Policy Brief

Green, Digital and Competitive

An SME Agenda for the 21st Century

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Policy Brief

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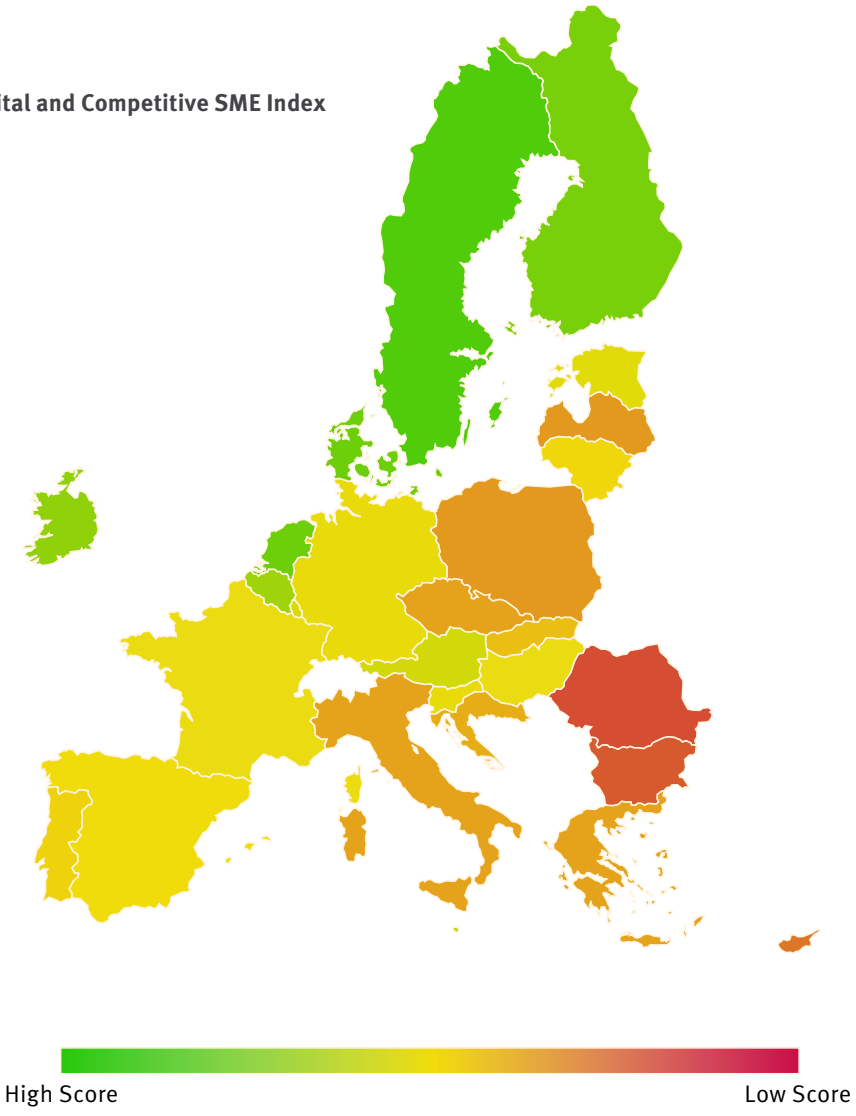
By Paul Hofheinz, Cristina Moise and David Osimo

The 2022 Green, Digital and Competitive SME Index



For a closer look at the performance of all 27 countries profiled in this policy brief – including interactive charts and open data available for downloading – visit https://gdc.lisboncouncil.net/.

About the Authors

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About the Lisbon Council

Founded in 2003 as a non-profit, non-partisan association, the Lisbon Council has emerged as one of Europe's leading think tanks and pre-eminent voices on social and economic change. Its website is https://lisboncouncil.net/.

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In Focus

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Green, Digital and Competitive

An SME Agenda for the 21st Century

The European Union has an ambitious agenda. On energy, it has adopted legally binding targets for reducing greenhouse gases to 55% of their 1990 levels by 2030 and cutting greenhouse gas emissions to "net zero" by 2050.[1] On digital, it wants to see 80% of the population with basic digital skills and 90% of small- and medium-sized enterprises (SMEs) with a basic level of "digital intensity" by 2030.[2] And if you reach back to the original 2000 Lisbon Agenda – which was never officially renounced – it still wants to become "the most competitive and dynamic knowledge-based economy in the world, capable of sustainable economic growth with more and better jobs and greater social cohesion."[3]

These are far-reaching goals, but behind the numerical targets and rhetorical bombast lie some serious points. We want an economy that is green – and we are ready to leverage our financial resources and knowledge to live harmoniously with the natural environment that nourishes our advanced industrial economy. We want to embrace the modern communication and data-driven technologies on which much social discourse is already based and from which future economic growth will come – and not only to adopt them, but also to infuse them with a healthy set of values rooted in our democratic way of life. And we are not naïve. We know that success will come not from visionary declarations but from very real economic power, i.e. by generating the resources we need through the ability of our big and small enterprises, our freelancers and entrepreneurs, to deliver products and services the world will want and to attain the prosperity we will need to meet the social goals we hold dear.

This is why the Lisbon Council created **The 2022 Green, Digital and Competitive SME Index**. This innovative benchmarking exercise – over a year in the making – is intended to give a window on two crucial things: 1) first and foremost, it gives visual expression to some key principles underlying Europe's "twin transition" to a green and digital economy; and 2) it measures progress in these priority areas across an important sector of the economy – the 22 million SMEs that generate 53% of the value added by Europe's businesses and employ 65% of Europe's workforce.[4] And it adds a crucial third component to the mix: competitiveness and company growth.[5]

'Awarding ourselves victories on paper and pretending any one of these objectives is obtainable without simultaneous success in the other two areas is a formula for stagnation.'

1 "Net zero" is defined as a balance between the amount of carbon emitted and carbon removed. It is also referred to as "climate neutrality" in some documents. See "Regulation Establishing the Framework for Achieving Climate Neutrality (European Climate Law)," *Official Journal of the European Union*, 30 June 2021.

2 The goals are set out in European Commission, "Digital Compass: The European Way for the Digital Decade," *Communication from the European Commission*, 09 March 2021. Basic "digital intensity" is defined as an enterprise adopting at least four digital technologies from a list of 12 possible areas. Compliance is monitored through a Digital Intensity Index maintained by the European Commission. For more, visit https://digital-strategy.ec.europa.eu/en/policies/desi.

3 Founded in 2003, the Lisbon Council continues to embrace the Lisbon Agenda as its mission statement. See Presidency Conclusions, Lisbon European Council, 23-24 March 2000.

4 The 53% figure is the total value added of the business sector, excluding agriculture and finance. That and the 65% of the workforce estimate are from Eurostat, which first published the figures in European Commission, Executive Agency for Small- and Medium-Sized Enterprises, *Annual Report on European SMEs 2020/2021: Digitalisation of SMEs* (Luxembourg: Publications Office of the European Union, 2021).

5 Throughout this policy brief, we use the European Commission's 2003 definition of small- and medium-sized enterprises. According to that definition, an SME 1) employs fewer than 250 people, and 2) has annual turnover of less than €50 million and/or a balance sheet of less than €43 million. The definition includes small enterprises (with 50 or fewer employees and a balance sheet of €10 million or less). However, most data sets exclude micro-enterprises (fewer than 10 employees and a balance sheet of €2 million or less) because the companies in question are too dispersed and data is too difficult to collect. Throughout, we have used data sets built around the European Commission definition, including the decision to exclude micro-enterprise data. However, we were able to find and include micro-enterprise data for exports, trade, productivity and SME greenhouse gas emissions. See European Commission, *European Commission Recommendation of 06 May 2003 Concerning the Definition of Micro-, Small- and Medium-Sized Enterprises* (Brussels: Official Journal of the European Union, 2003).

Table 1. The Green, Digital and Competitive SME Index Framework

The index is based on nine indicators divided into three pillars and made up of 21 sub-indicators. The 2022 results can be seen on page 10 of this report. For a more detailed description of the methodology, see the note on Methodology and Sensitivity Analysis that begins on page 86.

Pillar	Indicator	Sub-Indicator	Source
I. Digital Transition	I.1. SME Digitalisation	I.1.1. Share of SMEs using big data analytics	Eurostat (2020)
		I.1.2. Share of SMEs using cloud computing services	Eurostat (2020)
		I.1.3. Share of SMEs using two or more social media channels	Eurostat (2021)
		I.1.4. Share of SMEs with high and very high digital intensity	Eurostat (2021)
		I.1.5. Share of SMEs using any type of information and communication technology (ICT) security	Eurostat (2019)
	I.2. E-Commerce	I.2.1. Share of SMEs with e-commerce sales in total SMEs	Eurostat (2021)
		I.2.2. Share of SME total turnover from e-commerce sales in total turnover	Eurostat (2021)
	I.3. Digital Skills	I.3.1. Share of SMEs that employ ICT specialists in total SMEs	Eurostat (2020)
		I.3.2. Share of SMEs for which ICT functions are performed by own employees in total SMEs	Eurostat (2020)
		I.3.3. Share of SMEs providing training to develop or upgrade ICT skills of personnel	Eurostat (2020)
II. Green Transition	II.1. Natural Resource Conservation	II.1.1. Share of SMEs reducing consumption of natural resources (e.g. saving water, energy and materials or switching to sustainable resources)	European Commission Flash Eurobarometer 498 (2022)
		II.1.2. Share of SMEs recycling by reusing material or waste within the company	European Commission Flash Eurobarometer 498 (2022)
	II.2. Emission Reduction	II.2.1. Share of greenhouse gas emissions produced by SMEs in total greenhouse gas emissions	Eurostat (2019)
		II.2.2. Overall change in greenhouse gas emissions (Index 1990 = 100)	Eurostat (2019)
	II.3. Green Output	II.3.1. Share of SMEs offering green products or services	European Commission Flash Eurobarometer 498 (2022)
		II.3.2. Share of SMEs in low intensive greenhouse gas emission sectors in total SMEs	Eurostat (2019)
III. SME Competitiveness	III.1. Exports	III.1.1. Share of exporting SMEs in total SMEs	Eurostat (2019)
		III.1.2. SME trade to GDP ratio	Eurostat (2019)
	III.2. Productivity	III.2.1. SME labour productivity	Eurostat (2019)
	III.3. Growth	III.3.1. Share of high-growth enterprises in total active enterprises (10+ employees)	Eurostat (2019)
		III.3.2. Share of people employed in high-growth enterprises in total employment (enterprises with 10+ employees)	Eurostat (2019)

Creating framework conditions to drive innovation and stimulate innovative-company creation is a relatively mature policy area, dating back to the European Union's earliest days, but it is one which (we believe) gets insufficient policy attention these days. Put simply, Europe needs enterprises that can take our first-rate science to market and help us deliver the prosperity we need. But ultimately, there's a larger goal: they should carry our values out into the world and make the prosperity we seek accessible to all. It is often said that future European growth will come from embracing green technologies, and that may yet prove to be the case. But for now, too much policy is based on wishful thinking – not enough on monitoring actual progress in key areas and delivering frameworks that will drive the change we want to see. It is crucial that the complex interrelationship between these three policy areas – green, digital and competitive – be restored and strengthened. Put simply, bringing them together is the only way we will reach our broader social and economic goals. Awarding ourselves victories on paper and pretending that any one of these objectives is obtainable on its own without simultaneous success in the other two areas is a formula for stagnation, European decline and ultimately climate disaster.

'It is crucial that the complex interrelationship between these three policy areas – green, digital and competitive – be restored and strengthened.'

And there is a wealth of European initiative from which to take inspiration in these areas as well. Flagship policies – such as the European single market – were created with SMEs and company growth in mind. The aim was not simply to pander to business needs or encourage a few SMEs to get a little bit bigger in ponds that remain fundamentally small. To the contrary, the goal was to give them access to the kind of market that gives birth to vibrant global champions, as has happened for years in North America and happens today in 1.4-billion-citizen China as well. In simple terms, the European single market – and success within it – is and always has been crucial to the fulfilment of Europe's ambitious agenda. This is no less true in the era of "twin transition." To the contrary, it is even more true now.

And there are several reasons why this is the case. Social progress, when it comes, does so not through some complicated zero-sum game or by taking steps in one area that come at the cost of progress in others. Put simply, Europe moves forward on all three of these goals – or else it moves forward on none at all. And it is up to us to make sure the remedies we dispense today continue to embrace this "all-in" principle – that no pillar is considered higher than or above the others and that success will only come when we make progress on all fronts at the same time and in all directions.

There are many strengths inherent in an all-in approach of this type. The economy itself is a large and complex one – and particularly so in an economic bloc of 27 countries with radically different climates, economic systems, educational attainment and levels of development. It is hard in such an environment to speak of "Europe" in the sense that we are all one and we all face the same development hurdles and future challenges. And yet, there is something that we might well call "Europe," something that European Commission President Ursula von der Leyen has referred to as "the soul" of our union.[6] Long before there was a European

6 Ursula von der Leyen, "Strengthening the Soul of Our Union," *2021 State of the Union*, 15 September 2021.

Table 2. The 2022 Green, Digital and Competitive SME Index

Rank	Country	Score	Digital Transition Rank	Green Transition Rank	SME Competitiveness Rank
1	Sweden	73.56	3	1	10
2	Netherlands	69.97	6	2	1
3	Denmark	69.72	1	11	2
4	Finland	68.21	2	7	6
5	Ireland	64.06	4	14	5
6	Belgium	62.07	5	6	11
7	Malta	59.04	7	12	8
8	Austria	54.88	10	4	13
9	Luxembourg	53.89	20	3	9
10	Estonia	52.12	13	16	4
11	Slovenia	51.30	14	20	3
12	Germany	50.94	11	9	19
13	Spain	50.31	15	10	14
14	Lithuania	49.55	8	18	16
15	Portugal	48.89	16	21	7
	European Union	48.75			
16	Hungary	46.34	19	13	17
17	France	46.22	17	8	24
18	Slovakia	45.75	25	5	20
19	Croatia	43.62	9	24	23
20	Czech Republic	41.75	12	23	25
21	Italy	41.38	21	17	21
22	Greece	41.22	22	22	15
23	Poland	40.58	24	19	22
24	Latvia	40.30	23	25	12
25	Cyprus	35.60	18	27	26
26	Bulgaria	31.28	27	26	18
27	Romania	29.54	26	15	27

Sources: European Commission, Eurostat (Lisbon Council calculations)

Green Deal, Europe's founding mothers and fathers convened many conferences and wrote many books on what that soul might actually be. And yet, the answer may be simpler than any they were able to pin down. Europe in its modern sense is a multi-national political space where common cultures define common goals and devise common ways of reaching them. It is a political process where we – all of us – work together to up our game and avoid letting our darker angels hold sway over the land. And it is an opportunity for like-minded nations to sit with and learn from each other. In other words, unity is our mantra; but diversity is our strength – especially when that diversity is embedded in a framework of common objectives and mutual learning.

'Europe moves forward on all three of these goals – or else it moves forward on none at all.'

Facts like those mentioned above give SMEs a special role in determining Europe's success. Put simply, if policymakers can't deliver the change they seek among Europe's SMEs, then you can forget about success on a broader scale across the gamut of European policy areas. But the opposite is true as well. If a substantial portion of SMEs can be made to deliver – and the pace is kept up in other areas, including research, technology diffusion, new markets for green technology, efforts to reduce the "green premium" on environmentally friendly goods, investment to drive progress and good policy to make the whole package coherent and deliverable – then Europe's goals are not only attainable; they are imminently achievable. Think of it this way: if you could get just half of Europe's 22 million SMEs to hire just one additional person, it would create 11 million jobs. And if you could anchor just as many people behind workable circular-economy projects or all-hands efforts to green supply chains, switch to renewables and use the power of digital technology to create sustainably growing cross-border companies, progress on the European goals would gain a substantial boost unlike any they have seen before.[7]

And indeed – as this index will show – many countries, and the progressive SMEs within them, are forging ahead. Some, like Plan A.Earth GmbH, a Berlin-based data-analytics company whose work is profiled on page 40, is enjoying double-digit growth on the back of an ambitious plan to help companies measure – and improve – their environmental footprint more quickly and accurately. Others, like My Jolie Candle, whose work is profiled on page 28, have used the power of digital technology not only to experiment in new markets but also to build back into old ones; after three years of online success, the company opened eight high-street stores in seven cities: Annecy, Bordeaux, Lille, Lyon, Nantes, Paris and Toulouse.

Management consultants tell us that what gets measured is what gets changed, and it is in this spirit that we created the Green, Digital and Competitive Index. It looks at the relative performance of SMEs, aggregated at the national level for measurement and compared at the European level to add meaning and context. It is made up of three pillars, each containing three indicators (the indicators themselves are composed of 21 sub-indicators. For a full

7 A host of studies have shown that these three goals do in fact go together, with success in one area often being a catalyst for success in another. For one, the European Commission found that SMEs that export are broadly speaking more digital than SMEs that don't export – and more likely to come from "greener" business sectors (with low or medium-low emission intensity). See Lucian Cernat, Małgorzata Jakubiak and Nicolas Preillon, "The Role of SMEs in Extra-EU Exports: Key Performance Indicators," *European Commission Directorate-General for Trade Chief Economist Notes*, 04 March 2020. Also, the European Commission found that many SMEs are adopting digital technologies not just so they can compete better and cross borders more easily; some 60% of SMEs surveyed say they adopted digital technologies because of their lower environmental footprint. See European Commission, *Survey on the Contribution of Information and Communication Technology to the Environmental Sustainability Actions of European Union Enterprises* (Brussels: European Commission, 2021).

overview, see Table 1 on page 8). The methodology is original; but the data is not. Most of it comes directly from Eurostat, the European Union statistical agency. But it has been supplemented in some cases by additional data from the European Commission and other official sources. The 27 countries of the European Union have all been ranked according to each pillar, indicator and sub-indicator. This is done not to turn a complex subject into oversimplified conclusions but so that we might track relative progress among countries in all areas – and learn from seeing what might be achieved in these areas by the best in class. The methodology is summarised in the Methodology and Sensitivity Analysis section, which begins on page 86. And there are individual country profiles for all 27 EU member states, starting on page 58. Additional graphical comparisons and other information – including the full data sets, which are available for downloading in "open data" machine-readable format – can be found on the Green, Digital and Competitive website at https://gdc.lisboncouncil.net/.

'The European single market – and success within it – is and always has been crucial to fulfilment of Europe's ambitious agenda.'

Among the key findings in The 2022 Green, Digital and Competitive SME Index:

1 **Sweden** (No. 1) leads. Its economy scores well on Green Transition (No. 1) and Digital Transition (No. 3).

2 But **All Countries**, including **Sweden**, have areas where they could improve. Sweden's SME Competitiveness ranking is No. 10, indicating that many SMEs in this 10.3-million-citizen country are still too focused on local markets and do too little to take on additional employees or look across borders for more opportunity. Sweden's SME trade to GDP ratio is No. 17 and the number of SMEs that could be classified as high growth gives it a No. 10 finish relative to its peers. Sweden needs to work on helping its SMEs reach out to more markets, including European and global ones – where their success could help drive forward the green and digital agenda they have successfully delivered at home.

3 **The Netherlands** (No. 2), **Denmark** (No. 3) and **Finland** (No. 4) come next, adding up to a very strong finish (three of the top four places) for the Nordic economies. The Netherlands' relatively high rank is a sign that Nordic-style success is not unobtainable elsewhere. The Netherlands scores No. 1 in SME Competitiveness, a sign that SMEs in this highly entrepreneurial country know how to scale and cross borders for opportunity. Its No. 2 finish on Green Transition is a sign that this 17.4-million-citizen economy takes the environment and energy efficiency seriously. Its relatively low score on Digital Transition (No. 6) is unexpected. Its SMEs are not doing particularly well on adoption of cloud services (No. 6) or, surprisingly, e-commerce sales, where The Netherlands' No. 10 finish puts it resoundingly in the middle of the pack. Still, its high performance is both a best-practice benchmark and an inspiration. The Netherlands' work lies mostly in deepening workplace adoption of digital technology.

4 **Denmark** (No. 3) ranks high on Digital Transition (No. 1) and SME Competitiveness (No. 2). But its No. 11 finish on Green Transition surprises and disappoints. Its performance on reducing consumption of natural resources (No. 25) and recycling (No. 24) are among the lowest in the survey. The results are hard to interpret, except to say that there may be an element of timing and perception involved here. The two sub-indicators – taking steps to reduce consumption of natural resources and increase recycling – are both based on self-reporting. Denmark got an early start on greening the economy, which could give local entrepreneurs and outside analysts the impression that less has happened in recent years. Either way, the results are a surprise and the reason behind them awaits further analysis and explanation.

5 **Finland** (No. 4) does very well with a particularly strong performance on Digital Transition (No. 2). The sub-indicators tell a particularly interesting story: Finland ranks No. 1 in on-the-job ICT training and in-house ICT skills. It performs solidly on SME Competitiveness (No. 6) and Green Transition (No. 7). Its weak points – the places where it could improve – are Emission Reduction (No. 15) and Exports (No. 10).

6 **Ireland** (No. 5) is a strong performer. It does well on Digital Transition (No. 4) and SME Competitiveness (No. 5) and, broadly speaking, is a solid operator all around. Its relative weak spots are Green Transition, where it is No. 14, and Exports, where it is No. 23. The middle-of-the-pack performance on environmental transition comes from lower than **EU Average** efforts to reduce use of natural resources (No. 26) and for SMEs to offer more green products and services (No. 16). Irish SMEs also need to do more to reach out to new markets; despite the vibrancy of their domestic economy, their SMEs are among the slowest growing in Europe.

'There will be no green transition unless SMEs are ready to deliver and incentivised to embrace Europe's carbon-neutral targets and overall green goals.'

7 In general, SMEs in **All Countries** underperform on Digital Transition – at least if one takes *Europe's Digital Decade: Digital Targets for 2030*, also known as the "Digital Compass," as a benchmark.[8] That programme sets out 11 ambitious goals, including a 75% adoption target for use of cloud computing services; currently only **Finland** meets the adoption rate for cloud with a spot-on 75% adoption rate. The **EU Average** for SME use of cloud services is 35%, well off the 75% target.

8 Data analytics is another area where European SMEs lag. The Digital Compass sets a 75% adoption target. To date, no European countries meet it. **Malta** is first with a 35% adoption rate. **Romania** and **Slovakia** are last with 5% adoption rates. Among Europe's more advanced economies, **Denmark** is highest; its 26% adoption rate puts it No. 2 on this criterion. Clearly, Europe has more work to do to help SMEs in **All Countries** unlock the power of data analytics.

8 European Commission, *2030 Digital Compass: the European Way for the Digital Decade* (Brussels: European Commission, 2021).

9 The news on the Green Transition is encouraging – and a bit contradictory. Three countries – **Estonia** (No. 10 in the overall ranking), **Lithuania** (No. 14 in the overall ranking) and **Romania** (No. 27 overall) – have all reached their 2030 Fit for 55 targets with greenhouse gas emissions 55% below their 1990 rate – a remarkable achievement, which, given the role of SMEs in attaining society-wide progress in this area we have chosen to monitor and track. But the SMEs in all three countries could still make more progress on other green-transition objectives. SMEs in Estonia, for one, do surprisingly poorly on cuts in use of natural resources (No. 22) and recycling (No. 23). Lithuania is No. 12 and No. 27 in the same areas.

'If policymakers can't deliver the change they seek among Europe's SMEs, then you can forget about success on a broader scale across the gamut of European policy areas.'

10 **Romania** (No. 27) is a special case. It performs at or near the bottom on two key pillars: Digital Transition (No. 26) and SME Competitiveness (No. 27). But its strong performance on greenhouse gas emission reductions (No. 1) raises it solidly to the middle of the pack on Green Transition (No. 15).

11 **Estonia** (No. 10) and **Slovenia** (No. 11), two relatively small, Eastern European EU member states, perform well, with excellent performance on Exports, where they lead the table (Nos. 1 and 2, respectively). Despite its well-earned reputation as a world leader on digital government, Estonia's SMEs are below average on adoption of digital technologies. Estonia ranks No. 19 on "digital intensity" of SMEs and No. 21 on SMEs employing ICT specialists in house. ICT training is only at the European average, too, with a No. 16 ranking.

12 **Germany** is No. 12. It does reasonably well on Green Transition (No. 9) thanks mostly to a high SME commitment to reducing the use of natural resources (No. 7) and to recycling waste (No. 7). But Germany shows real weakness in other areas, especially SME Competitiveness (No. 19), where the limited number of high-growth enterprises (No. 23) and people employed in high-growth enterprises (No. 20) drag its performance down. Digital Transition (No. 11) is another weak spot. Germany does particularly poorly on E-Commerce, where its No. 18 position pulls down its performance.

13 **France** is No. 17 – a disappointing finish for a major European economy. It scores surprisingly well on green goals, including on Emission Reduction, where it is No. 2, behind only **Sweden**. But its SMEs are relatively poor at scaling up or finding opportunity in external markets (it's No. 27 on Exports, last in the EU-27). Digital Skills deployed in SMEs are limited, too, with a low No. 21 ranking.

14 But the award for disappointing performance among Europe's large industrial economies goes to **Italy** (No. 21) This is due in particular to weak performance on Digital Transition (No. 21), which is fueled explosively by low Digital Skills (No. 27). More surprising is the bad Italian performance on SME Competitiveness (No. 21), where the country's large base of SMEs struggle to scale (No. 16) or reach beyond borders (No. 18).

Its Green Transition is also disappointing (No. 17), mainly due to very low Emission Reduction (No. 20) and relatively few green products coming from SMEs (No. 18).

15 One bright spot is **Greece** (No. 22) – though its performance is erratic. Greece has always enjoyed a special place on Europe's SME horizon because of the large number of companies there classifiable within this category. A strong sign that real progress is being made after the multi-year recession is the country's excellent performance in company growth. Greece is No. 1 in the company Growth indicator[9] – which includes strong performances on share of SMEs that are high growth (No. 1) and number of people employed in high-growth enterprises (which we define as any enterprise with 10% annualised employee growth over a three-year period, starting from a base of at least 10 employees at the start of the period) also at No. 1.[10] Productivity (No. 24), however, is low, dragging Greece down to an overall No. 15 place on SME Competitiveness. And Greece does even less well on Digital Transition (No. 22) and Green Transition (No. 22), where its performance lags well below the **EU Average**.

'The science of monitoring progress on the green agenda is relatively new – and relatively poorly developed.'

16 **Spain** is No. 13, just after **Germany**. It performs well on Natural Resource Conservation (No. 1) and Growth (No. 6). But other indicators drag down overall performance, including Digital Skills (No. 18), overall Emission Reduction (No. 25) and Exports (No. 21).

17 The last five places fall to **Poland** (No. 23), **Latvia** (No. 24), **Cyprus** (No. 25), **Bulgaria** (No. 26) and **Romania** (No. 27). Each shows wide swaths where green, digital and competitive performance could improve – but they also show hidden pillars of strength on which future performance could be built. Poland and Bulgaria both perform very well on Emission Reduction (No. 5 and No. 9, respectively). Latvian SMEs are very good exporters (No. 3).

9 Greek data has given no end of headaches to statisticians in recent years though a reform in data gathering and reporting took place as the country went through years of forced restructuring. The recent data is considered to be very reliable, but the trail is rather short; Greece has only one year of company data figures in this study (2015-2017), compared with lengthy time series data in all other European countries.

10 Throughout this policy brief, we have used the Eurostat definition of high-growth enterprises: an enterprise is considered "high growth" in employment terms when it has 10% annualised employee growth every year over a three-year period, starting from a base of at least 10 employees at the start of the period. Visit https://ec.europa.eu/eurostat/statistics-explained.

18 Broadly speaking, the Green, Digital and Competitive Index sheds important light on one very important trend. Digital Transition and SME Competitiveness performances correlate nicely. Competitive, fast-growing SMEs that export tend to be more digitally savvy, and vice-versa, as several important studies have shown.[11] But Green Transition performance does not yet correlate strongly with SME Competitiveness.[12] This is a challenge policymakers must face. It's not enough to issue far-reaching policy statements or to try to force companies to go green with an avalanche of new regulations and taxes. To the contrary, the policy framework must be coherent and conducive to progress across the array of policy areas detailed in this study. Europe will only be green when the cost of going green is economically viable, regulatorily necessary and commercially compelling. An early goal – one which regulators can abet with sensible policies and well-targeted interventions – should be an obvious one: bring down the famous "green premium" on the cost of environmentally friendly goods and use the tax and incentive structures to create and drive viable markets for green products and services. In the meantime, European single market rules should favour the green transition, avoiding new layers of unworkable red tape or laying down well-intended rules that inadvertently block progress within the single market itself (see the box on SMEs and Regulators on page 57 for more on this un-sought-after problem). There is a sweet spot there. It is up to policymakers – working together with the most progressive SMEs – to find it.

And there is one more key finding – as important as any above. The conclusions formed here are taken from publicly available data – which is a treasure trove on questions of digital adoption and company growth. But the science of monitoring progress on the green agenda is relatively new – and relatively poorly developed. We call on policymakers to work with organisations like the Lisbon Council and others to improve the "data scarcity" in this area. We need more granular indicators on greenhouse gas emissions, including the role of households and small businesses in generating them and the myriad ways that fossil-fuel dependency is holding back Europe's broader transition in many key areas. We cannot rely forever on self-reporting and company surveys. We need measurements. We call on public officials to redouble efforts in that area – and we pledge our support and willingness to work alongside you as well.

'We have been talking about digitalising SMEs for so long that it is easy to assume it has already happened. But the figures tell a different story.'

11 See especially Lucian Cernat, Małgorzata Jakubiak and Nicolas Preillon, op. cit.; A recent study by the Organisation for Economic Co-operation and Development (OECD) found that SMEs selling online did significantly better than their offline peers during the Covid-19 pandemic, which in turn increased SME digital up-take by 50%, helping to accelerate the digital transition. The report also found that "among SMEs that increased their use of digital tools during the pandemic, about two thirds of self-employed and small firms, and over 75% of medium-sized firms declared the changes to be permanent." See OECD, *OECD SME and Entrepreneurship Outlook 2021* (Paris: OECD, 2021).

12 In technical speak, the Green Transition pillar and the SME Competitiveness pillar have a correlation of 0.32 while the Digital Transition and SME Competitiveness pillars have a correlation of 0.61. In simple language, this means a country successful in digital transition is twice as likely as a country successful in green transition to be also successful in SME competitiveness. For a more detailed explanation, see the Correlation Matrix of Green, Digital and Competitive SME Index in the Methodology and Sensitivity Analysis section, which begins on page 86.

Chapter I

Digital Transition

Table 3. Digital Transition

Rank	Country	Score	SME Digitalisation Rank	E-Commerce Rank	Digital Skills Rank
1	Denmark	85.69	3	2	2
2	Finland	83.77	1	6	1
3	Sweden	81.60	2	3	6
4	Ireland	81.46	7	1	5
5	Belgium	74.60	6	5	3
6	Netherlands	69.56	4	8	7
7	Malta	69.00	5	14	4
8	Lithuania	56.38	18	4	19
9	Croatia	53.16	16	9	12
10	Austria	52.18	10	11	13
11	Germany	50.85	8	18	10
12	Czech Republic	50.17	19	7	16
	European Union	47.88			
13	Estonia	47.08	17	13	14
14	Slovenia	47.00	21	10	20
15	Spain	46.33	13	12	18
16	Portugal	45.27	14	19	15
17	France	43.45	12	15	21
18	Cyprus	42.81	15	24	9
19	Hungary	42.09	25	17	8
20	Luxembourg	39.16	9	27	11
21	Italy	35.66	11	20	27
22	Greece	34.95	24	16	23
23	Latvia	34.65	20	22	22
24	Poland	34.48	23	21	17
25	Slovakia	30.64	22	22	24
26	Romania	19.89	27	25	25
27	Bulgaria	17.68	26	26	26

Source: Eurostat (Lisbon Council calculations)

Digitalisation is a bit of a chimera, particularly when it comes to the small- and medium-sized enterprise sector. We have been talking about digitalising SMEs for so long that it is easy to assume it has already happened. But the figures tell a different story. The European Commission has set 11 goals in its *Europe's Digital Decade: Digital Targets for 2030* programme, including 75% adoption rate for SMEs in cloud computing and big data analytics. Today, the **EU Average** for cloud computing adoption among SMEs is 35%; for big data analytics, it is 14%. Even E-Commerce – a pillar in any country's move to stay ahead of existing market demand and make new technology a driver of success in new markets – is relatively low (only 22% of European SMEs say they use it for sales and purchases). **Luxembourg**, for one, is a capital of e-commerce at the large enterprise level; but at the SME level, it ranks a disappointing No. 27.

In order to measure Digital Transition, we created three indicators: SME Digitalisation, E-Commerce and Digital Skills. The indicators themselves comprise 10 sub-indicators, where performance will also be analysed on this and the following pages.

Among the key findings:

1 **Denmark** (No. 1) tops the list. It has high scores across the board with strength in all three areas: SME Digitalisation, E-Commerce and Digital Skills. For a full overview, visit the Denmark Country Profile on page 65.

2 **Finland** is No. 2. It leads on SME Digitalisation (No.1) and Digital Skills (No. 1), but its relatively poor performance on E-Commerce (No. 6) holds it back from a No. 1 finish overall. For a full overview, visit the Finland Country Profile on page 67.

3 **Sweden** (No. 3) completes the Nordic sweep of the top places with high scores on SME Digitalisation (No. 2) and E-Commerce (No. 3). Its Digital Skills performance lags the efforts of other leaders – in some ways significantly. Sweden scores 72.74 on its composite Digital Skills evaluation, more than 20 points behind league-leader **Finland**. For a full overview, visit the Sweden Country Profile on page 85.

4 **Ireland** and **Belgium** are No. 4 and No. 5, respectively. Ireland does particularly well on E-Commerce (No. 1). 39% of Irish SMEs sell online, generating 22% of the country's total SME turnover. Belgium is solid across the board with its best performance found in Digital Skills (No. 3).

5 One surprising under-performer is **France** (No. 17), below the **EU Average**. ICT training is particularly low among France's SMEs (No. 24).

6 **Italy** (No. 21) also does poorly despite the important role that SMEs play in this €1.6 trillion economy. Only 12% of SMEs employ an ICT specialist (No. 27); only 15% provide ICT training to employees (No. 20).

7 Of more concern are **Romania** (No. 26) and **Bulgaria** (No. 27), who make up the bottom of the ranking. Both have low scores on all indicators in this field – a sign that digital skills are still too narrowly diffused and SME growth opportunities not yet taken.

Table 4. SME Digitalisation

Rank	Country	Score
1	Finland	91.95
2	Sweden	85.98
3	Denmark	85.11
4	Netherlands	84.32
5	Malta	82.65
6	Belgium	73.95
7	Ireland	67.02
8	Germany	58.47
9	Luxembourg	55.89
10	Austria	54.33
11	Italy	53.55
	European Union	51.89
12	France	50.89
13	Spain	50.63
14	Portugal	49.36
15	Cyprus	48.01
16	Croatia	47.37
17	Estonia	45.79
18	Lithuania	44.56
19	Czech Republic	43.77
20	Latvia	42.91
21	Slovenia	42.77
22	Slovakia	34.14
23	Poland	32.06
24	Greece	29.64
25	Hungary	27.24
26	Bulgaria	21.07
27	Romania	11.38

Source: Eurostat (Lisbon Council calculations)

I.1 SME Digitalisation

SME Digitalisation is a complicated field. There are many mature indicators to choose from – many with time series data going back one and sometimes two decades. The gold standard on SME Digitalisation remains the European Commission's Digital Economy and Society Index (DESI), which publishes new updates and robust insights every year and maintains a Digital Intensity Index (DII) where key milestones on the "digital intensity" of enterprises at the national level can be tracked. Alongside the four areas we highlight – big data analytics, use of some cloud computing solutions, social media and ICT security – we included the DII as a stand-alone sub-indicator in this section. That index measures 12 areas of digital adoption and serves as a decent proxy for SME Digitalisation overall.[13]

'Success will come not from visionary declarations but from real economic power.'

Among the key findings:

1 **Finland** (No. 1), **Sweden** (No. 2), **Denmark** (No. 3), **The Netherlands** (No. 4) and **Malta** (No. 5) take up the top five positions.

2 **Belgium** (No. 6) and **Ireland** (No. 7) also do well, finishing in the second tier of European achievers.

3 Also above the **EU Average** are **Germany** (No. 8), **Luxembourg** (No. 9), **Austria** (No. 10) and **Italy** (No. 11), though performance in those places lags on some crucial indicators.

4 **Romania** (No. 27) scores particularly low – well behind even **Bulgaria** (No. 26) – with an 11.38 score.

Table 5. SMEs Using Big Data Analytics

Rank	Country	Share of SMEs Using Big Data Analytics	Score
1	Malta	30.0%	100.00
2	Denmark	26.0%	85.60
-	Netherlands	26.0%	85.60
4	Belgium	22.0%	71.20
-	Ireland	22.0%	71.20
6	France	21.0%	67.60
-	Finland	21.0%	67.60
8	Luxembourg	18.0%	56.80
-	Sweden	18.0%	56.80
10	Germany	17.0%	53.20
	European Union	14.0%	42.40
11	Croatia	13.0%	38.80
12	Greece	12.0%	35.20
13	Lithuania	10.0%	28.00
-	Portugal	10.0%	28.00
15	Estonia	9.0%	24.40
16	Czech Republic	8.0%	20.80
-	Spain	8.0%	20.80
-	Italy	8.0%	20.80
-	Latvia	8.0%	20.80
-	Austria	8.0%	20.80
-	Poland	8.0%	20.80
22	Hungary	7.0%	17.20
23	Bulgaria	6.0%	13.60
-	Cyprus	6.0%	13.60
-	Slovenia	6.0%	13.60
26	Romania	5.0%	10.00
-	Slovakia	5.0%	10.00

Source: Eurostat. Data for Greece refers to 2018

13 The Digital Intensity Index (DII) is already being used for measuring progress, informally, around the European Commission's Digital Compass goals.

Table 6. SMEs Using Cloud Computing

Rank	Country	Share of SMEs Using Cloud Computing Services	Score
1	Finland	75.0%	100.00
2	Sweden	69.0%	91.69
3	Denmark	66.0%	87.54
4	Italy	59.0%	77.85
5	Estonia	56.0%	73.69
6	Belgium	52.0%	68.15
-	Malta	52.0%	68.15
-	Netherlands	52.0%	68.15
9	Ireland	50.0%	65.38
10	Croatia	38.0%	48.77
-	Slovenia	38.0%	48.77
12	Austria	37.0%	47.38
	European Union	35.0%	44.62
13	Cyprus	34.0%	43.23
14	Germany	32.0%	40.46
15	Lithuania	30.0%	37.69
16	Czech Republic	28.0%	34.92
-	Luxembourg	28.0%	34.92
-	Portugal	28.0%	34.92
19	France	26.0%	32.15
20	Spain	25.0%	30.77
-	Slovakia	25.0%	30.77
22	Hungary	24.0%	29.38
23	Poland	23.0%	28.00
24	Latvia	21.0%	25.23
25	Romania	15.0%	16.92
26	Greece	12.0%	12.77
27	Bulgaria	10.0%	10.00

Source: Eurostat

Table 7. SMEs Using Social Media

Rank	Country	Share of SMEs Using Two or More Social Media Channels	Score
1	Finland	49.0%	100.00
2	Netherlands	48.0%	97.63
3	Sweden	47.0%	95.26
4	Belgium	44.0%	88.16
5	Cyprus	42.0%	83.42
-	Malta	42.0%	83.42
7	Spain	39.0%	76.32
8	Austria	37.0%	71.58
9	Denmark	35.0%	66.84
10	Luxembourg	33.0%	62.11
11	Ireland	32.0%	59.74
12	Germany	29.0%	52.63
-	Greece	29.0%	52.63
-	Slovenia	29.0%	52.63
	European Union	28.0%	50.26
15	Italy	27.0%	47.89
16	France	25.0%	43.16
-	Latvia	25.0%	43.16
-	Portugal	25.0%	43.16
19	Czech Republic	23.0%	38.42
-	Croatia	23.0%	38.42
21	Estonia	22.0%	36.05
22	Lithuania	21.0%	33.68
23	Slovakia	20.0%	31.32
24	Poland	17.0%	24.21
25	Bulgaria	12.0%	12.37
-	Hungary	12.0%	12.37
27	Romania	11.0%	10.00

Source: Eurostat

Table 8. SMEs with High Digital Intensity

Rank	Country	Share of SMEs With High and Very High Digital Intensity	Score
1	Sweden	47.0%	100.00
2	Finland	45.0%	95.61
3	Denmark	42.0%	89.02
4	Malta	39.0%	82.44
5	Netherlands	35.0%	73.66
6	Belgium	27.0%	56.10
-	Ireland	27.0%	56.10
-	Austria	27.0%	56.10
9	Cyprus	25.0%	51.71
10	Germany	24.0%	49.51
-	Spain	24.0%	49.51
12	Slovenia	23.0%	47.32
13	Luxembourg	21.0%	42.93
	European Union	21.0%	42.93
14	Lithuania	20.0%	40.73
-	Portugal	20.0%	40.73
16	Czech Republic	19.0%	38.54
-	Croatia	19.0%	38.54
-	Italy	19.0%	38.54
19	Estonia	18.0%	36.34
20	Greece	17.0%	34.15
21	Slovakia	15.0%	29.76
22	France	13.0%	25.37
-	Latvia	13.0%	25.37
-	Poland	13.0%	25.37
25	Hungary	10.0%	18.78
26	Bulgaria	8.0%	14.39
27	Romania	6.0%	10.00

Source: Eurostat

Table 9. SMEs Using ICT Security

Rank	Country	Share of SMEs Using Any Type of ICT Security	Score
1	Latvia	98.0%	100.00
-	Portugal	98.0%	100.00
3	Denmark	97.0%	96.54
-	Germany	97.0%	96.54
-	Netherlands	97.0%	96.54
-	Finland	97.0%	96.54
7	Belgium	94.0%	86.15
-	Czech Republic	94.0%	86.15
-	France	94.0%	86.15
-	Sweden	94.0%	86.15
11	Ireland	93.0%	82.69
-	Italy	93.0%	82.69
-	Lithuania	93.0%	82.69
-	Luxembourg	93.0%	82.69
15	Malta	92.0%	79.23
	European Union	92.0%	79.23
16	Spain	91.0%	75.77
-	Austria	91.0%	75.77
18	Croatia	90.0%	72.31
19	Slovakia	89.0%	68.85
20	Poland	87.0%	61.92
21	Estonia	86.0%	58.46
-	Hungary	86.0%	58.46
23	Bulgaria	85.0%	55.00
24	Slovenia	84.0%	51.54
25	Cyprus	83.0%	48.08
26	Greece	73.0%	13.46
27	Romania	72.0%	10.00

Source: Eurostat

Table 10. E-Commerce

Rank	Country	Score
1	Ireland	100.00
2	Denmark	88.39
3	Sweden	86.07
4	Lithuania	85.18
5	Belgium	68.04
6	Finland	64.64
7	Czech Republic	63.39
8	Netherlands	63.21
9	Croatia	61.43
10	Slovenia	59.11
11	Austria	53.93
12	Spain	48.21
13	Estonia	47.68
	European Union	47.68
14	Malta	46.43
15	France	43.75
16	Greece	43.57
17	Hungary	41.96
18	Germany	41.07
19	Portugal	40.54
20	Italy	33.75
21	Poland	29.29
22	Latvia	28.04
-	Slovakia	28.04
24	Cyprus	23.75
25	Romania	20.71
26	Bulgaria	11.61
27	Luxembourg	10.00

Source: Eurostat (Lisbon Council calculations)

I.2 E-Commerce

E-commerce is likely to play a crucial role in SME strategy going forward. E-commerce is the key to opening new markets – including ones that were previously too remote to access. It is also the way innovative businesses find new niche customers, building bases outside of their usual remit. Slow adoption of e-commerce is likely a sign of slow digitalisation all around, especially after the two-year lockdown and pandemic, when many companies were forced to take their entire business online – or risk its collapse.

'E-commerce is the key to opening new markets – including ones that were previously too remote to access.'

To measure E-Commerce, we pulled together two sub-indicators: 1) the share of SMEs with e-commerce sales, and 2) the share of SME turnover from e-commerce sales. The two are combined into one indicator.

Key findings:

1 **Ireland** (No. 1) is the winner here with a strong performance on both e-commerce adoption (No. 1) as well as the volume of e-commerce trade. This is a crucial advantage for SMEs on the Emerald Isle; it gives them a platform for entry into other markets and means that even the tiniest shop in Cork can peddle its wares to high-street consumers in Dublin, Limerick and Kildare.

2 **Lithuania** (No. 4) is another surprise; its 36% adoption rate on e-commerce (No. 3) is among Europe's highest. And 18% of SME turnover is attributable to e-commerce, a tie with **Denmark** (No. 3).

3 Broadly speaking, SME e-commerce sales are still relatively low in Europe. Only 22% of European SMEs have e-commerce sales, according to the **EU Average**. But the figure hides great disparity. **Ireland** (No. 1) leads with 39%. **Luxembourg** (No. 27) lags with 11%.

4 In general, turnover from e-commerce remains relatively low. Only 12% of all SME revenue can be attributed to e-commerce, according to the **EU Average**. SMEs in lead countries – such as **Ireland** (No. 1) and **Sweden** (No. 2) – top the league tables but the relatively low shares of e-commerce sales in total turnover (22% and 19%, respectively) indicate there is still much upside to be had from expanding e-commerce and online sales.

5 SMEs in eight countries report less than 10% of their SME turnover from e-commerce: **Spain** (No. 17), **Italy** (No. 17), **Latvia** (No. 19), **Slovakia** (No. 19), **Malta** (No. 21), **Romania** (No. 21), **Cyprus** (No. 23) and **Bulgaria** (No. 24).

Table 11. SMEs with E-Commerce Sales

Rank	Country	Share of SMEs with E-Commerce Sales in Total SMEs	Score
1	Ireland	39.0%	100.00
2	Denmark	38.0%	96.79
3	Lithuania	36.0%	90.36
4	Sweden	35.0%	87.14
5	Belgium	30.0%	71.07
6	Croatia	29.0%	67.86
-	Malta	29.0%	67.86
-	Austria	29.0%	67.86
9	Finland	28.0%	64.64
10	Spain	27.0%	61.43
-	Netherlands	27.0%	61.43
12	Slovenia	26.0%	58.21
13	Czech Republic	24.0%	51.79
14	Estonia	22.0%	45.36
	European Union	22.0%	45.36
15	Germany	21.0%	42.14
-	Greece	21.0%	42.14
17	Hungary	20.0%	38.93
18	France	18.0%	32.50
-	Italy	18.0%	32.50
-	Cyprus	18.0%	32.50
21	Poland	17.0%	29.29
22	Latvia	16.0%	26.07
-	Portugal	16.0%	26.07
-	Slovakia	16.0%	26.07
25	Romania	13.0%	16.43
26	Bulgaria	12.0%	13.21
27	Luxembourg	11.0%	10.00

Source: Eurostat

Table 12. SME Turnover from E-Commerce Sales

Rank	Country	Share of SME Total Turnover from E-Commerce Sales in Total Turnover	Score
1	Ireland	22.0%	100.00
2	Sweden	19.0%	85.00
3	Denmark	18.0%	80.00
-	Lithuania	18.0%	80.00
5	Czech Republic	17.0%	75.00
6	Belgium	15.0%	65.00
-	Netherlands	15.0%	65.00
8	Slovenia	14.0%	60.00
9	France	13.0%	55.00
-	Croatia	13.0%	55.00
-	Portugal	13.0%	55.00
12	Estonia	12.0%	50.00
	European Union	12.0%	50.00
13	Greece	11.0%	45.00
-	Hungary	11.0%	45.00
15	Germany	10.0%	40.00
-	Austria	10.0%	40.00
17	Spain	9.0%	35.00
-	Italy	9.0%	35.00
19	Latvia	8.0%	30.00
-	Slovakia	8.0%	30.00
21	Malta	7.0%	25.00
-	Romania	7.0%	25.00
23	Cyprus	5.0%	15.00
24	Bulgaria	4.0%	10.00
	Luxembourg	n/a	n/a
	Poland	n/a	n/a
	Finland	n/a	n/a

Source: Eurostat

Table 13. Digital Skills

Rank	Country	Score
1	Finland	94.71
2	Denmark	83.56
3	Belgium	81.81
4	Malta	77.93
5	Ireland	77.37
6	Sweden	72.74
7	Netherlands	61.14
8	Hungary	57.06
9	Cyprus	56.67
10	Germany	53.00
11	Luxembourg	51.59
12	Croatia	50.67
13	Austria	48.28
14	Estonia	47.76
15	Portugal	45.90
	European Union	44.08
16	Czech Republic	43.34
17	Poland	42.10
18	Spain	40.15
19	Lithuania	39.39
20	Slovenia	39.14
21	France	35.71
22	Latvia	33.00
23	Greece	31.63
24	Slovakia	29.74
25	Romania	27.57
26	Bulgaria	20.35
27	Italy	19.68

Source: Eurostat (Lisbon Council calculations)

I.3 Digital Skills

A lot of weight has been put on digital skills in recent years with a flurry of initiatives – public and private – to raise them as much as possible in as many places as possible. To be sure, this effort makes sense, given the critical importance of digital skills for economic success in the modern world. But the logic has sometimes been inverted, leaving digital skills to be misinterpreted as, *ipso facto*, a full-on proxy for success in the digital world. Still, there is no question that digital skills are important. Very quickly, basic competence online is becoming a new form of literacy – a prerequisite for success in other areas.

As part of our exploration of Digital Transition, we set out to measure commitment at the SME level to digital skills – as well as to the equally important pathways to acquiring them, also known as training. The Digital Skills indicator is based on three sub-indicators: 1) the share of SMEs that employ ICT specialists, 2) the share of SMEs where some ICT functions were performed by their own employees, and 3) the share of SMEs offering training or ways of upgrading digital skills through on-the-job training.

My Jolie Candle: An Online, Offline Story

People used to say brick-and-mortar stores needed to go online to find new customers. But these days the process often works the other way around. Take My Jolie Candle, a small business based in Nantes, a 310,000-inhabitant city in the Loire Valley. In 2005, founder Samuel Guez started selling scented candles online – each of them beautifully packaged and containing a piece of jewellery inside. With the help of ambitious marketing and an aggressive social media presence – including generous profit sharing with "influencers" who generate sales by using and displaying My Jolie Candle products on Instagram and other social media outlets – the company quickly grew to around €10 million in annual turnover and raised €7 million through venture capitalists to expand. But how best to do that? In the end, My Jolie Candle tried branching out into two new markets – Italy and Spain – but it got cold feet after one year, judging that the revenue being generated didn't always justify the administrative costs involved. Instead, it doubled down on its home market, opening eight high-street stores in seven French cities: Annecy, Bordeaux, Lille, Lyon, Nantes, Paris and Toulouse. Even today, the stores are not My Jolie Candle's primary outlets; most sales remain online. But the brick-and-mortar shops give the brand added presence and allow some customers to "smell and test" the products before buying – and, says founder Guez, it is a useful way to reach a new, young audience, many of whom might need to pay in cash and don't have bank cards. Today, the company employs a full-time *"responsable influenceuses"* and has around 45 employees selling candles across an array of platforms, physical and virtual, mostly in French-speaking markets (Belgium, France and Switzerland). They say the secret to successful online sales is not finding a single partner but developing many sales outlets across an array of platforms. Analysts call this "multi-channel" growth – meaning you reach for customers on as many platforms and in as many places as you can.

Source: Déborah Loye, *"My Jolie Candle: le decollage d'une marque née sur internet," Les Echos*, 05 November 2018. Visit https://myjoliecandle.com/.

Key findings:

1 **Finland** (No. 1) and **Denmark** (No. 2) lead the pack; both boast a good number of internal employees performing digital tasks (Nos. 1 and 3, respectively) and both offer good access to training (Nos. 1 and 4, respectively).

2 A surprise top performer is **Belgium** (No. 3). Belgian SMEs employ a lot of ICT specialists internally (28%) and there are good pathways for training (31% of SMEs offer it).

3 **Italy** (No. 27) almost crashes out entirely in this sub-category. Reflecting an historic division in Europe – digital skills are much higher in the north of Europe than in the south – Italy scrapes the bottom in share of SMEs that employ ICT specialists (No. 27) and SMEs where employees perform some ICT functions (No. 26). It fares marginally better on access to training, where it is No. 20 behind the **EU Average** and well below what it would take to overcome such an historic disadvantage.

4 One other surprise is **Estonia** (No. 14). Europe's most famous digital economy weighs in at a middle-of-the-pack, just above **Portugal** (No. 15). Low scores on ICT specialists employed directly in SMEs (No. 21) and access to training (No. 16) bring its overall score down.

'Broadly speaking, SME e-commerce sales are relatively low in Europe.'

Table 14. SMEs that Employ ICT Specialists

Rank	Country	Share of SMEs that Employ ICT Specialists in Total SMEs	Score
1	Ireland	29.0%	100.00
2	Belgium	28.0%	94.71
-	Malta	28.0%	94.71
4	Denmark	27.0%	89.41
-	Hungary	27.0%	89.41
6	Finland	26.0%	84.12
7	Cyprus	24.0%	73.53
8	Poland	23.0%	68.24
9	Netherlands	22.0%	62.94
10	Luxembourg	20.0%	52.35
11	Latvia	19.0%	47.06
-	Sweden	19.0%	47.06
13	Greece	18.0%	41.76
-	Austria	18.0%	41.76
-	Portugal	18.0%	41.76
	European Union	18.0%	41.76
16	Germany	17.0%	36.47
-	Croatia	17.0%	36.47
18	Czech Republic	16.0%	31.18
-	Spain	16.0%	31.18
-	France	16.0%	31.18
21	Bulgaria	15.0%	25.88
-	Estonia	15.0%	25.88
-	Romania	15.0%	25.88
-	Slovenia	15.0%	25.88
25	Lithuania	14.0%	20.59
-	Slovakia	14.0%	20.59
27	Italy	12.0%	10.00

Source: Eurostat

Table 15. SMEs for Which ICT Functions Are Performed by Own Employees

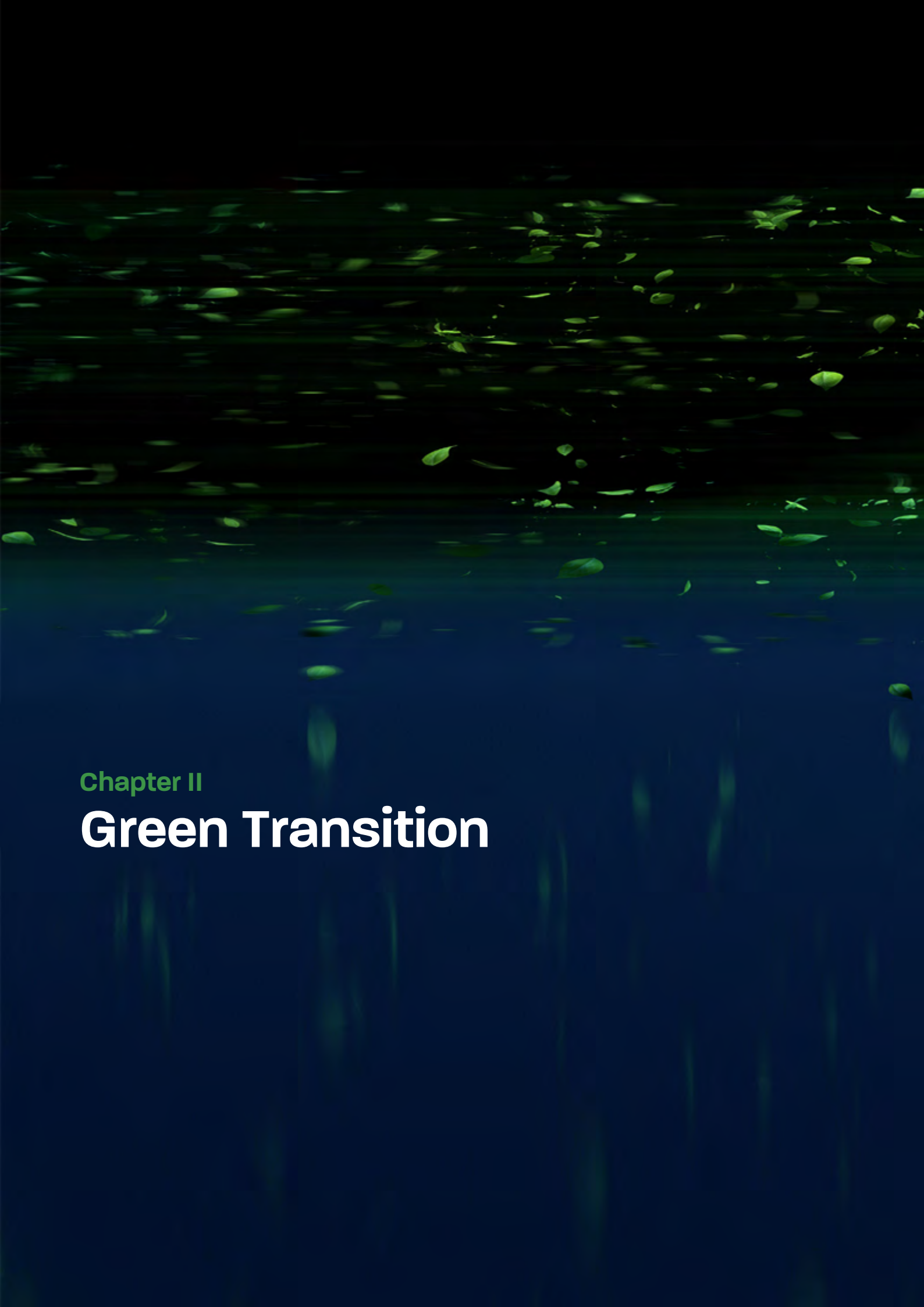
Rank	Country	Share of SMEs for Which ICT Functions Are Performed by Own Employees in Total SMEs	Score
1	Finland	67.0%	100.00
2	Sweden	60.0%	85.68
3	Denmark	58.0%	81.59
4	Estonia	55.0%	75.45
5	Lithuania	51.0%	67.27
6	Belgium	50.0%	65.23
-	Malta	50.0%	65.23
8	Germany	49.0%	63.18
9	Ireland	48.0%	61.14
-	Netherlands	48.0%	61.14
-	Austria	48.0%	61.14
12	Croatia	47.0%	59.09
13	Luxembourg	42.0%	48.86
14	Romania	41.0%	46.82
15	France	39.0%	42.73
-	Hungary	39.0%	42.73
	European Union	39.0%	42.73
17	Spain	37.0%	38.64
18	Czech Republic	36.0%	36.59
-	Portugal	36.0%	36.59
20	Slovakia	34.0%	32.50
21	Cyprus	32.0%	28.41
22	Slovenia	31.0%	26.36
23	Bulgaria	29.0%	22.27
24	Poland	26.0%	16.14
25	Greece	25.0%	14.09
26	Italy	23.0%	10.00
-	Latvia	23.0%	10.00

Source: Eurostat

Table 16. SMEs Providing Training to Develop or Upgrade ICT Skills of Personnel

Rank	Country	Share of SMEs Providing Training to Develop or Upgrade ICT Skills of Personnel	Score
1	Finland	36.0%	100.00
2	Belgium	31.0%	85.48
-	Sweden	31.0%	85.48
4	Denmark	29.0%	79.68
5	Malta	27.0%	73.87
6	Ireland	26.0%	70.97
7	Cyprus	25.0%	68.06
8	Slovenia	24.0%	65.16
9	Czech Republic	23.0%	62.26
10	Germany	22.0%	59.35
-	Netherlands	22.0%	59.35
-	Portugal	22.0%	59.35
13	Croatia	21.0%	56.45
14	Luxembourg	20.0%	53.55
15	Spain	19.0%	50.65
	European Union	18.0%	47.74
16	Estonia	16.0%	41.94
-	Latvia	16.0%	41.94
-	Austria	16.0%	41.94
-	Poland	16.0%	41.94
20	Greece	15.0%	39.03
-	Italy	15.0%	39.03
-	Hungary	15.0%	39.03
23	Slovakia	14.0%	36.13
24	France	13.0%	33.23
25	Lithuania	12.0%	30.32
26	Bulgaria	6.0%	12.90
27	Romania	5.0%	10.00

Source: Eurostat



Chapter II

Green Transition

Table 17. Green Transition

Rank	Country	Score	Natural Resource Conservation Rank	Emission Reduction Rank	Green Output Rank
1	Sweden	89.51	2	1	2
2	Netherlands	74.06	4	17	1
3	Luxembourg	71.22	6	18	3
4	Austria	67.03	7	12	5
5	Slovakia	65.92	3	16	10
6	Belgium	65.47	8	11	7
7	Finland	62.88	14	15	6
8	France	61.24	21	2	9
9	Germany	60.70	5	10	13
10	Spain	60.38	1	25	17
11	Denmark	60.10	26	3	4
	European Union	58.02			
12	Malta	55.46	15	6	18
13	Hungary	54.23	12	14	16
14	Ireland	52.55	18	7	19
15	Romania	51.95	9	4	26
16	Estonia	50.23	25	8	11
17	Italy	49.28	10	20	21
18	Lithuania	48.60	23	13	15
19	Poland	48.40	19	5	24
20	Slovenia	45.98	20	26	8
21	Portugal	45.24	17	24	12
22	Greece	45.03	11	22	20
23	Czech Republic	43.03	13	19	25
24	Croatia	41.88	22	21	22
25	Latvia	40.47	24	23	14
26	Bulgaria	34.02	27	9	27
27	Cyprus	32.56	16	27	23

Source: European Commission, Eurostat (Lisbon Council calculations)

SMEs have a special role to play in the green transition. The issue is not simply that they sit squarely in the middle of Europe's €14 trillion economy, playing a crucial role not only as a provider of goods and services but as far-reaching consumers of goods and services as well. The issue is also their vast number – 22 million – enough to make a major environmental impact even if their economic footprint was considerably less. We lack precise statistics on the environmental performance of SMEs, but based on existing studies, a recent review by the Organisation for Economic Co-operation and Development (OECD) found that the SME environmental footprint appears at least as large as their economic footprint, which Eurostat places at 53% of European total business-sector value added.[14] In other words, there will be no green transition unless SMEs are ready to deliver and incentivised to embrace Europe's carbon-neutral targets and overall green goals.

'Green solutions will spread not on the backs of good intentions but through innovation.'

But measuring SME performance in this crucial field is a difficult task. Both the European Commission and the OECD have important pilot projects in the works.[15] And both foresee a greater role for SMEs in climate policy and overall economic delivery down the line. Stated directly, the European Green Deal is too new – and the economic reality behind it too volatile – to derive firm conclusions at this stage of the discussion. Much of what is known about SME-based efforts to go green and fight climate change remains based purely on self-assessment surveys, which run a risk of reporting bias, especially when dealing with morally charged questions such as green behaviour.

We believe this needs to change. If policymakers are to move more confidently in this crucial area – if they are to gather, debate and ultimately adopt wide-ranging policy to drive the change they would like to see – it will take harder numbers, colder figures and better targeted funding (including incentives) than what we see today. For the moment, the entire field could be characterised by the wide-spread prominence of what experts call "data scarcity," meaning there isn't enough data to give firm answers to questions that are otherwise obvious – or to meet needs that otherwise so clearly need to be met.

The Lisbon Council set out to change this. In this first stab at delivering useful policy tools and tracking useful initiatives and action, we built the Green Transition pillar around three crucial indicators where we believe countries need to deliver to be a crucial part of any successful green value chain: Natural Resource Conservation, Emission Reduction and Green Output. Frankly speaking, there is much that is still speculative in this approach. The first indicator – Natural Resource Conservation – is the most widely used of the three; but even there, we have had to rely on survey-driven data, compiled as part of the European Commission's Flash Eurobarometer project. The data, in other words, is based not on how much recycling is actually going on, but on how much recycling SMEs *say* is going on. This has obvious shortcomings – in particular, it can lead to perception bias that underrates the

14 OECD, "No Net Zero without SMEs: Exploring the Key Issues for Greening SMEs and Green Entrepreneurship," *OECD SME and Entrepreneurship Papers, No. 30* (Paris: OECD, 2021). The 53% of total business-sector value added estimate comes from Muller et al., op. cit.

15 The OECD Committee on SMEs and Entrepreneurship, for one, is devising a "Guiding Principles for SME Policy," which will look at policy coordination and governance, transitions and resilience and access to resources. The review builds on the OECD SME and Entrepreneurship Strategy launched in 2019. For more, visit https://www.oecd.org/cfe/smes/strategy.htm.

top performers and overrates the weakest. SMEs in **Denmark**, for one, report few gains in this sector – leading to a relatively low score. But is this really fair? Perhaps it just means that Danes have higher standards for recycling than others, or have been recycling longer, so modern efforts to increase recycling seem to have brought less change than is immediately observable in places that only started the transition recently.

The other two indicators also have elements of data immaturity and subjectivity behind them – though we have laboured long and hard to move away from perception-based indicators and towards scientific facts, places where environmental impacts can actually be measured and where progress ought most productively to be sought. You can see this especially in the Emission Reduction indicator. This indicator has two sub-indicators. For starters, we measured the share of greenhouse gas emissions produced by SMEs – though even this proved less straightforward than you might have thought. To get there, we relied on national data on carbon emissions per sector (there are 68 sub-sectors in the Statistical Classification of Economic Activities in the European Community [NACE] classification system), which we combined with the known size of the SME footprint in each sector by country. The result does give some indication of how much greenhouse gas SMEs are emitting – but it also relies on national data, which can vary in methodology and quality. To ensure that the calculation remains robust, we combined it with the rock-solid United Nations Framework Convention on Climate Change (UNFCCC) overall emissions data, represented here with the sub-indicator on change in greenhouse gas emissions by country (base = 1990). We believe that the size of the SME footprint – calculated as persons employed in SMEs – is a suitable basis for treating this data as a decent proxy for SME emissions all around. And by combining these two, we take the calculation well away from survey-driven assessments and put it squarely in the output-measuring category where it belongs. For more on the Emission Reduction indicator created for this study, see the Methodology and Sensitivity Analysis section, which begins on page 86.

'We need to create the policy framework and political context for greening the world – and on that front Europe has led and from time to time excelled.'

And that leaves the third indicator: Green Output. What percentage of SMEs are offering green products or services? And how many of them are in low-greenhouse-gas-emitting sectors?

Key findings:

1 **Sweden** (No. 1) is the clear winner. It leads on Emission Reduction (No. 1) with good scores on both sub-indicators (SME-related greenhouse gas emission reductions and all-economy-based reductions). And it has a solid second place finish in Natural Resource Conservation, with remarkable performances on reduction of natural-resource use (No. 2) and recycling (No. 2). The performance on Green Output (No. 2) makes for an impressive performance across all environmental categories.

2 **The Netherlands** (No. 2) also finishes well, surging ahead of other Nordic states. It ranks No. 1 on Green Output; a pack-leading 45% of Dutch SMEs report green products among their offerings. It lags a bit on Emission Reduction, weighing in at No. 17.

3 Among Europe's largest economies, **France** (No. 8), **Germany** (No. 9) and **Spain** (No. 10) all finish within the top 10, but for different reasons.

4 SMEs in **Germany** excel in Natural Resource Conservation (No. 5) but lag in Green Output (No. 13).

5 SMEs in **France** excel in Emission Reduction (No. 2) but could do better on some indicators, such as Natural Resource Conservation (No. 21).

6 SMEs in **Spain** lead on Natural Resource Conservation (No.1, with 76% of SMEs recycling waste) but lag on Emission Reduction (No. 25).

7 **Finland** (No. 7) does a bit less well than might be expected – though, as is the case with **Denmark**, the low scores may be as much the fault of perceptions as reality. SMEs in Finland report little progress on Natural Resource Conservation, giving the country a No. 14 finish. But Finland has historically led in this area and the disappointment may come from the fact that Finland was an early mover on resource efficiency. The result may be that people see less recent progress.

8 **Italy** is No. 17. Italian SMEs seem to be keen to act on Natural Resource Conservation (No. 10), but not on Green Output (No. 21).

9 The laggards are found mostly in Eastern Europe – and that despite some structural advantages. **Czech Republic** (No. 23), **Croatia** (No. 24), **Latvia** (No. 25) and **Bulgaria** (No. 26) occupy four of the bottom five positions. Structural change due to the profound economic transition they have been through has given them all a leg-up when it comes to emission reductions – the decommissioning of so much communist-era industry helped. But SMEs there have done little to develop green products or engage in systematic resource efficiency.

'If we could get just half of Europe's 22 million SMEs to hire just one additional person, it would create 11 million jobs.'

10 In this context, it is worth noting that **Romania** (No. 15), **Estonia** (No. 16) and **Lithuania** (No. 18) are the only countries that have achieved the 55% reduction from 1990 emission levels mandated in the Fit for 55 programme.

11 **Romania** (No. 15) is an interesting case. It performs well on Natural Resource Conservation (No. 9) and Emission Reduction (No. 4). But limited efforts from SMEs on Green Output (No. 26) drag it down below the overall **EU Average**. Still, the high performance in two areas means Romania has excellent prospects if it can reorient product offerings towards a greener market.

12 **Cyprus** (No. 27) is another disappointment, with low scores on both Emission Reduction (No. 27) and Green Output (No. 23).

Table 18. Natural Resource Conservation

Rank	Country	Score
1	Spain	100.00
2	Sweden	91.83
3	Slovakia	78.01
4	Netherlands	69.05
5	Germany	65.09
6	Luxembourg	63.51
7	Austria	62.66
8	Belgium	60.39
9	Romania	59.68
	European Union	59.60
10	Italy	58.40
11	Greece	53.70
12	Hungary	52.72
13	Czech Republic	52.67
14	Finland	52.34
15	Malta	50.59
16	Cyprus	48.13
17	Portugal	45.65
18	Ireland	44.29
19	Poland	43.07
20	Slovenia	42.31
21	France	41.50
22	Croatia	38.79
23	Lithuania	34.90
24	Latvia	34.39
25	Estonia	30.43
26	Denmark	25.54
27	Bulgaria	12.95

Source: European Commission (Lisbon Council calculations)

II.1 Natural Resource Conservation

Sensible use of natural resources is a *sine qua non* for effective environmental progress. For that reason, we made Natural Resources Conservation one of the three key indicators for judging SME performance by country. To calculate this, we look at two things: 1) the share of SMEs reducing consumption of natural resources, e.g. saving water, energy, materials or switching to sustainable resources, and 2) the share of SMEs recycling by reusing material or waste within the company.

'Europe in its modern sense is a multi-national political space where common cultures define common goals and devise common ways of reaching them.'

Key findings:

1 **Spain** (No. 1) is the champion. It has good scores in reduction of natural resource use, where 60% of the SMEs surveyed say they have taken steps to reduce the use of natural resources in their production and service provision (**Sweden** is just behind in the No. 2 slot with 59.2%). Recycling is particularly high in Spain, where 76% of enterprises say they recycle some waste.

2 **Slovakia** (No. 3) is another surprise performer. 56% of enterprises there say they have taken steps to cut natural resource use, giving the 5.5-million-citizen Eastern European country a No. 3 finish on this key sub-indicator, ahead of **Belgium** (No. 4), **Romania** (No. 5), **The Netherlands** (No. 6) and **Germany** (No. 7).

3 When it comes to recycling, SMEs in **Spain** (No. 1), **Sweden** (No. 2) and **The Netherlands** and **Slovakia** (tied for No. 3) lead. **Bulgaria** (No. 26) and **Lithuania** (No. 27) lag in this sub-indicator, with fewer than 20% of enterprises reporting any recycling activity there.

Table 19. SMEs Reducing Consumption of Natural Resources

Rank	Country	Share of SMEs Reducing Consumption of Natural Resources (e.g. Saving Water, Energy and Materials or Switching to Sustainable Resources)	Score
1	Spain	60.60%	100.00
2	Sweden	59.20%	96.94
3	Slovakia	56.00%	89.95
4	Belgium	50.00%	76.84
5	Romania	48.00%	72.48
6	Netherlands	47.80%	72.04
7	Germany	46.20%	68.54
8	Austria	46.00%	68.11
9	Hungary	45.00%	65.92
10	Italy	44.80%	65.49
11	Luxembourg	43.40%	62.43
	European Union	43.20%	61.99
12	Lithuania	42.20%	59.81
13	Finland	40.60%	56.31
14	Malta	39.00%	52.82
15	Czech Republic	38.20%	51.07
-	Poland	38.20%	51.07
17	Greece	37.80%	50.19
18	Latvia	37.00%	48.45
19	Cyprus	35.40%	44.95
20	Slovenia	34.80%	43.64
21	Croatia	33.60%	41.02
22	Estonia	30.00%	33.16
-	France	30.00%	33.16
24	Portugal	28.40%	29.66
25	Denmark	26.20%	24.85
26	Ireland	25.80%	23.98
27	Bulgaria	19.40%	10.00

Source: European Commission (Lisbon Council calculations)

Table 20. SMEs Recycling

Rank	Country	Share of SMEs Recycling by Reusing Material or Waste Within the Company	Score
1	Spain	76.00%	100.00
2	Sweden	67.00%	86.72
3	Netherlands	53.00%	66.07
-	Slovakia	53.00%	66.07
5	Ireland	52.00%	64.59
-	Luxembourg	52.00%	64.59
7	Germany	50.00%	61.64
-	Portugal	50.00%	61.64
9	Greece	47.00%	57.21
-	Austria	47.00%	57.21
	European Union	47.00%	57.21
11	Czech Republic	45.00%	54.26
12	Italy	43.00%	51.31
-	Cyprus	43.00%	51.31
14	France	42.00%	49.84
15	Malta	41.00%	48.36
-	Finland	41.00%	48.36
17	Romania	40.00%	46.89
18	Belgium	38.00%	43.93
19	Slovenia	36.00%	40.98
20	Hungary	35.00%	39.51
21	Croatia	33.00%	36.56
22	Poland	32.00%	35.08
23	Estonia	27.00%	27.70
24	Denmark	26.00%	26.23
25	Latvia	22.00%	20.33
26	Bulgaria	19.00%	15.90
27	Lithuania	15.00%	10.00

Source: European Commission

Table 21. Emission Reduction

Rank	Country	Score
1	Sweden	83.51
2	France	78.91
3	Denmark	76.71
4	Romania	74.76
5	Poland	72.33
6	Malta	71.94
7	Ireland	71.57
8	Estonia	68.36
9	Bulgaria	68.11
10	Germany	65.36
11	Belgium	64.30
	European Union	64.09
12	Austria	63.92
13	Lithuania	63.73
14	Hungary	62.88
15	Finland	61.83
16	Slovakia	59.03
17	Netherlands	58.95
18	Luxembourg	57.08
19	Czech Republic	53.96
20	Italy	49.13
21	Croatia	48.29
22	Greece	40.23
23	Latvia	39.80
24	Portugal	38.33
25	Spain	37.25
26	Slovenia	29.54
27	Cyprus	11.85

Source: Eurostat (Lisbon Council calculations)

II.2 Emission Reduction

Emission reduction is a crucial area – but oddly one around which much thinking is hardly mature and for which very little concrete data is available. Perhaps this is due to the distinctly "micro" nature of the question – to accurately define SME emissions you would need robust measurements from all 22 million European SMEs. But there are other, objective ways of measuring this, and those are the ones we set out to cover. To arrive at an ultimate figure, we brought together two sub-indicators: 1) the share of greenhouse gas emissions coming from SMEs, and 2) overall greenhouse gas emissions in the economy, reasoning that, at 53% of all business activity, SMEs account for the lion's share of CO_2 emissions and any reduction or increase there would likely have a heavy SME footprint in it as well.[16] The methodology is new and, in some ways, tentative. But, at least, it reaches for facts and is not only based on self-assessment.

'Sensible use of natural resources is a sine qua non *for effective environmental progress.'*

Key findings:

1 **Sweden** (No. 1), **France** (No. 2) and **Denmark** (No. 3) lead – signs of real commitment to emission reductions from these leading European countries.

Plan A: Why Going Green is Good Business

Businesses come in all shapes and sizes. If much of the twin transition is about helping today's businesses go green and digital, it's also about the birth of a new generation of companies to assist them in doing so. Take Plan A.Earth GmbH. Started in 2017 by charismatic Lubomila Jordanova, a serial entrepreneur and former Citigroup analyst, this Berlin-based startup writes carbon reduction plans for companies, measuring the carbon footprint of organisations, large and small, and giving managers the tools for containing and eventually lowering it. The business started out with mostly blue-chip clients – Bayerische Motoren Werke AG (BMW) and Société Générale s.a. were early customers. But today, its focus has spread to smaller, fast-growing enterprises, where interest in becoming and staying green is very high. One example is Ganni a/s, a fast-growing Denmark-based online fashion retailer. With the help of Plan A, it has committed to reduce its carbon emissions some 45% by 2025 – even while growing. JOKR, a delivery company based in New York is another client; it will use Plan A software to become the first "carbon-negative grocery delivery" service in history. Research and Markets, a Dublin-based trade publication, forecasts that the "global carbon footprint management market" will reach €15 billion annually within the next five years.

For more, visit https://plana.earth/; https://www.ganni.com/en-be/home; https://www.jokr.com/; and https://www.researchandmarkets.com/.

16 See the Methodology and Sensitivity Analysis section, which begins on page 86, for more explanation of the calculations that went into creating this indicator.

2 Despite league-leading activity on recycling and resource conversation, **Spain** (No. 25) is dragged down by slow progress on overall emissions. The share of emissions directly attributable to SMES is 47.3%.

3 On overall emission cuts, **Romania** (No. 1), **Lithuania** (No. 2) and **Estonia** (No. 3) all lead. They are the only three that have already met their Fit for 55 emission reduction commitment.

Table 22. Greenhouse Gas Emissions Produced by SMEs

Rank	Country	Share of Greenhouse Gas Emissions Produced by SMEs in Total Greenhouse Gas Emissions	Score
1	Ireland	21.87%	100.00
2	France	25.25%	91.18
3	Malta	25.93%	89.41
4	Austria	26.34%	88.34
5	Poland	28.85%	81.80
6	Sweden	30.14%	78.43
7	Denmark	31.74%	74.26
8	Belgium	35.54%	64.34
	European Union	38.23%	57.32
9	Netherlands	38.98%	55.35
10	Bulgaria	39.78%	53.28
11	Germany	40.13%	52.36
12	Finland	41.18%	49.60
13	Romania	41.22%	49.52
14	Hungary	41.88%	47.79
15	Estonia	45.44%	38.51
16	Czech Republic	46.65%	35.35
17	Spain	47.35%	33.52
18	Slovakia	48.10%	31.55
19	Lithuania	49.39%	28.20
20	Italy	49.47%	27.99
21	Croatia	50.56%	25.13
22	Portugal	51.30%	23.22
23	Slovenia	51.70%	22.17
24	Greece	53.96%	16.27
25	Cyprus	54.94%	13.70
26	Latvia	56.36%	10.00
	Luxembourg	n/a	n/a

Source: Eurostat (Lisbon Council calculations)

Table 23. Change in Greenhouse Gas Emissions

Rank	Country	Overall Change in Greenhouse Gas Emissions (Index 1990 = 100)	Score
1	Romania	34.8%	100.00
2	Lithuania	35.8%	99.26
3	Estonia	37.2%	98.22
4	Sweden	50.2%	88.58
5	Slovakia	53.0%	86.51
6	Bulgaria	57.8%	82.95
7	Denmark	62.9%	79.17
8	Germany	64.0%	78.35
9	Hungary	64.5%	77.98
10	Finland	69.8%	74.05
11	Czech Republic	71.8%	72.57
12	Croatia	73.3%	71.46
	European Union	74.1%	70.86
13	Italy	74.9%	70.27
14	Latvia	75.8%	69.60
15	France	79.8%	66.64
16	Belgium	83.0%	64.27
17	Greece	83.1%	64.19
18	Poland	84.9%	62.86
19	Netherlands	85.3%	62.56
20	Luxembourg	92.7%	57.08
21	Malta	96.2%	54.48
22	Portugal	97.6%	53.44
23	Ireland	111.5%	43.14
24	Spain	114.4%	40.99
25	Austria	116.4%	39.51
26	Slovenia	119.9%	36.91
27	Cyprus	156.2%	10.00

Source: Eurostat

Table 24. Green Output

Rank	Country	Score
1	Netherlands	94.16
2	Sweden	93.19
3	Luxembourg	93.08
4	Denmark	78.05
5	Austria	74.51
6	Finland	74.47
7	Belgium	71.71
8	Slovenia	66.09
9	France	63.32
10	Slovakia	60.73
11	Estonia	51.90
12	Portugal	51.73
13	Germany	51.64
	European Union	50.35
14	Latvia	47.21
15	Lithuania	47.16
16	Hungary	47.09
17	Spain	43.88
18	Malta	43.86
19	Ireland	41.80
20	Greece	41.15
21	Italy	40.32
22	Croatia	38.55
23	Cyprus	37.71
24	Poland	29.81
25	Czech Republic	22.47
26	Romania	21.42
27	Bulgaria	21.01

Source: European Commission, Eurostat (Lisbon Council calculations)

II.3 Green Output

SMEs, in some ways, are no different than the rest of us. What they produce is every bit as important as how they produce it. That is why we created the Green Output indicator, which measures how green are the products that SMEs make. To date, the process suffers from the same "data scarcity" that plagues other areas of the green transition dossier, meaning much "empirical" data still relies on surveys and self-assessments. To give an added element of measurable output, we chose to look at two things: 1) the share of SMEs that offer green products and services (based on self-assessment), and 2) the share of SMEs in low intensive greenhouse gas emission sectors (based on structural business statistics).

'Management consultants tell us that what gets measured is what gets changed, and it is in this spirit that we created the Green, Digital and Competitive Index.'

Key findings:

1 **The Netherlands** (No. 1), **Sweden** (No. 2) and **Luxembourg** (No. 3) lead the way. For The Netherlands, this is particularly impressive; the economy has long excelled at the forefront of the fossil-fuel sector with a host of highly successful big and small companies active in the field. It's a sign that Dutch people have really embraced the green transition, moving not just to "green wash" existing businesses but to add new businesses and services that are themselves based on truly green products.

2 **Austria** (No. 5) is another strong performer. Its SMEs rank No. 2 for offering green products or services, with some 44% reporting that they do.

3 The **Czech Republic** (No. 25) lags in this category, with only 19% of enterprises there reporting a green product or service offering (No. 27).

4 When it comes to the structural placement of SMEs, the results vary widely from country to country, accurately reflecting the fact that economies produce different things and have different energy bases behind them. **Luxembourg**, for one, has 52.85% of its enterprises in "low intensive greenhouse gas emission sectors," giving it a No. 1 position on this sub-indicator. **Greece**, by contrast, comes last with a No. 27 finish on this sub-indicator; fewer than 28% of its SMEs are in low greenhouse gas intensity sectors.

Table 25. SMEs Offering Green Products or Services

Rank	Country	Share of SMEs Offering Green Products or Services	Score
1	Netherlands	45.00%	100.00
2	Austria	44.00%	96.54
3	Sweden	43.00%	93.08
4	Luxembourg	41.00%	86.15
-	Slovakia	41.00%	86.15
-	Finland	41.00%	86.15
7	France	38.00%	75.77
8	Denmark	37.00%	72.31
-	Greece	37.00%	72.31
-	Slovenia	37.00%	72.31
11	Belgium	35.00%	65.38
12	Spain	33.00%	58.46
13	Cyprus	32.00%	55.00
	European Union	32.00%	55.00
14	Lithuania	31.00%	51.54
15	Germany	30.00%	48.08
16	Ireland	29.00%	44.62
-	Malta	29.00%	44.62
18	Italy	28.00%	41.15
19	Estonia	27.00%	37.69
-	Croatia	27.00%	37.69
-	Portugal	27.00%	37.69
22	Poland	25.00%	30.77
23	Romania	24.00%	27.31
24	Bulgaria	23.00%	23.85
25	Latvia	22.00%	20.38
26	Hungary	21.00%	16.92
27	Czech Republic	19.00%	10.00

Source: European Commission

Table 26. SMEs in Low Intensive Greenhouse Gas Emission Sectors

Rank	Country	Share of SMEs in Low Intensive Greenhouse Gas Emission Sectors in Total SMEs	Score
1	Luxembourg	52.85%	100.00
2	Sweden	50.94%	93.31
3	Netherlands	49.52%	88.32
4	Denmark	48.23%	83.80
5	Belgium	46.59%	78.03
6	Hungary	46.37%	77.26
7	Latvia	45.45%	74.03
8	Estonia	43.20%	66.11
9	Portugal	43.10%	65.78
10	Finland	42.25%	62.78
11	Slovenia	41.42%	59.88
12	Germany	40.09%	55.20
13	Austria	39.32%	52.49
14	France	38.85%	50.87
	European Union	37.38%	45.70
15	Malta	36.64%	43.10
16	Lithuania	36.55%	42.79
17	Italy	35.61%	39.49
18	Croatia	35.59%	39.40
19	Ireland	35.47%	38.99
20	Slovakia	34.42%	35.32
21	Czech Republic	34.32%	34.94
22	Spain	32.71%	29.29
23	Poland	32.58%	28.85
24	Cyprus	30.18%	20.42
25	Bulgaria	29.54%	18.17
26	Romania	28.79%	15.54
27	Greece	27.21%	10.00

Source: European Commission, Eurostat (Lisbon Council calculations)

Chapter III

SME Competitiveness

Table 27. SME Competitiveness

Rank	Country	Score	Exports Rank	Productivity Rank	Growth Rank
1	Netherlands	66.30	4	6	3
2	Denmark	63.37	11	1	23
3	Slovenia	60.93	2	14	9
4	Estonia	59.06	1	15	18
5	Ireland	58.18	23	3	2
6	Finland	58.00	10	7	4
7	Portugal	56.17	17	n/a	7
8	Malta	52.65	22	5	5
9	Luxembourg	51.28	18	2	17
10	Sweden	49.56	14	8	11
11	Belgium	46.15	8	4	25
12	Latvia	45.78	3	22	20
13	Austria	45.43	6	n/a	24
14	Spain	44.23	21	13	6
15	Greece	43.69	26	24	1
16	Lithuania	43.68	5	20	14
17	Hungary	42.70	12	18	8
18	Bulgaria	42.13	7	25	12
19	Germany	41.27	13	11	22
20	Slovakia	40.68	9	21	15
	European Union	40.36			
21	Italy	39.18	20	12	16
22	Poland	38.84	16	19	10
23	Croatia	35.84	19	17	13
24	France	33.98	27	9	21
25	Czech Republic	32.05	25	16	19
26	Cyprus	31.42	15	10	26
27	Romania	16.78	24	23	27

Source: Eurostat (Lisbon Council calculations)

Being green is great, and so is going digital. But if Europe wants to lead the world in these areas, it must move beyond ambitious programmes and bombastic pronouncements. It must also learn to develop world-leading companies in the key fields. This is not just a "nice-to-have" goal, either. Already, American and Chinese companies are branching out into the world, carrying a large set of local values with them everywhere they go and wherever they succeed. Europe, too, could go this route if it could take on more ambition in the private sector and realise the original vision of the internal market – to forge a healthy, well-regulated, consumer-driven space large enough to help smaller companies take off and give birth to powerful champions that reflect European values and have the wherewithal to grow even bigger. Along the way, these companies would reach out across borders, creating jobs at home and everywhere they went, and, eventually, becoming global champions in their own right – and largely through the strength of their excellent products and services and not just based on the protectionist instincts of their national governments. It is a powerful vision, but one that Europe has sometimes struggled to deliver. And, in an age where so many local problems require genuinely global solutions, Europe must master this crucial third pillar – creating a space where its green and digital companies can grow, compete and eventually conquer global markets.

'If Europe wants to lead the world in these areas, it must move beyond ambitious programmes and bombastic pronouncements. It must also learn to develop world-leading companies in the key fields.'

To measure SME Competitiveness, we take a relatively unorthodox view, focusing on key areas where SME success might best be sought and demonstrated. The pillar has three indicators: 1) Exports, which looks at the percentage of national SMEs selling outside of their home market and the volume of trade they generate, 2) Productivity, which measures the efficiency with which the products are being manufactured or delivered, and 3) Growth, which looks at two factors: how many SMEs are growing by 10% a year for three years in a row and how many people are employed by them. The results are fascinating.

Key findings:

1 **The Netherlands** (No. 1) comes first, boasting healthy SME performance on Exports, Productivity and Growth. And yet, significantly, The Netherlands is No. 1 in none of those fields; its No. 1 finish comes from solid performance across the board, i.e. its ability to perform well on all indicators at the same time.

2 **Denmark** (No. 2) does well thanks to sky-high productivity among its SMEs. Danish SMEs generate nearly €50,000 more per annum per person employed than SMEs in **Luxembourg**, which ranks No. 2 on Productivity and No. 9 on the SME Competitiveness pillar overall.

3 **Slovenia** (No. 3) and **Estonia** (No. 4) also do well – which should come as no surprise. Both relatively small countries boast SMEs which simply must look across borders to enjoy healthy sales. On Exports, Estonia is No. 1 and Slovenia is No. 2. But Slovenia draws on a strong No. 9 finish on Growth to ease ahead of Estonia (No. 18 in Growth) in the overall ranking.

4 One big disappointment is **France** (No. 24). It is dead last on Exports (No. 27) – a sign that French SMEs don't really look across borders for new markets. And No. 21 on Growth, which follows logically from the previous point.

5 Despite a fearsome reputation in many product markets, **Germany** (No. 19) is an under-performer on SME Competitiveness. On Growth, it ranks No. 22. On Exports, it ranks No. 13. Germany is No. 11 on Productivity, barely ahead of **Italy**.

6 One of the big surprises is **Greece** (No. 15). This long-suffering economy boasts good performance on Growth – in both high-growth enterprises (No. 1, ahead of **Ireland** and **Spain**) and employment (No. 1, ahead of **Ireland** and **The Netherlands**). Twenty-seven percent of the workforce in Greece is now employed in a "high-growth" enterprise. Thanks to this strong growth performance, the country finishes at No. 15 on the overall SME Competitiveness pillar, ahead of **Germany** (No. 19), **Poland** (No. 22) and **France** (No. 24). However, the indicators show that there is still work to be done. Much of the growth seems to be domestic driven, with Greece at No. 26 on Exports and No. 24 on Productivity.

'In an age where so many local problems require genuinely global solutions, Europe must master this crucial third pillar – creating a space where its green and digital companies can grow, compete and eventually conquer global markets.'

7 **Ireland** (No. 5) is another interesting story. It has high Productivity (No. 3) and a good result on Growth (No. 2). But its SMEs have surprisingly low Exports (No. 23). This is a sign that the Celtic Tiger's many SMEs are still too focused on their vibrant domestic market. They could do more – especially in the digital age – to look for healthy markets outside of their own.

Gonito: A Story Built on Growth

Company growth has become a growth business itself with an array of new startups built on helping others expand, grow, learn and thrive in new markets. Take Gonito Sp. z o.o., a Gdynia, Poland-based online sales consultancy company. Founded in 2016 by Damian Wiszowaty, an intellectual property lawyer, it was the first company in Poland to offer online services – including performance analysis, multilingual support, logistical assistance and cross-border tax support – to companies wishing to expand beyond the Polish market and sell in other places via Amazon's European stores and other online platforms. The timing was right, and the formula proved immensely successful. From its humble roots in a sleepy Baltic seaport, it built up a 150-person team, including an internal business analytics unit to monitor markets and provide sales analytics to online goods and service providers. Its customer base grew, too, with new clients arriving from Europe, North and even South America. Today, Gonito has more than 300 clients around the world.

Table 28. Exports

Rank	Country	Score
1	Estonia	100.00
2	Slovenia	90.17
3	Latvia	75.48
4	Netherlands	68.72
5	Lithuania	58.62
6	Austria	56.58
7	Bulgaria	54.60
8	Belgium	52.67
9	Slovakia	50.55
10	Finland	47.40
11	Denmark	46.41
12	Hungary	43.93
13	Germany	41.23
14	Sweden	39.79
15	Cyprus	36.69
16	Poland	35.66
17	Portugal	34.91
18	Luxembourg	34.76
19	Croatia	33.19
	European Union	31.74
20	Italy	31.25
21	Spain	28.68
22	Malta	28.47
23	Ireland	27.89
24	Romania	27.71
25	Czech Republic	27.51
26	Greece	20.24
27	France	14.22

Source: Eurostat (Lisbon Council calculations)

III.1 Exports

Success in external markets is not a proxy for success at all levels. It is, in fact, a *sine qua non* for achievement by entrepreneurs from small countries – less important for those from large ones. But it is also a crucial training ground – a place where successful companies go to learn how to do business elsewhere and start themselves on expansionary high-growth paths. And, in the digital age, it is not a hard thing to do; quite often all that is needed is a website, some back-office software and a bit of ambition. What's more, even SMEs in the big countries would benefit from exporting more. If you can't enter a neighbouring market, you are going to have a hard time being competitive in a global one, which is why external-market success is despite these caveats an important bellwether of overall SME success.

'If you can't enter a neighbouring market, you are going to have a hard time being competitive in a global one, which is why external-market success is an important bellwether of overall SME success.'

Key findings:

1 **Estonia** (No. 1), **Slovenia** (No. 2) and **Latvia** (No. 3) lead. All three are small countries where top entrepreneurs must look by definition across borders for the growth they need.

2 **Austria** (No. 6) finishes well. It ranks No. 3 on the share of exporting SMEs sub-indicator, though the amounts involved bring its overall score down. Still, for a medium-sized European economy of 9 million citizens it shows a useful focus on external markets as a potential source of future growth and performs reasonably well on this key criterion.

3 **The Netherlands** does well here, too. It ranks No. 4 on the SME trade to GDP ratio, the best score for a medium-to-large European economy, with SME trade accounting for 64% of Dutch GDP. This helps to shore up The Netherlands' high score in the overall index.

4 Overall, performance lags across Europe. In 2021, the Industrial Forum – an industry/government body set up to monitor European performance on the March 2020 Industrial Strategy and the May 2021 Industrial Strategy Updates – set a benchmarking target for SMEs: 30% of them should export. Today, no European country comes close to that target. Only league-leaders **Estonia** and **Slovenia** breach the 15% threshold. The **EU Average** is 5.4%.[17]

17 Industrial Forum, *KPI Framework Interim Report* (Brussels: European Commission, 2021).

Table 29. Exporting SMEs in Total SMEs

Rank	Country	Share of Exporting SMEs in Total SMEs	Score
1	Estonia	16.14%	100.00
2	Slovenia	16.10%	99.74
3	Austria	11.39%	70.90
4	Latvia	11.08%	69.03
5	Germany	10.25%	63.95
6	Denmark	9.63%	60.11
7	Netherlands	9.19%	57.44
8	Finland	8.89%	55.61
9	Lithuania	7.70%	48.26
10	Sweden	7.25%	45.51
11	Bulgaria	6.80%	42.75
12	Poland	6.35%	40.00
13	Belgium	6.25%	39.43
14	Luxembourg	6.23%	39.28
15	Slovakia	5.98%	37.74
16	Hungary	5.75%	36.33
17	Spain	5.61%	35.52
18	Italy	5.44%	34.46
	European Union	5.43%	34.36
19	Portugal	4.98%	31.65
20	Cyprus	4.23%	27.05
21	Romania	4.22%	26.97
22	Ireland	3.96%	25.35
23	Croatia	3.41%	22.00
24	France	2.83%	18.45
25	Greece	2.43%	15.98
26	Malta	2.39%	15.74
27	Czech Republic	1.45%	10.00

Source: Eurostat (Lisbon Council calculations)

Table 30. SME Trade to GDP Ratio

Rank	Country	SME Trade to GDP Ratio (as a Percentage of GDP)	Score
1	Estonia	79.81%	100.00
2	Latvia	65.79%	81.92
3	Slovenia	64.77%	80.60
4	Netherlands	64.30%	80.00
5	Lithuania	55.75%	68.98
6	Bulgaria	53.79%	66.45
7	Belgium	53.38%	65.92
8	Slovakia	51.39%	63.36
9	Hungary	42.23%	51.54
10	Cyprus	38.19%	46.33
11	Czech Republic	37.17%	45.02
12	Croatia	36.67%	44.37
13	Austria	35.03%	42.26
14	Malta	34.21%	41.20
15	Finland	32.65%	39.19
16	Portugal	31.86%	38.17
17	Sweden	28.68%	34.07
18	Denmark	27.62%	32.70
19	Poland	26.55%	31.32
20	Ireland	25.87%	30.44
21	Luxembourg	25.72%	30.24
	European Union	24.85%	29.12
22	Romania	24.32%	28.45
23	Italy	24.01%	28.05
24	Greece	21.27%	24.51
25	Spain	19.19%	21.83
26	Germany	16.62%	18.51
27	France	10.02%	10.00

Source: Eurostat (Lisbon Council calculations)

Table 31. Productivity

Rank	Country	SME Labour Productivity (Value-Added per Person Employed Per Annum)	Score
1	Denmark	€136,200	100.00
2	Luxembourg	€88,600	64.97
3	Ireland	€81,400	59.69
4	Belgium	€75,700	55.46
5	Malta	€68,400	50.13
6	Netherlands	€66,100	48.41
7	Finland	€62,900	46.03
8	Sweden	€62,600	45.87
9	France	€54,900	40.19
10	Cyprus	€54,600	39.98
11	Germany	€49,000	35.81
12	Italy	€42,600	31.11
	European Union	€41,200	30.09
13	Spain	€36,200	26.46
14	Slovenia	€33,900	24.77
15	Estonia	€32,500	23.72
16	Czech Republic	€26,000	18.89
17	Croatia	€21,100	15.29
18	Hungary	€20,800	15.08
19	Poland	€20,700	15.02
20	Lithuania	€19,900	14.46
21	Slovakia	€19,600	14.19
-	Latvia	€19,600	14.19
23	Romania	€17,500	12.64
24	Greece	€15,000	10.82
25	Bulgaria	€13,900	10.00
	Austria	n/a	n/a
	Portugal	n/a	n/a

Source: Eurostat (Lisbon Council calculations)

III.2 Productivity

"Productivity isn't everything," according to Nobel Prize winning economist Paul Krugman. "But in the long run, it's almost everything."

Indeed, economists have felled countless numbers of trees arguing over this one, though they have broadly reached remarkable consensus on the key point: high productivity and high-productivity growth are prerequisites for the overall health of all advanced economies and the broad-based prosperity it generates. It is also a key indicator that economic growth is moving away from physical inputs towards more sustainable models of high-value addition. Writing in a 2014 Lisbon Council policy brief, economist Bart van Ark, professor of productivity studies and managing director of The Productivity Institute at the University of Manchester, put the point even more bluntly.[18] Productivity growth, he wrote, is the only way a developed economy can deliver long-term growth that is truly sustainable.

'High productivity and high-productivity growth are prerequisites for the overall health of advanced economies and the broad-based prosperity they generate.'

Key findings:

1 **Denmark** (No. 1) excels. Its SME-level productivity is higher than anyone else's by some 40%. This is a remarkable fact – and a remarkable source of strength for this European powerhouse economy. It helps deliver a high standard of living, and, as Danish companies come to offer more and more green services and do more and more to conserve natural resources and recycle, it could well prove the platform for future leadership across this league table.

2 Just as interesting is who doesn't perform well: **Germany** (No. 11) is well behind the industry leaders, falling just above the **EU Average**.

3 And there are enormous discrepancies across Europe. League-leader **Denmark** boasts €136,200 of value added per annum per person employed in Danish SMEs. In **Bulgaria** (No. 25), the figure is €13,900 – well off the €30,090 **EU Average** and only 10% of the level set by league-leader Denmark.

18 Bart van Ark, *Productivity and Digitalisation in Europe: Paving the Road to Faster Growth* (Brussels and New York: The Lisbon Council and The Conference Board, 2014).

Table 32. Growth

Rank	Country	Score
1	Greece	100.00
2	Ireland	86.95
3	Netherlands	81.77
4	Finland	80.57
5	Malta	79.34
6	Spain	77.55
7	Portugal	77.44
8	Hungary	69.08
9	Slovenia	67.85
10	Poland	65.83
11	Sweden	63.03
12	Bulgaria	61.79
	European Union	59.25
13	Croatia	59.03
14	Lithuania	57.96
15	Slovakia	57.29
16	Italy	55.19
17	Luxembourg	54.12
18	Estonia	53.46
19	Czech Republic	49.76
20	Latvia	47.66
21	France	47.52
22	Germany	46.77
23	Denmark	43.71
24	Austria	34.28
25	Belgium	30.31
26	Cyprus	17.58
27	Romania	10.00

Source: Eurostat (Lisbon Council calculations)

III.3 Growth

Company growth is another sometimes misunderstood objective. Environmentalists have been known to attack the entire concept of "growth," arguing that society must slow down and produce less if it is to preserve the Earth's natural balance. And, for sure, we must learn to do more with less – that's an entry-level proposition in this discussion. But the fact is, green solutions will spread not on the backs of good intentions but through innovation – and the capacity of companies, some of them not yet born, to rise up and deliver a net-zero-emission economy capable of feeding and sustaining the human race. This is why company growth – and specifically European company growth – is so important. We need to create the policy framework and political context for greening the world – and on that front Europe has led and from time to time excelled.[19] But we also need companies that are ambitious and capable – that can find good ideas and take them to scale. And we need that success to be not only in our own backyard but to spread throughout the entire neighbourhood and eventually the world.

'Along the way, successful companies reach across borders, create jobs at home and everywhere they go, and, eventually, become global champions in their own right.'

To measure company growth, we look at two sub-indicators: 1) the percentage of enterprises that are high growth – based on the joint OECD-Eurostat-European Commission definition,[20] and 2) the percentage of workers employed in high-growth enterprises.[21]

Key findings:

1 **Greece** (No. 1), **Ireland** (No. 2) and **The Netherlands** (No. 3) lead overall.

2 **Finland** (No. 4) also does well. It is No. 4 on high-growth enterprises – and No. 6 on employment in high-growth enterprises for a strong all-around performance.

3 **Spain** (No. 6) is also a strong performer, though its impressive success on developing fast-growing companies (No. 3) has not always translated into success in job creation (No. 9).

4 **Romania** (No. 27) has the most to worry about. Only 2.38% of its SMEs are classifiable as high growth; less than 6% of the SME workforce is employed in enterprises that could be classified as high growth.

19 The Russia crisis has shown the danger of letting our rhetoric about sustainability outrun our capacity to deliver it.

20 OECD and European Commission, *Eurostat-OECD Manual on Business Demography Statistics* (Paris and Luxembourg; OECD Publishing and Publications Office of the European Union, 2007).

21 We chose not to include the number of unicorns as a sub-indicator. While we are always happy to see European companies succeed and grow to scale, market valuation is not always robust and can be subject to hype, exaggeration and error. Plus, we believe the overwhelming policy objective should be not just to develop healthy global champions but to drive and feed ecosystems where paths of this type can become routine, widespread and accessible to all.

Table 33. High-Growth Enterprises

Rank	Country	Share of High-Growth Enterprises in Total Active Enterprises (10+ Employees)	Score
1	Greece	17.41%	100.00
2	Ireland	15.76%	90.12
3	Spain	15.52%	88.68
4	Finland	15.45%	88.26
5	Netherlands	14.46%	82.34
6	Malta	14.30%	81.38
7	Slovenia	14.10%	80.18
8	Portugal	13.91%	79.04
9	Croatia	12.83%	72.57
10	Sweden	12.62%	71.32
11	Hungary	12.24%	69.04
12	France	12.12%	68.32
	European Union	11.85%	66.71
13	Slovakia	11.69%	65.75
14	Poland	11.58%	65.09
15	Luxembourg	11.41%	64.07
16	Italy	10.94%	61.26
17	Bulgaria	10.71%	59.88
18	Estonia	10.67%	59.64
19	Czech Republic	10.42%	58.14
20	Latvia	10.00%	55.63
21	Lithuania	9.99%	55.57
22	Denmark	9.48%	52.51
23	Germany	9.44%	52.28
24	Austria	8.52%	46.77
25	Belgium	8.15%	44.55
26	Cyprus	3.40%	16.11
27	Romania	2.38%	10.00

Source: Eurostat

Table 34. People Employed in High-Growth Enterprises

Rank	Country	Share of People Employed in High-Growth Enterprises in Total Employment (Enterprises with 10+ Employees)	Score
1	Greece	27.67%	100.00
2	Ireland	23.71%	83.78
3	Netherlands	23.08%	81.20
4	Malta	22.13%	77.31
5	Portugal	21.77%	75.83
6	Finland	21.05%	72.88
7	Hungary	20.13%	69.11
8	Poland	19.51%	66.57
9	Spain	19.47%	66.41
10	Bulgaria	18.81%	63.71
11	Lithuania	17.99%	60.35
12	Slovenia	16.81%	55.51
13	Sweden	16.62%	54.73
	European Union	15.90%	51.78
14	Italy	15.25%	49.12
15	Slovakia	15.18%	48.83
16	Estonia	14.80%	47.28
17	Croatia	14.36%	45.48
18	Luxembourg	14.04%	44.16
19	Czech Republic	13.36%	41.38
20	Germany	13.33%	41.26
21	Latvia	12.95%	39.70
22	Denmark	11.78%	34.91
23	France	9.78%	26.71
24	Austria	8.58%	21.80
25	Cyprus	7.91%	19.05
26	Belgium	7.18%	16.06
27	Romania	5.70%	10.00

Source: Eurostat

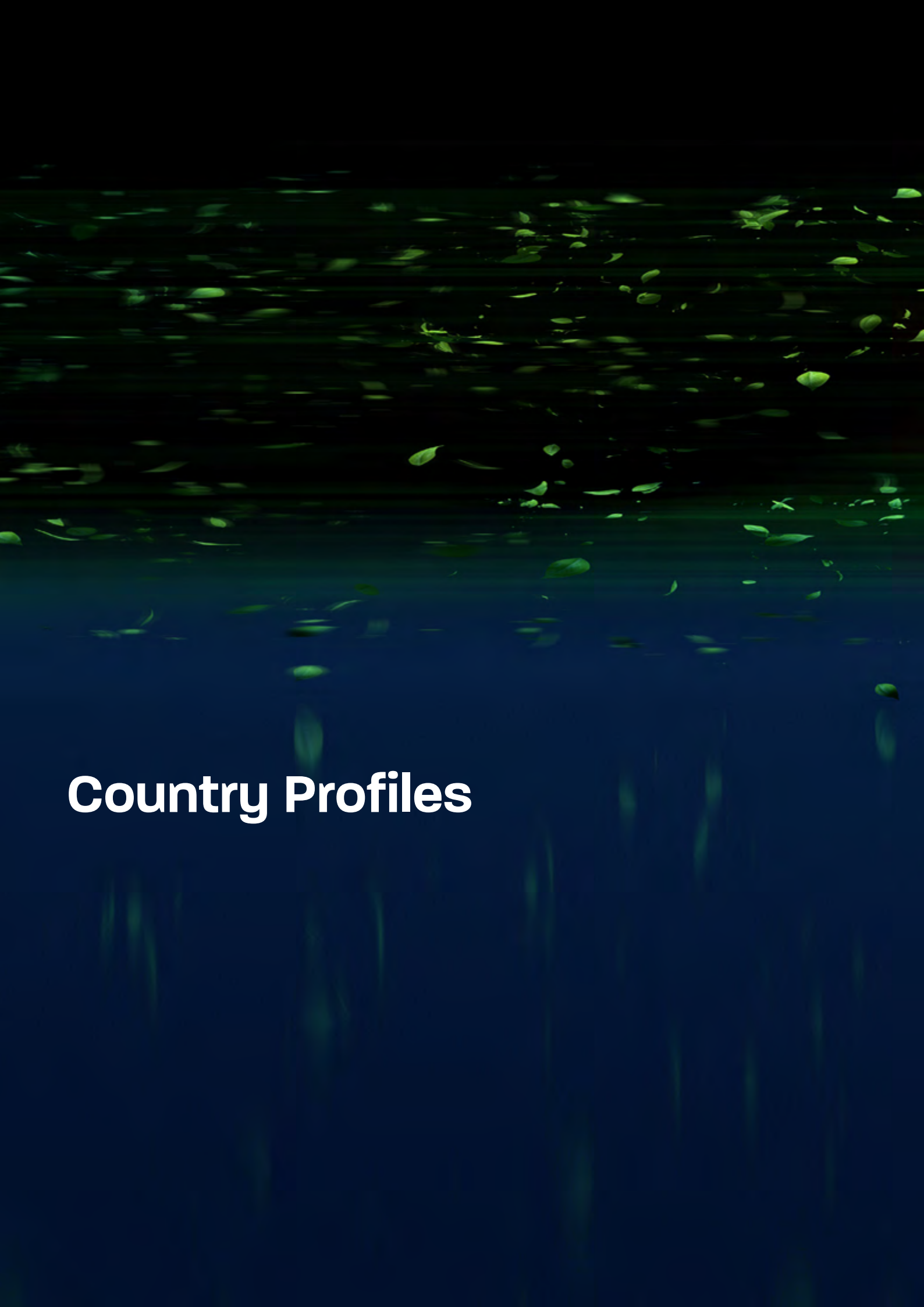
SMEs and Regulators: New Ways of Working

Europe's agenda is ambitious; to become the world's leading green, digital economy and on the back of that success to lead the world revolution in sustainable development. But plans don't always turn out the way they are intended. And if Europe's right hand can often be found authoring visionary programmes and signing ambitious legislation, the left hand is sometimes caught pursuing practices that run afoul of the green, digital and competitive agenda – regulations which, despite the best intentions of their authors, can be seen working against the programme and pulling market participants in conflicting directions.

Take the "one-stop shop" for e-commerce sales, a July 2021 initiative which created a single platform where VAT from cross-border sales can be reported, paid and recuperated when needed. It is based on a good idea, for sure, one intended to spur cross-border sales and let SMEs focus on what they do best – serving customers and finding new markets. But European SMEs report that the complex measure has not made difficult cross-border VAT reporting much easier. For starters, the one-stop shop does not cover business-to-business (B2B) transactions, which means many companies still have two drop-off points for VAT filings, which has actually driven up the "administrative burden" of VAT compliance in many instances. Others say the procedure has created cash flow problems in its wake because of non-synchronised reimbursement timelines. And still others argue that the new procedure isn't comprehensive enough, particularly when it comes to the inventory and infrastructure needed to succeed across borders. As is, if a company wants to open a warehouse to speed delivery in another country, it is required to get a local VAT number in the country where the warehouse is based. This can drive up costs and discourage even tentative cross-border expansion. SMEs report it takes up to 12 months to open a VAT account in another country, and even more time to close it.

Recent efforts to build a circular economy have not always squared up either. Take the Waste from Electrical and Electronic Equipment (WEEE) directive, part of the European Commission's Extended Producer Responsibility (EPR) guidelines. Under current rules, producers are required to take all batteries, packages and electronics back even when the sale is made in another country. No one objects to that in principle. But to date no "one-stop shop" for recycling has been set up. And some estimate that the paperwork involved in recycling a product across a border can require as many as 300 special-purpose reports and registration costs of up to €140,000 per product. The result is a huge disincentive towards recycling – and even to going across borders for sales in the first place.

No one doubts the good will of regulators. But the law of unintended consequences – a concept first put forward by American economist Robert K. Merton – is in effect. Clearly, regulators need to do more to join up policies – paying closer attention to the "three-pillar" concept laid out in this study – and making sure that what they seek when they write a policy is what they eventually get. This requires a new approach – perhaps different in expectation and delivery as much as tone or attitude. SMEs and policymakers need to set aside their age-old rivalry. They should work together to find common cause. And use digital technology (which allows faster iteration of products and rules and better data on impact and results) to develop stronger feedback loops, shorter product development times, more effective pathways to larger markets – and ultimately an economy that delivers Europe's social and economic goals for all.



Country Profiles

Austria

Rank: **8** Overall Score: **54.88**

Austria ranks No. 8. Its strongest performance is on the **Green Transition** (No. 4), where its high ranking derives from the large numbers of SMEs offering green products (No. 2) and a relatively low SME footprint in greenhouse gas emissions (No. 4). On **Digital Transition** (No. 10), it is still above the **EU Average** but only just. It performs well in some areas including **Exports**, where it is No. 6. But its low performance on Growth (No. 24 on share of high-growth enterprises and No. 24 on employment in high-growth enterprises) drags its overall **SME Competitiveness** (No. 13) down.

		Rank	Score	Figures
I.	**Digital Transition**	**10**	**52.18**	
I.1.	**SME Digitalisation**	**10**	**54.33**	
I.1.1.	Share of SMEs using big data analytics	16	20.80	8.0%
I.1.2.	Share of SMEs using cloud computing services	12	47.38	37.0%
I.1.3.	Share of SMEs using two or more social media channels	8	71.58	37.0%
I.1.4.	Share of SMEs with high and very high digital intensity	6	56.10	27.0%
I.1.5.	Share of SMEs using any type of ICT security	16	75.77	91.0%
I.2.	**E-Commerce**	**11**	**53.93**	
I.2.1.	Share of SMEs with e-commerce sales in total SMEs	6	67.86	29.0%
I.2.2.	Share of SME total turnover from e-commerce sales in total turnover	15	40.00	10.0%
I.3.	**Digital Skills**	**13**	**48.28**	
I.3.1.	Share of SMEs that employ ICT specialists in total SMEs	13	41.76	18.0%
I.3.2.	Share of SMEs for which ICT functions are performed by own employees in total SMEs	9	61.14	48.0%
I.3.3.	Share of SMEs providing training to develop or upgrade ICT skills of personnel	16	41.94	16.0%
II.	**Green Transition**	**4**	**67.03**	
II.1.	**Natural Resource Conservation**	**7**	**62.66**	
II.1.1.	Share of SMEs reducing consumption of natural resources (e.g. saving water, energy, materials or switching to sustainable resources)	8	68.11	46.0%
II.1.2.	Share of SMEs recycling by reusing material or waste within the company	9	57.21	47.0%
II.2.	**Emission Reduction**	**12**	**63.92**	
II.2.1.	Share of greenhouse gas emissions produced by SMEs in total greenhouse gas emissions	4	88.34	26.3%
II.2.2.	Overall change in greenhouse gas emissions (Index 1990 = 100)	25	39.51	116.40
II.3.	**Green Output**	**5**	**74.51**	
II.3.1.	Share of SMEs offering green products or services	2	96.54	44.0%
II.3.2.	Share of SMEs in low intensive greenhouse gas emission sectors in total SMEs	13	52.49	39.3%
III.	**SME Competitiveness**	**13**	**45.43**	
III.1.	**Exports**	**6**	**56.58**	
III.1.1.	Share of exporting SMEs in total SMEs	3	70.90	11.4%
III.1.2.	SME trade to GDP ratio	13	42.26	35.0%
III.2.	**Productivity**		**n/a**	
III.2.1.	SME labour productivity		n/a	n/a
III.3	**Growth**	**24**	**34.28**	
III.3.1.	Share of high-growth enterprises in total active enterprises (10+ employees)	24	46.77	8.5%
III.3.2.	Share of people employed in high-growth enterprises in total employment (enterprises with 10+ employees)	24	21.80	8.6%

Sources: European Commission, Eurostat (Lisbon Council calculations)

For a detailed interactive breakdown, visit https://gdc.lisboncouncil.net/austria

Belgium

Rank: **6** Overall Score: **62.07**

Belgium ranks No. 6. The country performs well on **Digital Transition** (No. 5) and **Green Transition** (No. 6) but lags a bit in **SME Competitiveness** (No. 11). The country performs very well in **Digital Skills** (No. 3), ranking second in the employment of ICT specialists and in providing training for personnel in ICT development and upskilling. Its weakest point is **Growth** (No. 25). **Productivity** (No. 4) is good. But the success fails to translate this good performance into the fast-growing enterprises that create jobs. Belgium scores surprisingly low on high-growth enterprises (No. 25) and the share of persons employed in high-growth enterprises in total employment (No. 26).

		Rank	Score	Figures
I.	**Digital Transition**	**5**	**74.60**	
I.1.	**SME Digitalisation**	**6**	**73.95**	
I.1.1.	Share of SMEs using big data analytics	4	71.20	22.0%
I.1.2.	Share of SMEs using cloud computing services	6	68.15	52.0%
I.1.3.	Share of SMEs using two or more social media channels	4	88.16	44.0%
I.1.4.	Share of SMEs with high and very high digital intensity	6	56.10	27.0%
I.1.5.	Share of SMEs using any type of ICT security	7	86.15	94.0%
I.2.	**E-Commerce**	**5**	**68.04**	
I.2.1.	Share of SMEs with e-commerce sales in total SMEs	5	71.07	30.0%
I.2.2.	Share of SME total turnover from e-commerce sales in total turnover	6	65.00	15.0%
I.3.	**Digital Skills**	**3**	**81.81**	
I.3.1.	Share of SMEs that employ ICT specialists in total SMEs	2	94.71	28.0%
I.3.2.	Share of SMEs for which ICT functions are performed by own employees in total SMEs	6	65.23	50.0%
I.3.3.	Share of SMEs providing training to develop or upgrade ICT skills of personnel	2	85.48	31.0%
II.	**Green Transition**	**6**	**65.47**	
II.1.	**Natural Resource Conservation**	**8**	**60.39**	
II.1.1.	Share of SMEs reducing consumption of natural resources (e.g. saving water, energy, materials or switching to sustainable resources)	4	76.84	50.0%
II.1.2.	Share of SMEs recycling by reusing material or waste within the company	18	43.93	38.0%
II.2.	**Emission Reduction**	**11**	**64.30**	
II.2.1.	Share of greenhouse gas emissions produced by SMEs in total greenhouse gas emissions	8	64.34	35.5%
II.2.2.	Overall change in greenhouse gas emissions (Index 1990 = 100)	16	64.27	83.00
II.3.	**Green Output**	**7**	**71.71**	
II.3.1.	Share of SMEs offering green products or services	11	65.38	35.0%
II.3.2.	Share of SMEs in low intensive greenhouse gas emission sectors in total SMEs	5	78.03	46.6%
III.	**SME Competitiveness**	**11**	**46.15**	
III.1.	**Exports**	**8**	**52.67**	
III.1.1.	Share of exporting SMEs in total SMEs	13	39.43	6.3%
III.1.2.	SME trade to GDP ratio	7	65.92	53.4%
III.2.	**Productivity**	**4**	**55.46**	
III.2.1.	SME labour productivity	4	55.46	75.68
III.3	**Growth**	**25**	**30.31**	
III.3.1.	Share of high-growth enterprises in total active enterprises (10+ employees)	25	44.55	8.2%
III.3.2.	Share of people employed in high-growth enterprises in total employment (enterprises with 10+ employees)	26	16.06	7.2%

Sources: European Commission, Eurostat (Lisbon Council calculations)

For a detailed interactive breakdown, visit https://gdc.lisboncouncil.net/belgium

Bulgaria

Rank: **26** Overall Score: **31.28**

Bulgaria ranks No. 26. It finishes last on **Digital Transition** (No. 27) and second to last on **Green Transition** (No. 26). Only on **SME Competitiveness** (No. 18) is the story slightly better; Bulgarian SMEs rank No. 7 on **Exports** and No. 10 on people employed in high-growth enterprises. But its low digital scores are the real story here: **Digital Transition** (No. 27): **SME Digitalisation** (No. 26), **E-Commerce** (No. 26) and **Digital Skills** (No. 26).

		Rank	Score	Figures
I.	**Digital Transition**	**27**	**17.68**	
I.1.	**SME Digitalisation**	**26**	**21.07**	
I.1.1.	Share of SMEs using big data analytics	23	13.60	6.0%
I.1.2.	Share of SMEs using cloud computing services	27	10.00	10.0%
I.1.3.	Share of SMEs using two or more social media channels	25	12.37	12.0%
I.1.4.	Share of SMEs with high and very high digital intensity	26	14.39	8.0%
I.1.5.	Share of SMEs using any type of ICT security	23	55.00	85.0%
I.2.	**E-Commerce**	**26**	**11.61**	
I.2.1.	Share of SMEs with e-commerce sales in total SMEs	26	13.21	12.0%
I.2.2.	Share of SME total turnover from e-commerce sales in total turnover	24	10.00	4.0%
I.3.	**Digital Skills**	**26**	**20.35**	
I.3.1.	Share of SMEs that employ ICT specialists in total SMEs	21	25.88	15.0%
I.3.2.	Share of SMEs for which ICT functions are performed by own employees in total SMEs	23	22.27	29.0%
I.3.3.	Share of SMEs providing training to develop or upgrade ICT skills of personnel	26	12.90	6.0%
II.	**Green Transition**	**26**	**34.02**	
II.1.	**Natural Resource Conservation**	**27**	**12.95**	
II.1.1.	Share of SMEs reducing consumption of natural resources (e.g. saving water, energy, materials or switching to sustainable resources)	27	10.00	19.4%
II.1.2.	Share of SMEs recycling by reusing material or waste within the company	26	15.90	19.0%
II.2.	**Emission Reduction**	**9**	**68.11**	
II.2.1.	Share of greenhouse gas emissions produced by SMEs in total greenhouse gas emissions	10	53.28	39.8%
II.2.2.	Overall change in greenhouse gas emissions (Index 1990 = 100)	6	82.95	57.80
II.3.	**Green Output**	**27**	**21.01**	
II.3.1.	Share of SMEs offering green products or services	24	23.85	23.0%
II.3.2.	Share of SMEs in low intensive greenhouse gas emission sectors in total SMEs	25	18.17	29.5%
III.	**SME Competitiveness**	**18**	**42.13**	
III.1.	**Exports**	**7**	**54.60**	
III.1.1.	Share of exporting SMEs in total SMEs	11	42.75	6.8%
III.1.2.	SME trade to GDP ratio	6	66.45	53.8%
III.2.	**Productivity**	**25**	**10.00**	
III.2.1.	SME labour productivity	25	10.00	13.86
III.3	**Growth**	**12**	**61.79**	
III.3.1.	Share of high-growth enterprises in total active enterprises (10+ employees)	17	59.88	10.7%
III.3.2.	Share of people employed in high-growth enterprises in total employment (enterprises with 10+ employees)	10	63.71	18.8%

Sources: European Commission, Eurostat (Lisbon Council calculations)

For a detailed interactive breakdown, visit https://gdc.lisboncouncil.net/bulgaria

Croatia

Rank: **19** Overall Score: **43.62**

Croatia is No. 19. Its best performance is in **Digital Transition** (No. 9). It has significantly weaker performances on **Green Transition** (No. 24) and **SME Competitiveness** (No. 23). The country has a good SME e-commerce performance, ranking No. 6, but turnover from e-commerce sales falls slightly behind (No. 9). Surprisingly, Croatia's weakest point is the small share of SMEs that export. It ranks No. 23, with only 3.4% of SMEs reporting cross-border sales.

		Rank	Score	Figures
I.	**Digital Transition**	**9**	**53.16**	
I.1.	**SME Digitalisation**	**16**	**47.37**	
I.1.1.	Share of SMEs using big data analytics	11	38.80	13.0%
I.1.2.	Share of SMEs using cloud computing services	10	48.77	38.0%
I.1.3.	Share of SMEs using two or more social media channels	19	38.42	23.0%
I.1.4.	Share of SMEs with high and very high digital intensity	16	38.54	19.0%
I.1.5.	Share of SMEs using any type of ICT security	18	72.31	90.0%
I.2.	**E-Commerce**	**9**	**61.43**	
I.2.1.	Share of SMEs with e-commerce sales in total SMEs	6	67.86	29.0%
I.2.2.	Share of SME total turnover from e-commerce sales in total turnover	9	55.00	13.0%
I.3.	**Digital Skills**	**12**	**50.67**	
I.3.1.	Share of SMEs that employ ICT specialists in total SMEs	16	36.47	17.0%
I.3.2.	Share of SMEs for which ICT functions are performed by own employees in total SMEs	12	59.09	47.0%
I.3.3.	Share of SMEs providing training to develop or upgrade ICT skills of personnel	13	56.45	21.0%
II.	**Green Transition**	**24**	**41.88**	
II.1.	**Natural Resource Conservation**	**22**	**38.79**	
II.1.1.	Share of SMEs reducing consumption of natural resources (e.g. saving water, energy, materials or switching to sustainable resources)	21	41.02	33.6%
II.1.2.	Share of SMEs recycling by reusing material or waste within the company	21	36.56	33.0%
II.2.	**Emission Reduction**	**21**	**48.29**	
II.2.1.	Share of greenhouse gas emissions produced by SMEs in total greenhouse gas emissions	21	25.13	50.6%
II.2.2.	Overall change in greenhouse gas emissions (Index 1990 = 100)	12	71.46	73.30
II.3.	**Green Output**	**22**	**38.55**	
II.3.1.	Share of SMEs offering green products or services	19	37.69	27.0%
II.3.2.	Share of SMEs in low intensive greenhouse gas emission sectors in total SMEs	18	39.40	35.6%
III.	**SME Competitiveness**	**23**	**35.84**	
III.1.	**Exports**	**19**	**33.19**	
III.1.1.	Share of exporting SMEs in total SMEs	23	22.00	3.4%
III.1.2.	SME trade to GDP ratio	12	44.37	36.7%
III.2.	**Productivity**	**17**	**15.29**	
III.2.1.	SME labour productivity	17	15.29	21.06
III.3	**Growth**	**13**	**59.03**	
III.3.1.	Share of high-growth enterprises in total active enterprises (10+ employees)	9	72.57	12.8%
III.3.2.	Share of people employed in high-growth enterprises in total employment (enterprises with 10+ employees)	17	45.48	14.4%

Sources: European Commission, Eurostat (Lisbon Council calculations)

For a detailed interactive breakdown, visit https://gdc.lisboncouncil.net/croatia

Cyprus

Rank: **25** Overall Score: **35.60**

Cyprus is No. 25. It scores below the **EU Average** on all three pillars: **Digital Transition** (No. 18), **Green Transition** (No. 27) and **SME Competitiveness** (No. 26). The **Green Transition** score is the most worrisome; Cyprus, for one, is No. 27 on **Emission Reduction**, with low scores both on the SME-attributable portion of that footprint (No. 25) as well as the size of the overall cut (No. 27). **SME Competitiveness** (No. 26) is another weakness. Cyprus ranks No. 25 on people employed in high-growth enterprises and No. 26 on high-growth enterprises as a percentage of all active enterprises.

		Rank	Score	Figures
I.	**Digital Transition**	**18**	**42.81**	
I.1.	**SME Digitalisation**	**15**	**48.01**	
I.1.1.	Share of SMEs using big data analytics	23	13.60	6.0%
I.1.2.	Share of SMEs using cloud computing services	13	43.23	34.0%
I.1.3.	Share of SMEs using two or more social media channels	5	83.42	42.0%
I.1.4.	Share of SMEs with high and very high digital intensity	9	51.71	25.0%
I.1.5.	Share of SMEs using any type of ICT security	25	48.08	83.0%
I.2.	**E-Commerce**	**24**	**23.75**	
I.2.1.	Share of SMEs with e-commerce sales in total SMEs	18	32.50	18.0%
I.2.2.	Share of SME total turnover from e-commerce sales in total turnover	23	15.00	5.0%
I.3.	**Digital Skills**	**9**	**56.67**	
I.3.1.	Share of SMEs that employ ICT specialists in total SMEs	7	73.53	24.0%
I.3.2.	Share of SMEs for which ICT functions are performed by own employees in total SMEs	21	28.41	32.0%
I.3.3.	Share of SMEs providing training to develop or upgrade ICT skills of personnel	7	68.06	25.0%
II.	**Green Transition**	**27**	**32.56**	
II.1.	**Natural Resource Conservation**	**16**	**48.13**	
II.1.1.	Share of SMEs reducing consumption of natural resources (e.g. saving water, energy, materials or switching to sustainable resources)	19	44.95	35.4%
II.1.2.	Share of SMEs recycling by reusing material or waste within the company	12	51.31	43.0%
II.2.	**Emission Reduction**	**27**	**11.85**	
II.2.1.	Share of greenhouse gas emissions produced by SMEs in total greenhouse gas emissions	25	13.70	54.9%
II.2.2.	Overall change in greenhouse gas emissions (Index 1990 = 100)	27	10.00	156.20
II.3.	**Green Output**	**23**	**37.71**	
II.3.1.	Share of SMEs offering green products or services	13	55.00	32.0%
II.3.2.	Share of SMEs in low intensive greenhouse gas emission sectors in total SMEs	24	20.42	30.2%
III.	**SME Competitiveness**	**26**	**31.42**	
III.1.	**Exports**	**15**	**36.69**	
III.1.1.	Share of exporting SMEs in total SMEs	20	27.05	4.2%
III.1.2.	SME trade to GDP ratio	10	46.33	38.2%
III.2.	**Productivity**	**10**	**39.98**	
III.2.1.	SME labour productivity	10	39.98	54.63
III.3	**Growth**	**26**	**17.58**	
III.3.1.	Share of high-growth enterprises in total active enterprises (10+ employees)	26	16.11	3.4%
III.3.2.	Share of people employed in high-growth enterprises in total employment (enterprises with 10+ employees)	25	19.05	7.9%

Sources: European Commission, Eurostat (Lisbon Council calculations)

For a detailed interactive breakdown, visit https://gdc.lisboncouncil.net/cyprus

Czech Republic

Rank: **20** Overall Score: **41.75**

The Czech Republic is No. 20. The country has a rather middle-of-the-road performance on **Digital Transition** (No. 12), but scores less well on **Green Transition** (No. 23) and **SME Competitiveness** (No. 25). In many ways, its performance is erratic. It has a high score on SME turnover from e-commerce sales (No. 5). But it is dead last on SMEs offering green products to market (No. 27). It also does rather poorly on exporting SMEs (No. 27). Its companies lag on growth and employment opportunities, too; where it ranks a disappointing No. 19 in both Growth sub-indicators.

		Rank	Score	Figures
I.	**Digital Transition**	**12**	**50.17**	
I.1.	**SME Digitalisation**	**19**	**43.77**	
I.1.1.	Share of SMEs using big data analytics	16	20.80	8.0%
I.1.2.	Share of SMEs using cloud computing services	16	34.92	28.0%
I.1.3.	Share of SMEs using two or more social media channels	19	38.42	23.0%
I.1.4.	Share of SMEs with high and very high digital intensity	16	38.54	19.0%
I.1.5.	Share of SMEs using any type of ICT security	7	86.15	94.0%
I.2.	**E-Commerce**	**7**	**63.39**	
I.2.1.	Share of SMEs with e-commerce sales in total SMEs	13	51.79	24.0%
I.2.2.	Share of SME total turnover from e-commerce sales in total turnover	5	75.00	17.0%
I.3.	**Digital Skills**	**16**	**43.34**	
I.3.1.	Share of SMEs that employ ICT specialists in total SMEs	18	31.18	16.0%
I.3.2.	Share of SMEs for which ICT functions are performed by own employees in total SMEs	18	36.59	36.0%
I.3.3.	Share of SMEs providing training to develop or upgrade ICT skills of personnel	9	62.26	23.0%
II.	**Green Transition**	**23**	**43.03**	
II.1.	**Natural Resource Conservation**	**13**	**52.67**	
II.1.1.	Share of SMEs reducing consumption of natural resources (e.g. saving water, energy, materials or switching to sustainable resources)	15	51.07	38.2%
II.1.2.	Share of SMEs recycling by reusing material or waste within the company	11	54.26	45.0%
II.2.	**Emission Reduction**	**19**	**53.96**	
II.2.1.	Share of greenhouse gas emissions produced by SMEs in total greenhouse gas emissions	16	35.35	46.6%
II.2.2.	Overall change in greenhouse gas emissions (Index 1990 = 100)	11	72.57	71.80
II.3.	**Green Output**	**25**	**22.47**	
II.3.1.	Share of SMEs offering green products or services	27	10.00	19.0%
II.3.2.	Share of SMEs in low intensive greenhouse gas emission sectors in total SMEs	21	34.94	34.3%
III.	**SME Competitiveness**	**25**	**32.05**	
III.1.	**Exports**	**25**	**27.51**	
III.1.1.	Share of exporting SMEs in total SMEs	27	10.00	1.5%
III.1.2.	SME trade to GDP ratio	11	45.02	37.2%
III.2.	**Productivity**	**16**	**18.89**	
III.2.1.	SME labour productivity	16	18.89	25.95
III.3	**Growth**	**19**	**49.76**	
III.3.1.	Share of high-growth enterprises in total active enterprises (10+ employees)	19	58.14	10.4%
III.3.2.	Share of people employed in high-growth enterprises in total employment (enterprises with 10+ employees)	19	41.38	13.4%

Sources: European Commission, Eurostat (Lisbon Council calculations)

For a detailed interactive breakdown, visit https://gdc.lisboncouncil.net/czech-republic

Denmark

Rank: **3** Overall Score: **69.72**

Denmark is No. 3. It is the best performer on **Digital Transition** (No. 1). It also does well on **SME Competitiveness** (No. 2). However, the country lags on **Green Transition** (No. 11). Denmark's bright spot is sky-high **Productivity** (No. 1). But it fares less well on **Exports** (No. 11) and **Growth** (No. 23). And on **Green Transition**, Denmark unexpectedly stumbles with low scores on reducing consumption (No. 25) and recycling (No. 24). One explanation is that both of these indicators are based on self-reporting: Danish entrepreneurs may simply have higher standards than others. Denmark also has much upside on company growth, where it ranks a disappointing No. 22 in both Growth sub-indicators.

		Rank	Score	Figures
I.	**Digital Transition**	**1**	**85.69**	
I.1.	**SME Digitalisation**	**3**	**85.11**	
I.1.1.	Share of SMEs using big data analytics	2	85.60	26.0%
I.1.2.	Share of SMEs using cloud computing services	3	87.54	66.0%
I.1.3.	Share of SMEs using two or more social media channels	9	66.84	35.0%
I.1.4.	Share of SMEs with high and very high digital intensity	3	89.02	42.0%
I.1.5.	Share of SMEs using any type of ICT security	3	96.54	97.0%
I.2.	**E-Commerce**	**2**	**88.39**	
I.2.1.	Share of SMEs with e-commerce sales in total SMEs	2	96.79	38.0%
I.2.2.	Share of SME total turnover from e-commerce sales in total turnover	3	80.00	18.0%
I.3.	**Digital Skills**	**2**	**83.56**	
I.3.1.	Share of SMEs that employ ICT specialists in total SMEs	4	89.41	27.0%
I.3.2.	Share of SMEs for which ICT functions are performed by own employees in total SMEs	3	81.59	58.0%
I.3.3.	Share of SMEs providing training to develop or upgrade ICT skills of personnel	4	79.68	29.0%
II.	**Green Transition**	**11**	**60.10**	
II.1.	**Natural Resource Conservation**	**26**	**25.54**	
II.1.1.	Share of SMEs reducing consumption of natural resources (e.g. saving water, energy, materials or switching to sustainable resources)	25	24.85	26.2%
II.1.2.	Share of SMEs recycling by reusing material or waste within the company	24	26.23	26.0%
II.2.	**Emission Reduction**	**3**	**76.71**	
II.2.1.	Share of greenhouse gas emissions produced by SMEs in total greenhouse gas emissions	7	74.26	31.7%
II.2.2.	Overall change in greenhouse gas emissions (Index 1990 = 100)	7	79.17	62.90
II.3.	**Green Output**	**4**	**78.05**	
II.3.1.	Share of SMEs offering green products or services	8	72.31	37.0%
II.3.2.	Share of SMEs in low intensive greenhouse gas emission sectors in total SMEs	4	83.80	48.2%
III.	**SME Competitiveness**	**2**	**63.37**	
III.1.	**Exports**	**11**	**46.41**	
III.1.1.	Share of exporting SMEs in total SMEs	6	60.11	9.6%
III.1.2.	SME trade to GDP ratio	18	32.70	27.6%
III.2.	**Productivity**	**1**	**100.00**	
III.2.1.	SME labour productivity	1	100.00	136.24
III.3	**Growth**	**23**	**43.71**	
III.3.1.	Share of high-growth enterprises in total active enterprises (10+ employees)	22	52.51	9.5%
III.3.2.	Share of people employed in high-growth enterprises in total employment (enterprises with 10+ employees)	22	34.91	11.8%

Sources: European Commission, Eurostat (Lisbon Council calculations)

For a detailed interactive breakdown, visit https://gdc.lisboncouncil.net/denmark

Estonia

Rank: **10** Overall Score: **52.12**

Estonia is No. 10. The country performs well on **SME Competitiveness** (No. 4), but it performance slows on **Green Transition** (No. 16), and, surprisingly, on **Digital Transition** (No. 13). The brightest spot is **Exports**, where the country ranks No. 1 in both the share of SMEs exporting and the SMEs trade to GDP ratio. At the same time, Estonia lags on **Natural Resource Conservation** (No. 25) with only 30% of Estonian SMEs reporting that they take action to reduce consumption (No. 22) and 27% of them recycling (No. 23). **SME Digitalisation** (No. 17) is also surprisingly low with good performance noticeable in only one sub-indicator: SMEs using cloud computing (No. 5). Estonia performs modestly in **Digital Skills** in SMEs (No. 14). Its relatively low number of SMEs employing ICT specialists (No. 22) is offset by a high share of SMEs with in-house employees able to perform ICT tasks (No. 4).

		Rank	Score	Figures
I.	**Digital Transition**	**13**	**47.08**	
I.1.	**SME Digitalisation**	**17**	**45.79**	
I.1.1.	Share of SMEs using big data analytics	15	24.40	9.0%
I.1.2.	Share of SMEs using cloud computing services	5	73.69	56.0%
I.1.3.	Share of SMEs using two or more social media channels	21	36.05	22.0%
I.1.4.	Share of SMEs with high and very high digital intensity	19	36.34	18.0%
I.1.5.	Share of SMEs using any type of ICT security	21	58.46	86.0%
I.2.	**E-Commerce**	**13**	**47.68**	
I.2.1.	Share of SMEs with e-commerce sales in total SMEs	14	45.36	22.0%
I.2.2.	Share of SME total turnover from e-commerce sales in total turnover	12	50.00	12.0%
I.3.	**Digital Skills**	**14**	**47.76**	
I.3.1.	Share of SMEs that employ ICT specialists in total SMEs	21	25.88	15.0%
I.3.2.	Share of SMEs for which ICT functions are performed by own employees in total SMEs	4	75.45	55.0%
I.3.3.	Share of SMEs providing training to develop or upgrade ICT skills of personnel	16	41.94	16.0%
II.	**Green Transition**	**16**	**50.23**	
II.1.	**Natural Resource Conservation**	**25**	**30.43**	
II.1.1.	Share of SMEs reducing consumption of natural resources (e.g. saving water, energy, materials or switching to sustainable resources)	22	33.16	30.0%
II.1.2.	Share of SMEs recycling by reusing material or waste within the company	23	27.70	27.0%
II.2.	**Emission Reduction**	**8**	**68.36**	
II.2.1.	Share of greenhouse gas emissions produced by SMEs in total greenhouse gas emissions	15	38.51	45.4%
II.2.2.	Overall change in greenhouse gas emissions (Index 1990 = 100)	3	98.22	37.20
II.3.	**Green Output**	**11**	**51.90**	
II.3.1.	Share of SMEs offering green products or services	19	37.69	27.0%
II.3.2.	Share of SMEs in low intensive greenhouse gas emission sectors in total SMEs	8	66.11	43.2%
III.	**SME Competitiveness**	**4**	**59.06**	
III.1.	**Exports**	**1**	**100.00**	
III.1.1.	Share of exporting SMEs in total SMEs	1	100.00	16.1%
III.1.2.	SME trade to GDP ratio	1	100.00	79.8%
III.2.	**Productivity**	**15**	**23.72**	
III.2.1.	SME labour productivity	15	23.72	32.52
III.3	**Growth**	**18**	**53.46**	
III.3.1.	Share of high-growth enterprises in total active enterprises (10+ employees)	18	59.64	10.7%
III.3.2.	Share of people employed in high-growth enterprises in total employment (enterprises with 10+ employees)	16	47.28	14.8%

Sources: European Commission, Eurostat (Lisbon Council calculations)

For a detailed interactive breakdown, visit https://gdc.lisboncouncil.net/estonia

Finland

Rank: **4** Overall Score: **68.21**

Finland is No. 4. The country does well on **Digital Transition** (No. 2) and has good rankings in the other two pillars: **Green Transition** (No. 7) and **SME Competitiveness** (No. 6). Its strongest points are **SME Digitalisation** (No. 1) and **Digital Skills** (No. 1) and it shows a very good performances on **Growth** (No. 4), too. However, its relatively weak points can be found in **Green Transition** with modest performances in **Natural Resource Conservation** (No. 14) and **Emission Reduction** (No.15). Surprisingly, with only 41% of its SMEs reporting they engage in some recycling, Finland ranks No. 15 among its European peers in that category.

		Rank	Score	Figures
I.	**Digital Transition**	**2**	**83.77**	
I.1.	**SME Digitalisation**	**1**	**91.95**	
I.1.1.	Share of SMEs using big data analytics	6	67.60	21.0%
I.1.2.	Share of SMEs using cloud computing services	1	100.00	75.0%
I.1.3.	Share of SMEs using two or more social media channels	1	100.00	49.0%
I.1.4.	Share of SMEs with high and very high digital intensity	2	95.61	45.0%
I.1.5.	Share of SMEs using any type of ICT security	3	96.54	97.0%
I.2.	**E-Commerce**	**6**	**64.64**	
I.2.1.	Share of SMEs with e-commerce sales in total SMEs	9	64.64	28.0%
I.2.2.	Share of SME total turnover from e-commerce sales in total turnover		n/a	n/a
I.3.	**Digital Skills**	**1**	**94.71**	
I.3.1.	Share of SMEs that employ ICT specialists in total SMEs	6	84.12	26.0%
I.3.2.	Share of SMEs for which ICT functions are performed by own employees in total SMEs	1	100.00	67.0%
I.3.3.	Share of SMEs providing training to develop or upgrade ICT skills of personnel	1	100.00	36.0%
II.	**Green Transition**	**7**	**62.88**	
II.1.	**Natural Resource Conservation**	**14**	**52.34**	
II.1.1.	Share of SMEs reducing consumption of natural resources (e.g. saving water, energy, materials or switching to sustainable resources)	13	56.31	40.6%
II.1.2.	Share of SMEs recycling by reusing material or waste within the company	15	48.36	41.0%
II.2.	**Emission Reduction**	**15**	**61.83**	
II.2.1.	Share of greenhouse gas emissions produced by SMEs in total greenhouse gas emissions	12	49.60	41.2%
II.2.2.	Overall change in greenhouse gas emissions (Index 1990 = 100)	10	74.05	69.80
II.3.	**Green Output**	**6**	**74.47**	
II.3.1.	Share of SMEs offering green products or services	4	86.15	41.0%
II.3.2.	Share of SMEs in low intensive greenhouse gas emission sectors in total SMEs	10	62.78	42.2%
III.	**SME Competitiveness**	**6**	**58.00**	
III.1.	**Exports**	**10**	**47.40**	
III.1.1.	Share of exporting SMEs in total SMEs	8	55.61	8.9%
III.1.2.	SME trade to GDP ratio	15	39.19	32.6%
III.2.	**Productivity**	**7**	**46.03**	
III.2.1.	SME labour productivity	7	46.03	62.86
III.3	**Growth**	**4**	**80.57**	
III.3.1.	Share of high-growth enterprises in total active enterprises (10+ employees)	4	88.26	15.5%
III.3.2.	Share of people employed in high-growth enterprises in total employment (enterprises with 10+ employees)	6	72.88	21.1%

Sources: European Commission, Eurostat (Lisbon Council calculations)

For a detailed interactive breakdown, visit https://gdc.lisboncouncil.net/finland

France

Rank: **17** Overall Score: **46.22**

France ranks No. 17. The country performs very well in **Green Transition** (No. 8), but the other two rankings – **Digital Transition** (No. 17) and **SME Competitiveness** (No. 24) – are low. **SME Competitiveness** is the country's weakest point. France ranks last on **Exports** (No. 27) with only 2.8% of SMEs exporting (No. 24) and 10% of French GDP found in SME trade (No. 27). But the SMEs that France has are green; the country ranks No. 2 on **Emission Reduction**.

		Rank	Score	Figures
I.	**Digital Transition**	**17**	**43.45**	
I.1.	**SME Digitalisation**	**12**	**50.89**	
I.1.1.	Share of SMEs using big data analytics	6	67.60	21.0%
I.1.2.	Share of SMEs using cloud computing services	19	32.15	26.0%
I.1.3.	Share of SMEs using two or more social media channels	16	43.16	25.0%
I.1.4.	Share of SMEs with high and very high digital intensity	22	25.37	13.0%
I.1.5.	Share of SMEs using any type of ICT security	7	86.15	94.0%
I.2.	**E-Commerce**	**15**	**43.75**	
I.2.1.	Share of SMEs with e-commerce sales in total SMEs	18	32.50	18.0%
I.2.2.	Share of SME total turnover from e-commerce sales in total turnover	9	55.00	13.0%
I.3.	**Digital Skills**	**21**	**35.71**	
I.3.1.	Share of SMEs that employ ICT specialists in total SMEs	18	31.18	16.0%
I.3.2.	Share of SMEs for which ICT functions are performed by own employees in total SMEs	15	42.73	39.0%
I.3.3.	Share of SMEs providing training to develop or upgrade ICT skills of personnel	24	33.23	13.0%
II.	**Green Transition**	**8**	**61.24**	
II.1.	**Natural Resource Conservation**	**21**	**41.50**	
II.1.1.	Share of SMEs reducing consumption of natural resources (e.g. saving water, energy, materials or switching to sustainable resources)	22	33.16	30.0%
II.1.2.	Share of SMEs recycling by reusing material or waste within the company	14	49.84	42.0%
II.2.	**Emission Reduction**	**2**	**78.91**	
II.2.1.	Share of greenhouse gas emissions produced by SMEs in total greenhouse gas emissions	2	91.18	25.3%
II.2.2.	Overall change in greenhouse gas emissions (Index 1990 = 100)	15	66.64	79.80
II.3.	**Green Output**	**9**	**63.32**	
II.3.1.	Share of SMEs offering green products or services	7	75.77	38.0%
II.3.2.	Share of SMEs in low intensive greenhouse gas emission sectors in total SMEs	14	50.87	38.9%
III.	**SME Competitiveness**	**24**	**33.98**	
III.1.	**Exports**	**27**	**14.22**	
III.1.1.	Share of exporting SMEs in total SMEs	24	18.45	2.8%
III.1.2.	SME trade to GDP ratio	27	10.00	10.0%
III.2.	**Productivity**	**9**	**40.19**	
III.2.1.	SME labour productivity	9	40.19	54.91
III.3	**Growth**	**21**	**47.52**	
III.3.1.	Share of high-growth enterprises in total active enterprises (10+ employees)	12	68.32	12.1%
III.3.2.	Share of people employed in high-growth enterprises in total employment (enterprises with 10+ employees)	23	26.71	9.8%

Sources: European Commission, Eurostat (Lisbon Council calculations)

For a detailed interactive breakdown, visit https://gdc.lisboncouncil.net/france

Germany

Rank: **12** Overall Score: **50.94**

Germany is No. 12. Most rankings are middle of the pack: **Digital Transition** (No. 11), **Green Transition** (No. 9) and **SME Competitiveness** (No. 19). The country does best on **Green Transition** (No. 9). It ranks No. 5 on **Natural Resource Conservation** and No. 7 on the recycling sub-indicator. But digital and trade are another matter: **E-Commerce** (No. 18) and **Digital Skills** (No. 10) are relatively low for a country considered to be Europe's economic leader. Cross-border success for Germany's SMEs – and the growth it might engender – have come slowly to Germany. Germany is No. 13 on **Exports** and No. 22 on **Growth**. Only a small portion of the workforce (13.3%) is employed in high-growth companies.

		Rank	Score	Figures
I.	**Digital Transition**	**11**	**50.85**	
I.1.	**SME Digitalisation**	**8**	**58.47**	
I.1.1.	Share of SMEs using big data analytics	10	53.20	17.0%
I.1.2.	Share of SMEs using cloud computing services	14	40.46	32.0%
I.1.3.	Share of SMEs using two or more social media channels	12	52.63	29.0%
I.1.4.	Share of SMEs with high and very high digital intensity	10	49.51	24.0%
I.1.5.	Share of SMEs using any type of ICT security	3	96.54	97.0%
I.2.	**E-Commerce**	**18**	**41.07**	
I.2.1.	Share of SMEs with e-commerce sales in total SMEs	15	42.14	21.0%
I.2.2.	Share of SME total turnover from e-commerce sales in total turnover	15	40.00	10.0%
I.3.	**Digital Skills**	**10**	**53.00**	
I.3.1.	Share of SMEs that employ ICT specialists in total SMEs	16	36.47	17.0%
I.3.2.	Share of SMEs for which ICT functions are performed by own employees in total SMEs	8	63.18	49.0%
I.3.3.	Share of SMEs providing training to develop or upgrade ICT skills of personnel	10	59.35	22.0%
II.	**Green Transition**	**9**	**60.70**	
II.1.	**Natural Resource Conservation**	**5**	**65.09**	
II.1.1.	Share of SMEs reducing consumption of natural resources (e.g. saving water, energy, materials or switching to sustainable resources)	7	68.54	46.2%
II.1.2.	Share of SMEs recycling by reusing material or waste within the company	7	61.64	50.0%
II.2.	**Emission Reduction**	**10**	**65.36**	
II.2.1.	Share of greenhouse gas emissions produced by SMEs in total greenhouse gas emissions	11	52.36	40.1%
II.2.2.	Overall change in greenhouse gas emissions (Index 1990 = 100)	8	78.35	64.00
II.3.	**Green Output**	**13**	**51.64**	
II.3.1.	Share of SMEs offering green products or services	15	48.08	30.0%
II.3.2.	Share of SMEs in low intensive greenhouse gas emission sectors in total SMEs	12	55.20	40.1%
III.	**SME Competitiveness**	**19**	**41.27**	
III.1.	**Exports**	**13**	**41.23**	
III.1.1.	Share of exporting SMEs in total SMEs	5	63.95	10.3%
III.1.2.	SME trade to GDP ratio	26	18.51	16.6%
III.2.	**Productivity**	**11**	**35.81**	
III.2.1.	SME labour productivity	11	35.81	48.95
III.3	**Growth**	**22**	**46.77**	
III.3.1.	Share of high-growth enterprises in total active enterprises (10+ employees)	23	52.28	9.4%
III.3.2.	Share of people employed in high-growth enterprises in total employment (enterprises with 10+ employees)	20	41.26	13.3%

Sources: European Commission, Eurostat (Lisbon Council calculations)

For a detailed interactive breakdown, visit https://gdc.lisboncouncil.net/germany

Greece

Rank: **22** Overall Score: **41.22**

Greece ranks No. 22. Overall, its performance is modest to low, especially on **Digital Transition** (No. 22) and **Green Transition** (No. 22). Its strongest point is **SME Competitiveness** (No. 15) thanks to the country's excellent performance in **Growth** (No. 1), where it also finishes No. 1 on both sub-indicators. By contrast, Greece fares worse on **Exports** (No. 26) and **Productivity** (No. 24). Greece is No. 11 in **Natural Resource Conservation**, but this good performance is not supported by similar ones on **Emission Reduction** (No. 22) and **Green Output** (No. 20). **SME Digitalisation** (No. 24) remains an important problem, as well as **Digital Skills** (No. 23). It shows slightly better performance on **E-Commerce** (No. 16).

		Rank	Score	Figures
I.	**Digital Transition**	**22**	**34.95**	
I.1.	**SME Digitalisation**	**24**	**29.64**	
I.1.1.	Share of SMEs using big data analytics	12	35.20	12.0%
I.1.2.	Share of SMEs using cloud computing services	26	12.77	12.0%
I.1.3.	Share of SMEs using two or more social media channels	12	52.63	29.0%
I.1.4.	Share of SMEs with high and very high digital intensity	20	34.15	17.0%
I.1.5.	Share of SMEs using any type of ICT security	26	13.46	73.0%
I.2.	**E-Commerce**	**16**	**43.57**	
I.2.1.	Share of SMEs with e-commerce sales in total SMEs	15	42.14	21.0%
I.2.2.	Share of SME total turnover from e-commerce sales in total turnover	13	45.00	11.0%
I.3.	**Digital Skills**	**23**	**31.63**	
I.3.1.	Share of SMEs that employ ICT specialists in total SMEs	13	41.76	18.0%
I.3.2.	Share of SMEs for which ICT functions are performed by own employees in total SMEs	25	14.09	25.0%
I.3.3.	Share of SMEs providing training to develop or upgrade ICT skills of personnel	20	39.03	15.0%
II.	**Green Transition**	**22**	**45.03**	
II.1.	**Natural Resource Conservation**	**11**	**53.70**	
II.1.1.	Share of SMEs reducing consumption of natural resources (e.g. saving water, energy, materials or switching to sustainable resources)	17	50.19	37.8%
II.1.2.	Share of SMEs recycling by reusing material or waste within the company	9	57.21	47.0%
II.2.	**Emission Reduction**	**22**	**40.23**	
II.2.1.	Share of greenhouse gas emissions produced by SMEs in total greenhouse gas emissions	24	16.27	54.0%
II.2.2.	Overall change in greenhouse gas emissions (Index 1990 = 100)	17	64.19	83.10
II.3.	**Green Output**	**20**	**41.15**	
II.3.1.	Share of SMEs offering green products or services	8	72.31	37.0%
II.3.2.	Share of SMEs in low intensive greenhouse gas emission sectors in total SMEs	27	10.00	27.2%
III.	**SME Competitiveness**	**15**	**43.69**	
III.1.	**Exports**	**26**	**20.24**	
III.1.1.	Share of exporting SMEs in total SMEs	25	15.98	2.4%
III.1.2.	SME trade to GDP ratio	24	24.51	21.3%
III.2.	**Productivity**	**24**	**10.82**	
III.2.1.	SME labour productivity	24	10.82	14.97
III.3	**Growth**	**1**	**100.00**	
III.3.1.	Share of high-growth enterprises in total active enterprises (10+ employees)	1	100.00	17.4%
III.3.2.	Share of people employed in high-growth enterprises in total employment (enterprises with 10+ employees)	1	100.00	27.7%

Sources: European Commission, Eurostat (Lisbon Council calculations)

For a detailed interactive breakdown, visit https://gdc.lisboncouncil.net/greece

Hungary

Rank: **16** Overall Score: **46.34**

Hungary ranks No. 16. The performance places it in the middle of the pack: **Digital Transition** (No. 19), **Green Transition** (No. 13) and **SME Competitiveness** (No. 17). The country does best on **Green Transition** (No. 13) thanks to consistent performance across the indicators: **Natural Resource Conservation** (No. 12), **Emission Reduction** (No. 14) and **Green Output** (No. 16). When it comes to digital, it ranks No. 8 in **Digital Skills**, but the performances on the other two indicators disappoint: **SME Digitalisation** (No. 25) and **E-Commerce** (No. 17). Hungarian SMEs have a good cross-border success, ranking No. 12 in **Exports**. While it shows an even better performance on **Growth** (No. 8) with 20% of workforce employed in high-growth companies, **Productivity** (No. 18), on the other hand, lags.

		Rank	Score	Figures
I.	**Digital Transition**	**19**	**42.09**	
I.1.	**SME Digitalisation**	**25**	**27.24**	
I.1.1.	Share of SMEs using big data analytics	22	17.20	7.0%
I.1.2.	Share of SMEs using cloud computing services	22	29.38	24.0%
I.1.3.	Share of SMEs using two or more social media channels	25	12.37	12.0%
I.1.4.	Share of SMEs with high and very high digital intensity	25	18.78	10.0%
I.1.5.	Share of SMEs using any type of ICT security	21	58.46	86.0%
I.2.	**E-Commerce**	**17**	**41.96**	
I.2.1.	Share of SMEs with e-commerce sales in total SMEs	17	38.93	20.0%
I.2.2.	Share of SME total turnover from e-commerce sales in total turnover	13	45.00	11.0%
I.3.	**Digital Skills**	**8**	**57.06**	
I.3.1.	Share of SMEs that employ ICT specialists in total SMEs	4	89.41	27.0%
I.3.2.	Share of SMEs for which ICT functions are performed by own employees in total SMEs	15	42.73	39.0%
I.3.3.	Share of SMEs providing training to develop or upgrade ICT skills of personnel	20	39.03	15.0%
II.	**Green Transition**	**13**	**54.23**	
II.1.	**Natural Resource Conservation**	**12**	**52.72**	
II.1.1.	Share of SMEs reducing consumption of natural resources (e.g. saving water, energy, materials or switching to sustainable resources)	9	65.92	45.0%
II.1.2.	Share of SMEs recycling by reusing material or waste within the company	20	39.51	35.0%
II.2.	**Emission Reduction**	**14**	**62.88**	
II.2.1.	Share of greenhouse gas emissions produced by SMEs in total greenhouse gas emissions	14	47.79	41.9%
II.2.2.	Overall change in greenhouse gas emissions (Index 1990 = 100)	9	77.98	64.50
II.3.	**Green Output**	**16**	**47.09**	
II.3.1.	Share of SMEs offering green products or services	26	16.92	21.0%
II.3.2.	Share of SMEs in low intensive greenhouse gas emission sectors in total SMEs	6	77.26	46.4%
III.	**SME Competitiveness**	**17**	**42.70**	
III.1.	**Exports**	**12**	**43.93**	
III.1.1.	Share of exporting SMEs in total SMEs	16	36.33	5.7%
III.1.2.	SME trade to GDP ratio	9	51.54	42.2%
III.2.	**Productivity**	**18**	**15.08**	
III.2.1.	SME labour productivity	18	15.08	20.78
III.3	**Growth**	**8**	**69.08**	
III.3.1.	Share of high-growth enterprises in total active enterprises (10+ employees)	11	69.04	12.2%
III.3.2.	Share of people employed in high-growth enterprises in total employment (enterprises with 10+ employees)	7	69.11	20.1%

Sources: European Commission, Eurostat (Lisbon Council calculations)

For a detailed interactive breakdown, visit https://gdc.lisboncouncil.net/hungary

Ireland

Rank: **5** Overall Score: **64.06**

Ireland ranks No. 5. It is top of the pack in several key categories, including **Digital Transition** (No. 4) and **SME Competitiveness** (No. 5). **Digital Transition** is where Ireland does best: **E-Commerce** (No. 1), **SME Digitalisation** (No. 7) and **Digital Skills** (No. 5). **Green Transition** (No. 14) is where things could improve; Ireland ranks No. 7 on **Emission Reduction**, but it lags on **Natural Resource Conservation** (No. 18) and **Green Output** (No. 19). Ireland does well on **Growth** (No. 2) and **Productivity** (No. 3), but **Exports** (No. 23) is where Irish SMEs could step up their game.

		Rank	Score	Figures
I.	**Digital Transition**	**4**	**81.46**	
I.1.	**SME Digitalisation**	**7**	**67.02**	
I.1.1.	Share of SMEs using big data analytics	4	71.20	22.0%
I.1.2.	Share of SMEs using cloud computing services	9	65.38	50.0%
I.1.3.	Share of SMEs using two or more social media channels	11	59.74	32.0%
I.1.4.	Share of SMEs with high and very high digital intensity	6	56.10	27.0%
I.1.5.	Share of SMEs using any type of ICT security	11	82.69	93.0%
I.2.	**E-Commerce**	**1**	**100.00**	
I.2.1.	Share of SMEs with e-commerce sales in total SMEs	1	100.00	39.0%
I.2.2.	Share of SME total turnover from e-commerce sales in total turnover	1	100.00	22.0%
I.3.	**Digital Skills**	**5**	**77.37**	
I.3.1.	Share of SMEs that employ ICT specialists in total SMEs	1	100.00	29.0%
I.3.2.	Share of SMEs for which ICT functions are performed by own employees in total SMEs	9	61.14	48.0%
I.3.3.	Share of SMEs providing training to develop or upgrade ICT skills of personnel	6	70.97	26.0%
II.	**Green Transition**	**14**	**52.55**	
II.1.	**Natural Resource Conservation**	**18**	**44.29**	
II.1.1.	Share of SMEs reducing consumption of natural resources (e.g. saving water, energy, materials or switching to sustainable resources)	26	23.98	25.8%
II.1.2.	Share of SMEs recycling by reusing material or waste within the company	5	64.59	52.0%
II.2.	**Emission Reduction**	**7**	**71.57**	
II.2.1.	Share of greenhouse gas emissions produced by SMEs in total greenhouse gas emissions	1	100.00	21.9%
II.2.2.	Overall change in greenhouse gas emissions (Index 1990 = 100)	23	43.14	111.50
II.3.	**Green Output**	**19**	**41.80**	
II.3.1.	Share of SMEs offering green products or services	16	44.62	29.0%
II.3.2.	Share of SMEs in low intensive greenhouse gas emission sectors in total SMEs	19	38.99	35.5%
III.	**SME Competitiveness**	**5**	**58.18**	
III.1.	**Exports**	**23**	**27.89**	
III.1.1.	Share of exporting SMEs in total SMEs	22	25.35	4.0%
III.1.2.	SME trade to GDP ratio	20	30.44	25.9%
III.2.	**Productivity**	**3**	**59.69**	
III.2.1.	SME labour productivity	3	59.69	81.43
III.3	**Growth**	**2**	**86.95**	
III.3.1.	Share of high-growth enterprises in total active enterprises (10+ employees)	2	90.12	15.8%
III.3.2.	Share of people employed in high-growth enterprises in total employment (enterprises with 10+ employees)	2	83.78	23.7%

Sources: European Commission, Eurostat (Lisbon Council calculations)

For a detailed interactive breakdown, visit https://gdc.lisboncouncil.net/ireland

Italy

Rank: **21** Overall Score: **41.38**

Italy ranks No. 21. Most rankings are middle to low: **Digital Transition** (No. 21), **Green Transition** (No. 17) and **SME Competitiveness** (No. 21). The country shows a slightly better performance in **Green Transition** (No. 17), where its performance on **Natural Resource Conservation** (No. 10) is the country's best. When it comes to digital, the country has the worst performance on **Digital Skills** (No. 27), last amongst its peers. Only 12% of SMEs employ ICT specialists (No. 27), 23% of SMEs have ICT functions performed by own employees (No. 26) and only 15% of SMEs provide ICT training for their employees (No. 20). **Exports** (No. 20) is also low (only 5.4% of Italian SMEs export cross-border), while **Growth** (No. 16) also lags (15% of the Italian workforce is employed by high-growth companies).

		Rank	Score	Figures
I.	**Digital Transition**	**21**	**35.66**	
I.1.	**SME Digitalisation**	**11**	**53.55**	
I.1.1.	Share of SMEs using big data analytics	16	20.80	8.0%
I.1.2.	Share of SMEs using cloud computing services	4	77.85	59.0%
I.1.3.	Share of SMEs using two or more social media channels	15	47.89	27.0%
I.1.4.	Share of SMEs with high and very high digital intensity	16	38.54	19.0%
I.1.5.	Share of SMEs using any type of ICT security	11	82.69	93.0%
I.2.	**E-Commerce**	**20**	**33.75**	
I.2.1.	Share of SMEs with e-commerce sales in total SMEs	18	32.50	18.0%
I.2.2.	Share of SME total turnover from e-commerce sales in total turnover	17	35.00	9.0%
I.3.	**Digital Skills**	**27**	**19.68**	
I.3.1.	Share of SMEs that employ ICT specialists in total SMEs	27	10.00	12.0%
I.3.2.	Share of SMEs for which ICT functions are performed by own employees in total SMEs	26	10.00	23.0%
I.3.3.	Share of SMEs providing training to develop or upgrade ICT skills of personnel	20	39.03	15.0%
II.	**Green Transition**	**17**	**49.28**	
II.1.	**Natural Resource Conservation**	**10**	**58.40**	
II.1.1.	Share of SMEs reducing consumption of natural resources (e.g. saving water, energy, materials or switching to sustainable resources)	10	65.49	44.8%
II.1.2.	Share of SMEs recycling by reusing material or waste within the company	12	51.31	43.0%
II.2.	**Emission Reduction**	**20**	**49.13**	
II.2.1.	Share of greenhouse gas emissions produced by SMEs in total greenhouse gas emissions	20	27.99	49.5%
II.2.2.	Overall change in greenhouse gas emissions (Index 1990 = 100)	13	70.27	74.90
II.3.	**Green Output**	**21**	**40.32**	
II.3.1.	Share of SMEs offering green products or services	18	41.15	28.0%
II.3.2.	Share of SMEs in low intensive greenhouse gas emission sectors in total SMEs	17	39.49	35.6%
III.	**SME Competitiveness**	**21**	**39.18**	
III.1.	**Exports**	**20**	**31.25**	
III.1.1.	Share of exporting SMEs in total SMEs	18	34.46	5.4%
III.1.2.	SME trade to GDP ratio	23	28.05	24.0%
III.2.	**Productivity**	**12**	**31.11**	
III.2.1.	SME labour productivity	12	31.11	42.57
III.3	**Growth**	**16**	**55.19**	
III.3.1.	Share of high-growth enterprises in total active enterprises (10+ employees)	16	61.26	10.9%
III.3.2.	Share of people employed in high-growth enterprises in total employment (enterprises with 10+ employees)	14	49.12	15.3%

Sources: European Commission, Eurostat (Lisbon Council calculations)

For a detailed interactive breakdown, visit https://gdc.lisboncouncil.net/italy

Latvia

Rank: **24** Overall Score: **40.30**

Latvia is No. 24. Most of the rankings are on the low side, including **Digital Transition** (No. 23) and **Green Transition** (No. 25). The country's best performance is on **SME Competitiveness** (No. 12). It does well on **Exports** (No. 3), with Latvian SMEs boasting trade accounting for 65.8% of GDP (No. 2). However, **Productivity** (No. 22) and **Growth** (No. 20) do not follow that trend, pulling the country down in the pillar performance. Digitalisation is another area where Latvia needs to improve: **SME Digitalisation** (No. 20), **E-Commerce** (No. 22) and **Digital Skills** (No. 22). Its green performance also needs a boost: **Natural Resource Conservation** (No. 24) and **Emission Reduction** (No. 23), but it fares better on **Green Output** (No. 12), with a large number of SMEs in low intensive greenhouse gas emission sectors (No. 7).

		Rank	Score	Figures
I.	**Digital Transition**	**23**	**34.65**	
I.1.	**SME Digitalisation**	**20**	**42.91**	
I.1.1.	Share of SMEs using big data analytics	16	20.80	8.0%
I.1.2.	Share of SMEs using cloud computing services	24	25.23	21.0%
I.1.3.	Share of SMEs using two or more social media channels	16	43.16	25.0%
I.1.4.	Share of SMEs with high and very high digital intensity	22	25.37	13.0%
I.1.5.	Share of SMEs using any type of ICT security	1	100.00	98.0%
I.2.	**E-Commerce**	**22**	**28.04**	
I.2.1.	Share of SMEs with e-commerce sales in total SMEs	22	26.07	16.0%
I.2.2.	Share of SME total turnover from e-commerce sales in total turnover	19	30.00	8.0%
I.3.	**Digital Skills**	**22**	**33.00**	
I.3.1.	Share of SMEs that employ ICT specialists in total SMEs	11	47.06	19.0%
I.3.2.	Share of SMEs for which ICT functions are performed by own employees in total SMEs	26	10.00	23.0%
I.3.3.	Share of SMEs providing training to develop or upgrade ICT skills of personnel	16	41.94	16.0%
II.	**Green Transition**	**25**	**40.47**	
II.1.	**Natural Resource Conservation**	**24**	**34.39**	
II.1.1.	Share of SMEs reducing consumption of natural resources (e.g. saving water, energy, materials or switching to sustainable resources)	18	48.45	37.0%
II.1.2.	Share of SMEs recycling by reusing material or waste within the company	25	20.33	22.0%
II.2.	**Emission Reduction**	**23**	**39.80**	
II.2.1.	Share of greenhouse gas emissions produced by SMEs in total greenhouse gas emissions	26	10.00	56.4%
II.2.2.	Overall change in greenhouse gas emissions (Index 1990 = 100)	14	69.60	75.80
II.3.	**Green Output**	**14**	**47.21**	
II.3.1.	Share of SMEs offering green products or services	25	20.38	22.0%
II.3.2.	Share of SMEs in low intensive greenhouse gas emission sectors in total SMEs	7	74.03	45.4%
III.	**SME Competitiveness**	**12**	**45.78**	
III.1.	**Exports**	**3**	**75.48**	
III.1.1.	Share of exporting SMEs in total SMEs	4	69.03	11.1%
III.1.2.	SME trade to GDP ratio	2	81.92	65.8%
III.2.	**Productivity**	**22**	**14.19**	
III.2.1.	SME labour productivity	22	14.19	19.56
III.3	**Growth**	**20**	**47.66**	
III.3.1.	Share of high-growth enterprises in total active enterprises (10+ employees)	20	55.63	10.0%
III.3.2.	Share of people employed in high-growth enterprises in total employment (enterprises with 10+ employees)	21	39.70	13.0%

Sources: European Commission, Eurostat (Lisbon Council calculations)

For a detailed interactive breakdown, visit https://gdc.lisboncouncil.net/latvia

Lithuania

Rank: **14** Overall Score: **49.55**

Lithuania is No. 14. Most of its rankings are in the middle of the pack: **Green Transition** (No. 18) and **SME Competitiveness** (No. 16). **Digital Transition** (No. 8) is the country's strongest point, mostly thanks to excellent performance in **E-Commerce** (No. 4). However, the other two indicators' performances tell a different story: **SME Digitalisation** (No. 18) **Digital Skills** (No. 19). A similar pattern can be seen in the **SME Competitiveness** as well. It has very good performance on **Exports** (No. 5), but lags on **Productivity** (No. 20) and **Growth** (No. 14), where it is No. 11 on workforce employed in high-growth enterprises but finishes only No. 21 on share of high-growth companies. Lithuania shows a more balanced performance on green indicators. It has good performances on **Emission Reduction** (No. 13) and **Green Output** (No. 15), but it could do more on **Natural Resource Conservation** (No. 23), especially on share of SMEs recycling, where it ranks last, with only 15% of Lithuanian SMEs saying they recycle.

		Rank	Score	Figures
I.	**Digital Transition**	**8**	**56.38**	
I.1.	**SME Digitalisation**	**18**	**44.56**	
I.1.1.	Share of SMEs using big data analytics	13	28.00	10.0%
I.1.2.	Share of SMEs using cloud computing services	15	37.69	30.0%
I.1.3.	Share of SMEs using two or more social media channels	22	33.68	21.0%
I.1.4.	Share of SMEs with high and very high digital intensity	14	40.73	20.0%
I.1.5.	Share of SMEs using any type of ICT security	11	82.69	93.0%
I.2.	**E-Commerce**	**4**	**85.18**	
I.2.1.	Share of SMEs with e-commerce sales in total SMEs	3	90.36	36.0%
I.2.2.	Share of SME total turnover from e-commerce sales in total turnover	3	80.00	18.0%
I.3.	**Digital Skills**	**19**	**39.39**	
I.3.1.	Share of SMEs that employ ICT specialists in total SMEs	25	20.59	14.0%
I.3.2.	Share of SMEs for which ICT functions are performed by own employees in total SMEs	5	67.27	51.0%
I.3.3.	Share of SMEs providing training to develop or upgrade ICT skills of personnel	25	30.32	12.0%
II.	**Green Transition**	**18**	**48.60**	
II.1.	**Natural Resource Conservation**	**23**	**34.90**	
II.1.1.	Share of SMEs reducing consumption of natural resources (e.g. saving water, energy, materials or switching to sustainable resources)	12	59.81	42.2%
II.1.2.	Share of SMEs recycling by reusing material or waste within the company	27	10.00	15.0%
II.2.	**Emission Reduction**	**13**	**63.73**	
II.2.1.	Share of greenhouse gas emissions produced by SMEs in total greenhouse gas emissions	19	28.20	49.4%
II.2.2.	Overall change in greenhouse gas emissions (Index 1990 = 100)	2	99.26	35.80
II.3.	**Green Output**	**15**	**47.16**	
II.3.1.	Share of SMEs offering green products or services	14	51.54	31.0%
II.3.2.	Share of SMEs in low intensive greenhouse gas emission sectors in total SMEs	16	42.79	36.6%
III.	**SME Competitiveness**	**16**	**43.68**	
III.1.	**Exports**	**5**	**58.62**	
III.1.1.	Share of exporting SMEs in total SMEs	9	48.26	7.7%
III.1.2.	SME trade to GDP ratio	5	68.98	55.8%
III.2.	**Productivity**	**20**	**14.46**	
III.2.1.	SME labour productivity	20	14.46	19.93
III.3	**Growth**	**14**	**57.96**	
III.3.1.	Share of high-growth enterprises in total active enterprises (10+ employees)	21	55.57	10.0%
III.3.2.	Share of people employed in high-growth enterprises in total employment (enterprises with 10+ employees)	11	60.35	18.0%

Sources: European Commission, Eurostat (Lisbon Council calculations)

For a detailed interactive breakdown, visit https://gdc.lisboncouncil.net/lithuania

Luxembourg

Rank: **9** Overall Score: **53.89**

Luxembourg ranks No. 9. It is an overall good performer with rankings mostly above the average: **Digital Transition** (No. 20), **Green Transition** (No. 3) and **SME Competitiveness** (No. 9). The country's strongest performance is on **Green Transition** (No. 3), supported by very good performances on **Natural Resource Conservation** (No. 6) and **Green Output** (No. 3). However, the country's performance on **Emission Reduction** (No. 18) shows that it has is room to improve further. From the competitiveness side, the country has high **Productivity** (No. 2), second only to Denmark, but this does not seem to translate in **Growth** (No. 17). Surprisingly for a country this size, Luxembourgish SMEs seem little interested in **Exports** (No. 18) and the country has a surprisingly low finish on **E-Commerce** (No. 27).

		Rank	Score	Figures
I.	**Digital Transition**	**20**	**39.16**	
I.1.	**SME Digitalisation**	**9**	**55.89**	
I.1.1.	Share of SMEs using big data analytics	8	56.80	18.0%
I.1.2.	Share of SMEs using cloud computing services	16	34.92	28.0%
I.1.3.	Share of SMEs using two or more social media channels	10	62.11	33.0%
I.1.4.	Share of SMEs with high and very high digital intensity	13	42.93	21.0%
I.1.5.	Share of SMEs using any type of ICT security	11	82.69	93.0%
I.2.	**E-Commerce**	**27**	**10.00**	
I.2.1.	Share of SMEs with e-commerce sales in total SMEs	27	10.00	11.0%
I.2.2.	Share of SME total turnover from e-commerce sales in total turnover		n/a	n/a
I.3.	**Digital Skills**	**11**	**51.59**	
I.3.1.	Share of SMEs that employ ICT specialists in total SMEs	10	52.35	20.0%
I.3.2.	Share of SMEs for which ICT functions are performed by own employees in total SMEs	13	48.86	42.0%
I.3.3.	Share of SMEs providing training to develop or upgrade ICT skills of personnel	14	53.55	20.0%
II.	**Green Transition**	**3**	**71.22**	
II.1.	**Natural Resource Conservation**	**6**	**63.51**	
II.1.1.	Share of SMEs reducing consumption of natural resources (e.g. saving water, energy, materials or switching to sustainable resources)	11	62.43	43.4%
II.1.2.	Share of SMEs recycling by reusing material or waste within the company	5	64.59	52.0%
II.2.	**Emission Reduction**	**18**	**57.08**	
II.2.1.	Share of greenhouse gas emissions produced by SMEs in total greenhouse gas emissions		n/a	n/a
II.2.2.	Overall change in greenhouse gas emissions (Index 1990 = 100)	20	57.08	92.70
II.3.	**Green Output**	**3**	**93.08**	
II.3.1.	Share of SMEs offering green products or services	4	86.15	41.0%
II.3.2.	Share of SMEs in low intensive greenhouse gas emission sectors in total SMEs	1	100.00	52.8%
III.	**SME Competitiveness**	**9**	**51.28**	
III.1.	**Exports**	**18**	**34.76**	
III.1.1.	Share of exporting SMEs in total SMEs	14	39.28	6.2%
III.1.2.	SME trade to GDP ratio	21	30.24	25.7%
III.2.	**Productivity**	**2**	**64.97**	
III.2.1.	SME labour productivity	2	64.97	88.60
III.3	**Growth**	**17**	**54.12**	
III.3.1.	Share of high-growth enterprises in total active enterprises (10+ employees)	15	64.07	11.4%
III.3.2.	Share of people employed in high-growth enterprises in total employment (enterprises with 10+ employees)	18	44.16	14.0%

Sources: European Commission, Eurostat (Lisbon Council calculations)

For a detailed interactive breakdown, visit https://gdc.lisboncouncil.net/luxembourg

Malta

Rank: **7** Overall Score: **59.04**

Malta is No. 7. Its rankings are mostly found in the upper echelon: **Digital Transition** (No. 7), **Green Transition** (No. 12) and **SME Competitiveness** (No. 8). On the digital side, **E-Commerce** (No. 14) is an area where further improvement is needed, especially when it comes to SME turnover from e-commerce sales, where Malta finishes No. 21. Similarly, Maltese SMEs seem less interested in **Exports** (No. 22) with only 2.4% of SMEs reporting cross-border export activities. When it comes to **Green Transition**, Malta shows a more modest performance: **Natural Resource Conservation** (No. 15) and **Green Output** (No. 18). It fares much better on **Emission Reduction** (No. 6) mainly thanks to its excellent performance on greenhouse gas emissions produced by SMEs (No. 3).

		Rank	Score	Figures
I.	**Digital Transition**	**7**	**69.00**	
I.1.	**SME Digitalisation**	**5**	**82.65**	
I.1.1.	Share of SMEs using big data analytics	1	100.00	30.0%
I.1.2.	Share of SMEs using cloud computing services	6	68.15	52.0%
I.1.3.	Share of SMEs using two or more social media channels	5	83.42	42.0%
I.1.4.	Share of SMEs with high and very high digital intensity	4	82.44	39.0%
I.1.5.	Share of SMEs using any type of ICT security	15	79.23	92.0%
I.2.	**E-Commerce**	**14**	**46.43**	
I.2.1.	Share of SMEs with e-commerce sales in total SMEs	6	67.86	29.0%
I.2.2.	Share of SME total turnover from e-commerce sales in total turnover	21	25.00	7.0%
I.3.	**Digital Skills**	**4**	**77.93**	
I.3.1.	Share of SMEs that employ ICT specialists in total SMEs	2	94.71	28.0%
I.3.2.	Share of SMEs for which ICT functions are performed by own employees in total SMEs	6	65.23	50.0%
I.3.3.	Share of SMEs providing training to develop or upgrade ICT skills of personnel	5	73.87	27.0%
II.	**Green Transition**	**12**	**55.46**	
II.1.	**Natural Resource Conservation**	**15**	**50.59**	
II.1.1.	Share of SMEs reducing consumption of natural resources (e.g. saving water, energy, materials or switching to sustainable resources)	14	52.82	39.0%
II.1.2.	Share of SMEs recycling by reusing material or waste within the company	15	48.36	41.0%
II.2.	**Emission Reduction**	**6**	**71.94**	
II.2.1.	Share of greenhouse gas emissions produced by SMEs in total greenhouse gas emissions	3	89.41	25.9%
II.2.2.	Overall change in greenhouse gas emissions (Index 1990 = 100)	21	54.48	96.20
II.3.	**Green Output**	**18**	**43.86**	
II.3.1.	Share of SMEs offering green products or services	16	44.62	29.0%
II.3.2.	Share of SMEs in low intensive greenhouse gas emission sectors in total SMEs	15	43.10	36.6%
III.	**SME Competitiveness**	**8**	**52.65**	
III.1.	**Exports**	**22**	**28.47**	
III.1.1.	Share of exporting SMEs in total SMEs	26	15.74	2.4%
III.1.2.	SME trade to GDP ratio	14	41.20	34.2%
III.2.	**Productivity**	**5**	**50.13**	
III.2.1.	SME labour productivity	5	50.13	68.43
III.3	**Growth**	**5**	**79.34**	
III.3.1.	Share of high-growth enterprises in total active enterprises (10+ employees)	6	81.38	14.3%
III.3.2.	Share of people employed in high-growth enterprises in total employment (enterprises with 10+ employees)	4	77.31	22.1%

Sources: European Commission, Eurostat (Lisbon Council calculations)

For a detailed interactive breakdown, visit https://gdc.lisboncouncil.net/malta

Netherlands

Rank: **2** Overall Score: **69.97**

The Netherlands is No. 2 overall, with many rankings in the upper echelons: **Digital Transition** (No. 6), **Green Transition** (No. 2) and **SME Competitiveness** (No. 1). Its best performance is on **SME Competitiveness**, where it registers a very good performance across the board. The country's weakest point is **Emission Reduction** (No. 17). It finishes No. 19 on the change in greenhouse gas emissions (with 14.7% reduction compared to 1990). In terms of digitalisation, The Netherlands could further improve on **Digital Skills** (No. 7), where on-the-job ICT training for upskilling personnel ranks No. 10.

		Rank	Score	Figures
I.	**Digital Transition**	**6**	**69.56**	
I.1.	**SME Digitalisation**	**4**	**84.32**	
I.1.1.	Share of SMEs using big data analytics	2	85.60	26.0%
I.1.2.	Share of SMEs using cloud computing services	6	68.15	52.0%
I.1.3.	Share of SMEs using two or more social media channels	2	97.63	48.0%
I.1.4.	Share of SMEs with high and very high digital intensity	5	73.66	35.0%
I.1.5.	Share of SMEs using any type of ICT security	3	96.54	97.0%
I.2.	**E-Commerce**	**8**	**63.21**	
I.2.1.	Share of SMEs with e-commerce sales in total SMEs	10	61.43	27.0%
I.2.2.	Share of SME total turnover from e-commerce sales in total turnover	6	65.00	15.0%
I.3.	**Digital Skills**	**7**	**61.14**	
I.3.1.	Share of SMEs that employ ICT specialists in total SMEs	9	62.94	22.0%
I.3.2.	Share of SMEs for which ICT functions are performed by own employees in total SMEs	9	61.14	48.0%
I.3.3.	Share of SMEs providing training to develop or upgrade ICT skills of personnel	10	59.35	22.0%
II.	**Green Transition**	**2**	**74.06**	
II.1.	**Natural Resource Conservation**	**4**	**69.05**	
II.1.1.	Share of SMEs reducing consumption of natural resources (e.g. saving water, energy, materials or switching to sustainable resources)	6	72.04	47.8%
II.1.2.	Share of SMEs recycling by reusing material or waste within the company	3	66.07	53.0%
II.2.	**Emission Reduction**	**17**	**58.95**	
II.2.1.	Share of greenhouse gas emissions produced by SMEs in total greenhouse gas emissions	9	55.35	39.0%
II.2.2.	Overall change in greenhouse gas emissions (Index 1990 = 100)	19	62.56	85.30
II.3.	**Green Output**	**1**	**94.16**	
II.3.1.	Share of SMEs offering green products or services	1	100.00	45.0%
II.3.2.	Share of SMEs in low intensive greenhouse gas emission sectors in total SMEs	3	88.32	49.5%
III.	**SME Competitiveness**	**1**	**66.30**	
III.1.	**Exports**	**4**	**68.72**	
III.1.1.	Share of exporting SMEs in total SMEs	7	57.44	9.2%
III.1.2.	SME trade to GDP ratio	4	80.00	64.3%
III.2.	**Productivity**	**6**	**48.41**	
III.2.1.	SME labour productivity	6	48.41	66.09
III.3	**Growth**	**3**	**81.77**	
III.3.1.	Share of high-growth enterprises in total active enterprises (10+ employees)	5	82.34	14.5%
III.3.2.	Share of people employed in high-growth enterprises in total employment (enterprises with 10+ employees)	3	81.20	23.1%

Sources: European Commission, Eurostat (Lisbon Council calculations)

For a detailed interactive breakdown, visit https://gdc.lisboncouncil.net/netherlands

Poland

Rank: **23** Overall Score: **40.58**

Poland is No. 23. It falls near the bottom on most key categories: **Digital Transition** (No. 24), **Green Transition** (No. 19) and **SME Competitiveness** (No. 22). Poland has a surprisingly good performance on **Emission Reduction** (No. 5). But the performance on the other two indicators brings its **Green Transition** score down: **Natural Resource Conservation** (No. 19) and **Green Output** (No. 24). Competitiveness is another area where improvements would help: **Exports** (No. 16) is low with only 6% of Polish SMEs exporting (No. 12), and SME trade (No. 19) is only 26.6% of GDP. Low **Productivity** (No. 19) does not affect overall **Growth** (No. 10) too much. While only 11% of Polish SMEs are high-growth, they employ almost 20% of the workforce.

		Rank	Score	Figures
I.	**Digital Transition**	**24**	**34.48**	
I.1.	**SME Digitalisation**	**23**	**32.06**	
I.1.1.	Share of SMEs using big data analytics	16	20.80	8.0%
I.1.2.	Share of SMEs using cloud computing services	23	28.00	23.0%
I.1.3.	Share of SMEs using two or more social media channels	24	24.21	17.0%
I.1.4.	Share of SMEs with high and very high digital intensity	22	25.37	13.0%
I.1.5.	Share of SMEs using any type of ICT security	20	61.92	87.0%
I.2.	**E-Commerce**	**21**	**29.29**	
I.2.1.	Share of SMEs with e-commerce sales in total SMEs	21	29.29	17.0%
I.2.2.	Share of SME total turnover from e-commerce sales in total turnover		n/a	n/a
I.3.	**Digital Skills**	**17**	**42.10**	
I.3.1.	Share of SMEs that employ ICT specialists in total SMEs	8	68.24	23.0%
I.3.2.	Share of SMEs for which ICT functions are performed by own employees in total SMEs	24	16.14	26.0%
I.3.3.	Share of SMEs providing training to develop or upgrade ICT skills of personnel	16	41.94	16.0%
II.	**Green Transition**	**19**	**48.40**	
II.1.	**Natural Resource Conservation**	**19**	**43.07**	
II.1.1.	Share of SMEs reducing consumption of natural resources (e.g. saving water, energy, materials or switching to sustainable resources)	15	51.07	38.2%
II.1.2.	Share of SMEs recycling by reusing material or waste within the company	22	35.08	32.0%
II.2.	**Emission Reduction**	**5**	**72.33**	
II.2.1.	Share of greenhouse gas emissions produced by SMEs in total greenhouse gas emissions	5	81.80	28.8%
II.2.2.	Overall change in greenhouse gas emissions (Index 1990 = 100)	18	62.86	84.90
II.3.	**Green Output**	**24**	**29.81**	
II.3.1.	Share of SMEs offering green products or services	22	30.77	25.0%
II.3.2.	Share of SMEs in low intensive greenhouse gas emission sectors in total SMEs	23	28.85	32.6%
III.	**SME Competitiveness**	**22**	**38.84**	
III.1.	**Exports**	**16**	**35.66**	
III.1.1.	Share of exporting SMEs in total SMEs	12	40.00	6.3%
III.1.2.	SME trade to GDP ratio	19	31.32	26.6%
III.2.	**Productivity**	**19**	**15.02**	
III.2.1.	SME labour productivity	19	15.02	20.69
III.3	**Growth**	**10**	**65.83**	
III.3.1.	Share of high-growth enterprises in total active enterprises (10+ employees)	14	65.09	11.6%
III.3.2.	Share of people employed in high-growth enterprises in total employment (enterprises with 10+ employees)	8	66.57	19.5%

Sources: European Commission, Eurostat (Lisbon Council calculations)

For a detailed interactive breakdown, visit https://gdc.lisboncouncil.net/poland

Portugal

Rank: **15** Overall Score: **48.89**

Portugal is No. 15. It is a mid-range performer on two pillars: **Digital Transition** (No. 16) and **Green Transition** (No. 21). The country does best on **SME Competitiveness** (No. 7) and **Growth** (No. 7) and it is No. 5 on share of the workforce employed in high-growth enterprises. Portugal performs modestly on the key digital indicators: **SME Digitalisation** (No. 14), **E-Commerce** (No. 19) and **Digital Skills** (No. 15). SMEs are leaning in, with a high ranking on **Green Output** (No. 12). But its overall performance on green indicators lags: **Natural Resource Conservation** (No. 24) and **Emission Reduction** (No. 24). Its share of SMEs (43.1%) in low intensive greenhouse gas emissions sectors (No. 9) is above **EU Average**.

		Rank	Score	Figures
I.	**Digital Transition**	**16**	**45.27**	
I.1.	**SME Digitalisation**	**14**	**49.36**	
I.1.1.	Share of SMEs using big data analytics	13	28.00	10.0%
I.1.2.	Share of SMEs using cloud computing services	16	34.92	28.0%
I.1.3.	Share of SMEs using two or more social media channels	16	43.16	25.0%
I.1.4.	Share of SMEs with high and very high digital intensity	14	40.73	20.0%
I.1.5.	Share of SMEs using any type of ICT security	1	100.00	98.0%
I.2.	**E-Commerce**	**19**	**40.54**	
I.2.1.	Share of SMEs with e-commerce sales in total SMEs	22	26.07	16.0%
I.2.2.	Share of SME total turnover from e-commerce sales in total turnover	9	55.00	13.0%
I.3.	**Digital Skills**	**15**	**45.90**	
I.3.1.	Share of SMEs that employ ICT specialists in total SMEs	13	41.76	18.0%
I.3.2.	Share of SMEs for which ICT functions are performed by own employees in total SMEs	18	36.59	36.0%
I.3.3.	Share of SMEs providing training to develop or upgrade ICT skills of personnel	10	59.35	22.0%
II.	**Green Transition**	**21**	**45.24**	
II.1.	**Natural Resource Conservation**	**17**	**45.65**	
II.1.1.	Share of SMEs reducing consumption of natural resources (e.g. saving water, energy, materials or switching to sustainable resources)	24	29.66	28.4%
II.1.2.	Share of SMEs recycling by reusing material or waste within the company	7	61.64	50.0%
II.2.	**Emission Reduction**	**24**	**38.33**	
II.2.1.	Share of greenhouse gas emissions produced by SMEs in total greenhouse gas emissions	22	23.22	51.3%
II.2.2.	Overall change in greenhouse gas emissions (Index 1990 = 100)	22	53.44	97.60
II.3.	**Green Output**	**12**	**51.73**	
II.3.1.	Share of SMEs offering green products or services	19	37.69	27.0%
II.3.2.	Share of SMEs in low intensive greenhouse gas emission sectors in total SMEs	9	65.78	43.1%
III.	**SME Competitiveness**	**7**	**56.17**	
III.1.	**Exports**	**17**	**34.91**	
III.1.1.	Share of exporting SMEs in total SMEs	19	31.65	5.0%
III.1.2.	SME trade to GDP ratio	16	38.17	31.9%
III.2.	**Productivity**		**n/a**	
III.2.1.	SME labour productivity		n/a	n/a
III.3	**Growth**	**7**	**77.44**	
III.3.1.	Share of high-growth enterprises in total active enterprises (10+ employees)	8	79.04	13.9%
III.3.2.	Share of people employed in high-growth enterprises in total employment (enterprises with 10+ employees)	5	75.83	21.8%

Sources: European Commission, Eurostat (Lisbon Council calculations)

For a detailed interactive breakdown, visit https://gdc.lisboncouncil.net/portugal

Romania

Rank: **27** Overall Score: **29.54**

Romania is No. 27. Most of its performance is low: **Digital Transition** (No. 26), **Green Transition** (No. 15) and **SME Competitiveness** (No. 27). The country does best on **Green Transition** (No. 15), mainly thanks to a very good performance on **Emission Reduction** (No. 4), where it is the best performer on change in greenhouse gas emissions (with almost 66% reduction compared to 1990). It also performs well on **Natural Resource Conservation** (No. 9), but **Green Output** (No. 26) lags significantly. When it comes to digital indicators, the country has still a lot of work to do, as it is often the last or third-last performer: **SME Digitalisation** (No. 27), **E-Commerce** (No. 25) and **Digital Skills** (No. 25). Also low are **Exports** (No. 24), **Productivity** (No. 23) and **Growth** (No. 27). Romania occupies the last position on both share of high-growth enterprises (2.4% of active enterprises) and the workforce employed by them (5.4% of workforce).

		Rank	Score	Figures
I.	**Digital Transition**	**26**	**19.89**	
I.1.	**SME Digitalisation**	**27**	**11.38**	
I.1.1.	Share of SMEs using big data analytics	26	10.00	5.0%
I.1.2.	Share of SMEs using cloud computing services	25	16.92	15.0%
I.1.3.	Share of SMEs using two or more social media channels	27	10.00	11.0%
I.1.4.	Share of SMEs with high and very high digital intensity	27	10.00	6.0%
I.1.5.	Share of SMEs using any type of ICT security	27	10.00	72.0%
I.2.	**E-Commerce**	**25**	**20.71**	
I.2.1.	Share of SMEs with e-commerce sales in total SMEs	25	16.43	13.0%
I.2.2.	Share of SME total turnover from e-commerce sales in total turnover	21	25.00	7.0%
I.3.	**Digital Skills**	**25**	**27.57**	
I.3.1.	Share of SMEs that employ ICT specialists in total SMEs	21	25.88	15.0%
I.3.2.	Share of SMEs for which ICT functions are performed by own employees in total SMEs	14	46.82	41.0%
I.3.3.	Share of SMEs providing training to develop or upgrade ICT skills of personnel	27	10.00	5.0%
II.	**Green Transition**	**15**	**51.95**	
II.1.	**Natural Resource Conservation**	**9**	**59.68**	
II.1.1.	Share of SMEs reducing consumption of natural resources (e.g. saving water, energy, materials or switching to sustainable resources)	5	72.48	48.0%
II.1.2.	Share of SMEs recycling by reusing material or waste within the company	17	46.89	40.0%
II.2.	**Emission Reduction**	**4**	**74.76**	
II.2.1.	Share of greenhouse gas emissions produced by SMEs in total greenhouse gas emissions	13	49.52	41.2%
II.2.2.	Overall change in greenhouse gas emissions (Index 1990 = 100)	1	100.00	34.80
II.3.	**Green Output**	**26**	**21.42**	
II.3.1.	Share of SMEs offering green products or services	23	27.31	24.0%
II.3.2.	Share of SMEs in low intensive greenhouse gas emission sectors in total SMEs	26	15.54	28.8%
III.	**SME Competitiveness**	**27**	**16.78**	
III.1.	**Exports**	**24**	**27.71**	
III.1.1.	Share of exporting SMEs in total SMEs	21	26.97	4.2%
III.1.2.	SME trade to GDP ratio	22	28.45	24.3%
III.2.	**Productivity**	**23**	**12.64**	
III.2.1.	SME labour productivity	23	12.64	17.46
III.3	**Growth**	**27**	**10.00**	
III.3.1.	Share of high-growth enterprises in total active enterprises (10+ employees)	27	10.00	2.4%
III.3.2.	Share of people employed in high-growth enterprises in total employment (enterprises with 10+ employees)	27	10.00	5.7%

Sources: European Commission, Eurostat (Lisbon Council calculations)

For a detailed interactive breakdown, visit https://gdc.lisboncouncil.net/romania

Slovakia

Rank: **18** Overall Score: **45.75**

Slovakia is No. 18. It is a modest performer with most of its rankings in the lower echelon: **Digital Transition** (No. 25) and **SME Competitiveness** (No. 20). **Green Transition** (No. 9) sees the country's best performance; Slovakia ranks third on **Natural Resource Conservation** with 56% of SMEs taking actions to reduce consumption of natural resources (No. 3) and 53% of SMEs recycling (No.4). **Green Output** (No. 10) lags, as does **Emission Reduction** (No. 16). Performance on the digital indicators is of more concern: **SME Digitalisation** (No. 22), **E-Commerce** (No. 22) and **Digital Skills** (No. 24). On **SME Competitiveness**, the performances are mixed: **Exports** (No. 9), **Growth** (No. 15) and **Productivity** (No. 21).

		Rank	Score	Figures
I.	**Digital Transition**	**25**	**30.64**	
I.1.	**SME Digitalisation**	**22**	**34.14**	
I.1.1.	Share of SMEs using big data analytics	26	10.00	5.0%
I.1.2.	Share of SMEs using cloud computing services	20	30.77	25.0%
I.1.3.	Share of SMEs using two or more social media channels	23	31.32	20.0%
I.1.4.	Share of SMEs with high and very high digital intensity	21	29.76	15.0%
I.1.5.	Share of SMEs using any type of ICT security	19	68.85	89.0%
I.2.	**E-Commerce**	**22**	**28.04**	
I.2.1.	Share of SMEs with e-commerce sales in total SMEs	22	26.07	16.0%
I.2.2.	Share of SME total turnover from e-commerce sales in total turnover	19	30.00	8.0%
I.3.	**Digital Skills**	**24**	**29.74**	
I.3.1.	Share of SMEs that employ ICT specialists in total SMEs	25	20.59	14.0%
I.3.2.	Share of SMEs for which ICT functions are performed by own employees in total SMEs	20	32.50	34.0%
I.3.3.	Share of SMEs providing training to develop or upgrade ICT skills of personnel	23	36.13	14.0%
II.	**Green Transition**	**5**	**65.92**	
II.1.	**Natural Resource Conservation**	**3**	**78.01**	
II.1.1.	Share of SMEs reducing consumption of natural resources (e.g. saving water, energy, materials or switching to sustainable resources)	3	89.95	56.0%
II.1.2.	Share of SMEs recycling by reusing material or waste within the company	3	66.07	53.0%
II.2.	**Emission Reduction**	**16**	**59.03**	
II.2.1.	Share of greenhouse gas emissions produced by SMEs in total greenhouse gas emissions	18	31.55	48.1%
II.2.2.	Overall change in greenhouse gas emissions (Index 1990 = 100)	5	86.51	53.00
II.3.	**Green Output**	**10**	**60.73**	
II.3.1.	Share of SMEs offering green products or services	4	86.15	41.0%
II.3.2.	Share of SMEs in low intensive greenhouse gas emission sectors in total SMEs	20	35.32	34.4%
III.	**SME Competitiveness**	**20**	**40.68**	
III.1.	**Exports**	**9**	**50.55**	
III.1.1.	Share of exporting SMEs in total SMEs	15	37.74	6.0%
III.1.2.	SME trade to GDP ratio	8	63.36	51.4%
III.2.	**Productivity**	**21**	**14.19**	
III.2.1.	SME labour productivity	**21**	14.19	19.57
III.3	**Growth**	**15**	**57.29**	
III.3.1.	Share of high-growth enterprises in total active enterprises (10+ employees)	13	65.75	11.7%
III.3.2.	Share of people employed in high-growth enterprises in total employment (enterprises with 10+ employees)	15	48.83	15.2%

Sources: European Commission, Eurostat (Lisbon Council calculations)

For a detailed interactive breakdown, visit https://gdc.lisboncouncil.net/slovakia

Slovenia

Rank: **11** Overall Score: **51.30**

Slovenia ranks No. 11. A small economy that must export to survive, it ranks high on **SME Competitiveness** (No. 3). It is the second-best performer on **Exports** (No. 2), second only to Estonia; 16% of Slovenian SMEs export (No. 2) and SME trade accounts for 65% of GDP (No. 3). **Growth** (No. 9) is relatively strong, but **Productivity** (No. 14) is a weak spot. Slovenia slides on the other points in this three-pillar ranking: **Digital Transition** (No. 14) and **Green Transition** (No. 20). It scores well on **E-Commerce** (No. 10), but lags on **SME Digitalisation** (No. 21) and **Digital Skills** (No. 20). One bright spot is **Green Output** (No. 8) with 37% of Slovenian SMEs offering green products and services, but the country lags on **Natural Resource Conservation** (No. 20) and **Emission Reduction** (No. 26). Greenhouse gas emissions increased by almost 20% since 1990, placing the country as the second-worst performer in this category.

		Rank	Score	Figures
I.	**Digital Transition**	**14**	**47.00**	
I.1.	**SME Digitalisation**	**21**	**42.77**	
I.1.1.	Share of SMEs using big data analytics	23	13.60	6.0%
I.1.2.	Share of SMEs using cloud computing services	10	48.77	38.0%
I.1.3.	Share of SMEs using two or more social media channels	12	52.63	29.0%
I.1.4.	Share of SMEs with high and very high digital intensity	12	47.32	23.0%
I.1.5.	Share of SMEs using any type of ICT security	24	51.54	84.0%
I.2.	**E-Commerce**	**10**	**59.11**	
I.2.1.	Share of SMEs with e-commerce sales in total SMEs	12	58.21	26.0%
I.2.2.	Share of SME total turnover from e-commerce sales in total turnover	8	60.00	14.0%
I.3.	**Digital Skills**	**20**	**39.14**	
I.3.1.	Share of SMEs that employ ICT specialists in total SMEs	21	25.88	15.0%
I.3.2.	Share of SMEs for which ICT functions are performed by own employees in total SMEs	22	26.36	31.0%
I.3.3.	Share of SMEs providing training to develop or upgrade ICT skills of personnel	8	65.16	24.0%
II.	**Green Transition**	**20**	**45.98**	
II.1.	**Natural Resource Conservation**	**20**	**42.31**	
II.1.1.	Share of SMEs reducing consumption of natural resources (e.g. saving water, energy, materials or switching to sustainable resources)	20	43.64	34.8%
II.1.2.	Share of SMEs recycling by reusing material or waste within the company	19	40.98	36.0%
II.2.	**Emission Reduction**	**26**	**29.54**	
II.2.1.	Share of greenhouse gas emissions produced by SMEs in total greenhouse gas emissions	23	22.17	51.7%
II.2.2.	Overall change in greenhouse gas emissions (Index 1990 = 100)	26	36.91	119.90
II.3.	**Green Output**	**8**	**66.09**	
II.3.1.	Share of SMEs offering green products or services	8	72.31	37.0%
II.3.2.	Share of SMEs in low intensive greenhouse gas emission sectors in total SMEs	11	59.88	41.4%
III.	**SME Competitiveness**	**3**	**60.93**	
III.1.	**Exports**	**2**	**90.17**	
III.1.1.	Share of exporting SMEs in total SMEs	2	99.74	16.1%
III.1.2.	SME trade to GDP ratio	3	80.60	64.8%
III.2.	**Productivity**	**14**	**24.77**	
III.2.1.	SME labour productivity	14	24.77	33.95
III.3	**Growth**	**9**	**67.85**	
III.3.1.	Share of high-growth enterprises in total active enterprises (10+ employees)	7	80.18	14.1%
III.3.2.	Share of people employed in high-growth enterprises in total employment (enterprises with 10+ employees)	12	55.51	16.8%

Sources: European Commission, Eurostat (Lisbon Council calculations)

For a detailed interactive breakdown, visit https://gdc.lisboncouncil.net/slovenia

Spain

Rank: **13** Overall Score: **50.31**

Spain is No. 13. Its best performance is on **Green Transition** (No. 10) where it tops the ranking on **Natural Resource Conservation** (No. 1) with 60% of Spanish SMEs reducing their consumption of natural resources (No. 1) and 76% recycling (No. 1). However, Spain lags on **Emission Reduction** (No. 25) with a 14% increase of greenhouse gas emissions compared to 1990. Spain has modest performances on digital indicators: **SME Digitalisation** (No. 13), **E-Commerce** (No. 12) and **Digital Skills** (No. 18). **SME Competitiveness** (No. 14) is pulled up by the remarkable performance on **Growth** (No. 6) with 15.5% of Spanish SMEs classifiable as high-growth (No. 3) and 19.5% of workforce employed by them (No. 9). Performance on other indicators lags: **Exports** (No. 21) and **Productivity** (No. 13).

		Rank	Score	Figures
I.	**Digital Transition**	**15**	**46.33**	
I.1.	**SME Digitalisation**	**13**	**50.63**	
I.1.1.	Share of SMEs using big data analytics	16	20.80	8.0%
I.1.2.	Share of SMEs using cloud computing services	20	30.77	25.0%
I.1.3.	Share of SMEs using two or more social media channels	7	76.32	39.0%
I.1.4.	Share of SMEs with high and very high digital intensity	10	49.51	24.0%
I.1.5.	Share of SMEs using any type of ICT security	16	75.77	91.0%
I.2.	**E-Commerce**	**12**	**48.21**	
I.2.1.	Share of SMEs with e-commerce sales in total SMEs	10	61.43	27.0%
I.2.2.	Share of SME total turnover from e-commerce sales in total turnover	17	35.00	9.0%
I.3.	**Digital Skills**	**18**	**40.15**	
I.3.1.	Share of SMEs that employ ICT specialists in total SMEs	18	31.18	16.0%
I.3.2.	Share of SMEs for which ICT functions are performed by own employees in total SMEs	17	38.64	37.0%
I.3.3.	Share of SMEs providing training to develop or upgrade ICT skills of personnel	15	50.65	19.0%
II.	**Green Transition**	**10**	**60.38**	
II.1.	**Natural Resource Conservation**	**1**	**100.00**	
II.1.1.	Share of SMEs reducing consumption of natural resources (e.g. saving water, energy, materials or switching to sustainable resources)	1	100.00	60.6%
II.1.2.	Share of SMEs recycling by reusing material or waste within the company	1	100.00	76.0%
II.2.	**Emission Reduction**	**25**	**37.25**	
II.2.1.	Share of greenhouse gas emissions produced by SMEs in total greenhouse gas emissions	17	33.52	47.3%
II.2.2.	Overall change in greenhouse gas emissions (Index 1990 = 100)	24	40.99	114.40
II.3.	**Green Output**	**17**	**43.88**	
II.3.1.	Share of SMEs offering green products or services	12	58.46	33.0%
II.3.2.	Share of SMEs in low intensive greenhouse gas emission sectors in total SMEs	22	29.29	32.7%
III.	**SME Competitiveness**	**14**	**44.23**	
III.1.	**Exports**	**21**	**28.68**	
III.1.1.	Share of exporting SMEs in total SMEs	17	35.52	5.6%
III.1.2.	SME trade to GDP ratio	25	21.83	19.2%
III.2.	**Productivity**	**13**	**26.46**	
III.2.1.	SME labour productivity	13	26.46	36.24
III.3	**Growth**	**6**	**77.55**	
III.3.1.	Share of high-growth enterprises in total active enterprises (10+ employees)	3	88.68	15.5%
III.3.2.	Share of people employed in high-growth enterprises in total employment (enterprises with 10+ employees)	9	66.41	19.5%

Sources: European Commission, Eurostat (Lisbon Council calculations)

For a detailed interactive breakdown, visit https://gdc.lisboncouncil.net/spain

Sweden

Rank: **1** Overall Score: **73.56**

Sweden is No. 1. Two of its rankings are in the top three places: **Green Transition** (No. 1) and **Digital Transition** (No. 3). The country is doing best on **Green Transition**, where it leads on **Emission Reduction** (No. 1), **Natural Resource Conservation** (No. 2) and **Green Output** (No. 2). It has also very good performances on digital indicators, too: **SME Digitalisation** (No. 2) and **E-Commerce** (No. 3). However, when it comes to **Digital Skills** (No. 6), there is room for improvement. **SME Competitiveness** (No. 10) is Sweden's weakest spot. It lags on key indicators there: **Productivity** (No. 8), **Growth** (No. 11) and **Exports** (No 14); only 7.2% of Swedish SMEs export (No. 10) and SME trade accounts for just 28% of GDP (No. 17).

		Rank	Score	Figures
I.	**Digital Transition**	**3**	**81.60**	
I.1.	**SME Digitalisation**	**2**	**85.98**	
I.1.1.	Share of SMEs using big data analytics	8	56.80	18.0%
I.1.2.	Share of SMEs using cloud computing services	2	91.69	69.0%
I.1.3.	Share of SMEs using two or more social media channels	3	95.26	47.0%
I.1.4.	Share of SMEs with high and very high digital intensity	1	100.00	47.0%
I.1.5.	Share of SMEs using any type of ICT security	7	86.15	94.0%
I.2.	**E-Commerce**	**3**	**86.07**	
I.2.1.	Share of SMEs with e-commerce sales in total SMEs	4	87.14	35.0%
I.2.2.	Share of SME total turnover from e-commerce sales in total turnover	2	85.00	19.0%
I.3.	**Digital Skills**	**6**	**72.74**	
I.3.1.	Share of SMEs that employ ICT specialists in total SMEs	11	47.06	19.0%
I.3.2.	Share of SMEs for which ICT functions are performed by own employees in total SMEs	2	85.68	60.0%
I.3.3.	Share of SMEs providing training to develop or upgrade ICT skills of personnel	2	85.48	31.0%
II.	**Green Transition**	**1**	**89.51**	
II.1.	**Natural Resource Conservation**	**2**	**91.83**	
II.1.1.	Share of SMEs reducing consumption of natural resources (e.g. saving water, energy, materials or switching to sustainable resources)	2	96.94	59.2%
II.1.2.	Share of SMEs recycling by reusing material or waste within the company	2	86.72	67.0%
II.2.	**Emission Reduction**	**1**	**83.51**	
II.2.1.	Share of greenhouse gas emissions produced by SMEs in total greenhouse gas emissions	6	78.43	30.1%
II.2.2.	Overall change in greenhouse gas emissions (Index 1990 = 100)	4	88.58	50.20
II.3.	**Green Output**	**2**	**93.19**	
II.3.1.	Share of SMEs offering green products or services	3	93.08	43.0%
II.3.2.	Share of SMEs in low intensive greenhouse gas emission sectors in total SMEs	2	93.31	50.9%
III.	**SME Competitiveness**	**10**	**49.56**	
III.1.	**Exports**	**14**	**39.79**	
III.1.1.	Share of exporting SMEs in total SMEs	10	45.51	7.2%
III.1.2.	SME trade to GDP ratio	17	34.07	28.7%
III.2.	**Productivity**	**8**	**45.87**	
III.2.1.	SME labour productivity	8	45.87	62.63
III.3	**Growth**	**11**	**63.03**	
III.3.1.	Share of high-growth enterprises in total active enterprises (10+ employees)	10	71.32	12.6%
III.3.2.	Share of people employed in high-growth enterprises in total employment (enterprises with 10+ employees)	13	54.73	16.6%

Sources: European Commission, Eurostat (Lisbon Council calculations)

For a detailed interactive breakdown, visit https://gdc.lisboncouncil.net/sweden

Methodology and Sensitivity Analysis

The data used to build the **Green, Digital and Competitive SME Index** comes entirely from public sources. We are particularly grateful to the European Commission, Eurostat and the Organisation for Economic Co-operation and Development (OECD) for the outstanding analytical work that they do. Were it not for the hard work, diligence and commitment they show to statistical excellence in all fields, policymakers would be working with considerably less visibility and the broader conversation surrounding SMEs would be much less rich and markedly less well informed. All scores are computed using the most recent data available at the close of 2021 (taking March 2022 as the data freezing point). The sub-indicator data ranges from the period 2019 to 2021, depending on the most recent year available for the sub-indicator in question.

For aggregation, the normalisation method used to standardise sub-indicator values is the min-max, with a normalisation range of 10 to 100. For the majority of the sub-indicators (19 of 21), the highest value corresponds to the best performance (100 points), while the lowest value is considered the worst performance (10 points). For two sub-indicators, **II.2.1 Share of greenhouse gas emissions produced by SMEs in total greenhouse gas emissions** and **II.2.2. Overall change in greenhouse gas emissions**, the method is reversed: the lowest value gets the highest score (100 points) and the highest value gets the lowest one (10 points).

The main aggregation method used is arithmetic average. All pillars, indicators and sub-indicators have been assigned equal weights in the aggregation process. Therefore, an indicator's performance is computed as the unweighted arithmetic average of the sub-indicators included in the indicator. Similarly, a pillar's performance is the unweighted arithmetic average of the indicators included in the pillar. The overall assessment of a country is the unweighted arithmetic average of the component pillars.

A full list of pillars, indicators and sub-indicators can be found in Table 1 on page 8. Notes on the methodological assumptions and robustness testing conducted for each of the 21 sub-indicators follow:

I. Digital Transition Pillar

This is a composite indicator aiming to assess the degree of digitalisation of SMEs in the current economic context, looking at the digital uptake, e-commerce performance and level of digital skills of the SME labour force. The data does not include micro-enterprises (fewer than 10 employees) and covers the business economy without the financial sector.

The pillar is composed of three indicators:

I.1. SME Digitalisation
I.2. E-Commerce
I.3. Digital Skills

The pillar's score is calculated as the unweighted average of the scores of the three indicators. The data is from Eurostat, Digital Economy and Society.

I.1. SME Digitalisation Indicator

This is a composite indicator that captures the prevalence of new digital tools and technologies, such as big data analytics, cloud computing and social media, in SMEs. The indicator is composed of five sub-indicators:

I.1.1. Share of SMEs using big data analytics
I.1.2. Share of SMEs using cloud computing services
I.1.3. Share of SMEs using two or more social media channels
I.1.4. Share of SMEs with high and very high digital intensity index
I.1.5. Share of SMEs using any type of ICT security

The indicator's score is calculated as the unweighted average of the scores of the five sub-indicators. The source is Eurostat data.

I.1.1. Share of SMEs using big data analytics sub-indicator

This sub-indicator is calculated as the share of SMEs that analyse big data internally from any data source or externally in total number of SMEs. The data does not include micro-enterprises (0-9 employees), covering only the SMEs with at least 10 employees. The source is Eurostat, Digital Economy and Society, ICT usage in enterprises (Table ISOC_EB_BD).

I.1.2. Share of SMEs using cloud computing services sub-indicator

This sub-indicator is calculated as the share of SMEs that buy cloud computing services used over the internet in total number of SMEs. The data does not include micro-enterprises (0-9 employees), covering only the SMEs with at least 10 employees. The source is Eurostat, Digital Economy and Society, ICT usage in enterprises (Table ISOC_CICCE_USE).

I.1.3. Share of SMEs using two or more social media channels sub-indicator

This sub-indicator is calculated as the share of SMEs that use two or more social media in total number of SMEs. The data does not include micro-enterprises (0-9 employees), covering only the SMEs with at least 10 employees. The source is Eurostat, Digital Economy and Society, ICT usage in enterprises (Table ISOC_CISMT).

I.1.4. Share of SMEs with high and very high digital intensity sub-indicator

This sub-indicator is based on the European Commission's Digital Intensity Index (2021 edition), a composite index of 12 indicators (listed in the table below), which receive one point if the corresponding condition is true.

Digital Intensity Index Components
Enterprises where more than 50% of the persons employed used computers with access to the internet for business purposes
Have an enterprise resource planning software package to share information between different functional areas
The maximum contracted download speed of the fastest fixed line internet connection is at least 30 Mb/s
Enterprises where web sales were more than 1% of the total turnover and B2C web sales more than 10% of the web sales
Use any Internet of Things (IoT)
Use any social media
Have a customer relationship management package
Buy sophisticated or intermediate cloud computing services (2021)
Use any artificial intelligence technology
Buy cloud computing services used over the internet
Enterprises with e-commerce sales of at least 1% turnover
Use two or more social media

An enterprise is considered to be "high digital intensive" if it scores between seven and nine points, while it is considered "very high digital intensive" if it scores between 10 and 12 points. The data does not include micro-enterprises (0-9 employees), covering only the SMEs with at least 10 employees. The source is Eurostat, Digital Economy and Society, ICT usage in enterprises (Table ISOC_E_DII).

I.1.5. Share of SMEs using any type of ICT security sub-indicator

It is calculated as the share of SMEs that use any type of ICT security measures in total number of SMEs. The data does not include micro-enterprises (0-9 employees), covering only the SMEs with at least 10 employees. The source is Eurostat, Digital Economy and Society, ICT usage in enterprises (Table ISOC_CISCE_RA).

The five sub-indicators show good correlations, with **I.1.5. Share of SMEs using any type of ICT security** having the lowest correlation values of the group. All the sub-indicators are well represented within both the indicator and pillar compositions (correlations higher than 0.5 are marked in bold).

Correlation Matrix of SME Digitalisation Indicator

		I.1.1.	I.1.2.	I.1.3.	I.1.4.	I.1.5.	I.1.	I.
I.1.1.	Share of SMEs using big data analytics	1	**0.60**	**0.63**	**0.70**	0.50	**0.83**	**0.77**
I.1.2.	Share of SMEs using cloud computing services	**0.60**	1	**0.68**	**0.84**	0.49	**0.86**	**0.83**
I.1.3.	Share of SMEs using two or more social media channels	**0.63**	**0.68**	1	**0.87**	0.42	**0.87**	**0.74**
I.1.4.	Share of SMEs with high and very high digital intensity index	**0.70**	**0.84**	**0.87**	1	0.49	**0.93**	**0.89**
I.1.5.	Share of SMEs using any type of ICT security	0.50	0.49	0.42	0.49	1	**0.68**	**0.56**

I.2. E-Commerce Indicator

This is a composite indicator that captures the prevalence of e-commerce tools and their impact on the economic performance of the SMEs. The indicator is composed of two sub-indicators:

I.2.1. Share of SMEs with e-commerce sales in total SMEs

I.2.2. Share of SME total turnover from e-commerce sales in total turnover

The indicator's score is calculated as the unweighted average of the scores of the two sub-indicators. The source is Eurostat data.

I.2.1. Share of SMEs with e-commerce sales in total SMEs sub-indicator

The sub-indicator is calculated as the share of SMEs with e-commerce sales in total number of SMEs. The data does not include micro-enterprises (0-9 employees), covering only the SMEs with at least 10 employees. The source is Eurostat, Digital Economy and Society, ICT usage in enterprises (Table ISOC_EC_ESELN2).

I.2.2. Share of SME total turnover from e-commerce sales in total turnover sub-indicator

The sub-indicator is calculated as SMEs' turnover share from e-commerce sales in total turnover. The data does not include micro-enterprises (0-9 employees), covering only the SMEs with at least 10 employees. The source is Eurostat, Digital Economy and Society, ICT usage in enterprises (Table ISOC_EC_EVALN2).

The two sub-indicators have a very good correlation. At the same time, they are also very well represented within both the indicator and the pillar composition (correlations higher than 0.5 are marked in bold).

Correlation Matrix of E-Commerce Indicator

		I.2.1.	I.2.2.	I.2.	I.
I.2.1.	Share of SMEs with e-commerce sales in total SMEs	1	**0.77**	**0.95**	**0.86**
I.2.2.	Share of SME total turnover from e-commerce sales in total turnover	**0.77**	1	**0.94**	**0.75**

I.3. Digital Skills Indicator

This is a composite indicator that captures the digital preparedness of the labour force in the SMEs, considering that digital skills are essential in the current socio-economic environment. The indicator is composed of three sub-indicators:

I.3.1. Share of SMEs that employ ICT specialists in total SMEs

I.3.2. Share of SMEs for which ICT functions are performed by own employees in total SMEs

I.3.3. Share of SMEs providing training to develop or upgrade ICT skills of personnel

The indicator's score is calculated as the unweighted average of the scores of the three indicators. The source is Eurostat data.

I.3.1. Share of SMEs that employ ICT specialists in total SMEs sub-indicator

The sub-indicator is calculated as the share of SMEs that employ ICT specialists in total number of SMEs. The data does not include micro-enterprises (0-9 employees), covering only the SMEs with at least 10 employees. The source is Eurostat, Digital Economy and Society, digital skills (Table ISOC_SKE_ITSPEN2).

I.3.2. Share of SMEs for which ICT functions are performed by own employees in total SMEs sub-indicator

The indicator is calculated as the share of SMEs for which the ICT functions are performed by their own employees in total SMEs. The data does not include micro-enterprises (0-9 employees), covering only the SMEs with at least 10 employees. The source is Eurostat, Digital Economy and Society, digital skills (Table ISOC_SKE_FCT).

I.3.3. Share of SMEs providing training to develop or upgrade ICT skills of personnel sub-indicator

The indicator is calculated as the share of SMEs that provided training to their personnel to develop their ICT skills in total SMEs. The data does not include micro-enterprises (0-9 employees), covering only the SMEs with at least 10 employees. The source is Eurostat, Digital Economy and Society, digital skills (Table ISOC_SKE_ITTN2).

The sub-indicators have relatively good correlations, with **I.3.2. SMEs for which ICT functions are performed by own employees in total SMEs** having slightly lower values. At the same time, they are very well represented within both the indicator and the pillar compositions (correlations higher than 0.5 are marked in bold).

Correlation Matrix of Digital Skills Indicator

		I.3.1.	I.3.2.	I.3.3.	I.3.	I.
I.3.1.	Share of SMEs that employ ICT specialists in total SMEs	1	0.39	**0.63**	**0.83**	**0.63**
I.3.2.	Share of SMEs for which ICT functions are performed by own employees in total SMEs	0.39	1	**0.57**	**0.78**	**0.79**
I.3.3.	Share of SMEs providing training to develop or upgrade ICT skills of personnel	**0.63**	**0.57**	1	**0.87**	**0.85**

Overall, the indicators have good representations in both the **Digital Transition** pillar and the overall **Green, Digital and Competitive SME Index** (with good and very good correlations). The **I.3. Digital Skills** indicator is the only one with a slightly lower value in both cases, but the indicator's correlation remains good.

Correlation Matrix of Digital Transition Pillar

	I.1.	I.2.	I.3.	I.	GDC Index
I.1. SME Digitalisation	1	**0.82**	**0.60**	**0.91**	**0.90**
I.2. E-Commerce	**0.82**	1	**0.61**	**0.90**	**0.81**
I.3. Digital Skills	**0.60**	**0.61**	1	**0.85**	**0.72**

II. Green Transition Pillar

This is a composite indicator aiming to assess to what extent the green initiative and practices are available to SMEs and at country level, in the current economic context, by looking at resources, harmful emissions and available green outputs. The pillar is composed of three indicators:

II.1. Natural Resource Conservation

II.2. Emission Reduction

II.3. Green Output

The pillar's score is calculated as the unweighted average of the scores of the three indicators. The sources are European Commission and Eurostat data.

II.1. Natural Resource Conservation Indicator

It is a composite indicator that captures the prevalence of green practices, such as reduced consumption of natural resources, recycling and reuse of materials in SMEs. The indicator is composed of two sub-indicators:

II.1.1. Share of SMEs reducing consumption of natural resources (e.g. saving water, energy, materials or switching to sustainable resources)

II.1.2. Share of SMEs recycling by reusing material or waste within the company

The indicator's score is calculated as the unweighted average of the scores of the two sub-indicators. The source is European Commission data.

II.1.1. Share of SMEs reducing consumption of natural resources (e.g. saving water, energy, materials or switching to sustainable resources) sub-indicator

This is calculated as the arithmetic average of the shares of SMEs that take different actions to reduce consumption of or impact on natural resources (e.g. saving water or switching to sustainable sources) in total SMEs. The indicator covers the following sub-categories: share of SMEs saving water, share of SMEs saving energy, share of SMEs using predominantly renewable energy (e.g. including own production through solar panels, etc.), share of SMEs saving materials, share of SMEs switching to greener suppliers of materials.

The results are based on the participants who selected at least one of the following answers: 1) saving water, 2) saving energy, 3) using predominantly renewable energy (e.g. including own production through solar panels, etc.), 4) saving materials or 5) switching to greener suppliers of materials when answering the survey question *"What actions is your company undertaking to be more resource efficient?"* for which multiple answers were possible. The survey looked at SMEs, green markets and resource efficiency and it took place in the period November-December 2021 in all European Union member states. The source is European Commission, *Flash Eurobarometer 498: SMEs, Green Markets and Resource Efficiency* (Brussels: European Commission, 2022).

II.1.2. Share of SMEs recycling by reusing material or waste within the company sub-indicator

This is calculated as the share of SMEs that recycle or reuse materials in total SMEs. The results are based on the participants selecting the answer option "recycling by reusing material or waste within the company" when answering the survey question *"What actions is your company undertaking to be more resource efficient?"* for which multiple answers are possible. The survey looked at SMEs, green markets and resource efficiency and it took place in the period November-December 2021 in all European Union member states. The source is European Commission, *Flash Eurobarometer 498*, op. cit.

The sub-indicators have very good correlations between them and show good and very good correlations with both the corresponding indicator and the **Green Transition** pillar (correlations higher than 0.5 are marked in bold).

Correlation Matrix of Natural Resource Conservation Indicator

	II.1.1.	II.1.2.	II.1.	II.
II.1.1. Share of SMEs reducing consumption of natural resources (e.g. saving water, energy, materials or switching to sustainable resources)	1	**0.60**	**0.91**	**0.63**
II.1.2. Share of SMEs recycling by reusing material or waste within the company	**0.60**	1	**0.88**	**0.56**

II.2. Emission Reduction Indicator

This is a composite indicator that looks at greenhouse gas emissions from an SME perspective and also considers the evolution at country level compared to a reference year (1990 is considered the base year). In this context, the indicator is composed of two sub-indicators:

II.2.1. Share of greenhouse gas emissions produced by SMEs in total greenhouse gas emissions

II.2.2. Overall change in greenhouse gas emissions (Index 1990 = 100)

The indicator's score is calculated as the unweighted average of the scores of the two sub-indicators. The source is Eurostat data.

II.2.1. Share of greenhouse gas emissions produced by SMEs in total greenhouse gas emissions sub-indicator

The sub-indicator aims to estimate the share of greenhouse gas emissions produced by SMEs in total greenhouse gas emissions, using the share of SME employment in total employment of the business economy of a country as a proxy for the economic activity intensity of SMEs.

The sub-indicator estimates the share of greenhouse gas (GHG) emissions produced by SMEs within a Statistical Classification of Economic Activities in the European Community rev.2 sector by computing the share of employment of SMEs in the employment of the respective NACE sector (NACE is the abbreviation of the Statistical Classification of Economic Activities in the European Community, the classification of economic activities in the European Union. The term NACE is derived from *Nomenclature statistique des activités économiques dans la*

Communauté européenne, the French name of the system). The value obtained is applied to the total volume of greenhouse gas emissions corresponding to the NACE sector to estimate the amount of GHG produced by SMEs. The total amount of GHG produced by SMEs at country level is calculated by aggregating all the volumes of GHG obtained at NACE rev.2 sectors' levels. The sub-indicator value is obtained dividing the aggregated value resulted by the total GHG of a country's economy.

The source is Eurostat data (Tables SBS_SC_SCA_R2 (persons employed), ENV_AC_AINAH_R2).

II.2.2. Overall change in greenhouse gas emissions sub-indicator (Index 1990 = 100)

The sub-indicator measures the change of total national emissions since 1990 and is calculated as the ratio between the volume of greenhouse gas emissions at national and country level in current year divided by the volume of greenhouse gas emissions at country level in 1990. The sub-indicator refers to the net total emissions at country level, from both effort sharing decisions (ESD) and emission trading scheme (ETS) sectors, including international aviation, of the so-called "Kyoto basket" of greenhouse gases. It includes carbon dioxide (CO_2), methane (CH_4), nitrous oxide (N_2O) and the so-called F-gases (hydrofluorocarbons, perfluorocarbons, nitrogen trifluoride [NF_3] and sulphur hexafluoride [SF_6]) from all sectors of the GHG emission inventories. The indicator is part of the EU Sustainable Development Goals (SDG) indicator set and is used to monitor progress towards Goal 13 on climate action.

Studies show that SMEs account for an estimated 64% of industrial pollution in Europe, with differences in sectors between 60% and 70%.[22] In these conditions, the indicator is a good estimator of the performance of SME emissions in the current economic development context, in particular in combination with other indicators that are entirely based on self-reporting. The source is Eurostat data (Table SDG_13_10).

The sub-indicators have no correlation between them, but show good correlations with the corresponding indicator. With the **Green Transition** pillar, the correlations are mixed, with no correlation for **II.2.2 Overall change in greenhouse gas emissions** and a good correlation for the **II.2.1 Share of greenhouse gas emissions produced by SMEs in total greenhouse gas emissions** (correlations higher than 0.5 are marked in bold).

Correlation Matrix of Emission Reduction Indicator

	II.2.1.	II.2.2.	II.2.	II.
II.2.1. Share of greenhouse gas emissions produced by SMEs in total greenhouse gas emissions	1	0.00	**0.78**	**0.53**
II.2.2. Overall change in greenhouse gas emissions (Index 1990 = 100)	0.00	1	**0.62**	0.17

II.3. Green Output Indicator

This is a composite indicator that captures the prevalence of green and sustainable results (outputs) of the SMEs, such as development of green products and services and other environmentally sustainable actions. The indicator is composed of two sub-indicators:

22 OECD, "No Net Zero without SMEs: Exploring the Key Issues for Greening SMEs and Green Entrepreneurship" *OECD SME and Entrepreneurship Papers, No. 30* (Paris: OECD, 2021).

II.3.1. Share of SMEs offering green products or services

II.3.2. Share of SMEs in low intensive greenhouse gas emission sectors in total SMEs

The indicator's score is calculated as the unweighted average of the scores of the two sub-indicators. The sources are European Commission and Eurostat data.

II.3.1. Share of SMEs offering green products or services sub-indicator

It is calculated as the share of SMEs that offer green products or services in total SMEs. The results are based on the participants selecting the answer option "yes" when answering to the survey question *"Does your company offer green products or services?"* for which only unique answers were possible. The survey looked at SMEs, green markets and resource efficiency and it took place in the period November-December 2021 in all European Union member states. The source is European Commission, *Flash Eurobarometer 498*, op. cit.

II.3.2. Share of SMEs in low intensive greenhouse gas emission sectors in total SMEs sub-indicator

The sub-indicator is computed as the share of SMEs in low intensive greenhouse gas emission sectors in total SMEs. The economic sectors by greenhouse gas emission intensity was assessed by considering the volume of greenhouse gas emitted due to the economic activities of the corresponding sectors. The economic sectors considered with low intensive greenhouse gas emissions are:

- Manufacture of computer, electronic and optical products (C26)
- Manufacture of machinery and equipment (C28)
- Manufacture of furniture; other manufacturing (C31-C32)
- Information and communication (J)
- Financial and insurance activities (K)
- Real estate activities (L)
- Professional, scientific and technical activities (M)
- Administrative and support service activities (N)

The sources are European Commission and Eurostat (Table SBS_SC_SCA_R2). See especially Lucian Cernat, Malgorzata Jakubiak and Nicolas Preillon, *The Role of SMEs in Extra-EU Exports: Key Performance Indicators* (Brussels: European Commission, 2020).

The sub-indicators have a relatively good correlation between them and show very good correlations with both the corresponding indicator and the **Green Transition** pillar (correlations higher than 0.5 are marked in bold).

Correlation Matrix of Green Output Indicator

	II.3.1.	II.3.2.	II.3	II.
II.3.1. Share of SMEs offering green products or services	1	0.38	**0.84**	**0.72**
II.3.2. Share of SMEs in low intensive greenhouse gas emission sectors in total SMEs	0.38	1	**0.82**	**0.61**

Overall, the indicators have relatively low correlations between them, with a slightly better correlation between **II.1 Natural Resource Conservation** and **II.3 Green Output** (0.35). The three indicators have good representation in the **Green Transition** pillar (correlations above 0.5). However, when it comes to **Green, Digital and Competitive SME Index**, only the **II.3 Green Output** indicator is very well represented, with the other indicators showing much lower correlations with the overall index.

Correlation Matrix of Green Transition Pillar

		II.1.	II.2.	II.3.	II.	GDC Index
II.1.	Natural Resource Conservation	1	-0.04	0.35	**0.67**	0.28
II.2.	Emission Reduction	-0.04	1	0.18	**0.52**	0.36
II.3.	Green Output	0.35	0.18	1	**0.80**	**0.79**

III. SME Competitiveness Pillar

This is a composite indicator aiming to assess to what extent the SMEs are competitive on the market, in the current economic context, by looking at exports, labour productivity and growth. The pillar is composed of three indicators:

III.1. Exports
III.2. Productivity
III.3. Growth

The pillar's score is calculated as the unweighted average of the scores of the three indicators. The source is Eurostat data.

III.1. Exports Indicator

It is a composite indicator that captures SMEs' competitiveness on markets from an exports and trade perspective. The indicator is composed of two sub-indicators:

III.1.1. Share of exporting SMEs in total SMEs
III.1.2. SME trade to GDP ratio

The indicator's score is calculated as the unweighted average of the scores of the two sub-indicators. The source is Eurostat data.

III.1.1. Share of exporting SMEs in total SMEs sub-indicator

It is calculated as the share of exporting SMEs in total SMEs. The sub-indicator looks at the exporting activities of SMEs with all countries of the world, without a geographic restriction. The source is Eurostat (Table EXT_TEC01).

III.1.2. SME trade to GDP ratio sub-indicator

This is calculated as the ratio between the total trade of SMEs in total gross domestic product of the country. The sub-indicator considers both imports and exports of SMEs with

all countries of the world, without geographical constraints. The source is Eurostat (Table EXT_TEC01).

The sub-indicators have good correlations between them and show very good correlations with the corresponding indicator. When it comes to the correlations with the **SME Competitiveness** pillar, the **III.1.2 SME trade to GDP ratio** sub-indicator has a weak correlation, while the **III.1.1. Share of exporting SMEs in total SMEs** sub-indicator maintains a relatively good one (correlations higher than 0.5 are marked in bold).

Correlation Matrix of Outputs Indicator

	III.1.1.	III.1.2.	III.1.	III.
III.1.1. Share of exporting SMEs in total SMEs	1	**0.60**	**0.90**	**0.53**
III.1.2. SME trade to GDP ratio	**0.60**	1	**0.89**	0.37

III.2. Productivity Indicator

This is a simple indicator that looks at SME labour productivity in the current economic context. It is composed of one sub-indicator **III.2.1. SME labour productivity**, which is calculated as the value added at factor cost per person employed, in thousands of euros. The value added at factor costs is the gross income from operating activities after adjusting for operating subsidies and indirect taxes, without the subtraction of the value adjustments (such as depreciation). The source is Eurostat, Structural Business Statistics (Table SBS_SC_SCA_R2). Due to its nature, the indicator's score is the same as the sub-indicator.

The indicator has a good correlation with the **SME Competitiveness** pillar (0.55).

III.3. Growth Indicator

This is a composite indicator that looks at the dynamic of the business environment within a country from the perspective of high-growth enterprises. The indicator is composed of two sub-indicators:

III.3.1. Share of high-growth enterprises in total active enterprises (10+ employees)

III.3.2. Share of people employed in high-growth enterprises in total employment (enterprises with 10+ employees)

The indicator's score is calculated as the unweighted average of the scores of the two sub-indicators. The source is Eurostat data.

III.3.1. Share of high-growth enterprises in total active enterprises (10+ employees) sub-indicator

It is calculated as the percentage of high-growth enterprises (measured in employment) in total number of active enterprises with at least 10 employees. An enterprise is considered a high-growth enterprise if it has at least 10 employees in the beginning of their growth and has an average annualised growth in number of employees greater than 10% per annum, over a three-year period. The source is Eurostat (Table BD_9PM_R2).

III.3.2. Share of people employed in high-growth enterprises in total employment (enterprises with 10+ employees) sub-indicator

It is calculated as the percentage of persons employed in high-growth enterprises (measured in employment) in total employment (enterprises with at least 10 employees). An enterprise is considered a high-growth enterprise if it has at least 10 employees in the beginning of their growth and has an average annualised growth in number of employees greater than 10% per annum, over a three-year period. The source is Eurostat (Table BD_9PM_R2).

The sub-indicators have very good correlations between them and show very good correlations with the corresponding indicator. When it comes to the correlations with the **SME Competitiveness** pillar, the **III.3.2. Share of persons employed in high-growth enterprises in total employment (enterprises with 10+ employees)** sub-indicator has a slightly weaker correlation with the pillar (0.49), while **III.3.1. Share of high-growth enterprises in total active enterprises (10+ employees)** maintains a relatively good one (correlations higher than 0.5 are marked in bold).

Correlation Matrix of Growth Indicator

	III.1.1.	III.1.2.	III.1.	III.
III.3.1. Share of high-growth enterprises in total active enterprises (10+ employees)	1	**0.85**	**0.96**	**0.57**
III.3.2. Share of people employed in high-growth enterprises in total employment (enterprises with 10+ employees)	**0.85**	1	**0.97**	0.49

Overall, the indicators have very low negative correlations between them (i.e. are not correlated with each other). The representation in the **SME Competitiveness** pillar is relatively good and balanced for all indicators (above 0.5). However, at the **Green, Digital and Competitive SME Index** level, only the **III.2. Productivity** indicator has a very good correlation with the overall index, while the other two indicators show much weaker correlations, with the **III.1. Exports** indicator showing the weakest one (less than 0.2). Correlations higher than 0.5 are marked in bold.

Correlation Matrix of Competitiveness Pillar

	III.1.	III.2.	III.3.	III.	GDC Index
III.1. Exports	1	-0.10	-0.07	**0.50**	0.17
III.2. Productivity	-0.10	1	-0.04	**0.55**	**0.74**
III.3. Growth	-0.07	-0.04	1	**0.55**	0.33

The three pillars have relatively good correlations between them, with the **Green Transition** pillar being the weakest correlated in the group. All the pillars have good representations at the **Green, Digital and Competitive SME Index** level, with very good correlations. However, the index seems to be slightly dominated by the **Digital Transition** pillar (correlations higher than 0.5 are marked in bold).

Correlation Matrix of Green, Digital and Competitive SME Index

		I.	II.	III.	GDC Index
I.	Digital Transition	1	**0.50**	**0.61**	**0.91**
II.	Green Transition	**0.50**	1	0.32	**0.73**
III.	SME Competitiveness	**0.61**	0.32	1	**0.76**

Overall, the composing sub-indicators have good correlations with the **Green, Digital and Competitive SME Index**. However, there are a few exceptions where the correlations are very low or even negative. In these cases, the sub-indicators' representativeness at the index level is missing or insignificant. Out of the 21 sub-indicators analysed, six of them are not represented at the index level; two of them – **II.2.1. Overall change in greenhouse gas emissions** and **III.1.2. SME trade to GDP ratio** – have correlations close to zero, while the other four have very weak representation, with correlations between 0.2 and 0.31 (**II.1.1. Share of SMEs reducing consumption of natural resources (e.g. saving water, energy, materials or switching to sustainable resources)**, **II.1.2. Share of SMEs recycling by reusing material or waste within the company**, **III.1.1. Share of exporting SMEs in total SMEs** and **III.3.2. Share of persons employed in high-growth enterprises in total employment (enterprises with 10+ employees)**. Correlations higher than 0.5 are marked in bold.

Table 35. Correlation Table of Green, Digital and Competitive Index with Composing Sub-Indicators

Sub-Indicator		Green, Digital and Competitive Index Correlation
I.1.1.	Share of SMEs using big data analytics	**0.76**
I.1.2.	Share of SMEs using cloud computing services	**0.80**
I.1.3.	Share of SMEs using two or more social media channels	**0.75**
I.1.4.	Share of SMEs with high and very high digital intensity index	**0.87**
I.1.5.	Share of SMEs using any type of ICT security	**0.58**
I.2.1.	Share of SMEs with e-commerce sales in total SMEs	**0.73**
I.2.2.	Share of SME total turnover from e-commerce sales in total turnover	**0.68**
I.3.1.	Share of SMEs that employ ICT specialists in total SMEs	**0.52**
I.3.2.	Share of SMEs for which ICT functions are performed by own employees in total SMEs	**0.76**
I.3.3.	Share of SMEs providing training to develop or upgrade ICT skills of personnel	**0.76**
II.1.1.	Share of SMEs reducing consumption of natural resources (e.g. saving water, energy, materials or switching to sustainable resources)	0.20
II.1.2.	Share of SMEs recycling by reusing material or waste within the company	0.31
II.2.1.	Share of greenhouse gas emissions produced by SMEs in total greenhouse gas emissions	0.48
II.2.2.	Overall change in greenhouse gas emissions (Index 1990 = 100)	-0.03
II.3.1.	Share of SMEs offering green products or services	**0.62**
II.3.2.	Share of SMEs in low intensive greenhouse gas emission sectors in total SMEs	**0.69**
III.1.1.	Share of exporting SMEs in total SMEs	0.27
III.1.2.	SME trade to GDP ratio	0.03
III.2.1.	SME labour productivity	**0.74**
III.3.1.	Share of high-growth enterprises in total active enterprises (10+ employees)	0.41
III.3.2.	Share of people employed in high-growth enterprises in total employment (enterprises with 10+ employees)	0.23

Sensitivity Analysis

To check robustness, we conducted a comprehensive sensitivity analysis on the results. The parameters of the simulations were:

- Three different methods of imputations for missing values: median value of the indicators, mean value of the indicators and no imputation
- Three different methods of normalisation: min-max methods, rank method and the distance to the maximum of each indicator
- Weight perturbation at all three levels (pillars, indicators, sub-indicators): ±25% for sub-indicators and ±20% for indicators (of the original weights)

The analysis included 500 repeated random sampling replications, with 500 rounds of bootstrapping for confidence intervals estimations (a total of 2500 simulations). This will help compare the confidence interval for both first order indices and the total effect indices to estimate their reliability. Bootstrapping uses random sampling with replacement to help assign measures of accuracy (bias, variance, confidence intervals, prediction error, etc.) to sample estimates.

Simulations also include the results from changing the aggregation method (from arithmetic average to geometric average for indicators; the overall aggregation method is preserved) and the results of eliminating indicators from the pillar's construction.

The simulations have been run through a composite-indicator tool developed in R by the Competence Centre on Composite Indicators and Scoreboards (COIN) of the European Commission's Joint Research Centre.

The summary of the findings is presented in Chart 1 below.

Chart 1. Ranking Variations with Confidence Interval Included by Country

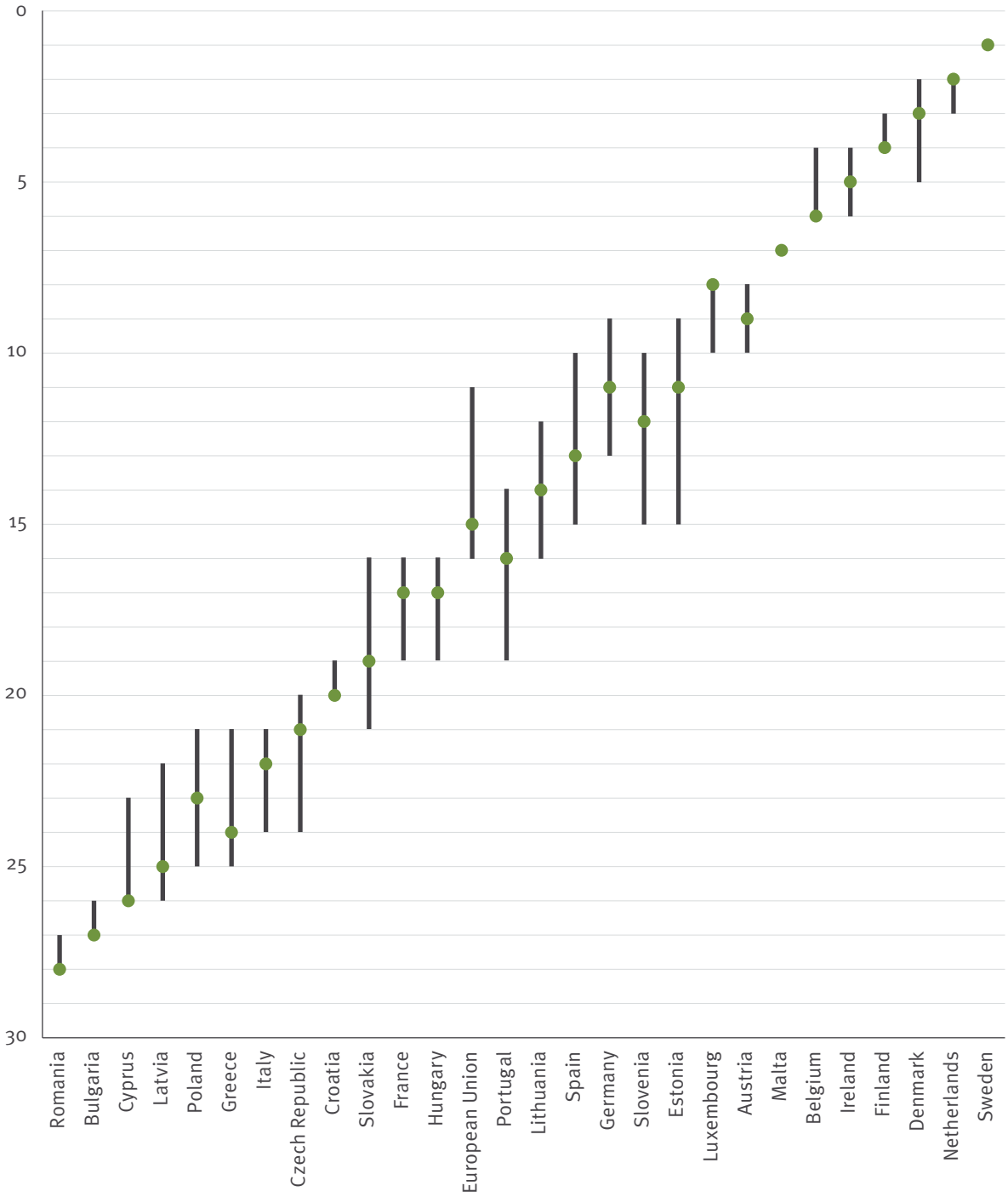


Table 36. Effect on Rankings in Sensitivity Analysis by Country

Rank	Country	Average Ranking	Median Ranking	5% Quartile	95% Quartile	Interquartile Range	Median Ranking Variation
1	Sweden	1.0	1	1	1	0	0
2	Netherlands	2.3	2	2	3	1	0
3	Denmark	3.2	3	2	5	3	0
4	Finland	3.6	4	3	4	1	0
5	Ireland	5.2	5	4	6	2	0
6	Belgium	5.7	6	4	6	2	0
7	Malta	7.0	7	7	7	0	0
8	Austria	8.9	9	8	10	2	-1
9	Luxembourg	8.4	8	8	10	2	1
10	Estonia	11.4	11	9	15	6	-1
11	Slovenia	12.1	12	10	15	5	-1
12	Germany	11.0	11	9	13	4	1
13	Spain	13.0	13	10	15	5	0
14	Lithuania	13.9	14	12	16	4	0
15	Portugal	16.5	16	14	19	5	-1
16	European Union	13.8	15	11	16	5	1
17	Hungary	17.3	17	16	19	3	0
18	France	17.4	17	16	19	3	1
19	Slovakia	18.6	19	16	21	5	0
20	Croatia	19.8	20	19	20	1	0
21	Czech Republic	21.7	21	20	24	4	0
22	Italy	22.5	22	21	24	3	0
23	Greece	23.5	24	21	25	4	-1
24	Poland	22.9	23	21	25	4	1
25	Latvia	24.7	25	22	26	4	0
26	Cyprus	25.6	26	24	26	2	0
27	Bulgaria	27.1	27	27	28	1	0
28	Romania	27.9	28	27	28	1	0

Note: The median ranking variation compares the median ranking to the original ranking of the country (as the difference between the original rank and the median rank); "-1": the country loses a place; "+1": the country gains on place.

When it comes to interquartile range variation, the results show that:

- Two countries are unaffected: Malta and Sweden
- There is a small impact on five countries (variations of only one place): Bulgaria, Croatia, Finland, The Netherlands and Romania
- For 15 countries, the ranking's variation goes up two to four places
- The widest variation is six places and it affects only one country: Estonia

At the same time, the median ranking variation is much more stable, with nine countries showing differences compared to the original ranking: four countries (France, Germany, Luxembourg and Poland) have a lower median rank than the original rank, while five countries (Austria, Estonia, Greece, Portugal and Slovenia) have a higher median rank than the original one.

Overall, the sensitivity analysis shows the construction of the **Green, Digital and SME Competitive Index** is robust with stable country performances across the different scenarios. The highest variation of the interquartile ranges is of six places, while the most frequent ones are between two and four places (15 countries). When it comes to the median ranking, it only varies one position compared to the model ranking.

Methodology Changes

The 2022 edition of this study is built on several methodological improvements. For starters, we have endeavoured to move away from "self-assessment" based indicators and towards objective data derived exclusively from concrete outputs that can be precisely measured – such as greenhouse gas emissions. This has led to some changes in country performance. Had the 2022 methodology been applied to the 2021 (beta) version, the three leading countries would have been The Netherlands (No. 1), Sweden (No. 2) and Ireland (No. 3).

The largest changes are seen in the **Green Transition** pillar where some countries might believe they are making more progress on green reforms than performance-based data would indicate. Countries are starting from radically different positions, too, with some countries having begun the green transition decades ago while other countries are just commencing their transitions. The result can be major differences in perception, with relatively under-developed countries reporting lots of activity but from a lower starting point. The bottom line is all countries can do better, and a good policy-driven indicator should look at actual performance and not just self-assessment. We will continue to work on that basis in the months and years to come.

The Lisbon Council is committed to further methodological improvement in future editions.

Visit https://gdc.lisboncouncil.net/.

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Acknowledgements

The authors would like to thank Amazon and the participants in the Amazon Academy – a summit which brings entrepreneurs and small businesses together every year to discuss many of the issues covered in this paper. This year, we were able to meet and "deep dive" with many of them; the insights gained from these conversations were rich and informative. A very special thanks to Richard Badal (Pentagon Sports – Germany), Ada Di Fiore (Rebecca srl – Italy), Samuel Guez (My Jolie Candle – France), Cyprian Iwuć (Rainbox Socks - Poland), Anna Klissouras (Amazon), Anna Nordlander (The Friendly Swede – Sweden), Giacomo Romani (Koala Babycare – Italy), Anna-Maria Silinger (BabyFORTE Medical UG – Germany), Inmaculada Sais Terol (Diverthings Textil Home SL – Spain), José Luis Vázquez González (Nortem Biotechnology – Spain), Koen de Vries (EDC Wholesale BV – The Netherlands), Damian Wiszowaty (Gonito – Poland) and James Waterworth (Amazon). All errors of fact or judgement are the authors' sole responsibility.

Thanks as well to the policymakers and experts who discussed SME issues with us and shared insight on the methodological complexity of capturing the twin transition and measuring competitiveness. From the European Commission, we would especially like to thank Román Arjona Gracia, Paolo Casini, William Connell Garcia, Hubert Gambs, Markus Hell, Josefina Monteagudo, Ludger Odenthal and Maive Rute. From the Organisation for Economic Co-operation and Development – and its superb OECD Centre for Entrepreneurship, led by Lamia Kamal-Chaoui – Marco Bianchini, Lucia Cusmano and Cosimo Pacciani. This work owes a huge debt to the foundations they laid. And we look forward to continuing the journey with them in the months and years to come.

And finally, thanks as well to Violeta Birzniece, Alice Iordache, Thibault Larger, Tim Lyon, Siobhán McGonigle, Grace Milne, Chrysoula Mitta, Francesco Mureddu, Stephan Raes, Mari Saarteinen, Maša Šprajcar Rančić, Simon Taylor, Steffen Thejll-Moller, Kurt Vandenberghe, Marcello Verona and Mojca Zupan.

Lisbon Council Policy Brief Vol. 15, No. 1 (2022)
ISSN: 2031-0943 (print); 2031-0951 (digital)

Published in Belgium by the Lisbon Council
Responsible Editor: Paul Hofheinz

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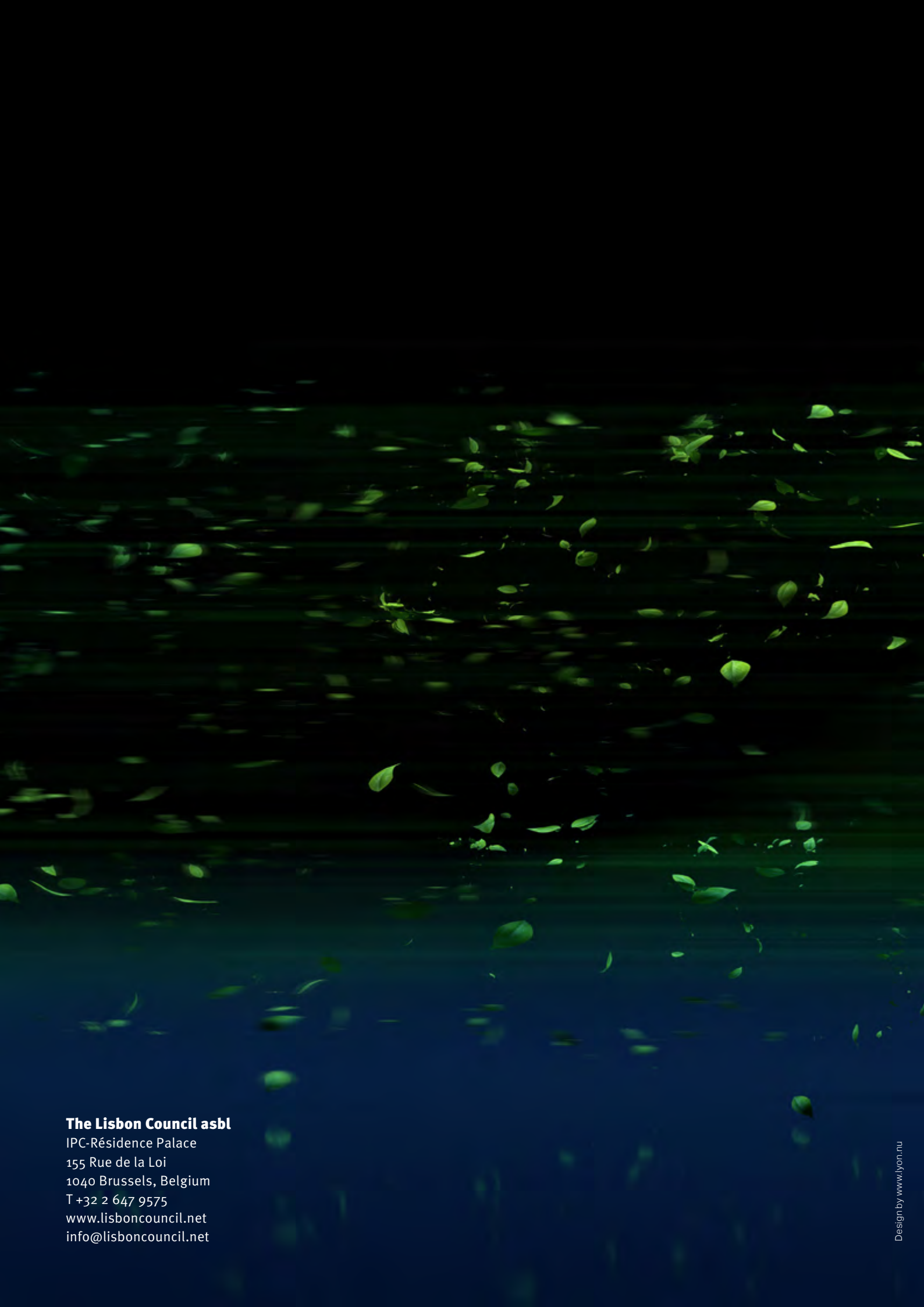

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