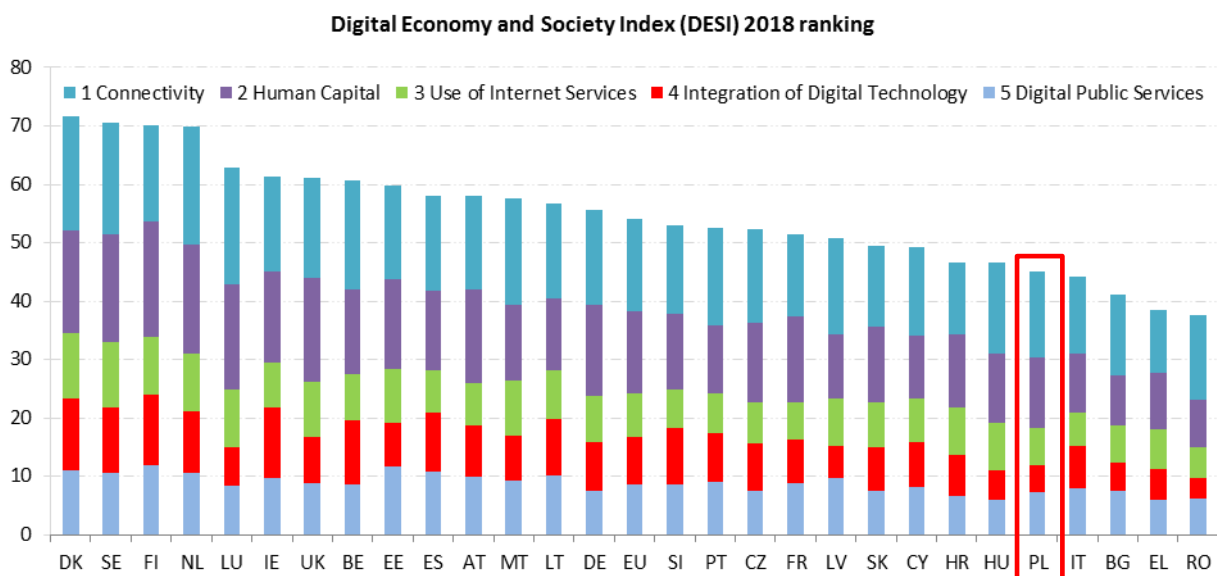# Digital Economy and Society Index (DESI)[1] 2018 Country Report Poland

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.


Digital Economy and Society Index (DESI) 2018 ranking

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

	Poland		Cluster	EU
	rank	score	score	score
DESI 2018	**24**	**45,0**	**43,5**	**54,0**
DESI 2017	24	42,1	40,4	50,8

In the Digital Economy and Society Index Poland ranks 24th out of the 28 EU Member States, the same as in 2017. It has been making steady progress over time at a pace equal to the EU. In 2017, it improved its ranking in the Connectivity and Human Capital. It has also improved its performance on Use of Internet, Integration of Digital Technology and Digital Public Services. Poland has visibly improved in mobile broadband take-up, fast and ultra-fast broadband take-up and has moderately improved in all Human Capital indicators. Despite improvements in the usage of video calls, social networks and online shopping, Poland's ranking slipped in the Use of Internet . It maintained its ranking on Integration of Digital Technology despite significant improvements in electronic information sharing, the use of cloud services and eInvoices.

Poland belongs to the low-performing cluster of countries[2].

Poland is implementing the Operational Programme Digital Poland for 2014-2020 (OPDP, *'Program Operacyjny Polska Cyfrowa'*) co-financed by the EU structural funds. The aim of the programme is to strengthen digital foundations for national development: common access to high-speed internet, effective and user-friendly public e-services and an ever-increasing level of digital competences. In 2017, Poland introduced the 5G for Poland programme. Its aim is to enable effective implementation of 5G technology in Poland, ensuring that citizens can access its benefits and businesses can increase their competitiveness.

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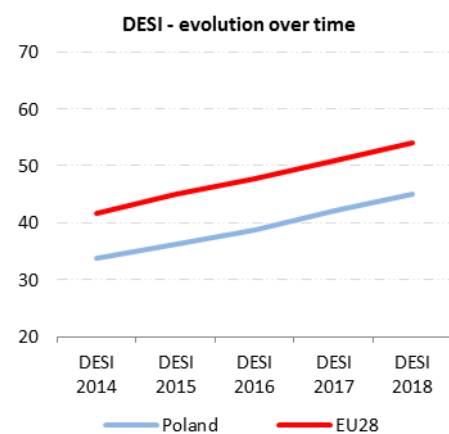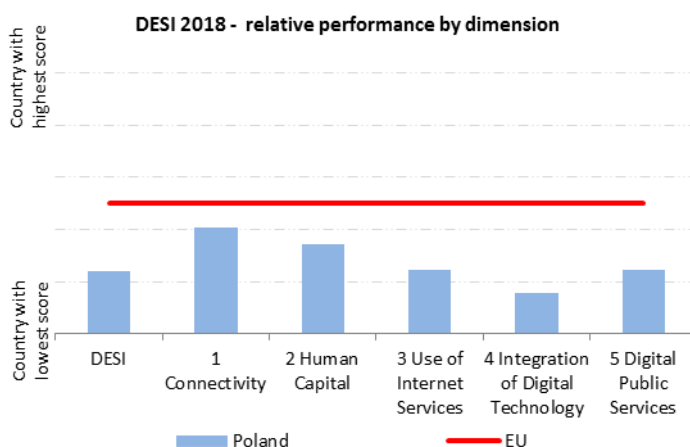
[2] Low-performing countries are Romania, Greece, Bulgaria, Italy, Poland, Hungary, Croatia, Cyprus and Slovakia.

1 Connectivity

1 Connectivity	Poland		Cluster	EU
	rank	score	score	score
DESI 2018	**21**	**58,8**	**55,0**	**62,6**
DESI 2017	22	52,0	50,1	58,5

	Poland					EU
	DESI 2018			DESI 2017		DESI 2018
	value		rank	value	rank	value
1a1 Fixed Broadband Coverage % households	87% 2017	↑	28	86% 2016	28	97% 2017
1a2 Fixed Broadband Take-up % households	61% 2017	↑	25	59% 2016	26	75% 2017
1b1 4G Coverage % households (average of operators)	91% 2017	→	19	91% 2016	14	91% 2017
1b2 Mobile Broadband Take-up Subscriptions per 100 people	144 2017	↑	2	115 2016	6	90 2017
1c1 Fast Broadband (NGA) Coverage % households covered by VDSL, FTTP or Docsis 3.0	67% 2017	↑	26	64% 2016	25	80% 2017
1c2 Fast Broadband Take-up % homes subscribing to >= 30Mbps	32% 2017	↑	18	26% 2016	18	33% 2017
1d1 Ultrafast Broadband Coverage % households covered by FTTP or Docsis 3.0	53% 2017		23	NA		58% 2017
1d2 Ultrafast Broadband Take-up % homes subscribing to >= 100Mbps	13,2% 2017	↑	17	8,2% 2016	18	15,4% 2017
1e1 Broadband Price Index Score (0 to 100)	88 2017	→	8	88 2016	13	87 2017

On Connectivity, Poland made progress in 2017 and now ranks 21st compared to 22nd a year ago (under the 2018 methodology). It made the most progress on mobile broadband take-up, achieving better results than the EU average. 2016 was the first year when subscriptions to mobile internet exceeded subscriptions to fixed connections. Poland is close or equal to the EU average in terms of 4G coverage (91 %), fast broadband take-up (32 %) and the broadband price index (88 out of 100), and slightly below it on ultrafast broadband coverage (53 %) and take-up (13.2 %). Nevertheless, its performance is still being undermined by low fixed broadband coverage (87 %), fixed broadband take-up (61 %) and next generation access (NGA) coverage (67 %).

In 2014, Poland adopted the National Broadband Plan (NBP, '*Narodowy Plan Szerokopasmowy*'). It envisages 100 % coverage at 30 Mbps and 50 % of households with access to 100 Mbps broadband by 2020. Despite completing a number of tasks in the NBP, Poland is still a long way from achieving goals 2 and 3 of the Digital Agenda for Europe. The main difficulties relate to the geographical conditions that make it expensive to develop networks. In particular, many rural areas are not attractive to operators. What is more, local authorities often charge telecom operators high fees for using installation spaces on roads, which significantly increases their maintenance costs. Another factor impeding the implementation of the objectives is the lack of adequate demand for ultrafast networks (over

100 Mbps) and, as a result, the lack of private investment in such access — a perspective that may be shifting with a significant (>50 %) increase in take-up of such services over the last year. Nevertheless, planned fibre networks are distributed evenly and are reaching most rural areas due to the obligation to connect all educational institutions and the prioritisation of unprofitable areas in the OPDP. In 2017, the second OPDP call was finalised. Subsidies were granted to 58 out of 76 support areas. The total value of financing granted amounts to more than PLN 2 billion (EUR 500 million), although this is only 68 % of the available funding for this call. 1 349 620 households are declared to have access to broadband of at least 100 Mbps in these 58 areas (amounting to 175 % of the minimum value indicated in the call documentation). However, actual realisation of the projects remains to be seen. Implementation under the first priority axis of the OPDP is well on track. In 2017, the third call was formally launched with the total budget reaching PLN 2 billion (EUR 500 million).

The revision of the NBP is currently being prepared and should be adopted in 2018. It will contain a new action plan and tools for implementing new connectivity objectives contained in the Communication on 'Connectivity for a Competitive Digital Single Market — Towards a European Gigabit Society'.

The Ministry of Digital Affairs developed the '5G for Poland' strategy[3], which was under public consultation in February 2018. The strategy aims to enable efficient implementation of the 5G network in Poland, provide citizens with access to the latest technologies, and give entrepreneurs in Poland an effective competitive advantage.

Poland's development of the Connectivity Dimension remains asymmetric. The progress made in fixed broadband coverage is slow, especially in rural areas, and lags behind the dynamic mobile broadband take-up. Nevertheless, progress has been made in almost all connectivity indicators. With increased investment efforts, Poland should therefore be able to make further progress and come closer to EU average indicators in the near future.

More coordinated efforts will be necessary to ensure a proper regulatory environment for rolling out 5G networks. In this context, it would be beneficial for Poland to revise its rules on spectrum auctions in view of the 700 MHz band assignments and the ongoing infringement proceedings related to the assignment of the 800 MHz spectrum to the Polish operator Sferia. Furthermore, predictability of investment and competitive conditions could have been supported in recent years by more timely review of wholesale market regulation.

Finally, further monitoring of the Polish roaming market would be needed since it has not yet stabilised after the introduction of the 'Roam like at Home' principle.

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[3] https://www.gov.pl/cyfryzacja/strategia-5g-dla-polski

2 Human Capital

2 Human Capital	Poland		Cluster	EU
	rank	score	score	score
DESI 2018	**20**	**48,3**	**42,2**	**56,5**
DESI 2017	21	45,7	40,6	54,6

	Poland				EU
	DESI 2018		DESI 2017		DESI 2018
	value	rank	value	rank	value
2a1 Internet Users	**73%** ↑	**22**	**70%**	**23**	**81%**
% individuals	2017		2016		2017
2a2 At Least Basic Digital Skills	**46%** ↑	**24**	**44%**	**23**	**57%**
% individuals	2017		2016		2017
2b1 ICT Specialists	**2,7%** ↑	**20**	**2,6%**	**19**	**3,7%**
% total employment	2016		2015		2016
2b2 STEM Graduates[4]	**21,5** ↑	**8**	**20,5**	**9**	**19,1**
Per 1000 individuals (aged 20-29)	2016		2014		2015

On Human Capital, Poland has made moderate progress in the last year. The number of Poles with at least basic digital skills and using the internet has increased compared to 2017. There is a growing interest in using digital technology in Poland, which is demonstrated by an increased number of internet users who wrote a computer programme — up from 2.6 % in 2016 to 4.12 % in 2017, compared to 7.17 % for the EU. IT has remained a popular field of study, which is reflected in the growing number of science, technology, engineering and mathematics (STEM) graduates, which is above the EU average.

Digital skills are covered by the third priority axis of the OPDP. The programme channels funds to education and information campaigns that promote the benefits of digital technologies. Poland has developed a comprehensive approach to digital skills education. Programming has been part of the primary school curriculum since September 2017. In the first 3 years, it will be used as a tool in the teaching curriculum. In the remaining 5 years of primary school, programming will be taught as a subject. The National Education Network project (see Highlight 2018) co-financed by the OPDP will ensure access to fast internet for all schools by 2020. Accompanying measures to be implemented in 2018 include developing the programming skills of teachers. PLN 100 million (EUR 25 million) has been earmarked to train teachers of three primary school years to use programming in teaching, including tutors to accompany teachers for a further 30 hours of teaching.

Under the OPDP, Poland has launched a project to further develop ICT professional skills — IT Master Centre (Centrum Mistrzostwa Informatycznego[5]). The project will strengthen the ICT specialist skills of thousands of pupils in upper primary and secondary schools until 2023.

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[4] 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.

[5] https://www.gov.pl/cyfryzacja/centrum-mistrzostwa-informatycznego-start-kuni-polskich-talentw

In 2017, the Polish project 'IT for SHE'[6] was awarded a Digital Skills Award 2017 in the 'Digital skills for women and girls' category. IT for SHE is a programme that aims to increase the number of women in high tech by helping talented female students from IT faculties to enter the labour market. The three main programme measures include the Women in Tech Camp, the Kids in IT programme and the mentoring programme for female IT students, which is run by representatives of technology companies in Poland.

The measures taken by the Broad Alliance on Digital Skills in Poland[7], active participation in the EU Code Week, and the successful development of Coding Masters and SuperCoders programmes have contributed to increasing awareness of the importance of digital skills, to integrating them in school curricula and to building teacher capacity. Connecting schools to fast internet as well as introducing programming, combined with support for teachers in developing their digital skills, is expected to have a positive effect on both internet use and the level of digital skills.

> **Highlight 2018 —** The National Education Network (*Ogólnopolska Siec Edukacyjna — OSE*[8]) project envisages that all primary and secondary schools, both public and private, will be connected to fast broadband with a minimum speed of 100 Mb/s by the end of 2020, with 1 500 locations already connected by the end of 2018. The target is 19 500 locations, connecting over 30 000 schools by the end of 2020. Only around 23 % of schools currently have access to fast internet with a bandwidth of at least 100 Mb/s. Lack of universal access to high-speed internet is considered a barrier to developing the intellectual potential of society and to maintaining an effective competitive advantage of the economy.Programming in Poland has therefore been included in the curriculum of primary schools since September 2017. This is a big challenge and requires, among other things, adequate telecommunications infrastructure and access to high-speed internet in schools. OSE will also provide access to identical educational materials for all students. The project is financed under the OPDP. OSE has an implementation budget of PLN 320 million (EUR 80 million) and an operational budget of PLN 1.3 billion (EUR 325 million). In March 2018, the project won the prestigious 2018 WSIS Prize awarded by the International Telecommunication Union (UN agency).

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[6] http://www.itforshe.pl/
[7] http://umiejetnoscicyfrowe.pl/#
[8] https://www.gov.pl/cyfryzacja/ogolnopolska-siec-edukacyjna1; https://www.gov.pl/cyfryzacja/zaglosuj-na-projekt-ose-w-ogolnoswiatowym-konkursie-wsis-prizes-2018

3 Use of Internet Services

3 Use of Internet Services	Poland		Cluster	EU
	rank	score	score	score
DESI 2018	**25**	**42,1**	**41,0**	**50,5**
DESI 2017	24	40,4	38,7	47,5

	Poland				EU
	DESI 2018		**DESI 2017**		**DESI 2018**
	value	rank	value	rank	value
3a1 News % individuals who used Internet in the last 3 months	79% → 2017	16	79% 2016	13	72% 2017
3a2 Music, Videos and Games % individuals who used Internet in the last 3 months	68% 2016	26	68% 2016	26	78% 2016
3a3 Video on Demand % individuals who used Internet in the last 3 months	6% 2016	26	6% 2016	26	21% 2016
3b1 Video Calls % individuals who used Internet in the last 3 months	42% ↑ 2017	24	38% 2016	22	46% 2017
3b2 Social Networks % individuals who used Internet in the last 3 months	63% ↑ 2017	22	60% 2016	23	65% 2017
3c1 Banking % individuals who used Internet in the last 3 months	52% ↓ 2017	19	53% 2016	19	61% 2017
3c2 Shopping % individuals who used Internet in the last 12 months	58% ↑ 2017	17	56% 2016	16	68% 2017

Poland has made moderate progress on the use of video calls, social networks and online shopping compared to 2017. It ranks the same in online banking. However, Poles are above the EU average as regards reading online news. Despite moderate improvements, Poland slipped one place to 25th in DESI 2018.

Poland has been taking measures to address the obstacles to better internet use. It has launched a number of initiatives to encourage citizens to go online. Under the OPDP, new educational and awareness raising campaigns[9] will be launched in 2018-2021 to increase the level of awareness and the digital skills of citizens. The focus will be on areas such as programming, cybersecurity, eGovernment, banking and media literacy. The campaigns will encourage citizens to use the internet by showing how modern technologies can improve their quality of life and increase their participation in society. Senior internet users will be included as one of the target audiences. 230 000 Polish citizens will be trained in eight thematic digital skills areas. The project has a budget of PLN 25 million (EUR 6.25 million), funded under OPDP and to be carried out until June 2021.

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[9] https://www.gov.pl/cyfryzacja/34-start

4 Integration of Digital Technology

4 Integration of Digital Technology	Poland		Cluster	EU
	rank	score	score	score
DESI 2018	**27**	**23,5**	**29,2**	**40,1**
DESI 2017	27	21,6	26,7	36,7

	Poland					EU
	DESI 2018			**DESI 2017**		**DESI 2018**
	value		rank	value	rank	value
4a1 Electronic Information Sharing	**26%**	↑	**22**	**21%**	**25**	**34%**
% enterprises	2017			2015		2017
4a2 RFID	**3,4%**	↑	**20**	**2,8%**	**22**	**4,2%**
% enterprises	2017			2014		2017
4a3 Social Media	**10%**	↑	**26**	**9%**	**27**	**21%**
% enterprises	2017			2016		2017
4a4 eInvoices	**13,2%**	↑	**20**	**12,8%**	**19**	**NA**
% enterprises	2017			2016		2017
4a5 Cloud	**6,3%**	↑	**25**	**5,2%**	**27**	**NA**
% enterprises	2017			2016		2017
4b1 SMEs Selling Online	**9,5%**	↓	**24**	**9,9%**	**23**	**17,2%**
% SMEs	2017			2016		2017
4b2 E-commerce Turnover	**6,6%**	→	**21**	**6,6%**	**20**	**10,3%**
% SME turnover	2017			2016		2017
4b3 Selling Online Cross-border	**3,9%**	↑	**26**	**3,8%**	**25**	**8,4%**
% SMEs	2017			2015		2017

Poland has made some progress in the Integration of Digital Technology dimension. However, other countries have been progressing faster, with Poland ranking the same as last year. The use of social media, cloud services, eInvoices and electronic information sharing by companies has slightly improved. Only 9.5 % of Polish SMEs sell online, and 3.9 % sell online cross border. SME e-commerce turnover is only 6.6 % compared with the EU average of 10.3 %.

The main challenges in the digitalisation of enterprises in Poland are the lack of awareness of opportunities, limited access to a digitally skilled workforce and the lack of funding. Moreover, Polish enterprises are reluctant to invest in upskilling their employees in digital skills or in new technologies.

The launch of the Polish Platform of Industry 4.0 (*Platforma Przemysłu Przyszłości*[10]) has been postponed from October 2017 to the beginning of 2018. The platform will integrate all relevant stakeholders and act as an accelerator of the digital transformation of Polish industry. It will seek to provide effective institutional support for technology diffusion, which should stimulate both the demand and supply for digital technologies. The demand side will be stimulated by awareness raising, advice and financial support to SMEs. The supply side will be enhanced by financial support instruments, development of competence centers to

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[10] http://finanse.wnp.pl/powstanie-fundacja-platforma-przemyslu-przyszlosci,309109_1_0_0.html

provide infrastructure testing, and training courses for SMEs. The platform will be operational in 2018. Its annual budget is PLN 20 million (EUR 5 million).

Poland needs to accelerate its efforts to get companies to use and benefit from the commercial potential of digital technologies. The measures being taken should bring positive synergies in the long term thanks to better connectivity, higher digital skills of citizens and the workforce and increased business participation in the digital economy.

5 Digital Public Services

5 Digital Public Services	Poland		Cluster	EU
	rank	**score**	**score**	**score**
DESI 2018	**24**	**48,2**	**48,0**	**57,5**
DESI 2017	18	48,5	44,2	53,7

	Poland					EU
	DESI 2018			**DESI 2017**		**DESI 2018**
	value		**rank**	**value**	**rank**	**value**
5a1 eGovernment Users[11] % internet users needing to submit forms	**45%** 2017	→	**23**	45% 2016	23	**58%** 2017
5a2 Pre-filled Forms Score (0 to 100)	**48** 2017	↓	**17**	58 2016	12	**53** 2017
5a3 Online Service Completion Score (0 to 100)	**80** 2017	↑	**20**	79 2016	18	**84** 2017
5a4 Digital Public Services for Businesses Score (0 to 100) - including domestic and cross-border	**70** 2017	↑	**25**	69 2016	22	**83** 2017
5a5 Open Data % of maximum score	**62%** 2017	↑	**22**	56% 2016	16	**73%** 2017
5b1 eHealth Services % individuals	**14%** 2017		**17**	**NA**		**18%**

Poland ranks 24th in Digital Public Services [12]. The number of eGovernment users remains stable, and Poland has slightly improved its performance in online service completion, digital public services for businesses and open data. Poland ranks slightly below the EU average on the new eHealth services indicator, which measures the number of people who used health and care services provided online without having to go to the hospital or doctor's surgery.

eGovernment is also among the priorities of OPDP, which aims to improve the quality and efficiency of public services through digitisation. Moreover, the National Development Strategy 2020 promotes the introduction of uniform rules for eGovernment in administration. Planned measures are envisaged and being implemented to digitise public administration, simplify administrative processes, create structured digital knowledge resources and enable auditing of public information quality. The Programme for the Integrated Digitisation of the Country (*Program Zintegrowanej Informatyzacji Państwa*[13]) and the national Head of Computer Science (*Główny Informatyk Kraju*), which is a set of tools to enable the Minister of Digital Affairs to control the country's digitisation process, aim to create an efficient and coordinated information system.

The online platform Obywatel.gov.pl[14] provides a one-stop shop for citizens and is a gateway to eGovernment services. It allows the creation of a trusted profile, which is a prerequisite for

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[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] Poland's 14th rank in DESI 2017 has been changed due to the inclusion of two new indicators in DESI 2018 in the Digital Public Services dimension: Digital Public Services for Businesses, eHealth Services.

[13] https://www.gov.pl/cyfryzacja/program-zintegrowanej-informatyzacji-panstwa

[14] https://obywatel.gov.pl/

access to online services. There are currently 1 621 870 active trusted profiles. The successful use of electronic banking personal identification and the trusted profile in the 'Family 500 plus' programme shows that online banking identification could also be applied to public services. Online registration of a company is also possible for trusted profile owners since January 2018.

In 2017, more digital services became available to citizens. Forms, designed from the perspective of user needs, were automatically filled where possible with data from state registers. This applies in particular to ID card applications (over 100 000 applications in one year), notification of a lost or damaged ID card or issuing civil status documents. As of January 2018, citizens can also register their residence online.

In 2017, the Ministry of Digital Affairs launched a smart devices application called mCitizen[15] (mObywatel) to allow quick online identification (mIdentity) and access to online documents (mDocuments). The project is now being piloted and will be expanded in the future. An extremely popular service in 2017 was the online tax return, used by nearly 10 million citizens.

The new roadmap for electronic ID implementation envisages the introduction of electronic IDs as of 2019.

Poland is taking measures to improve its digital public services. Assuming these improvements continue, it is expected that the number of users will increase as a result of easier access and improved user-friendliness of the services offered. The planned national communication and awareness-raising campaigns are expected to increase the citizens' buy-in of eGovernment. There is a need in parallel to develop better services aimed at businesses.

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[15] https://www.gov.pl/cyfryzacja/aplikacja-mobywatel-dostepna-rowniez-na-ios