

Brussels, 12 May 2017 (OR. en)

9139/17 ADD 25

TELECOM 118 MI 412 IND 123 COMPET 342 PI 58 RECH 137 DIGIT 135

COVER NOTE

| From: | Secretary-General of the European Commission, signed by Mr Jordi AYET PUIGARNAU, Director |
|------------------|---|
| date of receipt: | 11 May 2017 |
| To: | Mr Jeppe TRANHOLM-MIKKELSEN, Secretary-General of the Council of the European Union |
| No. Cion doc.: | SWD(2017) 160 final - PART 26/62 |
| Subject: | COMMISSION STAFF WORKING DOCUMENT Europe's Digital Progress Report 2017 |

Delegations will find attached document SWD(2017) 160 final - PART 26/62.

Encl.: SWD(2017) 160 final - PART 26/62

9139/17 ADD 25 CB/ek

EN



Brussels, 10.5.2017 SWD(2017) 160 final

PART 26/62

COMMISSION STAFF WORKING DOCUMENT

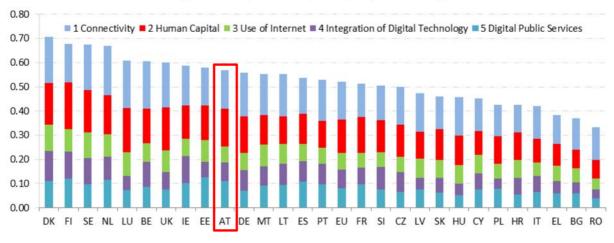
Europe's Digital Progress Report 2017

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

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 |

Digital Economy and Society Index (DESI) 2017 ranking



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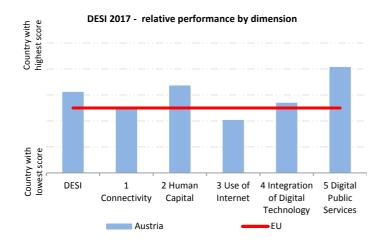
¹ https://ec.europa.eu/digital-single-market/en/desi

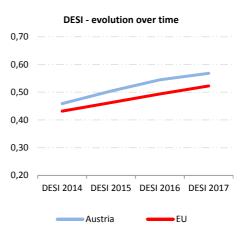
| | Au | stria | Cluster | EU |
|------------------------|------|-------|---------|-------|
| | rank | score | score | score |
| DESI 2017 | 10 | 0.57 | 0.54 | 0.52 |
| DESI 2016 ² | 10 | 0.54 | 0.51 | 0.49 |

Austria ranks 10th out of the 28 EU Member States. Overall, it progressed in line with the EU average over the last year, keeping the same position. It performs best in Digital Public Services, where its strength lies in the improving quality of the online offer, followed by human capital. On the integration of digital technology by businesses, Austria scores relatively less well, but still above average, while its connectivity score is exactly average despite very favourable broadband prices. Finally, the only dimension where Austria is below average is the use of Internet services, although online shopping and online banking are relatively wide spread.

Austria belongs to the Medium performing cluster of countries³.

On 19 January 2017 Austria published the "Digital Roadmap for Austria", a national digital strategy including a comprehensive overview over current challenges and as well as existing and planned measures to address these challenges⁴. Furthermore, at the end of January Austria also adopted its new government programme for 2017-2018 in which digitisation is identified as one of the key priorities⁵.





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

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 https://www.digitalroadmap.gv.at/downloads/digital_road_map_broschuere.pdf

⁵ http://archiv.bundeskanzleramt.at/DocView.axd?CobId=65201

1 Connectivity

| 1 Connectivity | Au | stria | Cluster | EU |
|----------------|------|-------|---------|-------|
| 1 Connectivity | rank | score | score | score |
| DESI 2017 | 15 | 0.63 | 0.63 | 0.63 |
| DESI 2016 | 14 | 0.61 | 0.60 | 0.59 |

| | | Austria | | | | EU |
|--|----------------------------|---------------|------|----------------------------|-----------|----------------------------|
| | DESI 2017 | | | DESI 201 | DESI 2017 | |
| | value | | rank | value | rank | value |
| 1a1 Fixed Broadband Coverage | 99% | \rightarrow | 13 | 99% | 11 | 98% |
| % households | 2016 | | | 2015 | | 2016 |
| 1a2 Fixed Broadband Take-up | 68% | 1 | 20 | 65% | 19 | 74% |
| % households | 2016 | | | 2015 | | 2016 |
| 1b1 Mobile Broadband Take-up | 77 | 1 | 17 | 67 | 16 | 84 |
| Subscriptions per 100 people | June 2016 | | | June 2015 | | June 2016 |
| 1b2 4G coverage ⁶ | 89% | | 17 | NA | | 84% |
| % households (average of operators) | 2016 | | | | | 2016 |
| 1b3 Spectrum ⁷ | 69% | 1 | 11 | 73% | 11 | 68% |
| % of the target | 2016 | | | 2015 | | 2016 |
| 1c1 NGA Coverage | 89% | \rightarrow | 10 | 89% | 10 | 76% |
| % households | 2016 | | | 2015 | | 2016 |
| 1c2 Subscriptions to Fast Broadband | 24% | 1 | 23 | 21% | 22 | 37% |
| % subscriptions >= 30Mbps | June 2016 | | | June 2015 | | June 2016 |
| 1d1 Fixed Broadband Price ⁸ | 0.9% | \rightarrow | 4 | 0.9% | 5 | 1.2% |
| % income | price 2016, income 2015 | | | price 2015, income 2015 | | price 2016, income 2015 |

Austria ranks 15 in connectivity in 2016, falling one place since 2015. The area where Austria performs considerably lower is take-up, which in the case of fixed and fast broadband may be attributed to a considerable mobile substitution trend. The Austrian telecommunications market is characterised by price-driven competition and the prominent role of mobile services, on both voice and broadband markets. Nevertheless, Austria performs better than the EU average in coverage and spectrum, while price levels are lower in both fixed and mobile services than the EU average. An ambitious overhaul of the government broadband policies was launched in 2017.

In 2016, 89 % of all households in Austria were covered by a high-speed broadband (next-generation access) network, which is well above the EU average. Austria increased the coverage of high-speed broadband in rural areas from 26 % in 2015 to 41 % in 2016, reducing the 'digital divide' between urban and rural areas. However, it only achieves the EU

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⁶ This is a new DESI indicator measuring the average coverage of telecom operators' 4G networks.

⁷ There is a decrease in most of the Member States due to the additional EU harmonisation of the 700 MHz band in April 2016.

⁸ Due to a slight methodological change, historical data was re-calculated.

average for providing adequate access in rural areas for individuals and businesses to the digital economy and digital society.

In response to the challenge of financing the high cost of high-speed roll out in rural and mountainous areas, Austria has started to implement an ambitious funding scheme from the proceeds of spectrum revenues. In the course of 2016, the Austrian government launched a series of calls for proposals to disburse the so-called Broadband Billion. Calls in 2016 focused on promoting access to, and deployment of backhaul networks, as well as empty ducts for local governments and innovative services that are expected to promote take-up.

According to the new government programme 2017-2018 and the Digital Roadmap, Austria increases its national targets of availability and take-up of high-speed broadband beyond nation-wide coverage of 100Mbps by 2020 to provide high-speed connections for all schools and SMEs and 75% of the citizens till 2020. In addition, the Digital Roadmap sets the government the task to develop a comprehensive 5G roll-out strategy and recognises the importance of 5G for the digital economy. Roll-out of 5G (mobile) technologies should start by 2018 leading to coverage of all regional capitals by 2020. The measures include the simplification of the authorisation regime for digital infrastructure by establishing a one-stop shop in each of the regions and to reduce the fees charged by owners of public property for usage of digital infrastructure. Whereas some of these measures have been already enacted when the requirements of the Cost Reduction Directive were transposed, the simplification of town planning rules at regional level has not yet been completed in all the regions.

Austria has all the right ingredients for success: the availability and quality of service is good, the prices are competitive and active policy-making aims to ensure that consumers and enterprises derive maximum benefits from digitisation. Given the strong focus on mobile services, the regulatory remedies to allow the launch of virtual operators following the merger of mobile operators contributed to the positive rebound of pricing trends. Nevertheless, despite the relatively high purchasing power, the take-up of broadband remained low in comparison with the EU average. Thus the public policy initiatives to stimulate demand will play an important role in improving Austria's connectivity dimension.

2 Human Capital

| 2 Human Capital | | Au | stria | Cluster | EU |
|-----------------|-----------------|------|-------|---------|-------|
| | 2 Haman Capital | rank | score | score | score |
| | DESI 2017 | 7 | 0.62 | 0.57 | 0.55 |
| | DESI 2016 | 7 | 0.59 | 0.55 | 0.53 |

| | | Austria | | | | EU |
|-----------------------------------|------|-----------|------|-------|-----------|-------|
| | D | DESI 2017 | | | DESI 2016 | |
| | valu | е | rank | value | rank | value |
| 2a1 Internet Users | 82% | 1 | 11 | 81% | 11 | 79% |
| % individuals | 2016 | | | 2015 | | 2016 |
| 2a2 At Least Basic Digital Skills | 65% | 1 | 8 | 64% | 9 | 56% |
| % individuals | 2016 | | | 2015 | | 2016 |
| 2b1 ICT Specialists ⁹ | 4.0% | 1 | 8 | 3.6% | 10 | 3.5% |
| % of employed individuals | 2015 | | | 2014 | | 2015 |
| 2b2 STEM Graduates | 23 | 1 | 4 | 22 | 3 | 19 |
| Per 1000 individuals (aged 20-29) | 2014 | | | 2013 | | 2014 |

Austria is making progress across all the indicators, especially on ICT specialists, where the year 2016 saw an increase beyond the trends of previous years. Nevertheless, given Austria's ambition to become one of the innovation leaders in Europe, further progress will be required.

The authorities are aware of this challenge and are addressing it both in the recently adopted Digital Roadmap Austria and in the new government programme. The Digital Roadmap Austria sets out a series of measures to improve digital skills, such as encouragement of playful access to technology in primary schools, e.g. coding, strengthening of vocational training in key ICT domains such as network technologies, business informatics etc., and special measures to attract women into digital and technological disciplines.

The new government programme 2017-2018 implements a number of measures of the Digital Roadmap, including the following:

- A new digitisation strategy Schule 4.0 envisages to equip all schools with broadband and WLAN access (by 2021) and to distribute handheld devices to all students in 5th and 9th grade, starting from fall 2017. Teaching basic digital skills will be introduced into the curriculum of primary and lower secondary schools as of 2018/19.
- Digital skills training for teachers will be strengthened by providing additional offers at the relevant universities. A Future Learning Lab for digital teacher training will be launched in 2017.
- Digital education content will be made freely available.
- At higher education level (university etc) the availability of places for STEM studies shall be increased (starting university semester 2017/2018).

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⁹ Historical data have been revised by Eurostat.

3 Use of Internet

| 3 Use of Internet | Au | stria | Cluster | EU |
|-------------------|------|-------|---------|-------|
| | rank | score | score | score |
| DESI 2017 | 20 | 0.44 | 0.45 | 0.48 |
| DESI 2016 | 20 | 0.42 | 0.42 | 0.45 |

| | | Austria | | | | EU |
|--|------|---------------|------|------------------|------|-----------|
| | D | DESI 2017 | | DESI 2016 | | DESI 2017 |
| | valu | e | rank | value | rank | value |
| 3a1 News | 66% | \downarrow | 23 | 67% | 21 | 70% |
| % individuals who used Internet in the last 3 months | 2016 | | | 2015 | | 2016 |
| 3a2 Music, Videos and Games ¹⁰ | 79% | | 15 | NA | | 78% |
| % individuals who used Internet in the last 3 months | 2016 | | | | | 2016 |
| 3a3 Video on Demand ¹¹ | 14% | | 16 | NA | | 21% |
| % individuals who used Internet in the last 3 months | 2016 | | | | | 2016 |
| 3b1 Video Calls | 32% | 1 | 26 | 31% | 24 | 39% |
| % individuals who used Internet in the last 3 months | 2016 | | | 2015 | | 2016 |
| 3b2 Social Networks | 58% | 1 | 24 | 54% | 24 | 63% |
| % individuals who used Internet in the last 3 months | 2016 | | | 2015 | | 2016 |
| 3c1 Banking | 63% | 1 | 13 | 61% | 14 | 59% |
| % individuals who used Internet in the last 3 months | 2016 | | | 2015 | | 2016 |
| 3c2 Shopping | 68% | \rightarrow | 11 | 68% | 9 | 66% |
| % internet users (last year) | 2016 | | | 2015 | | 2016 |

In terms of the propensity of individuals to use Internet services, Austria made progress roughly in line with the EU average and retained its 20th position. While Austrian Internet users practise online banking and online shopping slightly above EU average rates, they are less attracted to social networks and especially video calls. Using the Internet as a source of news is also below average and did not progress last year.

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¹⁰ Break in series due to a change in the Eurostat survey.

¹¹ Break in series due to a change of data source. New source is Eurostat.

4 Integration of Digital Technology

| 4 Integration of Digital | Au | stria | Cluster | EU |
|--------------------------|------|-------|---------|-------|
| Technology | rank | score | score | score |
| DESI 2017 | 14 | 0.39 | 0.40 | 0.37 |
| DESI 2016 | 10 | 0.39 | 0.37 | 0.35 |

| | | Austria | | | | EU |
|------------------------------------|-------|---------------|------|--------|-----------|-------|
| | DE | SI 201 | .7 | DESI 2 | DESI 2017 | |
| | value | 2 | rank | value | rank | value |
| 4a1 Electronic Information Sharing | 41% | | 8 | 41% | 8 | 36% |
| % enterprises | 2015 | | | 2015 | | 2015 |
| 4a2 RFID | 5.6% | | 7 | 5.6% | 7 | 3.9% |
| % enterprises | 2014 | | | 2014 | | 2014 |
| 4a3 Social Media | 19% | 1 | 14 | 16% | 14 | 20% |
| % enterprises | 2016 | | | 2015 | | 2016 |
| 4a4 elnvoices | 25% | \rightarrow | 7 | 25% | 4 | 18% |
| % enterprises | 2016 | | | 2015 | | 2016 |
| 4a5 Cloud | 10% | | 19 | NA | | 13% |
| % enterprises | 2016 | | | 2015 | | 2016 |
| 4b1 SMEs Selling Online | 15% | 1 | 17 | 14% | 17 | 17% |
| % SMEs | 2016 | | | 2015 | | 2016 |
| 4b2 eCommerce Turnover | 5.7% | \downarrow | 24 | 8.0% | 16 | 9.4% |
| % SME turnover | 2016 | | | 2015 | | 2016 |
| 4b3 Selling Online Cross-border | 10.5% | | 6 | 10.5% | 6 | 7.5% |
| % SMEs | 2015 | | | 2015 | | 2015 |

Austrian businesses are doing well on many digitisation aspects, especially regarding the use of ICTs for internal processes, such as electronic information sharing between different departments, the use of RFID and e-invoicing, which is related to e-invoicing requirements by Austrian public authorities. However, they are not great users of cloud services. Austrian businesses are doing less well on the indicators in relation to their contacts with customers; they are not very active on social media, fewer SMEs than in other Member States sell online, and the eCommerce turnover of SMEs is relative low. However, among those SMEs that do sell online, selling abroad is relative frequent.

One of the 12 key principles of the Digital Roadmap Austria is that Austria should be among the leading digital economies and that public authorities should support enterprises in their digital transformation. For this purpose a series of measures has been selected:

- Strengthened networking and improved access to technologies through the establishment of Digital Innovation Hubs;
- Assisting the digital transformation of SMES through the targeted provision of advice and training measures in a new funding support called KMU.digital, starting in 2017;
- A focus on SMEs and Open Source in the framework of AT.net, a support programme for the launch and establishment of digital applications and products;

- A strengthening of strategic future technologies linked to digital transformation such as big data, data science, cloud computing, quantum technology or cybersecurity;
- The creation of a user-friendly digital platform interface for eProcurement. The government also intends to abolish the mandatory existence of paper invoices in early 2017.

Highlight 2017:12 Startups: networks of excellence & clusters

Networks of excellence and clusters based on existing strengths will be created or reinforced.

Currently, there are more than 60 incubators und accelerators in Austria. Moreover, there are more than 130 co-working spaces, 7 university-related publicly financed enterprise creation centres (*AplusB-Zentren*) and numerous privately funded hub initiatives.

Two Federal Ministries, Science and Research together with Transport, Innovation and Technology, will start an open innovation process, which will select the most promising focus areas with the involvement of startups, incubators, key enterprises and science, research and education establishments. On the basis of this consultation the support measures most useful for each network of excellence will be analysed by the end of 2017.

In 2018, the selected measures will be jointly implemented by enterprises and public authorities. € 1 bn will be mobilised from banks, insurances and foundations for investments in startups, spin-offs and high growth enterprises. Each network of excellence and each cluster will target a specific field and will provide optimal access to research, unique industrial partnerships, attractive infrastructures - both in terms of physical space and connectivity - international cooperation and funding possibilities.

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¹² Highlight 2016: In 2014 Austria received the annual United Nations Public Service Award for the Open Government Data Portal (data.gv.at). In the category "Improving the delivery of Public Services", Austria was awarded 1st place for the nationwide Open Government Data Portal (data.gv.at) by the Federal Chancellery of the Republic of Austria. The portal is a unique platform for providing a comprehensive database of freely accessible national government data. The awarding jury pointed out that Austria was an inspiration and a model for other countries.

5 Digital Public Services

| 5 Digital Public Services | Au | stria | Cluster | EU |
|----------------------------|------|-------|---------|-------|
| 5 Digital I dolle services | rank | score | score | score |
| DESI 2017 | 5 | 0.73 | 0.59 | 0.55 |
| DESI 2016 | 6 | 0.68 | 0.56 | 0.51 |

| | Austria | | | | | EU |
|-------------------------------|-----------|--------------|------|-----------|------|-----------|
| | DESI 2017 | | | DESI 2016 | | DESI 2017 |
| | value | | rank | value | rank | value |
| 5a1 eGovernment Users | 38% | 1 | 12 | 37% | 13 | 34% |
| % internet users (last year) | 2016 | | | 2015 | | 2016 |
| 5a2 Pre-filled Forms | 72 | 1 | 6 | 62 | 12 | 49 |
| Score (0 to 100) | 2016 | | | 2015 | | 2016 |
| 5a3 Online Service Completion | 97 | \downarrow | 2 | 98 | 2 | 82 |
| Score (0 to 100) | 2016 | | | 2015 | | 2016 |
| 5a4 Open Data ¹³ | 78% | 1 | 5 | 69% | 5 | 59% |
| % of maximum score | 2016 | | | 2015 | | 2016 |

The vast majority (98 %) of the most used public services are available online, notably via the *Digitales Österreich* platform. Austria is in the top ranking for availability, also via mobile devices, in terms of EU comparison. The usability of these services also scores high in terms of support and interactive feedback functionalities. Austrian public administrations are transparent with regard to the government's responsibilities, process of service delivery and citizens' personal data. Austria has also a well-developed policy for the re-use of government open data. The Austrian open data portal gives access to more than 2100 datasets in all societal domains, including GIS data. Take-up of eGovernment services is somewhat behind the offer, but still above average.

Austria still intends to improve its public services. The Digital Roadmap Austria of 19 January 2017 indicates that Austria plans to introduce the right for citizens and businesses to digitally interact with public administration, *Recht auf elektronischen Verkehr mit Behörden*. A respective law is currently (March 2017) under parliamentary consideration¹⁴. It also plans to upgrade the existing citizen card concept (chip card based eID and mobile phone based eID) to an electronic proof of identity, *elektronischer Identitätsnachweis*, and to further expand the mobile accessibility of online public services. The new government programme 2017-2018¹⁵ sets the goal to screen government datasets by the end of October 2017 for publication on www.data.gv.at. By the end of 2020 these identified public data should be published on www.data.gv.at eventually..

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¹³ Change of data source. The historical data have also been restated. The new source is the European Data Portal.

¹⁴ https://www.parlament.gv.at/PAKT/PR/JAHR_2017/PK0310/index.shtml

¹⁵ Arbeitsprogramm der Bundesregierung 2017 / 2018 https://www.bka.gv.at/regierungsprogramm-2017_2018

Due to Austria's federal structure, specific challenges in establishing coherent and nationwide eGovernment services exist, as the implementation of diverse and not necessarily interoperable systems may create friction losses, e.g. regarding e-procurement systems. The Platform Digital Austria¹⁶ is responsible for addressing these challenges by comprehensive cooperation.

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¹⁶ http://www.digital.austria.gv.at/