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Enterprises are becoming more digital, technologies more intelligent

Vienna, 2021-10-19 – The corona pandemic has accelerated the digitalisation of Austrian enterprises: In 2020, both the number of remote meetings and remote access to enterprise's systems or applications increased. As the survey on the use of information and communication technologies (ICT) in enterprises by Statistics Austria further showed, every fifth enterprise with ten or more employees took measures to increase the use of online sales channels in 2020. In addition, 9% of the surveyed companies currently use artificial intelligence (AI) technologies.

"The Corona pandemic has led to a further digitalisation push in Austria's enterprises. In 2020, significantly more virtual meetings or remote access to computer systems were recorded. In addition, almost every fifth company has relied more on websites, apps or online marketplaces in sales. Artificial intelligence now also plays an important role. In large companies with 250 or more employees, almost every third company uses AI-based technologies, especially in text recognition, data analysis or the automation of processes or work steps," says Statistics Austria Director General Tobias Thomas.

Digitalisation boost due to the corona pandemic

Due to the measures taken as a result of the COVID-19 pandemic, enterprises and employees had to quickly adapt to the new working conditions. More than half of all Austrian enterprises with ten or more employees (56%) reported an increased number of remote meetings in 2020. In addition, 38% of the companies reported that more employees had remote access to the enterprise's e-mail system or to the enterprise's network, software, applications or documents. These changes were more frequently observed in large enterprises than medium-sized or small ones (see table 1).

Overall, the increase in remote meetings in 2020 can be partly or fully attributed to the pandemic in 99% of the enterprises surveyed, in 77% of enterprises it was even the sole cause for the change. Similar results were observed for the increase in remote access: 97% of the enterprises surveyed reported that COVID-19 was partly or fully responsible for the increase in remote access to the enterprise's e-mail system, more than half of the enterprises (54%) stated it was the sole reason for the change. 98% of the enterprises which extended remote access to their enterprise's network, software, applications or documents reported doing so because of COVID-19, for six out of ten enterprises (59%), the pandemic was fully responsible. The proportions hardly varied depending on the size of the enterprise, but there were differences within the industries (see graphic).

Almost every fifth enterprise (19%) took measures in 2020 to sell goods or services via websites, apps or online marketplaces or to make greater use of online sales in the future. The share was smaller for companies from the manufacturing industry (13%) than for companies from the service industry in which almost every fourth enterprise adopted such measures (23%; see table 1).

9% of all enterprises use artificial intelligence

Technologies based on artificial intelligence (AI) are currently used by 9% of all enterprises. The use of AI is strongly related to the size of the company: Only 7% of small enterprises (10 to 49 employees) and 15% of medium-sized enterprises (50 to 249 employees) use AI-based technologies, whereas 32% of large enterprises (250 and more employees) already do so, i.e. almost every third company (see table 2).

AI technologies are most commonly used for text recognition and processing (e.g. text mining; 56% of enterprises using AI) as well as for data analysis (e.g. machine learning, deep learning; 42%). Next

follow AI technologies for the automation of processes or assistance of decision-making (e.g. software-based Robot Process Automation; 29%) and for recognition, processing and generation of natural language (NLP, NLG; 28%; see table 2).

Companies use AI technologies primarily for the organization of business processes as well as for marketing and sales (30% and 29% of enterprises using AI, respectively). Almost every fourth company employing AI uses such technologies in the area of management or leadership of the company (23%), just as many companies use AI in the context of production processes (22%; see table 2).

For more detailed results and further information concerning ICT usage in enterprises please refer to our [website](#).

Information on methods, definitions: This data is based on the weighted results of the survey on the use of information and communication technologies (ICT) in enterprises in 2021. The survey was conducted based on (Regulation (EU) 2019/2152) that obliges Austria and all other EU Member States to provide data as well as on a Commission Regulation (Regulation (EU) 2020/1030) which contains all the indicators to be queried. It was carried out by Statistics Austria, using a set of questions that is uniform across Europe. The survey follows standardised definitions and a uniform methodology of survey sampling.

Around 3 050 enterprises with ten or more employees (from the sectors of manufacturing; electricity, gas, steam, and air conditioning supply; water supply, sewerage and waste management and remediation activities; construction; wholesale and retail trade, repair of motor vehicles and motorcycles; transport and storage; accommodation and food service activities; information and communication; real estate activities; professional, scientific and technical activities; administrative and support service activities; repair of computers and communication equipment) took part in the survey between February and July 2021.

Unless stated otherwise, the reporting period was the time of the survey. In addition to the main indicators on internet use and e-commerce which have been collected annually, the question program also included indicators on ICT-relevant key issues that change every year (in accordance with the communicated "Digital Single Market Strategy" of the European Commission and the benchmarking framework "Monitoring the Digital Economy & Society 2016–2021").

The focus of 2021 is on "artificial intelligence (AI)". Technologies based on AI are used to reproduce intelligent behaviour and demonstrate a certain degree of autonomy. AI encompasses both purely software-based systems as well as autonomous systems that include software and devices.

Table 1: Enterprises with heightened ICT activity in 2020

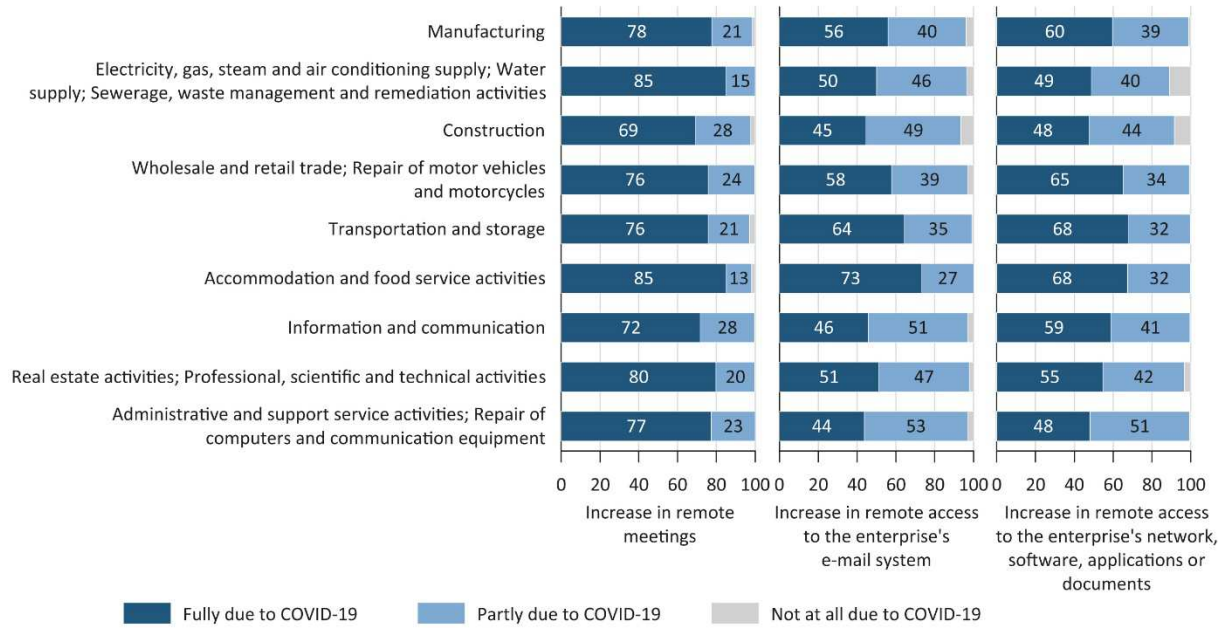
Characteristics	All enterprises	Enterprises with an increased number of ...			Enterprises taking measures to increase the use of websites, apps or online marketplaces for the sale of goods or services
		remote meetings	remote access to enterprise's e-mail system	remote access to the enterprise's network, software, applications or documents	
		in percent			
Total	41 051	56.3	38.2	37.5	19.4
Industries (ÖNACE 2008)					
10-33 Manufacturing	6 705	64.3	43.5	42.0	19.3
35-39 Electricity, gas, steam and air conditioning supply; water supply; sewerage, waste management and remediation activities	487	60.8	39.4	42.9	14.2
41-43 Construction	6 421	38.1	27.7	26.7	5.6
45-47 Wholesale and retail trade; repair of motor vehicles and motorcycles	9 572	59.2	39.1	35.9	25.4
49-53 Transportation and storage	2 717	35.7	30.3	30.4	6.4
55, 56 Accommodation and food service activities	5 360	27.8	18.1	17.4	34.6
58-63 Information and communication	1 738	97.5	57.4	66.2	26.8
68-75 Real estate activities; professional, scientific and technical activities	5 273	90.3	61.5	64.0	16.8
77-82, 95.1 Administrative and support service activities; repair of computers and communication equipment	2 777	52.8	36.6	33.3	15.8
Number of employees					
10 to 49 employees	34 459	50.6	32.5	31.2	18.8
50 to 249 employees	5 400	83.4	65.2	66.4	22.1
250 and more employees	1 192	97.3	80.1	87.1	25.3

S: STATISTICS AUSTRIA, Survey on ICT usage in enterprises 2021. – The questions about remote meetings and remote access relate to the changes in 2020 compared to previous years.– The question about measures to increase the use of online sales channels relates to 2020 due to the COVID-19 pandemic.

Table 2: Enterprises using technologies based on artificial intelligence in 2021

Characteristics	All enterprises	Enterprises with ... employees		
		10 to 49	50 to 249	250 and more
Total number of enterprises	41 051	34 459	5 400	1 192
Enterprises using technologies based on artificial intelligence (AI)				
Number of enterprises	3 625	2 460	787	378
In percent of all enterprises	8.8	7.1	14.6	31.7
Breakdown of specific AI-based technologies (in percent of enterprises using technologies based on AI):				
Analysis of written language (e. g. text mining)	56.1	55.1	60.6	53.2
Data analysis (e. g. machine learning, deep learning)	41.8	37.3	47.5	59.0
Automation of different workflows or assistance in decision making (e. g. software-based robot process automation)	29.4	25.2	35.5	44.7
Recognition, processing and generation of spoken language (z. B. NLP, NLG)	27.7	29.1	23.6	26.7
Breakdown of the purposes for which AI-based technologies are used (in percent of enterprises using technologies based on AI):				
Organisation of business administration processes	30.4	30.3	30.0	32.0
Marketing and sales	29.2	30.4	29.9	19.6
Managements of the enterprise	23.1	22.0	26.9	22.8
Production processes	22.3	19.6	24.1	36.0
S: STATISTICS AUSTRIA, Survey on ICT usage in enterprises 2021. Reference period: time of the survey February to July 2021.				

Impact of the COVID-19 pandemic on ICT activity in enterprises in 2020



S: STATISTICS AUSTRIA, Survey on ICT usage in enterprises 2021. – Enterprises with at least 10 employees.

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