



# **Digital Economy and Society Index (DESI) 2022**

## **Integration of digital technology**

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# 1 Integration of digital technology

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Digital technologies enable businesses to gain competitive advantage, improve their services and products and expand their markets.

In a recent study by McKinsey, 93% of surveyed EU executives believe that better access to data would be important to their organisation (with approximately 40% designating this as very important)<sup>1</sup>. Research by the Organisation for Economic Co-operation and Development (OECD) suggests that productivity of companies investing in data-driven innovation and data analytics grows by approximately 5% to 10% faster than that of companies not investing<sup>2</sup>.

The EU's digital sovereignty will depend on the capacity to store, extract and process data while satisfying requirements of trust, security and fundamental rights<sup>3</sup>. This requires a high-capacity infrastructure and the adoption of innovative technologies, which will enable the development of energy-saving, climate-neutral, high-efficiency and interconnected services. Additionally, the EU's digital sovereignty should be restored through more resilient supply chains and less dependence on imports, notably of semiconductors.

This DESI dimension measures the digitalisation of businesses and e-commerce and in particular the uptake of digital technologies by businesses from a very basic to an advanced level. These include electronic information sharing, the use of social media, but also the use of more advanced technologies such as big data analytics, cloud services and artificial intelligence (AI). Specific emphasis is put on e-Commerce, with indicators related to SMEs selling online both nationally and in other EU countries (i.e., cross-border), and the share of turnover stemming from these. These indicators are sourced from the European Union survey on ICT usage and e-commerce in enterprises. Given the growing importance of sustainability within enterprises, the indicator on ICT for environmental sustainability captures the share of enterprises having medium/high intensity of green action<sup>4</sup> through ICT.

In its Path to the Digital Decade proposal, the European Commission set out the following ambitious targets to be reached by 2030 in the Integration of Digital technologies dimension: more than 90% of European SMEs to reach at least a basic level of digital intensity, 75% of EU companies to use cloud, AI and big data and grow scale ups & finance to double EU Unicorns. The DESI monitors the implementation of the first two groups of targets on basic digital intensity and adoption of advanced technologies. Digital intensity is measured via the Digital Intensity Index (DII) (details provided below). As the target for unicorns is set at EU level, it is not included in the DESI index, which compares performance on a Member State level. A separate section below is dedicated to unicorns. Significant amounts of RRF funding could directly or indirectly contribute to the Digital Decade targets related to the digitalisation of business, including measures worth EUR 24 billion supporting the digitalisation of business and the measures worth EUR 18 billion supporting digital-related R&D and the deployment of digital capacities.

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<sup>1</sup> McKinsey. Shaping the digital transformation in Europe, September 2020.

<sup>2</sup> OECD (2015). *Data-driven innovation: big data for growth and well-being*, OECD Publishing, Paris.

<sup>3</sup> Strategic Foresight Report 2021, COM (2021)750 final.

<sup>4</sup> For a list of green actions, see p. 12 of the DESI 2021 report on the Integration of digital technology (<https://ec.europa.eu/newsroom/dae/redirection/document/80555>)

23 Member States propose investments (and some also reforms) generally supporting the digitalisation of businesses, with the largest investments coming from Italy, Spain, Germany and Greece. A multi-country project establishing a network of European Digital Innovation Hubs is also supported in 8 RRP<sup>5</sup>.

**Table 1 Integration of digital technology indicators in DESI**

	EU DESI 2020	EU DESI 2022
<b>3a1 SMEs with at least a basic level of digital intensity</b>	<b>NA</b>	<b>55%</b>
% SMEs		2021
<b>3b1 Electronic information sharing</b>	<b>36%</b>	<b>38%</b>
% enterprises	2019	2021
<b>3b2 Social media<sup>6</sup></b>	<b>23%</b>	<b>29%</b>
% enterprises	2019	2021
<b>3b3 Big data</b>	<b>12%</b>	<b>14%</b>
% enterprises	2018	2020
<b>3b4 Cloud<sup>7</sup></b>	<b>NA</b>	<b>34%</b>
% enterprises		2021
<b>3b5 AI</b>	<b>NA</b>	<b>8%</b>
% enterprises		2021
<b>3b6 ICT for environmental sustainability</b>	<b>NA</b>	<b>66%</b>
% enterprises having medium/high intensity of green action through ICT		2021
<b>3b7 e-Invoices</b>	<b>25%</b>	<b>32%</b>
% enterprises	2018	2020
<b>3c1 SMEs selling online</b>	<b>17%</b>	<b>18%</b>
% SMEs	2019	2021
<b>3c2 e-Commerce turnover</b>	<b>11%</b>	<b>12%</b>
% SME turnover	2019	2021
<b>3c3 Selling online cross-border</b>	<b>8%</b>	<b>9%</b>
% SMEs	2019	2021

Source: DESI 2022, European Commission.

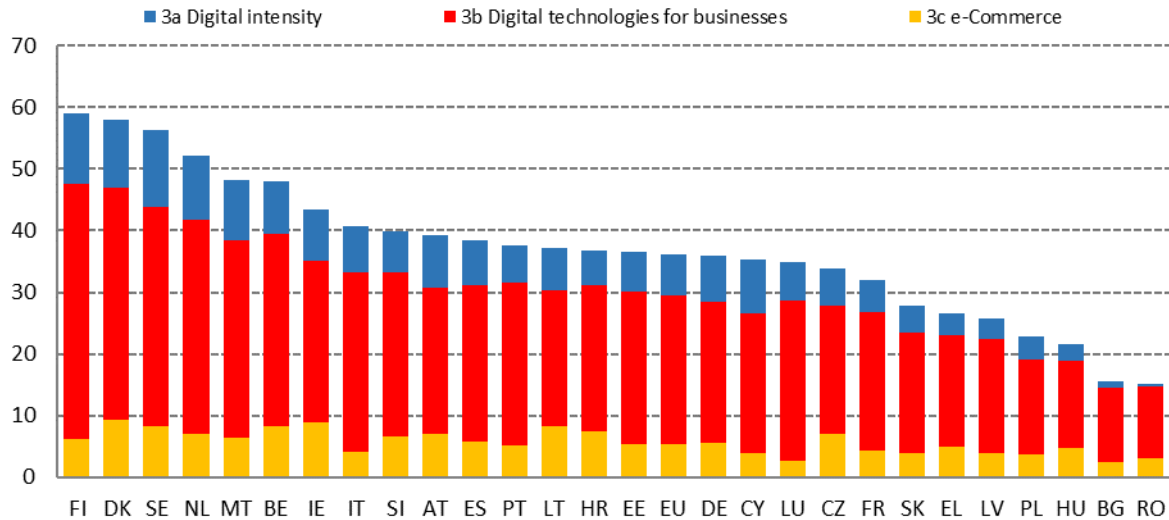
The top performers in the integration of digital technologies are Finland, Denmark and Sweden. Romania, Bulgaria and Hungary show the weakest performance.

<sup>5</sup> See 1.1 for more details.

<sup>6</sup> For social media the Eurostat indicator 'Use two or more social media' (code: E\_SM1\_GE2) is used. See DESI methodological manual.

<sup>7</sup> For cloud the Eurostat indicator 'Enterprises buying sophisticated or intermediate cloud computing services' (code: E\_CC1\_SI) is used. See DESI methodological manual.

Figure 1 Digital Economy and Society Index (DESI) 2022, Integration of digital technology



Source: DESI 2021, European Commission.

### 1.1 Digital Intensity Index<sup>8</sup>

The Digital Intensity Index (DII) measures the use of different digital technologies at enterprise level. The DII score of an enterprise is based on counting how many out of 12 selected technologies are used.

Figure 2 shows the composition of the DII in 2021. It also shows the degree of penetration and speed of adoption of the different technologies monitored by the DII. Large companies in the EU are more digitised than SMEs. While some aspects seem to be reaching saturation, at least for large companies, there is still room for improvement for most indicators.

Figure 2 Digital Intensity Index indicators tracking digitisation processes (% enterprises), 2021<sup>9</sup>

	Large	SMEs
The maximum contracted download speed of the fastest fixed line internet connection is at least 30 Mb/s	95%	80%
Use any social media	83%	58%
Enterprises where more than 50% of the persons employed used computers with access to the internet for business purposes	58%	49%
Use of any cloud service	72%	40%
Have ERP software package to share information between different functional areas	81%	37%
Have CRM	65%	34%
Buy intermediate-sophisticated CC services	60%	33%
Use of at least 2 social media	61%	28%
Use any IoT	48%	28%
Enterprises with e-commerce sales of at least 1% turnover	38%	18%
Enterprises where web sales are more than 1% of the total turnover and B2C web sales more than 10% of the web sales	12%	11%
Use any AI technology	28%	7%

Source: Eurostat, European Union survey on ICT usage and e-commerce in enterprises.

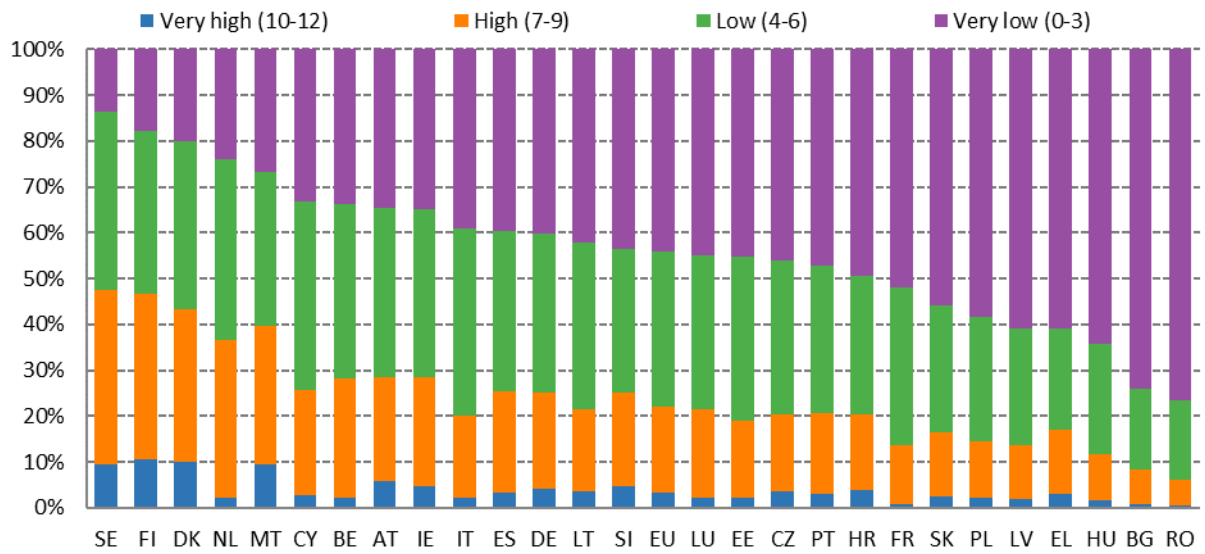
<sup>8</sup> The digital intensity index 2021 is not comparable with the DII from 2020 as other technologies have been considered compared to last year.

<sup>9</sup> ERP stands for enterprise resource planning. CRM stands for customer relationship management. CC stands for cloud computing. IoT stands for Internet of Things.

According to the target of the Path to the Digital Decade proposal, by 2030 more than 90% of SMEs should reach at least a basic level of digital intensity. Basic DII level requires usage of at least four technologies and comprises SMEs with very high, high and low DII.

There are only four countries (Finland, Denmark, Malta and Sweden) in the EU where the share of enterprises with a very high DII (i.e., possessing at least 10 out of the 12 monitored digital technologies) is above 9%, followed by Austria, Ireland, Slovenia and Germany with above 4%. By contrast, in countries such as Romania, Bulgaria, Hungary, Greece and Latvia, more than 60% of businesses have made only a small investment in digital technologies (i.e. have a very low DII).

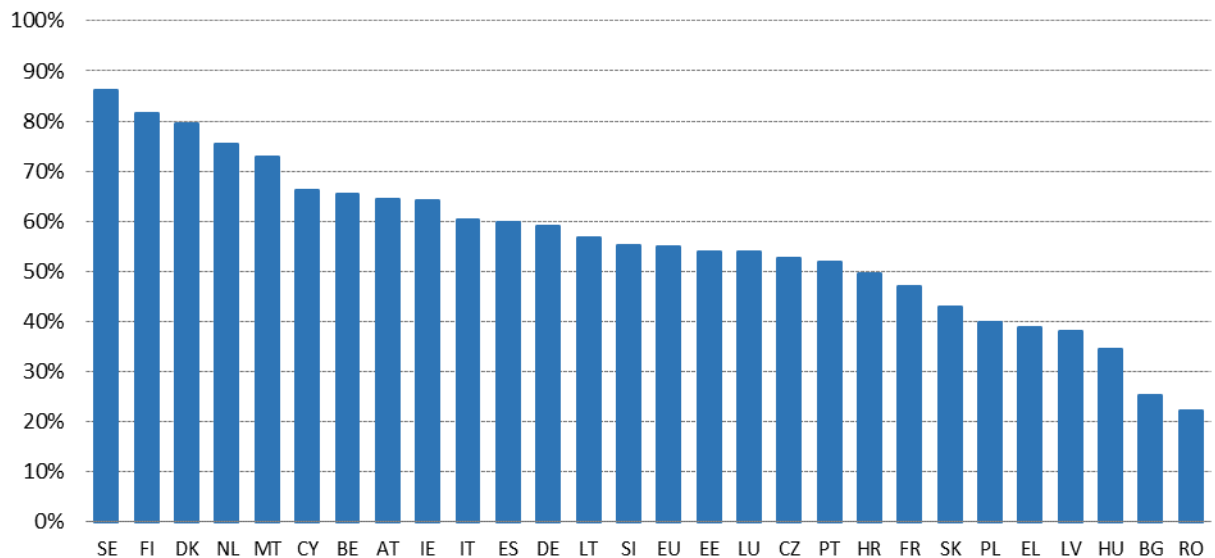
Figure 3 Digital Intensity Index by level (% of enterprises), 2021



Source: Eurostat, European Union survey on ICT usage and e-commerce in enterprises.

Figure 4 shows the share of SMEs with basic DII score. At least 80% of enterprises in the Nordic countries (Sweden, Finland and Denmark) reached at least basic level of digital intensity, while in Romania and Bulgaria it is below 30%.

Figure 4 SMEs with at least basic level of digital intensity, 2021



Source: Eurostat, European Union survey on ICT usage and e-commerce in enterprises.

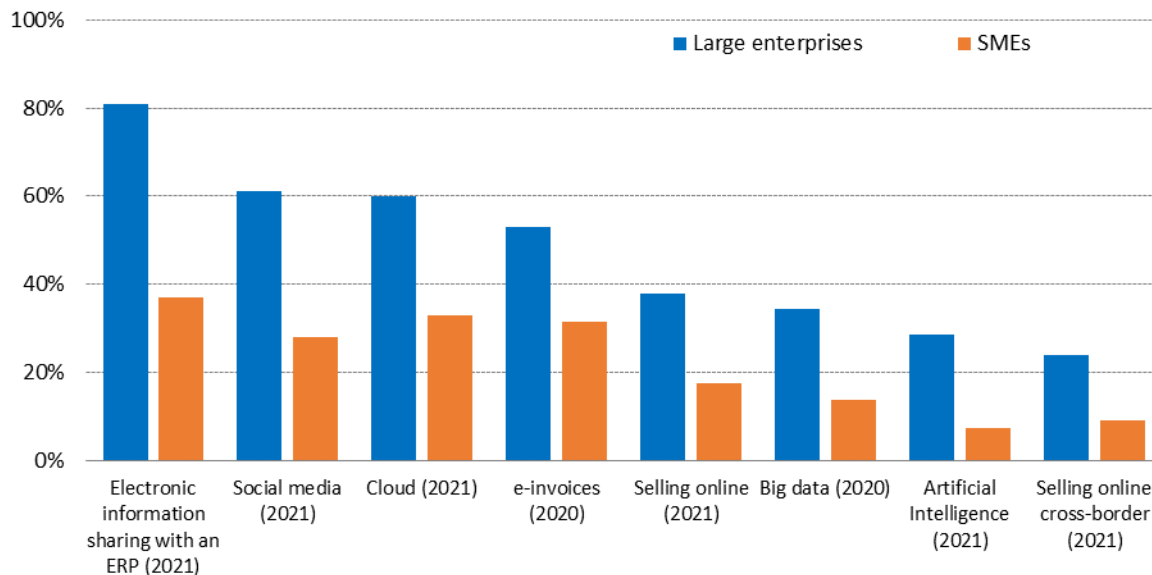
Overall, the level of digitalisation of SMEs remains uneven across MSs and economic sectors. A key barrier to be overcome is the lack of awareness of the potential of digital technologies and the lack of skills and technical expertise among the employees to integrate basic or advanced digital technologies in the business operations.

## 1.2 Adoption of digital technologies by enterprises

Large enterprises are more likely to adopt new technologies. For example, electronic information sharing through enterprise resource planning (ERP) software is much more common in large enterprises (81%) than in SMEs (37%). On social media<sup>10</sup>, more than twice as many large enterprises (61%) make use of it if compared to SMEs (28%). SMEs exploit e-commerce opportunities only to a limited extent, with only 18% selling online (versus 38% of large enterprises) and only 9% selling cross border online (versus 24% of large enterprises). There are many other technological opportunities yet to be exploited by SMEs such as cloud services<sup>11</sup>, AI and big data. The possibility of extracting information from data through advanced data analytics techniques will be essential for the competitiveness of the EU's economy. Reaching 75% adoption of advanced big data analytics by businesses across sectors will enable European companies to match the growth in data uptake at global level and fully exploit the rich new ways to explore and interpret data using AI, natural language processing and eXtended reality technologies.

There are common factors that play a critical role in enabling and boosting the uptake of cloud services, big data and AI, such as the availability of staff with advanced digital skills. Additionally, ensuring legal certainty and addressing data protection and liability issues is very important to enable the use of data and minimise the risks of breaches in security and data protection.

**Figure 5 Adoption of digital technologies (% enterprises), 2020, 2021<sup>12</sup>**



Source: Eurostat, European Union survey on ICT usage and e-commerce in enterprises.

<sup>10</sup> For social media the Eurostat indicator 'Use two or more social media' (code: E\_SM1\_GE2) is used. See DESI methodological note.

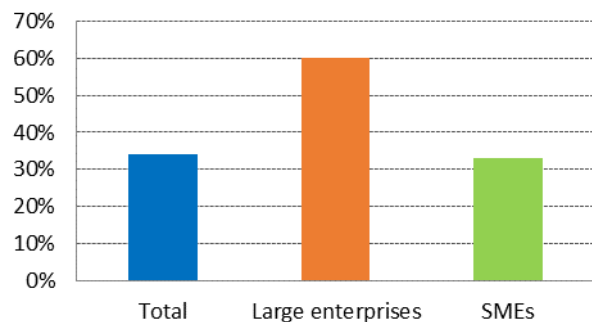
<sup>11</sup> For cloud the Eurostat indicator 'Enterprises buying sophisticated or intermediate cloud computing services' (code: E\_CC1\_SI) is used. See DESI methodological note.

<sup>12</sup> These are the DESI 2022 indicators under the sub-dimension 3b and 3c of the Integration of digital technology dimension. For exact definitions, please see the DESI methodological note.

### 1.3 Cloud computing

The Path to the Digital Decade proposal requires that more than 75% of EU companies adopt cloud computing by 2030. In 2021, 34% of EU enterprises purchased sophisticated or intermediate cloud computing services (i.e. at least one of the following: finance or accounting software applications; enterprise resource planning (ERP) software applications; customer relationship management (CRM) software applications; security software applications; hosting the enterprise’s database(s); computing platform providing a hosted environment for application development, testing or deployment) and incorporated cloud technologies to improve their operations while reducing costs. The cloud uptake of large companies (60%) almost doubled that of SMEs (33%) in 2021.

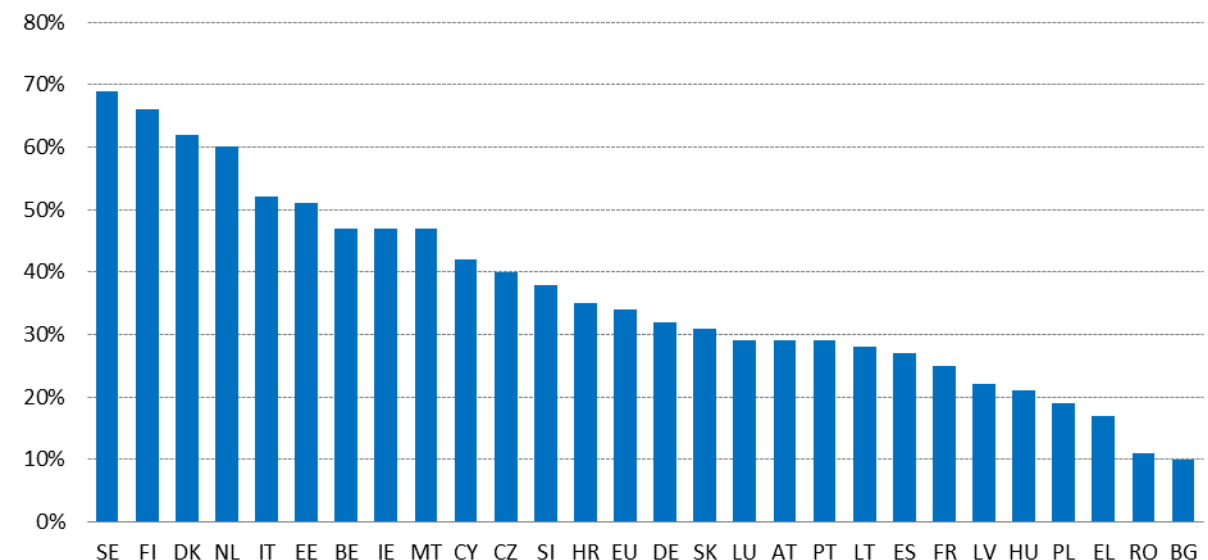
**Figure 6 Cloud computing services of sophisticated or intermediate level (% of enterprises), 2021**



Source: Eurostat, European Union survey on ICT usage and e-commerce in enterprises.

Nordic enterprises are leaders in incorporating sophisticated or intermediate cloud services. More than 60% of enterprises in Sweden, Finland, Denmark and the Netherlands buy such services. Italy and Estonia follow at more than 50%. However, the gap between top and low performers remains large, with Bulgaria and Romania scoring below 15%.

**Figure 7 Cloud computing services of sophisticated or intermediate level per country (% of enterprises), 2021**



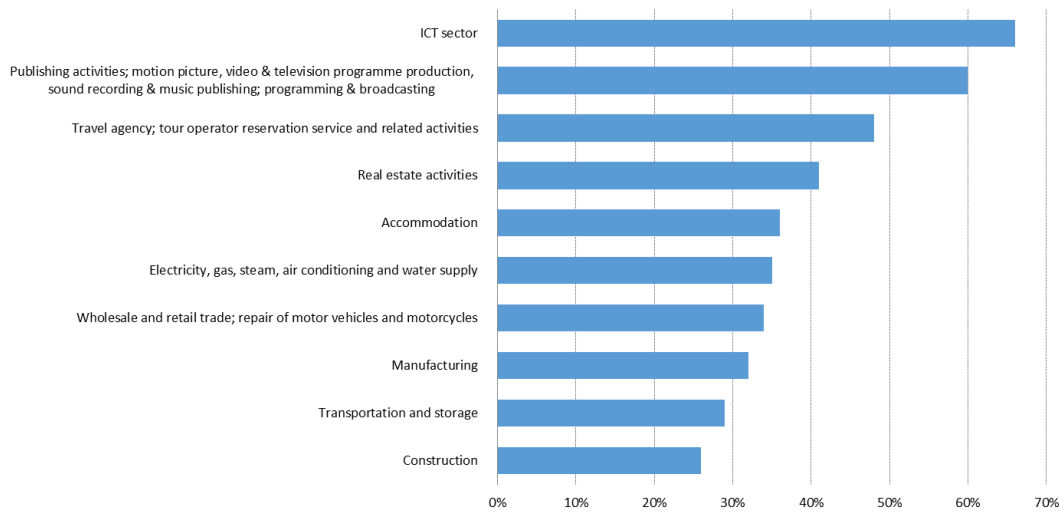
Source: Eurostat, European Union survey on ICT usage and e-commerce in enterprises.

When looking at cloud usage by sector, more than two thirds of enterprises in the ICT sector (66%) use cloud computing services of sophisticated or intermediate level, followed by publishing activities with 60%. The sectors with the least cloud usage are the construction sector (26% of enterprises) and the transport and storage sector (29% of enterprises). These are followed by manufacturing at



32% of enterprises. This sectoral distribution is coherent with the general digitisation of sectors, as construction and transport display the lowest level of overall digitisation. This is partly inherent to the characteristics of these sectors that rely less on digital technologies.

**Figure 8 Cloud computing services of sophisticated or intermediate level per sector (% of enterprises), 2021**



Source: Eurostat, European Union survey on ICT usage and e-commerce in enterprises.

## 1.4 Big data<sup>13</sup>

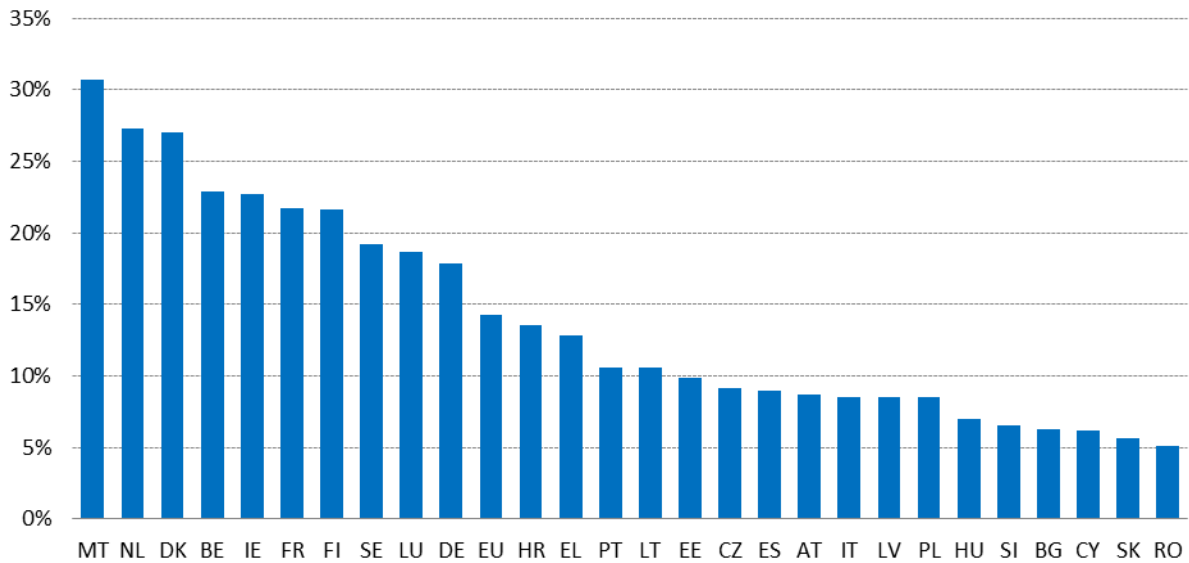
The Path to the Digital Decade target requires that more than 75% of EU companies adopt big data by 2030. Big data are characterised by volume, variety and velocity, i.e., vast amounts of data, which are complex in nature, in different formats and frequently generated. Big data analytics refers to the use of technologies, techniques or software tools such as data or text mining and machine learning, for analysing big data extracted from the enterprise's own data sources or other data sources.

Enterprises all over the EU are constantly adapting to new technologies for collecting, storing and analysing data. In 2020, 14% of companies carried out big data analytics. This helped them to produce near time or real time results from data that come in different format types. Large companies have the lion's share in big data processing (with 34% of them using big data), while SMEs have still room for improvement to take advantage of all the benefits of big data (14% use big data).

In Malta, almost a third of enterprises analyse big data. The Netherlands and Denmark follow closely behind, with 27%. At the other end of the spectrum only 5-6% of enterprises in Romania, Slovakia, Cyprus and Bulgaria analyse big data.

<sup>13</sup> There was no update of big data figures in 2021.

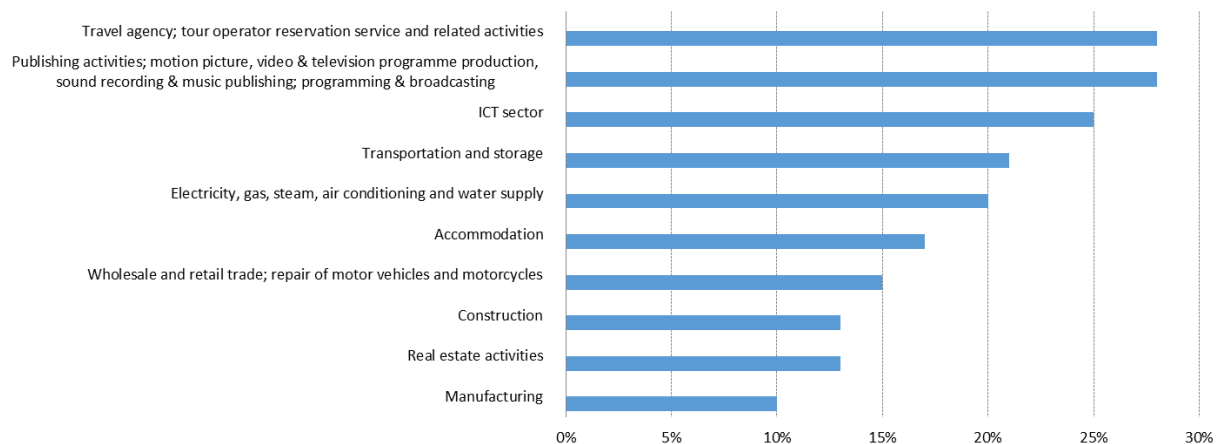
Figure 9 Enterprises analysing big data (% of enterprises), 2020



Source: Eurostat, European Union survey on ICT usage and e-commerce in enterprises.

When looking at a sectoral breakdown, enterprises are more likely to analyse big data in the travel agency; tour operator reservation service and related activities and in the publishing activities<sup>14</sup> sectors (both at 28%), followed by the ICT sector at 25%. Only 15% of enterprises carry out big data analytics in the wholesale and retail trade<sup>15</sup> sector, 13% in construction and in real estate activities, and 10% in the manufacturing sector.

Figure 10 Enterprises analysing big data per sector (% of enterprises), 2020



## 1.5 Artificial intelligence (AI)

The Path to the Digital Decade target<sup>16</sup> requires that more than 75% of EU companies adopt AI technologies by 2030.

The uptake of AI technologies in the European Union is generally quite low, at 8%. However, there are some differences among Member States. There are 10 countries that have an adoption rate of

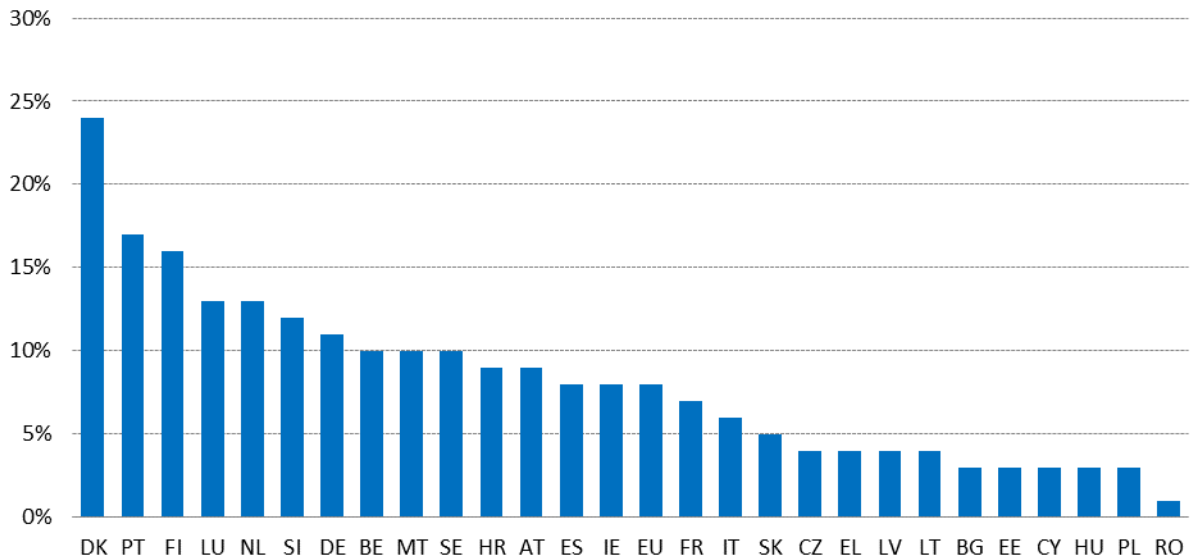
<sup>14</sup> Publishing activities; motion picture, video & television programme production, sound recording & music publishing; programming & broadcasting

<sup>15</sup> Wholesale and retail trade; repair of motor vehicles and motorcycles

<sup>16</sup> This indicator is based on the share of enterprises using at least two AI technologies.

AI technologies of more than 10%, with Denmark (24%), Portugal (17%) and Finland (16%) leading this group. There are seven countries with an uptake rate between 5 and 10%, Croatia, Austria, Spain, Ireland, France, Italy and Slovakia. Another 10 countries have a very low adoption rate, and do not reach 5% (such as Bulgaria, Estonia, Cyprus, Hungary and Poland, each 3%). With 1%, Romania has the lowest uptake in the EU. This is in line with the very low level of overall digitisation of enterprises in Romania. Even basic technologies are not widely used by enterprises (the share of SMEs with at least a basic level of digital intensity is the lowest in the EU), consequently more advanced technologies are not widespread either.

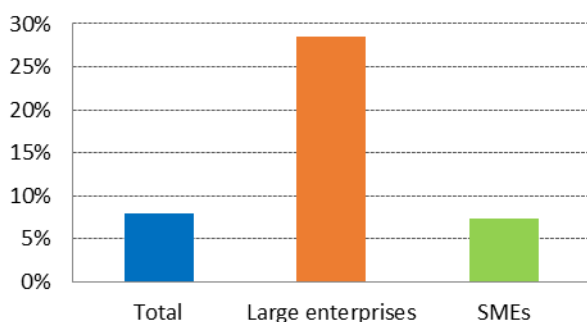
**Figure 11 Enterprises using an AI technology (% of enterprises), 2021**



Source: Eurostat, European Union survey on ICT usage and e-commerce in enterprises.

As with most advanced technologies, the uptake of AI technologies is much higher in large enterprises compared to SMEs. In 2021 the share of large enterprises adopting AI was three times higher than those of SMEs (29% versus 7%).

**Figure 12 Use of AI technology by enterprise size (% of enterprises), 2021**

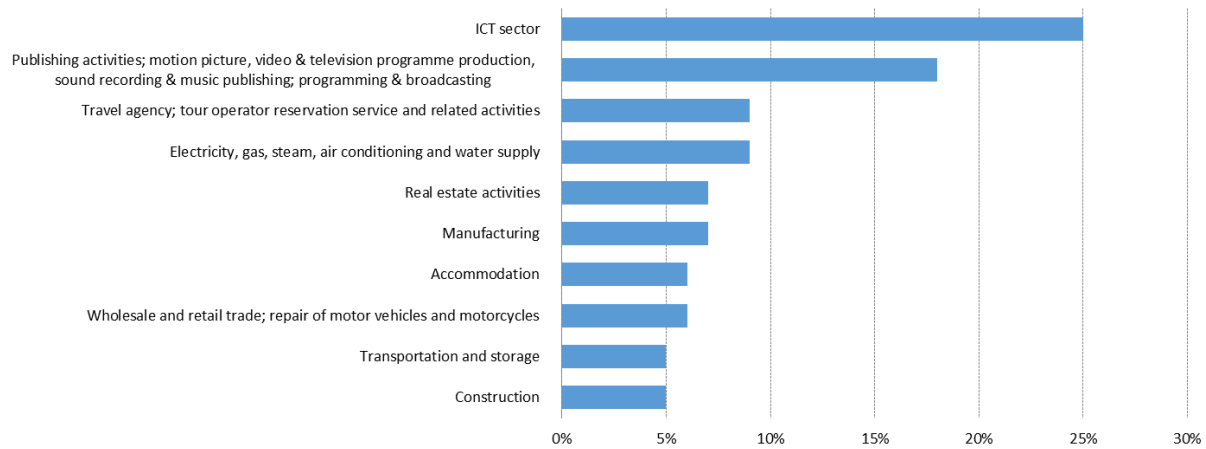


Source: Eurostat, European Union survey on ICT usage and e-commerce in enterprises.

When looking at a sectoral overview, the ICT sector is clearly much ahead in the use of AI technologies with 25% of enterprises adopting AI, followed by publishing activities at 18%. Other sectors, such as real estate activities and manufacturing are much further behind with only 7% of

enterprises using AI. The transportation and storage and the construction sector are the least likely to use AI technologies, with an uptake of about 5%.

Figure 13 Use of AI technology by sector (% of enterprises), 2021



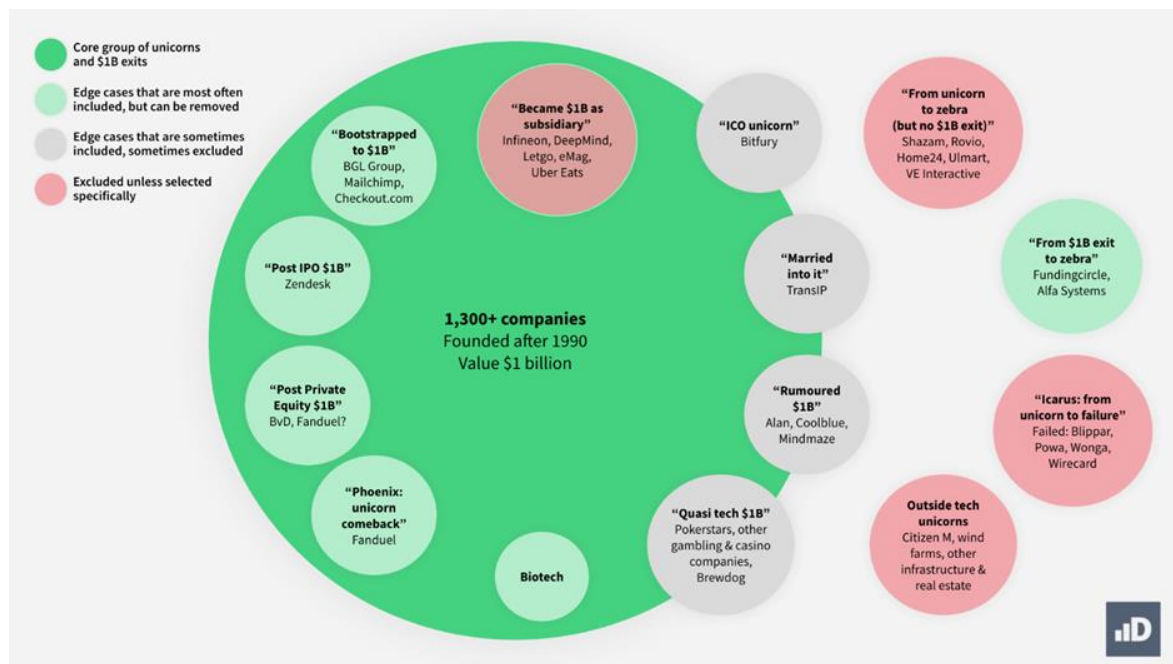
Source: Eurostat, European Union survey on ICT usage and e-commerce in enterprises.

## 1.6 Unicorns

A unicorn is a privately held start-up company valued at over USD 1 billion. This is a stage of the start-up financial development which proves its maturity and success on the global market. For the current analysis, we include tech companies founded since 1990 that are currently valued at over USD 1 billion, while companies that passed USD 1 billion as a subsidiary are excluded. Companies that may now be worth less than USD 1 billion, but exited at more than USD 1 billion are also included.

The proposed Digital Decade sets the target of doubling the current number of EU27 unicorns by 2030.

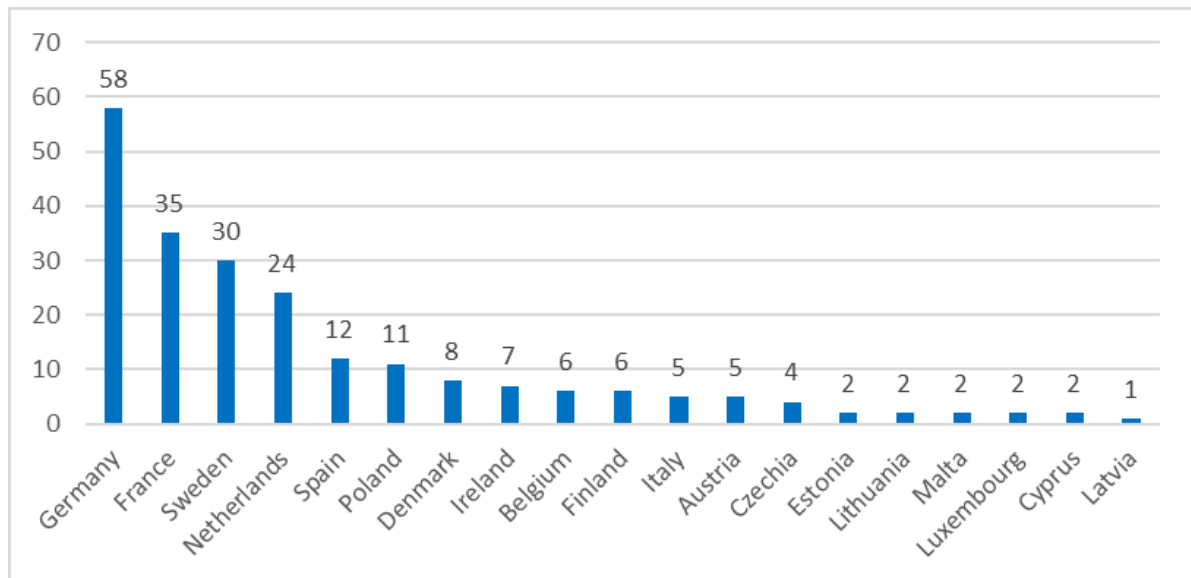
Figure 14 The definition of unicorns included in the analysis



Source: Dealroom

According to Dealroom, as of March 2022 there were 2 282 unicorns in the world. The EU has only 222 (increase from 143 in summer 2021) unicorns, as opposed to 1 243 (increase from 889) in the US, 530 (increase from 414) in Asia (out of which 306 (increase from 272) in China) and 119 (increase from 101) in the UK. Therefore, there is substantial room for improvement. Leading EU countries are Germany 58 (from 44), France 35 (23), Sweden 30 (20) and the Netherlands 24 (19). There are eight EU Member States without a single unicorn. A few countries made significant progress. Poland increased its unicorn count by a factor of more than five (from 2 to 11) and Czechia has now four unicorns having started from zero in 2021.

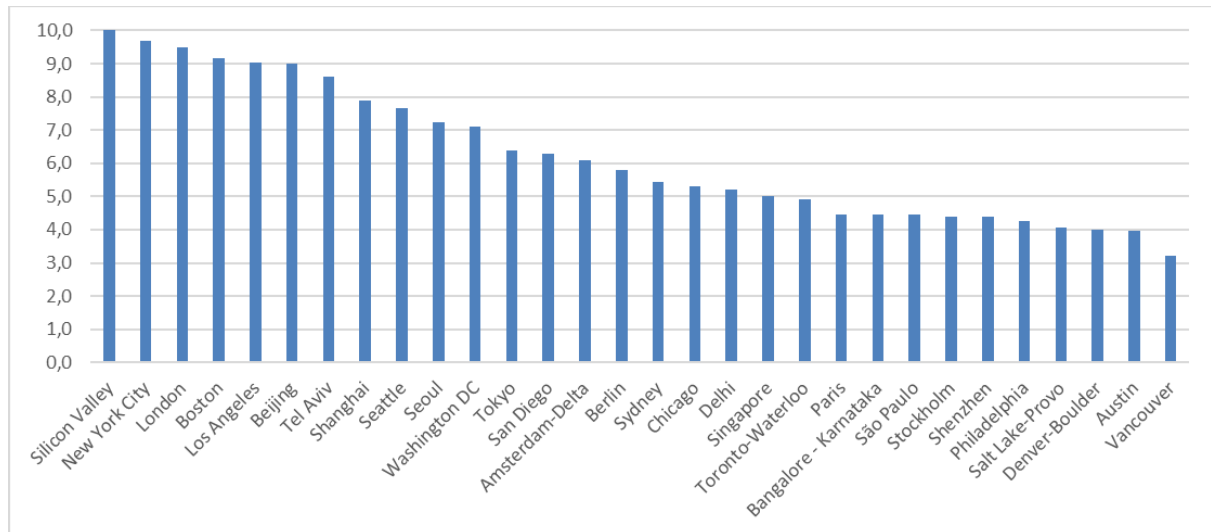
Figure 15 Number of unicorns per EU Member States



Source: Dealroom, March 2022

In order to be considered a unicorn, a company has to steadily and dynamically grow through all the development phases supported by the start-up ecosystem. According to Startup Genome, the best global start-up ecosystems in 2021 were Silicon Valley (1<sup>st</sup>), New York City (2<sup>nd</sup>) and London (3<sup>rd</sup>), similarly to the previous year. There are no EU ecosystems in the top 10, the best EU ecosystem – Amsterdam-Delta – was ranked 14<sup>th</sup> worldwide followed by Berlin (15<sup>th</sup>), Paris (21<sup>st</sup>) and Stockholm (24<sup>th</sup>). While half of the best 30 ecosystems is located in North America (and also half of the top 10), only four of them are in the EU. Asia is catching up with 8 ecosystems in the top 30.



Figure 16 Global start-up ecosystem ranking 2021











Source: Startup Genome, The Global Startup Ecosystem Report 2022

Out of the 12 most valuable unicorns in the world, the top five are based in the US and the following four in China, with none in the EU. Google valued at USD 1.9 trillion took the 1st place from Amazon, valued currently at USD 1.7 trillion. By comparison, the most valuable EU unicorn Adyen (located in Amsterdam) has a valuation of EUR 56.8 billion.

Figure 17 Most valuable unicorns worldwide as of 2022.03.01

	Name	Market	Type	Valuation (billion USD)	Location
	<b>Google</b>	B2C	Deep tech Artificial intelligence	1 900	Mountain View United States
	<b>Amazon</b>	B2C <b>Home living</b> <b>Transportation</b> Logistics & delivery	Marketplace & Commerce	1700	Seattle United States
	<b>Tesla Motors</b>	B2C <b>Energy</b> <b>Transportation</b> Autonomous & sensor tech Clean energy Energy Storage	Artificial intelligence Autonomous & sensor tech Deep tech Selling own inventory Manufacturing	808.6	Palo Alto United States
	<b>Nvidia</b>	B2B, B2C <b>Gaming</b> Console & PC gaming	Machine learning Deep learning Artificial intelligence Deep tech Hardware	601.9	Santa Clara United States

	<b>Meta (Facebook)</b>	B2C <b>Media</b> Social Media	Big data Artificial intelligence Advertising Saas	510.2	Menlo Park United States
	<b>ByteDance</b>	B2C <b>Media Telecom</b> Content production	Natural language processing Big data Deep tech Subscription	400.0	Beijing China
	<b>Meituan</b>	B2C <b>Telecom Marketing</b> Ecommerce solutions	Artificial intelligence Commission Marketplace & Commerce	360.3	Beijing China
	<b>Alibaba</b>	B2B <b>Enterprise software</b>	Marketplace & Commerce Saas	283.0	Huangzhou China
	<b>Kuaishou</b>	B2C <b>Media Enterprise software</b> Content production	Machine learning Artificial intelligence Advertising	214.0	Beijing China
	<b>Salesforce</b>	B2B <b>Marketing Enterprise software</b> CRM & sales	Artificial intelligence Subscription Saas	202.2	San Francisco United States
	<b>Netflix</b>	B2C <b>Media</b> Streaming	Machine learning Artificial intelligence Subscription	182.6	Los Gatos United States
	<b>BYD Company</b>	B2C <b>Energy Transportation</b> Energy storage maintenance	Hardware Selling own inventory Manufacturing	155.9	Shenzhen China



Source: Dealroom

In the EU, Adyen is followed by Spotify and Klarna (both based in Stockholm). Out of the 12 most valuable EU unicorns, five are located in Germany, three in Sweden and the Netherlands, Ireland, Denmark and Belgium have one each.

Figure 18 Most valuable unicorns in the EU as of 01.03.2022

	Name	Market	Type	Valuation (billion USD)	Location
	<b>Adyen</b>	B2B <b>Fintech</b> Payments	Machine learning Artificial intelligence Commission Saas	56.8	Amsterdam Netherlands
	<b>Spotify</b>	B2C <b>Music</b> <b>Media</b> Streaming	Machine learning Artificial intelligence Subscription	52.0	Stockholm Sweden
	<b>Klarna</b>	B2B, B2C <b>Fintech</b> Payments	Commission	45.6	Stockholm Sweden
	<b>BioNTech</b>	B2B <b>Health</b> Biotechnology	Machine learning Artificial intelligence Deep tech	36.4	Mainz Germany
	<b>Flutter Entertainment</b>	B2C <b>Gaming</b> Betting & Gabling	Commission	29.4	Dublin Ireland
	<b>Genmab</b>	B2B <b>Health</b> Biotechnology	Deep tech Machine learning Artificial intelligence	17.4	Copenhagen Denmark
	<b>Delivery Hero</b>	B2C <b>Food</b> Food logistics and delivery	Commission Marketplace & Commerce	15.2	Berlin Germany
	<b>Zalando</b>	B2C <b>Fashion</b> Footwear	Artificial intelligence Marketplace & Commerce	13.7	Berlin Germany
	<b>ARGEN-X</b>	B2B <b>Health</b> Biotechnology	Commission	13.0	Ghent Belgium
	<b>Oatly</b>	B2C <b>Food</b> Innovative food	Selling own inventory Manufacturing	13.0	Malmo Sweden

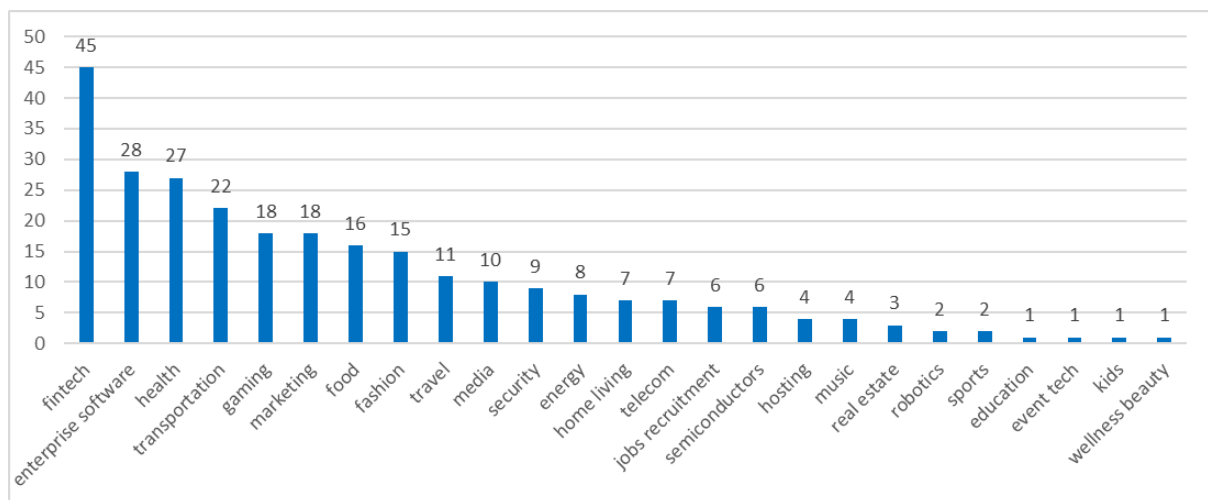


	<b>AUTO1 Group</b>	B2C Transportation Search, buy & rent	Marketplace & Commerce	12.9	Berlin Germany
	<b>CureVac</b>	B2B <b>Health</b> Biotechnology	Manufacturing	12.8	Tubingen Germany

Source: Dealroom

Figure 19 shows that EU unicorns are most active in fintech (20.3%)<sup>17</sup>, enterprise software (12.6%) and health (12.2%), in line with worldwide trends, but it is clear that they exist in almost every sector.

Figure 19 EU unicorns by industry as of 2022.03.01

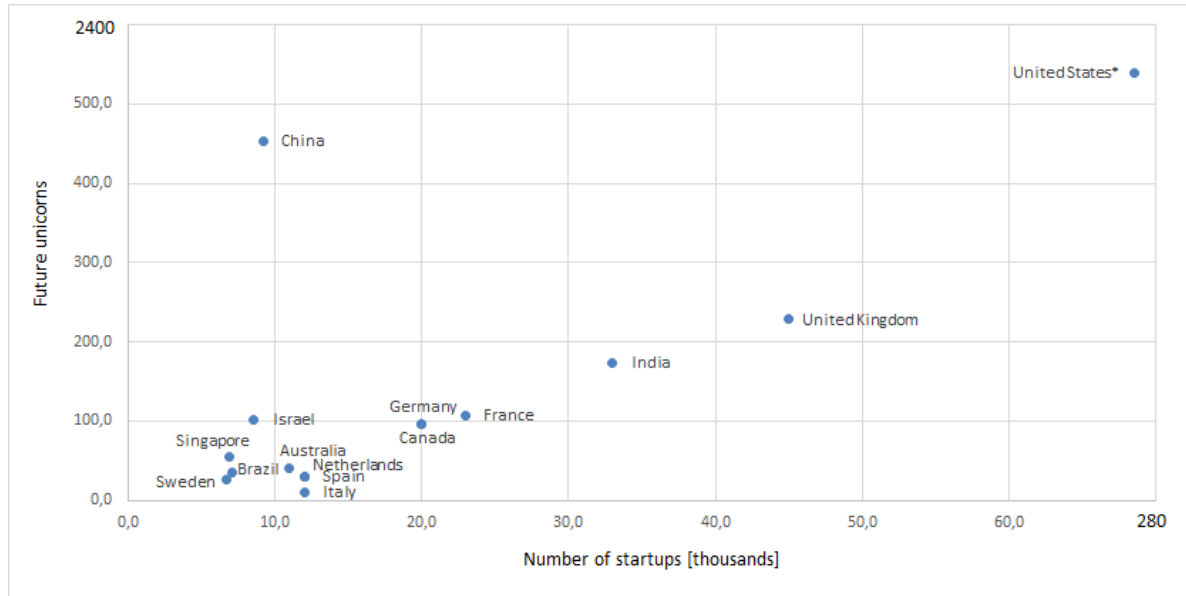


Source: Dealroom

Figure 20 shows that the start-up ecosystem is a cradle and essential development factor for unicorns. The more companies exist in the ecosystem, the higher probability that some of them will reach the valuation of USD 1 billion. The only outlier on the graph is China, where the venture capital is often controlled by the state through quite a few policies to assert more control over its internet sector. Verticals from fintech, social media, gaming and e-commerce to livestreaming have increasingly come under regulatory fire for their unscrupulous growth and the social issues they produce. The US are currently a clear champion (not in scale on the graph, which has been shrunk four times to fit in), but other countries are also on the path of growth. In this view, exploiting the full potential of the EU single market and overcoming the persisting legal and economic barriers between EU Member States is an important factor.

<sup>17</sup> There are 222 unicorns, however some of them are active in more than one sector.

Figure 20 Future unicorns vs number of start-ups (in thousands)

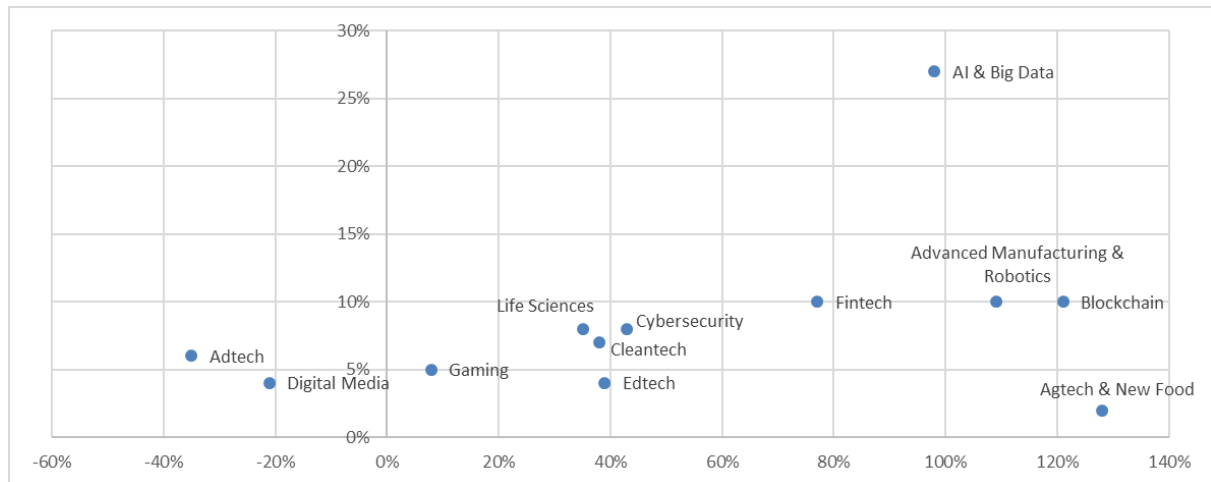


Source: Startup Genome

\*United States not to scale

Figure 21 shows that the highest number of start-ups are active in AI and big data, and their number will most likely grow dynamically even further in the future. Three other areas could potentially catch up: (1) advanced manufacturing and robotics; (2) blockchain; and (3) agriculture technology (agtech) and new food, as investments are rising in these technologies. However, investments in advertising technology (adtech) and digital media are falling.

Figure 21 Global share of start-ups vs Series A<sup>18</sup> deals 5 year-growth in 2021



Source: Startup Genome

## 1.7 e-Commerce

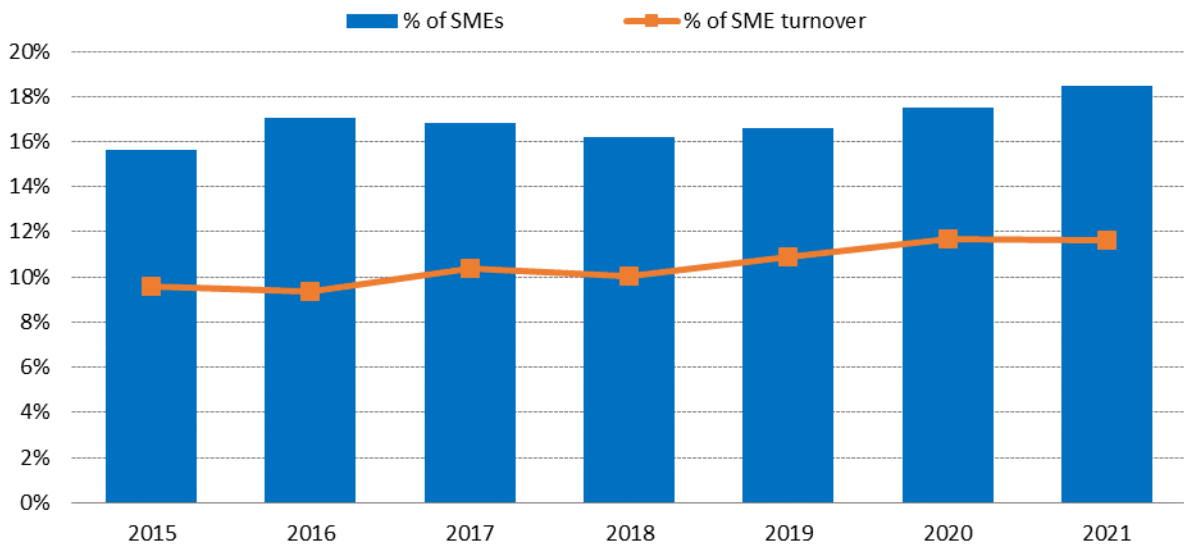
The European Commission put forward two legislative proposals to upgrade rules governing digital services in the EU: the Digital Services Act (DSA) and the Digital Markets Act (DMA). They form a single set of new rules applicable across the whole EU to create a safer and more open digital space.

<sup>18</sup> Series A financing refers to an investment in a privately-held start-up company after it has shown progress in building its business model and demonstrates the potential to grow and generate revenue. It often refers to the first round of venture money a firm raises after seed and angel investors.

The DSA and DMA have two main goals: (i) to create a safer digital space in which the fundamental rights of all users of digital services are protected; and (ii) to establish a level playing field to foster innovation, growth and competitiveness, both in the single market and globally.<sup>19</sup>

Around one in five EU small and medium sized enterprises (SMEs) made online sales in 2021, amounting to 12% of total turnover. Between 2015 and 2021, the percentage of SMEs selling online increased by 3 percentage points and the turnover of these companies achieved from online sales increased by 2 percentage points.

**Figure 22 Trends in e-commerce (% of SMEs, % of SME turnover), 2015-2021**

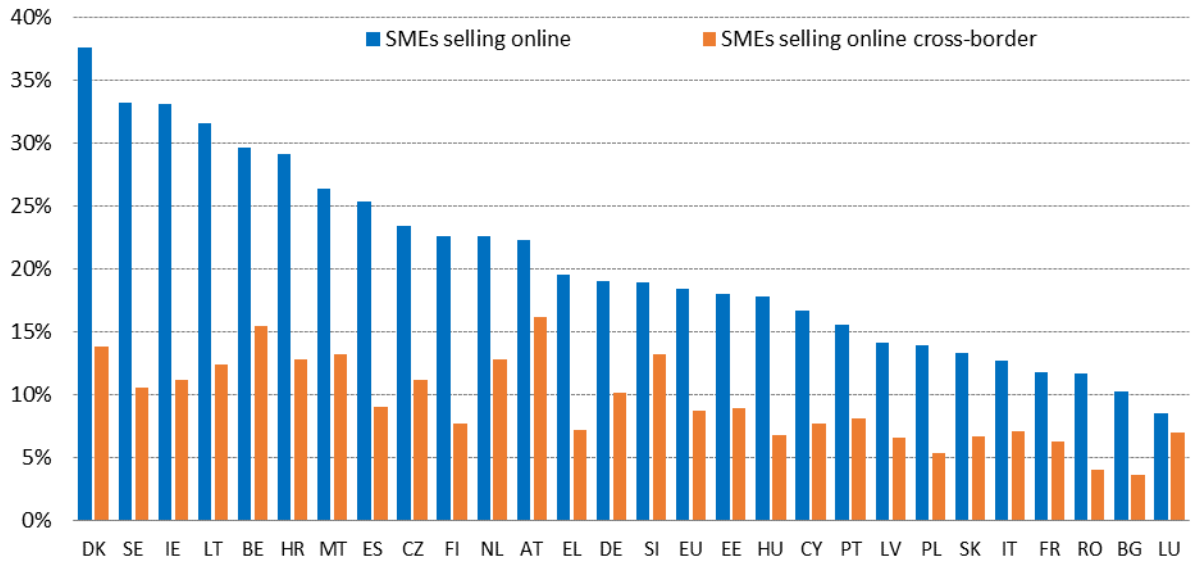


*Source: Eurostat, European Union survey on ICT usage and e-commerce in enterprises.*

Enterprises benefit from cross-border e-commerce by exploiting economies of scale. This helps to reduce costs, increase efficiency, promote competitiveness and improve productivity. Cross-border e-commerce is even more important for enterprises and especially SMEs that are confined to a small home market. However, only 9% of SMEs made web sales to customers in other EU countries in 2021. SMEs in Denmark, Sweden, Ireland, Lithuania and Belgium have the largest proportion of online sales (30% or more). Austria leads in cross-border online sales (16% of Austrian enterprises have online sales across borders to other EU countries), followed by Belgium, Denmark, Malta and Slovenia (all above 13%).

<sup>19</sup> [The Digital Services Act package | Shaping Europe's digital future \(europa.eu\)](https://european-council.europa.eu/media/en/press-communications/pages/2020-07-16-The-Digital-Services-Act-package-Shaping-Europe-s-digital-future)

Figure 23 SMEs selling online and selling online cross-border (2021) (% of SMEs)



Source: Eurostat, European Union survey on ICT usage and e-commerce in enterprises.

A majority (56%) of SMEs with web sales to other EU countries have no difficulties when selling to customers in other EU countries. On the other hand, 43% report at least one obstacle that is mainly related to economic factors (e.g. high costs of delivering or returning products, a problem reported by 28% of SMEs). The problems related to resolving complaints and disputes (13%) and the lack of knowledge of foreign languages (10%) are also highlighted as difficulties by the SMEs selling online to other EU countries.