the monthly index of production or turnover in selected industries shows that large increases in some industries ('accommodation' and 'food and beverage service activities') from April to August 2021 were followed by a less significant decline around the beginning of 2022 and then by rather consistent growth till autumn 2022.

Text box 1: Effects of inflation on EU SMEs (extract from forthcoming study on SMEs and high inflation)

Over the last two years, inflation in the EU rose rapidly, reaching levels not observed in the EU since the 1980s. Inflation increased the most in energy-intensive and energy-renewables ecosystems driven by the sharp rise in energy costs, though it affected all industrial ecosystems. Rises in wage costs, raw material and component shortages, supply chain disruptions, as well as pent-up demand following the restart of the economy after the COVID-19 pandemic are some of the key drivers of inflation in addition to rising energy prices. The report shows that both inflation itself as well as the increase in interest rates will negatively impact businesses in the EU, with some disproportionate effects on SMEs.

The study finds that rising costs increase the chances that firms will experience problems due to the late receipt of payments and subsequently pay their own suppliers late. The number of days to collect payments – which averaged around 64 days across small, medium and large firms in the EU in 2021 – is expected to increase by 1.5 days as a result of the inflation levels observed in 2022, and by 1.6 days due to the reduction in the 2022 GDP growth rate. The increased prevalence of late payments, coupled with enhanced difficulty in accessing finance and higher interest rates, will also make bankruptcies somewhat more likely. Nevertheless, the spike in bankruptcies observed at the end of 2022 and the beginning of 2023 is largely the effect of regulatory changes in Spain as well as the delayed effect of the pandemic.

Business investment increased in 2022 compared to 2021, but the effect of high inflation may be delayed and indirect: rising interest rates and worsening economic outlook are associated with lower investment expectations, especially for SMEs. One percentage point increase in interest rates is found to reduce the probability of SMEs reporting positive investment expectations by 0.83 percentage points compared to 0.65 for large firms. Furthermore, seeing future economic uncertainty as a major obstacle to investment reduces the probability of firms reporting positive investment expectations by 14% among SMEs and 10% among large firms, all else being equal. The effects on green investments in particular are mixed. On the one hand, analysis using past inflation data suggests that inflation should significantly reduce firms' investments to be more resource efficient, increasing the share of companies that invest nothing from 30% to 43%. This is also confirmed through interviews with firms regarding more substantial and long-term investments. On the other hand, high energy bills in 2022 motivated companies to become more energy-efficient, increasing the probability that SMEs invest to be more energy-efficient from 52% to 58% with no such effect for large firms. While the effect on digital investments is mostly negative (and indirect), firms in 2022 increased their automation efforts in light of rising wage costs and labour shortages. Despite growing wage costs, the risk of a price-wage spiral is found to be modest in the EU overall, though countries where automatic wage indexation is most prevalent, namely, Belgium and Luxembourg, are more at risk than others.

The effect on firms' profitability is also dual: inflation initially reduces profitability as production costs rise, but subsequently increases it when firms pass costs onto consumers. Firms' ability to pass costs varies significantly and depends on the position within the value chain, how sensitive the demand for specific products is to price changes, types of clients, firm size and ecosystem, with qualitative evidence showing that SMEs are less likely to pass costs than large firms, eroding their profit margins (though not overall profits) more. The initial negative effect of inflation on profitability is slightly greater than the subsequent positive effect, and overall profitability outlook is worsened by decreases in GDP growth and rising interest rates. Namely, every percentage point reduction in the real GDP growth rate is associated with a 0.2 percentage point drop in the average profit margin; for every percentage point rise in the interest rates, the profit margin is expected to decrease by 0.35 percentage points.

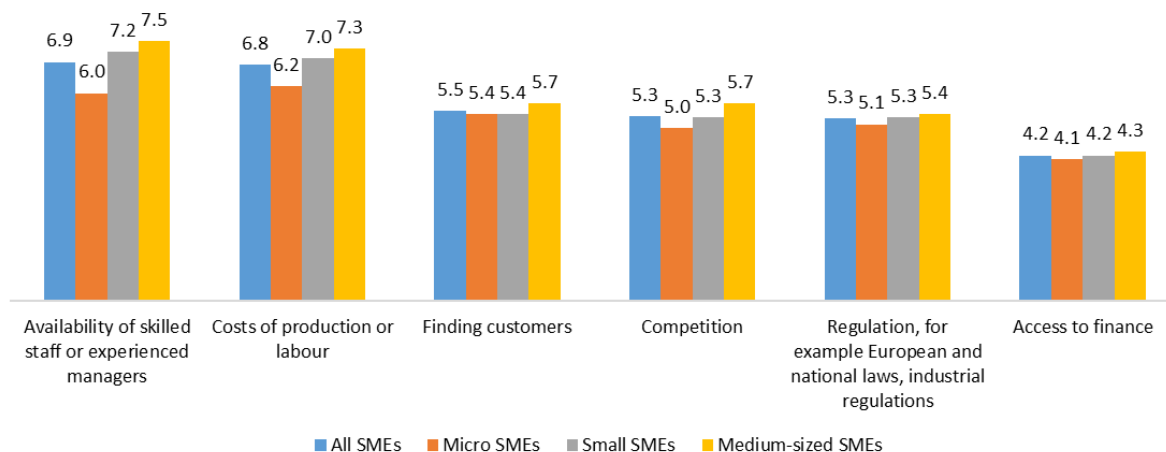
While inflation has also reduced participation in public procurement in 2022, the effect is small, amounting to 1% of potential offers lost as a result of inflation.

Member States have reacted to high inflation environment by adopting a wide set of measures, examples of which accompany policy recommendations. Policy makers should prioritise measures to address the key drivers of inflation, namely, ensure the security and supply of energy and raw materials to the EU. Measures to mitigate the negative impacts of inflation should focus on enhanced access to finance for SMEs, including easier access to funds promoting the twin transition, strengthening of early warning systems to detect and advise companies at risk of insolvency, and additional efforts to reduce late payments both in government-to-business as well as business-to-business transactions.

The study highlights additional short-term policy measures that were effective at the peak of price increases in 2022, but should be gradually phased out. These include measures targeted at the most vulnerable households and businesses, loan extensions and loan holidays to help SMEs with short-term liquidity challenges, and indexation of public procurement contracts to avoid contract cancellation. Additionally, measures that should be avoided are discussed, including non-targeted support measures like price caps on electricity, gas, petrol and diesel applied to the whole population, tax reductions on certain foods, postponements for VAT, social security taxes and pandemic-related loans for all SMEs or businesses, among others.

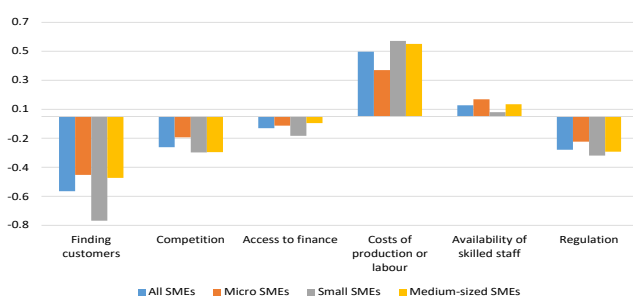
These changing economic circumstances throughout 2020, 2021, and 2022 are clearly reflected in the relevant Surveys on Access to Finance of Enterprises (SAFE), in which EU-27 SMEs assessed the importance of various issues and challenges that they were facing. In 2022, the two issues viewed by EU-27 SMEs as the most important in late summer and early autumn were “availability of skilled staff or experienced managers” and “costs of production or labour” (Figure 10). Those two challenges stood out as the most crucial also in 2021, while “finding customers” was the most important issue in 2020.

Figure 10: Economy-wide assessment by EU-27 SMEs of importance (on a scale of 1 to 10) of various issues and challenges faced by SMEs – September - October 2022



Note: The assessment reported in the figure above reflects the views of SMEs in the period of 7 September to 26 October 2022 (when the SAFE survey fieldwork was undertaken).
 Source: SAFE survey¹⁴

Figure 11: Change in the economy-wide assessment by EU-27 SMEs of the importance (on a scale of 1 to 10) of various issues and challenges faced by SMEs – 2022 SAFE survey rating minus 2021 SAFE survey rating



Source: SAFE surveys of 2021 and 2022

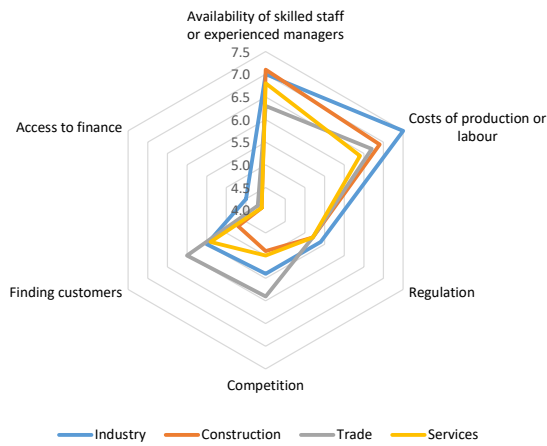
governments and the generally easier credit conditions).

In fact, in 2022 the importance of the “costs of production or labour” showed the greatest increase relative to 2021 across all SME size classes, while the importance of “finding customers” showed the greatest decline, again, across all SME size classes (Figure 11).

Interestingly, the importance of “competition” and “regulation” also declined markedly in 2022 (which of course does not say that all of these do not continue to be very important, as this decline is rather a reflection of the focus in 2022 having been in particular on the costs of production or labour). On the contrary, “access to finance” declined insignificantly (last year its fall was more notable because of the continued Covid-19-related financial support provided by

¹⁴ For the full results of the SAFE survey see European Commission (2022) Survey on the Access to Finance of Enterprises (SAFE), Analytical Report, produced by Panteia, September-October 2022.

Figure 12: Assessment by EU-27 SMEs in different industries of importance (on a scale of 1 to 10) of various challenges and issues – September -October 2022



Note: The assessment reported in the figure above reflects the views of SMEs in the period of 7 September to 26 October 2022 (when the SAFE survey fieldwork was undertaken).

Source: SAFE survey

The “availability of skilled staff or experienced managers” and “costs of production or labour” were not only the two most important issues faced economy-wide by EU-27 SMEs in 2022, but they were also the two top issues across all industries (Figure 12).

The “availability of skilled staff or experienced managers” was also the most important issue faced by SMEs in 2022 in most Member States (Table 2), while “costs of production or labour” was the second most important issue in the vast majority of Member States.

Table 2: Economy-wide assessment by SMEs in Member States of importance (on a scale of 1 to 10) of various challenges and issues faced by SMEs – September - October 2022

	Finding customers	Competition	Access to finance	Costs of production or labour	Availability of skilled staff or experienced managers	Regulation
AT	6.2	5.5	4.2	6.7	7.7	5.2
BE	5.1	5.4	4.2	7.0	7.4	5.4
BG	7.2	6.3	4.8	7.7	7.9	6.1
CY	5.0	5.9	4.1	6.7	6.2	5.6
CZ	5.0	4.4	3.8	6.3	6.3	4.6
DE	5.8	5.0	3.9	6.5	7.3	5.3
DK	5.4	5.0	3.8	6.0	6.2	4.4
EE	4.0	5.3	4.0	6.0	6.2	3.7
EL	5.2	5.8	5.4	6.8	6.6	5.2
ES	6.0	6.0	4.8	7.3	6.3	5.4
EU-27	5.5	5.2	4.2	6.7	6.7	5.2
FI	3.8	4.9	3.4	5.5	6.2	4.0
FR	4.3	4.6	3.6	6.1	6.3	4.5
HR	3.4	3.9	3.5	5.5	5.9	4.5
HU	6.0	4.7	4.6	6.7	6.3	4.4
IE	5.9	5.5	4.1	7.2	7.1	5.0
IT	5.8	5.5	4.4	7.2	6.5	5.3
LT	5.6	6.5	4.9	6.8	5.5	4.9
LU	5.0	5.1	4.1	6.7	7.4	5.1
LV	5.4	5.6	4.2	6.9	6.1	4.8
MT	6.2	6.8	5.3	7.5	8.0	5.7
NL	4.2	4.3	3.1	5.8	6.7	4.8
PL	5.2	5.2	4.3	7.1	6.3	6.3
PT	6.2	6.0	5.2	7.5	7.2	6.0
RO	7.2	6.5	6.1	8.2	7.8	7.0
SE	4.3	4.8	3.2	5.1	5.9	4.1
SI	4.5	4.9	3.5	6.0	6.7	4.6
SK	4.5	4.6	3.8	6.0	6.5	4.3

Note: The assessment reported in the table above reflects the views of SMEs in the period of 7 September to 26 October 2022 (when the SAFE survey fieldwork was undertaken). The colours in the table correspond to the following values: red: 0-3, orange: 3-4, yellow: 4-5, light yellow: 5-6, light green: 6-7, green: 7-8, dark green: 8-10.

Source: SAFE survey

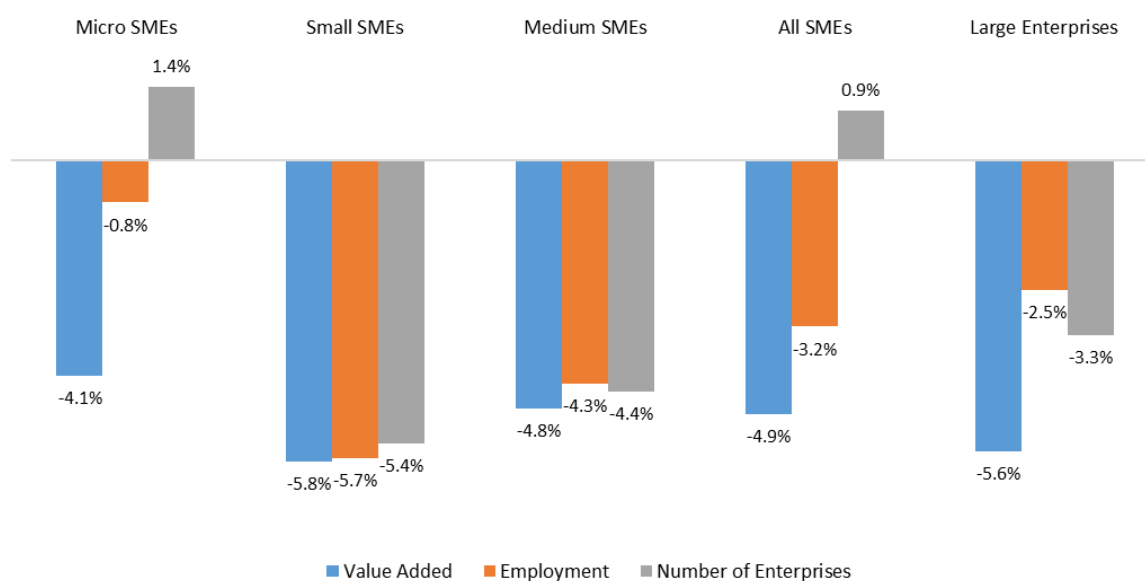
3.2 Surviving the pandemic - the economic performance of EU-27 SMEs in 2020, 2021, and 2022

This section first provides a quick overview of the performance of EU-27 SMEs in 2020 and 2021, the years of the pandemic. Next, it reviews the economy-wide performance of EU-27 SMEs in 2022, and then examines the performance for the same period of EU-27 SMEs in different industries. It also compares the performance of SMEs and large enterprises over the 2021-22 period and across Member States.

3.2.1 The performance of EU-27 SMEs in 2020 and 2021

All enterprise size classes in the EU-27 NFBS experienced a significant decline in nominal value added in 2020 (i.e. in the first year of the pandemic). The decline was more acute among larger enterprise size classes than for micro SMEs (Figure 13). Overall SME employment shrank in 2020 (-3.2%), but micro SMEs were less affected as their drop was smaller (-0.8%). The total number of SMEs increased in 2020 by 0.9%, but that increase is driven by micro SMEs. On the contrary, the number of small and medium entrepreneurship, as well as large enterprises, saw a significant drop. In short, in 2020, across all three performance indicators, micro SMEs experienced the least considerable decline, while small enterprises saw the most significant decline. During the pandemic, SMEs were somewhat more resilient, possibly thanks to state aid measures which were more oriented towards them. Especially when it comes to micro enterprises, numerous Member States converted small amounts of repayable instruments into direct grants, boosting their viability.

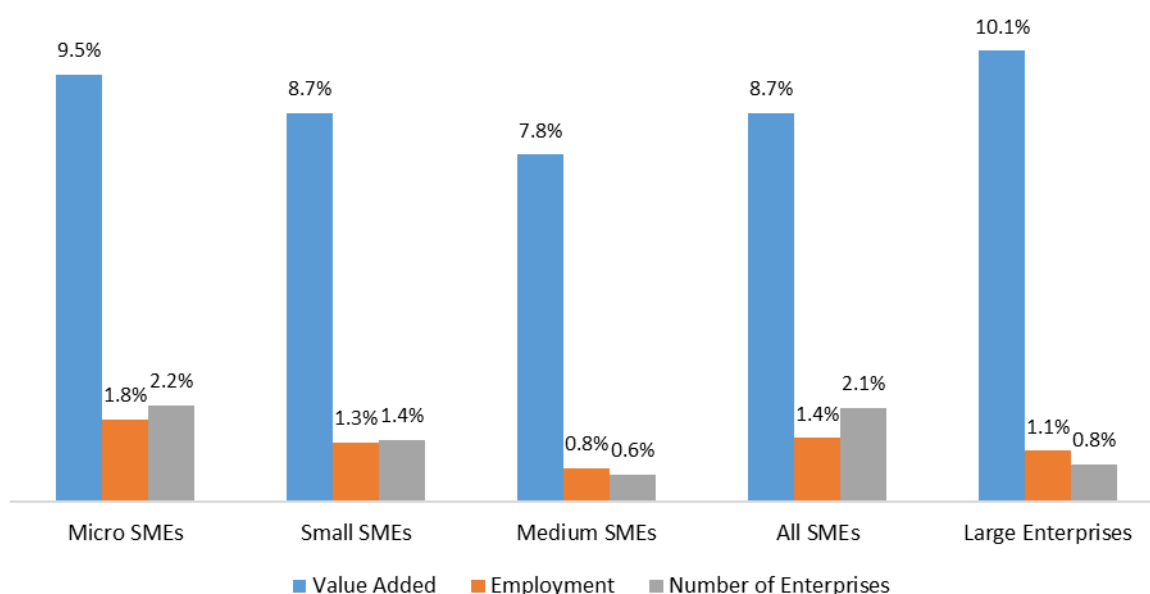
Figure 13: Annual change (in %) in 2020 of nominal value added, employment and number of enterprises in the EU-27 NFBS by enterprise size class



Source: Calculations by the JRC based on Eurostat's Structural Business Statistics, Short-Term Business Statistics and National Accounts Database

All enterprise size classes in the EU-27 NFBS experienced notable recovery in value added and less significant augmentation in employment and the number of enterprises in 2021, the second year of the pandemic (Figure 14). Micro SMEs performed the best within the SME population, showing the greatest growth in all key variables among the three SME size classes. Concerning large enterprises, the growth in value added is higher than in all SMEs sub classes.

Figure 14: Annual change (in %) in 2021 growth rates of nominal value added, employment and number of enterprises by enterprise size class



Source: Calculations by the JRC based on Eurostat's Structural Business Statistics, Short-Term Business Statistics and National Accounts Database

Note: Value added is not adjusted for inflation

3.2.2 The performance of EU-27 SMEs in 2022

As noted above, SMEs, especially micro SMEs, were impacted positively by the post-pandemic in 2021. However, EU-27 SMEs rebounded further in 2022, with their value added in the NFBS growing by 6.7% in 2022 and their employment increasing by 2.4% (Table 3).

This large difference between SME value added and employment growth in 2022 was due to two factors. Firstly, SME value added is measured in current prices and, as a result, the strong value added growth in 2022 partially reflects the high inflation environment of 2022. Secondly, the various Covid-19-related programmes put in place by governments in 2020 & 2021 supported SME employment, so that it fell by much less than SME value added. However, the corollary is that the rebound in SME value added was associated with only limited employment increases in 2022.

Meanwhile, comparing to 2021, large enterprises in the EU-27 NFBS fared once again slightly better in 2022 than SMEs, and, within the overall SME population, micro SMEs performed better than small and medium-sized SMEs.

As a result of the continuous strong rebound in 2021 and 2022, EU-27 SME value added (in current prices) was 10.3% higher in 2022 than in 2019. Similarly, EU-27 SME employment in 2022 was also 0.5% above its 2019 level.

Taking into account the inflation parameter, it becomes evident that the above-mentioned value added growth is fully absorbed by the high inflation rates¹⁵. The 6.7% growth in 2022 should not be misinterpreted, as in

¹⁵ The annual rate of growth in the inflation-adjusted value added generated by SMEs is defined as the annual rate of growth in SME value added at current prices divided by the all items Harmonised Index of Consumer Prices (HICP) inflation rate. Main components (Food, alcohol and tobacco, Energy, Non-energy industrial goods and Services) are not taken into account.

inflation adjusted terms, SMEs' value added declined by 2.3%. All size classes share a similar negative impact. The most significant fall, -3%, is observed in medium-sized enterprises. Inflation adjusted value added, expressed as the annual change in 2022 relative to 2019, follows a similar pattern, as all SMEs as an aggregate decline by 2.5%. Again, the most severe decline touches medium-sized and small SMEs (-3.9% and -3.7% respectively)¹⁶. It becomes clear that when taking inflation into account, most SMEs have still not reached their pre-crisis levels of 2019.

Table 3: Percentage change in value added (both nominal and real), employment and number of enterprises in 2022 compared to 2021 and 2019 by enterprise size class in the NFBS

	Annual change (in %) in 2022 relative to 2021				Cumulative change (in %) in 2022 relative to 2019			
	Value Added (not adjusted for inflation)	Value Added (adjusted for inflation)	Employment	Enterprises	Value Added (not adjusted for inflation)	Value Added (adjusted for inflation)	Employment	Enterprises
Micro SMEs	7.7%	-1.4%	3.0%	2.8%	13.1%	0.0%	4.1%	6.4%
Small SMEs	6.4%	-2.6%	2.3%	2.2%	9.0%	-3.7%	-2.3%	-2.0%
Medium-sized SMEs	5.9%	-3.0%	1.4%	1.2%	8.7%	-3.9%	-2.3%	-2.7%
Large enterprises	8.1%	-1.0%	1.8%	1.9%	12.4%	-0.7%	0.4%	-0.7%
All SMEs	6.7%	-2.3%	2.4%	2.7%	10.3%	-2.5%	0.5%	5.8%
Total	7.4%	-1.7%	2.2%	2.7%	11.3%	-1.6%	0.5%	5.8%

Source: Calculations by the JRC based on Eurostat's Structural Business Statistics, Short-Term Business Statistics and National Accounts Database

3.2.3 The performance of EU-27 SMEs in different industries in 2022

In 2022, SMEs grew in most of industries across all three parameters examined in this report (value added, employment and number of enterprises). Nevertheless, there is no clear pattern that a specific economic sector outperformed holistically over the others. Each industry possesses its own unique attributes and evolves independently. For instance, while employment and number of enterprises grew in almost all industries, inflation-adjusted value added grew in some industries but declined in others. Additionally, there is no clear evidence that a growth in the number of enterprises entails a similar increase in employment. This trend is stable over time, thus the 2022 figures do not diverge from the general pattern over the years.

SME value added increased in 2022, relative to 2021, in every industry (Table 4). The largest increases were recorded by the 'mining and quarrying' (23.0%), 'Water supply; sewerage, waste management and remediation activities' (20.0%) and 'Electricity, gas, steam and air conditioning supply' (18.1%) industries. Overall, SME value added was significantly higher in 2022 than in 2019 in every industry except 'accommodation and food services' where the fall is notable (-25.8%). Only in two sectors ('administrative and support services' and 'real estate activities') the increase is minor 5% (2.4% and 3.4% respectively).

However, when considering inflation rates, the conclusions for SME value added show a much more mixed picture: four industries experienced a growth across both comparisons, 2022 relative to 2021 and 2019, such as 'Water supply; sewerage, waste management and remediation activities' (9.9% and 20.0% respectively), or 'Electricity, gas, steam and air conditioning supply' (8.1% and 7.4%). On the other hand, a decline across both

¹⁶ Annual Inflation rates for 2022 and previous years can be found at <https://ec.europa.eu/eurostat/databrowser/view/TEC00118/default/table?lang=en>

comparisons took place in five industries, with the most representative cases being ‘real estate activities’ (-5.5% and -8.6% respectively) and ‘administrative and support services’ (-3.8% and -9.5%).

SME employment increased in 2022, compared to 2021, in all industries except ‘transportation and storage’ (-0.1%) (Table 4). The industries that performed best in 2022, compared to 2021, included ‘real estate activities’ (4.4%) and ‘information and communication’ (3.6%). Concerning the cumulative period 2019 to 2022, the industries which accounted for the largest increases in SME employment are ‘construction’ and ‘information and communication’, with increases of 7.2% and 9.8%, respectively. SME employment was higher in 2022 than in 2019, albeit sometimes only marginally higher, in only a further four industries (‘professional, scientific and technical activities’ (2.7%), ‘mining and quarrying’ (0.2%), ‘water supply; sewerage, waste management and remediation activities’ (2.2%) and ‘real estate activities’ (2.1%)).

The number of SMEs also increased in 2022, compared to 2021, in every industry. The growth is less than 0.5% only in ‘wholesale and retail trade’ (0.2%) (Table 4). On the other hand, the largest increases occurred in the ‘accommodation and food services’ (11.5%) and ‘real estate activities’ (4.4%) industries. As a result, the number of SMEs was higher in 2022 than in 2019 in every industry except ‘electricity, gas, steam and air conditioning supply’ (-2.7%). The largest increases between 2019 and 2022 were in the ‘information and communication’ (12.6%) and ‘construction’ (10.0%) industries. In contrast, the smallest increases in the number of enterprises between 2019 and 2022 were in the ‘wholesale and retail trade’ (0.5%) and ‘manufacturing’ industry (1.9%).

Table 4: Change (in %) in SME value added (both nominal and real), employment and number of enterprises in 2022 compared to 2021 and 2019 in different industries

	Annual change (in %) in 2022 relative to 2021				Cumulative change (in %) in 2022 relative to 2019			
	Value Added (not adjusted for inflation)	Value Added (adjusted for inflation)	Employment	Enterprises	Value Added (not adjusted for inflation)	Value Added (adjusted for inflation)	Employment	Enterprises
Mining and quarrying	23.0%	12.6%	0.8%	1.4%	21.4%	7.3%	0.2%	2.6%
Manufacturing	5.6%	-3.3%	1.2%	1.3%	7.5%	-5.0%	-1.1%	1.9%
Electricity, gas, steam and air conditioning supply	18.1%	8.1%	2.3%	0.7%	21.5%	7.4%	0.0%	-2.7%
Water supply; sewerage, waste management and remediation activities	20.0%	9.9%	0.7%	1.2%	35.8%	20.0%	2.2%	2.9%
Construction	3.0%	-5.6%	2.3%	2.6%	11.5%	-1.4%	7.2%	10.0%
Wholesale and retail trade	9.8%	0.6%	0.0%	0.2%	21.6%	7.4%	-1.1%	0.5%
Transportation and storage	10.1%	0.8%	-0.1%	0.6%	10.4%	-2.4%	-2.5%	5.0%
Accommodation and food services	10.4%	1.1%	11.6%	11.5%	-25.8%	-34.4%	-4.0%	9.6%
Information and communication	2.7%	-5.9%	3.6%	3.7%	15.2%	1.9%	9.8%	12.6%

Real estate activities	3.2%	-5.5%	4.4%	4.3%	3.4%	-8.6%	2.1%	8.4%
Professional, scientific and technical activities	4.4%	-4.4%	2.6%	3.0%	10.0%	-2.8%	2.7%	7.8%
Administrative and support services	5.1%	-3.8%	1.8%	2.7%	2.4%	-9.5%	-1.5%	6.7%
TOTAL	6.7%	-2.3%	2.4%	2.7%	10.3%	-2.5%	0.5%	5.8%

Source: Calculations by the JRC based on Eurostat's Structural Business Statistics, Short-Term Business Statistics and National Accounts Database

The cumulative growth in the number of SMEs reflects in part the considerable financial assistance provided by governments to SMEs and large enterprises in 2020 and 2021, and the range of measures taken by many Member States to prevent a large rise in business bankruptcies. Such measures included forbearance by creditors, temporary suspensions of the legal rules relating to when company directors or owners must file for bankruptcy, and temporary closures of the legal and administrative entities dealing with bankruptcy declarations. 2022 might be a turning point though, as financial support programmes provided by Member States expired, the borrowing costs have been growing due to rising interest rates, and labour and input costs have increased. Moreover, there is a time lag of several months between changes in the economic climate and the entailed bankruptcies, thus what has been happening since 2022 may provoke numerous bankruptcies in 2023.

3.3 Comparison of the performance of SMEs and large enterprises in the EU-27 NFBS over the period 2020-2022 in different industries

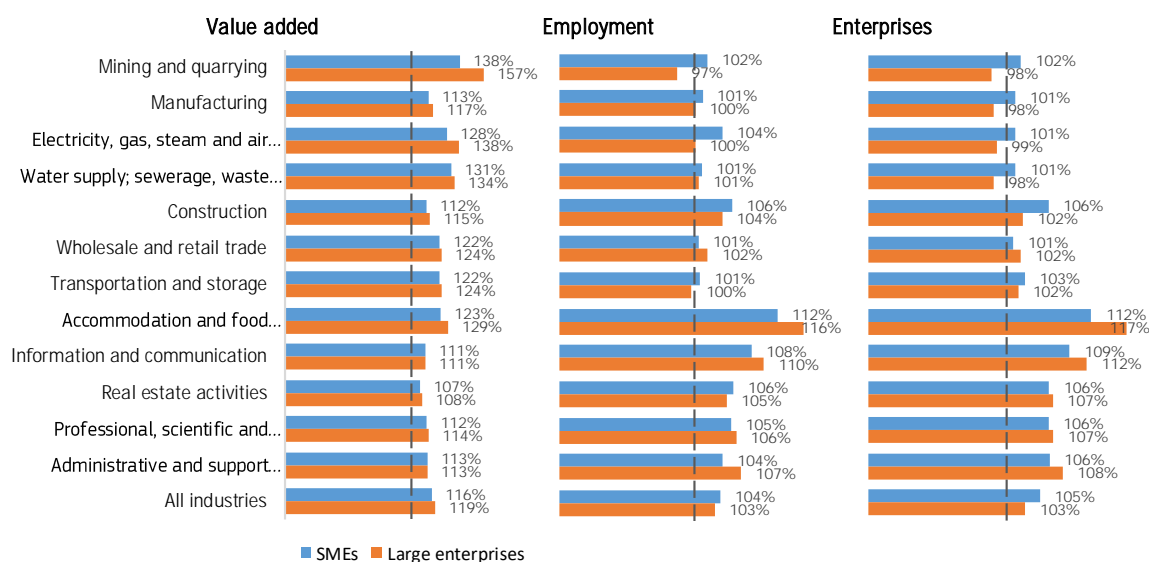
Cumulatively, over the period 2020-2022, SMEs performed less well than large enterprises in terms of value added, and this difference is consistent over time, as since 2008 large enterprises perform better than SMEs. When it comes to employment and the number of enterprises, SMEs performed slightly better than large enterprises between 2020 and 2022. During the previous years, however, large enterprises often prevailed over SMEs in employment terms, while the opposite inclination was evident for number of enterprises. Overall, and despite some minor differences, SMEs and large enterprises have performed similarly for the period 2020-2022.

In the case of value added (Figure 15), SMEs didn't outperform large enterprises in any industry. Nevertheless, in two industries, 'administrative and support services' and 'information and communication' the performance was equal.

Despite the fact that SMEs are outperforming large enterprises in terms of employment, the differences are generally only small. Out of 12 industries, in 6 of them SMEs outperformed large enterprises, but only in 3 industries by more than 1 percentage point (pp). Those industries are 'mining and quarrying', 'construction', and 'electricity, gas, steam and air conditioning supply'. On the other hand, there are three industries that underperformed, compared to large enterprises, by more than 1pp: 'administrative and support services', 'information and communication', and 'accommodation and food services'.

Similarly to the case with employment, SMEs tended to outperform large enterprises in terms of growth in number of enterprises, but the differences once again are small. The differences were largest in the 'mining and quarrying', 'manufacturing' and 'Water supply; sewerage, waste management and remediation activities' industries. Again, the industries in which large enterprises outperformed SMEs by more than 1pp were the 'administrative and support services', 'information and communication' and 'accommodation and food services' industries.

Figure 15: Level of EU-27 SME and large enterprise value added, employment and enterprises in NFBS industries in 2022 as a percentage of 2020 levels.



Source: Calculations by the JRC, based on Eurostat's Structural Business Statistics, Short-Term Business Statistics and National Accounts Database

Note: Value added is not adjusted for inflation

3.4 SME performance in 2022 relative to 2020 by knowledge intensity and by 2-digit NACE industry classification

Information regarding the performance of EU-27 SMEs in 2022, relative to 2020, in industries of different knowledge and technology intensities is provided in Annex 7. Both knowledge-intensive and low knowledge-intensive industries experienced an increase in SME value added measured in current prices, employment, and number of SMEs between 2020 and 2022. The growth of value added of low knowledge-intensive industries reaches +19%. High-, medium-, and low-tech industries saw similar trends across the three SME performance indicators, with significantly higher value added (measured in current prices) in 2022 than in 2020, and mildly higher levels of employment and number of enterprises. Nevertheless, both knowledge-intensive and high-tech industries constitute the two categories where value added adjusted for inflation experienced a decrease of 0.4% and 1.4% respectively. Long term trends show that both knowledge-intensive and low knowledge-intensive industries share the same behavioural pattern: in most years the growth of one category coincides with a growth experienced by the other. Still, the more significant growth of knowledge-intensive industries in terms of number of enterprises is observed every year since 2009. Concerning the remaining two examined parameters, there is no clear prevailing category, as the growth or fall percentages are akin on a yearly basis.

Annex 7 also provides information on the performance of SMEs at much more granular level of industrial breakdown. SMEs in several of these more narrowly defined industries experienced an increase in all three performance indicators of more than 5% between 2020 and 2022. In total, 17 of them achieved such a growth. These industries are part of the 'accommodation and food service' industry and the 'information and communication' industry. Some of them constitute the 'professional, scientific and technical activities' industry and there are few exceptional cases like office administrative, office support and other business support activities in the 'administrative and support services', 'mining of coal and lignite' in the 'mining and quarrying' industry or 'construction of buildings' in the 'construction' industry. In contrast, no narrowly defined industry showed a decrease in all three SME indicators of more than -5% between 2020 and 2022.

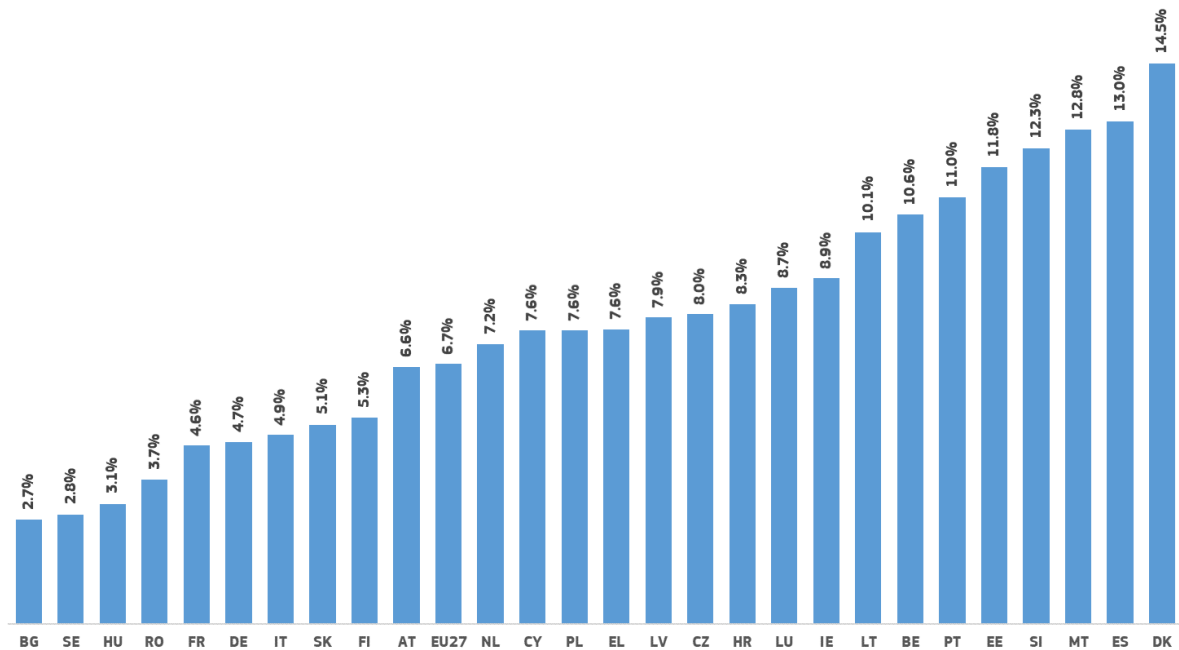
3.5 Comparison of SME performance by EU-27 Member State in 2022

SME value added grew in all Member States in 2022, with SMEs in four Member States achieving value added growth greater than 12%: DK (14.5%), ES (13.0%), MT (12.8%) and SI (12.3%) (Figure 16). The level of SME value added was also higher in 2022 than in 2020 in every Member State (Figure 18). Almost half of them saw significant increase in SME value added of more than 20% since 2020, with two Member States even over 35%, i.e SI (36.7%) and MT (35.2%).

Taking inflation into account paints a much different picture (Figure 19). Concerning SME value added in 2022, only eight Member States (MT, DK, ES, SI, PT, IE, LU, BE) managed to experience actual growth. For three of them, growth exceeds 4%: MT (6.5%), DK (5.5%) and ES (4.3%). On the other hand, nine Member States observed a fall of at least -5%: HU, BG, LV, RO, LT, EE, SK, CZ and PL. All these countries joined the European Union as from 2004 onwards and some of them may have been particularly affected by the exposure of their economies to the Russian war of aggression against Ukraine, for example through particularly disrupted supply chains and energy deliveries.

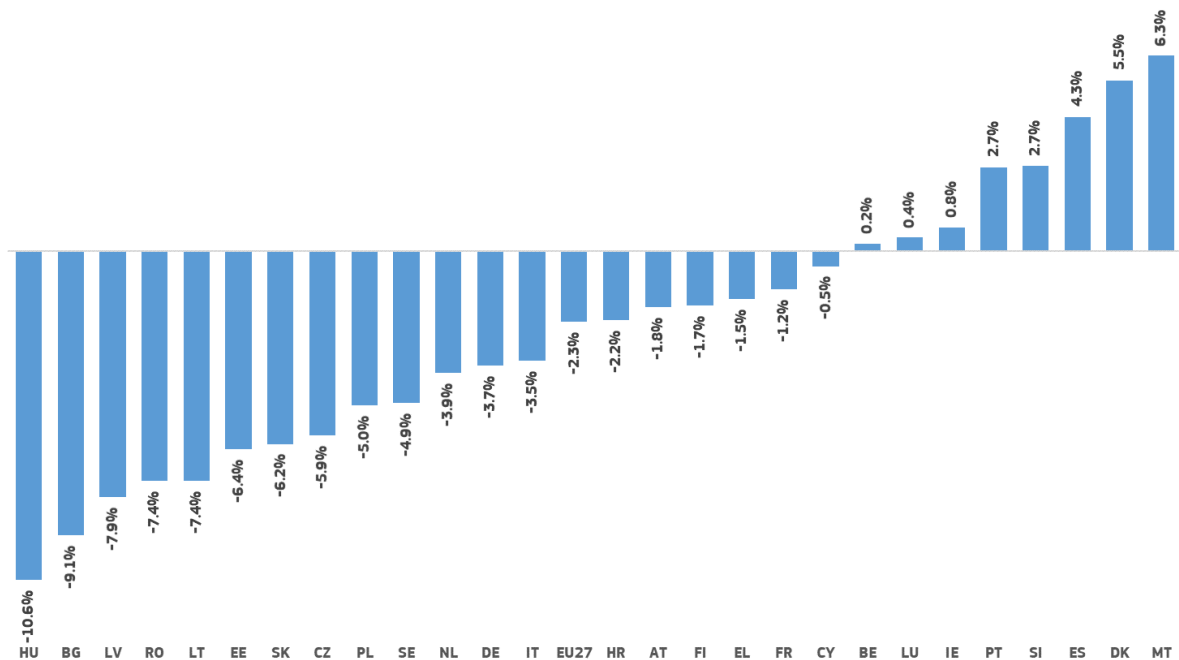
Regarding the adjusted for inflation annual growth rate of SME value added in 2022 compared to 2020, only four Member States experienced a decline: SK (-5.4%), PL (-1.7%), DE (-0.9%) and RO (-0.5%). Furthermore, the countries with the highest increases are MT (26.5%), SI (22.6%), DK (15.5%), ES (13.8%) and EL (11.4%).

Figure 16: Annual growth rate of nominal SME value added in the NFBS in 2022 in the EU-27 and across EU Member States



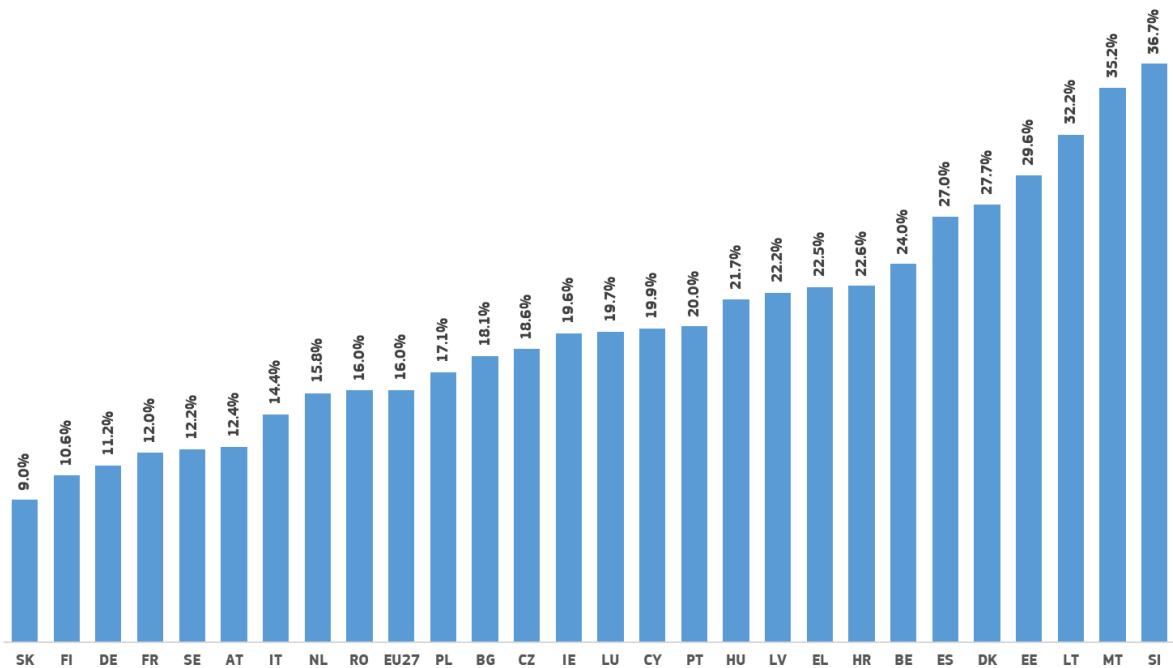
Source: Calculations by the JRC based on Eurostat's Structural Business Statistics, Short-Term Business Statistics and National Accounts Database
 Note: Value added is not adjusted for inflation

Figure 17: Annual growth rate of SME adjusted for inflation value added in the NFBS in 2022 in the EU-27 and across EU Member States



Source: Calculations by the JRC based on Eurostat's Structural Business Statistics, Short-Term Business Statistics and National Accounts Database

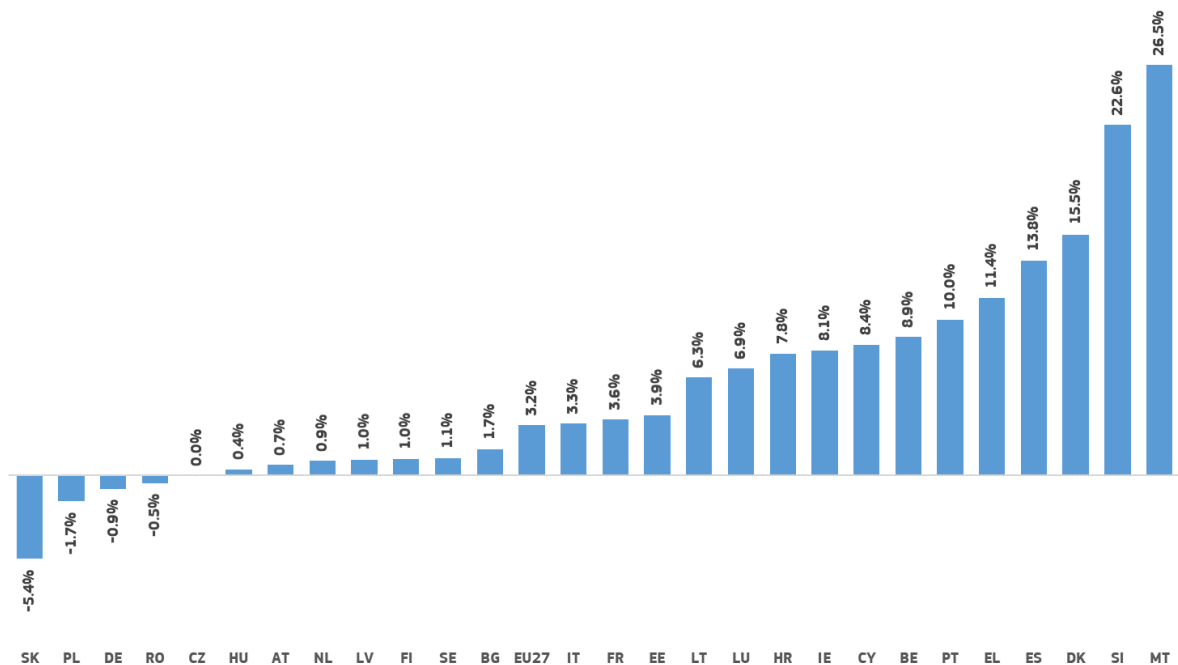
Figure 18: Percentage change in nominal SME value added in 2022 compared to 2020 in the NFBS of the EU-27 and across EU Member States



Source: Calculations by the JRC based on Eurostat's Structural Business Statistics, Short-Term Business Statistics and National Accounts Database

Note: Value added is not adjusted for inflation

Figure 19: Percentage change in SME adjusted for inflation value added in 2022 compared to 2020 in the NFBS of the EU-27 and across EU Member States

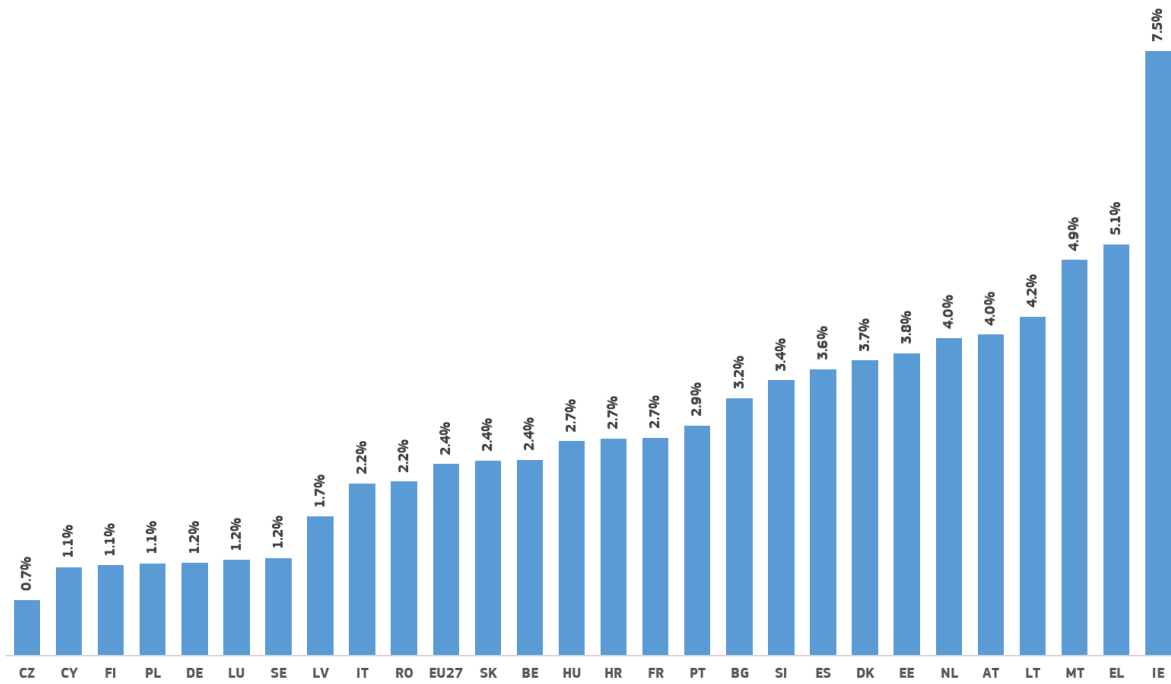


Source: Calculations by the JRC based on Eurostat's Structural Business Statistics, Short-Term Business Statistics and National Accounts Database

SME employment situation in 2022 improved across all EU-27 Member States, generally by between 1.0% and 4.0%. Four of them achieved a higher growth of 4% [IE (7.5%), EL (5.1%), MT (4.9%) and LT (4.2%)] and only one increased by less than 1% [CZ (0.7%)] (Figure 20). SME employment also increased between 2020 and 2022 in the vast majority of Member States. Only LV experienced a decline of 0.1% in SME employment during this period, with four Member States registering on the other hand a significant growth, higher than 7%. These are IE (11.7%), LT (8.2%), MT (7.8%) and PT (7.1%) (Figure 21).

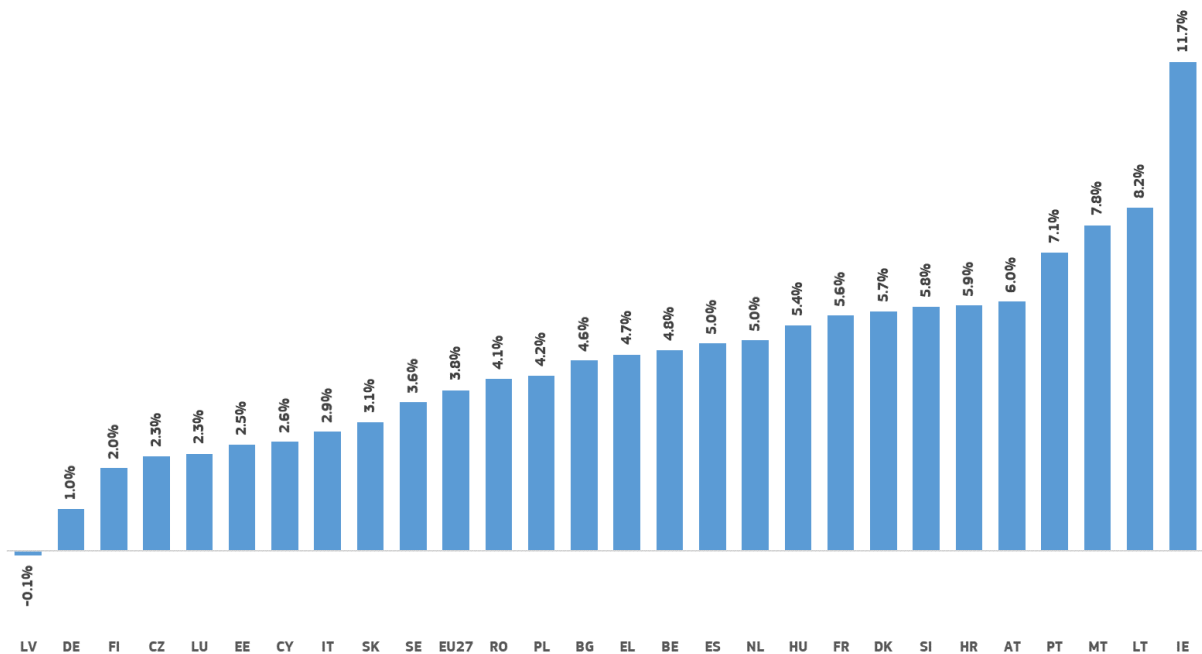
Annex 6 provides similar information on the number of SMEs across Member States.

Figure 20: Annual growth rate of SME employment in 2022 in the EU-27 and across EU Member States



Source: Calculations by the JRC based on Eurostat's Structural Business Statistics, Short-Term Business Statistics and National Accounts Database

Figure 21: Percentage change in SME employment in 2022 compared to 2020 in the EU-27 and across EU Member States



Source: Calculations by the JRC based on Eurostat's Structural Business Statistics, Short-Term Business Statistics and National Accounts Database

3.6 The evolution of the SME population in recent years

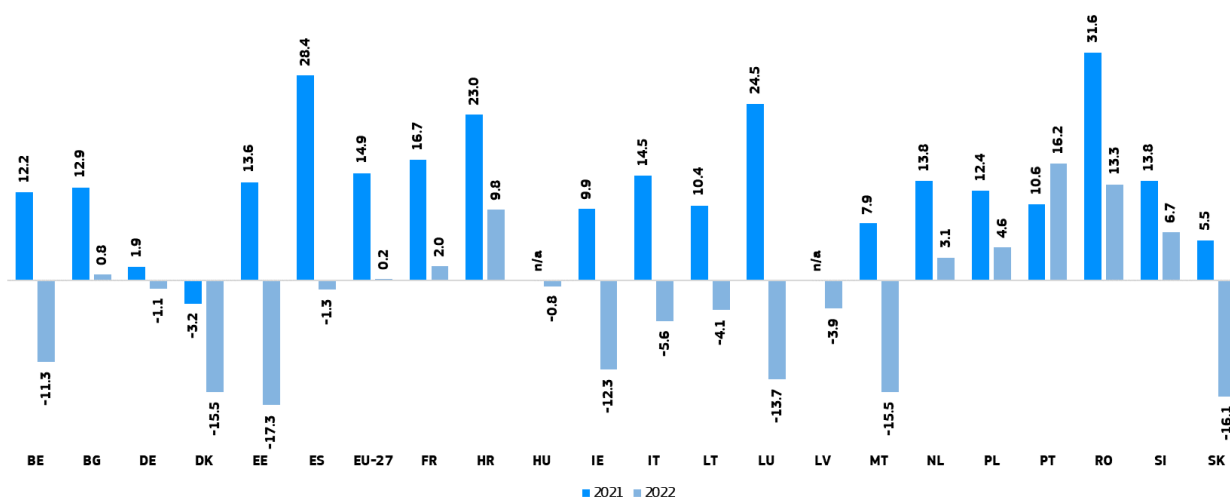
While the previous paragraphs reviewed in detail how SMEs fared during previous years, the following analysis looks at some of the factors that drove the dynamics of the SME population during 2021 and 2022, mainly focusing on new business registrations and bankruptcies, as reported by Eurostat.

Business births, as reflected by the number of new business registrations, were positively impacted in 2021, but 2022 figures show an opposite trend. In contrast, the picture of business deaths is the opposite as, in many Member States, the number of bankruptcies fell during 2021, but bounced back one year later.

The latest figures on business registrations from Eurostat show that the number of new business registrations increased substantially (by 14.9%) in the EU-27 in 2021 (Figure 22). This marked growth was followed by an insignificant further increase 0.2% in new EU-27 business registrations in 2022. Although the figures refer to the total number of enterprises being registered, they provide a good indication of the impact of the post Covid-19 era on new registrations of SMEs as, typically, almost all businesses which were being registered were SMEs.

Of the 21 Member States for which information on new business registrations is available, only DK recorded a decrease in such registrations in 2021. Otherwise the data shows a marked recovery in new business registrations in most Member States, with 14 Member States experiencing a double-digit growth (in percentage terms) in new business registrations. On the other hand, 13 Member States underwent decline in business registrations during 2022, and in 7 of them this was bigger than 10%. Only 8 Member States (BG, FR, HR, NL, PL, PT, RO and SI) experienced growth in business registrations for both years.

Figure 22: Annual percentage change in business registrations in 2021 and 2022

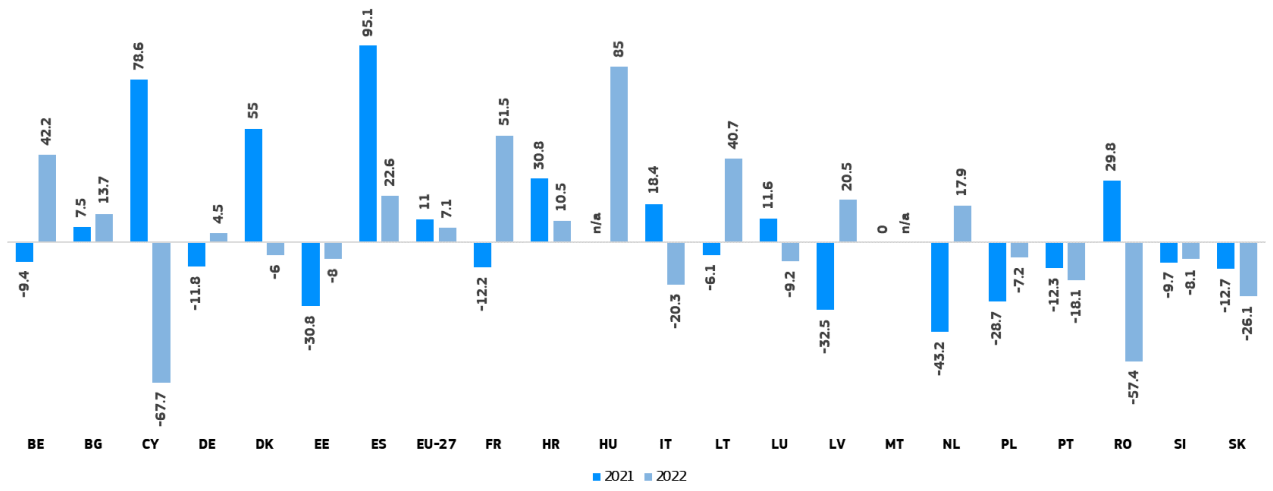


Source: Eurostat

Business bankruptcy declarations increased in 2021 in the EU-27 and in several Member States (Figure 23). Among the 21 Member States for which detailed information is available, only eight recorded an increase, varying from 8% to 95%. Eleven experienced a decline, and for seven of them it was a double-digit fall (in percentage terms).

The increase of bankruptcy declarations in 2021 at the EU level was retained in 2022, as it reached 7.1%. In total, 10 Member States experienced growth in bankruptcies, most of them notably so, as the growth is higher than 10% in all relevant cases except DE (4.5%). Still, ten Member States showed a fall in bankruptcy declarations, five of them remarkably so: CY (-67.7%), RO (-57.4%), SK (-26.1%), IT (-20.3%) and PT (-18.1%).

Figure 23: Annual percentage change in business bankruptcy declarations in 2021 and 2022



Source: Eurostat

4 The expected performance of EU-27 SMEs in 2023

This chapter presents the expected performance of EU-27 SMEs in 2023. It first discusses the projected annual growth in 2023 of SME value added, employment, and the number of SMEs in the EU-27 overall, by Member State, and by industry. Next, the chapter examines whether SMEs are expected to keep up their recovery from the pandemic in 2023 and to weather the emerging challenges of historically high inflation, increasing interest rates, high energy prices, and the Russian war of aggression against Ukraine. Our goal is to estimate 2023 levels of value added, employment, and number of enterprises.

The projections presented in the present chapter are mainly based on the Autumn 2022 Economic Forecast of the European Commission. The Spring 2023 Economic Forecast, released after the calculations of the projections presented here, revises economic growth slightly upwards but overall confirms the direction presented in these projections. The details of how these projections are generated are provided in a companion *Methodology Note* available on the European Commission's SME Performance Review web page.¹⁷

4.1 Projected annual growth in key EU-27 SME performance indicators in 2023

All things accounted for, especially the persistently high inflation rates, 2023 is expected to see an EU-wide SME decline on both value added and employment, but the number of firms is expected to grow. All enterprise size classes are expected to experience growth in value added, when expressed in current prices, although the inflation-adjusted value added is actually expected to decrease as inflation in the EU was forecast to reach around 6%¹⁸. (Table 5). Micro enterprises are expected to perform better in employment and number of enterprises, and their decline in adjusted for inflation value added is expected to be limited to 0.8%. All other size classes are expected to shrink in terms of value added adjusted for inflation (medium-sized SMEs will face the most significant fall at -1.5%, and the decrease for all SMEs is expected to be equal to -1.2%), employment, and number of enterprises. Concerning SMEs employment, the most significant decline is expected for medium-sized enterprises (-0.9%).

Table 5: Projected annual growth in 2023 of value added (both nominal and real), employment and number of enterprises – SMEs and large enterprises

	Value Added (not adjusted for inflation)	Value Added (adjusted for inflation)	Employment	Number of Enterprises
Micro SMEs	5.6%	-0.8%	0.5%	0.4%
Small SMEs	5.0%	-1.3%	-0.5%	-0.8%
Medium-sized SMES	4.8%	-1.5%	-0.9%	-1.2%
Large enterprises	5.2%	-1.1%	-0.4%	-0.7%
All SMEs	5.2%	-1.2%	-0.2%	0.3%
Total	5.2%	-1.1%	-0.2%	0.3%

Source: Calculations by the JRC based on **the European Commission's Autumn 2022 Economic Forecast**, **Eurostat's Structural Business Statistics**, **Short-Term Business Statistics** and **National Accounts Database**

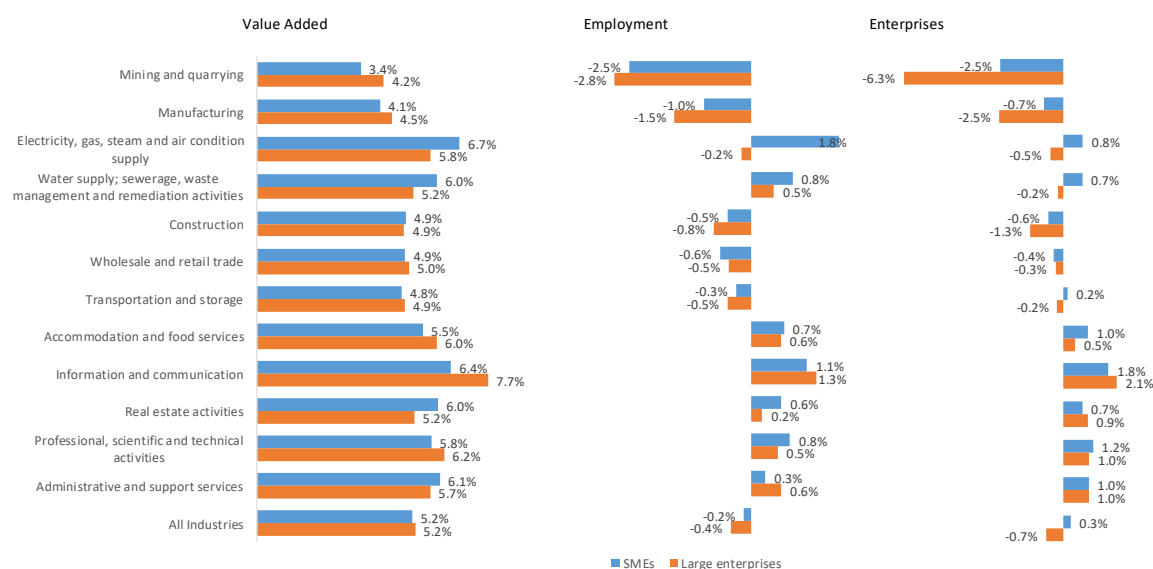
4.2 Projected EU-27 SME and large enterprise growth in value added, employment and number of enterprises in 2023, by industry

¹⁷ https://ec.europa.eu/growth/smes/sme-strategy/sme-performance-review_en.

¹⁸ Forecasted 2023 annual inflation rates can be found at Winter 2023 European Economic Forecast (https://economy-finance.ec.europa.eu/ecfin-publications_en).

SMEs and large enterprises are expected to perform similarly in 2023 and to generate increases in value added in current prices in every industry (NACE 1-digit) (Figure 24). However, SMEs are expected to increase their value added at a faster rate than large enterprises in four industries: ‘electricity, gas, steam and air condition supply’, ‘water supply; sewerage, waste management and remediation activities’, ‘real estate activities’, and ‘administrative and support services’. The industries in which SME value added is expected to increase the greatest in 2023 are ‘electricity, gas, steam and air conditioning supply’ (6.7%) and ‘information and communication’ (6.4%).

Figure 24: Projected annual growth in nominal SME and large enterprise value added, employment and number of enterprises in 2023 by industry



Source: Calculations by the JRC based on **the European Commission’s Autumn 2022 Economic Forecast**, **Eurostat’s Structural Business Statistics**, **Short-Term Business Statistics** and **National Accounts Database**
 Note: Value added is not adjusted for inflation

In general, SME and large enterprise employment is expected to slightly decrease in 2023 (Figure 24). In six out of twelve industries, SMEs and large enterprises are forecasted to augment their employment. Moreover, there is one industry, ‘electricity, gas, steam and air condition supply’ in which an increase is estimated for SMEs only (of 1.8%, while large enterprises are expected to decline by 0.2%. Regarding the five remaining industries, the foreseen decreases vary from negligible percentages to the more significant 2.5% fall in SME employment and 2.8% fall in large enterprises’ employment in the ‘mining and quarrying’ industry.

SMEs are expected to increase employment faster than large enterprises in the ‘electricity, gas, steam and air conditioning supply’, ‘water supply; sewerage, waste management and remediation activities’, ‘accommodation and food services’, ‘real estate activities’, and ‘professional, scientific and technical activities’ industries. The ‘electricity, gas, steam and air conditioning supply’ industry particularly stands out, with much higher expected SME employment growth (1.8%) than in any other industry.

As already commented, in the case of the employment projections, there are five industries in which the number of SMEs and large enterprises is expected to decline. These industries are ‘mining and quarrying’, ‘manufacturing’, ‘construction’, ‘wholesale and retail trade’, and ‘transportation and storage’ (Figure 24). The most noticeable decline is expected in ‘mining and quarrying’, -2.5% and -2.8% for SMEs and large enterprises respectively.

The number of SMEs is projected to increase to a greater extent than the number of large enterprises in five industries: ‘electricity, gas, steam and air conditioning supply’, ‘water supply; sewerage, waste management and remediation activities’, ‘transportation and storage’, ‘accommodation and food services’ and ‘professional, scientific and technical activities’. The number of SMEs is forecast to increase by more than 1.5% in the ‘information and communication’ industry. There are also four industries that are expected to decrease in matter of SME enterprises: ‘mining and quarrying’, ‘manufacturing’, ‘construction’, and ‘wholesale and retail

trade'. In total and for all industries as an overall, SMEs are expected to grow by 0.3% and large enterprises to decline by 0.7%.

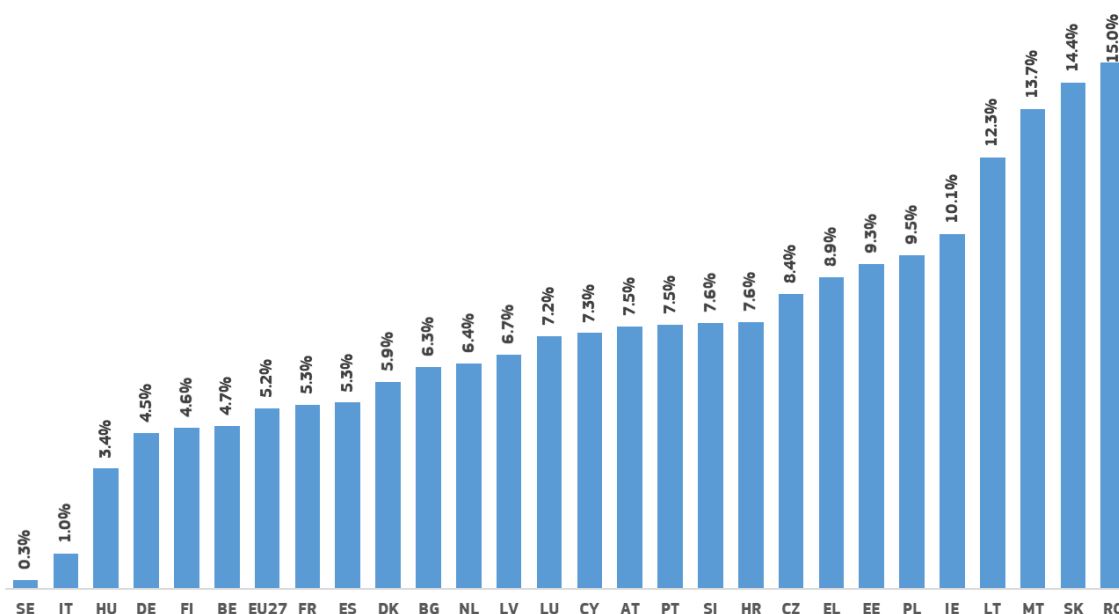
4.3 Expected growth of SME value added and employment and number of SMEs in EU-27 Member States in 2023

SMEs in all Member States are expected to experience increases in value added measured in current prices, but some of them are expected to see decreases in terms of employment and number of enterprises in 2023. (Figure 25: Expected growth in nominal SME value added in the EU-27 and across EU-27 Member States in 2023 to Figure 27).

Notably, the expected growth in SME value added for four countries is higher than 12% (RO, SK, MT & LT). Regarding the inflation adjusted value added, 9 Member States are expected to experience a decrease, and only in two cases this fall will be bigger than 5% (SE: -5.7%, and HU: -11.1%). On the other hand, value added is expected to increase in 18 Member States even when adjusted for inflation.

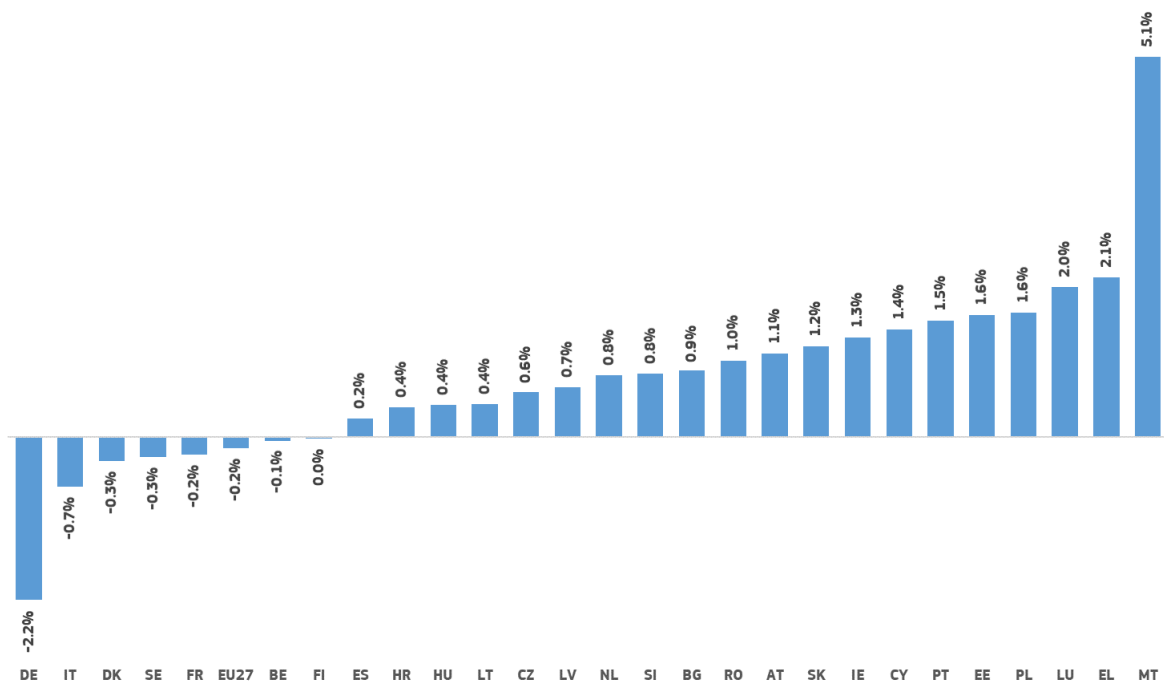
Concerning the other performance indicators, only MT is forecasted to experience SME employment growth bigger than 2.5%, and only two Member States (LU & MT) are expected to run into growth higher than 2.5% in the number of SMEs. Six Member States and the EU27 as an overall are expected to undergo a decline. The most significant drop is expected in two of the biggest EU economies, DE (2.2%) and IT (0.7%). These two Member States are expected to encounter the most severe drop in terms of number of SMEs as well. The decline expected equals to 1.9% for DE and 0.5% for IT.

Figure 25: Expected growth in nominal SME value added in the EU-27 and across EU-27 Member States in 2023



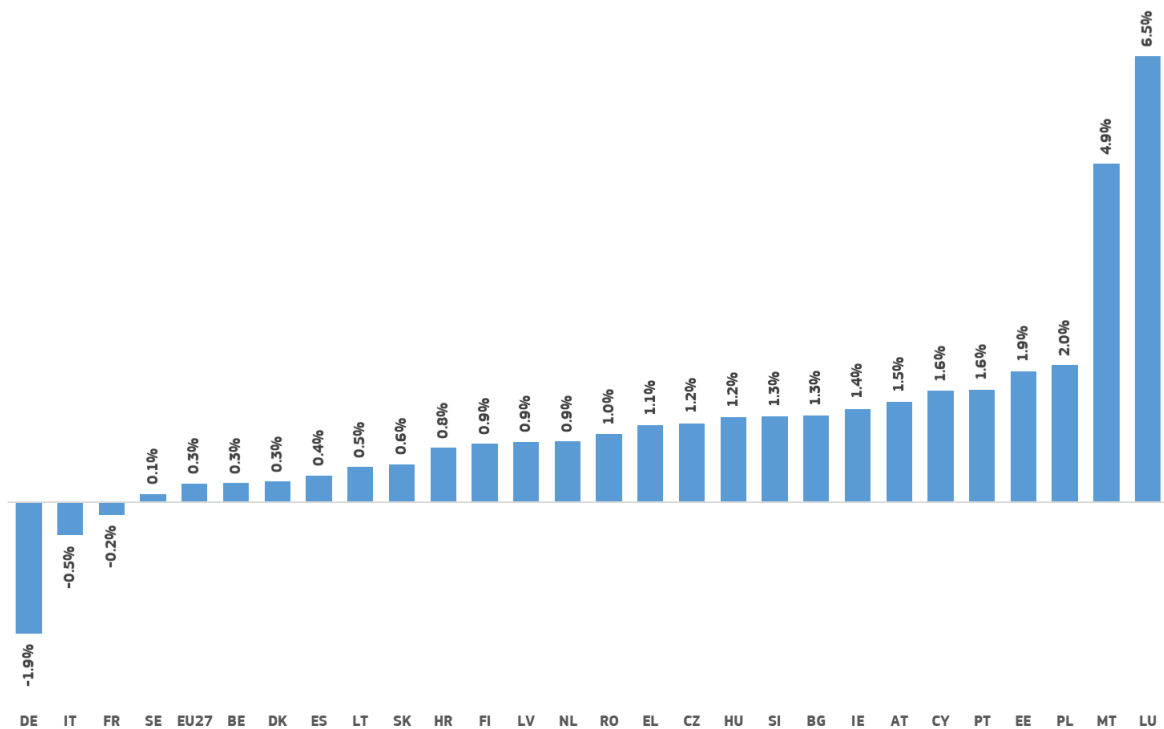
Source: Calculations by the JRC based on **the European Commission's Autumn 2022 Economic Forecast**, **Eurostat's Structural Business Statistics**, **Short-Term Business Statistics** and **National Accounts Database**
 Note: Value added is not adjusted for inflation

Figure 26: Expected growth in SME employment in the EU-27 and across EU-27 Member States in 2023



Source: Calculations by the JRC based on **the European Commission's Autumn 2022 Economic Forecast**, **Eurostat's Structural Business Statistics**, **Short-Term Business Statistics** and **National Accounts Database**

Figure 27: Expected growth in the number of SMEs in the EU-27 and across EU-27 Member States in 2023



Source: Calculations by the JRC based on **the European Commission's Autumn 2022 Economic Forecast**, **Eurostat's Structural Business Statistics**, **Short-Term Business Statistics** and **National Accounts Database**

Looking further ahead, growth in the number of SME enterprises is likely to be slowed down, at least temporarily, by a rise in the number of bankruptcies in those Member States in which the number of bankruptcies was lower than normal during the pandemic.

4.4 Key SME performance indicators in 2023 relative to their pre-pandemic levels of 2019

4.4.1 Expected recovery of EU-27 SMEs by size classes

Even in 2023, SMEs still struggle to reach their pre-pandemic levels. In terms of number of enterprises, SMEs are expected to exceed the 2019 performance mainly due to micro SMEs. Employment is expected to be restored to 2019 levels and value added expressed in current prices is expected to surpass pre-pandemic levels, although when adjusted for inflation, value added still remains below 2019 levels.

In 2023, all enterprise size classes are expected to surpass – measured in current prices – their value added level of 2019 (Table 6). Micro and large enterprises are expected to recover from the pandemic faster than other size classes, hence increasing respectively their value added by 19.4% and 18.3% in 2023 relative to 2019. However, taking into account the inflation parameter, no size class is expected to fully recover to its pre-crisis levels of 2019, with micro SMEs being expected to get the closest to their 2019 levels (0.8% below 2019), while small and medium-sized SMEs are expected to stay below their 2019 levels by 4.9% and 5.4% respectively. Value added for all SMEs as a joint size class, adjusted for inflation, is expected to decrease by 3.6% as compared to 2019.

Micro enterprises are predicted to be the best performing size class in terms of employment, with their 2023 level of employment expected to be 104.6% of their 2019 level. This means that SMEs as a whole are expected to recover to their 2019 level of employment by 2023, despite a weaker predicted recovery for small (97.2%) and medium-sized (96.9%) enterprises. Employment in large enterprises is expected to be the same in 2023 as its 2019 level.

Micro enterprises are also the only enterprise size class expected to show an increase (of 6.8%) in the number of enterprises in 2023, compared to 2019. The other enterprise size classes are expected to observe decreases in the number of enterprises compared to 2019, varying from 3.9% for medium-sized SMEs to 1.4% for large enterprises.

Table 6: Expected EU-27 value added, employment and number of enterprises in 2023 as a percentage of their 2019 values, by enterprise size class

	Value Added (not adjusted for inflation)	Value Added (adjusted for inflation)	Employment	Number of Enterprises
Micro SMEs	119.4%	99.2%	104.6%	106.8%
Small SMEs	114.5%	95.1%	97.2%	97.3%
Medium-sized SMEs	113.9%	94.6%	96.9%	96.1%
Large enterprises	118.3%	98.2%	100.0%	98.6%
All SMEs	116.0%	96.4%	100.4%	106.1%
Total	117.1%	97.3%	100.2%	106.1%

Source: Calculations by the JRC based on **the European Commission's Autumn 2022 Economic Forecast**, **Eurostat's Structural Business Statistics**, **Short-Term Business Statistics** and **National Accounts Database**

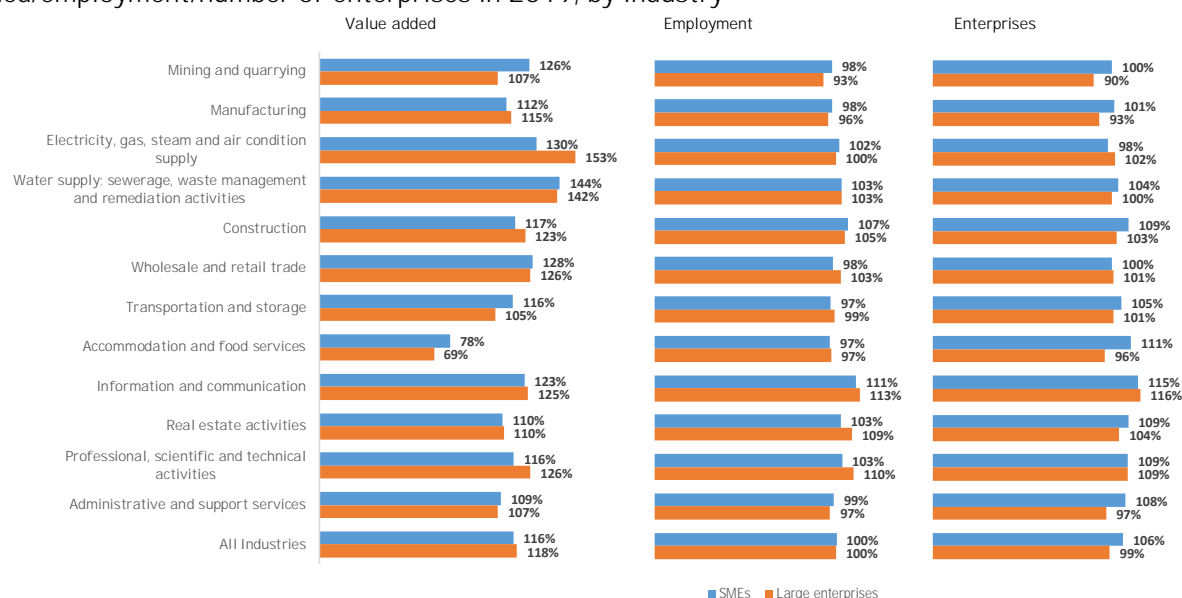
Note: Value added is not adjusted for inflation

4.4.2 Expected recovery of EU-27 SMEs in different industries

'Accommodation and food services' is the only industry (at the 1-digit NACE classification level) in which the value added generated by SMEs and large enterprises in 2023 is projected to remain below its 2019 level by respectively 22% and 31% (Figure 28), measured in current prices. The largest nominal increases in SME value

added between 2019 and 2023 are expected in the ‘water supply, sewerage, waste management and remediation activities’, ‘electricity, gas, steam and air conditioning supply’, and ‘wholesale and retail trade’ industries, with SME value added in these three industries projected to be from 28% to 44% higher in 2023 than in 2019. ‘Mining and quarrying’ and ‘water supply, sewerage, waste management and remediation activities’, ‘wholesale and retail trade’, ‘transportation and storage’, and ‘administrative and support services’ are the five industries in which SMEs are projected to observe a higher percentage increase in value added than large enterprises.

Figure 28: Expected EU-27 SME and large enterprise value added/employment/number of enterprises in 2023 as a proportion of EU-27 SME and large enterprise value added/employment/number of enterprises in 2019, by industry



Source: Calculations by the JRC based on **the European Commission's Autumn 2022 Economic Forecast**, **Eurostat's Structural Business Statistics**, **Short-Term Business Statistics** and **National Accounts Database**
 Note: Value added is not adjusted for inflation

By 2023, SMEs are expected to have recovered to their 2019 employment level, or to have surpassed it, in six industries. These industries are ‘water supply, sewerage, waste management and remediation activities’, ‘electricity, gas, steam and air conditioning supply’, ‘construction’, ‘information and communication’, ‘real estate activities’, and ‘professional, scientific and technical activities’ (Figure 28). It is important to note that, because SME value added is measured in current prices, the sharp increases in commodity and raw materials prices in 2022 are projected to boost the growth of value added in the mining sector from 2019 to 2023, even if employment in the industry is expected to remain slightly lower in 2023 than in 2019.

The largest increases in SME employment are expected in two industries which are also forecast to experience strong value added growth, namely ‘information and communication’ (with SME employment predicted to reach 111% of its 2019 level) and ‘construction’ (107% of its 2019 level). SME employment is expected to recover slower than large enterprise employment in five industries at the 1-digit NACE classification level: these industries are ‘wholesale and retail trade’, ‘transportation and storage’, ‘information and communication’, ‘real estate activities’, and ‘professional, scientific and technical activities’.

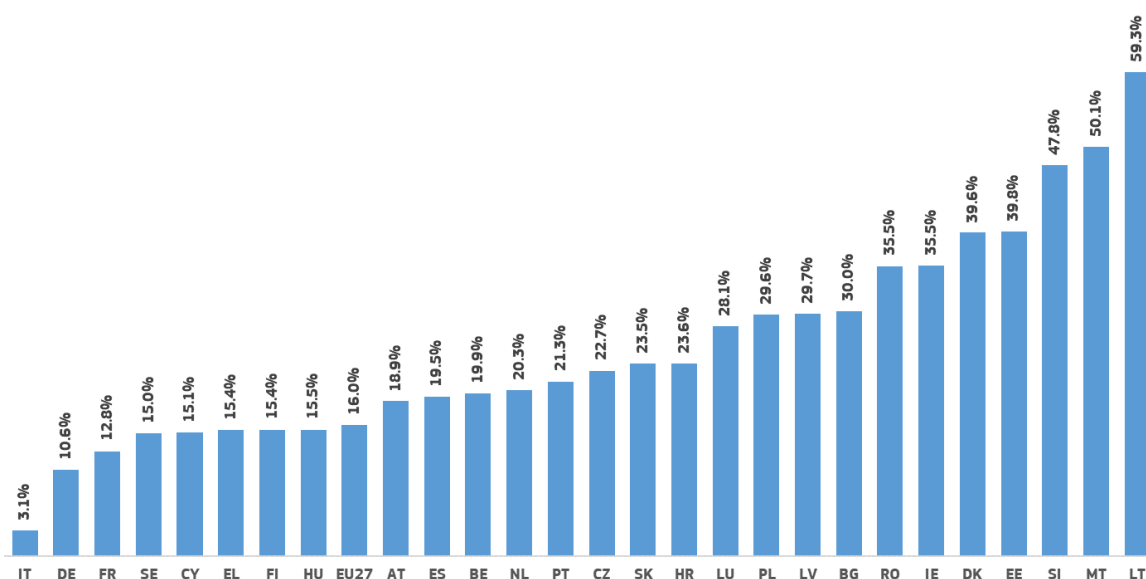
The number of SMEs is expected to be lower in 2023 than in 2019 in only one industry: ‘electricity, gas, steam and air conditioning supply’ (at only 98% of its 2019 level) (Figure 28). Among all the remaining industries in which the number of SMEs is expected to be greater in 2023 than in 2019, the increase in SMEs is expected to be largest in the ‘information and communication’ industry (115%).

4.4.3 Expected recovery of key SME performance indicators in 2023 relative to their 2019 levels in the EU-27 and across EU-27 Member States

The recovery to pre-pandemic business levels is expected to progress in 2023 in most Member States despite the difficult environment. Taking into account inflation, in terms of the real value added of SMEs 10 MS are

expected to not fully recover to the pre-pandemic levels. In two cases the decrease is forecasted to exceed 10%: HU (-20.9%) and IT (-12.2%) However, due to the fact that these 10 include the three biggest EU economies (DE, FR and IT), the net figure for the EU total remains negative. On the other hand, 17 Member States are expected to surpass their 2019 levels, six of them by more than 10% (MT, DK, IE, SI, LT and LU). Concerning value added measured in current prices, SMEs are expected to surpass their 2019 level by 2023 in all EU-27 Member States (Figure 29). In the EU-27 economy as a whole, SMEs are projected to exceed their 2019 value added level by 16%. The growth rate per country varies from 3.1% (IT) to 59.3% (LT) (in current, that is not-inflation adjusted prices).

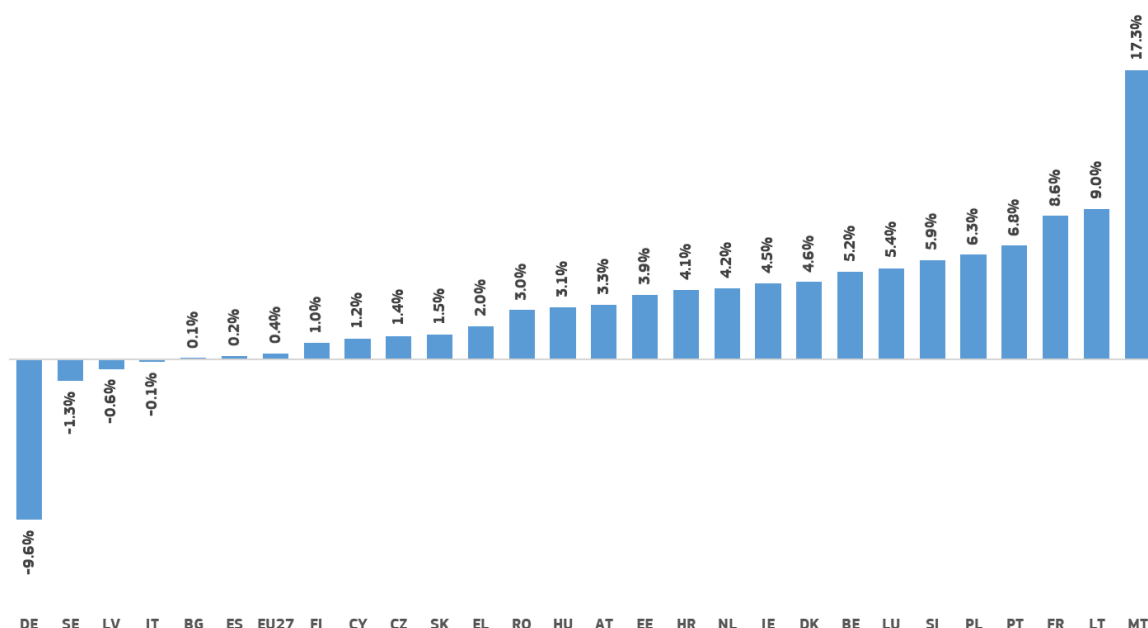
Figure 29: Cumulative growth in nominal SME value added over the period 2019 to 2023 in the EU-27 and EU-27 Member States



Source: Calculations by the JRC based on **the European Commission's Autumn 2022 Economic Forecast**, **Eurostat's Structural Business Statistics**, **Short-Term Business Statistics** and **National Accounts Database**
 Note: Value added is not adjusted for inflation

Across the EU-27 as a whole, by 2023, SME employment is expected to barely recover to its 2019 level (Figure 30). Germany is expected to experience notably lower projected levels of SME employment in 2023, relative to 2019 (-9.6%) and three other Member States are also expected not be able to fully recover: SE (-1.3%), LV (-0.6%) and IT (-0.1%). The EU27 as a whole is expected to just about reach pre-covid levels as a 0.4% growth is expected. Seven Member states are forecasted to restore their SME employment 2019 levels, or to marginally surpass them, up to 3%. In the meantime, SMEs are projected to increase their employment by more than 5% in eight Member States (BE, LU, SI, PT, PL, FR, LT, MT).

Figure 30: Cumulative growth in SME employment over the period 2019 to 2023 in the EU-27 and EU-27 Member States



Source: Calculations by the JRC, based on **the European Commission's Autumn 2022 Economic Forecast**, **Eurostat's Structural Business Statistics**, **Short-Term Business Statistics** and **National Accounts Database**

The number of SMEs is expected to be lower in 2023 than in 2019 in only two EU-27 Member States, i.e. DE (-5.1%) and LV (-3.6%) (Figure 31). Ten countries are expected to grow the number of SMEs by more than 10%. Amongst them, the two most noticeable cases are IE (17.5%) and LT (16.2%).

More generally, it should be noted that DE and LV are two Members States in which all three SME performance indicators are projected to perform relatively poor and remain below their 2019 level in 2023 in terms of number of SMEs and SME employment.

Figure 31: Projected number of SMEs in 2023 as a proportion of the number of SMEs in 2019 in the EU-27 and across EU-27 Member States



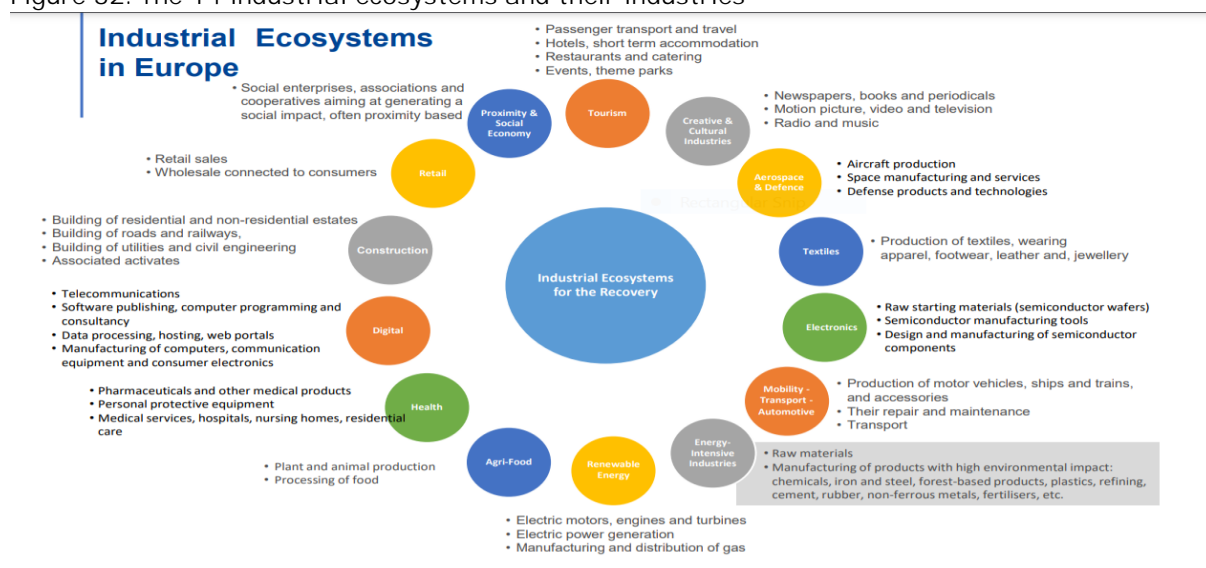
Source: Calculations by JRC, based on **the European Commission's Autumn 2022 Economic Forecast**, **Eurostat's Structural Business Statistics**, **Short-Term Business Statistics** and **National Accounts Database**

5 The role of SMEs in industrial ecosystems

5.1 The key industrial ecosystems in the EU

In its March 2020 Communication, “A New Industrial Strategy for Europe”, the European Commission noted that “[...]Europe also needs to look closely at the opportunities and challenges facing industrial ecosystems. These ecosystems encompass all players operating in a value chain: from the smallest start-ups to the largest companies, from academia to research, service providers to suppliers”.¹⁹ More recently, the January 2023 Single Market Report focused on the 2022 economic performance and challenges in the following 14 industrial ecosystems (Error! Reference source not found.).²⁰ These industrial ecosystems regroup a number of different industries which are linked together (Figure 32).

Figure 32: The 14 industrial ecosystems and their industries



Source: European Commission

SMEs play a key role in these different clusters and the next three sections provide a snapshot of the contribution of SMEs to the performance of the 14 industrial ecosystems in the EU in 2022, an overview of the outlook for the performance of SMEs in 2023 in each of the fourteen ecosystems, and a comparative analysis of the evolution, since 2020, of key performance indicators of SMEs and large enterprises in the various ecosystems.

5.2 Snapshot of the contribution of SMEs to the performance of the 14 industrial ecosystems in 2022

Before reviewing the contribution of SMEs to the economic activity of the 14 industrial ecosystems, it is important to note that the definitions of the ecosystems do not always match the industry definitions of the statistical classification of economic activities in the European Community (NACE) used by Eurostat and national statistical organisations in the EU to collect and report industry data. As a result, the currently available industry data do not always fully cover the economic activities of the 14 industrial ecosystems (see Annex 9 for details).

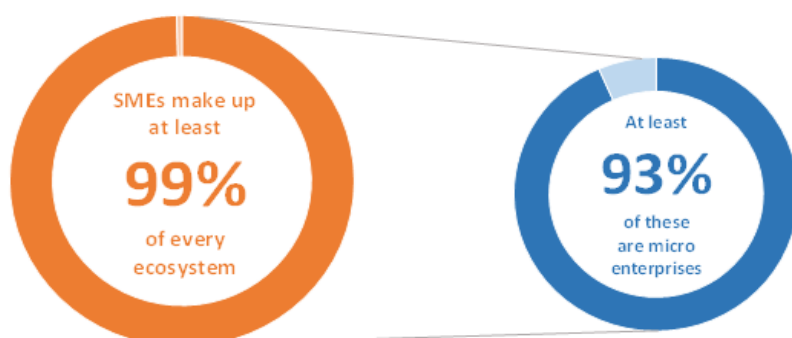
5.2.1 Number and share of SMEs in each of the 14 industrial ecosystems

¹⁹ European Commission (2020), Communication from the Commission to the European Parliament, the European Council, the European Economic and Social Committee and the Committee of the Regions, A New Industrial Strategy for Europe, Brussels, 10.3.2020, COM(2020) 102 final.

²⁰ European Commission (2023), Commission Staff Working Document, Annual Single Market Report 2023, Brussels, 31.1.2023, SWD(2023) 26 final.

SMEs play a key role in every industrial ecosystem. They constitute 99% of enterprises in every ecosystem. Amongst SMEs, 93% of them are classified as micro enterprises (Figure 33).

Figure 33: Share of SMEs in the industrial ecosystems in 2022

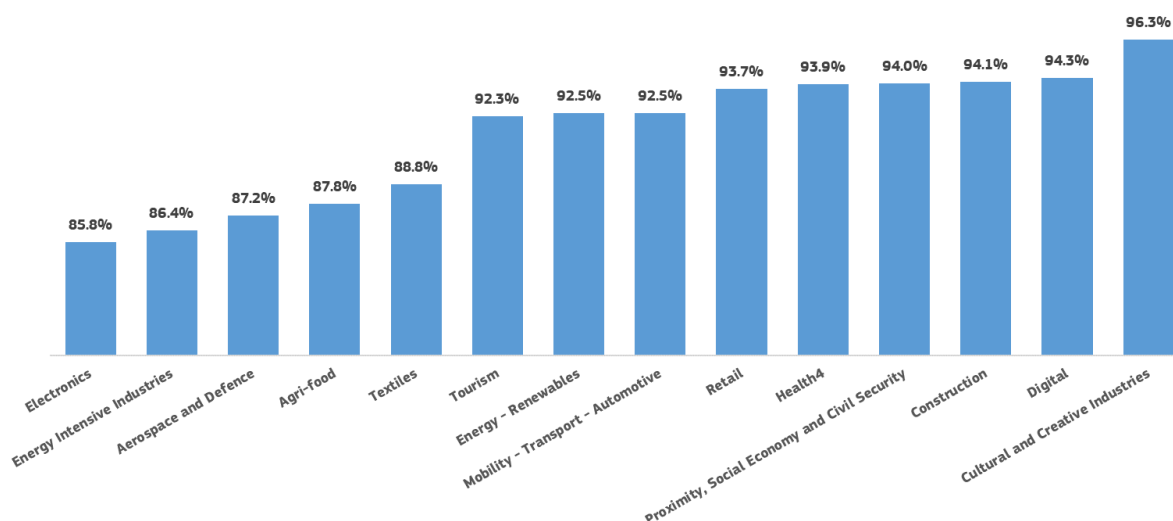


Source: Calculations by JRC, based on, Eurostat’s Structural Business Statistics, Short-Term Business Statistics and National Accounts Database

The 14 industrial ecosystems differ substantially in terms of the number of enterprises. ‘Construction’ and ‘retail’ were the largest industrial ecosystems in 2022, with 6.2 million and 5.5 million enterprises, respectively. In contrast, ‘electronics’ and ‘energy – renewables’ were the smallest industrial ecosystems, with 108,500 and 114,600 enterprises, respectively. Detailed information is provided in Annex 10.

As already noted in Chapter 2, SMEs account for almost all enterprises in each industrial ecosystem. Moreover, micro SMEs represent by far the largest group of SMEs in each ecosystem, although their presence was slightly lower in 2022 in the ‘electronics’, energy-intensive’, ‘aerospace and defence’, ‘agri-food’, and ‘textiles’ industrial ecosystems than in the nine other industrial ecosystems (Figure 34).^{21, 22}

Figure 34: Share of micro SMEs in the number of enterprises in each of the 14 industrial ecosystems



Source: Calculations by the JRC, which are based on Eurostat’s Structural Business Statistics, Short-Term Business Statistics and National Accounts Database

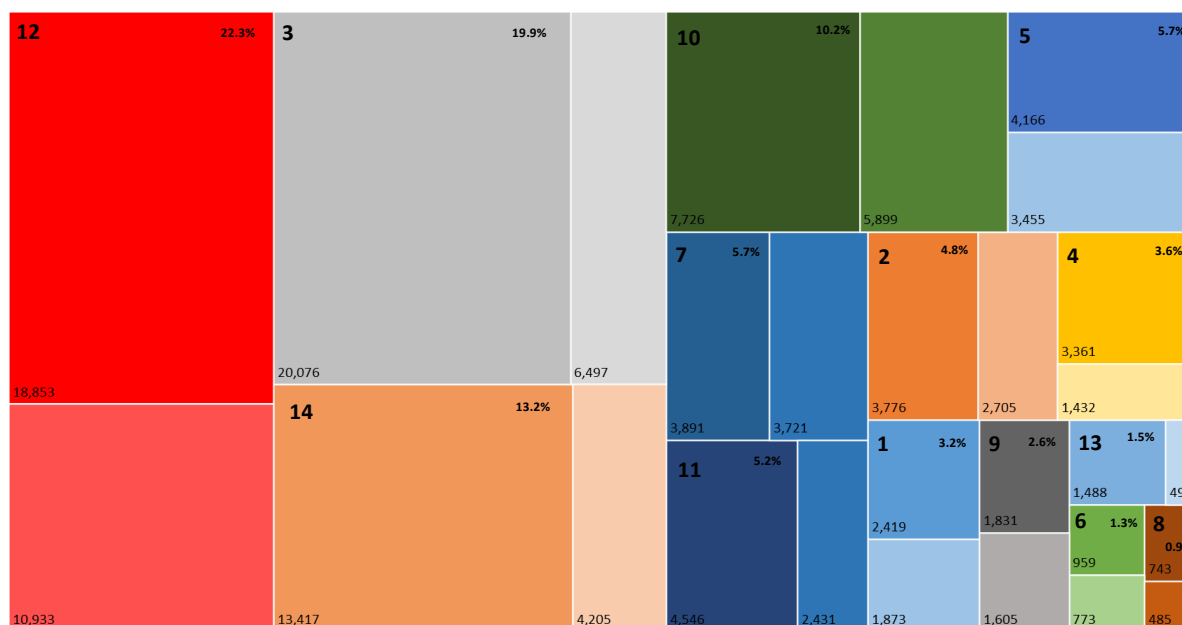
²¹ More details on the number of enterprises by ecosystem and size class are provided in Annex 10.

²² The methodology for constructing the data used for the analysis of industrial ecosystems is provided in Annex 4 of the Annual Single Market Report 2022 (European Commission (2022), Commission Staff Working Document, Annual Single Market Report 2022, Brussels, 22.2.2022, SWD(2022) 40 final).

5.2.2 SME employment in each of the 14 industrial ecosystems

As in the case of the number of enterprises, the ‘construction’ and ‘retail’ industrial ecosystems were in 2022 the largest employers across the EU-27, accounting for 19.9% and 22.3%, respectively, of total employment in the 14 ecosystems (Figure 35). The industrial ecosystems ‘electronics’ (1.3% of total employment) and ‘energy - renewables’ (0.9%) were the smallest, along with the ‘textiles’ ecosystem (1.5%).

Figure 35: Number of persons (in thousands) per ecosystem employed by SMEs and large enterprises and percentage of ecosystem employment in total employment of the 14 ecosystems – 2022



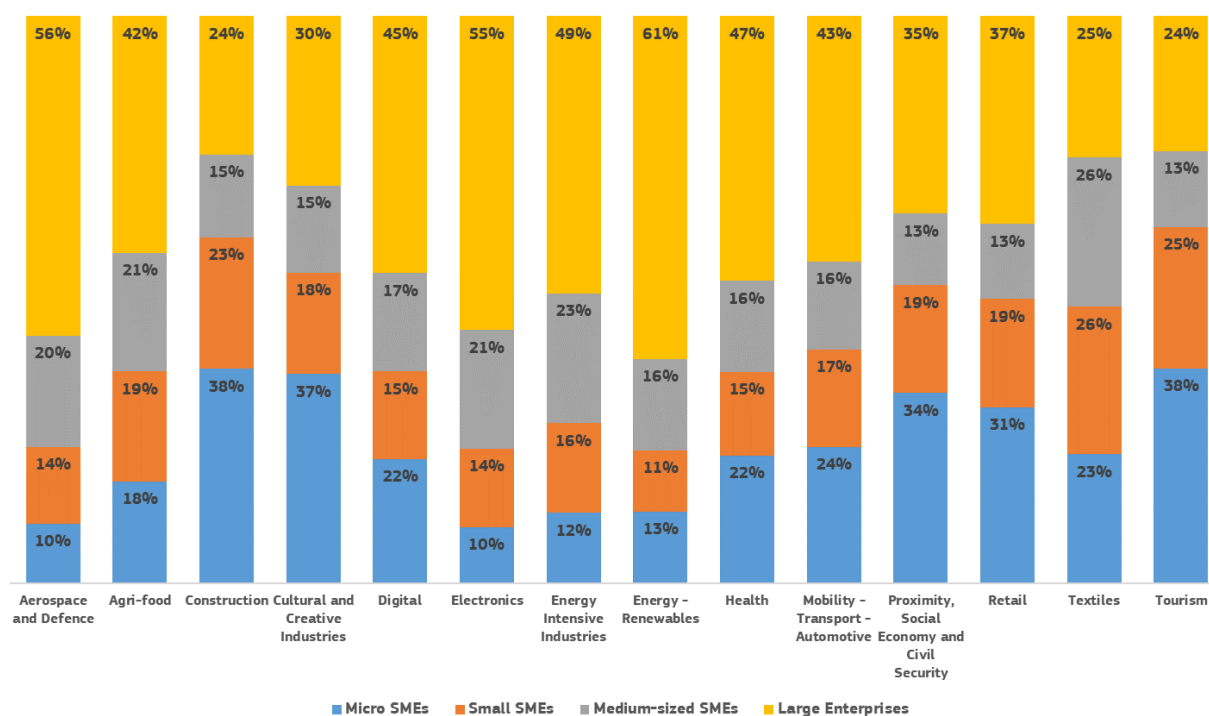
Note: Each ecosystem is represented by the same colour in Figures 34 and 36, with the darker shading showing employment by SMEs, and the lighter shading indicating the number of employees within large enterprises for the given ecosystem. The percentages in the top right hand corner of each ecosystem indicate the percentage of total SME employment accounted for by that ecosystem. Ecosystem 13 accounts for 1.6% of total SME employment across the ecosystems, and ecosystems 6 and 8 account for 1.3% and 0.9% respectively. The industrial ecosystems are as follows: 1 - Aerospace and Defence; 2 - Agri-food; 3 - Construction; 4 - Cultural and Creative Industries; 5 - Digital; 6 - Electronics; 7 - Energy-Intensive Industries; 8 - Energy - Renewables; 9 - Health; 10 - Mobility - Transport - Automotive; 11 - Proximity, Social Economy and Civil Security; 12 - Retail; 13 - Textiles; 14 - Tourism. Data are missing for some NACE codes that correspond to the following ecosystems: Agri-food (NACE sector A); Cultural and Creative Industries (R, P, S94 and S95); Health (Q); Proximity, Social Economy and Civil Security (Q, S95, S96 and T); and Tourism (R).

Source: **Calculations by the JRC, which, are based on Eurostat's Structural Business Statistics, Short-Term Business Statistics and National Accounts Database**

The SME size class was the largest employer in 11 of 14 ecosystems. In fact, SMEs accounted for more than 70% of employment in the ecosystems ‘construction’, ‘textiles’, and ‘tourism’ (Figure 36). The exceptions were ‘aerospace and defence’, ‘electronics’, and ‘energy – renewables’, where large enterprises employ more people than SMEs.

Moreover, micro SMEs were particularly important employers in the ecosystems ‘construction’, ‘cultural and creative industries’, ‘proximity, social economy and civil society’ and ‘tourism’, in which they accounted for 38%, 37%, 34%, and 38%, respectively, of total ecosystem employment.

Figure 36: Proportion of total employment of each ecosystem accounted for by micro SMEs, small SMEs, medium-sized SMEs and large enterprises – 2022



Note: Data are missing for some NACE codes that correspond to the following ecosystems: Agri-food (NACE sector A); Cultural and Creative Industries (R, P, S94 and S95); Health (Q); Proximity, Social Economy and Civil Security (Q, S95, S96 and T); and Tourism (R).

Source: **Calculations by the JRC, which, are based on Eurostat's Structural Business Statistics, Short-Term Business Statistics and National Accounts Database**

5.2.3 SME value added in each of the 14 industrial ecosystems

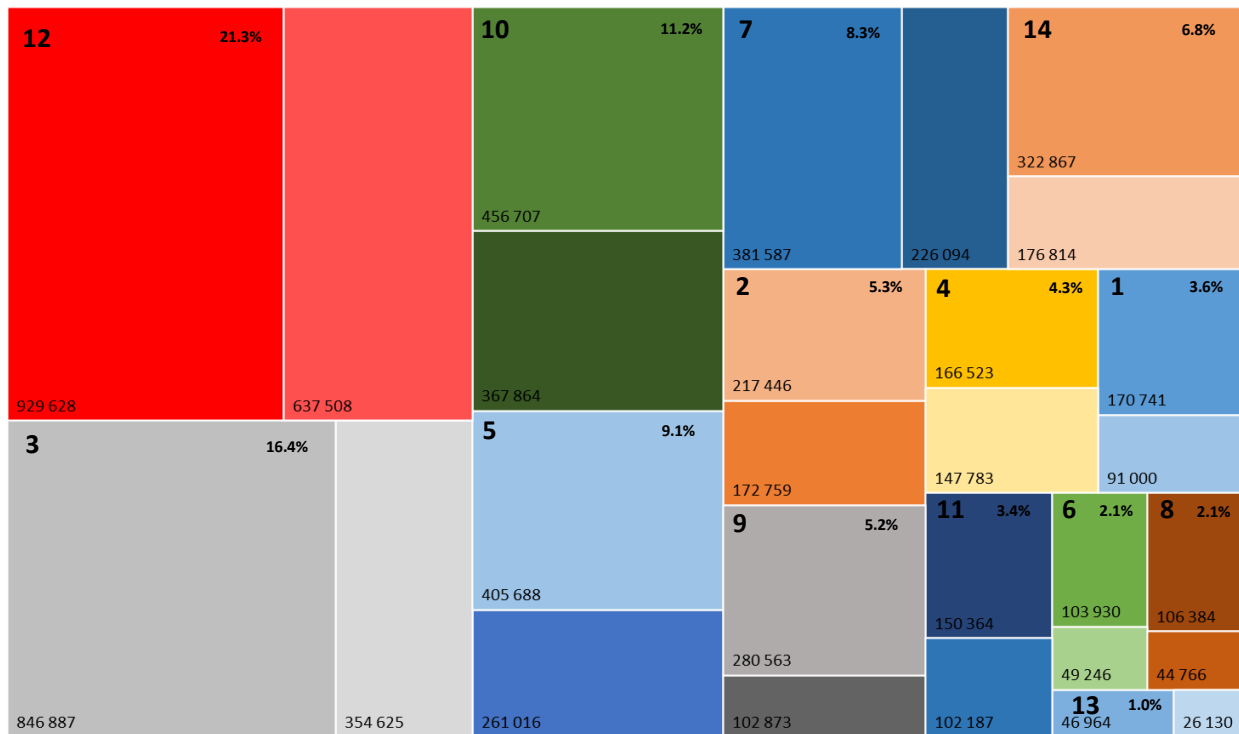
The ecosystems with the largest number of employees were also those responsible for the largest proportion of the value added generated by the 14 ecosystems (Figure 37).

The 'retail' and 'construction' ecosystems generated the largest shares of the total value added of the 14 ecosystems, at 21.3% and 16.4%, respectively. Moreover, as in the case of employment, the ecosystems 'electronics', 'energy -renewables', and 'textiles' were the smallest in terms of value added, creating 2.1%, 2.1% and 1.0%, respectively, of total value added generated by the 14 industrial ecosystems.

SMEs accounted for more than 50% of the value added in six out of fourteen ecosystems, namely, 'cultural and creative industries' (53%), 'retail' (59%), 'proximity, social economy and civil security' (60%), 'textiles' (64%), 'tourism' (65%), and 'construction' (70%) (Figure 38). In contrast, SMEs accounted for only 35% or less of the value added generated by the ecosystems of 'health' (27%), 'energy - renewables' (30%), electronics' (32%), and 'aerospace and defence' (35%).

The differences in the value added contribution of SMEs across the various ecosystems mainly reflects differences in the value added contribution of micro SMEs. For instance, the three ecosystems with significant micro SMEs' contribution in Value Added, 'construction', 'proximity, social economy and civil security', and 'tourism' accumulate similar proportions by Small and Medium Entrepreneurship, and the limited percentages of large enterprises are due to the key role of micro SMEs (Figure 38).

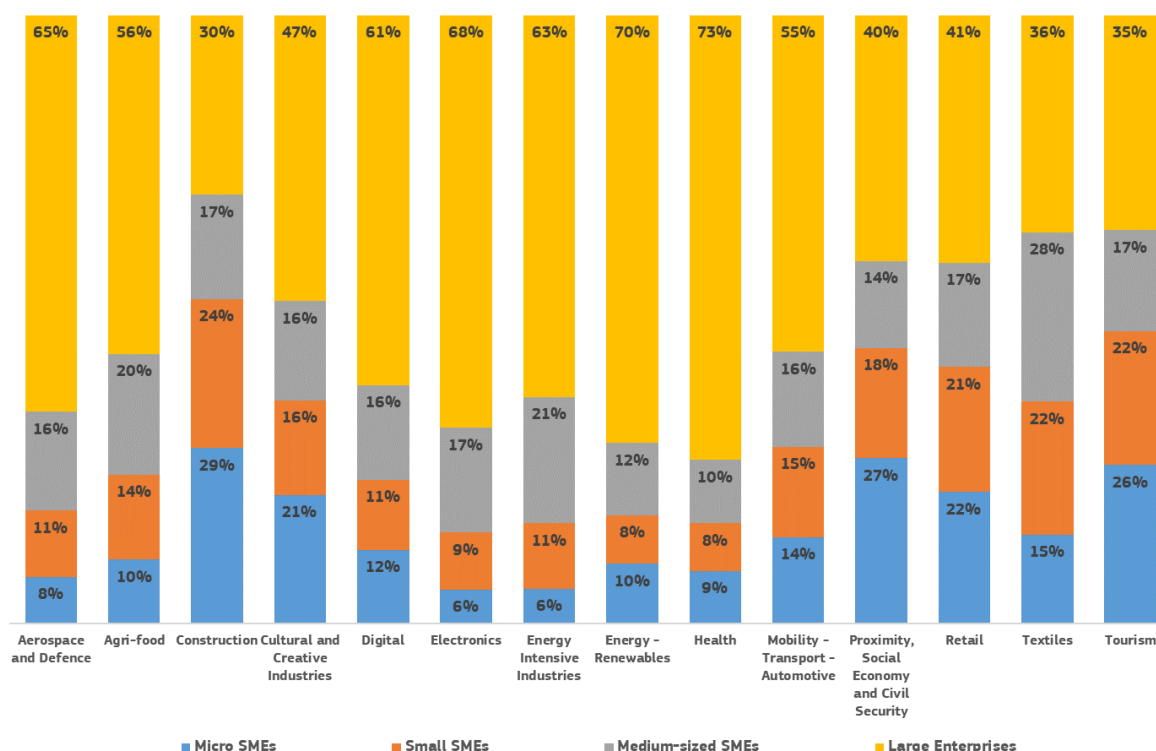
Figure 37: Value added (in EUR million) per ecosystem by SMEs and large enterprises and percentage of the ecosystem value added in the total value added generated by the 14 ecosystems – 2022



Note: Each ecosystem is represented by the same colour, with the darker shading showing value added generated by SMEs and the lighter shading indicating value added generated by large enterprises for the given ecosystem. The percentages in the top right hand corner of each ecosystem indicate the percentage of total SME value added accounted for by that ecosystem. Ecosystem 13 accounts for 1.0% of total SME value added across the ecosystems. The industrial ecosystems are as follows: 1 - Aerospace and Defence; 2 - Agri-food; 3 - Construction; 4 - Cultural and Creative Industries; 5 - Digital; 6 - Electronics; 7 - Energy-intensive Industries; 8 - Energy – Renewables; 9 - Health; 10 - Mobility - Transport – Automotive; 11 - Proximity, Social Economy and Civil Security; 12 - Retail; 13 - Textiles; 14 - Tourism. Data are missing for some NACE codes that correspond to the following ecosystems: Agri-food (NACE sector A); Cultural and Creative Industries (R, P, S94 and S95); Health (Q); Proximity, Social Economy and Civil Security (Q, S95, S96 and T); and Tourism (R).

Source: **Calculations by the JRC, which, are based on Eurostat's Structural Business Statistics, Short-Term Business Statistics and National Accounts Database**

Figure 38: Proportion of the total value added of each ecosystem attributed to micro SMEs, small SMEs, medium-sized SMEs and large enterprises – 2022



Note: Data are missing for some NACE codes that correspond to the following ecosystems: Agri-food (NACE sector A); Cultural and Creative Industries (R, P, S94 and S95); Health (Q); Proximity, Social Economy and Civil Security (Q, S95, S96 and T); and Tourism (R).
 Source: Calculations by the JRC, which, **are based on Eurostat's Structural Business Statistics, Short-Term Business Statistics and National Accounts Database**

5.3 The performance and outlook for SMEs and large enterprises in 2022 and 2023 in the 14 ecosystems

Concerning value added, large businesses are expected to perform better than SMEs for the entire 2022-2023 period. Nevertheless, a tangible growth expressed in real prices can be witnessed only in a couple of industrial ecosystems. A better picture emerges for SME employment, where SMEs experienced a growth in every ecosystem in 2022, and in some cases this increase exceeded the large enterprises' one. For 2023, however, both SMEs and large enterprises are expected to decline in terms of employment in most ecosystems.

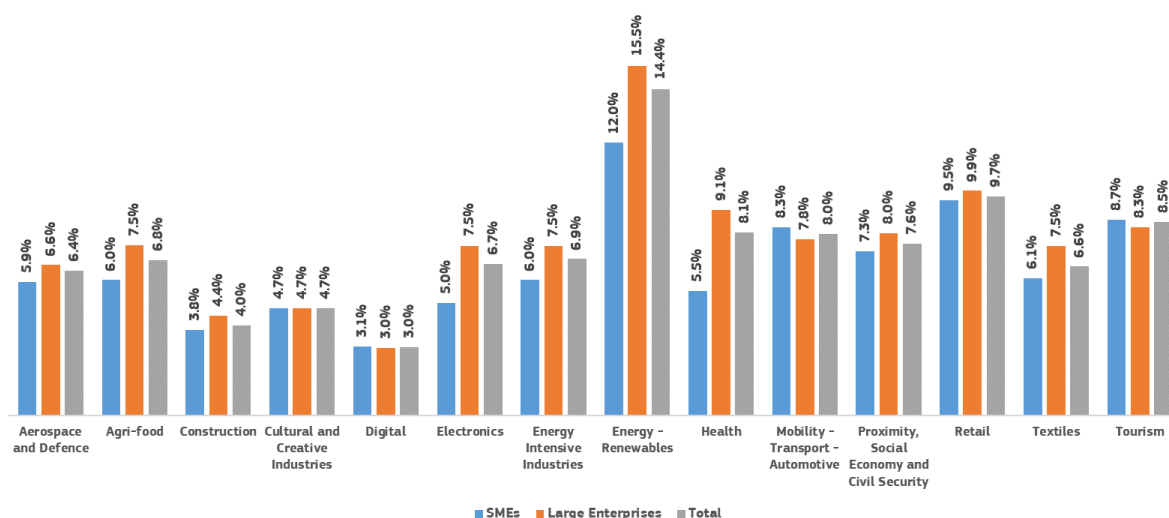
As mentioned above, the adjusted for inflation 2022 figures show that only two industrial ecosystems experienced value added growth in real terms: 'energy - renewables' and 'retail'. This increase is reflected across both SMEs and large enterprises. Concerning 2023 and taking into account the inflation parameter, value added of SMEs is expected to decrease in every industrial ecosystem. On the other hand, large enterprises are foreseen to grow in two ecosystems: 'cultural and creative industries' and 'digital'. Nevertheless, the value added of SMEs and large enterprises, measured in current prices, increased in all ecosystems in 2022 (Figure 39), and is also forecast to increase for both size classes in all ecosystems in 2023 (Figure 40). SMEs generated a smaller increase in value added than large enterprises in most of the ecosystems between 2021 and 2022. Only three of them show the opposite trend: 'tourism', 'digital' and 'mobility – transport - automotive'. For 2023, the increase is expected to be similar for SMEs and large enterprises for most ecosystems. Only in three ecosystems the forecasted SMEs' increase is marginally higher: 'proximity, social economy and civil security', 'mobility – transport - automotive', and 'energy – renewables'.

The largest difference in value added increases between SMEs and large enterprises in 2022 were in the 'health' (3.6pp) and 'energy - renewables' (3.5pp) ecosystems. These differences are forecast to be much smaller in

2023 in these ecosystems and in general across all ecosystems, with the largest difference from 2022 to 2023 expected in the 'cultural and creative industries' ecosystem (2.1pp).

SMEs performed particularly well in the 'energy-renewables' (12.0%) and 'retail' (9.5%) ecosystems in 2022. On the contrary, the ecosystems in which SME value added showed the slowest growth in 2022 include 'digital' (3.1%), 'construction' (3.8%), and 'electronics' (5.0%). The ecosystems in which SMEs are forecast to perform best in 2023 are 'digital' (6.3%) and 'cultural and creative industries' (5.9%). Worst performance is expected in 'electronics' and 'textiles' (4.0% and 4.2% respectively).

Figure 39: Percentage change from 2021 to 2022 in nominal value added generated by SMEs, large enterprises and all enterprises, by industrial ecosystem

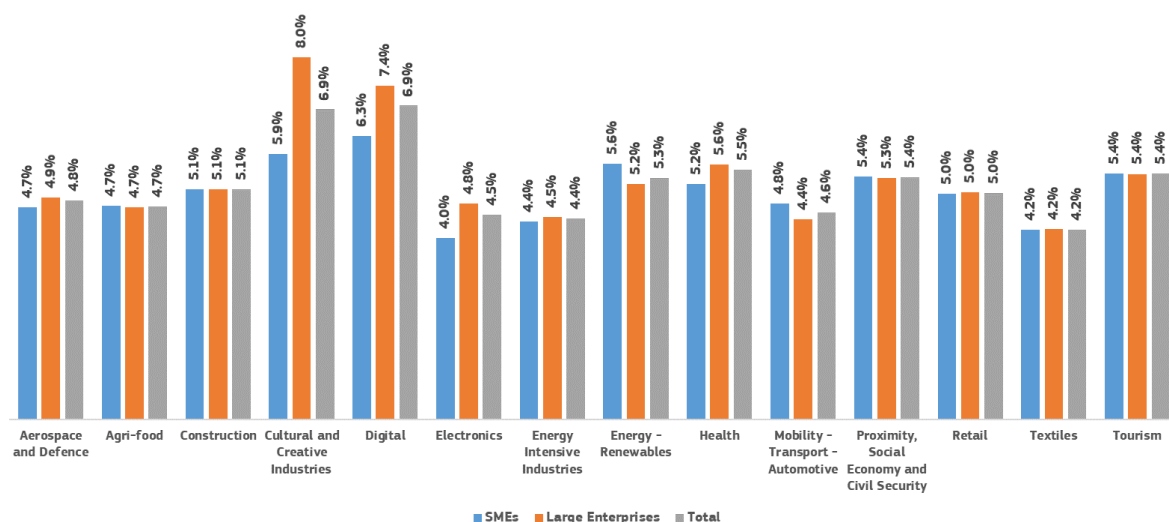


Note: Data are missing for some NACE codes that correspond to the following ecosystems: Agri-food (NACE sector A); Cultural and Creative Industries (R, P, S94 and S95); Health (Q); Proximity, Social Economy and Civil Security (Q, S95, S96 and T); and Tourism (R).

Source: **Calculations by the JRC, which are based on Eurostat's Structural Business Statistics, Short-Term Business Statistics and National Accounts Database**

Note: Value added is not adjusted for inflation

Figure 40: Projected percentage change from 2022 to 2023 in nominal value added generated by SMEs, large enterprises and all enterprises, by industrial ecosystem



Note: Data are missing for some NACE codes that correspond to the following ecosystems: Agri-food (NACE sector A); Cultural and Creative Industries (R, P, S94 and S95); Health (Q); Proximity, Social Economy and Civil Security (Q, S95, S96 and T); and Tourism (R).

Source: **Calculations by the JRC, which are based on Eurostat's Structural Business Statistics, Short-Term Business Statistics and National Accounts Database**

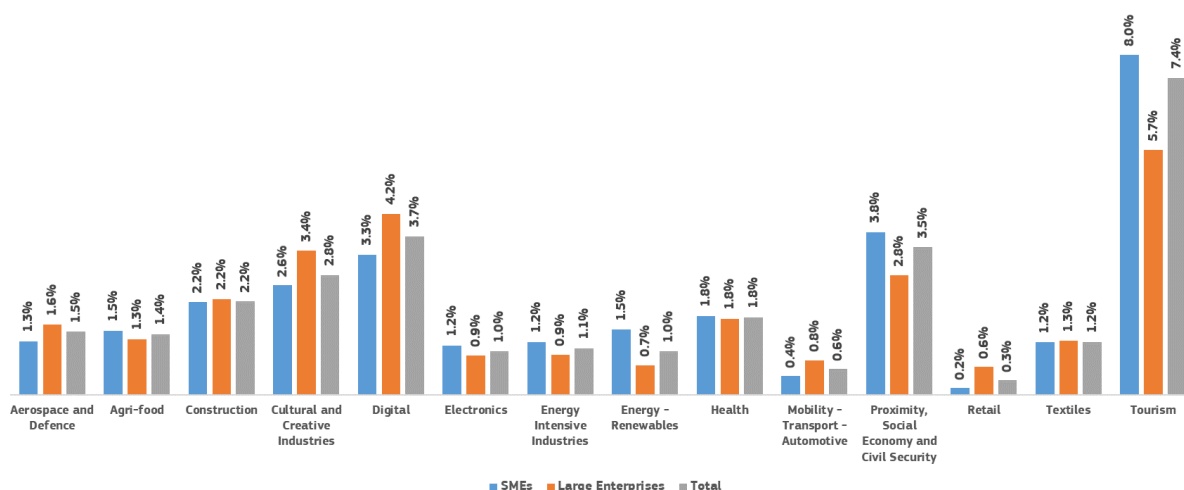
Note: Value added is not adjusted for inflation

SME employment fared worse than large enterprise employment in six ecosystems in 2022: 'aerospace and defence', 'cultural and creative industries', 'digital', 'mobility-transport-automotive', 'retail' and 'textiles' (Figure 41). However, SME employment did not decline in any ecosystem in 2022. The largest increases in SME employment were in the 'tourism' (8.0%), 'proximity, social economy and civil security' (3.8%) and 'digital' (3.3%) ecosystems. On the other hand, only two ecosystems reported an increase in employment generated by SMEs below 1%: 'retail' (0.2%) and 'mobility-transport-automotive' (0.4%).

In 2023, employment increases in three ecosystems are forecast for both SMEs and large enterprises: ‘cultural and creative industries’, ‘digital’, and ‘tourism’ (Figure 42). SMEs are expected to generate higher increases than large enterprises in two ecosystems (‘cultural and creative industries’ and ‘tourism’). SME employment is expected to rise fastest in the ‘digital’ (0.9%), ecosystem.

SME employment is expected to decline in ten ecosystems in 2023. The growth seen in 2022 is no longer expected to last: only three ecosystems (‘tourism’, ‘cultural and creative industries’ and ‘digital’) are foreseen to experience increases, and these growth rates are not expected to exceed 1%. Moreover, ‘cultural and creative industries’ and ‘digital’ constitute the two ecosystems where SMEs value added measured in current prices is expected to grow more noticeably. Comparing to large enterprises, the employment drop is more significant in two ecosystems: ‘aerospace and defence’ (-0.4% vs -0.3%) and ‘retail’ (-0.6% vs -0.5%). In absolute terms, there will be only one ecosystem that reports drop more than 1%: ‘electronics’ (-1.4%).

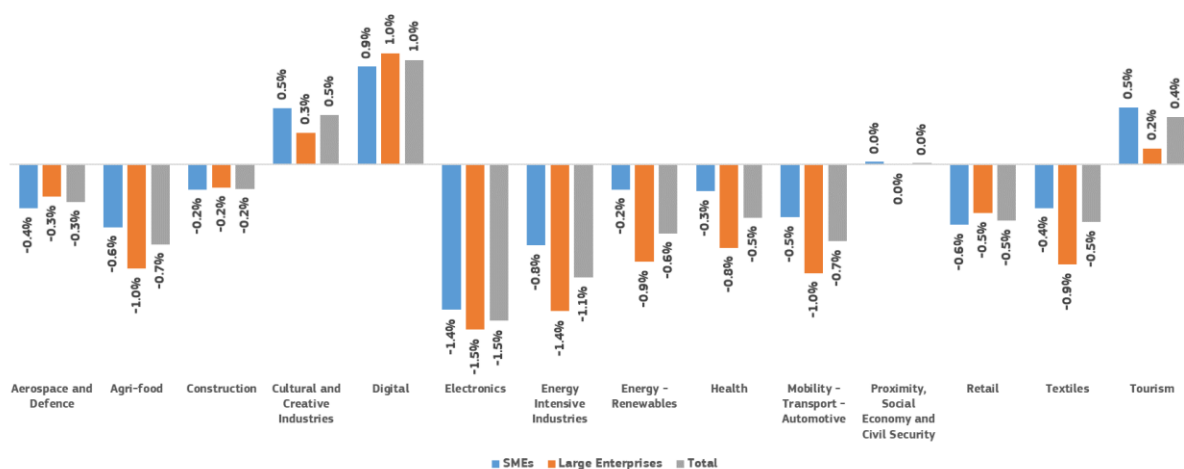
Figure 41: Percentage change from 2021 to 2022 in the employment generated by SMEs, large enterprise and all enterprises, by industrial ecosystem



Note: Data are missing for some NACE codes that correspond to the following ecosystems: Agri-food (NACE sector A); Cultural and Creative Industries (R, P, S94 and S95); Health (Q); Proximity, Social Economy and Civil Security (Q, S95, S96 and T); and Tourism (R).

Source: **Calculations by the JRC, which, are based on Eurostat's Structural Business Statistics, Short-Term Business Statistics and National Accounts Database**

Figure 42: Projected percentage change from 2022 to 2023 in the employment generated by SMEs, large enterprise and all enterprises, by industrial ecosystem



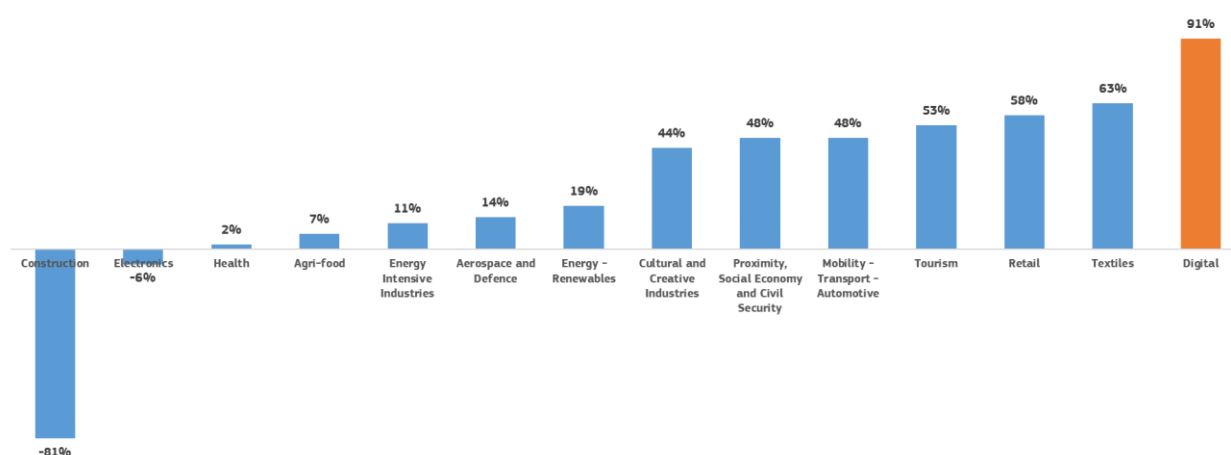
Note: Data are missing for some NACE codes that correspond to the following ecosystems: Agri-food (NACE sector A); Cultural and Creative Industries (R, P, S94 and S95); Health (Q); Proximity, Social Economy and Civil Security (Q, S95, S96 and T); and Tourism (R).
 Source: **Calculations by the JRC, which, are based on Eurostat's Structural Business Statistics, Short-Term Business Statistics and National Accounts Database**

5.4 Contribution of SMEs to the performance of the industrial ecosystems in 2022 relative to 2020

The contribution of SMEs to changes from 2020 to 2022 in the value added expressed in both current and real prices and employment of the 14 ecosystems varied greatly. As an example, for the period 2020-2022, there are four ecosystems where SMEs contributed more than 50% of the total change in real prices value added: 'tourism', 'retail', 'textiles' and 'digital'. The latter one decreased while the former three experienced a growth (Figure 43).

SMEs accounted for more than 60% of the change in value added not adjusted for inflation between 2020 and 2022 in two ecosystems ('construction' and 'textiles') (Figure 44). For the majority of ecosystems, the contribution of SMEs is smaller than 50%, and it was 30% or less in four ecosystems ('health', 'energy-renewables', 'electronics', and 'energy intensive industries').

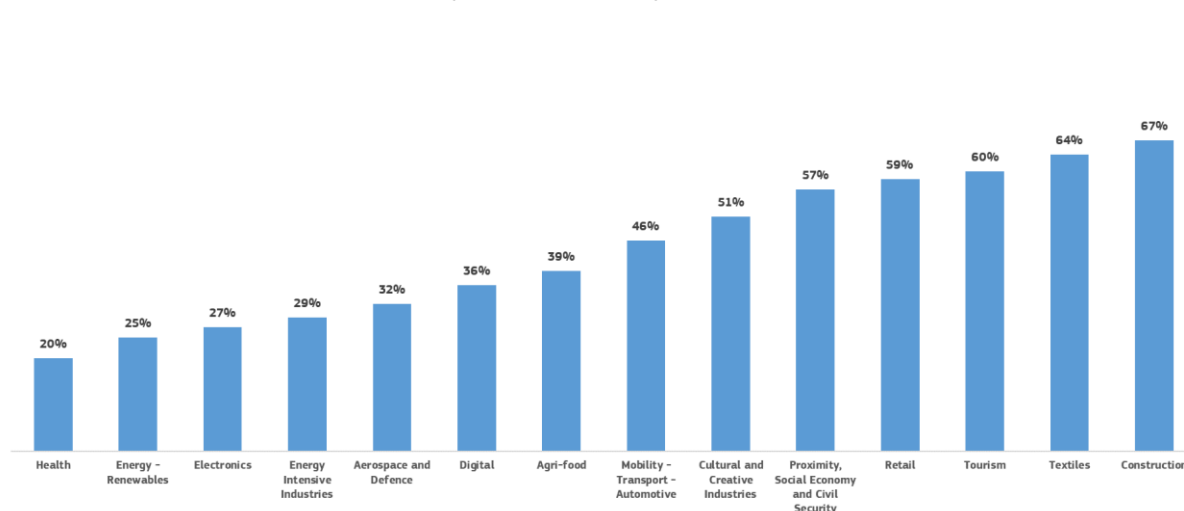
Figure 43: Share of the cumulative change in total value added (adjusted for inflation) between 2020 and 2022 attributed to SMEs, by industrial ecosystem



Notes: 1) Bars in orange indicate that the total value added decreased in the ecosystem between 2020 and 2022, whereas bars in blue indicate that total value added increased in the ecosystem. 2) Data are missing for some NACE codes that correspond to the following ecosystems: Agri-food (NACE sector A); Cultural and Creative Industries (R, P, S94 and S95); Health (Q); Proximity, Social Economy and Civil Security (Q, S95, S96 and T); and Tourism (R).

Source: **Calculations by the JRC, which are based on Eurostat's Structural Business Statistics, Short-Term Business Statistics and National Accounts Database**

Figure 44: Share of the cumulative change in total value added (not adjusted for inflation) between 2020 and 2022 attributed to SMEs, by industrial ecosystem

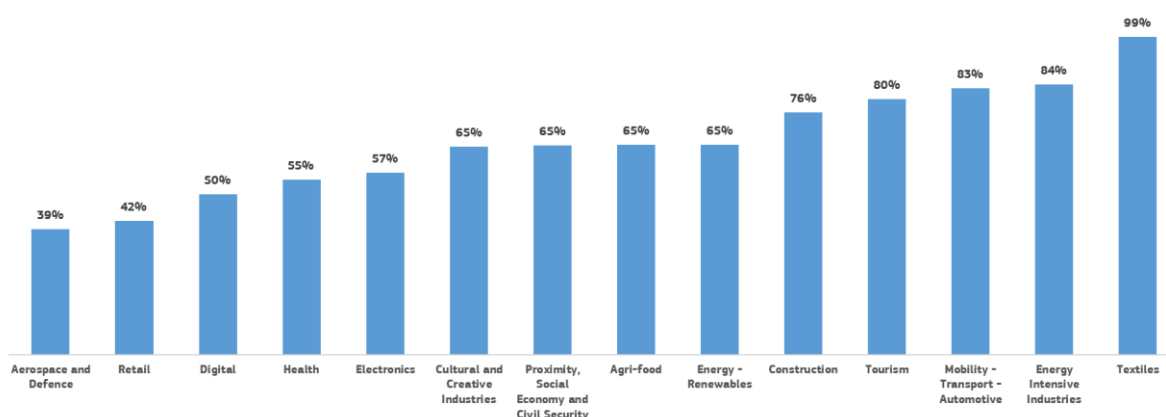


Note: Data are missing for some NACE codes that correspond to the following ecosystems: Agri-food (NACE sector A); Cultural and Creative Industries (R, P, S94 and S95); Health (Q); Proximity, Social Economy and Civil Security (Q, S95, S96 and T); and Tourism (R).

Source: **Calculations by the JRC, which are based on Eurostat's Structural Business Statistics, Short-Term Business Statistics and National Accounts Database**

As in the case of value added, the 'aerospace and defence' and 'retail' ecosystems were among those ecosystems in which SMEs accounted for the smallest proportion of the cumulative change from 2020 to 2022 in total employment, less than 50% (Figure 45). SMEs accounted for at least half of the total change in employment between 2020 and 2022 in 12 of the 14 ecosystems. The 'textiles' ecosystem is particularly noteworthy in this respect as SMEs accounted for the vast majority of the change (99%) in total employment between 2020 and 2022 in this ecosystem. Moreover, the SME share of the employment change in 13 ecosystems is larger than their share of the change in value added. The sole exception is 'retail'.

Figure 45: Share of the cumulative change in total employment between 2020 and 2022 attributed to SMEs, by industrial ecosystem



Note: Data are missing for some NACE codes that correspond to the following ecosystems: Agri-food (NACE sector A); Cultural and Creative Industries (R, P, S94 and S95); Health (Q); Proximity, Social Economy and Civil Security (Q, S95, S96 and T); and Tourism (R).

Source: **Calculations by the JRC, which, in turn, are based on Eurostat's Structural Business Statistics, Short-Term Business Statistics and National Accounts Database**

Micro SMEs accounted for a greater share of the change in total value added than both small and medium-sized SMEs in eight out of the fourteen ecosystems (Table 7). Their share was particularly large in the 'construction' (31%), 'proximity, social economy and civil security' (28%), and 'tourism' (27%) ecosystems. Of those ecosystems in which micro SMEs did not account for the greatest share of the change in value added, medium SMEs accounted for the greatest share in six ('aerospace and defence', 'agri-food', 'electronics', 'energy-intensive industries', 'energy-renewables' and 'textiles'). Evidently, no small-sized SMEs accounted for the greatest share in any ecosystem. Overall, the share of cumulative change in total value added referring to all SMEs exceeds 50% in six ecosystems. The most representative examples are 'construction' (67%) and 'textiles' (64%).

Micro SMEs also accounted for a very large proportion of the employment change from 2020 to 2022 (Table 7). In total, the proportion of micro SMEs is bigger than small and medium SMEs in every ecosystem except 'retail'. In six cases the percentage exceeds 50%: 'textiles' (76%), 'energy-intensive industries' (58%), 'energy-renewables' (54%), 'construction' (52%), 'mobility-transportation-automotive' (51%) and 'agri-food' (50%). However, small-sized SMEs were also important contributors to overall employment across the ecosystems and contribute significantly in 'retail'. On the contrary, medium-sized SMEs did not contribute to the same extent: in two ecosystems ('electronics' and 'energy-renewables') their percentage is equal to zero and in two other industrial ecosystems ('energy-intensive industries' and 'agri-food') they have a negative effect (-3% and -2% respectively). Comparing to the cumulative change of large enterprises, all SMEs dominate with a cumulative change higher than 75% in five ecosystems: 'textiles' (99%), 'energy-intensive industries' (84%), 'mobility-transport-automotive' (83%), 'tourism' (80%), and construction (76%).

Table 7: Share of the cumulative change in total value added and employment between 2020 and 2022 attributed to all SMEs and SME size classes, by industrial ecosystem

	Value Added				Employment			
	Micro SMEs	Small SMEs	Medium-sized SMEs	All SMEs	Micro SMEs	Small SMEs	Medium-sized SMEs	All SMEs
Aerospace and Defence	9%	9%	14%	32%	18%	11%	9%	39%
Agri-food	11%	12%	17%	39%	50%	16%	-2%	65%
Construction	31%	22%	14%	67%	52%	17%	6%	76%
Cultural and Creative Industries	24%	13%	14%	51%	40%	13%	12%	65%
Digital	16%	11%	9%	36%	22%	13%	16%	50%
Electronics	6%	7%	14%	27%	44%	13%	0%	57%
Energy-intensive Industries	5%	8%	15%	29%	58%	29%	-3%	84%
Energy - Renewables	8%	8%	9%	25%	54%	11%	0%	65%
Health	8%	5%	7%	20%	41%	10%	4%	55%
Mobility - Transport - Automotive	17%	14%	14%	46%	51%	24%	8%	83%
Proximity, Social Economy and Civil Security	28%	17%	12%	57%	34%	21%	10%	65%
Retail	24%	20%	15%	59%	12%	19%	11%	42%
Textiles	18%	18%	28%	64%	76%	23%	1%	99%
Tourism	27%	20%	14%	60%	40%	28%	12%	80%

Note: Data are missing for some NACE codes that correspond to the following ecosystems: Agri-food (NACE sector A); Cultural and Creative Industries (R, P, S94 and S95); Health (Q); Proximity, Social Economy and Civil Security (Q, S95, S96 and T); and Tourism (R). SMEs will account for over 100% or less than 0% of the total change if their value added/employment changes in the opposite direction to the overall change in the ecosystem.

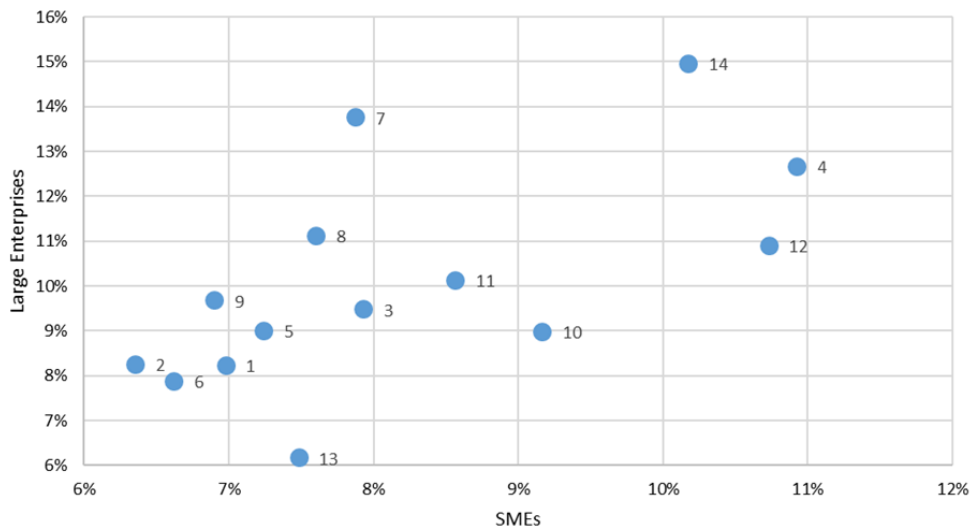
Source: **Calculations by the JRC, which, are based on Eurostat's Structural Business Statistics, Short-Term Business Statistics and National Accounts Database**

5.5 Changes (in %) in value added and employment of SMEs and large enterprises by industrial ecosystem in 2021 and 2022

The direction of change in SME and large enterprise value added in 2021 was generally similar (Figure 46). The biggest changes for both SMEs and large entrepreneurship are detected in three ecosystems: 'tourism', 'cultural and creative industries', and 'retail'. In all these cases, the change is higher than 10% in both directions.

A similar pattern was also observed in 2022. Both SME and large enterprise value added increased in every ecosystem by at least 3%, and in most cases the growth exceeded 5% (Figure 47). Moreover, as in 2021, there appeared to be a positive correlation across ecosystems between SME and large enterprise value added. The trend of analogous increase is more evident than in the previous year. In general, the rate of increase varies from 3% to 10%, with only one exception: the growth in 'energy-renewables' exceeds 12% in SMEs and 15% in large enterprises and stands out as an outlier, a fact that didn't take place in previous years. This finding is in line with the increased energy prices in 2022. Most other ecosystems tended to show an SME value added growth rate of 5% to 9% and a similar large enterprise value added growth rate of 6% to 10%. However, a smaller cluster of ecosystems saw both SME and large enterprise growth rates of 3% to 5%.

Figure 46: Change (in %) of SME and large enterprise value added in 2021, by industrial ecosystem

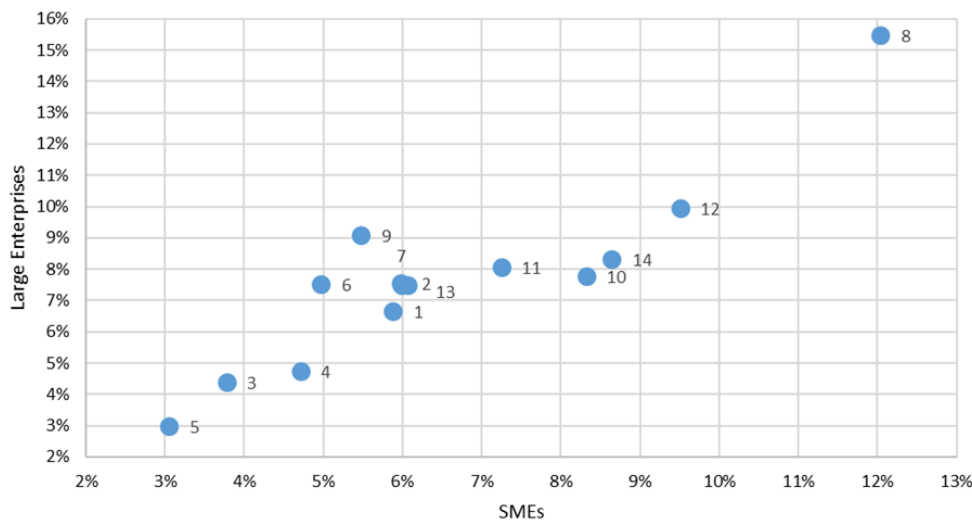


Note: The industrial ecosystems are as follows: 1 - Aerospace and Defence; 2 - Agri-food; 3 - Construction; 4 - Cultural and Creative Industries; 5 - Digital; 6 - Electronics; 7 - Energy-intensive Industries; 8 - Energy – Renewables; 9 - Health; 10 - Mobility - Transport – Automotive; 11 - Proximity, Social Economy and Civil Security; 12 - Retail; 13 - Textiles; 14 - Tourism. Data are missing for some NACE codes that correspond to the following ecosystems: Agri-food (NACE sector A); Cultural and Creative Industries (R, P, S94 and S95); Health (Q); Proximity, Social Economy and Civil Security (Q, S95, S96 and T); and Tourism (R).

Source: Calculations by the JRC, which, are based on Eurostat’s Structural Business Statistics, Short-Term Business Statistics and National Accounts Database

Note: Value added is not adjusted for inflation

Figure 47: Change (in %) in SME and large enterprise value added in 2022, by industrial ecosystem



Note: The industrial ecosystems are as follows: 1 - Aerospace and Defence; 2 - Agri-food; 3 - Construction; 4 - Cultural and Creative Industries; 5 - Digital; 6 - Electronics; 7 - Energy-intensive Industries; 8 - Energy – Renewables; 9 - Health; 10 - Mobility - Transport – Automotive; 11 - Proximity, Social Economy and Civil Security; 12 - Retail; 13 - Textiles; 14 - Tourism. Data are missing for some NACE codes that correspond to the following ecosystems: Agri-food (NACE sector A); Cultural and Creative Industries (R, P, S94 and S95); Health (Q); Proximity, Social Economy and Civil Security (Q, S95, S96 and T); and Tourism (R).

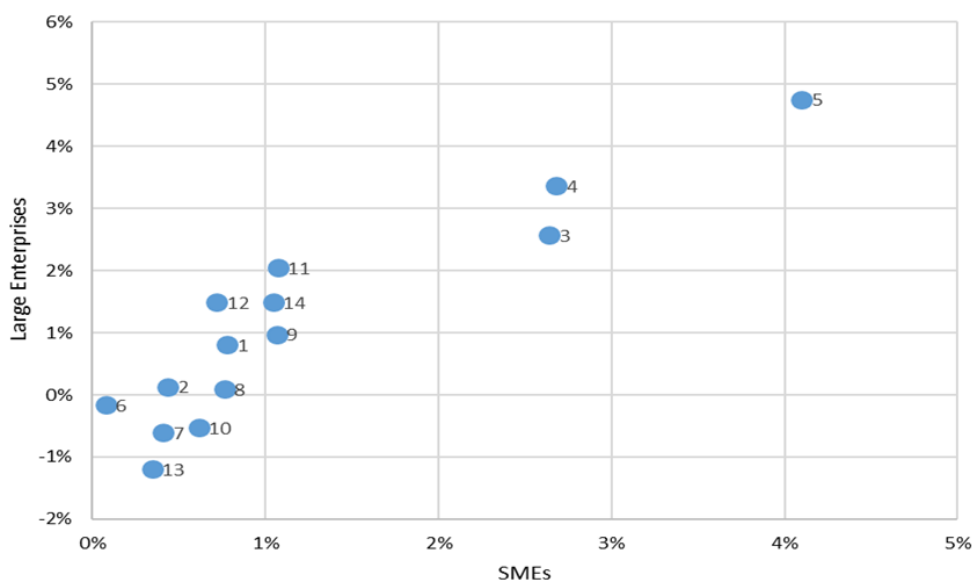
Source: Calculations by the JRC, which, are based on Eurostat’s Structural Business Statistics, Short-Term Business Statistics and National Accounts Database

Note: Value added is not adjusted for inflation

In ten out of fourteen ecosystems, both SME and large enterprise employment increased in 2021 (Figure 48). The remaining four decreased in large enterprises employment, but the change rate was limited to -1.5%, and

SME employment grew also in these four ecosystems. In most ecosystems, large enterprise employment increased up to 3% and SME employment augmented up to 2%.

Figure 48: Change (in %) in SME and large enterprise employment in 2021, by industrial ecosystem

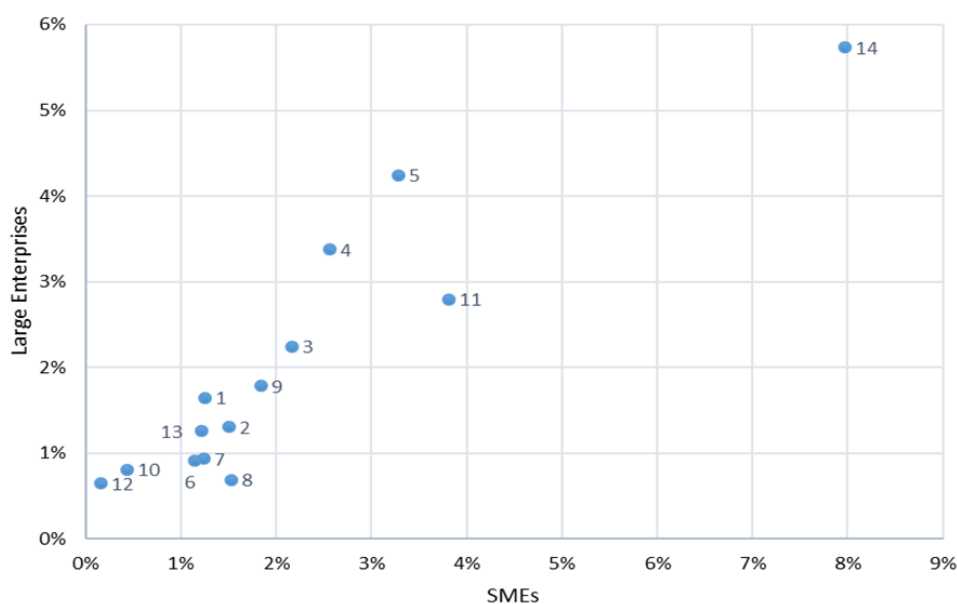


The industrial ecosystems are as follows: 1 - Aerospace and Defence; 2 - Agri-food; 3 - Construction; 4 - Cultural and Creative Industries; 5 - Digital; 6 - Electronics; 7 - Energy-intensive Industries; 8 - Energy – Renewables; 9 - Health; 10 - Mobility - Transport – Automotive; 11 - Proximity, Social Economy and Civil Security; 12 - Retail; 13 - Textiles; 14 - Tourism. Data are missing for some NACE codes that correspond to the following ecosystems: Agri-food (NACE sector A); Cultural and Creative Industries (R, P, S94 and S95); Health (Q); Proximity, Social Economy and Civil Security (Q, S95, S96 and T); and Tourism (R).

Source: Calculations by the JRC, which, in turn, are based on Eurostat’s Structural Business Statistics, Short-Term Business Statistics and National Accounts Database

The correlation between large enterprise and SME employment growth in 2022 across the ecosystems (Figure 49) was comparable to the one analysed above for the previous year. The ecosystems with stronger SME employment growth still tended to experience stronger growth in large enterprise employment as well. In all ecosystems, SME and large enterprise employment grew in 2022 relative to 2021. One ecosystem which was clearly an outlier in 2022 was the ‘tourism’ ecosystem, in which SME employment increased by almost 8%, whilst large enterprise employment grew by more than 5.5%. Tourism was deeply affected by the Covid-19 pandemic, thus its recovery in terms of employment and value added is prominent. The growth rate of all other ecosystems varies from 0% to 4.5%, just three ecosystems are close to or exceed the boundary of 3%: ‘proximity, social economy and civil security’, ‘cultural and creative industries’ and ‘digital’.

Figure 49: Change (in %) in SME and large enterprise employment in 2022, by industrial ecosystem



Note: The industrial ecosystems are as follows: 1 - Aerospace and Defence; 2 - Agri-food; 3 - Construction; 4 - Cultural and Creative Industries; 5 - Digital; 6 - Electronics; 7 - Energy-intensive Industries; 8 - Energy – Renewables; 9 - Health; 10 - Mobility - Transport – Automotive; 11 - Proximity, Social Economy and Civil Security; 12 - Retail; 13 - Textiles; 14 - Tourism. Data are missing for some NACE codes that correspond to the following ecosystems: Agri-food (NACE sector A); Cultural and Creative Industries (R, P, S94 and S95); Health (Q); Proximity, Social Economy and Civil Security (Q, S95, S96 and T); and Tourism (R).

Source: **Calculations by the JRC, which, are based on Eurostat’s Structural Business Statistics, Short-Term Business Statistics and National Accounts Database**

6 Conclusions

The situation for the EU SMEs is perilous and will remain so in the foreseeable future. Inflationary pressure in the EU paint a challenging picture for the economic robustness of the EU’s SMEs. While at first sight the value added figures for 2022 suggest that SMEs have returned to a healthy growth path despite the recent cascade of political and economic turmoil, this increase was – quite literally – inflated. The reality is starkly different. EU SMEs’ business has suffered in 2022 as the afore mentioned SME value added is measured in current prices and, as a result, the strong value added growth in 2022 reflects a pick-up in inflation. Taking into consideration the all-items Harmonised Index of Consumer Prices (HICP) for 2022, it becomes evident that value added actually declined by 2.3%.

This negative development of the last year is somewhat balanced out by employment. SME employment increased by 2.4% in 2022. However, there is also an asterisk even behind this employment number. In essence, this increase indicates largely a rebound from the previous negative “Covid-19” effect. While the increase is welcome, it failed to recover in full the pandemic-induced employment losses. In terms of value added and employment, EU SMEs are still lagging behind their pre-pandemic performance in 2019.

In addition, other challenges have emerged. The lack of skilled workers has become a prime obstacle for SMEs throughout the entire EU. A foreseen DG GROW Eurobarometer shall shed more light on this problem and on potential policy options.

Against this challenging backdrop, the announcement of the President of the European Commission of an EU relief package - which is to complement existing support programmes - can only be seen as absolutely timely (see text box 2).

Text box 2: SME Relief Package

In the context of the figures presented in this report, ad-hoc challenges such as supply chain disruptions, and the magnitude of structural challenges, such as the twin transitions towards a green and digital future, decisive action from both SMEs and policymakers is required. The EU's long-term prosperity depends on SMEs. Reforms to boost SME competitiveness, ensure fairness, and provide SMEs with relief after years of high uncertainty currently top the policy agenda. Therefore, making sure that small businesses remain productive, letting them work in a fair business environment and relieving them from unproductive activities are essential for their short-term and long-term performance.

Against this background, Commission President Ursula von der Leyen has announced an SME Relief Package scheduled for adoption in September 2023. SMEs need a clear vision and policies with a special focus on competitiveness, fairness and relief to support their development in the short and long-term. The relief package will aim to address SMEs' most critical challenges in four priority areas: bringing down regulatory obstacles, speeding up payments, providing access to finance and making skilled workforce easier to hire.

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ANNEX 1: DEFINITION OF SMES

The official EC definition of SMEs takes account of three different factors (i.e. level of employment, level of turnover, and size of the balance sheet).

Table 8: Definition of SMEs

Enterprise Category	Employees	Turnover	Balance sheet total
Micro SME	0 to < 10	< €2 million	< €2 million
Small SME	10 to < 50	< €10 million	< €10 million
Medium-sized SME	50 to <250	< €50 million	< €43 million

Source: Commission Recommendation of 6 May 2003 concerning the definition of micro, small, and medium-sized enterprises (2003/361/EC), Official Journal of the European Union, L 124/36, 20 May 2003

ANNEX 2: SME PERFORMANCE INDICATORS BY SME SIZE CLASS AND EU MEMBER STATES IN 2022

Table 9: Share of the total number of SMEs in the EU-27 NFBS that are micro, small and medium-sized SMEs by Member State – 2022

	Micro SMEs	Small SMEs	Medium-sized SMEs
AT	88.3%	10.2%	1.5%
BE	95.8%	3.6%	0.6%
BG	92.4%	6.4%	1.2%
CY	92.8%	6.3%	0.9%
CZ	96.2%	3.2%	0.6%
DE	84.8%	13.2%	2.0%
DK	88.3%	9.8%	1.9%
EE	92.3%	6.5%	1.2%
EL	94.5%	5.0%	0.5%
ES	94.5%	4.9%	0.6%
FI	91.0%	7.7%	1.4%
FR	95.2%	4.2%	0.6%
HR	92.5%	6.5%	1.0%
HU	95.3%	4.1%	0.6%
IE	91.5%	7.3%	1.2%
IT	94.9%	4.6%	0.6%
LT	94.6%	4.5%	0.9%
LU	87.9%	10.1%	2.0%
LV	90.4%	8.2%	1.4%
MT	92.0%	6.8%	1.2%
NL	95.9%	3.4%	0.7%
PL	95.5%	3.9%	0.7%
PT	95.5%	3.9%	0.6%
RO	90.8%	7.9%	1.3%
SE	94.5%	4.7%	0.9%
SI	94.7%	4.5%	0.8%
SK	97.7%	1.9%	0.4%

Source: **Calculations by the JRC based on Eurostat's Structural Business Statistics, Short-Term Business Statistics and National Accounts Database**

Table 10: Share in total SME employment in the EU-27 NFBS of micro, small and medium-sized SMEs by Member State - 2022

	Micro SMEs	Small SMEs	Medium-sized SMEs
AT	37.8%	34.5%	27.7%
BE	52.6%	25.1%	22.3%
BG	41.1%	30.6%	28.3%
CY	47.5%	30.5%	22.0%
CZ	46.0%	26.7%	27.3%
DE	33.3%	37.2%	29.5%
DK	29.1%	36.7%	34.2%
EE	42.0%	29.5%	28.5%
EL	55.8%	29.7%	14.5%
ES	52.2%	28.5%	19.3%
FI	34.4%	35.3%	30.3%
FR	46.2%	29.8%	24.0%
HR	46.2%	29.8%	24.1%
HU	52.2%	26.7%	21.2%
IE	36.7%	34.7%	28.6%
IT	56.4%	26.4%	17.2%
LT	43.3%	28.8%	28.0%
LU	25.8%	37.1%	37.1%
LV	35.5%	35.2%	29.2%
MT	38.4%	33.2%	28.4%
NL	43.3%	28.9%	27.9%
PL	53.6%	24.5%	21.9%
PT	53.2%	25.8%	20.9%
RO	38.6%	32.7%	28.6%
SE	36.2%	32.8%	31.0%
SI	46.8%	27.1%	26.2%
SK	62.6%	17.8%	19.6%

Source: Calculations by the JRC based on Eurostat's Structural Business Statistics, Short-Term Business Statistics and National Accounts Database

Table 11: Share of total SME value added in the EU-27 NFBS generated by micro, small and medium-sized SMEs by Member State - 2022

	Micro SMEs	Small SMEs	Medium-sized SMEs
AT	28.8%	35.2%	36.0%
BE	39.7%	33.6%	26.7%
BG	31.3%	33.0%	35.6%
CY	35.1%	38.0%	26.9%
CZ	36.4%	27.4%	36.2%
DE	29.5%	35.6%	34.8%
DK	34.7%	34.4%	30.8%
EE	37.1%	30.1%	32.8%
EL	30.6%	36.8%	32.6%
ES	44.1%	27.6%	28.2%
FI	30.0%	32.9%	37.1%
FR	38.0%	33.5%	28.5%
HR	33.7%	33.1%	33.2%
HU	37.2%	31.0%	31.8%
IE	50.2%	23.7%	26.1%
IT	40.6%	30.4%	29.0%
LT	29.0%	31.5%	39.4%
LU	30.8%	27.5%	41.7%
LV	29.4%	35.1%	35.6%
MT	64.9%	20.3%	14.8%
NL	33.8%	28.0%	38.2%
PL	37.7%	29.9%	32.4%
PT	35.6%	32.7%	31.7%
RO	39.9%	30.2%	29.9%
SE	32.0%	31.5%	36.5%
SI	35.6%	30.3%	34.1%
SK	46.1%	23.2%	30.8%

Source: Calculations by the JRC based on Eurostat's Structural Business Statistics, Short-Term Business Statistics and National Accounts Database

ANNEX 3: COMPOSITION OF GROUPINGS OF INDUSTRIES OF DIFFERENT TECHNOLOGY AND KNOWLEDGE INTENSITIES

Knowledge-intensive services

The group of knowledge-intensive services (KIS) is classified according to Eurostat and regroups the following service industries (NACE 2 classification):

High-tech services:

- J59 Motion picture, video and television programme production, sound recording and music publishing activities
- J60 Programming and broadcasting services
- J61 Telecommunications
- J62 Computer programming, consultancy and related activities
- J63 Information service activities
- M72 Scientific research and development

Market services:

- H50 Water transport
- H51 Air transport
- M69 Legal and accounting activities
- M70 Activities of head offices, management consultancy activities
- M71 Architectural and engineering activities; technical testing and analysis
- M73 Advertising and market research
- M74 Other professional, scientific and professional services
- N78 Employment activities
- N80 Security and investigation activities

Other KIS

- J58 Publishing activities
- M75 Veterinary activities

Low knowledge-intensive services

Market services

- G45 Wholesale and retail trade and repair of motor vehicles and motorcycles
- G46 Wholesale trade, except of motor vehicles and motorcycles
- G47 Retail trade, except of motor vehicles and motorcycles
- H49 Land transport and transport via pipelines
- H52 Warehousing and support activities for transportation
- I55 Accommodation
- I56 Food and beverage service activities
- L68 Real estate activities
- N77 Rental and leasing activities
- N79 Travel agency, tour operator reservation service
- N81 Services to buildings and landscape activities
- N82 Office administrative, office support and other business support activities

Other

- H53 Postal and courier activities

High-tech industries

- C21 Manufacture of basic pharmaceutical products and pharmaceutical preparations
- C26 Manufacture of computer, electronic and optical products

Medium-tech industries

Medium high-tech

- C20 Manufacture of chemicals and chemical products
- C27 Manufacture of electrical equipment
- C28 Manufacture of machinery and equipment n.e.c.
- C29 Manufacture of motor vehicles, trailers and semi-trailers
- C30 Manufacture of other transport equipment

Medium-low tech

- C19 Manufacture of coke and refined petroleum products
- C22 Manufacture of rubber and plastic products
- C23 Manufacture of other non-metallic mineral products
- C24 Manufacture of basic metals
- C25 Manufacture of fabricated metal products, except machinery and equipment
- C33 Repair and installation of machinery and equipment

Low-tech industries

- C10 Manufacture of food products
- C11 Manufacture of beverages
- C12 Manufacture of tobacco products
- C13 Manufacture of textiles
- C14 Manufacture of wearing apparel
- C15 Manufacture of leather and related products
- C16 Manufacture of wood and of products of wood and cork, except furniture; Manufacture of articles of straw and plaiting materials
- C17 Manufacture of paper and paper products
- C18 Printing and reproduction of recorded media

ANNEX 4: PROPORTION OF SMEs, SME EMPLOYMENT AND SME VALUE ADDED ATTRIBUTED TO DIFFERENT KNOWLEDGE AND TECHNOLOGY INTENSITIES BY EU MEMBER STATE IN 2022

Table 12: Proportion of EU-27 NFBS SMEs in industries of different knowledge and technology intensities by EU Member State - 2022

	Knowledge-intensive industries	Low knowledge-intensive industries	High-tech industries	Medium-tech industries	Low-tech industries
AT	32.9%	58.7%	0.2%	3.5%	4.7%
BE	38.7%	54.4%	0.1%	3.1%	3.7%
BG	20.5%	70.5%	0.1%	3.3%	5.5%
CY	27.4%	62.4%	0.0%	4.3%	5.9%
CZ	30.6%	48.7%	0.4%	11.0%	9.3%
DE	29.7%	59.7%	0.5%	5.4%	4.7%
DK	31.8%	60.4%	0.4%	4.7%	2.7%
EE	33.8%	55.2%	0.2%	4.7%	6.2%
EL	27.4%	63.2%	0.1%	3.5%	5.9%
ES	22.7%	70.2%	0.1%	3.0%	4.0%
FI	28.6%	61.7%	0.3%	5.5%	3.9%
FR	29.3%	62.5%	0.1%	2.5%	5.6%
HR	31.4%	54.2%	0.3%	6.5%	7.6%
HU	38.5%	52.0%	0.2%	4.5%	4.8%
IE	32.9%	59.1%	0.3%	3.9%	3.8%
IT	29.2%	59.3%	0.2%	5.3%	6.0%
LT	26.6%	62.7%	0.1%	3.1%	7.5%
LU	44.0%	53.8%	0.0%	0.9%	1.3%
LV	29.5%	58.8%	0.2%	3.8%	7.7%
MT	27.9%	63.9%	0.3%	3.5%	4.4%
NL	49.4%	44.2%	0.2%	3.1%	3.2%
PL	31.3%	55.1%	0.2%	6.9%	6.5%
PT	20.1%	72.1%	0.1%	2.9%	4.8%
RO	22.4%	66.1%	0.2%	4.0%	7.4%
SE	46.7%	45.0%	0.2%	4.2%	3.8%
SI	38.5%	46.3%	0.3%	7.9%	7.1%
SK	30.1%	50.2%	0.4%	11.8%	7.6%

Source: Calculations by the JRC based on Eurostat's Structural Business Statistics, Short-Term Business Statistics and National Accounts Database

Table 13: Proportion of EU-27 NFBS employment attributed to SMEs in industries of different knowledge and technology intensities by EU Member State - 2022

	Knowledge-intensive industries	Low knowledge-intensive industries	High-tech industries	Medium-tech industries	Low-tech industries
AT	23.2%	58.3%	0.6%	9.9%	8.0%
BE	27.4%	55.9%	0.5%	8.6%	7.5%
BG	16.8%	58.1%	0.6%	9.7%	14.7%
CY	22.6%	62.6%	0.3%	6.4%	8.1%
CZ	21.0%	46.5%	0.9%	20.0%	11.6%
DE	21.0%	57.3%	1.1%	12.7%	7.8%
DK	24.2%	59.5%	0.9%	10.0%	5.3%
EE	21.0%	50.8%	0.8%	12.1%	15.2%
EL	17.6%	67.0%	0.3%	5.5%	9.6%
ES	17.6%	65.7%	0.4%	8.6%	7.8%
FI	28.9%	50.0%	1.1%	13.4%	6.5%
FR	23.6%	59.4%	0.5%	7.9%	8.6%
HR	21.3%	52.7%	0.5%	12.8%	12.7%
HU	25.0%	53.1%	0.9%	12.0%	8.9%
IE	25.3%	61.5%	0.8%	6.6%	5.8%
IT	16.8%	56.2%	0.7%	15.1%	11.3%
LT	19.3%	58.9%	0.7%	7.9%	13.2%
LU	32.7%	57.4%	0.1%	6.5%	3.3%
LV	20.3%	56.5%	0.6%	8.4%	14.3%
MT	25.3%	57.3%	2.9%	6.8%	7.7%
NL	30.6%	55.6%	0.5%	8.0%	5.2%
PL	19.4%	53.7%	0.6%	13.9%	12.4%
PT	16.7%	60.8%	0.3%	8.8%	13.4%
RO	16.9%	57.0%	0.6%	10.3%	15.3%
SE	28.9%	55.1%	0.8%	10.3%	5.0%
SI	24.8%	44.3%	1.0%	19.8%	10.2%
SK	22.4%	48.8%	0.8%	17.4%	10.5%

Source: Calculations by the JRC based on Eurostat's Structural Business Statistics, Short-Term Business Statistics and National Accounts Database

Table 14: Proportion of EU-27 NFBS value added generated by SMEs in industries of different knowledge and technology intensities by EU Member State - 2022

	Knowledge-intensive industries	Low knowledge-intensive industries	High-tech industries	Medium-tech industries	Low-tech industries
AT	21.6%	58.4%	0.9%	12.0%	7.1%
BE	25.2%	55.2%	0.8%	11.5%	7.3%
BG	22.3%	49.3%	1.3%	14.2%	13.0%
CY	33.6%	49.1%	0.8%	9.1%	7.4%
CZ	22.7%	45.8%	1.2%	21.0%	9.3%
DE	25.4%	52.1%	1.4%	14.6%	6.5%
DK	20.7%	65.5%	1.1%	8.7%	3.9%
EE	22.6%	49.9%	0.8%	13.2%	13.5%
EL	22.6%	56.1%	1.0%	10.1%	10.2%
ES	19.1%	58.5%	0.8%	12.9%	8.7%
FI	28.4%	46.5%	1.9%	16.3%	6.9%
FR	27.7%	55.2%	0.7%	9.4%	7.0%
HR	23.8%	51.8%	0.7%	13.7%	10.0%
HU	23.9%	52.7%	1.3%	15.0%	7.2%
IE	33.1%	52.7%	3.6%	5.3%	5.3%
IT	17.8%	46.8%	1.5%	22.1%	11.8%
LT	17.9%	57.0%	1.7%	11.4%	12.1%
LU	33.5%	60.2%	0.0%	4.6%	1.7%
LV	21.6%	53.5%	0.7%	10.4%	13.7%
MT	38.7%	49.4%	1.8%	6.2%	3.9%
NL	29.5%	52.6%	1.0%	11.2%	5.6%
PL	18.5%	53.1%	0.8%	16.5%	11.1%
PT	21.0%	51.7%	0.6%	12.2%	14.5%
RO	18.1%	56.7%	0.8%	14.0%	10.3%
SE	30.1%	52.2%	0.9%	11.8%	5.1%
SI	23.1%	45.8%	1.4%	21.2%	8.4%
SK	21.5%	51.2%	1.0%	19.0%	7.3%

Source: Calculations by the JRC, based on **Eurostat's Structural Business Statistics, Short-Term Business Statistics and National Accounts Database**

ANNEX 5: THE NUMBER OF SMES, SME EMPLOYMENT AND SME VALUE ADDED FOR THE EU-27 AND SELECTED NON-EU COUNTRIES IN 2020

As in the EU-27, in 2020, SMEs accounted for 99.6% or more of the total number of enterprises in the NFBS in the COSME countries of Albania (AL), Armenia (AM), Bosnia and Herzegovina (BA), Iceland (IS), Moldova (MD), North Macedonia (MK), Serbia (RS), Turkey (TR) and Ukraine (UA),²³ and the UK (Table 15). There is only one exceptional country, Montenegro (ME), in which SMEs represent the 97% of the total number of enterprises.

SMEs in most of these countries also accounted for a larger share of NFBS employment and value added than EU-27 SMEs in 2020.

- The only exception was SMEs in MD, UA and the UK, which accounted for a smaller share of total NFBS employment than EU-27 SMEs (albeit only marginally in the case of UA).
- In contrast, SMEs accounted for a much larger proportion of total NFBS employment in AL, IS, MK and TR than in the EU-27.
- The share of value added generated by SMEs in total NFBS value added was higher all COSME countries except TR than in the EU-27, although the difference was marginal in the case of TR. In contrast, UK SMEs produced a slightly smaller proportion of total NFBS value added than EU-27 SMEs.

Table 15: Proportion (in %) of the number of NFBS enterprises, NFBS employment and NFBS value added accounted for by SMEs in the EU-27, the COSME countries, and the UK in 2020

Country	Number of Enterprises	Employment	Value Added
AL	99.8%	81.2%	74.0%
AM	99.8%	68.6%	63.4%
BA	99.6%	69.6%	64.2%
IS	99.8%	75.3%	72.9%
MD	98.6%	59.3%	70.5%
ME	97.0%	-	77.0%
MK	99.7%	74.5%	67.9%
RS	99.8%	65.5%	58.2%
TR	99.9%	73.6%	51.8%
UA	99.9%	63.9%	55.8%
UK	99.7%	53.5%	49.8%
EU-27	99.8%	64.2%	52.4%

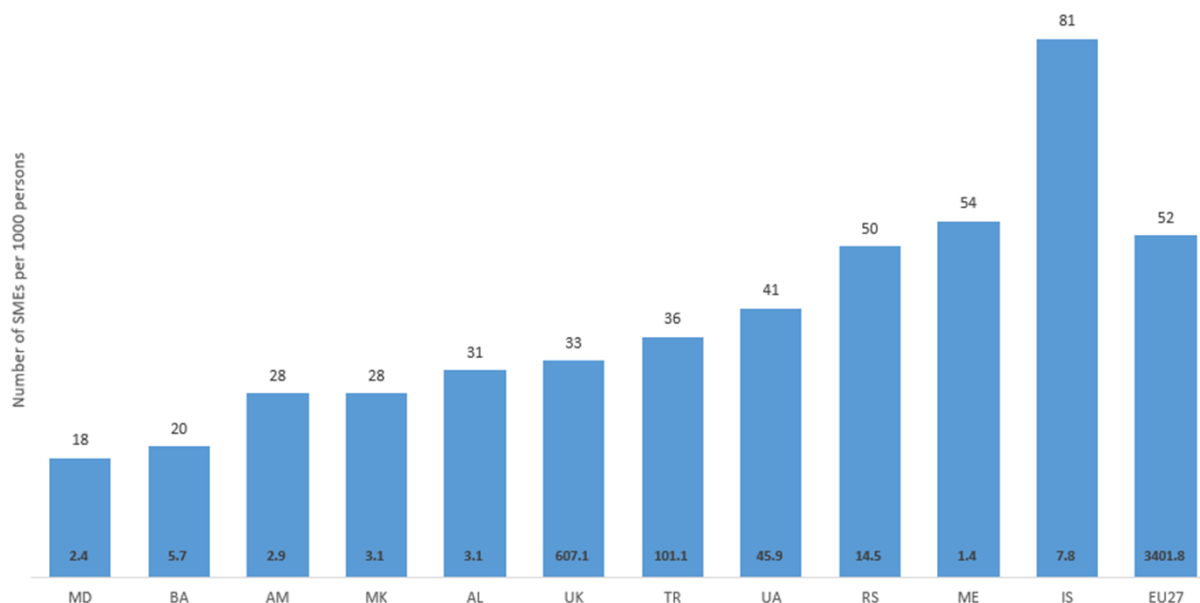
Note: No data are available for XK and SME employment data for ME are not available for 2020. IS data refer to 2019

Source: **EU-27 data is from calculations by JRC based on Eurostat's Structural Business Statistics, Short-Term Business Statistics and National Accounts Database. Data for the other countries was provided by JRC, based on data from national statistical offices and estimations.**

Compared with the EU-27, the prevalence of SMEs in the NFBS in 2020, on a per capita basis, was lower in all but two of the COSME countries and also in the UK. Whereas, in 2020, there were 52 SMEs per 1,000 inhabitants in the EU-27 NFBS, the corresponding figures ranged from 18 (MD) to 50 (RS) among the COSME countries (except IS and ME) and in the UK (Figure 50).

²³ 2020 is the most recent year for which data on the performance of SMEs are available for the COSME countries. Data for Iceland refer to 2019 No data are available for the COSME country Kosovo.

Figure 50: Number of SMEs in the NFBS on per capita basis in the EU-27, COSME countries, and the UK, and value added generated by SMEs in EUR billion in 2020



Note: No data are available for XK. The value added generated by SMEs in the NFBS is shown in italics in the bars.

Source: **EU-27 data is from calculations by JRC based on Eurostat's Structural Business Statistics, Short-Term Business Statistics and National Accounts Database.** Data for the other countries was provided by DIW Econ, based on data from national statistical offices and estimations. Population data was taken from Eurostat for all countries except MD and BA. Population data for MD and BA was taken from the World Bank.

Over 90% of all SMEs in the NFBS of the EU-27, COSME countries (except BA and MD) and in the UK, were micro SMEs in 2020 (Table 16). Furthermore, in BA and MD, both small SMEs and medium-sized SMEs made up a larger proportion of the total number of NFBS SMEs in 2020 than in any of the other countries for which data are shown in Table 16.

Table 16: Share of the total number of SMEs accounted for by micro, small and medium-sized SMEs in the NFBS of the EU-27, the COSME countries and the UK in 2020

Country	Micro SMEs	Small SMEs	Medium-sized SMEs
AL	92.8%	6.0%	1.2%
AM	94.6%	4.6%	0.8%
BA	89.2%	8.8%	1.9%
IS	94.0%	5.1%	0.9%
MD	87.4%	10.5%	2.1%
ME	96.5%	3.0%	0.6%
MK	90.8%	7.8%	1.3%
RS	95.9%	3.4%	0.8%
TR	94.3%	4.9%	0.8%
UA	96.2%	3.2%	0.6%
UK	90.6%	8.1%	1.3%
EU-27	93.6%	5.6%	0.9%

Note: No data are available for XK.

Source: **EU-27 data is from calculations by JRC based on Eurostat's Structural Business Statistics, Short-Term Business Statistics and National Accounts Database.** Data for the other countries was provided by JRC, based on data from national statistical offices and estimations.

In the NFBS in 2020, micro SMEs employed more workers than either small or medium-sized SMEs in the EU-27, the COSME countries and the UK, except in MD, where micro SMEs accounted for 36.3% of total SME employment, while small SMEs accounted for 36.9% (Table 17). In particular, micro SMEs accounted for the majority of SME employment in the NFBS in TR (51.2%) and UA (56.5%).

In the same year, medium-sized SMEs accounted for over 30% of SME employment in the NFBS in BA (34.3%) and AM (30.1%). More generally, the proportion of NFBS SME employment accounted for by medium-sized enterprises was lower in the EU-27 (24.6%) than in all the other countries covered, except for TR (22.3%) and UA (21.2%).

In contrast to the EU-27, in which micro SMEs generated the largest share of value added in the NFBS in 2020, this was not case for six of the COSME countries (AL, BA, IS, MD, MK, TR) listed in Table 17.

Table 17: Proportion (in %) of SME employment and SME value added in the NFBS accounted for by micro, small and medium-sized SMEs in the EU-27, COSME countries and the UK in 2020

Country	Employment			Value Added		
	Micro SMEs	Small SMEs	Medium-sized SMEs	Micro SMEs	Small SMEs	Medium-sized SMEs
AL	43.5%	27.7%	28.8%	28.7%	36.0%	35.3%
AM	38.9%	30.9%	30.1%	36.6%	29.8%	33.6%
BA	34.8%	30.9%	34.3%	28.4%	34.2%	37.4%
IS	38.7%	31.8%	29.5%	34.6%	29.3%	36.1%
MD	36.3%	36.9%	26.9%	23.8%	36.8%	39.3%
ME	-	-	-	68.8%		31.2%
MK	42.8%	30.5%	26.7%	31.6%	35.4%	33.1%
RS	48.0%	24.2%	27.8%	36.4%	27.8%	35.8%
TR	51.2%	26.5%	22.3%	26.1%	32.0%	41.9%
UA	56.5%	22.3%	21.2%	45.3%	26.5%	28.3%
UK	41.6%	31.4%	26.9%	41.2%	28.6%	30.2%
EU-27	45.2%	30.2%	24.6%	35.4%	32.0%	32.6%

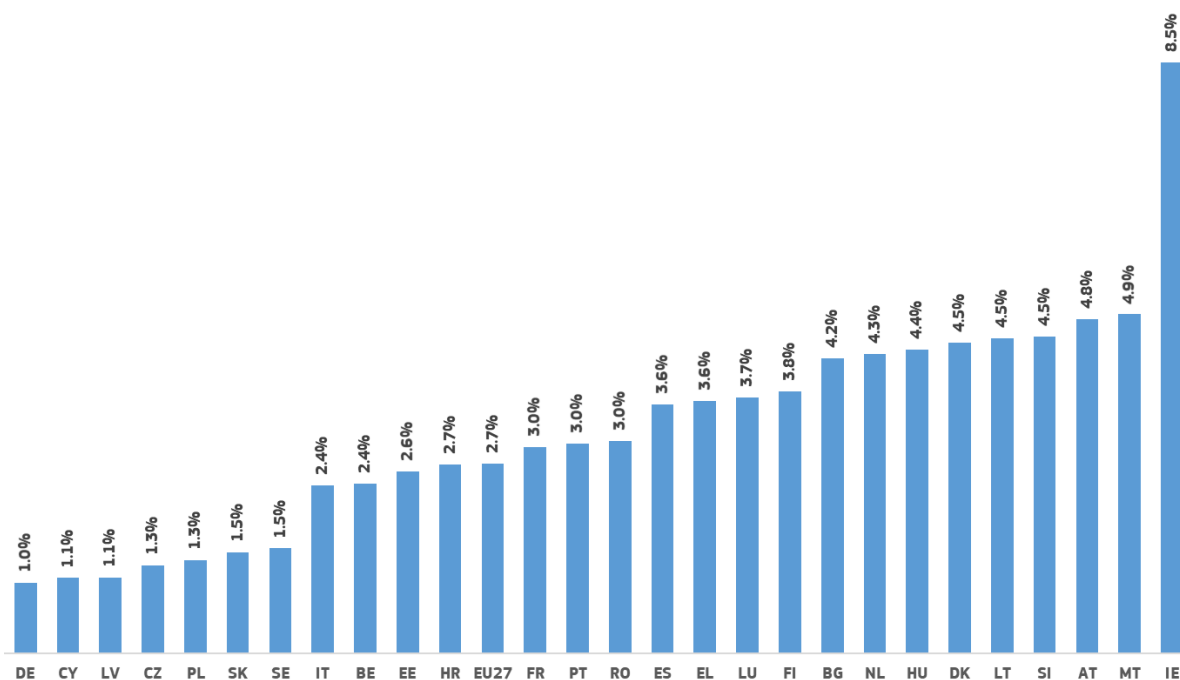
Note: No data are available for XK. ME employment data was unavailable for 2020, and ME value added data was only available for micro and small SMEs combined.

Source: **EU-27 data is from calculations by the JRC, based on Eurostat's Structural Business Statistics, Short-Term Business Statistics and National Accounts Database.** Data for the other countries was provided by JRC, based on data from national statistical offices and estimations.

ANNEX 6: ANNUAL GROWTH RATE IN THE NUMBER OF SMEs IN 2022 AND PERCENTAGE CHANGE IN THE NUMBER OF SMEs IN 2022 COMPARED TO 2019 IN THE EU-27 AND ACROSS EU MEMBER STATES

The number of SMEs grew in 2022 in all Member States, resulting in an increase of 2.7% in the number of SMEs across the EU-27 (Figure 51). Seven Member States experienced growths smaller than 2% in the number of SMEs in 2022. The three countries with the minimum increase are DE (1.0%), CY (1.1%) and LV (1.1%). DE and LV constitute the two Member States that experienced decline in number of SMEs for the period 2019-2022 (Figure 52). On the other hand, nine Member States experienced growth in 2022 higher than 4%, but only one managed to exceed to threshold of 5% (IE 8.5%).

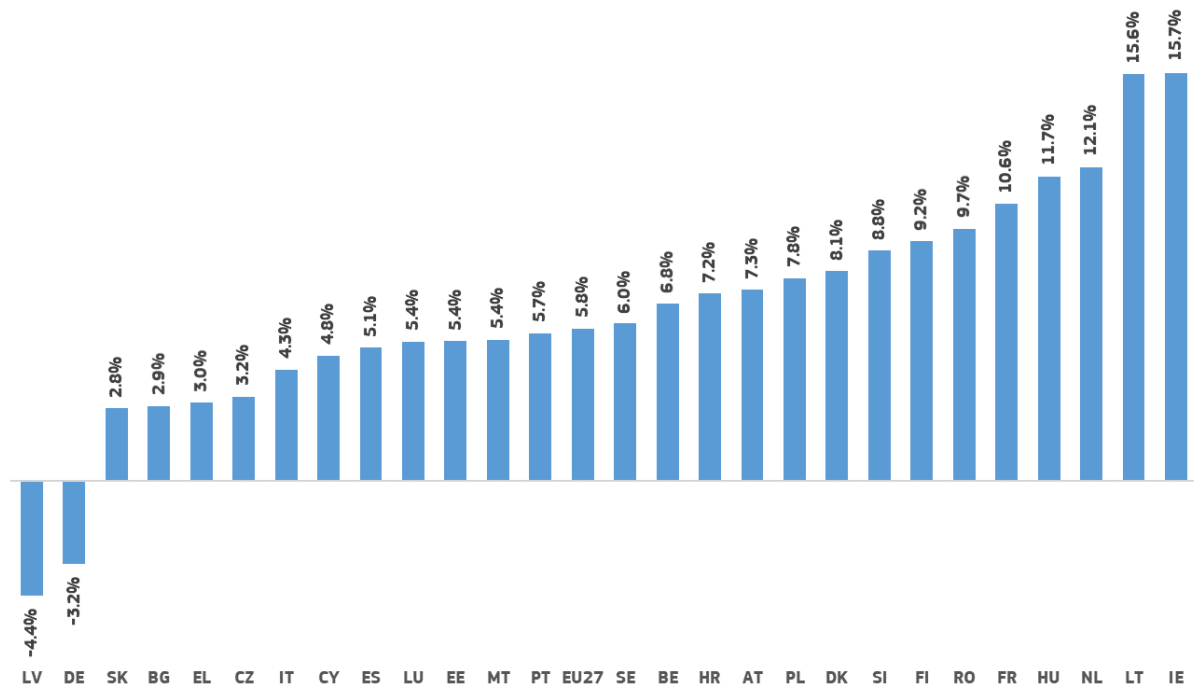
Figure 51: Annual growth rate in the number of SMEs in the EU-27 and across EU Member States - 2022



Source: Calculations by the JRC based on Eurostat's **Structural Business Statistics**, **Short-Term Business Statistics** and **National Accounts Database**

As mentioned above, only two Member States (LV 4.4% and DE 3.2%) experienced a decrease in the number of SMEs between 2019 and 2022. Overall an increase of 5.8% in the number of SMEs in the EU-27 is remarked. On the other side, there are five countries with an overall growth higher than 10%: FR (10.6%), HU (11.7%), NL (12.1%), LT (15.6%) and IE (15.7%)

Figure 52: Percentage change in the number of SMEs in 2022 compared to 2019 in the EU-27 and across EU Member States



Source: Calculations by the JRC based on Eurostat's Structural Business Statistics, Short-Term Business Statistics and National Accounts Database

ANNEX 7: SME PERFORMANCE INDICATORS IN 2022 RELATIVE TO 2020 BY KNOWLEDGE INTENSITY, BY 2-DIGIT NACE INDUSTRY CLASSIFICATION AND BY COMPARISON WITH LARGE ENTERPRISES

Table 18: 2022 SME value added, SME employment and number of SMEs as a percentage of their 2020 values by knowledge and technology intensity – EU-27

	Value Added	Employment	Number of Enterprises
Knowledge-intensive industries	111.9%	105.9%	106.7%
Low knowledge-intensive industries	118.8%	103.7%	104.3%
High-tech industries	110.8%	100.8%	100.7%
Medium-tech industries	113.3%	101.0%	101.2%
Low-tech industries	113.6%	101.5%	101.5%

Source: Calculations by the JRC based on Eurostat's Structural Business Statistics, Short-Term Business Statistics and National Accounts Database

Note: Value added is not adjusted for inflation

Table 19: 2022 SME value added, SME employment and number of SMEs as a percentage of their 2020 values by 2-digit NACE industry classification and by comparison with large enterprises – EU-27

	Number of Enterprises		Employment		Value Added	
	SMEs	Large enterprises	SMEs	Large enterprises	SMEs	Large enterprises
B05: Mining of coal and lignite	108%	94%	110%	95%	267%	204%
B06: Extraction of crude petroleum and natural gas	97%	175%	102%	123%	289%	242%
B07: Mining of metal ores	96%	92%	71%	101%	28%	153%
B08: Other mining and quarrying	101%	94%	104%	98%	140%	142%
B09: Mining support service activities	141%	97%	90%	91%	98%	111%
C10: Manufacture of food products	102%	98%	101%	100%	113%	115%
C11: Manufacture of beverages	101%	98%	101%	101%	113%	117%
C12: Manufacture of tobacco products	110%	100%	118%	99%	72%	130%
C13: Manufacture of textiles	101%	98%	101%	100%	113%	111%
C14: Manufacture of wearing apparel	101%	92%	101%	98%	116%	116%
C15: Manufacture of leather and related products	101%	99%	101%	100%	113%	113%
C16: Manufacture of wood and of products of wood and cork, except furniture; manufacture of articles of straw and plaiting materials	101%	99%	102%	100%	115%	117%
C17: Manufacture of paper and paper products	100%	98%	100%	100%	111%	115%
C18: Printing and reproduction of recorded media	101%	98%	102%	99%	122%	191%
C19: Manufacture of coke and refined petroleum products	96%	94%	112%	99%	158%	254%
C20: Manufacture of chemicals and chemical products	101%	98%	101%	100%	114%	117%
C21: Manufacture of basic pharmaceutical products and pharmaceutical preparations	102%	100%	102%	101%	109%	120%

	Number of Enterprises		Employment		Value Added	
	SMEs	Large enterprises	SMEs	Large enterprises	SMEs	Large enterprises
C22: Manufacture of rubber and plastic products	100%	98%	100%	100%	113%	113%
C23: Manufacture of other non-metallic mineral products	101%	98%	102%	100%	113%	114%
C24: Manufacture of basic metals	103%	98%	103%	99%	120%	116%
C25: Manufacture of fabricated metal products, except machinery and equipment	101%	98%	101%	100%	113%	114%
C26: Manufacture of computer, electronic and optical products	101%	99%	100%	100%	111%	116%
C27: Manufacture of electrical equipment	101%	98%	101%	101%	112%	114%
C28: Manufacture of machinery and equipment n.e.c.	101%	99%	100%	100%	112%	115%
C29: Manufacture of motor vehicles, trailers and semi-trailers	101%	97%	100%	100%	116%	113%
C30: Manufacture of other transport equipment	101%	100%	100%	101%	110%	114%
C31: Manufacture of furniture	102%	97%	102%	101%	114%	115%
C32: Other manufacturing	102%	99%	101%	101%	112%	120%
C33: Repair and installation of machinery and equipment	101%	98%	102%	99%	113%	114%
D35: Electricity, gas, steam and air conditioning supply	101%	99%	104%	100%	128%	138%
E36: Water collection, treatment and supply	102%	92%	99%	98%	130%	137%
E37: Sewerage	102%	107%	100%	108%	136%	139%
E38: Waste collection, treatment and disposal activities; materials recovery	101%	101%	101%	102%	129%	136%
E39: Remediation activities and other waste management services	102%	100%	101%	105%	136%	100%
F41: Construction of buildings	106%	103%	106%	104%	109%	115%
F42: Civil engineering	104%	101%	103%	104%	109%	114%
F43: Specialised construction activities	106%	103%	106%	104%	113%	116%
G45: Wholesale and retail trade and repair of motor vehicles and motorcycles	101%	102%	101%	102%	122%	124%
G46: Wholesale trade, except of motor vehicles and motorcycles	101%	102%	101%	102%	122%	123%
G47: Retail trade, except of motor vehicles and motorcycles	101%	102%	100%	102%	122%	124%
H49: Land transport and transport via pipelines	102%	101%	101%	99%	121%	126%
H50: Water transport	101%	147%	99%	100%	114%	122%
H51: Air transport	106%	101%	102%	103%	127%	184%
H52: Warehousing and support activities for transportation	101%	101%	100%	97%	121%	124%
H53: Postal and courier activities	109%	103%	103%	101%	102%	113%
I55: Accommodation	113%	117%	112%	117%	123%	134%
I56: Food and beverage service activities	112%	118%	112%	115%	123%	127%
J58: Publishing activities	110%	112%	108%	109%	117%	114%
J59: Motion picture, video and television programme production, sound recording and music publishing activities	110%	109%	110%	113%	110%	116%
J60: Programming and broadcasting activities	109%	107%	113%	109%	117%	111%

	Number of Enterprises		Employment		Value Added	
	SMEs	Large enterprises	SMEs	Large enterprises	SMEs	Large enterprises
J61: Telecommunications	110%	110%	110%	110%	112%	109%
J62: Computer programming, consultancy and related activities	109%	113%	108%	111%	109%	113%
J63: Information service activities	108%	108%	107%	108%	110%	109%
L68: Real estate activities	106%	106%	106%	105%	107%	108%
M69: Legal and accounting activities	106%	112%	106%	108%	112%	111%
M70: Activities of head offices; management consultancy activities	107%	106%	106%	105%	112%	115%
M71: Architectural and engineering activities; technical testing and analysis	106%	109%	105%	108%	111%	114%
M72: Scientific research and development	106%	104%	105%	104%	117%	118%
M73: Advertising and market research	106%	106%	105%	106%	120%	113%
M74: Other professional, scientific and technical activities	106%	102%	106%	104%	114%	143%
M75: Veterinary activities	106%	105%	105%	106%	109%	109%
N77: Rental and leasing activities	106%	107%	104%	108%	113%	112%
N78: Employment activities	107%	112%	104%	108%	112%	112%
N79: Travel agency, tour operator and other reservation service and related activities	105%	118%	105%	113%	127%	182%
N80: Security and investigation activities	105%	105%	103%	106%	109%	112%
N81: Services to buildings and landscape activities	106%	106%	104%	106%	111%	112%
N82: Office administrative, office support and other business support activities	107%	105%	105%	105%	114%	111%

Source: Calculations by the JRC based on Eurostat's Structural Business Statistics, Short-Term Business Statistics and National Accounts Database

Note: Value added is not adjusted for inflation

ANNEX 8: THE PERFORMANCE OF THE EU-27 AND SELECTED NON-EU COUNTRIES IN 2021 AND 2022

This annex provides information on the recent performance of SMEs in Albania (AL), Armenia (AM), Bosnia and Herzegovina (BA), Iceland (IS), Moldova (MD), Montenegro (ME), North Macedonia (MK), Serbia (RS), Turkey (TR) and Ukraine (UA),²⁴ and the UK.

Of those countries for which data was available, all experienced increases in SME employment in 2021, with the exception of IS (0.4% shrink) and the UK (0.3%) (Table 20). The largest growths in SME employment in 2021 were recorded by TR (10.1%) and MK (4.6%). All other countries experienced increases in SME employment of between 0.5% and 4.5%, whilst the EU-27 experienced a growth of 1.4%. Data for 2022 SME employment was only available for two of the selected countries (IS and the UK), which both experienced growth in SME employment compared to 2021 (of 2.4% and 0.3%, respectively). On the other hand, the EU-27 saw a significant increase in SME employment in 2022 of 2.4%.

The evolution in SME value added between 2021 and 2022 differed substantially across the countries studied. Concerning 2021, most countries experienced impressive growths in SME value added, all higher than 11%, with only RS generating a substantially smaller increase (0.8%), and UA experiencing a decline of 5% generating increases. SME value added rallied by more than 18% in two countries studied, TR (19%) and BA (18.6%). The EU-27 experienced a growth in SME value added of 8.7%, which was a smaller decrease than all the countries listed, except RS and UA. In 2022, two countries for which data was available experienced growth in SME value added. These are TR (3.7%) and UK (7.3%). On the contrary, the remaining four available countries experienced a fall that varies from 4.4 to 8.1% (AL 4.4%, RS 4.8%, BA 7.1% and MK 8.1%). The EU-27 saw growth in SME value added with an increase of 6.7%. Comparing to 2021, the growth is smaller but still not negligible.

Table 20: Growth rates of SME employment and SME value added in the EU-27 and selected non-EU countries in 2021 and 2022

COSME countries	Employment		Value Added	
	2021	2022	2021	2022
AL	-	-	15.9%	-4.4%
AM	3.3%	-	-	-
BA	1.6%	-	18.6%	-7.1%
IS	-0.4%	2.4%	-	-
MD	0.5%	-	12.6%	-
ME	-	-	11.4%	-
MK	4.6%	-	12.1%	-8.1%
RS	-	-	0.8%	-4.8%
TR	10.1%	-	19.0%	3.7%
UA	4.3%	-	-5.0%	-
UK	-0.3%	0.3%	13.9%	7.3%
EU-27	1.4%	2.4%	8.7%	6.7%

Note: Data for many of the COSME countries was not available, particularly with regards to 2022.

Source: **EU-27 data is from calculations by the JRC based on Eurostat's Structural Business Statistics, Short-Term Business Statistics and National Accounts Database.** Data for COSME countries and the UK is from JRC, based on data from national statistical offices and estimations

Note: Value added is not adjusted for inflation

²⁴ 2020 is the most recent year for which data on the performance of SMEs are available for the COSME countries. No data are available for the COSME country Kosovo. IS data refer to 2019

ANNEX 9: NACE INDUSTRIES INCLUDED IN EACH OF THE 14 INDUSTRIAL ECOSYSTEMS

Table 21: Industrial composition of the 14 industrial ecosystems

	Industries included in the ecosystem
1 - Aerospace and Defence	C25 Manufacture of fabricated metal products, except machinery and equipment C26 Manufacture of computer, electronic and optical products C27 Manufacture of electrical equipment C30 Manufacture of other transport equipment C33 Repair and installation of machinery and equipment H51 Air transport H52 Warehousing and support activities for transportation J61 Telecommunications N80 Security and investigation activities Horizontal
2 - Agri-food	C10 Manufacture of food products C11 Manufacture of beverages C12 Manufacture of tobacco products Horizontal Note: Ecosystem "Agri-food" is missing NACE sector A
3 - Construction	C31 Manufacture of furniture F: Construction M71: Architectural and engineering activities; technical testing and analysis N81: Services to buildings and landscape activities Horizontal
4- Cultural and Creative Industries	C18 Printing and reproduction of recorded media C32 Other manufacturing G47 Retail trade, except of motor vehicles and motorcycles J58 Publishing activities J59 Motion picture, video and television programme production, sound recording and music publishing activities J60 Programming and broadcasting activities J62 Computer programming, consultancy and related activities J63 Information service activities M71 Architectural and engineering activities; technical testing and analysis M73 Advertising and market research M74 Other professional, scientific and technical activities N77: Rental and leasing activities Horizontal Note: Ecosystem "Cultural and Creative Industries" is missing NACE sectors R, P and S94, S95
5 – Digital	C26 Manufacture of computer, electronic and optical products J58 Publishing activities J61: Telecommunications J62: Computer programming, consultancy and related activities J63: Information service activities Horizontal Note: Ecosystem "Digital" is missing NACE sector S95
6 – Electronics	C26 Manufacture of computer, electronic and optical products C28: Manufacture of machinery and equipment n.e.c. Horizontal
7 - Energy-intensive Industries	C16 Manufacture of wood and of products of wood and cork, except furniture; manufacture of articles of straw and plaiting materials C17 Manufacture of paper and paper products C19 Manufacture of coke and refined petroleum products C20 Manufacture of chemicals and chemical products C22 Manufacture of rubber and plastic products C23 Manufacture of other non-metallic mineral products C24 Manufacture of basic metals Horizontal
8 - Energy – Renewables	C27: Manufacture of electrical equipment D35 Electricity, gas, steam and air conditioning supply Horizontal
9 - Health	C21 Manufacture of basic pharmaceutical products and pharmaceutical preparations C32 Other manufacturing Horizontal Note: Ecosystem "Health" is missing NACE sector Q.

Industries included in the ecosystem	
10 - Mobility - Transport – Automotive	C27 Manufacture of electrical equipment C29 Manufacture of motor vehicles, trailers and semi-trailers C30 Manufacture of other transport equipment G45 Wholesale and retail trade and repair of motor vehicles and motorcycles H49 Land transport and transport via pipelines H50 Water transport H52 Warehousing and support activities for transportation Horizontal
11 - Proximity, Social Economy and Civil Security	G47 Retail trade, except of motor vehicles and motorcycles I Accommodation and food services L Real estate activities N81: Services to buildings and landscape activities N82: Office administrative, office support and other business support activities Horizontal Note: Ecosystem "Proximity, Social Economy and Civil Security" is missing NACE sectors Q, S95, S96 and T.
12 - Retail	G46 Wholesale trade, except of motor vehicles and motorcycles G47 Retail trade, except of motor vehicles and motorcycles H53 Postal and courier activities Horizontal
13 - Textiles	C13 Manufacture of textiles C14 Manufacture of wearing apparel C15 Manufacture of leather and related products Horizontal
14 - Tourism	H49 Land transport and transport via pipelines H50 Water transport H51 Air transport I Accommodation and food services N79 Travel agency, tour operator reservation service and related activities N82 Office administrative, office support and other business support activities Horizontal Note: Ecosystem "Tourism" is missing NACE sector R

Note: 'Horizontal' refers to activities which contribute to all ecosystems, such as professional services and utilities. Some sectors are horizontal by nature and, as such, they contribute to the well-functioning of all the ecosystems. To take into account their contribution, these sectors have been distributed across ecosystems using Input-Output tables, which can be used to calculate how much each horizontal sector is used by the rest of the ecosystems. It should be noted that the list of "Horizontal" sectors does not include financial services.

Source: Information provided by the European Commission

ANNEX 10: ENTERPRISE POPULATION IN THE 14 INDUSTRIAL ECOSYSTEMS IN 2022

Table 22: Number of enterprises by industrial ecosystem and size class - 2022

	Number				Percentage of the Ecosystem's Total			
	Micro	Small	Medium	Large	Micro	Small	Medium	Large
1 - Aerospace and Defence	258,235	27,576	8,105	2,195	87.21%	9.31%	2.74%	0.74%
2 - Agri-food	558,696	61,701	12,837	3,146	87.79%	9.70%	2.02%	0.49%
3 - Construction	5,878,701	323,894	40,073	6,716	94.07%	5.18%	0.64%	0.11%
4- Cultural and Creative Industries	1,357,239	43,681	7,346	1,571	96.27%	3.10%	0.52%	0.11%
5 – Digital	1,226,420	58,094	13,157	3,200	94.28%	4.47%	1.01%	0.25%
6 – Electronics	93,979	11,195	3,360	951	85.84%	10.22%	3.07%	0.87%
7 - Energy-intensive Industries	489,775	56,540	16,078	4,359	86.42%	9.98%	2.84%	0.77%
8 - Energy – Renewables	106,557	6,254	1,825	622,296	92.45%	5.43%	1.58%	0.54%
9 - Health	501,788	25,601	5,224	1,550	93.94%	4.79%	0.98%	0.29%
10 - Mobility - Transport – Automotive	1,797,389	120,355	20,928	5,012	92.47%	6.19%	1.08%	0.26%
11 - Proximity, Social Economy and Civil Security	1,294,799	71,712	8,959	1,875	94.01%	5.21%	0.65%	0.14%
12 - Retail	5,191,149	301,073	40,535	7,606	93.70%	5.43%	0.73%	0.14%
13 - Textiles	244,875	24,993	5,073	745	88.82%	9.07%	1.84%	0.27%
14 - Tourism	3,266,647	243,120	24,692	4,130	92.31%	6.87%	0.70%	0.12%






Note: Data are missing for some NACE codes that correspond to the following ecosystems: Agri-food (NACE sector A); Cultural and Creative Industries (R, P, S94 and S95); Health (Q); Proximity, Social Economy and Civil Security (Q, S95, S96 and T); and Tourism (R).

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