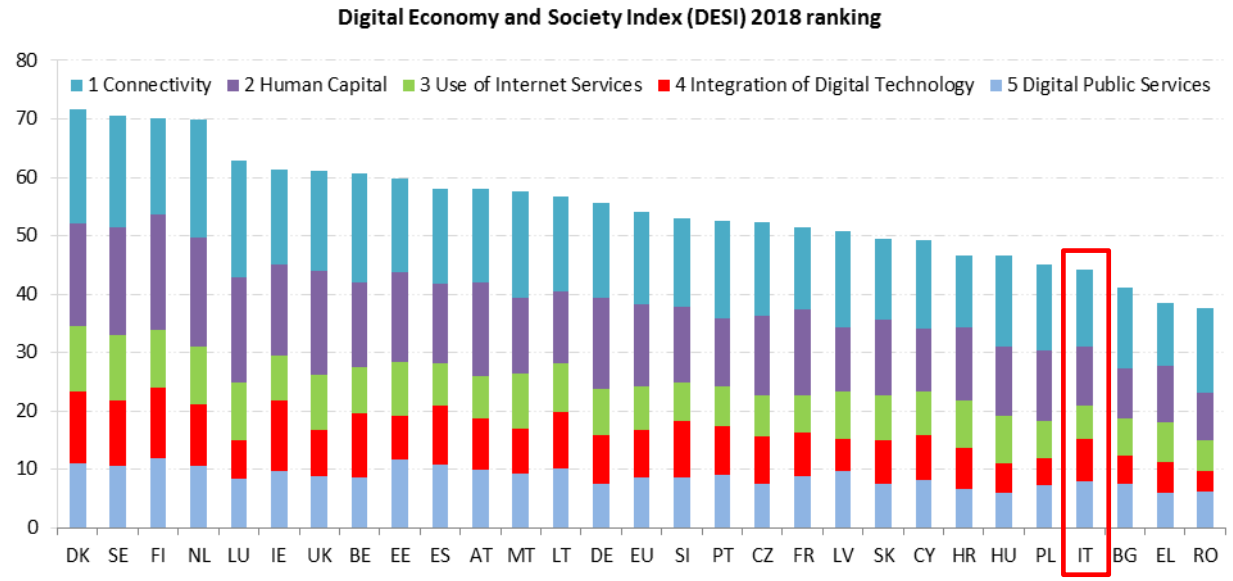
Digital Economy and Society Index (DESI)[1] 2018 Country Report Italy

The DESI report tracks the progress made by Member States in terms of their digitisation. It is structured around five chapters:

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

The DESI was re-calculated for the previous years 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.



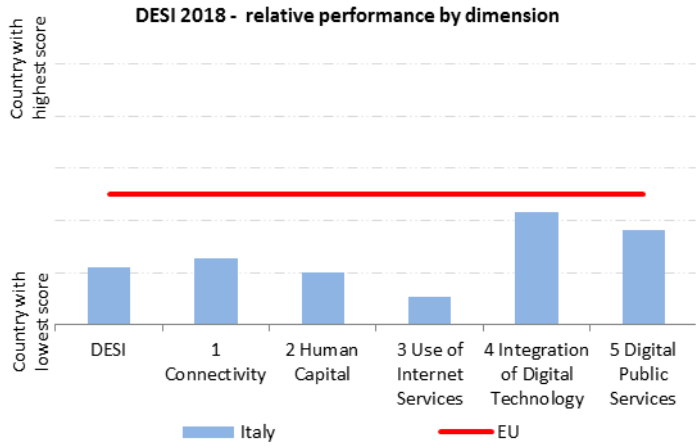
[1] https://ec.europa.eu/digital-single-market/en/desi

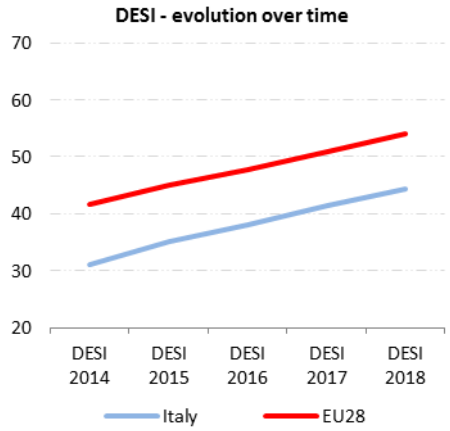
	Italy		Cluster	EU
	rank	score	score	score
DESI 2018	**25**	**44.3**	**43.5**	**54.0**
DESI 2017	25	41.4	40.4	50.8

Italy ranks 25th out of the 28 Member States. It made progress in general over the last year, and its DESI ranking remained unchanged. Integration of Digital Techologies and Digital Public Services are the main drivers of digital progress in Italy. Another positive aspect is its performance on next generation access (NGA) coverage, which is much improved (from 23rd in 2016 to 13th in 2017). As in previous years, the main challenge is still the low level of digital skills, for which the Italian government has taken some (but not enough) steps. This has a negative impact on the performance of DESI indicators across all five dimensions: take-up of broadband, internet users, take-up of online services, SMEs selling online and eGovernment users.

Italy belongs to the Low-performing cluster of countries[2].

Italy adopted the national Digital Agenda Strategy 2014-2020[3] and the National Ultrabroadband Strategy[4] in March 2015





[2] Low-performing countries: are Romania, Greece, Bulgaria, Italy, Poland, Hungary, Croatia, Cyprus and Slovakia.

[3] Strategia per la crescita digitale 2014-2020. http://www.agid.gov.it/notizie/2015/03/24/approvati-i-piani-nazionali-la-banda-ultralarga-crescita-digitale

[4] Strategia Nazionale per la Banda Ultralarga http://www.infratelitalia.it/wp-content/uploads/2015/03/Strategy.pdf

1 Connectivity

1 Connectivity	Italy		Cluster	EU
	rank	score	score	score
DESI 2018	**26**	**52.8**	**55.0**	**62.6**
DESI 2017	25	49.8	50.1	58.5

	Italy					EU
	DESI 2018			DESI 2017		DESI 2018
	value		rank	value	rank	value
1a1 Fixed Broadband Coverage % households	**99%** 2017	→	**10**	**99%** 2016	**11**	**97%** 2017
1a2 Fixed Broadband Take-up % households	**57%** 2017	↑	**28**	**55%** 2016	**28**	**75%** 2017
1b1 4G Coverage % households (average of operators)	**89%** 2017	↑	**20**	**86%** 2016	**19**	**91%** 2017
1b2 Mobile Broadband Take-up Subscriptions per 100 people	**86** 2017	↑	**17**	**85** 2016	**11**	**90** 2017
1c1 Fast Broadband (NGA) Coverage % households covered by VDSL, FTTP or Docsis 3.0	**87%** 2017	↑	**13**	**72%** 2016	**23**	**80%** 2017
1c2 Fast Broadband Take-up % homes subscribing to >= 30Mbps	**12%** 2017	↑	**26**	**7%** 2016	**26**	**33%** 2017
1d1 Ultrafast Broadband Coverage % households covered by FTTP or Docsis 3.0	**22%** 2017		**27**	**NA**		**58%** 2017
1d2 Ultrafast Broadband Take-up % homes subscribing to >= 100Mbps	**4.8%** 2017	↑	**25**	**1.1%** 2016	**25**	**15.4%** 2017
1e1 Broadband Price Index Score (0 to 100)	**87** 2017	↓	**15**	**90** 2016	**7**	**87** 2017

With an overall connectivity score of 52.8, Italy ranks 26th among EU countries, dropping one place compared with 2017. While fixed coverage remained stable with a value of 99 % — slightly above the EU average (97 %) — Italy continued to significantly increase its fast broadband (NGA) coverage (from 72 % to 87 %), outstripping the EU average (80 %). On ultrafast (100 Mbps and above) broadband, Italy still lags behind (only 22 % compared to a EU average of 58 %) and ranks near the bottom (27th). On take-up, mobile broadband take-up (86 subscriptions per 100 people) is slightly below the EU average (90). While fixed broadband take-up increased slightly, Italy still lags behind here and ranks 28th among EU countries. Moreover, whereas NGA networks are comparatively new in much of the country and the rate of fast broadband subscriptions showed a marked increase last year (up from 7 % in 2016 to 12 % in 2017), take-up of fast internet remains low in absolute and comparative terms, with Italy still ranked 26th in the EU.

In 2017, the National Ultra Broadband Strategy entered the implementation phase[5]. The first two tenders were awarded to Open Fiber (first contract signed in June 2017, second contract

[5] See last year's telecoms country chapter for a more detailed description of the Italian Ultrafast Broadband plan and strategy: https://ec.europa.eu/digital-single-market/en/news/europes-digital-progress-report-2017-country-profiles-telecom-country-reports.

in November 2017)[6] and the first building sites were opened in December 2017. Preparatory activities for the launch of the third and final tender for the regions of Sardinia, Apulia and Calabria were carried out at the end of 2017: in particular, a new public consultation on the investment plans for deploying ultrafast broadband in white areas in these three regions was launched in October 2017 to assess the areas where public intervention is still necessary. The third tender should be launched in the first few months of 2018. In August 2017, the Interministerial Economic Planning Committee (CIPE) completed the allocation of resources for the Ultrafast Broadband Plan, devoting an additional EUR 1.3 billion from the Fund for Development and Cohesion ('Fondo Sviluppo e Coesione'). The total amount of resources allocated adds up to EUR 3.6 billion, which will be used to implement phase two of the Ultrafast Broadband Plan. This phase provides for infrastructure intervention in grey areas and vouchers to stimulate demand. Thanks to an increasing level of infrastructure-based competition and a combination of private and public investments, Italy is greatly improving the level of fibre-based NGA roll-out in line with the goals of the Commission's Digital Agenda. This has also generated a positive effect on the demand side; it is increasing in parallel, albeit at a slower pace. On Multi Operator Vectoring (MOV), a technical committee of operators backed by the regulator AGCOM drew up the guidelines for technical MOV characteristics in June 2015. Telecom Italia and operators wishing to adopt vectoring transmission systems must comply with these, as established in a regulatory measure of 2015[7]. While trials continued on the basis of the 2015 measure, no MOV business model has been launched yet. On the other hand, the national antitrust authority suspects that several factors — including delaying tactics by the incumbent operator — have produced a negative impact on the process of implementing the National Ultrafast Broadband Strategy.

On implementation of the Broadband Cost Reduction Directive, Italy was the first Member State to fully transpose the legislation. However, the single information point was not yet fully operational in 2017[8]. The ongoing issues related to the delays in local authorisation/permit granting are expected to be resolved by means of preliminary community agreements.

Italy is a pioneer in 5G mobile technology thanks to the 5G testing initiatives launched by both the government and the operators privately in a number of cities. In particular, the government's '5G in 5 Cities' plan assigned 100 MHz in the 3.6-3.8 GHz spectrum band in September 2017[9].

[6] The infrastructure interventions envisaged in the first and second contracts involve the regions of Veneto, Tuscany, Molise, Emilia Romagna, Abruzzo and Valle d'Aosta, Umbria, Sicily, Autonomous Province of Trento, Piedmont, Marche, Liguria, Lazio, Friuli Venezia Giulia, Campania and Basilicata for a total of 6 743 municipalities and more than 13 million nationals.

[7] AGCOM Decision No. 623/15/CONS Article 20.

[8] According to the information provided by the Italian authorities, the single information point is currently undergoing a field trial test with 10 operators and is expected to be fully operational by the end of the first quarter of 2018.

[9] The winning bidders will start to test infrastructure and services in the metropolitan cities of Milan, Prato, L'Aquila, Bari and Matera in 2018. See http://bandaultralarga.italia.it/en/5g-5-italian-cities-approved-the-best-projects/.

2 Human Capital

2 Human Capital	Italy		Cluster	EU
	rank	score	score	score
DESI 2018	**25**	**40.8**	**42.2**	**56.5**
DESI 2017	24	39.7	40.6	54.6

	Italy				EU
	DESI 2018			DESI 2017	DESI 2018
	value	rank	value	rank	value
2a1 Internet Users	**69%** ↑	**25**	**67%**	**25**	**81%**
% individuals	2017		2016		2017
2a2 At Least Basic Digital Skills	**NA**		**44%**	**25**	**57%**
% individuals	2017		2016		2017
2b1 ICT Specialists	**2.6%** ↑	**22**	**2.5%**	**20**	**3.7%**
% individuals	2016		2015		2016
2b2 STEM Graduates[10]	**13.5** ↓	**22**	**13.9**	**24**	**19.1**
Per 1000 individuals (aged 20-29)	2015		2014		2015

On the Human Capital dimension, Italy dropped one place, further slipping towards the bottom of the ranking. The percentage of internet users has remained stable both in absolute terms (with a small increase) and in terms of ranking. The number of ICT specialists slightly increased from 2.5 % to 2.6 % while the share of graduates in Science, Technology, Engineering and Mathematics (STEM) decreased to 1.3 % in the 20-29 year-old age group(1.4 % the previous year).

In 2018, a new provision in the Budget Law will introduce tax credits for incremental expenditure on training for topics related to Industry 4.0 ('Lavoro 4.0'), which may help address existing gaps in the digital skills of the labour force. The 'Crescere in digitale' programme completed its cycle in 2017. The programme addressed young people not in education, employment or training (NEETs) and was also financed in part by private partners and the European Social Fund. It provided an initial course in digital skills followed by a paid traineeship in an enterprise to help it digitalise its operations (e.g. by creating a website). In its 2 years of existence, the programme helped train 105 000 young people in more than 6 500 enterprises. More recently, as part of the Digital School National Plan ('Piano Nazionale Scuola Digitale'), the Ministry of Education has forged partnerships with many industrial partners to offer traineeships on Industry 4.0 topics for young people in high school in order to combine school and work experience ('Piano Alternanza Scuola-Lavoro'). As part of of the Digital School National Plan, initiatives launched in previous years have reached a significant size: for example, 1.3 million students and 50 000 teachers have participated in coding lessons.

At the end of 2017, the Prime Minister's Office — Department of Public Administration launched a project to strengthen the basic digital skills of civil servants and disseminate a common vision on the issues of digital citizenship ('Competenze digitali per la PA'). By using

[10] The most recent data has been used in DESI 2018. It may refer to 2016 or 2015 depending on the Member State. This is reflected in the 2018 DESI ranking. Historical data has been updated by Eurostat.

a dedicated online assessment platform, the competence gap of civil servants in the digital domain will be identified so that it can be addressed through individual elearning courses.

Italy still does not have a comprehensive digital skills strategy. This has a negative impact on parts of the population such as the elderly and inactive people, who are not targeted by other existing digital skills policies.

3 Use of Internet Services

3 Use of Internet Services	Italy		Cluster	EU
	rank	score	score	score
DESI 2018	**27**	**37.4**	**41.0**	**50.5**
DESI 2017	27	36.1	38.7	47.5

	Italy				EU
	DESI 2018		DESI 2017		DESI 2018
	value	rank	value	rank	value
3a1 News % individuals who used Internet in the last 3 months	**56%** ↓ 2017	**28**	**60%** 2016	**26**	**72%** 2017
3a2 Music, Videos and Games % individuals who used Internet in the last 3 months	**79%** 2016	**14**	**79%** 2016	**14**	**78%** 2016
3a3 Video on Demand % individuals who used Internet in the last 3 months	**15%** 2016	**14**	**15%** 2016	**14**	**21%** 2016
3b1 Video Calls % individuals who used Internet in the last 3 months	**39%** ↑ 2017	**25**	**34%** 2016	**23**	**46%** 2017
3b2 Social Networks % individuals who used Internet in the last 3 months	**61%** ↑ 2017	**23**	**60%** 2016	**22**	**65%** 2017
3c1 Banking % individuals who used Internet in the last 3 months	**43%** ↑ 2017	**23**	**42%** 2016	**23**	**61%** 2017
3c2 Shopping % individuals who used Internet in the last 12 months	**44%** ↑ 2017	**25**	**41%** 2016	**25**	**68%** 2017

Italy has failed to make progress on internet use and remains second to last. Use of online services like eShopping, eBanking and social networks has slightly increased. Italians read less news online than the EU average, probably as a result of the increasing use of paid services by news publishers. The use of telephone or video calls has increased, although slower than the EU average.

4 Integration of Digital Technology

4 Integration of Digital Technology	Italy		Cluster	EU
	rank	score	score	score
DESI 2018	**20**	**36.8**	**29.2**	**40.1**
DESI 2017	19	33.0	26.7	36.7

	Italy					EU
	DESI 2018			DESI 2017		DESI 2018
	value		rank	value	rank	value
4a1 Electronic Information Sharing	**37%**	↑	**13**	**36%**	**14**	**34%**
% enterprises	2017			2015		2017
4a2 RFID	**5.2%**	↑	**11**	**4.6%**	**12**	**4.2%**
% enterprises	2017			2014		2017
4a3 Social Media	**17%**	↑	**16**	**16%**	**18**	**21%**
% enterprises	2017			2016		2017
4a4 eInvoices	**NA**	→		**30.3%**	**5**	**NA**
% enterprises	2017			2016		2017
4a5 Cloud	**NA**	→		**11.5%**	**17**	**NA**
% enterprises	2017			2016		2017
4b1 SMEs Selling Online	**7.9%**	↑	**25**	**7.4%**	**26**	**17.2%**
% SMEs	2017			2016		2017
4b2 E-commerce Turnover	**5.8%**	↓	**24**	**6.4%**	**21**	**10.3%**
% SME turnover	2017			2016		2017
4b3 Selling Online Cross-border	**6.2%**	↑	**22**	**5.2%**	**22**	**8.4%**
% SMEs	2017			2015		2017

Over the last year, Italy made some progress on the Integration of Digital Technology dimension, but fell from 19th to 20th as other countries made faster progress. Italian enterprises are above-average users (and are making progress in terms of ranking) of eBusiness solutions like Electronic Information Sharing and radio-frequency identification (RFID). However, the picture is mixed on e-commerce. While there has been an increase in the percentage of SMEs selling online (including cross-border), the revenue from e-commerce sales has dropped.

Italy has launched a comprehensive Industry 4.0 strategy. This is now called 'Piano Impresa 4.0' to better reflect the scope of the initiative, which is not limited to manufacturing. The tax deductions for Industry 4.0-related investments in instrumental goods, software, machinery and industrial equipment have been extended until the end of 2018. 18 Digital Innovation Hubs have been created so far, mostly in collaboration with Confindustria, the Italian employers' association. These hubs constitute the main access point for companies to the world of Industry 4.0 by providing them with services to introduce advanced digital technologies and access the innovation ecosystem at regional, national and European level. They are mostly situated in northern Italy, although there is a digital innovation hub in most Italian regions. The Italian government adopted a new law in June 2017 to define the fiscal obligations for intermediaries, including digital platforms. The law requires intermediaries (even foreign ones) to withhold the tax on rental income (together with any applicable local tourist taxes). It will help to reduce the administrative burden on law-abiding landlords related to tax obligations, therefore increasing the supply of sharing economy services.

There is still one key element missing from the Italian Industry 4.0 strategy — 'Competence Centres', which will be launched during the course of 2018. These centres are supposed to be innovation poles that are built around public private partnerships made up of universities, research centres and companies. Their objective is to provide tech transfer and training services to SMEs in particular, encourage experimentation of new technologies and testbeds for industrial research projects and increase the competences of the workforce. Once all elements of the Industry 4.0 strategy are up and running, it is likely that the digitisation process of Italian SMEs will speed up.

5 Digital Public Services

5 Digital Public Services	Italy		Cluster	EU
	rank	score	score	score
DESI 2018	**19**	**52.5**	**48.0**	**57.5**
DESI 2017	19	47.0	44.2	53.7

	Italy				EU
	DESI 2018			DESI 2017	DESI 2018
	value	rank	value	rank	value
5a1 eGovernment Users[11] % internet users needing to submit forms	**30%** 2017	**28**	**NA** 2016		**58%** 2017
5a2 Pre-filled Forms Score (0 to 100)	**33** → 2017	**21**	**33** 2016	**19**	**53** 2017
5a3 Online Service Completion Score (0 to 100)	**87** ↑ 2017	**14**	**84** 2016	**16**	**84** 2017
5a4 Digital Public Services for Businesses Score (0 to 100) - including domestic and cross-border	**81** → 2017	**19**	**81** 2016	**15**	**83** 2017
5a5 Open Data % of maximum score	**81%** ↑ 2017	**8**	**52%** 2016	**19**	**73%** 2017
5b1 eHealth Services % individuals	**24%** 2017	**8**	**NA**		**18%**

On eGovernment, Italy is making slow progress and still occupies 19th place. In terms of open data, Italy has made remarkable progress. The country jumped 11 places, propelling it above the EU average. Availability of eGovernment services (i.e. Onlne Service Completion) is above average, although the services for businesses are slightly less developed than average. Italy performed worst in the category of eGovernment users, ranking last in this among EU countries. This is even lower than the ranking registered for the use of other online services, which could signal issues of usability of public services. On the use of eHealth Services, Italy is performing well and ranks 8th among EU countries.

In May 2017, the Italian government published the new triennial strategy for information technology in public administration. This strategy aims to accelerate the implementation of main eGovernment initiatives that are overdue, in particular the local population registries ('Anagrafe Nazionale Popolazione Residente') and the eIdentity system in compliance with the EiDAS Regulation ('Sistema Pubblico di Identità Digitale'). The latter will certainly benefit from the planned adoption by private service providers (e.g. banks), which will accelerate take-up by the public (there are currently only 2.2 million eIDs[12], well below the target of 10 million users by the end of 2017). The certification of attribute providers, i.e. institutions that can add qualifications (e.g. professional register) to the citizen's eID, initially planned for 2017 will probably start during the course of 2018. 16 Italian regions (out of 21) have

[11] The definition of this indicator has been changed. The new indicator measures eGovernment users as a percentage of those internet users needing to submit forms to the public administration.

[12] Data from Italian Digital Agenda Dashboard, retrieved 02/03/2018, https://avanzamentodigitale.italia.it/it.

currently adopted the electronic health record (although only a minority of them for all health services) and 11 are ready for interoperability.

The Digital Transformation Team, appointed by the previous government to coordinate the digitisation efforts of public administration, has introduced modern and lean management methods. These have helped speed up the implementation of major projects. Now that the mandate of the team is coming to an end, the challenge for the Italian government is to apply and scale up lessons learned with this experience.

Highlight 2018: Designers Italia and Developers Italia

Designers Italia and Developers Italia are two projects — launched in June 2017 by the Agency for Digital Italy and the Digital Transformation Team — that form part of the same strategy to strengthen the role of the general public in developing public services.

Designers Italia calls upon service designers, both inside and outside public administration, to strengthen the role of design thinking when planning digital public services. The aim is to design services driven by users' needs.

Developers Italia is a community dedicated to developing open source software for Italian digital public services. Designers Italia seeks to collaborate with service designers to: (1) include people's points of view when designing and choosing technologies for public digital services; (2) understand users' needs across a range of situations and moods in which they live while interacting with public administration; (3) help people understand the new digital tools; and (4) give them ways to help them familiarise themselves with the changes. The Developers Italia community is helping create the new digital infrastructure. Both projects aim to make technology simpler and design services focused on people's needs.