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Delegations will find attached document SWD(2017) 160 final - PART 19/62.

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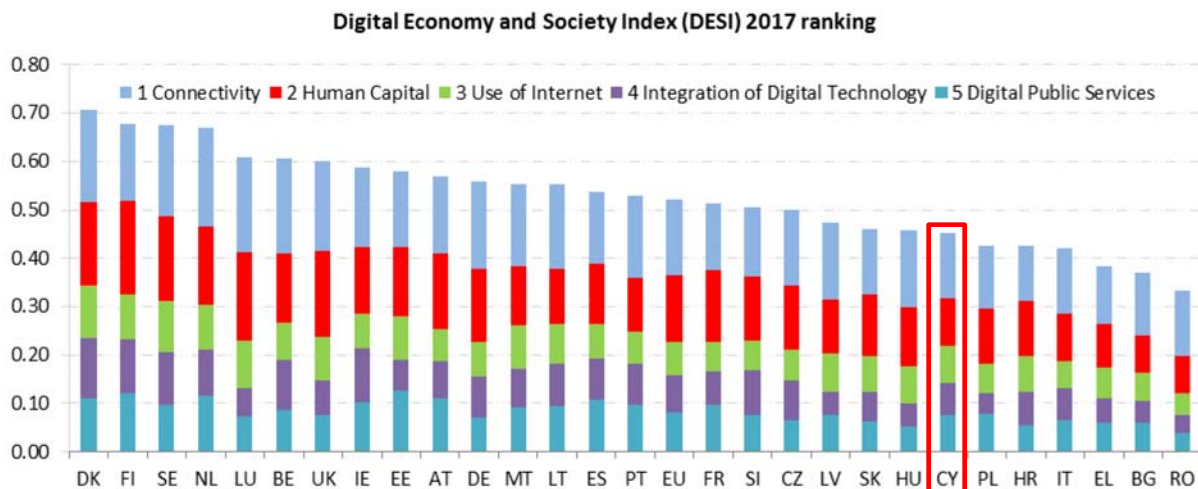
**COMMISSION STAFF WORKING DOCUMENT**

**Europe's Digital Progress Report 2017**

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

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)<sup>1</sup> with qualitative information on country-specific policies. It is structured around five chapters:

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



	Cyprus		Cluster	EU
	rank	score	score	score
<b>DESI 2017</b>	<b>22</b>	<b>0.45</b>	<b>0.41</b>	<b>0.52</b>
DESI 2016 <sup>2</sup>	21	0.42	0.38	0.49

<sup>1</sup> <https://ec.europa.eu/digital-single-market/en/desi>

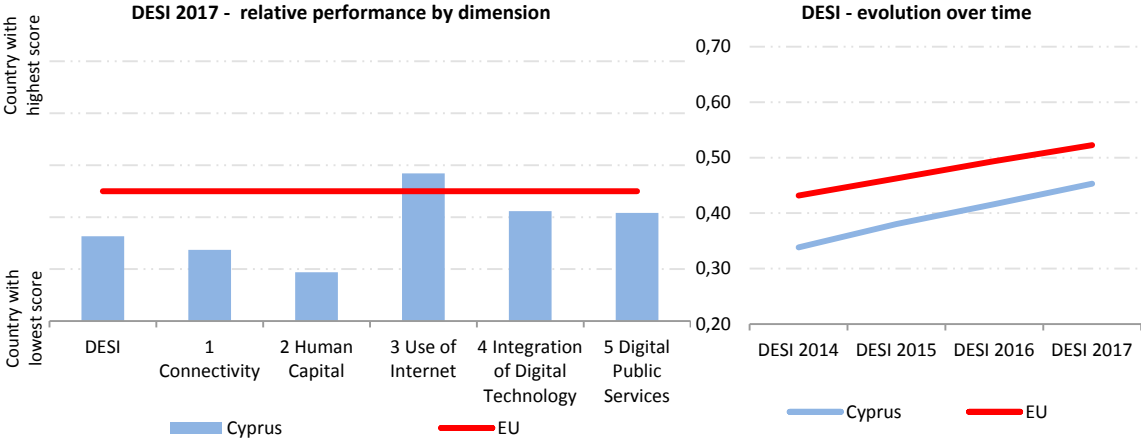
<sup>2</sup> The DESI 2016 was re-calculated for all countries to reflect slight changes in the choice of indicators and corrections to the underlying indicator data. As a result, country scores and rankings may have changed from the previous publication. For further information please consult the DESI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

Cyprus ranks 22nd out of the 28 EU Member States. Overall, Cyprus progresses slowly. But it showed significant progress in connectivity compared to last year. In the delivery of online public services, Cyprus is close to EU average. And despite the fact that internet users engage in a wide variety of online activities, low level of digital skills risk acting as a brake to the further development of its digital economy and society. The eGovernment Strategy of Cyprus could benefit from being further aligned to the underlying principles and policy priorities of the EU eGovernment Action Plan 2016-2020.

Cyprus belongs to the low performing cluster of countries<sup>3</sup>.

In 2012, Cyprus adopted a Digital Strategy<sup>4</sup> with targets in line with the Digital Agenda. In 2016, Cyprus was preparing an Industry Digitization Strategy to be presented mid-2017.

In the context of the European Structural and Investment Funds (ESIF) the overall EU assistance from the Operational Programme "Competitiveness and sustainable development" to Digital Strategy amounts to EUR 73.5 million, including for e-government activities and eCommerce / eServices for the period 2014-2020. This will be combined with EUR 13 million from national funds.



<sup>3</sup> Low performing countries are Romania, Bulgaria, Greece, Italy, Croatia, Poland, Cyprus, Hungary and Slovakia

<sup>4</sup> Available online (English Version): [http://ec.europa.eu/information\\_society/newsroom/cf/dae/document.cfm?doc\\_id=4831](http://ec.europa.eu/information_society/newsroom/cf/dae/document.cfm?doc_id=4831).

# 1 Connectivity

1 Connectivity	Cyprus		Cluster	EU
	rank	score	score	score
DESI 2017	21	0.55	0.53	0.63
DESI 2016	24	0.48	0.46	0.59

	Cyprus		EU	
	DESI 2017 value	rank	DESI 2016 value	DESI 2017 value
<b>1a1 Fixed Broadband Coverage</b> % households	100% →	3	100%	98%
	2016		2015	2016
<b>1a2 Fixed Broadband Take-up</b> % households	72% ↑	12	69%	74%
	2016		2015	2016
<b>1b1 Mobile Broadband Take-up</b> Subscriptions per 100 people	89 ↑	9	66	84
	June 2016		June 2015	June 2016
<b>1b2 4G coverage<sup>5</sup></b> % households (average of operators)	64%	27	NA	84%
	2016			2016
<b>1b3 Spectrum<sup>6</sup></b> % of the target	47% ↑	25	30%	68%
	2016		2015	2016
<b>1c1 NGA Coverage</b> % households	88% ↑	11	84%	76%
	2016		2015	2016
<b>1c2 Subscriptions to Fast Broadband</b> % subscriptions >= 30Mbps	4% →	28	4%	37%
	June 2016		June 2015	June 2016
<b>1d1 Fixed Broadband Price<sup>7</sup></b> % income	2.4% ↑	25	2.7%	1.2%
	price 2016, income 2015		price 2015, income 2015	price 2016, income 2015

Cyprus ranks 21<sup>st</sup> in terms of overall connectivity but made significant progress on the supply side: 100% of households are now covered by fixed broadband. It should also be noted that in terms of high-speed broadband coverage (NGA Coverage), Cyprus performs better than the EU at large, with high-speed broadband available to 88% of households, compared with the EU average of 76% of European households. While fixed broadband take-up (72%) is slightly below the EU average (74%), fixed Internet subscriptions to high-speed connections represent only 4% (versus 37% at EU level). On the positive side in 2016, there was significant growth in mobile broadband take-up with 89 subscriptions per 100 people compared with 66 the year before, placing Cyprus above the EU average (84). 4G coverage is however only at 64% of households versus the EU average of 84%<sup>8</sup>. It is worth mentioning that only 49% of the available spectrum has been licensed, compared with 68% EU-wide<sup>9</sup>.

<sup>5</sup> This is a new DESI indicator measuring the average coverage of telecom operators' 4G networks.

<sup>6</sup> There is a decrease in most of the Member States due to the additional EU harmonisation of the 700 MHz band in April 2016.

<sup>7</sup> Due to a slight methodological change, historical data was re-calculated.

<sup>8</sup> This is a new indicator for 2017 measuring the coverage of homes for the average of operators.

<sup>9</sup> New frequency band was added in 2017, so the total EU harmonised band is larger.

The lack of commercial interest in some frequency bands is partially due to the small size of the market, combined with interference problems. It should be noted that in 2016 Cyprus assigned via a competitive procedure two rights of use for radio frequency in the 800 and 2600 MHz bands, for 4G broadband network deployment with speeds of at least 30 Mbps, covering thus 50% by end 2018 and 75% by end 2020 of the Republic of Cyprus territory. The low take-up of broadband in Cyprus might be due to a variety of factors, such as lack of consumer interest, social factors and insufficient IT skills; the main barrier is most probably subscription prices, the third highest in the EU, even if these have fallen since 2015. An individual subscribing to a broadband connection must spend on average, 2.4% of gross income, when the EU average is only 1.2%.

The Cypriot 2012 "Digital Strategy" sets targets in line with the Digital Agenda for Europe: 100% coverage with 30 Mbps by 2020 and 50% take-up rate for 100 Mbps. Although Cyprus has a market-based approach to the building of infrastructure, public investment is also planned for NGA network deployment in specific areas, namely, through the European Union Structural and Investment Funds (ESIF). In 2016, the programming has been rationalised to better suit the needs and guarantee optimal funds absorption: the project "Deployment of NGA network to provide ultra-high speed (at least 100Mbps) in Cyprus (FTTH)" has been replaced by three projects for a total of €22 Million to be financed by ESIF under the Operational Programme "Sustainable Development and Competitiveness 2014-2020".

Cyprus's ability to exploit the benefits of the digital economy may be jeopardised by the low take-up of fast fixed broadband and the high prices of electronic communication services. In late 2016 in order to transpose the Cost reduction Directive<sup>10</sup>, Cyprus adopted the Regulation of Electronic Communications and Postal Services (Amendment) Law of 2016 (104(I)/2016) which was published in the Cyprus Government Gazette on 14 October 2016. This, together with effective implementation of Cyprus's Digital Strategy should facilitate the further deployment of fast and ultra-fast broadband networks, fixed and mobile, in particular in less commercially viable white areas.

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<sup>10</sup> Directive 2014/61/EU of the European Parliament and of the Council of 15 May 2014 on measures to reduce the cost of deploying high-speed electronic communications networks (OJ L155, 23 May 2014, p. 1.

## 2 Human Capital

2 Human Capital	Cyprus		Cluster	EU
	rank	score	score	score
DESI 2017	25	0.39	0.40	0.55
DESI 2016	25	0.37	0.38	0.53

	Cyprus				EU
	DESI 2017		DESI 2016		DESI 2017
	value	rank	value	rank	value
<b>2a1 Internet Users</b> % individuals	74% ↑	19	70%	20	79%
	2016		2015		2016
<b>2a2 At Least Basic Digital Skills</b> % individuals	43% →	26	43%	25	56%
	2016		2015		2016
<b>2b1 ICT Specialists<sup>11</sup></b> % individuals employed	2.2% ↓	24	2.4%	23	3.5%
	2015		2014		2015
<b>2b2 STEM Graduates</b> Per 1000 individuals (aged 20-29)	9 ↑	28	8	28	19
	2014		2013		2014

In Human Capital, Cyprus's performance is below the EU average, but progress is being made. In 2016, 74% of the Cypriot population used the internet regularly (versus 70% in 2015) but only 43% possessed at least basic levels of digital skills. Nowadays, digital skills and competences are needed for nearly all jobs where digital technology complements existing tasks, and shortages can be an important barrier to the country's economic development. Moreover, Cyprus has a low share of Science, Technology, Engineering and Math (STEM) graduates (9/1000) ranking last of the EU countries. The country has also a lower share of ICT specialists (2.2%) in the workforce than the EU average (2.4%). The digital skills deficit may impede the potential of the digital economy.

To address this challenge, Cyprus set up a National Coalition for Digital Jobs<sup>12</sup> end of 2015 bringing together 40 organisations from the public, private and academic sectors. This coalition continues to be active in the context of the European Digital Skills and Jobs Coalition. In 2016, a governmental initiative was launched in secondary education giving an incentive for young people to develop computing skills and build a foundation of digital literacy (see below).

Awareness actions are also planned in 2017, such as role model visits to schools and universities, by important ICT industry figures to explain the importance of ICT professionals in the future. In the second half 2017, an awareness campaign addressing all citizens will be launched in order to publicise what Cyprus is doing for the digital economy and society. The objective is raising the use of ICT and trust in ICT (i.e. eBanking, eCommerce); raising the level of online culture and use of electronic services offered by the public administration

<sup>11</sup> Historical data have been revised by Eurostat.

<sup>12</sup> <http://www.digitaljobs.cyprus-digitalchampion.gov.cy/el/page/home>

(eGovernment). The awareness campaign in preparation is also including non-users of Internet as targets in order to encourage them to access digital public services.

Cyprus would benefit by growing and strengthening initiatives aiming to ease its digital skills shortfall. Cooperation among stakeholders is crucial to implement actions for digital skills development. The National Coalition for Digital Skills and Jobs is an example of this cooperation between several ministries, breaking down silos and making collaboration happen, not only at governmental level but also including industry and education sector. It certainly has an active role in contributing to build digital skills capacity, but constant effort is needed. For Cyprus, addressing the shortage of ICT specialists remains crucial to support digital transformation.

**Highlight 2017<sup>13</sup>: ECDL certification<sup>14</sup> offered to all students in secondary education**

In 2016, the Ministry of Commerce, Industry and Tourism together with the Ministry of Education and Culture and the Ministry of Communication, Transport and Works have decided to introduce the certification of European Computer Driving Licence (ECDL) on a voluntary basis to secondary students in public and private schools. They also decided to provide training and ECDL certification to a number of soldiers and unemployed people (600 per year) as well as the provision of training programmes to people with disabilities. The objective is to have 70% participation out of the 7000 students studying in secondary education. The ECDL certificate can be compared with a "Digital Driving Licence". The decision to finance this certification was taken by the Council of Ministers in August 2016 and the main objective is to create a digital culture in Cyprus. It is worth mentioning that this is the first time that public schools will provide vocational ICT certification. This is considered to be a breakthrough for the Cypriot education system. The implementation of the programme started in January 2017 and will run for 3 years, with a budget of nearly €1 million.

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<sup>13</sup> Highlight 2016 was: eProcurement System of the Public Procurement Directorate of the Treasury of the Republic of Cyprus: The eProcurement System7 (ePs) is a secure and interoperable web-based application of the Republic of Cyprus (utilizing Open Source Software), which constitutes a comprehensive solution for the implementation of electronic procedures in conducting public procurement competitions. Since November 2009 ePs is fully functional and serves all Contracting Authorities in Cyprus for free, for all types of Procedures and all types of public procurement competitions. The system complies with the provisions of the European and Cypriot Law of public procurement. In September 2011, the Treasury of the Republic was awarded the Innovation Award of 2010, for the wider public sector, thanks to the development and implementation of the eProcurement System. Furthermore, ePs placed Cyprus first in the area of eProcurement amongst the Member States of the EU. Finally, it was awarded the Good Practice Label in the framework of the 4th European eGovernment Awards of 2009. The ePS in Cyprus is decentralized and the Contracting Authorities include the Central Government (Ministries, Independent authorities), Municipalities and Local Authorities, Bodies Governed by Public Law, and the Utilities Sector. There are around 6000 Registered Economic Operators on the Platform and 1000 foreign Economic Operators. Every year about 4000 competitions are launched. Moreover, the value of the procurement exceeds €1 Billion and the value of online purchasing by the public sector is approximately €20 Million.

<sup>14</sup> ECDL is the world's leading computer skills certification. To date more than 14 million people have engaged with the ECDL programme, in over 100 countries, through a network of over 24,000 ICDL Accredited Test Centres (ATCs).



### 3 Use of Internet

3 Use of Internet	Cyprus		Cluster	EU
	rank	score	score	score
DESI 2017	13	0.51	0.39	0.48
DESI 2016	14	0.46	0.37	0.45

	Cyprus				EU
	DESI 2017		DESI 2016		DESI 2017
	value	rank	value	rank	value
<b>3a1 News</b> % individuals who used Internet in the last 3 months	73% 2016	↓ 18	79% 2015	12	70% 2016
<b>3a2 Music, Videos and Games<sup>15</sup></b> % individuals who used Internet in the last 3 months	86% 2016	7	NA		78% 2016
<b>3a3 Video on Demand<sup>16</sup></b> % individuals who used Internet in the last 3 months	12% 2016	20	NA		21% 2016
<b>3b1 Video Calls</b> % individuals who used Internet in the last 3 months	72% 2016	↑ 2	62% 2015	3	39% 2016
<b>3b2 Social Networks</b> % individuals who used Internet in the last 3 months	79% 2016	↑ 4	75% 2015	5	63% 2016
<b>3c1 Banking</b> % individuals who used Internet in the last 3 months	37% 2016	↑ 25	29% 2015	25	59% 2016
<b>3c2 Shopping</b> % internet users (last year)	38% 2016	↑ 26	32% 2015	26	66% 2016

Cypriots are active Internet users engaging in a wide range of online activities, such as reading news online, listening to music, watching films and playing games online, using the Internet to communicate via voice or video calls and participating to social networks. For most of these activities, engagement among Cypriots is higher than overall in the EU.

But even if engaging in online banking (37%) and shopping activities (38%) progressed over the past year, these levels remain much lower than the EU averages (59% and 66% respectively). The progress in using eBanking in 2016 compared with the previous year can be explained by Cypriot banks' promotion of internet banking, with reduced prices for internet banking offered by some.

<sup>15</sup> Break in series due to a change in the Eurostat survey.

<sup>16</sup> Break in series due to a change of data source. New source is Eurostat.

## 4 Integration of Digital Technology

4 Integration of Digital Technology	Cyprus		Cluster	EU
	rank	score	score	score
DESI 2017	18	0.34	0.27	0.37
DESI 2016	17	0.33	0.25	0.35

	Cyprus				EU
	DESI 2017		DESI 2016		DESI 2017
	value	rank	value	rank	value
<b>4a1 Electronic Information Sharing</b> % enterprises	43% 2015	7	43% 2015	7	36% 2015
<b>4a2 RFID</b> % enterprises	3.1% 2014	18	3.1% 2014	18	3.9% 2014
<b>4a3 Social Media</b> % enterprises	35% ↑ 2016	4	30% 2015	4	20% 2016
<b>4a4 eInvoices</b> % enterprises	6% ↑ 2016	26	5% 2015	27	18% 2016
<b>4a5 Cloud</b> % enterprises	9% ↑ 2016	22	7% 2015	22	13% 2016
<b>4b1 SMEs Selling Online</b> % SMEs	12% ↑ 2016	19	10% 2015	20	17% 2016
<b>4b2 eCommerce Turnover</b> % SME turnover	4.7% ↓ 2016	25	7.3% 2015	19	9.4% 2016
<b>4b3 Selling Online Cross-border</b> % SMEs	8.3% 2015	14	8.3% 2015	14	7.5% 2015

Cyprus's performance over the last year is progressing slowly in terms of Integration of Digital Technology by businesses. Companies do engage in the use of social media and do trade online, but are less prone to take up new technologies such as cloud and RFID.

The percentage of companies using social media (35%) is well above the EU average (20%). However, not many Cypriot enterprises use eInvoices or cloud services. Cypriot businesses also need to take advantage of the possibilities offered by online commerce. Even if SMEs in Cyprus sell more online in 2016 (12%) than the year before (10%) eCommerce turnover fell to 4.7% in 2016 compared with 7.3% in 2015.

In this context, eCommerce is considered to be one of the top priorities of the Ministry of Energy, Commerce, Industry and Tourism. A scheme has been prioritised within Cyprus' digital strategy action plan for the period 2014-2020 and will be implemented in the first quarter of 2017 with the objective of encouraging SMEs to transform eCommerce opportunities into commercial advantage. National legislation has also been amended to comply with the eCommerce Directive and will be proposed for adoption by parliament.

Cypriot companies would also benefit from specific digitisation plans for industry. In late 2016, the Ministry of Energy, Commerce, Industry and Tourism started work on a new unified industry strategy for Cyprus; consultation is foreseen in April with finalisation in June 2017.

## 5 Digital Public Services

5 Digital Public Services	Cyprus		Cluster	EU
	rank	score	score	score
DESI 2017	17	0.50	0.43	0.55
DESI 2016	16	0.47	0.42	0.51

	Cyprus				EU
	DESI 2017		DESI 2016		DESI 2017
	value	rank	value	rank	value
<b>5a1 eGovernment Users</b> % internet users (last year)	29% <span style="color: green;">↑</span>	18	24%	20	34%
	2016		2015		2016
<b>5a2 Pre-filled Forms</b> Score (0 to 100)	52 <span style="color: red;">↓</span>	14	60	13	49
	2016		2015		2016
<b>5a3 Online Service Completion</b> Score (0 to 100)	73 <span style="color: gray;">→</span>	22	73	21	82
	2016		2015		2016
<b>5a4 Open Data<sup>17</sup></b> % of maximum score	57% <span style="color: green;">↑</span>	14	42%	19	59%
	2016		2015		2016

In Digital Public Services, Cyprus's progress is below EU average, but performance progressed in Open Data with the new Open Data portal. The number of eGovernment users is growing, but improvements in the delivery of services have stalled. The use of pre-filled forms by administrations has declined in 2016 (52) compared with 2015 (60).

The eGovernment Strategy of the Republic of Cyprus covers the period 2014-2020. It applies to all ministries, departments and services of the Cypriot government, focusing on technical, operational and organisational aspects of the provision of electronic services (eServices) to citizens and businesses. The objectives of the eGovernment strategy are to enhance public sector capacity while reducing operational costs, for example the opportunity to share data sets across departments via the Open Data Portal – thereby eliminating the need to formally ask again for data sets – will have some impact on increasing government efficiency and effectiveness. The strategy also foresees major strategic interventions. Among these are the provision of advanced electronic identification and electronic signature functionalities, now in preparation.

The eGovernment Strategy of Cyprus appears to be comprehensive and offers a path towards the design of effective online services and tools. It could benefit from being further aligned with the underlying principles and policy priorities of the EU eGovernment Action Plan 2016-2020. An effective implementation of the strategy and the development of more sophisticated online services, including more systematic use of pre-filled forms could attract more active eGovernment users.

<sup>17</sup> Change of data source. The historical data have also been restated. The new source is the European Data Portal.