

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

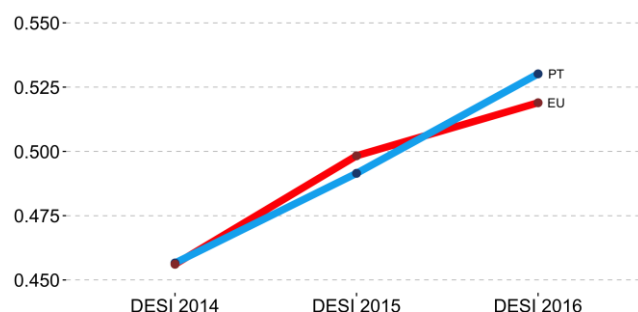
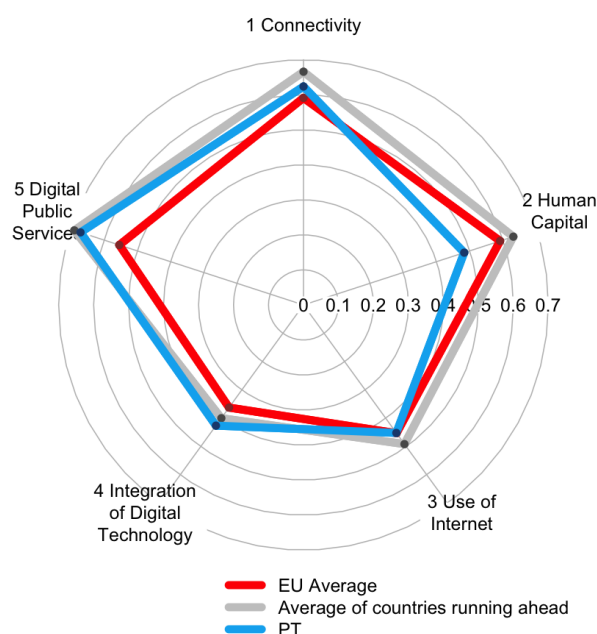
## Country Profile

### Portugal

Portugal has an overall score<sup>3</sup> of **0.53** and ranks **14<sup>th</sup>** out of the 28 EU Member States. It was the second EU country that progressed the most over the last year. Portugal has good broadband network coverage (broadband is available to all homes, fast internet is available to 91% of them and subscriptions to fast connections are more than half of all broadband connections), advanced online public services (Portugal ranks 8<sup>th</sup> among EU countries for its well-developed online public services and fair usage by citizens) and performs above average in digitisation of businesses (the country ranks second in the use of RFID and fifth in electronic information sharing within companies). The country's greatest challenge is to improve the digital skills of its citizens (about half of the population doesn't have basic digital skills) and to bring them online (28% have never used the Internet) so that they can fully participate in the digital economy and society.

Portugal's DESI 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, where it performs below the cluster average.

	Portugal rank	Portugal score	Cluster score	EU score
DESI 2016	14	0.53	0.58	0.52
DESI 2015	16	0.49 <sup>5</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> DESI scores range from 0 to 1, the higher the score the better the country performance.

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

<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	Portugal		Cluster score	EU score
	rank	score		
DESI 2016	12	0.62	0.67	0.59
DESI 2015	14	0.59	0.6	0.57

With an overall Connectivity score of 0.62, Portugal ranks 12<sup>th</sup> among EU countries. Broadband is widely available, but only 61% of Portuguese households subscribe to fixed broadband, and less than half of citizens subscribe to mobile broadband.

	Portugal				EU	
	DESI 2016		rank	DESI 2015		DESI 2016
	value			value	rank	value
<b>1a1 Fixed BB Coverage</b> % households	100% (June 2015)	→	7	100% (December 2014)	7	97% (June 2015)
<b>1a2 Fixed BB Take-up</b> % households	61% (2015)	↑	22	53% (2014)	27	72% (2015)
<b>1b1 Mobile BB Take-up</b> Subscribers per 100 people	46 (June 2015)	→	26	46 (December 2014)	26	75 (June 2015)
<b>1b2 Spectrum</b> % of the target for spectrum to be harmonised at EU level	75% (December 2015)	↓	8	78% (December 2014)	7	69% (December 2015)
<b>1c1 NGA Coverage</b> % households, out of all households	91% (June 2015)	↑	7	89% (December 2014)	8	71% (June 2015)
<b>1c2 Subscriptions to Fast BB</b> % of subscriptions >= 30Mbps, out of fixed BB subscriptions	57% (June 2015)	↑	7	54% (December 2014)	5	30% (June 2015)
<b>1d1 Fixed BB Price</b> % individual gross income spent for the cheapest standalone Fixed Broadband subscription (lower values are better)	2.3% (Access cost: 2015; Income: 2014)	→	24	2.3% (Access cost: 2014; Income: 2014)	24	1.3% (Access cost: 2015; Income: 2014)

In Portugal, broadband is available to all homes. Moreover, networks capable of providing at least 30 Mbps are available to 91% of households (well above the EU average of 71%) and subscriptions to fast broadband have seen significant growth over the last years, reaching now 57% of all broadband connections.

The key challenge for Portugal is to increase overall broadband take-up, both fixed and mobile. Despite ubiquitous networks, only 61% of homes subscribe to fixed broadband. As for mobile broadband, there were only 46 subscriptions per 100 people. In both cases Portugal is among the lowest performing countries in the EU.

Among the reasons for the low take-up of broadband in Portugal might be the subscription price, since the country has the fifth most expensive entry-level broadband price in the EU. An individual seeking to subscribe to a broadband connection<sup>6</sup> must spend on average 2.3% of her gross income, which is more than the overall EU average of 1.3%.

<sup>6</sup> Calculations performed taking into account the price of the least expensive standalone fixed broadband connection offering speeds between 12 Mbps and 30 Mbps.

## 2 Human Capital

2 Human Capital	Portugal		Cluster score	EU score
	rank	score		
<b>DESI 2016</b>	<b>20</b>	<b>0.48</b>	<b>0.63</b>	<b>0.59</b>
DESI 2015	23	0.39	0.72	0.58

With a Human Capital score of 0.48, Portugal ranks 20<sup>th</sup> among EU countries. The country has significantly improved its score in comparison to the previous year (0.39), but Portugal still has a severe digital skills gap.

	Portugal				EU DESI 2016 value
	DESI 2016		DESI 2015		
	value	rank	value	rank	
<b>2a1 Internet Users</b> % individuals (aged 16-74)	65% (2015) ↑	23	61% (2014)	24	76% (2015)
<b>2a2 Basic Digital Skills</b> % individuals (aged 16-74)	48% (2015)	21	n.a.	–	55% (2015)
<b>2b1 ICT Specialists</b> % employed individuals	2.5% (2014) ↑	23	1.9% (2013)	27	3.7% (2014)
<b>2b2 STEM Graduates</b> Graduates in STEM per 1000 individuals (aged 20 to 29)	21 (2013) ↑	7	19 (2012)	6	18 (2013)

In order to fully develop its digital economy and society, Portugal needs to engage its citizens to use the Internet. Only 65% of Portuguese citizens use the Internet on a regular (weekly) basis, which makes the country the sixth worst performer in the EU. Furthermore, 28% of the Portuguese population has never used the Internet (the EU average is 16%), which means that 1 in each 4 Portuguese cannot partake on the possibilities offered by the Internet, nor can they contribute to the digital economy.

Another key challenge for Portugal is to address the lack of digital skills, since close to half of the Portuguese population doesn't have basic digital skills. This is correlated to a low level of overall skills in the population. In 2014, 56% of the Portuguese population had only completed an ISCED 2 -level education ("ensino básico"), against 28% in the EU at large. In the Portuguese workforce, only 2.5% of employed people are ICT specialists. Despite the improvement from 1.9% in 2013, Portugal is still in the sixth to last position in the EU.

The only indicator where Portugal performs better than the EU average is in STEM (science, technology and mathematics) graduates, with 2.1% of Portuguese people aged 20-29 years old holding a STEM degree. While positive, this is not enough to compensate for Portugal's severe digital skills deficit.

### 3 Use of Internet

3 Use of Internet	Portugal		Cluster score	EU score
	rank	score		
<b>DESI 2016</b>	<b>15</b>	<b>0.45</b>	<b>0.49</b>	<b>0.45</b>
DESI 2015	13	0.44	0.47	0.43

In terms of the propensity of individuals to use Internet services, Portugal scores 0.45 (up from 0.44 last year) but, despite the improvement, it dropped two positions in the ranking, being now 15<sup>th</sup> among EU countries. Portuguese appear to refrain most from using the Internet when they need to make transactions, as Portugal performs below the EU average both in online banking and online shopping.

	Portugal				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)	78% (2015) ↑	14	74% (2014)	16	68% (2015)
<b>3a2 Music, Videos and Games</b> % individuals who used Internet in the last 3 months (aged 16-74)	49% (2014)	16	49% (2014)	16	49% (2014)
<b>3a3 Video on Demand</b> % households that have a TV	62% (2014)	6	62% (2014)	6	41% (2014)
<b>3b1 Video Calls</b> % individuals who used Internet in the last 3 months (aged 16-74)	37% (2015) →	19	37% (2014)	20	37% (2015)
<b>3b2 Social Networks</b> % individuals who used Internet in the last 3 months (aged 16-74)	70% (2015) ↓	10	72% (2014)	2	63% (2015)
<b>3c1 Banking</b> % individuals who used Internet in the last 3 months (aged 16-74)	41% (2015) ↑	24	39% (2014)	23	57% (2015)
<b>3c2 Shopping</b> % individuals who used Internet in the last year (aged 16-74)	44% (2015) ↑	22	39% (2014)	23	65% (2015)

Portuguese Internet users engage in a broad range of online activities. They read news online (78%), listen to music, watch films and play games online (49%), use the Internet to communicate via voice or video calls (37%) or through social networks (70%), and obtain video content using their broadband connections (62% of households subscribe to Video on Demand). For most of these activities, engagement among Portuguese is higher than overall in the EU and continues to grow.

While Portuguese Internet users are keen to engage in the above-mentioned Internet activities, they are reluctant to engage in online transactions. Despite having increased in comparison to last year, the shares of Portuguese Internet users that use online banking (41%) or shop online (44%) are still lower than the EU average. This is an area where Portugal should improve, because a digital economy is partly fuelled by its citizens' trust and use of the online channel.

## 4 Integration of Digital Technology

4 Integration of Digital Technology	Portugal		Cluster score	EU score
	rank	score		
<b>DESI 2016</b>	<b>9</b>	<b>0.43</b>	<b>0.4</b>	<b>0.36</b>
DESI 2015	12	0.37	0.36	0.33

In Integration of Digital Technology by businesses, Portugal scores 0.43, having attained significant progress when compared to last year. It ranks now 9<sup>th</sup> among EU countries. Portugal performs above the EU average and is gaining traction in exploiting the possibilities of digital technologies for business, especially in what concerns eCommerce, the area where the country has registered the greatest progress over the past year.

	Portugal				EU DESI 2016 value
	DESI 2016		DESI 2015		
	value	rank	value	rank	
<b>4a1 Electronic Information Sharing</b> % enterprises (no financial sector, 10+ employees)	44% (2015) ↑	5	40% (2014)	6	36% (2015)
<b>4a2 RFID</b> % enterprises (no financial sector, 10+ employees)	8% (2014)	2	8% (2014)	2	3.8% (2014)
<b>4a3 Social Media</b> % enterprises (no financial sector, 10+ employees)	12% (2015) ↑	21	11% (2014)	18	18% (2015)
<b>4a4 eInvoices</b> % enterprises (no financial sector, 10+ employees)	13% (2015) →	12	13% (2014)	7	n.a.
<b>4a5 Cloud</b> % enterprises (no financial sector, 10+ employees)	n.a.	–	8% (2014)	17	n.a.
<b>4b1 SMEs Selling Online</b> % SMEs (no financial sector, 10+ employees)	19% (2015) ↑	9	14% (2014)	14	16% (2015)
<b>4b2 eCommerce Turnover</b> % turnover of SMEs (no financial sector, 10-249 employees)	13% (2015) ↑	6	11% (2014)	7	9.4% (2015)
<b>4b3 Selling Online Cross-border</b> % SMEs (no financial sector, 10+ employees)	7.9% (2015) ↑	16	5.4% (2013)	18	7.5% (2015)

A true digital economy is one where businesses take full advantage of the possibilities and benefits offered by digital technologies, both to improve their efficiency and productivity, as well as to reach costumers and realise sales.

Portugal is doing fairly well in integrating digital technologies in the business sector. In particular, it ranks second among EU countries in the use of RFID and fifth in electronic information sharing (ERP). However, the country's businesses have room for improvement in seizing the advantages of digitisation, in particular concerning the use of social media to engage and communicate with customers and partners.

Portuguese businesses have made clear progress in taking advantage of the possibilities offered by online commerce. The significant increase in the share of Portuguese SMEs that sell online (5 percentage point increase) and that do so to other EU member states (2.5 percentage point increase), as well as the increase in overall turnover from online sales (which rose from 11% to 13% of the companies' total turnover) allowed the country to perform better than the EU average in all three indicators. While Portugal seems to be in the right path to exploit the benefits of online commerce, further developments in this field can be an avenue for enhanced economic growth.

## 5 Digital Public Services

5 Digital Public Services	Portugal		Cluster score	EU score
	rank	score		
<b>DESI 2016</b>	<b>8</b>	<b>0.67</b>	<b>0.69</b>	<b>0.55</b>
DESI 2015	5	0.7	0.66	0.54

Digital Public Services is still the DESI 2016 dimension where Portugal ranks higher, despite presenting a lower performance than last year. With a score of 0.67, it ranks 8<sup>th</sup> among EU countries. Portuguese online public services are well developed and see a fair usage by citizens.

	Portugal				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)	41% (2015) ↓	9	43% (2014)	7	32% (2015)
<b>5a2 Pre-filled Forms</b> Score (0 to 100)	81 (2015) ↑	4	76 (2014)	5	49 (2015)
<b>5a3 Online Service Completion</b> Score (0 to 100)	98 (2015) →	3	98 (2014)	2	81 (2015)
<b>5a4 Open Data</b> Score (0 to 700)	260 (2015) ↓	22	360 (2014)	15	351 (2015)

Thanks to a continuous and concerted effort by the Portuguese public administration to develop and deploy its services online for both enterprises and citizens, Portugal performs significantly well in this field. On the demand side, 41% of Portuguese Internet users exchanged filled forms with public authorities online (9 percentage points above the EU average). On the supply side, the indicator scores<sup>7</sup> place Portugal among the top EU countries in sophistication of online services.

<sup>7</sup> 81/100 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 98/100 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).