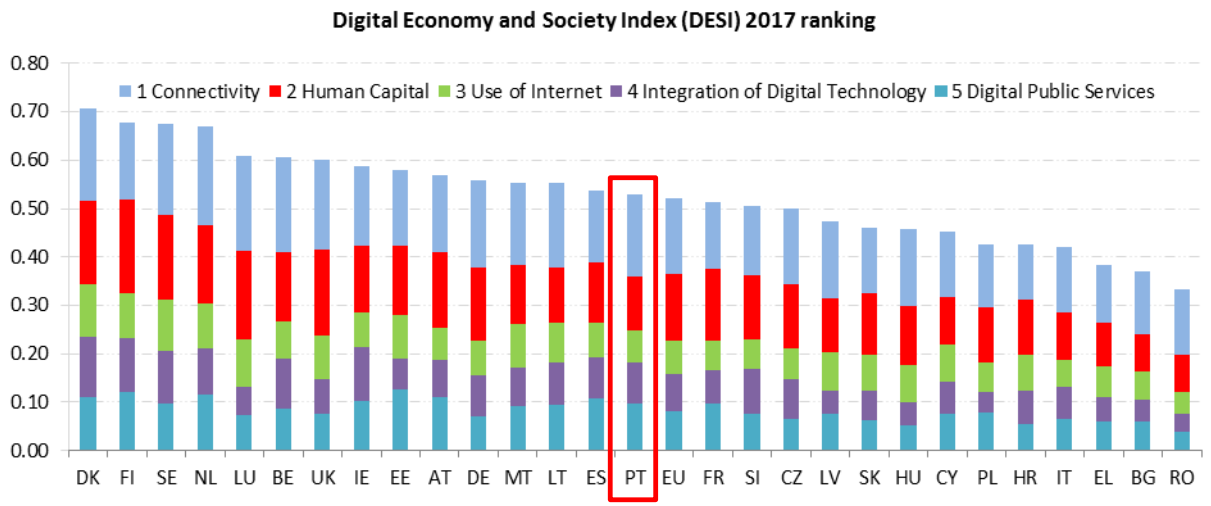
Europe's Digital Progress Report (EDPR) 2017 Country Profile Portugal

Europe's Digital Progress Report (EDPR) tracks the progress made by Member States in terms of their digitisation, combining quantitative evidence from the Digital Economy and Society Index (DESI)[1] with qualitative information on country-specific policies. It is structured around five chapters:

1 Connectivity	Fixed broadband, mobile broadband, broadband speed and prices
2 Human Capital	Internet use, basic and advanced digital skills
3 Use of Internet	Citizens' use of content, communication and online transactions
4 Integration of Digital Technology	Business digitisation and eCommerce
5 Digital Public Services	eGovernment



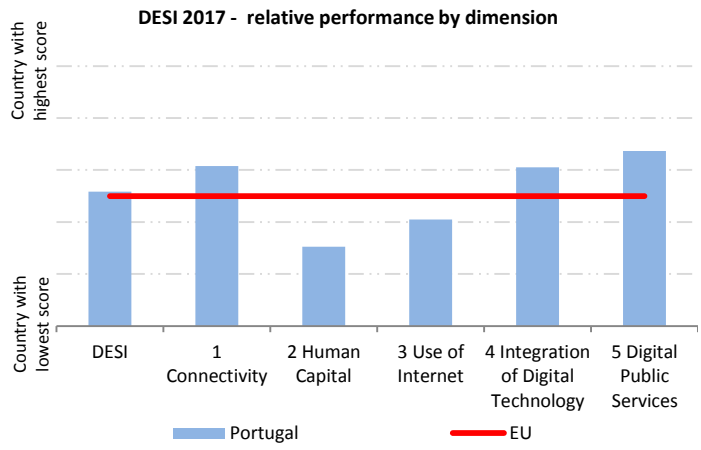
[1] https://ec.europa.eu/digital-single-market/en/desi

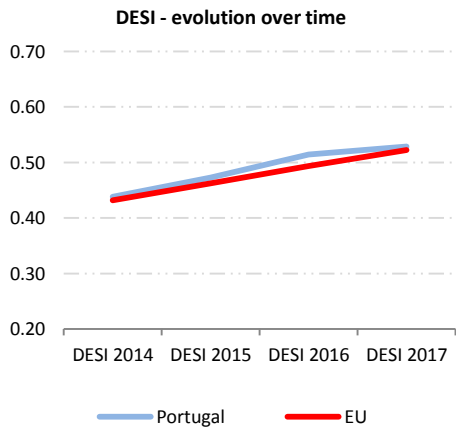
	Portugal		Cluster	EU
	rank	score	score	score
DESI 2017	**15**	**0.53**	**0.54**	**0.52**
DESI 2016[2]	14	0.51	0.51	0.49

Portugal ranks 15th out of the 28 EU Member States in DESI 2017, thus slipping back from last year's 14th place in the ranking. However, the country's overall score increased slightly, as did scores for all DESI dimensions except for Digital Public Services. The greatest improvements consist of increased take-up of fixed and mobile broadband services as well as broader corporate use of social media and eInvoicing. In the same vein, Portuguese businesses continue to feature high rates of use for information sharing and Radio Frequency Identification (RFID) technologies, which shows they are taking steps to exploit the opportunities offered by digital technologies. Portugal's greatest challenge lies in raising the digital skills levels of its population, particularly among the elderly and those with low levels of education or on low incomes.

Portugal belongs to the Medium performing cluster of countries[3].

In April 2015 Portugal undertook an extensive revision of the country's Digital Agenda Strategy (*Agenda Portugal Digital, APD*)[4], which was first launched in 2012. This included updates of the Strategy's objectives and measures. Two major initiatives on, respectively, digital skills and digitisation of the economy, have been launched in 2017 (see sections 2 and 4 for further details).





[2] The DESI 2016 was re-calculated for all countries to reflect slight changes in the choice of indicators and corrections to the underlying indicator data. As a result, country scores and rankings may have changed from the previous publication. For further information please consult the DESI methodological note at https://ec.europa.eu/digital-single-market/en/desi.

[3] Medium performing countries are Latvia, Czech Republic, Slovenia, France, Portugal, Spain, Lithuania, Malta, Germany and Austria.

[4] http://www.portugaldigital.pt/index/

1 Connectivity

1 Connectivity	Portugal rank	Portugal score	Cluster score	EU score
DESI 2017	**10**	**0.67**	**0.63**	**0.63**
DESI 2016	11	0.63	0.60	0.59

	Portugal DESI 2017 value		Portugal DESI 2017 rank	Portugal DESI 2016 value	Portugal DESI 2016 rank	EU DESI 2017 value
1a1 Fixed Broadband Coverage % households	**99.76%** 2016	↑	**8**	**99.81%** 2015	**7**	**98%** 2016
1a2 Fixed Broadband Take-up % households	**68%** 2016	↑	**19**	**61%** 2015	**22**	**74%** 2016
1b1 Mobile Broadband Take-up Subscriptions per 100 people	**55** June 2016	↑	**26**	**51** June 2015	**25**	**84** June 2016
1b2 4G coverage[5] % households (average of operators)	**95%** 2016		**6**	**NA**		**84%** 2016
1b3 Spectrum[6] % of the target	**69%** 2016	↓	**14**	**75%** 2015	**8**	**68%** 2016
1c1 NGA Coverage % households	**95%** 2016	↑	**5**	**91%** 2015	**7**	**76%** 2016
1c2 Subscriptions to Fast Broadband % subscriptions >= 30Mbps	**63%** June 2016	↑	**4**	**57%** June 2015	**7**	**37%** June 2016
1d1 Fixed Broadband Price[7] % income	**2.1%** price 2016, income 2015	↑	**23**	**2.3%** price 2015, income 2015	**25**	**1.2%** price 2016, income 2015

Portugal further improved its overall connectivity ranking in 2016, moving into 10th place in the EU. In Portugal, broadband is available to all homes. Moreover, networks capable of providing at least 30 Mbps are available to 95 % of households, well above the EU average of 76 %, and subscriptions to fast broadband have seen significant growth over the past years, reaching now 63 % of all broadband connections.

Low broadband take-up, both of fixed and mobile, continues to be a challenge for Portugal. In 2016, only 68 % of homes subscribed to fixed broadband and only 55 % to mobile broadband. In mobile broadband take-up, Portugal is among the lowest performing countries in the EU and slid down one place in the ranking (now 26th). Among the various reasons for low broadband take-up in Portugal, subscription prices probably play an important role: in a convergent bundling trend, single play prices are among the most expensive in the EU. In

[5] This is a new DESI indicator measuring the average coverage of telecom operators' 4G networks.

[6] Percentage of assigned spectrum out of the target to be harmonised at EU level. Source: European Commission services, http://ec.europa.eu/newsroom/document.cfm?doc_id=43049. There is a decrease in most of the Member States due to the additional EU harmonisation of the 700 MHz band in April 2016.

[7] Due to a slight methodological change, historical data was re-calculated.

2016, an individual seeking to subscribe only to a broadband connection had to spend, on average, 2.1 % of his/her gross income, which is significantly more than the EU average of 1.2 %. This differential may however be lower if prices for bundles such as triple play, which is very popular in Portugal, are considered.

The APD encompasses specific actions by several ministries, private companies and other stakeholders. In line with EU objectives, the Agenda notably aims at promoting broadband infrastructure development, enabling all citizens to have broadband access speeds of at least 30 Mbps by 2020 and allowing 50 % of households to have broadband Internet access speed at or above 100 Mbps by 2020. The extensive deployment of FTTH places Portugal in a good position in relation with the 2025 connectivity goals proposed by the European Commission. In recent years no additional public funding has been allocated to complete NGA deployment in more rural areas; additional efforts will be required to reach the last 5 % of households. To tackle the low take-up problem, the APD notably aims at promoting the usage of digital technologies and enhancing the digital skills of the Portuguese population (see section 2).

2 Human Capital

2 Human Capital	Portugal		Cluster	EU
	rank	score	score	score
DESI 2017	**22**	**0.45**	**0.57**	**0.55**
DESI 2016	19	0.44	0.55	0.53

	Portugal					EU
	DESI 2017			DESI 2016		DESI 2017
	value		rank	value	rank	value
2a1 Internet Users % individuals	**68%** 2016	↑	**24**	**65%** 2015	**23**	**79%** 2016
2a2 At Least Basic Digital Skills % individuals	**48%** 2016	→	**21**	**48%** 2015	**21**	**56%** 2016
2b1 ICT Specialists[8] % employed individuals	**2.3%** 2015	↓	**22**	**2.5%** 2014	**21**	**3.5%** 2015
2b2 STEM Graduates Per 1000 individuals (aged 20-29)	**20** 2014	↓	**8**	**21** 2013	**7**	**19** 2014

Although it increased in 2016, the share of Portuguese citizens who use the internet at least weekly (68 %) continues to be well below the EU average (79 %). In the same vein, in 2016, 26 % of the Portuguese adult population had never used the internet compared with 14 % for the EU as a whole. This situation is partly explained by the fact that 52 % of the population does not have the basic digital skills required to function effectively online and 30 % have no digital skills at all, compared with an EU average of, respectively, 44 % and 19 %. Furthermore, the share of adults in the active labour force with no digital skills in Portugal is, at 22 %, twice as high as the EU average.[9]

The risk of digital exclusion for certain population groups such as the elderly (particularly in rural areas) or those on low incomes or with low education levels, is particularly high in Portugal: only 30 % of people with at least one of these disadvantage factors had at least basic digital skills in 2015, that is 9 pp. below the EU average.

Portugal is also lagging behind in terms of the share of professionals with specialised ICT skills in total employment; although, partly due to the country's economic structure, comparatively fewer companies reported hard-to-fill vacancies requiring such skills than in the EU as a whole (respectively, 32.5 % and 41 % of companies having recruited or tried to recruit personnel for jobs requiring ICT specialist skills[10]). The country continues to have, however, a higher proportion of people aged 20-29 with STEM (science, technology and mathematics) degrees than most EU Member States.

[8] Historical data have been revised by Eurostat.

[9] Relatively low levels of internet use may also have to do with limited affordability.

[10] Figures exclude financial sector and companies with fewer than 10 employees.

The APD acknowledges the above challenges, although it provides limited information on budgeting and implementation. On April 3rd 2017, Portugal launched a new National Initiative on Digital Skills[11] which replaces the National Strategy for Digital Inclusion and Literacy as well as the Strategy and Action Plan for Digital Employability. It seeks to involve public authorities, private sector, academia and civil society. It includes measures to fight digital inclusion and promote digital literacy as well as to further develop, among others, training, reskilling and advanced digital technology specialisation and R&I. It also sets quantitative targets for 2020, 2025 and 2030 that go beyond those in the APD.

In the same vein, training and re-skilling measures to endow the Portuguese society with the knowledge and skills required in a context of digital transformation are a cornerstone of the Portuguese strategy for the digitisation of the economy, *Indústria 4.0* (see section 4, Integration of Digital Technology).

While promising measures have been undertaken in this area[12], Portugal still has a long way to go in order to deliver enhancement of its citizens' digital skills, particularly among disadvantaged population groups, given the evidence of a digital divide in the country. In today's world, ensuring that all citizens have the right digital skills is a pre-condition for inclusive labour markets, improved productivity and sustained economic growth.

[11] www.incode2030.pt

[12] In addition to the above, it is worth noting that the number of *Espaços Cidadão*, or citizen spots (see 'Highlight 2016' for more details), has been doubled over the past year with a view to promoting digital literacy and bridging the digital divide.

3 Use of Internet

3 Use of Internet	Portugal		Cluster	EU
	rank	score	score	score
DESI 2017	**19**	**0.44**	**0.45**	**0.48**
DESI 2016	19	0.42	0.42	0.45

	Portugal					EU
	DESI 2017			DESI 2016		DESI 2017
	value		rank	value	rank	value
3a1 News % individuals who used Internet in the last 3 months	**78%** 2016	→	**14**	**78%** 2015	**14**	**70%** 2016
3a2 Music, Videos and Games[13] % individuals who used Internet in the last 3 months	**83%** 2016		**10**	**NA**		**78%** 2016
3a3 Video on Demand[14] % individuals who used Internet in the last 3 months	**9%** 2016		**22**	**NA**		**21%** 2016
3b1 Video Calls % individuals who used Internet in the last 3 months	**39%** 2016	↑	**21**	**37%** 2015	**19**	**39%** 2016
3b2 Social Networks % individuals who used Internet in the last 3 months	**74%** 2016	↑	**9**	**70%** 2015	**10**	**63%** 2016
3c1 Banking % individuals who used Internet in the last 3 months	**41%** 2016	→	**24**	**41%** 2015	**24**	**59%** 2016
3c2 Shopping % internet users (last year)	**43%** 2016	↓	**24**	**44%** 2015	**22**	**66%** 2016

Despite an uptick in the share of internet users making video calls online and using social networks - which, together with playing or downloading games, images, films or music, is the only activity in this dimension where Portugal's score is above the EU average - internet users in Portugal show little inclination to make use of online services compared with their EU counterparts. In particular, there continues to be strong reluctance to shop online or use internet banking services: respectively, only 43 % and 41 % of internet users in Portugal do so compared with EU average values of 66 % and 59 %. The country ranks 24th out of 28 Member States in both these activities.

[13] Break in series due to a change in the Eurostat survey.

[14] Break in series due to a change of data source. New source is Eurostat.

4 Integration of Digital Technology

4 Integration of Digital Technology	Portugal		Cluster	EU
	rank	score	score	score
DESI 2017	**9**	**0.43**	**0.40**	**0.37**
DESI 2016	9	0.41	0.37	0.35

	Portugal					EU
	DESI 2017			DESI 2016		DESI 2017
	value		rank	value	rank	value
4a1 Electronic Information Sharing % enterprises	**44%** 2015		**5**	**44%** 2015	**5**	**36%** 2015
4a2 RFID % enterprises	**8.0%** 2014		**2**	**8.0%** 2014	**2**	**3.9%** 2014
4a3 Social Media % enterprises	**17%** 2016	↑	**17**	**12%** 2015	**21**	**20%** 2016
4a4 eInvoices % enterprises	**19%** 2016	↑	**9**	**13%** 2015	**14**	**18%** 2016
4a5 Cloud % enterprises	**11%** 2016		**18**	**NA** 2015		**13%** 2016
4b1 SMEs Selling Online % SMEs	**18%** 2016	↓	**11**	**19%** 2015	**9**	**17%** 2016
4b2 eCommerce Turnover % SME turnover	**12.0%** 2016	↓	**7**	**13.3%** 2015	**5**	**9.4%** 2016
4b3 Selling Online Cross-border % SMEs	**7.9%** 2015		**16**	**7.9%** 2015	**16**	**7.5%** 2015

Portugal's score in this dimension improved in 2016. The country shows above-average scores in all but two components. These allowed it to keep its 9th position in the EU ranking.

Noteworthy progress occurred with regard to corporate use rates of both of social media and eInvoicing, which increased respectively by 42 % and 46 % from a year earlier. Moreover, Portuguese businesses continue to feature very high usage rates for information sharing and Radio Frequency Identification (RFID) technologies. These figures suggest that decisive steps are being taken to exploit the opportunities offered by digital technologies and confirm the genuine interest from public and private sector actors alike in strengthening Portugal's role as a digital hub (see *Highlight* box below). However, there is room for going even further. For example, relatively few enterprises in Portugal use cloud computing services (11 % compared with an EU average of 13 %)[15]. In the same vein, the share of SMEs selling online and the weight of eCommerce in SME turnover both flattened in 2016.

In January this year, Portugal's Prime Minister presented the national strategy for the digitisation of the economy, *Indústria 4.0.* The strategy encompasses 60 measures involving both public and private sector actors and is expected to mobilise EUR 4.5 billion, including

[15] Figures refer to enterprises having purchased at least one of the following cloud computing services: hosting of the enterprise's database, accounting software applications, CRM software, computing power. Financial sector and companies with fewer than 10 employees are excluded.

EUR 2.6 billion from the European Structural and Investment Funds, over the next four years and benefit about 50,000 enterprises operating in Portugal.[16]

Highlight 2017:[17] Web Summit in Lisbon

Between 7th and 10th November last year, Lisbon hosted Web Summit[18] 2016, arguably Europe's largest conference and marketplace dealing with internet technologies. More than 53,000 participants from all over the world took part in the event including high-profile executives such as Cisco Systems' John Chambers, Facebook's Mike Schroepfer, Twitter founder Jack Dorsey and Tesla's Elon Musk. The number of participating start-ups exceeded 1,500 including several dozen from Portugal. The organisers have announced that the 2017 and 2018 editions of the Web Summit will also take place in Lisbon.

This signals the success so far of Portugal's efforts to position itself as a digital hub including efforts to support innovative start-ups in ICT and related fields.

[16] http://www.portugal.gov.pt/pt/ministerios/meco/noticias/20170130-mecon-industria-4.aspx

[17] Highlight 2016 was: 'Espaços Cidadão (Citizen Spots): Citizen Spots are locations where services from different administrations are made available in a single point using an internet-connected computer. Each Spot has a worker assisting citizens, to show them how to use the online public services at their disposal. In June 2015, 1000 spots were co-located in post offices, municipality halls and other similar places. One goal is to render assisted digital services to citizens that are not familiar with eGovernment or that do not have enough digital skills, such that they can use eGovernment, and to contribute to their digital inclusion. Another goal is that citizens learn from the assisted experience and become autonomous in using the services.'

[18] https://websummit.com/

5 Digital Public Services

5 Digital Public Services	Portugal		Cluster	EU
	rank	score	score	score
DESI 2017	**10**	**0.65**	**0.59**	**0.55**
DESI 2016	7	0.68	0.56	0.51

	Portugal					EU
	DESI 2017			DESI 2016		DESI 2017
	value		rank	value	rank	value
5a1 eGovernment Users % internet users (last year)	**41%** 2016	→	**9**	**41%** 2015	**9**	**34%** 2016
5a2 Pre-filled Forms Score (0 to 100)	**74** 2016	↓	**4**	**81** 2015	**4**	**49** 2016
5a3 Online Service Completion Score (0 to 100)	**96** 2016	↓	**4**	**98** 2015	**3**	**82** 2016
5a4 Open Data[19] % of maximum score	**41%** 2016	↓	**25**	**44%** 2015	**16**	**59%** 2016

Portugal's performance remains well above the EU average. However, it worsened in 2016, going from the 7th to the 10th position. The share of eGovernment users remained stable. Although it is still relatively high by EU standards, this situation confirms the country's difficulties to further expand digital public services uptake in a context where parts of the population lack the necessary digital skills. The amount of data being pre-filled in public services' online forms as well as the levels of online service completion decreased slightly. With respect to open data, Portugal fell from the 16th to the 25th position in the ranking. In all other components under this dimension, the country is in the EU's top-10.

One of the APD's main aims consists of improving the quality, availability and uptake levels of Portugal's digital public services as a means of addressing key societal challenges. Related measures include those aimed at simplifying and rendering more efficient the public administration as a whole[20] as well as sector-specific ones (e.g. justice, health, mobility, etc.). In June 2016, a Resolution of the Council of Ministers established the Council for Information and Communication Technologies in Public Administration (CTIC), which works directly under the Prime Minister's supervision to define a new governance model for ICT in the Public Administration (in alignment with Simplex+[21], the country's main administrative simplification programme) and implement measures that take advantage of the transformative potential of ICT to help improve quality of life and reduce administrative costs for citizens and companies alike.

[19] Change of data source. The historical data have also been restated. The new source is the European Data Portal.

[20] For instance, through greater interoperability, dematerialisation of administrative procedures, etc. As an example, Decree-Law No. 73/2014 establishes the *digital by default* and *once-only* principles. Moreover, electronic authentication via Citizen Card (which has been available in Portugal for several years) and mobile authentication services via Mobile Key are worth mentioning.

[21] https://www.simplex.gov.pt/

Over the past year, several sectorial digitisation strategies have been launched (e.g. within the *Plano de Ação Justiça + Próxima*[22]) and promising initiatives have been put in place, such as the use of electronic medical prescriptions, which enables a more efficient and secure control of emission and exemption, and electronic pre-filled tax returns.

Also signalling the country's active involvement in this area is the fact that this year it is hosting the Sharing & Reuse Conference 2017[23], co-organised by the European Commission and the Administrative Modernisation Agency, as well as the 17th European Conference on Digital Government[24]. Furthermore, in recent years the country has sought to foster the development of public procurement electronic platforms as a means of lowering costs and increasing transparency. Legislation has been adopted to ensure the interoperability of these platforms[25] as well as to promote the use of the National Interoperability Platform for exchanging information.

[22] https://justicamaisproxima.mj.pt/

[23] The main focus of this event, which took place on March 29th 2017, is to discuss and share good practices related to the sharing and reuse of IT solutions that enable public administrations to develop services more quickly and at a reduced cost. For more details, see https://ec.europa.eu/isa2/news/%E2%80%8Bisa%C2%B2-organises-sharing-reuse-conference-2017_en.

[24] http://www.academic-conferences.org/conferences/ecdg/

[25] Law no. 96/2015, for example, creates a licensing and oversight regime for electronic platforms, imposing the interoperability of platforms with the Public Procurement Portal and other systems operated by public bodies.