

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

## Country Profile

### Germany

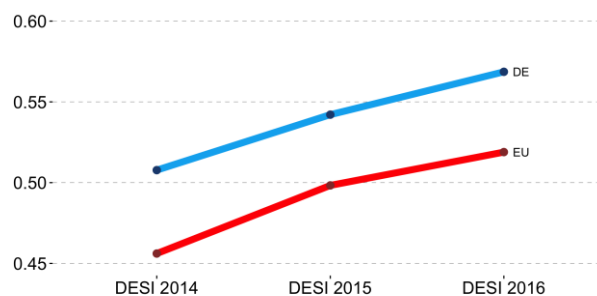
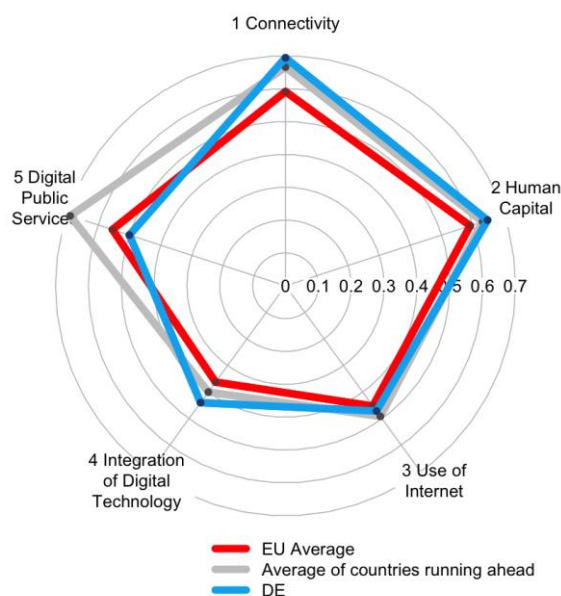
Germany ranks 9th out of the 28 EU Member States. In the past year, Germany has improved its rank in all dimensions, except for connectivity.

The uptake of fast broadband services is still below EU average. The German government is planning to provide fast broadband (50 Megabits per second) Internet to all rural and urban areas alike by 2018<sup>3</sup>.

84% of Germans are regular users of the Internet, compared to 76% of Europeans. They also possess, on average, higher digital skills. Over the last year Germans increased their activities on the Internet, in particular the use of Social Networks and they are well above the European average for activities related to online shopping. Also German businesses, in 2015 better exploited the possibilities offered by the Internet, in particular Electronic Information Sharing, where Germany scores first of all Member States. However, regarding digital public services only 19% of Germans going online use eGovernment services actively (compared to 32% of European Internet users).

Germany's DESI 2016 score is above the EU average and the country developed faster than the EU over the last year, which places it in the **running ahead**<sup>4</sup> cluster of countries. It performs below the cluster average.

	Germany rank	Germany score	Cluster score	EU score
DESI 2016	9	0.57 <sup>5</sup>	0.58	0.52
DESI 2015	10	0.54 <sup>6</sup>	0.57	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> This plan is included in the German government's first Digital Agenda 2014-2017 presented in 2014.

<sup>4</sup> In the DESI 2016, Germany 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, Malta, the Netherlands, Portugal and Estonia.

<sup>5</sup> DESI scores range from 0 to 1, the higher the score the better the country performance.

<sup>6</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	Germany		Cluster score	EU score
	rank	score		
DESI 2016	8	0.69	0.67	0.59
DESI 2015	7	0.67	0.6	0.57

Germany performs well in the Connectivity dimension. With an overall Connectivity score of 0.69, the country ranks 8<sup>th</sup> among EU countries, above the cluster score and the European score.

	Germany				EU DESI 2016 value	
	DESI 2016 value		rank	DESI 2015 value		rank
<b>1a1 Fixed BB Coverage</b> % households	98% (June 2015)	→	16	98% (December 2014)	16	97% (June 2015)
<b>1a2 Fixed BB Take-up</b> % households	84% (2015)	↑	4	83% (2014)	3	72% (2015)
<b>1b1 Mobile BB Take-up</b> Subscribers per 100 people	66 (June 2015)	↑	17	65 (December 2014)	14	75 (June 2015)
<b>1b2 Spectrum</b> % of the target for spectrum to be harmonised at EU level	100% (December 2015)	→	1	100% (December 2014)	1	69% (December 2015)
<b>1c1 NGA Coverage</b> % households, out of all households	81% (June 2015)	→	13	81% (December 2014)	12	71% (June 2015)
<b>1c2 Subscriptions to Fast BB</b> % of subscriptions >= 30Mbps, out of fixed BB subscriptions	25% (June 2015)	↑	21	21% (December 2014)	21	30% (June 2015)
<b>1d1 Fixed BB Price</b> % individual gross income spent for the cheapest standalone Fixed Broadband subscription (lower values are better)	0.87% (Access cost 2015, Income 2014)	↑	4	1% (Access cost 2014, Income 2013)	6	1.3% (Access cost 2015, Income 2014)

Germany is fully covered by basic broadband services (including fixed, mobile and satellite networks). However, Germany is performing less well, compared to the EU average, in the uptake of fast broadband services. Demand for these services is slowly increasing, but still below the EU average. The German government is planning to provide fast broadband (50 Megabits per second) Internet to all rural and urban areas alike by 2018. This plan is included in the German government's first "Digital Agenda 2014-2017" presented in 2014. The plan foresees to extend fast broadband coverage through a variety of technologies on the market, including mobile-based LTE (Long Term Evolution).

If Germany aims at moving to ultrafast broadband technology, more investments in fibre networks will be necessary. Whereas fixed-line operators have in the past years upgraded their legacy copper and coaxial cable networks, ultrafast networks will require to install fibre connecting businesses and households directly at the premises.

## 2 Human Capital

2 Human Capital	Germany		Cluster score	EU score
	rank	score		
<b>DESI 2016</b>	<b>9</b>	<b>0.65</b>	<b>0.63</b>	<b>0.59</b>
DESI 2015	11	0.64	0.72	0.58

With a Human Capital score of 0.65, Germany ranks 9<sup>th</sup> among EU countries, showing a slight improvement from the previous year (0.64) and performing better than the EU average (0.58) and the cluster to which the country belongs (0.61).

	Germany				EU DESI 2016 value
	DESI 2016		DESI 2015		
	value	rank	value	rank	
<b>2a1 Internet Users</b> % individuals (aged 16-74)	84% (2015) ↑	8	82% (2014)	8	76% (2015)
<b>2a2 Basic Digital Skills</b> % individuals (aged 16-74)	66% (2015)	7	n.a.	-	55% (2015)
<b>2b1 ICT Specialists</b> % employed individuals	3.7% (2014) →	16	3.7% (2013)	16	3.7% (2014)
<b>2b2 STEM Graduates</b> Graduates in STEM per 1000 individuals (aged 20 to 29)	17 (2013) ↑	13	16 (2012)	15	18 (2013)

The inhabitants of Germany are regular users of the Internet, more than Europeans on average. They also possess, on average, higher skills: 66% of Germans have basic or above basic digital skills, above the European average of 55%. The availability of digital skills in the country is also reflected by the share of persons employed possessing "ICT specialist skills", which is at 3.7% equal to the European average. With a rate of 17 per 1000 individuals (between 20 and 29 years old) with a STEM (science, technology and mathematics) graduate degree, Germany is slightly below the EU average of 18 and ranks 13<sup>th</sup> among the EU Member States in terms of high-level training in these scientific disciplines.

## 3 Use of Internet

3 Use of Internet	Germany		Cluster score	EU score
	rank	score		
<b>DESI 2016</b>	<b>13</b>	<b>0.47</b>	<b>0.49</b>	<b>0.45</b>
DESI 2015	21	0.41	0.47	0.43

In terms of the propensity of individuals to use Internet services, Germany over the last year made significant progress and advanced from rank 21 to rank 13. It progressed in all fields. In particular German users are well above European average and rank 2<sup>nd</sup> in Europe for the activities related to shopping online.

	Germany				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)	72% (2015) ↑	16	70% (2014)	20	68% (2015)
<b>3a2 Music, Videos and Games</b> % individuals who used Internet in the last 3 months (aged 16-74)	53% (2014)	11	53% (2014)	11	49% (2014)
<b>3a3 Video on Demand</b> % households that have a TV	26% (2014)	15	26% (2014)	15	41% (2014)
<b>3b1 Video Calls</b> % individuals who used Internet in the last 3 months (aged 16-74)	31% (2015) ↑	25	28% (2014)	28	37% (2015)
<b>3b2 Social Networks</b> % individuals who used Internet in the last 3 months (aged 16-74)	65% (2015) ↑	16	49% (2014)	27	63% (2015)
<b>3c1 Banking</b> % individuals who used Internet in the last 3 months (aged 16-74)	58% (2015) ↑	16	57% (2014)	16	57% (2015)
<b>3c2 Shopping</b> % individuals who used Internet in the last year (aged 16-74)	82% (2015) ↑	2	80% (2014)	3	65% (2015)

German Internet users read news online (72%), listen to music, watch videos and play games online (53%) and use online banking (58%). Users in Germany tend to use Internet for online shopping more than Europeans (82% of Internet users compared to 65% for the EU28), rank 2 among the 28 Member States, and during the last year they significantly increased their use of Social Networks (from 49% to 65%) and are ranking now 16<sup>th</sup>, compared to 27<sup>th</sup> in the previous year.

## 4 Integration of Digital Technology

4 Integration of Digital Technology	Germany		Cluster score	EU score
	rank	score		
DESI 2016	7	0.44	0.4	0.36
DESI 2015	8	0.4	0.36	0.33

Germany performs best in the dimension concerning the Integration of Digital Technology by businesses. Germany scores 0.44, above the EU average and 7<sup>th</sup> among the European Member States. German enterprises made significant progress in the field of Electronic Information Sharing and are now ranking 1<sup>st</sup> in Europe (compared to 14<sup>th</sup> last year). German enterprises are not very much exploiting the possibilities offered by social media.

	Germany				EU DESI 2016 value
	DESI 2016		DESI 2015		
	value	rank	value	rank	
<b>4a1 Electronic Information Sharing</b> % enterprises (no financial sector, 10+ employees)	56% (2015) ↑	1	35% (2014)	14	36% (2015)
<b>4a2 RFID</b> % enterprises (no financial sector, 10+ employees)	4% (2014)	15	4% (2014)	15	3.8% (2014)
<b>4a3 Social Media</b> % enterprises (no financial sector, 10+ employees)	15% (2015) ↑	16	11% (2014)	19	18% (2015)
<b>4a4 eInvoices</b> % enterprises (no financial sector, 10+ employees)	14% (2015) ↑	11	12% (2014)	8	n.a.
<b>4a5 Cloud</b> % enterprises (no financial sector, 10+ employees)	n.a.	-	6.2% (2014)	21	n.a.
<b>4b1 SMEs Selling Online</b> % SMEs (no financial sector, 10+ employees)	24% (2015) ↑	4	22% (2014)	7	16% (2015)
<b>4b2 eCommerce Turnover</b> % turnover of SMEs (no financial sector, 10-249 employees)	9.6% (2015) ↑	12	9.5% (2014)	10	9.4% (2015)
<b>4b3 Selling Online Cross-border</b> % SMEs (no financial sector, 10+ employees)	9.2% (2015)	11	n.a.	-	7.5% (2015)

A true digital economy is one where businesses take full advantage of the possibilities and benefits offered by digital technologies, to improve their efficiency and productivity, and reach out to customers to sell goods and services. In the context of the "Digital Agenda 2014-2017", Germany adopted the "Industry 4.0" programme, which aims at further enhancing the use of digital technologies for business.

German companies have the best integrated electronic information sharing (56% of all companies, ranking 1<sup>st</sup> among 28 EU Member States) and use of eInvoices (14% of companies, ranking 11<sup>th</sup>). On the contrary, German businesses (like German citizens) show reluctance in the use of social media (15%), where Germany ranks 16<sup>th</sup> in Europe. German enterprises increasingly take advantage of the possibilities offered by on-line commerce: nearly a quarter of SMEs sell online (24% - above the 16% of the EU average), and those who sell online make less than 9.6% of the share of their turnover from those sales. 9.2% of SME are selling online cross-border, above the European average of 7.5%.

## 5 Digital Public Services

5 Digital Public Services	Germany		Cluster score	EU score
	rank	score		
<b>DESI 2016</b>	<b>18</b>	<b>0.5</b>	<b>0.69</b>	<b>0.55</b>
DESI 2015	20	0.48	0.66	0.54

This is the section where Germany is performing worst. With a score of 0.5, Germany ranks 18<sup>th</sup> among EU countries in Digital Public Services, showing that the country needs to improve the provision of online public services. The low use of eGovernment solutions might also be an indicator that the availability and usability of online public services could be enhanced.

	Germany				EU DESI 2016 value
	DESI 2016 value	rank	DESI 2015 value	rank	
<b>5a1 eGovernment Users</b> % individuals returning filled forms, out of Internet users in the last year (aged 16-74)	19% (2015) ↑	23	18% (2014)	23	32% (2015)
<b>5a2 Pre-filled Forms</b> Score (0 to 100)	34 (2015) →	18	34 (2014)	17	49 (2015)
<b>5a3 Online Service Completion</b> Score (0 to 100)	83 (2015) ↑	17	75 (2014)	18	81 (2015)
<b>5a4 Open Data</b> Score (0 to 700)	400 (2015) →	11	400 (2014)	12	351 (2015)

Modern public services offered online in an efficient manner are a vehicle for reducing public spending as well as for realising efficiency gains for enterprises, citizens and the public administration. Germany faces a key challenge in online public services. Provision of pre-filled forms<sup>7</sup> is lower than the EU average, and Online Service Completion<sup>8</sup> just above the EU average. Better online public services will also likely improve Germany's percentage of eGovernment users: only 19% of Internet users (against 32% in the EU average) fully interact online with public authorities, this figure being among the lowest in Europe (Germany ranks 23<sup>rd</sup>).

<sup>7</sup> It measures 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.

<sup>8</sup> It measures the extent to which the various steps in an interaction with the public administration – life event – can be performed completely online.