

**Digitalisation in Austria: Progress and
Significance of Digital Platform Work**

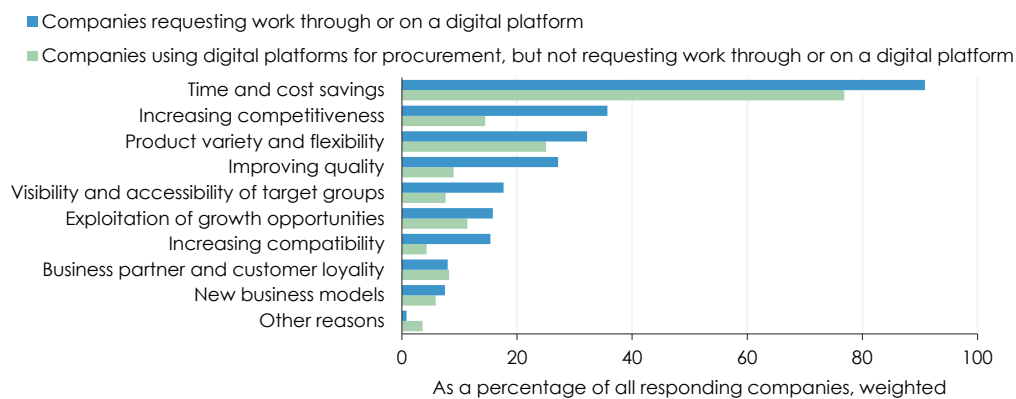
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Digitalisation in Austria: Progress and Significance of Digital Platform Work

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- The supply of ultra-fast broadband internet and the prices of fixed and mobile services in Austria are at the EU average. Austria's lead in the implementation of 5G mobile communications standards is shrinking.
- The use of cloud services by companies is growing only slowly. Austria clearly lags behind in ICT-intensive exports.
- Austrian households are still lagging far behind the EU average in using fast broadband.
- The comparatively low share of the labour force with a tertiary degree and only an average share of ICT professionals in total employment continue to hamper Austria's digital transformation in 2022.
- Digital platform work is most in demand in the USA; in the EU, large countries such as Germany and the Netherlands lead the way. In Austria, digital platform work is very rarely in demand.
- Companies in Austria that use digital platform work are more likely to be in the service sector, especially tourism.
- The main motive for use is to save time and money; the main barriers are saturation and lack of relevance.

Motives for using digital platforms



"For those companies that demand platform-based work, the time and cost savings are key."

Compared to companies that use digital platforms for procurement but not for requesting work through or on a digital platform, the time and cost savings and increased competitiveness play a significantly greater role for companies that use platform-based work. This is also the case for improving quality, company visibility or accessibility of target groups, and increasing compatibility (source: WIFO business survey "Digitale Plattformen 2021-22").

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The monitoring of selected indicators of digital transformation in various subsectors of the economy and society shows that Austria still ranks in the middle of the EU 27 in terms of digital transformation. The significant lag in the use of ultra-fast broadband Internet by private households or the basic digital skills of Austria's population in an EU comparison is also reflected in the low penetration of digital platform work. This is most likely to be found in the service sector, especially in accommodation and food service activities, and contributes to cost and time savings.

JEL-Codes: O31, O33, J24 • **Keywords:** Digitalisation, Platform-based work

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1. Introduction

Digital transformation is a fundamental process of change that affects all areas of work, the economy and life. There is no area of life that is not affected by the adoption of digital technologies (Mir & Parrey, 2019). The use of such technologies has led to the emergence of global supply and value chains at the firm level, the generation of data via sensors and the interconnection of data flows between companies. However, the use of digital technologies can also change the design of products, services or business processes or models, or give rise to new forms of employment and work (Schwalbach, 2018; Ernst et al., 2019; Lemke, 2020). In many cases, this makes the provision of work, as well as education and training activities, spatially independent. The extent or evolution of diffusion can be well illustrated by the COVID-19 pandemic. At that

time, digital technologies gained importance overnight, not only in everyday working life, but were needed in almost all areas of life – regardless of whether companies and private households had the infrastructure and skills to use them. This transformation process is not new (Bock-Schappelwein and Kügler, 2022) but new is the high speed of digital transformation, which was accelerated even more by the COVID-19 pandemic.

The status of the digital transformation process in Austria is outlined below in an international comparison. This overview is complemented by survey results which, for the first time, provide an insight into the demand for digital platform work in Austrian companies.

2. Digitalisation in Austria – an overview

In order to document the status of the digital transformation process in Austria, a comparison was made – as in the previous year's contributions on the progress of digitalisation

in Austria (Bock-Schappelwein et al., 2020, 2021; Börenthaler-Sieber et al., 2022) – on the one hand with the average of all EU countries and on the other hand with the

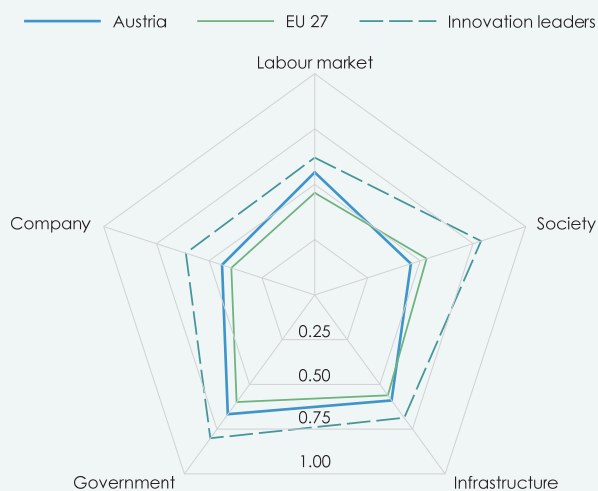
average of the innovation leader countries within the EU. The selection of innovation leader countries is based on the European Innovation Scoreboard (EIS) of the European Commission. In 2022, Belgium, Denmark, Finland, the Netherlands and Sweden were among the group of "Innovation Leaders" (European Commission, 2022)¹. The analysis on the status of the transformation process is based on three indicators in each of the following five dimensions: 1. provision and use of digital public services (government), 2. nature of digital infrastructure (infrastructure), 3. digital transformation at the company level (companies), 4. societal (society) and 5. labour market-related aspects of digitalisation (labour market).

EU average in almost all dimensions of the digital transformation, but performs significantly worse than the innovation leader countries. The biggest gap is in the dimension of "society", where Austria is even below the average of the EU member countries. As in previous years, this is mainly due to Austria's poor performance in the use of ultra-fast broadband by private households. The gap to the innovation leader countries is smallest in the area of digital transformation in the labour market. Here, Austria benefits from the high share of tertiary graduates with a degree in STEM subjects. In the following, the five dimensions are examined in more detail to work out Austria's relative strengths and weaknesses on the basis of the sub-indicators.

Figure 1 summarises the five dimensions². As the diagram shows, Austria is just above the

Figure 1: Austria's position in the digital transformation process

Last available year



Source: DESI 2022, Eurostat, WIFO calculations. The individual sub-indicators of the five dimensions (see chapters 2.1 to 2.5 in this issue) were made comparable using min-max normalisation. An average value was calculated for each dimension, which is plotted in the figure above. The last year available differs by indicator and has been shown separately for each indicator in the figures below.

2.1 Provision and use of digital public services

In an EU comparison, Austria has a well-developed range of digital public services. However, in terms of the various steps in dealing with the public administration, which can be completed online, Austria scored only average in 2021. In the index of

digital public services for citizens (with values between 0 and 100)³, Austria ranked 13th in the EU in 2021 with a value of 75.8 points (EU average 74.6). Among the innovation leader countries, only Belgium (72.2; rank 16) was behind Austria. The average score of this group of countries (83.1) illustrates the gap to the other innovation leaders. In the index of digital public services for businesses⁴,

¹ When making comparisons with the previous year, it must be taken into account that the composition of the innovation leader countries can change annually. For example, the Netherlands was not among the "Innovation Leaders" in 2021.

² The individual sub-indicators of the five dimensions were min-max normalised in order to make the different units or scales comparable and to summarise them.

³ Up to and including 2020, the indicator measures the amount of services for citizens that can be

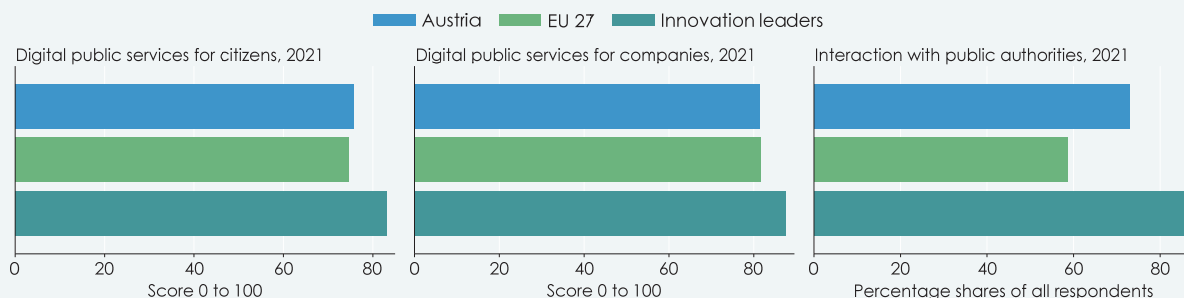
completed online in connection with moving house, owning and driving a car, initiating a small claims procedure, or family, career and study. As of 2021, the events career and owning and driving a car have been replaced by the events transportation, health and occupation. Therefore, a direct comparison with the previous year is not possible for the time being.

⁴ There is a time series break in the indicator. Therefore, a comparison with the previous year's results is not possible.

Austria's score of 81.4 (2021) was slightly below the EU average (81.7) and clearly behind highly innovative countries such as Finland (92.5), Denmark (88.7), Sweden or the Netherlands (87.8). In terms of demand for digital public services – measured by

interactions with public authorities conducted online – Austria scored 73.0 percent in 2021 (2020: 72.0 percent). This was still clearly below the average of the innovation leader countries (85.8 percent), but far above the EU average (58.5 percent).

Figure 2: Provision and use of digital public services



Source: DESI 2022, Eurostat, WIFO calculations.

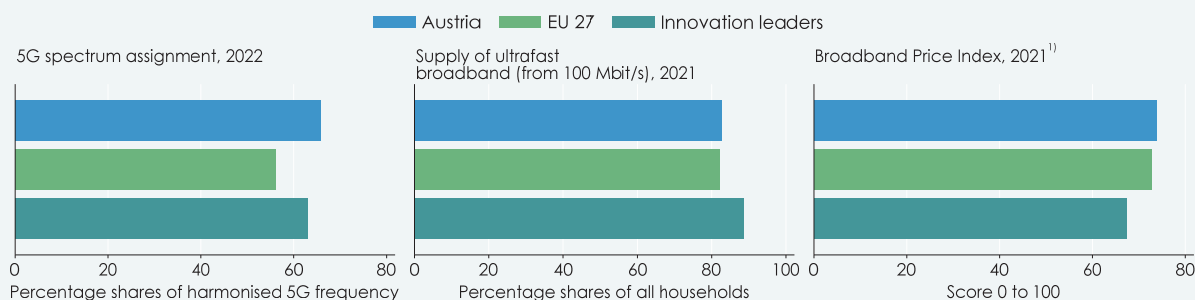
The supply of ultra-fast broadband internet and the prices of fixed and mobile services in Austria are at the EU average. Austria's lead in the implementation of the 5G mobile communications standard is shrinking.

2.2 Digital infrastructure

The conditions for nationwide coverage with ultra-fast broadband internet are good on average in Austria, but have deteriorated in some areas compared to the previous year, at least in comparison to other EU countries. The prices of fixed-network and mobile services, with an index value of 73.8, are now only in the midfield of the EU (2021: rank 14). In 2020 (rank 6) and 2019 (rank 7), Austria's prices for fixed-line and mobile services were still among the cheapest in the EU. In 2021, Austria still performed slightly better than the average of the EU (72.6) and innovation leader countries (67.3), but several EU countries have caught up and are now much more competitive in a pure price comparison. With 82.8 percent of households (2021) covered with ultra-fast broadband internet Austria is in line with the EU average and 6 percentage points below the average of the innovation leader countries. Compared to 2020, when Austria was still significantly

behind the EU average, coverage increased by over 10 percentage points (2020: 72.2 percent of households). Although infrastructure provision was also improved in most other EU countries, the expansion was slower on average than in Austria (EU 2020: 76.2 percent; 2021: 82.1 percent). Austria is rather well prepared for the implementation of the 5G mobile communications standard, but the gap to the other EU countries and the innovation leader countries has decreased. The Austrian share of allocated radio frequencies in the total harmonised 5G frequency did not change between 2021 and 2022 (65.8 percent), but Austria is still slightly above the average of the innovation leader countries (63.1 percent) and significantly above the EU average (56.1 percent). However, compared to the leading countries in terms of 5G standards, such as Germany, Croatia (100 percent each), Denmark, Finland and Greece (99 percent each), there is still room for improvement.

Figure 3: Digital infrastructure



Source: DESI 2022, European Commission (2022), WIFO calculations. – ¹⁾ Higher index values imply a low price.

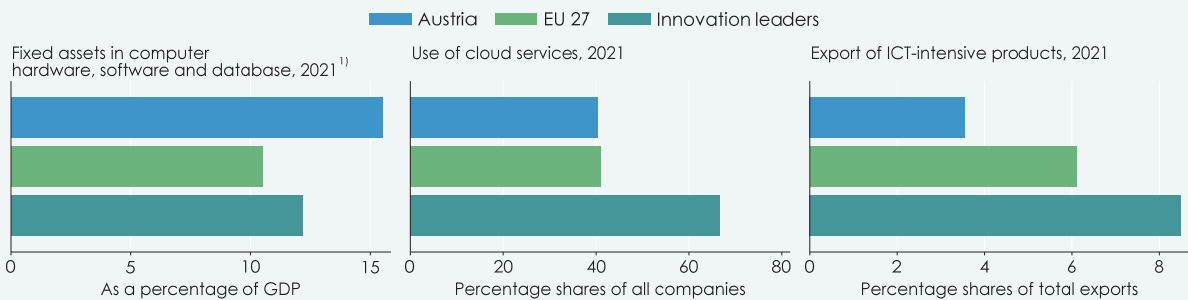
2.3 Digital transformation at the company level

To evaluate the stocks of fixed assets (capital stock) in the area of machinery and equipment with computer hardware, software and databases, the values from 2021 must be used for Austria due to the lack of current data. At that time, the capital stock in Austria was just under 15.5 percent of GDP. Austria was thus 5 percentage points above the EU average (10.4 percent) and around 3.5 percentage points above the average of the innovation leader countries (11.8 percent). In terms of the application of

new digital technologies in companies, however, Austria continues to perform only mediocre. The share of companies⁵ using cloud computing services increased only weakly (by about 2 percentage points from 38.1 percent in 2020 to 40.4 percent in 2021). This ranked Austria just below the EU average (41 percent; 2020: 36.1 percent) and well below the average of the innovation leader countries (66.7 percent; 2020: 63.5 percent). On the output side, with a share of ICT-intensive products in total exports of 3.9 percent (2021), Austria was far behind both the Innovation Leaders (8.5 percent) and the EU average (6.1 percent).

The use of cloud services by companies is growing only slowly. Austria clearly lags behind in ICT-intensive exports.

Figure 4: Digitalisation at company level



Source: BACI, Eurostat, WIFO calculations. – ¹⁾ 2020: Austria, Belgium, Cyprus, Estonia, Greece, Hungary, Ireland, Latvia, Lithuania, Luxembourg, Poland, Portugal, Romania. Values not available: Denmark, Sweden, Spain.

2.4 Social aspects of digitalisation

In 2021, less than two thirds of the population in Austria (63.3 percent) had basic digital skills. Although the EU average is almost 10 percentage points lower (53.9 percent), in the innovation leaders an average of 69.5 percent of the population had at least basic digital skills in 2021, rising to 79.2 percent in Finland. The areas of application of digital skills are diverse. For example, 65.7 percent of the Austrian population used their digital skills to make purchases online in 2022, 2.5 percentage points more than in 2021. Nevertheless, Austria lags far behind the average of the innovation leader countries (83.2 percent) and still behind the EU average (68.0 percent) in this respect. Austrian households' demand for ultra-fast broadband internet increased in 2021 compared to the previous year: 18.1 percent of Austrian households used a broadband connection with a download rate of 100 Mbit/s or more (2020: 11.7 percent). However, in most other countries the increase in use has been even higher, with the result that Austria has slipped from 23rd (2020) to 25th place in the EU comparison. The demand for ultra-fast broadband internet in Austria is

therefore still far below the average of the EU (40.6 percent of households) or the innovation leader countries (50.4 percent of households).

2.5 Labour market aspects of digitalisation

As in the previous year, 30.6 percent of all tertiary graduates in Austria in 2021 had a degree in a STEM field (mathematics or statistics, computer science, natural sciences or engineering)⁶. This means that Austria basically has sufficient human capital with the key skills needed for the digital transformation. Within the EU, only Germany (35.1 percent) had an even higher share. In comparison, the EU average in 2021 was 25.4 percent. In the innovation leader countries, the share of STEM degrees was also significantly lower at 22.3 percent. However, the skills that would be necessary for a broad wave of digitalisation throughout society are lacking in this country: Austria's share of the labour force with a tertiary degree is only average in an EU comparison (15th place). Although the share of 44.6 percent (2022) corresponds almost exactly to the EU average (44.7 percent), it is significantly below the average of the innovation

Austrian households are still lagging far behind the EU average in using fast broadband.

The comparatively low share of the labour force with a tertiary degree and only an average share of ICT professionals in total employment continue to hamper Austria's digital transformation in 2022.

⁵ This indicator is only available for the population of companies with 10 or more employees.

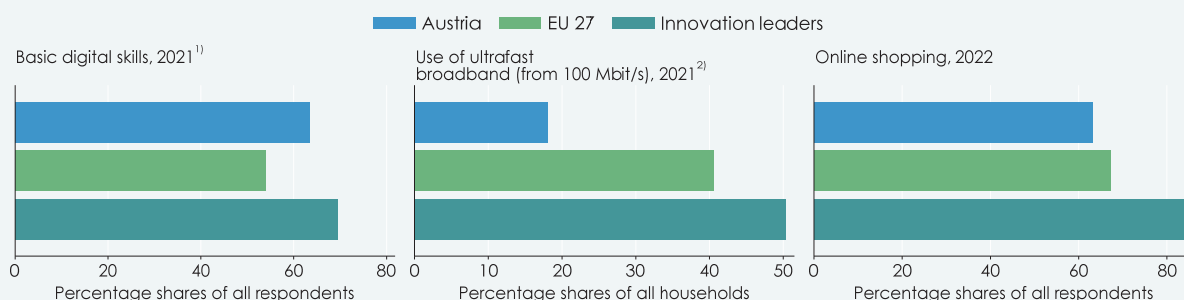
⁶ The tertiary sector includes all levels of education at ISCED levels 5 to 8. This means that graduates of

colleges for higher vocational education are also included in Austria, which distorts the share of tertiary degrees in comparison to other countries.

leader countries (53.0 percent). The share of ICT specialists in total employment in Austria in 2022 was 5 percent, slightly above the EU average (4.6 percent), but also considerably lower than in the innovation leader countries (6.9 percent). Even an improvement of

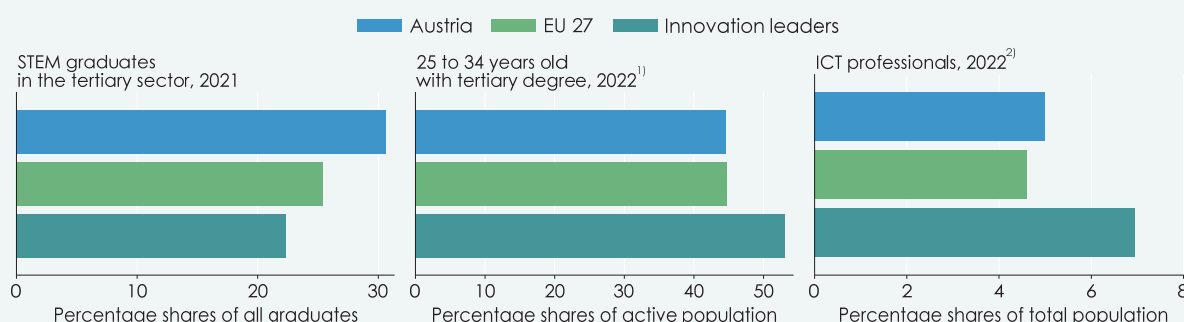
0.5 percentage points compared to 2021 could not change this. Within the EU, Sweden (8.6 percent), Luxembourg (7.7 percent) and Finland (7.6 percent) led the country ranking in 2022.

Figure 5: Digitalisation and society



Source: DESI 2022, Eurostat, WIFO calculations. – ¹ Individuals who, in total, have at least basic digital skills in all five sub-sectors: Information gathering, communication and collaboration, digital content creation, internet safety, problem solving. – ² Data of the indicator have been revised by the Austrian authorities since the publication of the DESI 2020.

Figure 6: Digitalisation in the labour market



Source: Eurostat, WIFO calculations. – ¹ Labour force: persons in active employment and unemployed. – ² Total employment: all persons who worked for pay or profit for at least one hour during the reference week or were temporarily absent from such work.

3. Platform work in Austria

Similar to the use of cloud services, requesting work on or through an digital platform – so-called digital platform work or (online) gig work – are comparatively rare in Austria (Mayrhuber & Bock-Schappelwein, 2018). Furthermore, until recently there was no clear definition of digital platform work⁷.

The rare use of digital platform work is not specific to Austria, but also applies to many other European countries. Therefore, it cannot be adequately represented in

conventional statistics (Mayrhuber & Bock-Schappelwein, 2018; OECD et al., 2023). Due to its rarity, there are (still) no data on its distribution in the EU or in Austria. Information on this is mostly based on surveys or interviews or refers to specific online platforms (Bonin & Rinne, 2017; Huws et al., 2017; Huws & Joyce, 2016; Kässi & Lehdonvirta, 2018).

Nevertheless, it is at least possible to derive information on the prevalence in Austria in

Digital platform work in Austria has so far been sporadic.

⁷ Until recently, there was also no clear delineation of gig work or gig economy, which includes platform work as online gig work (Brinkley, 2016), or specific, context-dependent definitions were used to describe it (Sargeant, 2017). It was only in the recent Handbook on Measuring Digital Platform Employment and Work that the OECD et al. (2023, 7) defined digital platform work for the first time, namely as "any productive activity performed by persons to produce goods or

provide services carried out through or on a digital platform, AND the digital platform or a phone app controls and/or organizes essential aspects of the activities, such as the access to clients, the evaluation of the activities carried out, the tools needed for conducting the work, the facilitation of payments, distribution and prioritization of the work to be performed; and the work is performed for at least one hour in the reference period".

an international comparison and a rough overview of the use. The Online Labour Index (OLI)⁸, developed in 2016, attempts to provide indications of the extent of the spread of online gig work in real time (Kässi & Lehdonvirta, 2018; Stephany et al., 2021). The OLI data highlights the comparatively low importance of online gig work in Austria, considered on most important English, Spanish and Russian-language online platforms.

According to OLI⁹, online gig work is not only very rarely demanded by companies in Austria, but also only sporadically used by employees. Within the EU countries, Austria ranks 12th, with a share of 0.3 percent of the total demand for online gig work worldwide. The EU countries as a whole account for a share of 12.4 percent, half of which is accounted for by the larger member countries such as Germany, the Netherlands, France, Italy and Spain. Software activities are most often delivered.

Service providers are mainly located in India, Bangladesh and Pakistan. These three countries account for half of the global supply of online gig work surveyed. Austria's share is 0.1 percent (16th place in the EU). Hungary, Croatia, Estonia, Latvia and Cyprus have similar shares to Austria. All EU countries together account for only 5.2 percent of the total. The share is still comparatively highest within EU-countries in Romania, Germany,

Spain, Italy and Poland with 0.4 percent to 0.7 percent.

3.1 WIFO company survey on the use of digital platform work in Austria

The WIFO business survey on the use of digital platforms closes a data gap and for the first time provides empirical evidence on the extent of the use of digital platform work in Austrian companies (Bärenthaler-Sieber et al., 2023). The survey was conducted in autumn 2021 and winter 2021-22, and was addressed to companies with at least 10 employees in manufacturing, construction, hotels and restaurants, and services (excluding accommodation and food service activities). 1,380 companies replied to the questionnaire, a response rate of 16.0 percent.

The WIFO representative business survey focused on the use, motives and obstacles in the five company areas of sales, procurement, production and logistics, human resources and communication, information and advertising. For the first time, employees were not asked about (online) gig or cloud work (Huws et al., 2017; Huws & Joyce, 2016), but companies were asked whether they request work through or on a digital platform. Specifically, the survey asked whether companies "(also) use digital platforms to purchase gig work/cloud work" (question 16, see appendix).

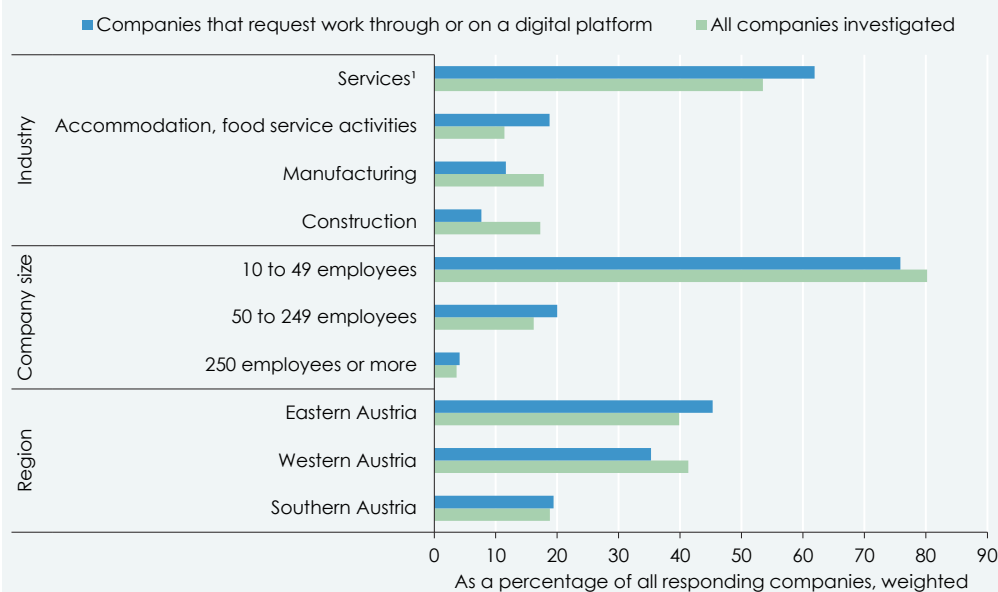
Online gig work is particularly in demand in the USA, while in the EU, large countries such as Germany and the Netherlands are leading the way.

Online gig work is mainly carried out in India, Bangladesh and Pakistan.

In Austria, the demand for digital platform services is significantly higher than the supply.

In Austria, almost every tenth company that uses digital platforms (also) uses them for digital platform work.

Figure 7: Characteristics of companies using platform work



Source: WIFO business survey "Digitale Plattformen 2021-22". Companies that demand services mediated via platforms: $n = 85$ (combination of questions 13, 14 and 16); all companies surveyed: $n = 1,349$. Companies that did not make a statement on (non-)use for any of the five company areas were not taken into account here (see Bärenthaler et al., 2023). Sorted in descending order according to the proportion of companies that demand services mediated via platforms. See appendix for question wording. – ¹ Excluding accommodation and food service activities.

⁸ <http://onlinelabourobservatory.org/> (retrieved 21 June 2023).

⁹ Data retrieved on 22 May 2023.

Almost one in three companies in Austria that use digital platforms for procurement also use them for requesting work through or on a digital platform.

88.1 percent of the companies say they already use at least one digital platform in at least one of the five business areas surveyed. However, less than one in ten of these companies also request goods or services through or on a digital platform. Within procurement, of the 21.9 percent of companies that use digital platforms, almost every third company also uses them for requesting work through or on a digital platform (29.1 percent).

3.2 Characteristics of digital platform work in Austria

On the basis of these survey data, it is possible to derive some company-specific

characteristics of those companies that (also) use digital platforms to request work through or on a digital platform. Around three-fifths of these companies can be assigned to the services sector (excluding hotels and restaurants) (61.9 percent) and almost one-fifth to accommodation and food service activities (18.8 percent). The remaining fifth were in manufacturing (11.7 percent) and construction (7.7 percent). Compared to all companies with 10 and more employees, companies that (also) use digital platform work are more likely to be in the services sector, especially accommodation and food service activities, and less likely to be in manufacturing or construction (Figure 7).

Table 1: **Characteristics of companies that (do not) use digital platform work**

	Companies requesting work through or on a digital platform	Companies not using digital platforms
	Percent	
(Much) more digitalised than the competition	37,5	7,9***
High assessment of the importance of digital platforms in purchasing	76,6	
Export-oriented	44,6	20,4***
Being in strong competition	51,6	48,7
Established in 2000 or later	40,0	29,1
Part of a group of companies	36,3	14,6***
Headquarter in Austria	71,5	76,4
Number of digital platforms used in procurement		
1	13,8	
2 to 5	62,5	
More than 5	23,8	
Industry		
Manufacturing	11,7	15,2
Construction	7,7	48,2***
Services (excluding accommodation and food service activities)	61,9	35,5***
Accommodation and food service activities	18,8	1,1***
Firm size		
Small enterprises (10 to 49 employees)	75,9	90,2***
Medium-sized enterprises (50 to 249 employees)	20,0	8,1**
Large enterprises (250 employees or more)	4,1	1,7*
Region		
Eastern Austria	45,3	45,8
Southern Austria	19,4	22,1
Western Austria	35,3	32,1
n	85	119

Source: WIFO business survey "Digitale Plattformen 2021-22". *** . . . significant at a level of 1 percent, ** . . . significant at a level of 5 percent, * . . . significant at a level of 10 percent. Companies that demand digital platform work (combination of questions 13, 14 and 16); companies that do not use digital platforms (combination of questions 3, 4, 13, 14, 23, 32 and 40) – this includes both companies that reported not using a digital platform for all five company areas (sales, procurement, production and logistics, human resources, communication, information and advertising) and those that reported this for at least one area but did not otherwise provide any further information on the other company areas. See appendix for question wording.

Around three quarters of these companies are small enterprises with 10 to 49 employees (75.9 percent), another fifth are me-

diu-sized enterprises with 50 to 249 employees (20.0 percent) and 4.1 percent are large enterprises with at least 250 employees.

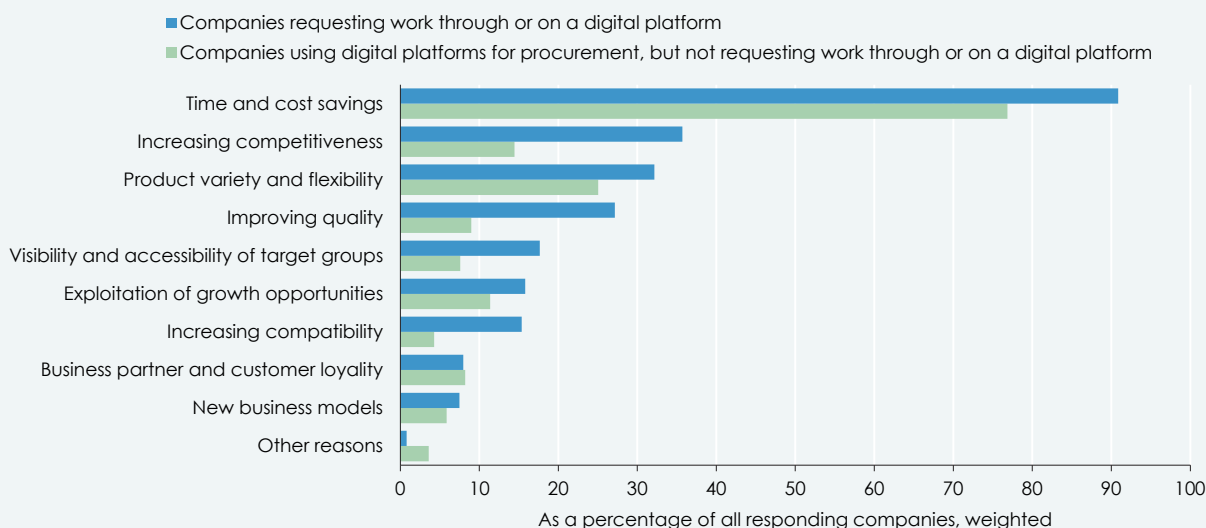
Accordingly, companies that (also) require digital platform work are less likely to be small and more often medium-sized enterprises than all the companies studied. They are also more likely to be found in eastern Austria and less likely in the western Austria. They also tend to be younger companies, with 40 percent established after 1999. They are often part of a group of companies (36.3 percent) with headquarters in Austria (71.5 percent), are strongly export-oriented (44.6 percent) and are exposed to strong competition in their main sales markets (51.6 percent). They also consider themselves to be (much) more digitalised than their competitors (37.5 percent). There are notable differences compared to companies that do not use digital platforms at all in terms of sector, firm size, degree of digitalisation, export orientation and group of companies. The latter are disproportionately more often in construction. They are also more likely to be small enterprises, which on average consider themselves to be much less digitalised, less export-oriented and less likely to be part of a group of companies (Table 1).

3.3 Motives for using digital platforms in procurement

As shown in Bärenthaler et al. (2023), the motives for using digital platforms are manifold. In addition to introducing or enabling of new business models, other motives may include realising growth opportunities, increasing efficiency (time, cost savings), quality aspects, increasing product variety and flexibility, improving the company's visibility or accessibility of target groups, strengthening the loyalty of business partners or employees to the company, or increasing competitiveness or compatibility. Time and cost savings are particularly important for companies that require platform-based work. Increasing competitiveness, product diversity and flexibility are also relevant. On the other hand, aspects such as introducing or facilitating new business models, increasing the loyalty of business partners or increasing compatibility are of little importance.

Companies requesting work through or on a digital platform are particularly often found in service industries, especially tourism.

Figure 8: Motives for using digital platforms



Source: WIFO business survey "Digitale Plattformen 2021-22". Companies that demand platform-based work: $n = 85$; companies that use digital platforms to purchase goods but do not demand services via platforms: $n = 206$ (combination of questions 13, 14, 16 and 17). Multiple answers possible. Sorted in descending order by the proportion of companies that use platform work. See appendix for question wording.

Compared to companies that use digital platforms to procure goods but do not use platform-based work, time and cost savings and increased competitiveness play a significantly greater role for companies that use platform-based work. This is also the case for the improvement of quality, the visibility of the firm or the accessibility of target groups, as well as the increase in compatibility (Figure 8).

3.4 Barriers to (increased) use of digital platforms in procurement

Bärenthaler et al. (2023) also asked about barriers to the use of digital platforms. These include both barriers that prevent companies from using digital platforms in a particular business area, and barriers to increased use. These range from a lack of relevance, saturation (i.e., use as much as possible) or lack of awareness of the platforms, to too

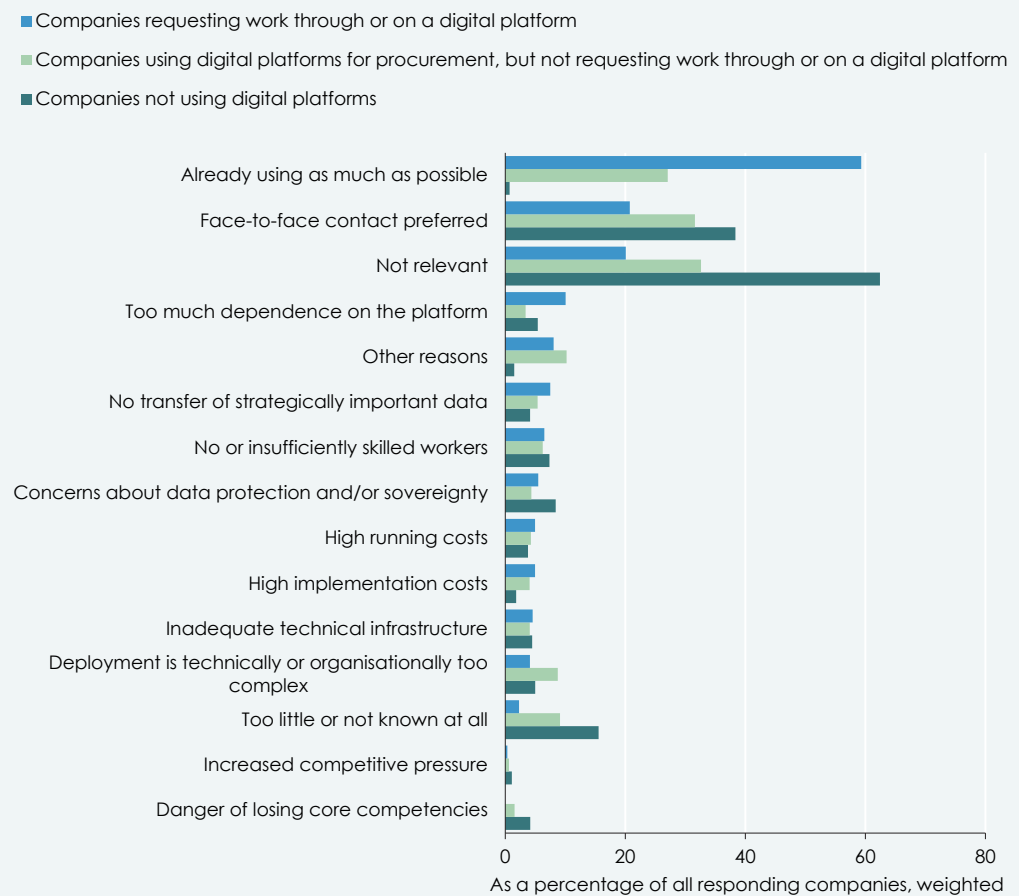
Time and cost savings are key motivations.

The main barriers to (increased) use are saturation and lack of relevance.

high costs, preference for face-to-face contact, insufficient technical infrastructure, too high technical or organisational complexity, the lack of skilled workers, competitive pressure from the digital platform, the risk of losing core competencies, too much dependency, and concerns about data protection and data transfer. For companies already requesting work through or on a digital platform, the key barrier to increased use is saturation, followed by preferences for face-to-face contacts and a lack of relevance (Figure 9).

For companies that use digital platforms in procurement but do not request work through or on a digital platform, saturation is a less important obstacle, while they attach more importance to insufficient relevance or awareness of the platforms and face-to-face contacts. Companies that do not use digital platforms at all also cite the risk of losing core competencies and the lack of information.

Figure 9: Barriers to the (increased) use of digital platforms



Source: WIFO business survey "Digitale Plattformen 2021-22". n: Companies using digital platform work = 73; companies using digital platforms in procurement but not requesting work through or on a digital platform = 203 (combination of questions 13, 14, 16 and 22); companies that do not use digital platforms = 111 (combination of questions 3, 4, 13, 14, 23, 32 and 40 with questions 12, 22, 31, 39 and 51) – this includes both companies that reported not using a digital platform for all five company areas (sales, procurement, production and logistics, human resources, communications, information and advertising) and those that reported this for at least one area but did not otherwise provide any further information on the other company areas. Multiple answers possible. Sorted in descending order by the proportion of companies using platform work. See appendix for question wording.

4. Conclusion

In terms of digital transformation in various sectors of the economy and society, Austria has been only in the midfield of the EU for years. Both the supply and demand for ultra-fast broadband in Austria are only average. Moreover, Austria is increasingly losing its

lead in the introduction of the 5G mobile communications standard. The digital transformation of the business sector is also progressing slowly, accompanied by the slow digitalisation of society. For example, Austrian households use fast broadband

connections much less frequently than the EU average. Another obstacle to digitalisation is the lack of balance in the qualification structure of the labour force.

The overview of the various aspects of Austria's digital transformation suggests that the population is reluctant to embrace new digital technologies. This is also reflected in the results of the WIFO business survey on the use of digital platforms in Austrian companies. Although such digital platforms are used relatively frequently in Austria, e.g., for purchasing goods, the request of work through

or on a digital platform is still low. In addition to a lack of relevance, the preference for face-to-face contact and a lack of information are cited as obstacles to (increased) demand for digital platform work. As the main motive for use is the expected efficiency potential, this lack of information is all the more serious. It is therefore important to create awareness of the know-how, the know-what and the know-why of digital platform work in order to strengthen the competitiveness of Austrian companies (Hözl et al., 2019).

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6. Appendix: Excerpt from the questionnaire

Question 3: Does your company sell products or services electronically (e-sales)?

Question 4: Does your company use digital platforms for this purpose?

Question 12: Why does your company not use digital platforms in (electronic) sales (e-sales) or not more?

Question 13: Does your company procure products or services electronically (e-procurement)?

Question 14: Does your company use digital platforms for this purpose?

Question 16: Does your company (also) use digital platforms to buy gig work/cloud work?

Question 17: Why does your company use digital platforms in e-procurement (e-procurement including gig work and cloud work)?

Question 22: Why does your company not use digital platforms in (electronic) purchasing (e-procurement including gig work and cloud work) or not more?

Question 23: Does your company use digital platforms in the areas of production (e.g. Industrial Internet of Things – IIoT), R&D, data security and/or logistics?

Question 31: Why does your company not use digital platforms or not use them more in the areas of production (e.g. IIoT), R&D, data security and/or logistics?

Question 32: Does your company use digital platforms in the area of human resources?

Question 39: Why does your company not use digital platforms or not use them more in the area of human resources (online job exchanges, education and training platforms)?

Question 40: Does your company use digital platforms for communication, information and advertising?

Question 51: Why does your company not use digital platforms or not use them more in the area of communication, information and advertising?