



# **Digital Economy and Society Index (DESI) 2021**

**Austria**

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## About the DESI

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*The European Commission has monitored Member States' progress on digital and published annual Digital Economy and Society Index (DESI) reports since 2014. Each year, the reports include country profiles, which help Member States identify areas for priority action, and thematic chapters providing an EU-level analysis in the key digital policy areas.*

*In 2021, the Commission adjusted DESI to reflect the two major policy initiatives that will have an impact on digital transformation in the EU over the coming years: the Recovery and Resilience Facility and the Digital Decade Compass.*

*To align DESI with the four cardinal points and the targets under the Digital Compass, to improve the methodology and take account of the latest technological and policy developments, the Commission made a number of changes to the 2021 edition of the DESI. The indicators are now structured around the four main areas in the Digital Compass, replacing the previous five-dimension structure. 11 of the DESI 2021 indicators measure targets set in the Digital Compass. In future, the DESI will be aligned even more closely with the Digital Compass to ensure that all targets are discussed in the reports.*

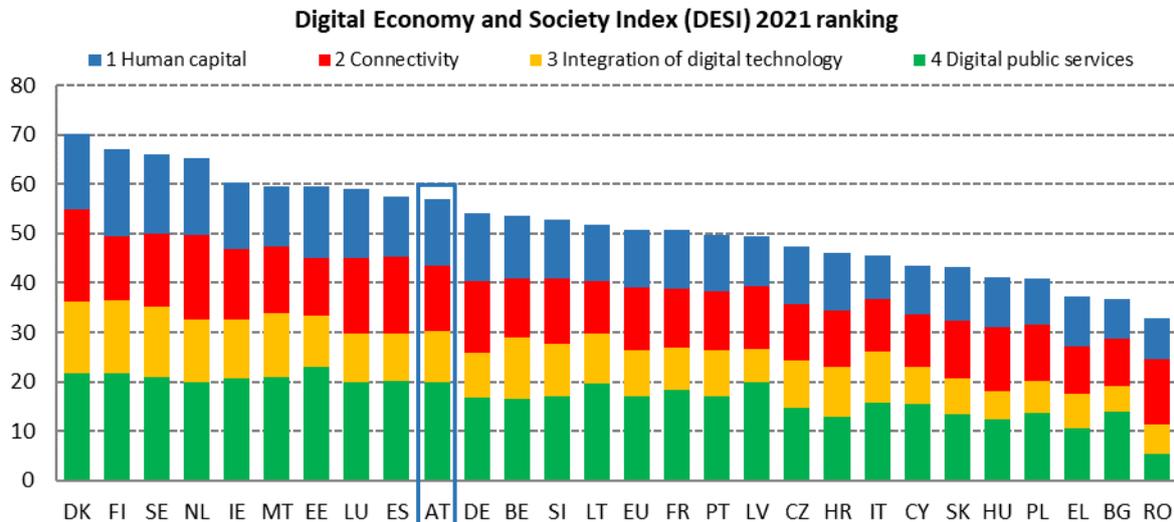
*In addition, DESI now includes an indicator measuring the level of support that adopted ICT technologies provided companies in taking more environmentally-friendly measures (ICT for environmental sustainability) and the take up of gigabit services, plus the percentage of companies offering ICT training and using e-invoicing.*

*The DESI scores and rankings of previous years were re-calculated for all countries to reflect the changes in the choice of indicators and corrections made to the underlying data.*

*For further information, see the DESI website: <https://digital-strategy.ec.europa.eu/en/policies/desi>.*

## Overview

	Austria		EU
	rank	score	score
<b>DESI 2021</b>	<b>10</b>	<b>56.9</b>	<b>50.7</b>



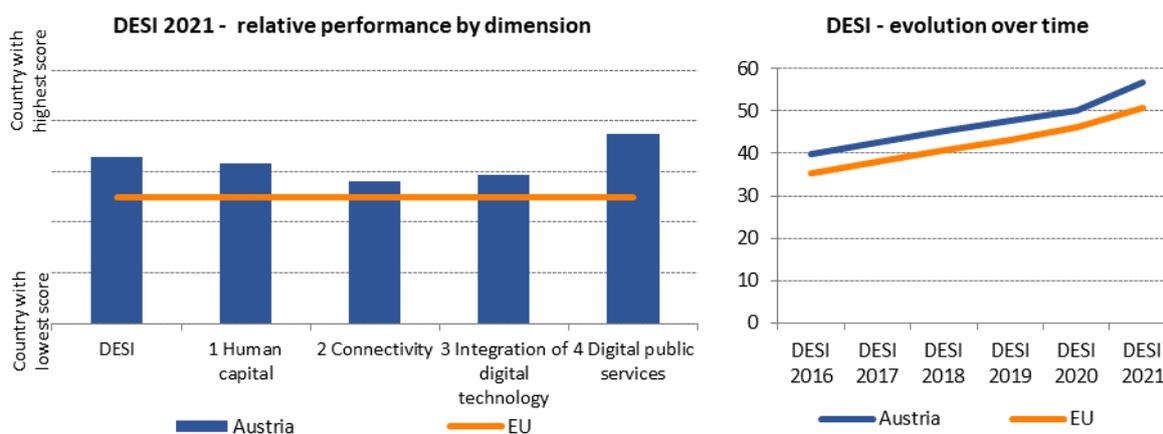
Austria ranks 10<sup>th</sup> among 27 EU Member States in the 2021 edition of the Digital Economy and Society Index (DESI).

On Human capital, Austria performs above the EU average in all the indicators except 'Enterprises providing ICT training', in which, at 18%, Austria is slightly below the EU average of 20%. In connectivity, Austria performs well on mobile coverage, with 50% of populated areas covered by 5G services. The country scores significantly below the EU average for fixed very high capacity network (VHCN) coverage, with 39% in 2020 compared to the EU average of 59%, despite significantly improving since 2019 (14%). Regarding the integration of digital technology, 63% of small and medium-sized enterprises (SMEs) have at least a basic level of digital intensity, slightly above the EU average (60%), but only 9% of all enterprises are using big data, far below the EU average of 14%. The same is observed for cloud computing services with only 20% of all enterprises in Austria using them, compared to the EU average of 26%. In the digitalisation of public services, Austria is among the frontrunners. For example, the country scores high in the number of internet users connecting to e-government services (81% compared to an EU average of 64%) and in open data readiness, with a score of 90% compared to the EU average of 78%.

The 'Digital Action Plan Austria'<sup>1</sup> sets a strategic framework for digitalisation in the country, aiming at a long-term target scenario to become a 'digitally responsible society'. The Federal Ministry for Digital and Economic Affairs (BMDW) coordinates the action plan and develops, chapter-by-chapter, projects with the relevant department and ministry to make progress on digitalisation in the relevant policy field. Over 2020-2021, the chapters in the action plan – 'Data', 'Resilience', 'Digital Economic Transformation', 'Digital Sustainable Economy', 'Digital Universities', 'Digital Talent for the Austrian Economy', 'Digitalisation and Security', 'Digitalisation and Tourism', and 'Digital Competences in the Civil Service' – were drawn up and kicked off for implementation. In Connectivity, Austria's plan to use funds from the Recovery and Resilience Facility (RRF) could play an important role in helping the

<sup>1</sup> <https://www.digitalaustria.gv.at/aktionsplan.html>

country reach the digital targets set out in its broadband strategy for 2030. In Austria, the public sector is digitally advanced, but the COVID-19 crisis has stressed the need for reliable and interoperable public IT services. A strategic focus has been put on allowing fast and secure exchange of data and quick reuse of already available services (national ‘once only’ strategy). In January 2020, an important amendment to the e-government-Act<sup>2</sup> entered into force, recognising digital government and interaction with the public administration as a right of the people in Austria. Regarding Human capital, the number of ICT specialists and graduates increased, but the lack of ICT specialists to address the high demand in the labour market persists and could slow down the digitalisation of businesses (especially SMEs).



### Digital in Austria's Recovery and Resilience Plan (RRP)

Austria's RRP has a total value of EUR 4.5 billion. The EU total non-repayable financial support under the RRP is EUR 3.5 billion of which EUR 1.8 billion is dedicated to digital transition. This amounts to a digital share of 52.8%, well above the minimum target of 20%.

The RRP will contribute to Austria's digital transition in several areas.

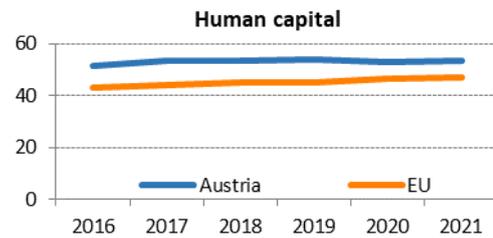
- Digital skills are addressed by investments under the components 'Digital recovery' and 'Knowledge-based recovery'. The focus is on digitalising education and on reskilling and upskilling.
- Connectivity is addressed by supporting widespread deployment of gigabit-capable access networks.
- Integration of digital technologies (including digital R&D; digitalisation of businesses; digital capacities and deployment of advanced technologies) is supported by a wide range of measures including digitising SMEs and promoting quantum sciences.
- The digitalisation of the public administration is supported by the Digitalisation Fund, which aims to accelerate digitalisation in the federal administration by financing projects with a cross-departmental impact.

The plan also includes an Important Project of Common European Interest (IPCEI) in the field of microelectronics.

<sup>2</sup> <https://www.ris.bka.gv.at/GeltendeFassung.wxe?Abfrage=Bundesnormen&Gesetzesnummer=20003230>

# 1 Human capital

1 Human capital	Austria		EU
	rank	score	score
<b>DESI 2021</b>	<b>9</b>	<b>53.3</b>	<b>47.1</b>



	Austria			EU
	DESI 2019	DESI 2020	DESI 2021	DESI 2021
<b>1a1 At least basic digital skills</b> % individuals	<b>67%</b> 2017	<b>66%</b> 2019	<b>66%</b> 2019	<b>56%</b> 2019
<b>1a2 Above basic digital skills</b> % individuals	<b>36%</b> 2017	<b>39%</b> 2019	<b>39%</b> 2019	<b>31%</b> 2019
<b>1a3 At least basic software skills</b> % individuals	<b>71%</b> 2017	<b>69%</b> 2019	<b>69%</b> 2019	<b>58%</b> 2019
<b>1b1 ICT specialists</b> % individuals in employment aged 15-74	<b>4.5%</b> 2018	<b>4.3%</b> 2019	<b>4.5%</b> 2020	<b>4.3%</b> 2020
<b>1b2 Female ICT specialists</b> % ICT specialists	<b>18%</b> 2018	<b>20%</b> 2019	<b>20%</b> 2020	<b>19%</b> 2020
<b>1b3 Enterprises providing ICT training</b> % enterprises	<b>27%</b> 2018	<b>18%</b> 2019	<b>18%</b> 2020	<b>20%</b> 2020
<b>1b4 ICT graduates</b> % graduates	<b>3.9%</b> 2017	<b>4.4%</b> 2018	<b>4.5%</b> 2019	<b>3.9%</b> 2019

On Human capital, Austria ranks 9<sup>th</sup> among EU countries and is above the EU average in all the indicators apart from the percentage of enterprises providing ICT training (18%), which is slightly below the EU average (20%). Austria scores well above the EU average in at least basic digital skills (66% compared to the EU average of 56%) and 69% of people have at least basic software skills, where the EU average is 58%. In 2020, the percentage of ICT specialists slightly increased (4.5%), remaining above the EU average (4.3%) with the proportion of female ICT specialists remaining stable at 20% (EU average 19%). The percentage of ICT graduates (4.5%) is also above the EU average (3.9%). Nevertheless in 2020, 74.3% of enterprises in Austria that recruited or tried to recruit personnel reported that vacancies for jobs requiring ICT specialist skills were hard to fill.

Since 2020, Austria has taken numerous measures to increase the level of digital skills of its population. The Federal Ministry for Digital and Economic Affairs (BMDW) is responsible for providing digital training activities to people, which are not embedded in any formal educational process. The objective is for all people to be equipped with the necessary digital skills for their personal and professional development. In close cooperation with the BMDW, the association fit4internet<sup>3</sup> (f4i), which also hosts the National Coalition for digital skills and jobs, launched initiatives targeting digital skills for all and advanced digital skills for ICT specialists. These actions were in line with the priorities set in the government's digital programme 2020-2025, such as 'fit4futureJobs', an initiative for employees and returnees to work, aimed at people born between 1960 and 2005 or 'fit4internet' for people aged 60 and over. The f4i platform also offers a self-assessment tool based on the Digital Competence

<sup>3</sup> <https://www.fit4internet.at/>

Framework for Austria - DigComp 2.2 AT. The National Coalition also continued carrying out major awareness-raising activities to boost the digital skills of all groups in the country.

The BMDW also launched initiatives with a strong focus on upskilling SME employees. In 2020, the programme 'digital pro boot camps' launched a call for implementing boot camps focused on e-commerce, cybersecurity and smart factories to train highly motivated employees from the participating companies to become 'digital professionals' within 4 weeks. It should then be possible to fully entrust these future IT specialists with IT projects in the company and further advance the company's digitalisation agenda. In March 2021, the Ministry also launched a qualification programme, 'Qualifizierungsoffensive', to develop the digital competences of enterprises and their employees to make them fit for the digital transformation of the economy.

In addition, during the pandemic the Federal Ministry of Labour launched the 'Corona Job Offensive', an initiative targeting vulnerable people (e.g. unemployed people with or without qualifications; women re-entering the labour market; people with disabilities) to give them the opportunity for professional reorientation or upskilling in promising fields of qualification such as digitalisation as well as science, technology, engineering, and mathematics (STEM).

In the education system, in 2020-21, Austria developed a new improved digital education strategy, the 'Digital School/8 Point Plan'<sup>4</sup> aiming to systematically and sustainably implement digitalisation in education. It includes eight key fields of action, among them, further training of teachers; collection of digital teaching and learning materials accessible on a single platform; a seal of approval certifying educational apps for mobile learning; and equipping all pupils at 9th grade with a digital end device.

Organisations from Austria actively participated in EU Code Week 2020, making the country one of the most active in the EU with 3,280 activities involving more than 64,700 participants, 53.8% of whom were women and girls.

In March 2021, the Federal Ministry for Women, Family, Youth and Integration launched a call for proposals with a budget of EUR 1.3 million for projects to raise the interest of women and girls for STEM fields, and support them with technical training and in their career to further increase their participation in STEM education and professions.

Austria successfully deploys policies and initiatives to boost the digital skills of its population. In view of the rapid digital transformation, efforts to upskill and reskill the labour force as well as training young people and women in digital technologies are particularly welcome, to address the high demand in the labour market for digital talent and ICT specialists.

#### **Highlight 2021: the Digital Pioneers<sup>5</sup>**

This initiative offers women between 17 and 27 years the opportunity to learn about the professions of the future and gain valuable skills and experience that are required in many jobs. The objective is to encourage young women to discover and learn skills for professions that are in demand in the labour market. At the end of the training, participants will receive a national diploma. The Digital Pioneers addresses in particular computer programming and digital skills, innovative skills and entrepreneurship skills. It is coordinated by the 'Plattform Industrie 4.0'.

<sup>4</sup> [www.digitaleschule.gv.at](http://www.digitaleschule.gv.at)

<sup>5</sup> <https://digitalpioneers.at/>

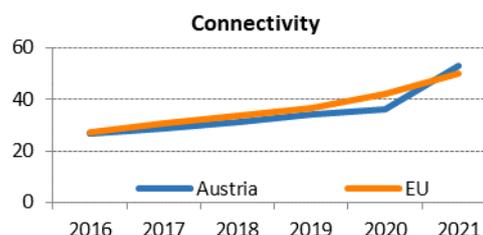
**Human capital in Austria's Recovery and Resilience Plan**

The plan includes reforms and investments to develop digital skills for a total budget of about EUR 373 million. The measures address challenges linked to education and training:

- IT equipment for students: the measure finances the provision of digital terminal equipment for at least 80,000 school students per year, with a budget of EUR 172 million;
- reskilling and upskilling: the measure aims to improve the skills of unemployed people, and also aim to provide specific ICT training (e.g. coding, software development (and network engineering), with a digital budget of EUR 202 million.

## 2 Connectivity

2 Connectivity	Austria		EU
	rank	score	score
DESI 2021	11	53.0	50.2



	Austria			EU
	DESI 2019	DESI 2020	DESI 2021	DESI 2021
<b>2a1 Overall fixed broadband take-up</b> % households	69%	72%	73%	77%
<b>2a2 At least 100 Mbps fixed broadband take-up</b> % households	7%	8%	12%	34%
<b>2a3 At least 1 Gbps take-up</b> % households	NA	<0.01%	<0.01%	1.3%
<b>2b1 Fast broadband (NGA) coverage</b> % households	73%	79%	87%	87%
<b>2b2 Fixed Very High Capacity Network (VHCN) coverage</b> % households	13%	14%	39%	59%
<b>2c1 4G coverage</b> % populated areas	99.5%	99.6%	>99.9%	99.7%
<b>2c2 5G readiness</b> Assigned spectrum as a % of total harmonised 5G spectrum	33%	33%	66%	51%
<b>2c3 5G coverage</b> % populated areas	NA	NA	50%	14%
<b>2c4 Mobile broadband take-up</b> % individuals	72%	80%	80%	71%
<b>2d1 Broadband price index</b> Score (0-100)	NA	75	78	69

Austria ranks 11<sup>th</sup> among the 27 EU Member States in Connectivity. The country has made good progress towards the EU Gigabit objectives. It performs very well on mobile coverage, having almost full 4G coverage and 50% coverage of populated areas with 5G. 80% of individuals have taken up mobile broadband. Despite good availability of fixed broadband, the overall take-up is below the EU average, standing at 73%. There is more mobile take-up than overall fixed take-up, indicating that some households may use mobile connection as a complement to or substitute for their fixed connection. NGA coverage in Austria is at EU average level, standing at 87% and having increased by 8 percentage points compared to 2019. However, rural NGA coverage remains far below the EU average, covering only 38% of households. Austria's weak point is the low coverage and take-up of Very High Capacity Networks (VHCN). Although the country has improved significantly in VHCN coverage (both FTTP at 20% and the upgrade of cables to DOCSIS 3.1 accounting for 27%), increasing from 14% in 2019 to 39% in 2020, it still performs below EU average (59%). Rural VHCN coverage remains low, with only 12% of households covered compared to 28% at EU level. Rural coverage of fibre to the premises stands at 11%. With only 12%<sup>6</sup> of its households subscribing to offers of at least 100 Mbps, Austria is far below the EU average. While 37% of households are covered with 1 Gbps

<sup>6</sup> Data for 2a2 At least 100 Mbps fixed broadband take-up has been revised by Austrian authorities since the publication of DESI 2020.

speeds, there is close to no take-up. Broadband prices overall are slightly below the EU average, with a price index of 78.

With the support of the State aid programmes under the Austrian Broadband Strategy 2020 (BBA2020), which uses funds from the proceeds of past 4G spectrum auctions, many regional private operators and communities have invested in fibre to the home. In the long term, Austria's Broadband Strategy 2030, adopted in August 2019, is aligned with the 2025 EU Gigabit goals and seeks to ensure nationwide access to gigabit-capable broadband services (fixed and mobile) by the end of 2030. Further roll-out of VHCN, coupled with 5G coverage, can help achieve these goals. In April 2021, the government announced that EUR 1.4 billion will be invested in deploying fibre in underserved regions. As part of the national broadband plan, the programme 'BBA2020\_Connect' has ensured fibre connections for main socio-economic drivers, including over 300 schools and almost 100 SMEs.

Austria is at the forefront when it comes to 5G, and scores 66% on the 5G readiness indicator. The multiband auction of the 700 MHz, 1500 MHz and 2100 MHz bands was concluded in September 2020, raising EUR 202 million (the 3.6 GHz band had already been awarded in 2019). Each of the existing mobile network operators acquired spectrum. A1 (incumbent) did not bid for spectrum in the 700 MHz band but already had spectrum in both the 3.6 GHz band across all regions and the 800 MHz band. T-Mobile (Magenta) and Hutchison (Drei) acquired 20 MHz and 10 MHz, respectively, in the 700 MHz band. A1 and Hutchison acquired 30 MHz each and T-Mobile 20 MHz in the 1500 MHz band. A1 acquired 25 MHz, Hutchison 20 MHz and T-Mobile 15 MHz in the 2100 MHz band. A novel auction design was used, which offered discounts for accepting extended coverage obligations in underserved areas. The obligations include more than 80% (1 702 areas) of the underserved areas (cadastral communities<sup>7</sup>), which are economically challenging to cover. These areas are expected to be covered with download speeds of 30 Mbps and 3 Mbps for upload by 2027. Furthermore, the auction included a general 5G coverage obligation for main roads and railways by the end of 2023, in line with the Austrian Broadband Strategy 2030.

The 26 GHz band assignment has been postponed beyond 2020 because of lack of clear market demand. The plans for the 26 GHz band are included in the upcoming Spectrum Release Plan (2021 – 2026).

#### Main market & regulatory developments

The incumbent A1 continues to hold a high market share in the fixed broadband market, including mobile broadband in the home, but it is decreasing. The largest competitors are Magenta and Drei. In the mobile market, A1, with its sub-brands Bob and Yesss, continues to hold the highest market share. Mobile virtual network operators and resellers increased their combined market share to more than 12% in 2020.

At national level, there has been an increase in flat rate mobile broadband tariffs (cube-tariffs) for residential and business use, making up around one third of all residential broadband connections. One reason is the simplicity of buying a mobile modem which can be used instantly compared to fixed broadband installation requiring pre-installation. The price is comparable to that of fixed connections. There is a trend towards fixed-to-mobile broadband substitution in the residential segment. As a result of the COVID-19 pandemic, there has been an increase in mobile data volumes since Q4 2019. All three mobile network operators, A1, Magenta and Drei, offer commercial 5G subscriptions.

<sup>7</sup> An Austrian community is typically composed of several cadastral municipalities. In many cases, a cadastral municipality is equivalent to a village (settlement).

Both active and passive fibre network access is offered in Austria, where all publicly funded networks have to offer wholesale access. A new active open access network model for fibre connections has emerged, where a three-layer model is applied: network owner, network access operator and the retail service provider. There have not been any market regulation decisions in recent years; however, since March 2020, a new market analysis covering market definition, analyses and specific obligations has been ongoing.

On 4 February 2021, the Commission addressed a Letter of formal notice to Austria for failure to notify the country's transposition measures for the European Electronic Communications Code. Subsequently, the Commission was notified by Austria that the complete transposition of the European Electronic Communications Code is expected by November 2021.

A task force, the 'Internet Infrastructure Austria 2030 Platform' (PIA 2030), has been established to accelerate VHCN deployment. The objective is to coordinate the interaction between the federal government, states, municipalities, cities, the public, authorities and the private sector and help further develop legal, regulatory and technical measures in the context of broadband deployment. One of its first initiatives is to update the federal government's '5G strategy'.

In its roadmap to implement the Connectivity Toolbox<sup>8</sup>, Austria announced plans to address the decentralised permit granting procedure – responsibilities are distributed between the federal, state and local authorities. Some of the measures considered are (i) the introduction of permit exemptions, (ii) fast track procedures, and (iii) promoting the application of existing lighter procedures for granting permits with all responsible stakeholders as well as a digital administrative platform.

The Austrian Regulatory Authority for Broadcasting and Communications (RTR) has noted an increase in complaints on the quality of internet access services with the increase in home schooling and teleworking during the COVID-19 pandemic. In 2020, complaints about fixed internet connections increased by 50% while complaints on mobile connections increased by almost 20%, compared to the year before.

In recent years, the Telekom-Control-Commission (TKK) decided on a number of cases regarding the blocking of websites due to copyright violations. One decision concerning the provision of IPv4 addresses has been appealed by the incumbent A1 to the Administrative High Court (VwGH).

RTR has noted an increasing number of fraud cases through caller identification spoofing cases, which includes falsely displaying a different number on the receiving parties' caller identification screen.

Austria is a pioneer in the roll-out of 5G and consumers already have access to commercial 5G offers. The country boasts a very high level of mobile coverage and up-take, but scores below the EU average for fixed VHCN coverage and take-up. Reliable fixed connections are a prerequisite for the digital transition and a long-lasting recovery, and therefore further efforts may be needed in this regard. Public policy initiatives and the use of RRF funds can play an important role.

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<sup>8</sup> <https://digital-strategy.ec.europa.eu/en/policies/connectivity-toolbox>

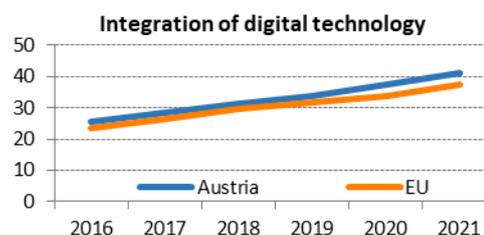
### Connectivity in Austria's Recovery and Resilience Plan

Connectivity accounts for the largest share of the digital-related expenditure of the plan, recognising the need to increase coverage with fixed VHCN in rural areas. The investment is underpinned by a reform to facilitate broadband deployment (ensuring coordination between all stakeholders and reducing red tape) and aims to ensure equal opportunities between urban and rural areas. It is expected to contribute to Austria achieving the digital targets set out in its Broadband strategy for 2030 (Breitbandstrategie 2030) and in Austria's digital action plan (Digitaler Aktionsplan Austria) complementing existing support programmes:

- broadband deployment: roll-out of gigabit enabled access networks to 150,000 to 200,000 households (reaching a total coverage of 50% of households), with a budget of EUR 891 million.

## 3 Integration of digital technology

3 Integration of digital technology	Austria		EU
	rank	score	score
DESI 2021	11	41.3	37.6



	Austria			EU
	DESI 2019	DESI 2020	DESI 2021	DESI 2021
<b>3a1 SMEs with at least a basic level of digital intensity</b> % SMEs	NA	NA	63%	60%
<b>3b1 Electronic information sharing</b> % enterprises	40%	43%	43%	36%
<b>3b2 Social media</b> % enterprises	21%	30%	30%	23%
<b>3b3 Big data</b> % enterprises	6%	6%	9%	14%
<b>3b4 Cloud</b> % enterprises	11%	11%	20%	26%
<b>3b5 AI</b> % enterprises	NA	NA	37%	25%
<b>3b6 ICT for environmental sustainability</b> % enterprises having medium/high intensity of green action through ICT	NA	NA	70%	66%
<b>3b7 e-Invoices</b> % enterprises	20%	20%	22%	32%
<b>3c1 SMEs selling online</b> % SMEs	13%	19%	22%	17%
<b>3c2 e-Commerce turnover</b> % SME turnover	7%	9%	10%	12%
<b>3c3 Selling online cross-border</b> % SMEs	14%	15%	15%	8%

On the 'integration of digital technology', Austria ranks 11<sup>th</sup> among EU countries. In Austria, 63% of the SMEs have at least a basic level of digital intensity, above the EU average of 60%. Also, Austria has more enterprises than the EU average using artificial intelligence (AI) (37% compared to the EU average of 25%). However, only 9% of enterprises report using big data (EU average 14%) and cloud (20%) is also below the EU average (26%). 22% of enterprises are using e-invoicing which remains below EU average (32%). Regarding e-commerce, 22% of SMEs are selling online, well above the EU average of 17%, and 15% are selling online across borders (EU average 8%). However, the e-commerce turnover of SMEs (10%) is below the EU average of 12%.

In 2020, the BMDW launched a new initiative 'KMU.E-Commerce'<sup>9</sup> to drive the digitalisation push in SMEs towards online trade. So far in 2021, the programme has provided EUR 10 million to help implement specific e-commerce projects.

The use and development of advanced digital technologies (e.g. AI, cloud and edge computing, blockchain) are supported through the Austrian high-tech funding programmes: 'ICT of the Future'

<sup>9</sup> <https://www.bmdw.gv.at/Themen/Wirtschaftsstandort-Oesterreich/KMU/KMU.E-Commerce.html>

and 'Production of the Future' funded by the Federal Ministry for Climate Action, Environment, Energy, Mobility, Innovation and Technology.

Austria has two centres in Vienna (VSC) and Linz (MACH-2) offering highly-scaled computing power and services for research activities. Since 2020, Austria has been participating in two calls under the EuroHPC Joint Undertaking: (a) advanced pilots towards European supercomputers and (b) the pilot on quantum simulator with a national co-funding budget of EUR1.5 million. The objective of Austria is to successfully use quantum sciences for innovative products and services.

In cloud and edge computing, the bilateral lighthouse project 'EuProGigant' has been launched in collaboration with the German Federal Ministry for Economic Affairs and Energy (BMWi) to foster research in big data applications in industrial settings. In June 2020, the Austrian Cloud (Ö-Cloud)<sup>10</sup> initiative was launched to increase Austria's resilience and data sovereignty. Together with the Austrian industry, the country will play an active part in the GAIA-X project<sup>11</sup>.

Austria also supports the development of data-driven and sustainable technologies and solutions. In particular, the Data Intelligence Offensive<sup>12</sup> acts as a voice for Austria's stakeholders in the field of data economy and data-driven technologies. Austria strongly aims to advance the intelligent use of data and initiate an economic ecosystem based on the use of data.

Austria does not have a separate national strategy for cybersecurity. However, cybersecurity is included in other strategic frameworks and research support programmes. A new IT security hub, 'Cybersecurity Campus Graz'<sup>13</sup>, was established in Styria. Its centrepiece is a new joint research centre and a cybersecurity testing and certification laboratory. Once it is fully operating, 400 people will work and conduct research there.

The BMDW is helping to establish Digital Innovation Hubs (DIH). Currently there are 6 DIH located throughout Austria, acting as one-stop shops to support enterprises, in particular SMEs, in their digital transformation. Special attention is paid to advanced technologies such as AI, security of digital systems, blockchain and big data.

The Austrian Platform Industry 4.0<sup>14</sup> is facilitating networking activities between national and regional platforms, exchange of good practices on the structure of the platforms, and interaction with stakeholders. In recent years, the focus has shifted towards AI.

The National AI Strategy developed in 2019-2020 is currently under revision.

#### Integration of digital technology in Austria's Recovery and Resilience Plan

The RRP will support several measures aimed at the digitalisation of businesses; the development of advanced technologies and digital-related investment in R&D using a total budget of EUR 393.2 million:

- digitising SMEs: this project will provide advisory services on business models and processes; e-commerce and online marketing; IT and cybersecurity, and digital administration as well as support for follow-up implementation (budget EUR 32 million);

<sup>10</sup> <https://www.digitalaustria.gv.at/initiativen/verwaltung/verwaltungs-projekte/OECloud.html>

<sup>11</sup> <https://www.data-infrastructure.eu/>

<sup>12</sup> <https://www.dataintelligence.at/en/>

<sup>13</sup> <https://cybersecurity-campus.tugraz.at/>

<sup>14</sup> <https://plattformindustrie40.at/>

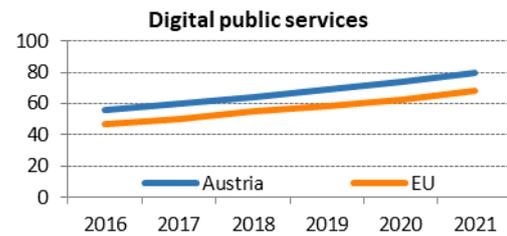
- digital investments in enterprises: this scheme will offer investment premiums for companies investing in fixed assets, notably those related to digital solutions and digital infrastructure (budget EUR 69 million);
- digitisation of cultural heritage: as part of a large-scale digitisation offensive across all artistic and cultural sectors, this measure will support the transformation archives into a digital form, making them accessible to a wider public (budget EUR 16.5 million);

In advanced digital technologies and digital-related R&D:

- promotion of quantum sciences: this measure will fund research infrastructure (hardware and software) and research cooperation to expand the knowledge base of quantum computing, simulation and communication (budget EUR 107 million);
- creation of the Austrian Institute of Precision Medicine: the institute will focus on and develop technologies that play a key role in precision medicine projects (e.g. genome sequencing, biobank, data processing), with EUR 13.7 million for the digital part;
- 'Microelectronic und connectivity': this project, which qualifies as an Important Projects of Common European Interest (IPCEI) and will be implemented as a multi-country project, will support the development of future innovative network and microelectronics technologies (budget EUR 125 million);
- digital research infrastructure: this measure will support selected projects that help digitalise universities (budget EUR 30 million).

## 4 Digital public services

4 Digital public services	Austria		EU
	rank	score	score
<b>DESI 2021</b>	<b>9</b>	<b>79.8</b>	<b>68.1</b>



	Austria			EU
	DESI 2019	DESI 2020	DESI 2021	DESI 2021
<b>4a1 e-Government users</b>	<b>75%</b>	<b>79%</b>	<b>81%</b>	<b>64%</b>
% internet users	2018	2019	2020	2020
<b>4a2 Pre-filled forms</b>	<b>NA</b>	<b>NA</b>	<b>75</b>	<b>63</b>
Score (0 to 100)			2020	2020
<b>4a3 Digital public services for citizens</b>	<b>NA</b>	<b>NA</b>	<b>88</b>	<b>75</b>
Score (0 to 100)			2020	2020
<b>4a4 Digital public services for businesses</b>	<b>NA</b>	<b>NA</b>	<b>85</b>	<b>84</b>
Score (0 to 100)			2020	2020
<b>4a5 Open data</b>	<b>NA</b>	<b>NA</b>	<b>90%</b>	<b>78%</b>
% maximum score			2020	2020

In Digital public services, Austria ranks 9<sup>th</sup> among EU countries and is therefore above the EU average. Austria is above the EU average in all indicators. The number of e-government users continues to grow (81%), well above the EU average (64%). In Digital public services for citizens, Austria is among the frontrunners with a score of 88 compared to the EU average of 75. With 85 points in Digital public services for businesses, Austria is close to the EU average (84). In terms of Open data readiness, Austria is also among the frontrunners with 90% (EU average is 78%).

In 2020, Austria adopted three important pieces of legislation to push digital public services: an amendment to the e-government Act, the 'Digital Office', and the Web Accessibility Act. These ensure people and businesses have the right to electronic communication with authorities, with access to a safe and easy-to-use electronic mailbox for governmental documents provided by the BMDW. People have access to their personal mailbox via the e-government portal<sup>15</sup>, businesses via the Business Service Portal<sup>16</sup>. This makes communication and administrative processes much more efficient. Both portals continue to expand. The Business Service Portal offers 70 public service procedures. A very strong emphasis is put on delivering public services using the once-only principle for domestic but also cross-border transactions to reduce administrative burden for businesses.

With its 'Digitales Amt' mobile app, the Federal government promotes user-oriented access to e-government services and aims to close the digital divide, improve opportunities for people in more remote areas to take part, and reduce traffic.

<sup>15</sup> [www.oesterreich.gv.at](http://www.oesterreich.gv.at)

<sup>16</sup> [www.usp.gv.at](http://www.usp.gv.at)

In January 2021, an eIDAS compatible version of the Austrian Citizen Card – the E-ID known as ‘Identity Austria - ID-A’ – went online in a pilot phase and is available for the public through certain registration offices around Austria. It is expected to become fully operational towards the end of 2021.

Nearly all large Austrian cities have smart city strategies in place (e.g. Bregenz, Graz and Klagenfurt). In October 2019, Vienna launched its smart city strategy ‘Vienna 2019-2050’. There is no national smart city plan, since the power to implement this lies with the cities. Nevertheless, there are supporting measures to promote innovation and digital transformation in all cities.

Regarding e-health, to ensure patients were supplied with medicines during the COVID-19 pandemic while preventing the risk of infections, especially for vulnerable groups through visits to the physician’s office, a telemedicine service was implemented for physicians to issue prescriptions to patients without personal contact. This involved storing the prescription in the ELGA e-Medication service. This service, initially implemented for a limited period of time, was prolonged until June 2021.

An increasing number of Austria’s public authorities are already using AI technologies to improve efficiency, planning and decision-making processes. In the judiciary, AI is used, e.g. for classifying and naming incoming mail; processing large amounts of data in investigation proceedings; and for references to literature or quotations in documents.

In Austria, digital public services are well-developed, making use of advanced technology. To maintain its leading role in digital public services, Austria’s challenge will be to keep up with the fast pace of digital technology.

#### **Digital public services in Austria’s Recovery and Resilience Plan**

The RRP includes one broad and one specific measure to improve digital public services:

- digitalisation fund public administration: the fund will be used to implement IT consolidation in the Federal government, develop public and business services and to improve the efficiency of procedures (budget EUR 160 million);
- electronic mother-child passport platform: this aims to improve health opportunities for pregnant and breastfeeding women and their children and increase social cohesion (budget EUR 10 million).