

Digital Economy and Society Index¹ 2016²

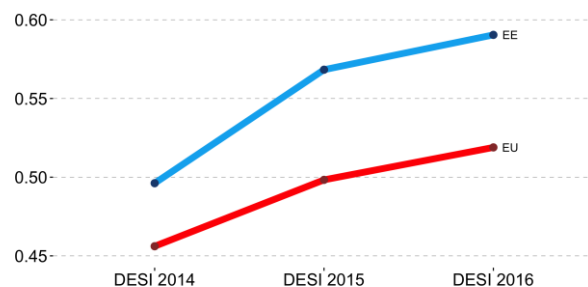
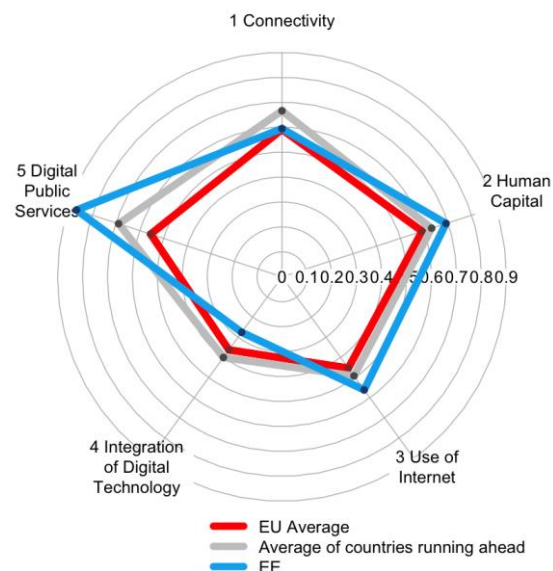
Country Profile

Estonia

In DESI 2016, Estonia has an overall score³ of **0.59** and ranks **7th** out of the 28 EU Member States. Estonia is at the forefront in supply and use of Digital Public Services. Estonians are well-skilled in the use of digital technologies and keen users of a variety of internet activities. 22% of Estonians shop cross border, a higher rate than the European average. Despite progress, the greatest challenge in terms of digitisation is the Integration of digital technology by businesses.

Estonia falls into the cluster of **running ahead**⁴ countries. Scoring above the EU average and with a fast growth from last year.

| | Estonia rank | Estonia score | Cluster score | EU score |
|------------------|--------------|-------------------|---------------|-------------|
| DESI 2016 | 7 | 0.59 | 0.58 | 0.52 |
| DESI 2015 | 8 | 0.57 ⁵ | 0.57 | 0.5 |



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. For more information about the DESI please refer to <http://ec.europa.eu/digital-agenda/en/digital-agenda-scoreboard>

² The DESI 2016 is constructed from indicators referring mostly to the calendar year 2015 (except when data is not available for that calendar year, in which case the latest prior data was used).

³ DESI scores range from 0 to 1, the higher the score the better the country performance.

⁴ In the DESI 2016, Estonia is part of the running ahead cluster of countries: countries that score above the EU average and whose score grew faster than that of the EU as a whole (in comparison to the DESI 2015). Other running ahead countries are Austria, Germany, Malta, the Netherlands and Portugal.

⁵ The DESI 2015 was re-calculated for all countries to reflect updates and corrections to the underlying indicator data (which took place between May 2015 and January 2016). As such, country scores and rankings may have changed from the previous publication. For further information please consult the DESI methodological note.

1 Connectivity

| 1 Connectivity | Estonia | | Cluster | EU |
|----------------|---------|-------|---------|-------|
| | rank | score | score | score |
| DESI 2016 | 16 | 0.59 | 0.67 | 0.59 |
| DESI 2015 | 13 | 0.59 | 0.6 | 0.57 |

With an overall Connectivity score of 0.59, Estonia ranks 16th among EU countries, down from 13th a year ago. Estonians seem to prefer the use of broadband through mobile. Fixed broadband coverage remains a challenge although fast broadband networks (at least 30 Mbps) are now available to 83% of households – an increase compared to the previous year.

| | DESI 2016 | | Estonia | | DESI 2015 | | EU |
|---|---|---|---------|---|-----------|---|----|
| | value | | rank | value | rank | DESI 2016 value | |
| 1a1 Fixed BB Coverage % households | 89% (June 2015) | ↑ | 25 | 88% (December 2014) | 26 | 97% (June 2015) | |
| 1a2 Fixed BB Take-up % households | 77% (2015) | ↑ | 7 | 69% (2014) | 12 | 72% (2015) | |
| 1b1 Mobile BB Take-up Subscribers per 100 people | 105 (June 2015) | ↓ | 4 | 114 (December 2014) | 2 | 75 (June 2015) | |
| 1b2 Spectrum % of the target for spectrum to be harmonised at EU level | 84% (December 2015) | ↓ | 6 | 98% (December 2014) | 3 | 69% (December 2015) | |
| 1c1 NGA Coverage % households, out of all households | 86% (June 2015) | ↑ | 11 | 83% (December 2014) | 11 | 71% (June 2015) | |
| 1c2 Subscriptions to Fast BB % of subscriptions >= 30Mbps, out of fixed BB subscriptions | 27% (June 2015) | ↑ | 20 | 24% (December 2014) | 18 | 30% (June 2015) | |
| 1d1 Fixed BB Price % individual gross income spent for the cheapest standalone Fixed Broadband subscription (lower values are better) | 1.8% (Access cost: 2015; Income: 2014) | ↓ | 20 | 1.3% (Access cost: 2014; Income: 2014) | 14 | 1.3% (Access cost: 2015; Income: 2014) | |

Estonia scores well in the take up of broadband, both mobile and fixed. However, Estonia occupies the third to last position in terms of availability of fixed broadband (89% of homes). The level of assigned spectrum in the ranges harmonised by the European Union, have gone down in Estonia but still remains well above average.

At the same time, in June 2015 coverage of fast broadband networks (at least 30 Mbps) was significant (86% of homes). With an increase in take up of fixed broadband there has also been an increase in the share of subscriptions to fast broadband (at least 30 Mbps) from 24% to 27%, thereby nearing the EU average of 30%.

Finally, there has been an increase in the share of individual gross income spent on a fixed broadband subscription, which is significantly higher compared to last year and the European average.

2 Human Capital

| 2 Human Capital | Estonia | | Cluster score | EU score |
|-----------------|---------|-------|---------------|----------|
| | rank | score | | |
| DESI 2016 | 7 | 0.69 | 0.63 | 0.59 |
| DESI 2015 | 7 | 0.7 | 0.72 | 0.58 |

With a Human Capital score of 0.69, Estonia ranks 7th among EU countries.

| | Estonia | | | | EU DESI 2016 value |
|---|------------------|------|-----------------|------|--------------------|
| | DESI 2016 value | rank | DESI 2015 Value | rank | |
| 2a1 Internet Users % individuals (aged 16-74) | 86% (2015) ↑ | 7 | 82% (2014) | 9 | 76% (2015) |
| 2a2 Basic Digital Skills % individuals (aged 16-74) | 65% (2015) | 8 | n.a. | - | 55% (2015) |
| 2b1 ICT Specialists % employed individuals | 4.9% (2014) ↓ | 5 | 5.3% (2013) | 3 | 3.7% (2014) |
| 2b2 STEM Graduates Graduates in STEM per 1000 individuals (aged 20 to 29) | 14 (2013) ↑ | 20 | 13 (2012) | 21 | 18 (2013) |

More and more Estonians are becoming regular Internet users, and their digital skills levels are above those of the average EU user. Moreover, the share of ICT Specialists as percentage of the workforce is well above the EU average. The same cannot be said for STEM (science, technology, and mathematics) Graduates, where Estonia still lags behind despite a small increase from the previous year. Given that 51% of companies reported difficulties in recruiting ICT specialists, Estonia need to address this skills gap to remain competitive in the digital economy. This could potentially hold back development in other dimensions such as integration of digital technologies by businesses or digitisation of the public sector.

3 Use of Internet

| 3 Use of Internet | Estonia | | Cluster score | EU score |
|-------------------|---------|-------|---------------|----------|
| | rank | score | | |
| DESI 2016 | 5 | 0.56 | 0.49 | 0.45 |
| DESI 2015 | 4 | 0.54 | 0.47 | 0.43 |

In terms of the propensity of individuals to use Internet services, Estonia scores 0.56 and ranks 5th among all the EU countries. While the consumption of music, video and games content by Estonians is at levels comparable to the EU average, there has been a considerable increase in online shopping.

| | Estonia | | | | EU DESI 2016 value |
|---|--------------|------|------------|------|--------------------|
| | DESI 2016 | | DESI 2015 | | |
| | value | rank | value | rank | |
| 3a1 News % individuals who used Internet in the last 3 months (aged 16-74) | 91% (2015) ↑ | 2 | 90% (2014) | 2 | 68% (2015) |
| 3a2 Music, Videos and Games % individuals who used Internet in the last 3 months (aged 16-74) | 49% (2014) | 17 | 49% (2014) | 17 | 49% (2014) |
| 3a3 Video on Demand % households that have a TV | 35% (2014) | 12 | 35% (2014) | 12 | 41% (2014) |
| 3b1 Video Calls % individuals who used Internet in the last 3 months (aged 16-74) | 46% (2015) ↓ | 8 | 51% (2014) | 8 | 37% (2015) |
| 3b2 Social Networks % individuals who used Internet in the last 3 months (aged 16-74) | 63% (2015) ↑ | 21 | 60% (2014) | 20 | 63% (2015) |
| 3c1 Banking % individuals who used Internet in the last 3 months (aged 16-74) | 91% (2015) → | 2 | 91% (2014) | 2 | 57% (2015) |
| 3c2 Shopping % individuals who used Internet in the last year (aged 16-74) | 66% (2015) ↑ | 10 | 57% (2014) | 14 | 65% (2015) |

Estonian internet users are well-versed in the variety of online activities available to them. They are at the forefront of Internet use in Europe in areas like online banking (91%) and the consumption of news content (91%).

In general Estonians are placed above the EU average in almost all categories, with the exception of video on demand and social media. Finally, 26% of Estonians shop cross border (about half of those engaging in eCommerce), a higher rate than the European average and a significant increase compared to last year.

4 Integration of Digital Technology

| 4 Integration of Digital Technology | Estonia | | Cluster | EU |
|-------------------------------------|-----------|-------------|------------|-------------|
| | rank | score | score | score |
| DESI 2016 | 22 | 0.28 | 0.4 | 0.36 |
| DESI 2015 | 23 | 0.25 | 0.36 | 0.33 |

In Integration of Digital Technology by businesses, Estonia scores 0.28, its weakest score among the five DESI 2016 dimensions. The uptake of digital technologies and practices by businesses has been slow, and Estonia's businesses are only starting to exploit the possibilities offered by on-line commerce.

| | Estonia | | | | EU DESI 2016 value | |
|---|----------------|------|-----------|----------------|-----------------------------|----------------|
| | DESI 2016 | | DESI 2015 | | | |
| | value | rank | value | rank | | |
| 4a1 Electronic Information Sharing % enterprises (no financial sector, 10+ employees) | 22% (2015) | ↑ | 23 | 17% (2014) | 25 | 36% (2015) |
| 4a2 RFID % enterprises (no financial sector, 10+ employees) | 2.6% (2014) | | 25 | 2.6% (2014) | 25 | 3.8% (2014) |
| 4a3 Social Media % enterprises (no financial sector, 10+ employees) | 9.4% (2015) | ↑ | 25 | 7.9% (2014) | 24 | 18% (2015) |
| 4a4 eInvoices % enterprises (no financial sector, 10+ employees) | 14% (2015) | ↑ | 9 | 11% (2014) | 14 | n.a. |
| 4a5 Cloud % enterprises (no financial sector, 10+ employees) | n.a. | | - | 9.4% (2014) | 14 | n.a. |
| 4b1 SMEs Selling Online % SMEs (no financial sector, 10+ employees) | 12% (2015) | → | 19 | 12% (2014) | 17 | 16% (2015) |
| 4b2 eCommerce Turnover % turnover of SMEs (no financial sector, 10-249 employees) | 8.1% (2015) | ↓ | 15 | 9.2% (2014) | 12 | 9.4% (2015) |
| 4b3 Selling Online Cross-border % SMEs (no financial sector, 10+ employees) | 6.1% (2015) | ↑ | 19 | 5.5% (2013) | 16 | 7.5% (2015) |

Increasingly, Estonian enterprises are taking advantage of electronic information sharing, where the share of enterprises using these technologies is 22%, an increase from 17% in the previous year. However, despite progress Estonian enterprises still lag behind the EU average, not only in the abovementioned category, but also in the use of social media, online sales and eInvoices.

5 Digital Public Services

| 5 Digital Public Services | Estonia | | Cluster score | EU score |
|---------------------------|---------|-------|---------------|----------|
| | rank | score | | |
| DESI 2016 | 1 | 0.87 | 0.69 | 0.55 |
| DESI 2015 | 4 | 0.76 | 0.66 | 0.54 |

Estonia has been at the forefront of online public services for a few years is the best performing country in Europe in 2016.

| | Estonia | | | | EU DESI 2016 value |
|---|-----------------|------|---------------|------|--------------------|
| | DESI 2016 | | DESI 2015 | | |
| | value | rank | value | rank | |
| 5a1 eGovernment Users % individuals returning filled forms, out of Internet users in the last year (aged 16-74) | 80% (2015) ↑ | 1 | 38% (2014) | 10 | 32% (2015) |
| 5a2 Pre-filled Forms Score (0 to 100) | 95 (2015) ↑ | 1 | 93 (2014) | 1 | 49 (2015) |
| 5a3 Online Service Completion Score (0 to 100) | 96 (2015) ↑ | 4 | 94 (2014) | 3 | 81 (2015) |
| 5a4 Open Data Score (0 to 700) | 380 (2015) ↓ | 13 | 480 (2014) | 10 | 351 (2015) |

The share of eGovernment users (80%⁶) returning filled-in forms is above the EU average (32%); this is also facilitated by the possibility to complete online almost all the steps for a required service. Estonia is also strongly committed to the implementation of the once-only principle, reusing previous information to lower the burden to citizens by way of pre-filled forms better than every other EU country.

The Estonian government has introduced a wide variety of e-services, accessed through the electronic identity card (e-ID) of its citizens. This card enables electronic authentication, and serves as a digital signature to allow Estonians to sign contracts, vote, submit their tax declarations, purchase tickets for the public transport, and check their children's progress at school electronically.

That user-centric approach is reflected in the popularity of e-services: 95% of tax declarations in 2013 were filed electronically.

⁶ Not comparable to previous results due to changed wording in the questionnaire and improved interviewers manual.