

# Digital Economy and Society Index<sup>1</sup> 2016<sup>2</sup>

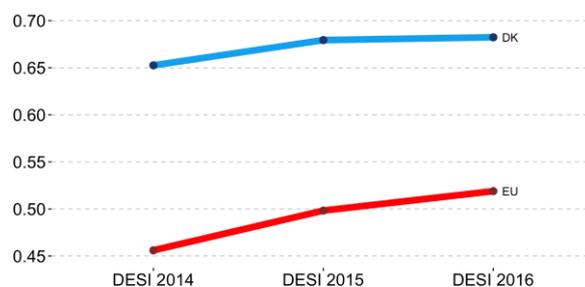
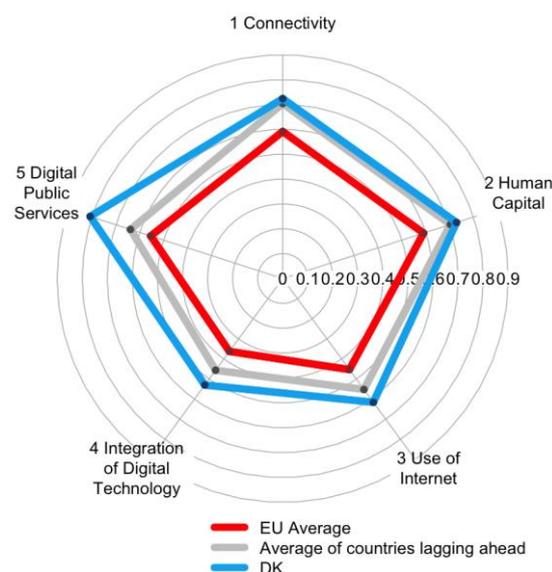
## Country Profile

### Denmark

Denmark has an overall score<sup>3</sup> of **0.68** and ranks **1<sup>st</sup>** among the 28 EU Member States. Danish citizens are the most advanced in the use of Internet: 88% of Danish Internet users does eBanking and 82% shops online. However, Internet activities seem to have peaked. A quarter of Danish SMEs is selling online and almost half (47%) of Danish enterprises has an electronic information sharing system with noticeable progress with respect to last year. Some challenges remain in the Connectivity area, where the percentage of fast broadband subscriptions over the total (42%) has grown but is lower than what would be expected from such a digitised country. Furthermore, the not so high share of ICT specialists in the workforce (3.9%) could cause some long term issue to business investment in ICT.

Denmark is part of the **lagging ahead<sup>4</sup>** cluster of countries because it performs better than the EU average but has improved at a slower rate than the EU as a whole. It performs above the cluster average.

	Denmark rank	Denmark score	Cluster score	EU score
<b>DESI 2016</b>	<b>1</b>	<b>0.68</b>	<b>0.62</b>	<b>0.52</b>
DESI 2015	2	0.68 <sup>5</sup>	0.6	0.5



<sup>1</sup> 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>

<sup>2</sup> 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).

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

<sup>4</sup> In the DESI 2016, Denmark is part of the lagging ahead cluster of countries: countries who score above the EU average but whose score grew slower than that of the EU as a whole (in comparison to the DESI 2015). Other lagging ahead countries are Belgium, Finland, Ireland, Lithuania, Luxembourg, Sweden and the United Kingdom.

<sup>5</sup> 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	Denmark		Cluster score	EU score
	rank	score		
DESI 2016	5	0.72	0.7	0.59
DESI 2015	5	0.7	0.7	0.57

With an overall Connectivity score of 0.72, Denmark ranks 5<sup>th</sup> among EU countries. Broadband and fast broadband are widely available, take up of mobile broadband is high but fast broadband subscriptions could be higher.

	Denmark				EU	
	DESI 2016		DESI 2015		DESI 2016	
	Value	rank	value	rank	value	
<b>1a1 Fixed BB Coverage</b> % households	99% (June 2015) →	12	99% (December 2014)	12	97% (June 2015)	
<b>1a2 Fixed BB Take-up</b> % households	77% (2015) ↓	8	79% (2014)	6	72% (2015)	
<b>1b1 Mobile BB Take-up</b> Subscribers per 100 people	112 (June 2015) ↑	3	109 (December 2014)	4	75 (June 2015)	
<b>1b2 Spectrum</b> % of the target for spectrum to be harmonised at EU level	68% (December 2015) ↓	17	71% (December 2014)	17	69% (December 2015)	
<b>1c1 NGA Coverage</b> % households, out of all households	92% (June 2015) →	6	92% (December 2014)	6	71% (June 2015)	
<b>1c2 Subscriptions to Fast BB</b> % of subscriptions >= 30Mbps, out of fixed BB subscriptions	42% (June 2015) ↑	12	30% (December 2014)	14	30% (June 2015)	
<b>1d1 Fixed BB Price</b> % individual gross income spent for the cheapest standalone Fixed Broadband subscription (lower values are better)	0.92% (Access cost: 2015; Income: 2014) ↑	6	1.2% (Access cost: 2014; Income: 2014)	13	1.3% (Access cost: 2015; Income: 2014)	

At the end of 2014, fixed broadband was available to 99% of homes in Denmark (97% in the EU). At the same time, Next Generation Access capable of providing at least 30 Mbps was available to 92% of homes (71% in the EU), among the highest rates in Europe.

The take up of fixed broadband subscription in Denmark seems to have slowed down, possibly in favour of mobile broadband (more than one subscription per person). This trend has been going for the last two years. The share of high speed connections (providing at least 30 Mbps) is greater than the EU average (42% vs. 30%) and progressed by 12 p.p. but lower than what one would expect from such a digitised country.

## 2 Human Capital

2 Human Capital	Denmark		Cluster score	EU score
	rank	score		
<b>DESI 2016</b>	<b>5</b>	<b>0.73</b>	<b>0.7</b>	<b>0.59</b>
DESI 2015	4	0.76	0.67	0.58

With a Human Capital score of 0.73, Denmark ranks 5<sup>th</sup> among EU countries. The country has decreased its score (from 0.76 to 0.73) and ranking (from 4<sup>th</sup> to 5<sup>th</sup> place). The share of ICT specialists in the workforce could cause some long term issue.

	Denmark				EU DESI 2016 value
	DESI 2016 Value	rank	DESI 2015 value	Rank	
<b>2a1 Internet Users</b> % individuals (aged 16-74)	93% (2015) ↑	2	92% (2014)	2	76% (2015)
<b>2a2 Basic Digital Skills</b> % individuals (aged 16-74)	75% (2015)	3	n.a.	–	55% (2015)
<b>2b1 ICT Specialists</b> % employed individuals	3.9% (2014) ↓	14	4.1% (2013)	13	3.7% (2014)
<b>2b2 STEM Graduates</b> Graduates in STEM per 1000 individuals (aged 20 to 29)	20 (2013) ↑	8	19 (2012)	8	18 (2013)

Danish regular Internet users are 93% of the population; the 2nd place in the EU.

The share of users with basic digital skills is 75%. Denmark has also the 14<sup>th</sup> highest share of ICT specialists in the workforce of all EU countries (3.9%). This is partly due to the difficulties of Danish enterprises of filling the gaps (42% of enterprises which recruited/tried to recruit ICT specialists), slightly higher than the EU average (38%). This not so high (and decreasing) figure could cause some long term issue for the sustainability of the Danish advanced digitised economy. On the converse, the share of Danes aged 20-29 years holding a STEM (science, technology and mathematics) degree (2%) is still reasonably high.

### 3 Use of Internet

3 Use of Internet	Denmark		Cluster score	EU score
	rank	score		
<b>DESI 2016</b>	<b>1</b>	<b>0.62</b>	<b>0.55</b>	<b>0.45</b>
DESI 2015	2	0.63	0.54	0.43

Use of Internet is the dimension where Denmark ranks highest, displaying a strong propensity of its citizens to use a variety of services. Danes are among the most intensive users of Video on Demand and of on-line shopping. Internet activities seem to have peaked.

	Denmark				EU DESI 2016 value
	DESI 2016		DESI 2015		
	Value	rank	value	rank	
<b>3a1 News</b> % individuals who used Internet in the last 3 months (aged 16-74)	69% (2015) ↓	19	74% (2014)	13	68% (2015)
<b>3a2 Music, Videos and Games</b> % individuals who used Internet in the last 3 months (aged 16-74)	57% (2014)	5	57% (2014)	5	49% (2014)
<b>3a3 Video on Demand</b> % households that have a TV	78% (2014)	2	78% (2014)	2	41% (2014)
<b>3b1 Video Calls</b> % individuals who used Internet in the last 3 months (aged 16-74)	46% (2015) ↓	9	49% (2014)	9	37% (2015)
<b>3b2 Social Networks</b> % individuals who used Internet in the last 3 months (aged 16-74)	67% (2015) ↓	13	69% (2014)	8	63% (2015)
<b>3c1 Banking</b> % individuals who used Internet in the last 3 months (aged 16-74)	88% (2015) →	4	88% (2014)	5	57% (2015)
<b>3c2 Shopping</b> % individuals who used Internet in the last year (aged 16-74)	82% (2015) ↑	3	81% (2014)	2	65% (2015)

Most Danish citizens are online. Online banking and shopping are the most popular activities. 82% of Danish internet users did shopping online last year and nearly half of them did so cross border.

Danes also read news online (69%), listen to music, watch films and play games online (57%), obtain video content using their broadband connections (78% of households use Video on Demand), use the Internet to communicate via voice or video calls (46%) or through social networks (67%). For all of these online activities, engagement among the Danish is higher than overall in the EU. However most of the activities seem to have peaked and some even went into reverse (e.g. reading news online)

## 4 Integration of Digital Technology

4 Integration of Digital Technology	Denmark		Cluster score	EU score
	rank	score		
<b>DESI 2016</b>	<b>2</b>	<b>0.53</b>	<b>0.46</b>	<b>0.36</b>
DESI 2015	1	0.51	0.42	0.33

In Integration of Digital Technology by businesses, Denmark scores 0.53, progressing from last year (0.51) but now falling at 2<sup>nd</sup> place among EU countries. Danish businesses do exploit the possibilities offered by digital technologies.

	Denmark				EU DESI 2016 value
	DESI 2016		DESI 2015		
	value	rank	value	rank	
<b>4a1 Electronic Information Sharing</b> % enterprises (no financial sector, 10+ employees)	47% (2015) ↑	3	42% (2014)	4	36% (2015)
<b>4a2 RFID</b> % enterprises (no financial sector, 10+ employees)	3.2% (2014)	17	3.2% (2014)	17	3.8% (2014)
<b>4a3 Social Media</b> % enterprises (no financial sector, 10+ employees)	20% (2015) ↑	9	19% (2014)	9	18% (2015)
<b>4a4 eInvoices</b> % enterprises (no financial sector, 10+ employees)	59% (2015) →	2	59% (2014)	1	n.a.
<b>4a5 Cloud</b> % enterprises (no financial sector, 10+ employees)	27% (2015) ↓	3	28% (2014)	2	n.a.
<b>4b1 SMEs Selling Online</b> % SMEs (no financial sector, 10+ employees)	25% (2015) ↓	3	26% (2014)	3	16% (2015)
<b>4b2 eCommerce Turnover</b> % turnover of SMEs (no financial sector, 10-249 employees)	15% (2015) ↑	3	14% (2014)	3	9.4% (2015)
<b>4b3 Selling Online Cross-border</b> % SMEs (no financial sector, 10+ employees)	9.8% (2015) ↓	8	9.9% (2013)	7	7.5% (2015)

The adoption of digital technologies is an important driver of labour productivity growth. Adoption by Danish enterprises of electronic information sharing (ERP – 47%) technologies is progressing fast. Other eBusiness technologies like eInvoices (59%) and Cloud services (27%) in Denmark have adoption rates which feature among the highest in the EU.

Danish businesses are taking advantage of the possibilities offered by on-line commerce. 25% of SMEs in Denmark sell online and 9.8% sell online across borders. Danish businesses make 15% of their turnover from on-line sales, the 3<sup>rd</sup> best performance in the EU.

## 5 Digital Public Services

5 Digital Public Services	Denmark		Cluster score	EU score
	rank	score		
<b>DESI 2016</b>	<b>2</b>	<b>0.81</b>	<b>0.64</b>	<b>0.55</b>
DESI 2015	1	0.78	0.62	0.54

Although its score for Digital Public Services has increased with respect to last year (now at 0.81), Denmark now ranks 2<sup>nd</sup> among EU countries, down from first place.

	Denmark				EU DESI 2016 value
	DESI 2016		DESI 2015		
	Value	Rank	Value	rank	
<b>5a1 eGovernment Users</b> % individuals returning filled forms, out of Internet users in the last year (aged 16-74)	71% (2015) ↑	2	69% (2014)	1	32% (2015)
<b>5a2 Pre-filled Forms</b> Score (0 to 100)	77 (2015) →	5	77 (2014)	4	49 (2015)
<b>5a3 Online Service Completion</b> Score (0 to 100)	94 (2015) ↑	5	87 (2014)	8	81 (2015)
<b>5a4 Open Data</b> Score (0 to 700)	440 (2015) →	7	440 (2014)	11	351 (2015)

Modern public services offered online are an important vehicle to the better efficiency of the public administration as well as to enterprises and citizens. Denmark's indicator score<sup>6</sup> places it among the best in the EU and shows that the level of sophistication of its services is high and improving. Denmark is gradually implementing a "digital by default" strategy for the most used citizen's public services, taking advantage of the high percentage of eGovernment users (71% of Internet users return filled forms online to the public authorities), the second highest in the EU. However, some more progress in reusing available information through filled-in forms would be needed for this strategy to be fully successful.

<sup>6</sup> 77/100 in the Pre-filled Forms indicator (measuring the extent to which data that is already known to the public administration is pre-filled in the forms that are presented to the user), and of 94/100 in the Online Service Completion indicator (measuring the extent to which the various steps in an interaction with the public administration – life event – can be performed completely online).