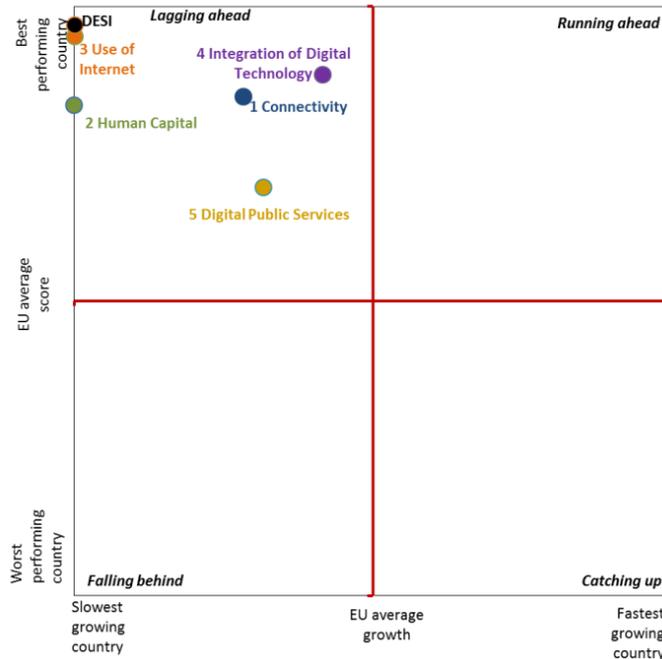


Europe's Digital Progress Report (EDPR) 2016

A report complementing the Digital Economy and Society Index (DESI)¹ country profile

SWEDEN

Sweden ranks third in the EU regarding digitisation, according to the Digital Economy and Society Index (DESI 2016)². It recorded a high performance on all of the dimensions and falls into the cluster of **lagging ahead** countries³. Scoring well above the EU average but with below average growth from the previous year. Sweden faces the challenge of continually improving its already high levels of digitisation in most areas. The dimension where Sweden ranks highest is Use of Internet, while Digital Public Services is the one with the biggest relative weakness. All in all, Sweden is one of the world leaders in digitisation⁴.



Swedens's performance in the five DESI dimensions relative to other EU countries

1 – Connectivity

Sweden scores well above EU average on connectivity but saw little progress from the previous year. At international level, however, Sweden's performance is below South Korea and Japan. With fixed broadband available to 99% of homes, there is a strong foundation for the digitisation of society. 4th generation networks and related mobile broadband services are equally available to 99% of homes, thanks to timely spectrum awards and licence terms that favoured market investments and development of LTE networks also in rural areas. Operators have therefore been able to fulfil the increasing demand for wireless services, reflected also by very high mobile broadband take-up and considerable mobile data consumption among swedes.

In rural areas, fixed broadband covered 93.6% of homes, above the EU average of 90.6%, a good result given the geographical configuration of the country. Sweden scores only 18th among MS as regards Next Generation Access coverage, with 76% of homes having broadband capable of providing at least 30 Mbps download (compared with 71% in the EU), lower than its performance in other dimensions. However, newly published data in Sweden indicates a recent increase in NGA coverage. On the other hand there is very good availability and take up of high speed broadband connections above 100 Mbps, due to continual deployment of fibre driven by consumer demand.

¹ The Digital Economy and Society Index (DESI) is a composite index developed by the European Commission (DG CNECT) to assess the development of EU countries towards a digital economy and society. It aggregates a set of relevant indicators structured around 5 dimensions: Connectivity, Human Capital, Use of Internet, Integration of Digital Technology and Digital Public Services. It clusters countries in four groups: Running ahead, Lagging ahead, Catching up and Falling behind. For more information about the DESI please refer to <https://ec.europa.eu/digital-single-market/en/desi>

² DESI Country Profile for Sweden: <https://ec.europa.eu/digital-single-market/scoreboard/sweden>

³ Other lagging ahead countries are Belgium, Denmark, Finland, Ireland, Lithuania, Luxemburg and the United Kingdom.

⁴ I-DESI: <https://ec.europa.eu/digital-single-market/news-redirect/31457>

Fibre investments are now focusing on rural areas and single dwelling units were an increasing part of last mile investments, also financed by consumers. Subscriptions with speeds of 1Gbps are available on the market, approaching the Gigabit connectivity consumer services that characterise the Japanese and Korean markets.

The current broadband strategy⁵ was adopted in 2009 with the overarching goal that Sweden should have world-class broadband. The long term objective is to achieve 90 % coverage of households and businesses with 100 Mbps until 2020. Sweden's Government emphasizes the role of private capital and the market in making investments in the network infrastructure and mainly confine its own role to provision of a conducive regulatory and market environment. State aid for deployment of broadband infrastructure with very high speed is available in remote areas where market players are unwilling to invest. The aid is distributed through the two EU-funds: The Rural Development Programme and in the northern part of Sweden also through the European Regional Development Fund.

Swedish municipalities play a crucial role in the development of very high speed broadband infrastructures, by defining local digital strategies, deploying networks and owning fibre-based infrastructure, also with the aim of offering welfare services to citizens, i.e. municipal information, services in education, health and social care over broadband networks. Fibre deployment is also fostered by the policies of municipal housing companies, since they invest in fibre to the apartments, while tenants' associations agreed increased rents for fibred properties with property owners, reflecting the added value of a fibre connection for the end user. Sweden still has to transpose the Cost Reduction Directive⁶, which could help to speed up broadband roll-out.

2 – Human Capital

In DESI 2016, Sweden ranks second on the Human Capital dimension, but has made no progress over the last year. Overall, 89% of Swedish people use the internet and 72% of the population have the basic digital skills that allow them to partake in the possibilities offered by the internet and to benefit from the opportunities offered by a digital society and economy. Furthermore, Sweden also has the second highest number of ICT specialists in its workforce, in European terms. However, demand for ICT professionals outstrips supply. Sweden ranks only 19th when it comes to producing graduates in science and technology and companies report difficulties in recruiting ICT-specialists. At the same time the number of applicants to engineering courses has increased in recent years, which should have a positive future impact on the skills gap.

There is currently no national coalition for digital skills and jobs, or strategy for developing digital skills in Sweden. The Committee for Digitisation, a public inquiry body, has in its last report proposed that the Government should initiate a national cooperation council for the advancement of higher education programmes for digital jobs. In 2015 the Government assigned The Swedish National Agency for Education (NAE) to come up with digital skills development courses for teachers, principals and education providers, propose national ICT strategies for the Swedish compulsory, upper secondary and adult school system, suggest necessary changes in curricula for digital and entrepreneurial skills – including coding – and suggest changes to strengthen innovation and collaboration with the labour market as a part of the education.

In an advanced and highly digitised economy, one of the challenges will most likely be to close

⁵ <http://www.regeringen.se/rapporter/2009/11/n20098317itp/> (Swedish)

⁶ Directive 2014/61/EU of the European Parliament and of the Council of 15 May 2014 on measures to reduce the cost of deploying high-speed electronic communications networks (OJ L155, 23 May 2014, p. 1)

the different digital skills gaps. This is already a reality in Sweden, as mentioned demand outstrips supply for ICT professionals; the last non-digital part of the population is resistant to become digital; and all jobs are increasingly conducted with some digital elements. If this is left unattended it could hold back further development in the digitisation of the Swedish economy and society.

The initiative for ICT strategies for the school system is a positive step and should help close the digital skills gap in the long run. Given that this work is focused on the formal education system, its outcome will affect those in education at the time and after these actions are taken. There should be further actions targeting those already in the workforce and out of the education system. These actions might or might not be government-initiated, but the potential impact on society if these challenges are left unattended will become an issue for the government. Sweden would benefit from having a multi stakeholder partnership like a national coalition for digital skills and jobs as well as one or several strategies tackling the digital skills gaps both in the short and long term. The latest digital agenda from 2011 did include some aspects of digital skills but most of the actions are outdated now.

Highlight: The home PC reform – computers for everyone! In 1998 a tax reform was implemented so that the cost of a computer provided by an employer to its employees, could be deducted from wages so not subject to income tax, but treated as an employment benefit. In effect, this reduced the cost of a computer by about 30-50% for citizens. The trade unions also had an offer their members the possibility to rent a computer at a favourable price. These initiatives stressed the importance of raising the level of digital skills among all citizens, and aimed at making Sweden one of the leading digital nations in the world. There is no doubt these had a positive effect, although the exact level of impact is difficult to measure and has been somewhat debated. The initiative terminated after about 10 years when Sweden had reached high levels of home access to computers.

3 – Use of Internet

In the Use of Internet Sweden performs second best among the EU countries. A digital economy is partly fuelled by its citizen's activity and consumption online. The Swedish population is actively engaging in a multitude of online services. They read news online (83%), listen to music, watch films and play games online (57%), use the Internet to communicate via video calls (43%) or through social networks (69%), and obtain video content using their broadband connections (49% of households subscribe to Video on Demand). 78% of internet users shop online, but they have a preference for shopping at home, since only 35% of them do so cross border.

4 – Integration of Digital Technology

In DESI 2016, Sweden ranks 3rd among EU countries for business digitisation and eCommerce activities, well above average. Despite slipping down a place from the previous year, its score has improved somewhat, but progress is below EU average. Internationally it ranks behind the US but ahead of South Korea and Japan.

An important source of growth and innovation is digitally based, potentially fast-growing and global companies - Internet startups. The Startup Manifesto⁷ tracker monitors the national

⁷ The Startup Manifesto was created by the Leaders Club, a group of founders of European technology companies, by invitation of the European Commission in 2013. It contains 22 policy actions to boost entrepreneurship and innovation.

implementation of 22 actions in the Startup Manifesto to boost digital entrepreneurship and innovation. In adoption of the manifesto recommendations, Sweden ranks below the European average on the dimensions Institutional Framework, Access to talent, Better Access to Capital and Thought Leadership, while above average on Skills & Education and Data Policy and Privacy. Still, Sweden is one of the more successful countries in the world for producing Internet Startups and recently appointed a Startup Director to establish a faster dialogue and feedback between business and politics.

Over the last decade Sweden's approach to digitisation of industry have been somewhat like its approach in broadband – the government's role has mainly been focused on providing good market conditions through only necessary regulation. Recently there have been a few more proactive initiatives launched by the Government to stimulate the digitisation of businesses and entrepreneurship. One of them, the recently announced Smart Industry Strategy,⁸ sets out four focus areas to strengthen the ability to cope with the rapid conversion that Swedish industry is now in the midst of.

5 – Digital Public Services

This is where Sweden ranks lowest of all in its DESI 2016 dimensions, still stuck at 7th place in the EU. Modern public services offered online in an efficient manner are a vehicle for reducing spending on public administration as well as for driving efficiency gains in the market. Its indicator score illustrates that Sweden is performing well above the EU average with regard to the implementation of services as well as with the uptake.

In 2015 the Swedish Government announced a four-year scheme to advance digital in government. This was later complemented with a "Digital First" principle, meaning that all agencies should primarily use digital channels to citizens and companies for their service delivery. A national Council for Digital Government was established where the public agencies are represented in order to strengthen the collaboration and enhance agencies implementation. Some public agencies are appointed responsible for coordination of digitisation within special life events and focus areas. The Swedish eidentifications (eID) are mainly issued by banks in Sweden. More than 7 million Swedish citizens possess an eID which can be used for accessing a variety of public and private services. For 2015 the number of transactions was estimated to be 2 billions.

Swedish citizens have strong access and rights to public information. According to the Swedish Government, this limits the political incentives for open data. Although, there is a government objective that open data should be more readily available and there is currently work undertaken to formulate an open data policy. For eHealth the Government recently presented a new vision in cooperation with the Swedish Association of Local Authorities and Regions. The vision states that Sweden should be the best country in the world for utilising the possibilities of digitisation to achieve good and equal health by 2025.

Overall Sweden is doing well in many of the diverse aspects of eGovernment. On the other hand, compared with other high performing countries, Sweden isn't reaching its full potential in this area. Given the country's leading position in the digital economy and society, a further improvement of eGovernment services could act as a driver for raising technology adoption among companies and citizens.