Digital Economy and Society Index (DESI) 2021

Sweden

About the DESI

The European Commission has monitored Member States' progress on digital and published annual Digital Economy and Society Index (DESI) reports since 2014. Each year, the reports include country profiles, which help Member States identify areas for priority action, and thematic chapters providing an EU-level analysis in the key digital policy areas.

In 2021, the Commission adjusted DESI to reflect the two major policy initiatives that will have an impact on digital transformation in the EU over the coming years: the Recovery and Resilience Facility and the Digital Decade Compass.

To align DESI with the four cardinal points and the targets under the Digital Compass, to improve the methodology and take account of the latest technological and policy developments, the Commission made a number of changes to the 2021 edition of the DESI. The indicators are now structured around the four main areas in the Digital Compass, replacing the previous five-dimension structure. 11 of the DESI 2021 indicators measure targets set in the Digital Compass. In future, the DESI will be aligned even more closely with the Digital Compass to ensure that all targets are discussed in the reports.

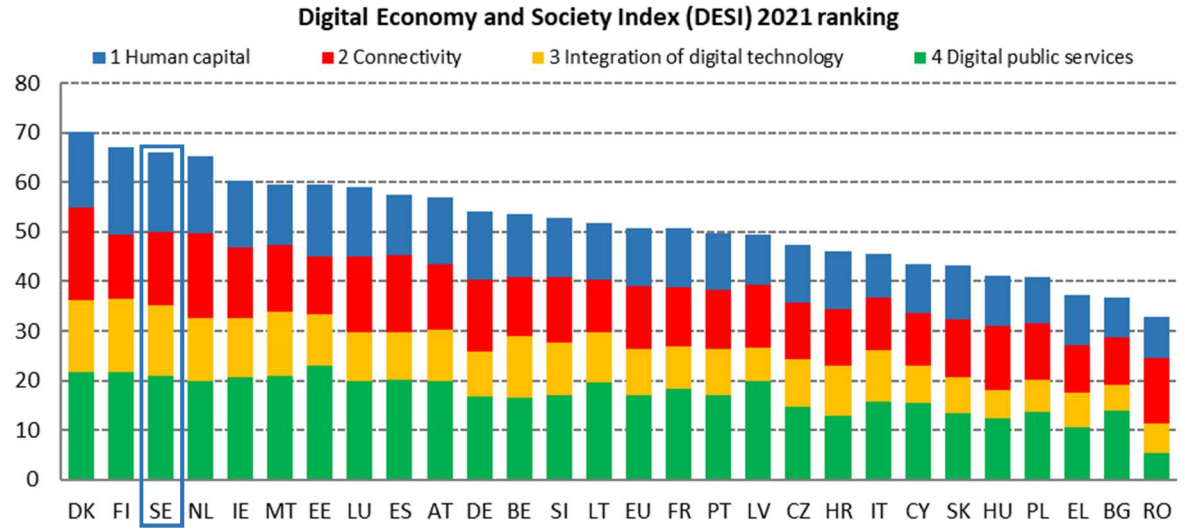
In addition, DESI now includes an indicator measuring the level of support that adopted ICT technologies provided companies in taking more environmentally-friendly measures (ICT for environmental sustainability) and the take up of gigabit services, plus the percentage of companies offering ICT training and using e-invoicing.

The DESI scores and rankings of previous years were re-calculated for all countries to reflect the changes in the choice of indicators and corrections made to the underlying data.

For further information, see the DESI website: https://digital-strategy.ec.europa.eu/en/policies/desi.

Overview

	Sweden		EU
	rank	score	score
DESI 2021	3	66.1	50.7



Sweden ranks 3rd of 27 EU Member States in the 2021 edition of the Digital Economy and Society Index (DESI).

Sweden's human capital is one of its strongest competitive advantages (ranking 2nd in the EU). 72% of the population has at least basic digital skills and 46% has above basic digital skills. However, more action is needed to increase the pool of digital experts. Estimates indicate that the country will have a shortage of 70,000 ICT specialists by 2024.

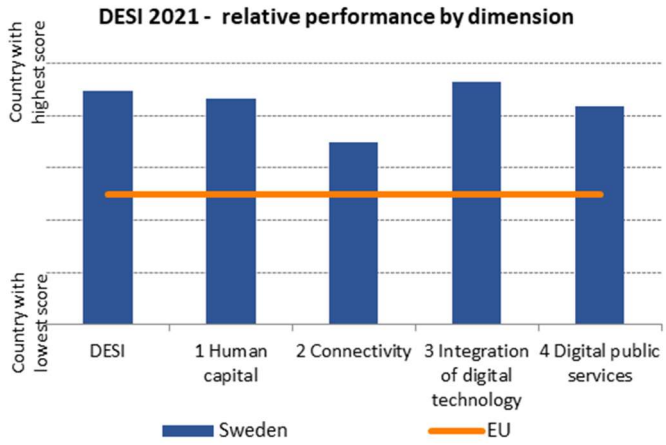
Sweden is a front-runner on connectivity (ranking 5th in the EU). The recently completed 5G auction is a positive development. However, Sweden could speed up the availability and assignment of the 5G pioneer bands and increase efforts to deploy 1 Gbps connections.

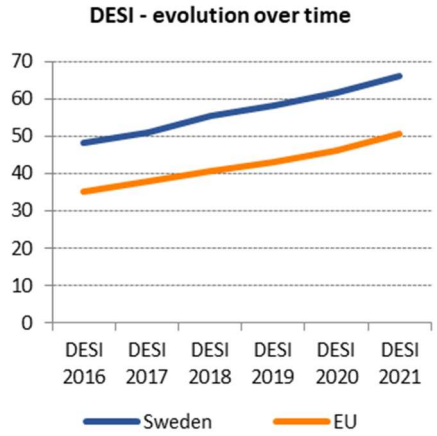
Swedish companies have been successful in integrating digital technologies and the country ranks 3rd in the EU. However, the pace of growth in Sweden is slowing down, while other countries continue advancing.

The general level of digital maturity in the population, the public sector and companies is high. Sweden ranks 5th in Digital public services in the EU, but other countries are progressing faster. One area in which Sweden has improved significantly is in making available open data, which has been identified as a key driver for innovative public services. The uptake of eID is very high among the Swedish population, but the potential to use the eID across borders is not being tapped.

The Swedish Digitisation strategy adopted in 2017 guides the country's work to meet its goals. Sweden aims to become the world leader in unlocking the potential that the digital transformation offers, while creating a digitally advanced public sector that provides legal certainty, availability and which contributes to the development of effective Swedish and EU policies.

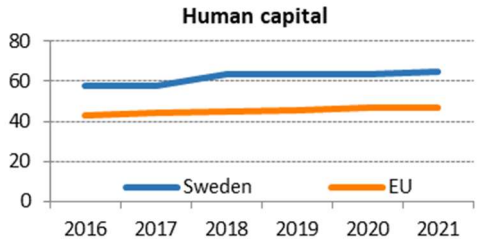
The country is gradually putting in place specific policy instruments that target the gaps and areas of improvement it has identified, such as closing the digital skills gap and using advanced technologies (artificial intelligence, cybersecurity and cloud services), and it is doing so in discussion with all stakeholders.





1 Human capital

1 Human capital	Sweden		EU
	rank	score	score
DESI 2021	2	64.6	47.1



	Sweden			EU
	DESI 2019	DESI 2020	DESI 2021	DESI 2021
1a1 At least basic digital skills % individuals	**77%** 2017	**72%** 2019	**72%** 2019	**56%** 2019
1a2 Above basic digital skills % individuals	**46%** 2017	**46%** 2019	**46%** 2019	**31%** 2019
1a3 At least basic software skills % individuals	**78%** 2017	**74%** 2019	**74%** 2019	**58%** 2019
1b1 ICT specialists % individuals in employment aged 15-74	**6.8%** 2018	**7.0%** 2019	**7.5%** 2020	**4.3%** 2020
1b2 Female ICT specialists % ICT specialists	**21%** 2018	**21%** 2019	**21%** 2020	**19%** 2020
1b3 Enterprises providing ICT training % enterprises	**24%** 2018	**32%** 2019	**32%** 2020	**20%** 2020
1b4 ICT graduates % graduates	**4.3%** 2017	**4.3%** 2018	**4.3%** 2019	**3.9%** 2019

Under the section on human capital, Sweden ranks 2nd out of the 27 EU countries. It scores significantly above the EU average on the share of the population with both at least basic and above basic digital skills. Moreover, the share of ICT specialists is among the highest in the EU at 7.5%, of which 21% are female. The share of ICT graduates is also over the EU average. However, in 2020, 55.1% of companies seeking to recruit ICT specialists reported hard-to-fill vacancies.

Sweden's goal is to be a world leader in unlocking the potential of the digital transformation. A main factor to achieve this is the digital skills policy, which is a joint responsibility of four ministries: education and research, enterprise and innovation, employment and infrastructure. Since it was launched in 2016, the Skills supply and lifelong learning programme[1] aims to strengthen and develop demand for skills development. Starting with demand from industry for employees with digital skills, the programme also covers the expansion in opportunities for people to reskill and upskill to become more attractive on the job market and to learn new skills over their entire career.

ICT specialists are, and are expected to remain, in shortage. The industry organisation Swedish IT and Telecom Industries[2] estimates the shortage of ICT specialists to reach 70,000 by 2024, unless action is taken[3]. The areas in which specialists will be needed span the entire digital value chain: data science

[1] https://www.government.se/government-policy/the-governments-innovation-partnership-programmes/innovation-partnership-programme-skills-supply-and-lifelong-learning/
[2] https://www.itot.se/
[3] https://www.itot.se/2020/12/it-kompetensbristen/

and other skills in artificial intelligence, game development, cybersecurity, cloud services, the internet of things, e-commerce, project management and specific business domain expertise.

The Swedish National Agency for Higher Vocational Education[4] reports[5] that the number of study places in higher vocational education available in 2020 increased to reach 83,000 places[6]. Of these 18% were for specific courses on technology and manufacturing, 18% on economy and administration, 16% on building and construction and 13% on data and ICT. 29% of the 484 courses offered were directly linked to digitalisation. An estimated 40% of courses and study places should contribute to bridging the digital skills gap.

The National Coalition for digital skills and jobs[7] launched in 2018 comprises over 24 organisations, coordinated by the Swedish IT and Telecom Industries[8]. The coalition focuses on highlighting both the need for and best practices in promoting action on digital competence in Sweden, in the areas of digital skills in education, for the labour force, for ICT professionals and for the whole population. For the latter, the Swedish Post and Telecom Authority has been awarded approximately EUR 150,000 to help people over the age of 70 improve their access to and their ability to use digital services.

The Swedish educational system is highly decentralised. Municipalities and independent schools have the responsibility to operate schools, including providing both students and teachers with the digital equipment they need. Many schools sourced this equipment even before the COVID-19 pandemic hit.

To support teachers during the pandemic, the state-owned research institute RISE, the Swedish Association of Local Authorities and Regions (SALAR) and other key stakeholders set up a platform[9], which was used by both teachers, municipalities and independent schools. In the framework of the Digital education strategy and related implementation plan, the Swedish government tasked the National Agency for Education with coordinating the digitisation of the school system.

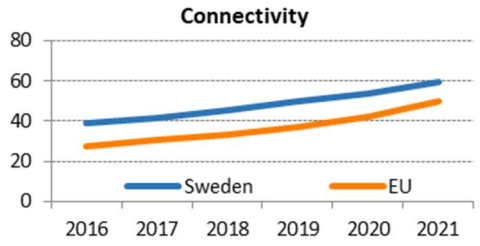
EU Code Week is an initiative supported by volunteer ambassadors, teachers and SALAR. In terms of the number of activities run during Code Week, Sweden ranked 26th out of over 80 participating countries in 2020. 126 activities involving nearly 11,000 people took place, 86% in schools, with the average female participation rate of 47%[10].

Digital or digitally associated skills continue to be a focus area in Swedish education. It is important that Sweden continues to take action to bridge the lack of digital experts and to increase the share of women working as ICT specialists to meet the demand from industry.

[4] https://www.myh.se/In-English/Swedish-National-Agency-for-Higher-Vocational-Education-/
[5] https://www.myh.se/publikationer/statistisk-arsrapport-2021
[6] Between 2018 and 2020 the agency decided to increase the number of new study places by 31,000-36,100 per year, compared to 19,300-25,700 per year between 2015 and 2017.
[7] https://www.itot.se/2019/01/digital-skills-jobs-coalition-sweden/
[8] https://digital-skills-jobs.europa.eu/en/organisations/ittelekomforetagen-swedish-it-and-telecom-industries
[9] skolahemma.se
[10] EU Code Week 2020 in numbers — Code Week

2 Connectivity

2 Connectivity	Sweden		EU
	rank	score	score
DESI 2021	5	59.6	50.2



	Sweden			EU
	DESI 2019	DESI 2020	DESI 2021	DESI 2021
2a1 Overall fixed broadband take-up % households	**78%** 2018	**86%** 2019	**84%** 2020	**77%** 2020
2a2 At least 100 Mbps fixed broadband take-up % households	**55%** 2018	**66%** 2019	**67%** 2020	**34%** 2020
2a3 At least 1 Gbps take-up % households	**NA**	**2.84%** 2019	**3.63%** 2020	**1.3%** 2020
2b1 Fast broadband (NGA) coverage % households	**82%** 2018	**85%** 2019	**87%** 2020	**87%** 2020
2b2 Fixed Very High Capacity Network (VHCN) coverage % households	**72%** 2018	**77%** 2019	**81%** 2020	**59%** 2020
2c1 4G coverage % populated areas	**>99.9%** 2018	**>99.9%** 2019	**>99.9%** 2020	**99.7%** 2020
2c2 5G readiness Assigned spectrum as a % of total harmonised 5G spectrum	**22%** 2019	**22%** 2020	**49%** 2021	**51%** 2021
2c3 5G coverage % populated areas	**NA**	**NA**	**14%** 2020	**14%** 2020
2c4 Mobile broadband take-up % individuals	**86%** 2018	**92%** 2019	**92%** 2019	**71%** 2019
2d1 Broadband price index Score (0-100)	**NA**	**65** 2019	**69** 2020	**69** 2020

Sweden ranks 5th on Connectivity, well above the EU average. In terms of very high capacity network (VHCN) 81% of households are covered compared to 59% in the EU. Both VHCN and fibre-to-the-premises coverage is at 80.5% in total, but rural areas lag at 48.1% on both metrics. Overall, 87% of rural households have access to a broadband connection, but speed can be increased. VHCN coverage has risen steadily to reach 81% in 2020, increasing at an average of 4.5 percentage points from 72% in 2018 and 77% in 2019. Sweden has yet to tap its full potential in the take-up of 1 Gbps connections, currently at 3.6% (EU average 1.3%). Both 4G coverage and 100 Mbps access are in the top tier compared to the EU average; over 99.9% and 67%, respectively (compared to 99.7% and 34%). Next generation access (NGA) coverage has increased at an average of 2.6 percentage points from 2018 onwards, and is at 87% in 2020 (on par with the EU average, 87%). The overall take-up by households of fixed broadband has dropped by 2 percentage points and is now at 84%, above the EU average of 77%. This is the only indicator where there was a decrease in 2020. Pricing for broadband is on par with the EU average and has not changed significantly over the last year.

Sweden addresses the differences in connectivity levels and fast broadband access between sparsely and densely populated areas in its broadband plans. It has an ambitious fixed broadband access plan[11] that aims for all households and companies to have access to 100 Mbps broadband by 2020 and high-speed broadband available throughout the entire country by 2025, using a mix of fixed and mobile networks.

The most recent addition to the funding to achieve these national broadband targets (approximately EUR 220 million) was announced in 2020[12]. To increase coverage, Sweden plans to grant State aid to roll out high-speed broadband infrastructure with a speed of at least 1 Gbps in areas where there is no existing or planned deployment of NGA within three years. There is an annual budget for this scheme and in 2020 it allocated approximately EUR 13.6 million to the roll-out. From 2020-2025, Sweden will make available a total of EUR 285 million. Public and private-sector organisations have neither applied to nor received financing from the European Investment Bank or from European Fund for Strategic Investments.

Many Swedish cities and municipalities and one private-sector operator at national level operate as wholesale only (or dark fibre) operators. Two examples are the city of Stockholm, which owns Stokab, the company that owns and rents out dark fibre to market players and GothNet, owned by the city of Gothenburg.

5G has been identified as a key technology and an important aspect of Sweden's broadband strategy to help Sweden achieve 100% high-speed broadband access, especially for access in rural and sparsely populated areas. The successful deployment of 5G in Sweden depends on the timely availability and assignment of the 5G pioneer bands. The recently launched and completed 5G spectrum auction[13] (both on 19 January 2021), which was resumed after delays and halted in late 2020, is an important step for the 5G roll-out in Sweden. The auction raised approximately EUR 230 million and awarded four bidders rights of use in the two auctioned frequency bands (2.3 GHz and 3.5 GHz). One bidder won rights of use in the 2.3 GHz band and three bidders won rights of use for 320 MHz in the 3.5 GHz band.

Sweden has not yet assigned rights of use of the 26 GHz band. As of May 2021, Sweden has assigned 66.7% (EU 61.1%) of the 700 MHz band, 80% (EU 71%) of the 3.4-3.8 GHz band, and 0% (EU 25.9%) of the 26 GHz band, compared to the EU weighted average for 5G pioneer bands. The 20 MHz spectrum reserved in the 700 MHz band for emergency communications services is still not assigned. Overall, Sweden has assigned 48.9% of EU harmonised 5G pioneer spectrum, against the EU average of 52.7%.

Sweden's score on 5G readiness (49%), slightly below the EU average (51%), does not reflect the country's intention to be a forerunner in 5G in the EU. 5G coverage is on par with the EU average at 14% of the population.

Main market & regulatory developments
The Swedish market focuses on rolling out new fibre technologies and decommissioning older technologies (copper and coaxial cable).

[11] https://www.regeringen.se/4b00e7/contentassets/a1a50c6a306544e28ebaf4f4aa29a74e/sverige-helt-uppkopplat-2025-slutlig.pdf
[12] https://www.regeringen.se/pressmeddelanden/2020/09/kraftig-satsning-pa-befintliga-stod-till-bredbandsutbyggnad/
[13] https://pts.se/sv/nyheter/pressmeddelanden/2021/auktionerna-i-35-ghz--och-23-ghz-banden-ar-avslutade/

No significant developments (entries, consolidations, altered market shares) took place in 2020. Only the merger between Tele2 and Com Hem (approved by the Commission in 2018 and finalised in 2020) and the incumbent Telia's acquisition of the TV4 TV operator are worth noting.

The number and composition of bundled services have been stable over the last years. Likely as a direct effect of the COVID-19 pandemic, demand for fibre broadband subscriptions and ultra-fast services continues to increase. Use patterns based on increased teleworking and spending more time at home may explain this. There has been no substantial impact on the quality of these services during the COVID-19 pandemic.

The transposition of the European Electronic Communications Code into national law is delayed and on 4 February 2021, the Commission sent Sweden a Letter of Formal Notice. In its reply[14] of March 25 2021, Sweden informed that work on transposing the EECC is of high priority, but will be delayed until the first quarter of 2022. The steps leading to transposition are (i) preparation of new legislation to replace the current electronic communications legislation (2003:89), (ii) decision to be taken by government in the summer of 2021, (iii) tabling of proposal to parliament in autumn 2021, (iv) adoption of new legislation in the first quarter of 2022.

Sweden has prepared for using the broadband connectivity toolbox by publishing a roadmap, which the Commission has asked to extend and improve.

The most common consumer complaints (in total 2,400 in 2020) concerned 5G, withdrawal of the copper network, numbering issues (portability, receiving calls from unknown numbers and loss of access to numbers), interruption of service and coverage. There were no reported complaints concerning cases of confirmed or potential non-compliance with the Roam Like at Home rules in 2020. Freely available and free of charge comparison tools exist and are widely used.

The NRA (Post och Telestyrelsen, PTS) reported one case where an EU company sued several internet service providers, motioning that they should block a number of websites for file sharing containing content subject to the company's copyright.

Sweden continues to perform very well in terms of both coverage and take-up of fixed broadband. On mobile broadband, the recently completed 5G auction allows Sweden to pursue becoming a leader in connectivity. Sweden is increasingly overcoming the challenges faced in rolling out broadband to the remaining sparsely populated areas, allowing the country to keep its high ranking compared to the EU average. To ensure Sweden remains a top-ranked EU country, it could accelerate the availability and assignment of the remaining spectrum in the 5G pioneer bands and step up action to successfully deploy 1 Gbps connections.

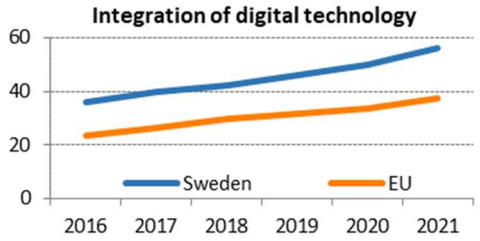
Highlight 2020-2021: 5G auction puts Sweden on track

Building on its tradition in mobile technologies, the initially delayed and recently successful auction for the 3.4-3.8 GHz band will allow Sweden to continue ranking high in connectivity in the EU. Sweden aims to close the remaining gap between densely and sparsely populated areas in terms of both coverage and the take-up of fast broadband by focusing on this divide, in order to reach the goal of high-speed broadband throughout the entire country by 2025.

14 Svar på formell underrättelse 2021-0094.

3 Integration of digital technology

3 Integration of digital technology	Sweden		EU
	rank	score	score
DESI 2021	3	56.3	37.6



	Sweden			EU
	DESI 2019	DESI 2020	DESI 2021	DESI 2021
3a1 SMEs with at least a basic level of digital intensity % SMEs	NA	NA	82% 2020	60% 2020
3b1 Electronic information sharing % enterprises	31% 2017	37% 2019	37% 2019	36% 2019
3b2 Social media % enterprises	25% 2017	40% 2019	40% 2019	23% 2019
3b3 Big data % enterprises	10% 2018	10% 2018	19% 2020	14% 2020
3b4 Cloud % enterprises	43% 2018	43% 2018	59% 2020	26% 2020
3b5 AI % enterprises	NA	NA	30% 2020	25% 2020
3b6 ICT for environmental sustainability % enterprises having medium/high intensity of green action through ICT	NA	NA	73% 2021	66% 2021
3b7 e-Invoices % enterprises	36% 2018	36% 2018	45% 2020	32% 2020
3c1 SMEs selling online % SMEs	30% 2018	30% 2019	31% 2020	17% 2020
3c2 e-Commerce turnover % SME turnover	18% 2018	18% 2019	15% 2020	12% 2020
3c3 Selling online cross-border % SMEs	10% 2017	10% 2019	10% 2019	8% 2019

On integrating digital technology in business activities, Sweden ranks 3rd in the EU. Sweden ranks relatively high compared to the EU average on most metrics and above the EU average for all indicators. It ranks high for SMEs with at least a basic level of digital intensity (82%), for enterprises using social media (40%) and for the use of cloud (59%). These areas have a clear potential for improvement, especially given the difference between SMEs selling online (31%) and those selling across borders (almost a third of those at 10%). There is also a gap between the digital transformation rate for large enterprises and SMEs. 75% of large enterprises and 25% of SMEs have high levels of digital intensity.

A recently concluded national process led to the selection of 15 Swedish Digital Innovation Hubs that can participate in the upcoming Digital Europe call to be part of the Network of European Digital Innovation Hubs. Sweden actively participates in the high-level working group for AI and Digitising European Industry to exchange information and present its views and perspective in the ongoing activities. Sweden is active also in the European Blockchain Partnership and has invested in the Euro high performance computing joint undertaking (EuroHPC).

AI has been identified as an area that will have a strong impact on Swedish society and an area in which Sweden can demonstrate excellence both in research and business. The Swedish government adopted the national approach to AI in 2018 with the aim of making Sweden a leader in harnessing the opportunities that the use of AI can offer to strengthen Sweden's welfare and competitiveness. In 2021, this approach will be complemented by a strategy focusing on securing access to and use of open data as a strategic resource, in line with the rules on cyber security, data protection and privacy.

In addition, a number of public-private initiatives support the activities in AI, such as 'AI Sweden'[15], the Swedish National Centre for applied Artificial Intelligence; the Wallenberg AI, Autonomous Systems and Software Program (WASP) and RISE[16] (Research Institutes of Sweden), where AI research is combined with cross-disciplinary research.

The RISE Infrastructure and Cloud research and test Environment (ICE) data centre runs a test bed aimed at developing edge solution prototypes. One of the recent projects is 5/6G edge solutions that are linked to calls for funds under the Horizon Europe programme.

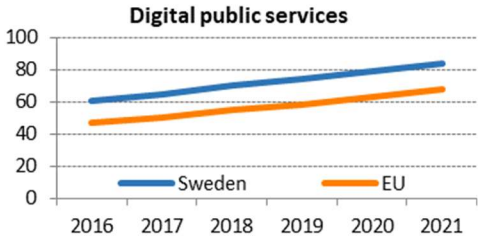
The digital transformation affects all sectors in the society and is at the same time heavily dependent on international developments. In a recent report,[17] four agencies (Vinnova, Swedish Post and Telecom Authority, the Agency for Digital Government and the Swedish Research Council) jointly concluded that additional investments are required for Sweden to remain competitive, to boost the digital transformation in the private and public sector and to meet global sustainable development goals.

Increasing the use and level of expertise in both enterprises and research has been identified as a major factor to enable Sweden to achieve competitive advantages. SMEs are not specifically targeted with particular projects but they stand to benefit from general measures to support all businesses. SMEs are digitally advanced, but do not yet reap the full benefits of selling across borders in the EU, even though Sweden still ranks above EU average on this metric.

[15] https://www.ai.se/en
[16] https://www.ri.se/en
[17] https://www.vinnova.se/contentassets/b6f628d9450642068ce283db0f16381d/rapport-ru-kraftsamling-for-digital-strukturomvandling.pdf

4 Digital public services

4 Digital public services	Sweden		EU
	rank	score	score
DESI 2021	5	83.9	68.1



	Sweden			EU
	DESI 2019	DESI 2020	DESI 2021	DESI 2021
4a1 e-Government users % internet users	**90%** 2018	**88%** 2019	**88%** 2020	**64%** 2020
4a2 Pre-filled forms Score (0 to 100)	**NA**	**NA**	**72** 2020	**63** 2020
4a3 Digital public services for citizens Score (0 to 100)	**NA**	**NA**	**88** 2020	**75** 2020
4a4 Digital public services for businesses Score (0 to 100)	**NA**	**NA**	**94** 2020	**84** 2020
4a5 Open data % maximum score	**NA**	**NA**	**84%** 2020	**78%** 2020

Sweden ranks 5th in the EU on Digital public services. The percentage of Swedish e-Government users is stable at 88% in 2020, above the EU average at 64%. Digital public services for both individuals and businesses rank higher than the EU average. Open data is the area where Sweden has made a significant improvement and is for the first time above the EU average. However, there is still room for improvement since Sweden ranks 16th of the 27 EU Member States.

Sweden's national digitalisation strategy[18] outlines the focus of the government's digital policy. Although it does not address the public sector specifically, the aim is to establish an innovative and cooperative public sector that is legally certain, available and contributes to the development of effective Swedish and EU policies. In the strategy, the public sector is invited to work towards the strategy's five goals: digital skills, security, innovation, leadership and infrastructure. Digital skills in the public sector are identified as a particularly important element in the overall framework of being more efficient, innovative and offering better services, which in combination with more data being made available will enable the public sector to develop more advanced and user-friendly services.

In Sweden, most governmental services are digitalised and highly decentralised. The Agency for Digital Government (DIGG) has been tasked with coordinating and supporting digitisation across the public sector in order to make it more efficient and fit for purpose. DIGG also supports the Swedish government by providing decision-making material and analyses.

Being an early supporter of the eIDAS scheme, Sweden has run an eIDAS node[19] since 2018, which is connected to all EU Member States that have notified a scheme. The Swedish NRA (Post och Telestyrelsen, PTS) and DIGG are single points of contact and are active in the cooperation network, the technical subgroup and the expert group.

[18] https://www.regeringen.se/regeringens-politik/digitaliseringsstrategin/

[19] Each Member State sets up a node i.e. an interface which communicates with other nodes to request or provide cross-border identification and authentication.

Over 80% of Sweden's population uses mobile eID solutions, indicating a high degree of penetration. 98% of people between 18 and 67 use the BankID solution. According to a study carried out by the organisation Internetstiftelsen[20], 86% of Swedish pensioners that use the internet also use mobile BankID.

Having a long tradition in data exchange within the public administration, Sweden is now seeking to move to a national infrastructure for data exchange, away from previous bilateral exchanges. The Swedish parliament decided to allocate between EUR 4.5 and EUR 8 million yearly to this goal. DIGG has been appointed to lead this development in cooperation with several other public authorities.

As part of the implementation of the Swedish National cybersecurity strategy[21], the government commissioned the Civil Contingencies Agency to carry out targeted educational initiatives and to develop a structure to monitor systematic information security work in the public administration[22]. Sweden has also taken steps to ensure that cybersecurity certification is taken into account in public procurement and national technical regulations.

In addition, Sweden set up a national cybersecurity centre in 2020 with the aim of strengthening the country's overall ability to prevent, detect and manage cyber threats.

Recently, the Swedish data portal[23] was launched, which lists open data sources, application programming interfaces (API's) and relevant specifications across multiple public administration bodies. It enables interested parties to search for and use relevant datasets in a coherent manner, promoting the re-use of data for the benefit of the entire society.

In order for Sweden to maintain its leadership on digital public services, it is important to ensure that it strengthens and maximises synergies between skills, use by the public administration of advanced technologies and the use of open data.

[20] https://internetstiftelsen.se/

[21] https://www.regeringen.se/regeringens-politik/krisberedskap/nationell-strategi-for-samhallets-informations--och -cybersakerhet/ Nationell strategi för samhällets informations- och cybersäkerhet — Regeringen.se

[22] https://www.regeringen.se/pressmeddelanden/2019/09/regeringen-genomfor-atgarder-for-starkt-informations--och-cybersakerhet/

[23] https://www.dataportal.se/en