

Digital Economy and Society Index¹ 2016²

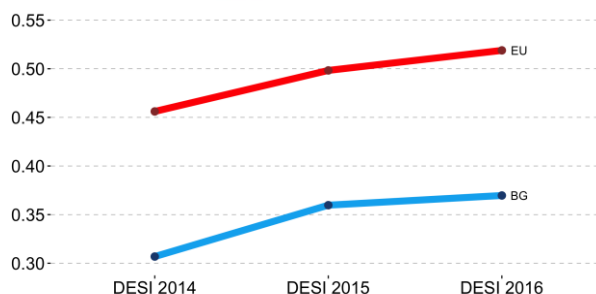
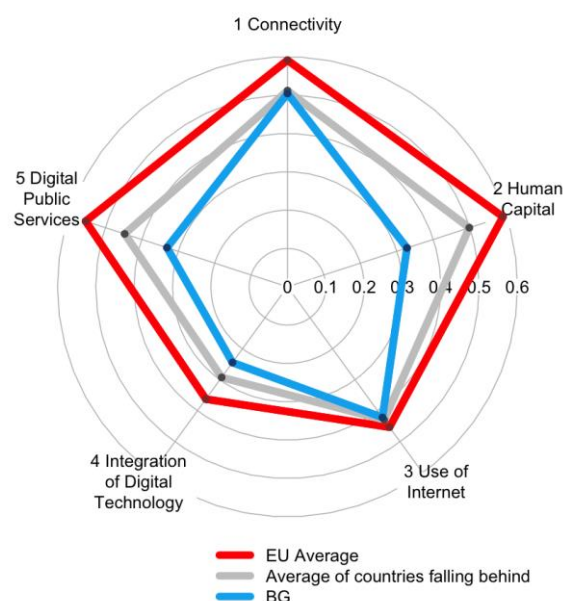
Country Profile

Bulgaria

In DESI 2016, Bulgaria has an overall score of 0.37 (up from 0.36) and ranks 27th. High speed broadband is available to almost 72% of homes in Bulgaria but there is no high speed coverage in rural areas. Only 55% of Bulgarian homes subscribe to a fixed broadband connection (27th in the EU) but half of them benefit of a high speed connection (10th in the EU). Bulgaria needs to address a severe digital skills gap: only 31% of the population have basic digital skills. Bulgarian Internet users are among the most intensive users of on-line video calls (1st place) and social networks (6th place). They appear to refrain most from using the Internet when they need to do online banking and shop on-line. Despite some progress, Bulgarian public services can make better use of digital technologies; the country ranks last in this area.

Bulgaria falls into the cluster of **Falling behind**³ countries who score below the EU average and which grew slower than that of the EU as a whole since last year.

	Bulgaria rank	Bulgaria score	Cluster score	EU score
DESI 2016	27	0.37	0.44	0.52
DESI 2015 ⁴	27	0.36 ⁵	0.44	0.5



¹ 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>

² 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).

³ In the DESI 2016, the Falling behind cluster of countries comprises Bulgaria, Czech Republic, Greece, France, Hungary, Poland and Slovakia.

⁴ 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.

⁵ 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	Bulgaria		Cluster score	EU score
	rank	score		
DESI 2016	22	0.5	0.51	0.59
DESI 2015	21	0.49	0.5	0.57

Connectivity is the DESI 2016 dimension where Bulgaria performs the second best. With an overall score of 0.5 (up from 0.49), the country ranks 22nd among EU countries.

	Bulgaria				EU DESI 2016 value
	DESI 2016 value	rank	DESI 2015 value	rank	
1a1 Fixed BB Coverage % households	95% (June 2015) →	22	95% (December 2014)	21	97% (June 2015)
1a2 Fixed BB Take-up % households	55% (2015) ↑	27	54% (2014)	26	72% (2015)
1b1 Mobile BB Take-up Subscribers per 100 people	70 (June 2015) ↑	14	66 (December 2014)	13	75 (June 2015)
1b2 Spectrum % of the target for spectrum to be harmonised at EU level	37% (December 2015) ↓	26	38% (December 2014)	25	69% (December 2015)
1c1 NGA Coverage % households, out of all households	72% (June 2015) ↑	21	69% (December 2014)	20	71% (June 2015)
1c2 Subscriptions to Fast BB % of subscriptions >= 30Mbps, out of fixed BB subscriptions	49% (June 2015) ↑	10	46% (December 2014)	9	30% (June 2015)
1d1 Fixed BB Price % individual gross income spent for the cheapest standalone Fixed Broadband subscription (lower values are better)	1.5% (Access cost: 2015; Income: 2014) ↑	16	1.6% (Access cost: 2014; Income: 2014)	18	1.3% (Access cost: 2014; Income: 2014)

Bulgaria can still improve the coverage of fixed broadband networks, which reaches 95% of households, slightly below the EU average (97%). But the main challenge is to increase the number of broadband subscribers: only 55% of homes subscribe to fixed broadband (27th in the EU) limiting Bulgaria's ability to exploit the benefits of the digital economy. 70 per 100 people subscribe to mobile broadband (up from 66 per 100) still below the EU average of 75.

Bulgaria performs slightly better than the EU when it comes to coverage of high-speed broadband in urban areas. Networks capable of providing at least 30 Mbps (NGA) are available to more than two-thirds (72%) of Bulgarian homes, above the EU average (71%). However, rural areas are not covered by NGA.

Bulgaria's strength is in terms of take-up of high-speed broadband, with half (49%) of fixed Internet subscriptions offering high-speed connections (10th in the EU), although the overall level of fixed take-up remains low (27th in the EU).

One of the reasons for the low take-up of fixed broadband might be the subscription price. An individual seeking to subscribe to a fixed broadband connection must spend on average 1.5⁶% of her gross income, which is higher than the EU average of 1.3%. Other reasons probably relate to low levels of skills (see the next section).

⁶ Bulgaria would compare slightly better with the EU if double play fixed broadband subscriptions (telephony and Internet) were taken into account.

2 Human Capital

2 Human Capital	Bulgaria		Cluster score	EU score
	rank	score		
DESI 2016	28	0.33	0.5	0.59
DESI 2015	27	0.32	0.48	0.58

With a Human Capital score of 0.33, Bulgaria ranks last among EU countries. Bulgaria needs to address its severe digital skills gap.

	Bulgaria				EU DESI 2016 value
	DESI 2016		DESI 2015		
	value	rank	value	rank	
2a1 Internet Users % individuals (aged 16-74)	55% (2015) ↑	27	54% (2014)	27	76% (2015)
2a2 Basic Digital Skills % individuals (aged 16-74)	31% (2015) ↑	27	n.a.	-	55% (2015)
2b1 ICT Specialists % employed individuals	1.9% (2014) ↓	27	2.3% (2013)	24	3.7% (2014)
2b2 STEM Graduates Graduates in STEM per 1000 individuals (aged 20 to 29)	14 (2013) ↑	21	13 (2012)	20	18 (2013)

Despite the increase in importance of digital skills for the workforce and society at large, digital skills in the overall population are particularly low. Bulgaria has the second lowest percentage of regular Internet users in the EU (55%) and still 35% of the population has never used the Internet (28th place in the EU).

Bulgaria needs to address its severe digital skills gap. Digital skills are nowadays needed in every corner of the workforce, and the fact that only 31% of Bulgarians possess basic levels of digital skills can be an important barrier to the country's economic development.

The demand for software specialists is three times higher than the supply by educational institutions (2000 as against 6000 needed per year)⁷, with a trend to increase in the medium and long term. However, the share of ICT specialists in the workforce is the second lowest in the EU countries. On the positive side, the number of STEM (science, technology and mathematics) graduates slightly increased (1.4% up from 1.3% in DESI 2015).

⁷ e-Skills for Jobs in Europe – Measuring Progress and Moving Ahead (2014), Bulgaria Country Report

3 Use of Internet

3 Use of Internet	Bulgaria		Cluster score	EU score
	rank	score		
DESI 2016	19	0.42	0.43	0.45
DESI 2015	20	0.41	0.42	0.43

In DESI 2016 Use of Internet is the dimension where Bulgaria performs the best. Bulgaria scores 0.42 and ranks 19th among EU countries (up from 20th last year).

	Bulgaria				EU DESI 2016 Value
	DESI 2016		DESI 2015		
	value	rank	value	rank	
3a1 News % individuals who used Internet in the last 3 months (aged 16-74)	70% (2015) ↓	18	74% (2014)	15	68% (2015)
3a2 Music, Videos and Games % individuals who used Internet in the last 3 months (aged 16-74)	57% (2014) →	7	57% (2014)	7	49% (2014)
3a3 Video on Demand % households that have a TV	n.a.	-	n.a.	-	41% (2014)
3b1 Video Calls % individuals who used Internet in the last 3 months (aged 16-74)	82% (2015) →	1	82% (2014)	1	37% (2015)
3b2 Social Networks % individuals who used Internet in the last 3 months (aged 16-74)	74% (2015) ↑	6	71% (2014)	5	63% (2015)
3c1 Banking % individuals who used Internet in the last 3 months (aged 16-74)	9.4% (2015) ↑	28	8.5% (2014)	27	57% (2015)
3c2 Shopping % individuals who used Internet in the last year (aged 16-74)	31% (2015) ↑	27	28% (2014)	27	65% (2015)

Bulgarian Internet users engage in a broad range of online activities. They communicate via voice or video calls (82%) and participate in social networks (74%). In these two activities engagement among Bulgarians is among the highest in the EU. Compared to last year, less Bulgarians Internet users read news online (70% compared to 74% in DESI 2015).

While Bulgarians are keen to engage in the above Internet activities, they are more reluctant to engage in on-line transactions. 9.4% of Bulgarian Internet users are using online banking (up from 8.5%). 31% shop online (up from 28%) but still ranking 27th in EU. Despite progress this is still the key challenge for Bulgaria in terms of Internet use by its citizens, a digital economy is also fuelled by its citizens' trust in the online channel.

4 Integration of Digital Technology

4 Integration of Digital Technology	Bulgaria		Cluster score	EU score
	rank	score		
DESI 2016	23	0.24	0.29	0.36
DESI 2015	24	0.24	0.31	0.33

In Integration of Digital Technology by businesses, Bulgaria scores 0.24 and ranks 23rd in the EU (slightly better than in DESI 2015). Bulgaria's businesses are trying to catch-up but they still need to better exploit the possibilities offered by on-line commerce and business digitisation.

	Bulgaria				EU DESI 2015 value
	DESI 2015		DESI 2014		
	Value	rank	value	rank	
4a1 Electronic Information Sharing % enterprises (no financial sector, 10+ employees)	25% (2015) ↓	22	27% (2014)	21	36% (2015)
4a2 RFID % enterprises (no financial sector, 10+ employees)	9.5% (2014) →	1	9.5% (2014)	1	3.8% (2014)
4a3 Social Media % enterprises (no financial sector, 10+ employees)	8.4% (2015) ↑	26	7.2% (2014)	25	18% (2015)
4a4 eInvoices % enterprises (no financial sector, 10+ employees)	8.8% (2015) ↑	21	8.6% (2014)	19	n.a.
4a5 Cloud % enterprises (no financial sector, 10+ employees)	3.9% (2015) ↓	28	6.2% (2014)	20	n.a.
4b1 SMEs Selling Online % SMEs (no financial sector, 10+ employees)	5.7% (2015) ↑	28	5.5% (2014)	27	16% (2015)
4b2 eCommerce Turnover % turnover of SMEs (no financial sector, 10-249 employees)	3.1% (2015) ↑	26	1.4% (2014)	28	9.4% (2015)
4b3 Selling Online Cross-border % SMEs (no financial sector, 10+ employees)	2.8% (2015) ↑	28	2.1% (2013)	28	7.5% (2015)

A true digital economy is one where businesses take full advantage of the possibilities and benefits offered by digital technologies, to improve their efficiency and productivity, as well as to reach customers and realise sales. To that end, Bulgaria can take better advantage of digital technologies.

The adoption of digital technologies is an important driver of labour productivity growth and needs to be strengthened. 8.4% of businesses use social media (up from 7.2%) showing that businesses understood to follow the user trends. The percentage of businesses using technologies such as electronic information sharing (ERP – 25%), eInvoices (8.4%) and Cloud services (6.3%) went slightly down and are among the lowest in the EU.

Bulgarian businesses need also to take more advantage of the possibilities offered by on-line commerce. Very few SMEs in Bulgaria sell online (5.7% but slightly up from 5.5%), even less sell online to other EU member states (2.8% but up from 2.1%). Those who do sell online make an increased (though still small) share of their turnover from those sales (3.1% twice as much as the year before). Without digitisation and exploitation of on-line commerce Bulgarian businesses will have difficulties compete in the global digital economy.

5 Digital Public Services

5 Digital Public Services	Bulgaria		Cluster score	EU score
	rank	score		
DESI 2016	28	0.33	0.45	0.55
DESI 2015	26	0.32	0.47	0.54

Digital Public Services is the dimension where Bulgaria performs the weakest. With a score of 0.33, Bulgaria ranks 28th among EU countries with a mild improvement in score but losing two place when compared to last year.

	Bulgaria				EU DESI 2016 value
	DESI 2016 value	rank	DESI 2015 value	Rank	
5a1 eGovernment Users % individuals returning filled forms, out of Internet users in the last year (aged 16-74)	15% (2015) ↑	26	13% (2014)	27	32% (2015)
5a2 Pre-filled Forms Score (0 to 100)	23 (2015) ↑	21	19 (2014)	23	49 (2015)
5a3 Online Service Completion Score (0 to 100)	64 (2014) ↑	23	61 (2014)	21	81 (2015)
5a4 Open Data Score (0 to 700)	165 (2015) ↓	24	215 (2014)	28	351 (2015)

Modern public services offered online in an efficient manner are a vehicle for reducing public spending as well as for driving efficiency gains for enterprises, citizens and the public administration. Bulgaria made some progress but its indicator scores⁸ show that the level of sophistication of its services needs to improve and more data need to be made open for public use. Better online public services will also further improve Bulgaria's percentage of eGovernment users interacting with public authorities by returning filled-in forms (15% of Internet users up from 13%), which is the second lowest in the EU.

⁸ 23/100 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 64/100 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).