REPUBLIC OF SLOVENIA
STATISTICAL OFFICE

First Release

8 oktober 2018
final data

Digitalisation in enterprises – cloud computing services, robots, 3D printing, big data analysis

Digital Entrepreneurship, Slovenia, 2018

26% of enterprises with at least 10 persons employed purchase cloud computing services, and 7% use robots. In 2017, 4% of enterprises used 3D printing and 10% analysed big data.

The usage of digital technologies and the introduction of automation in enterprises are important factors in the development of the digital economy, which is an important driver of innovation, competitiveness and economic growth.

More than a quarter of enterprises purchase cloud computing services

Cloud computing enables to enterprises access to computer infrastructure, e.g. to software, storage space, etc., over the Internet without requiring greater capital investments on their part. In 2018, 26% of enterprises with at least 10 persons employed purchased cloud computing services (22%; 2017). The purchase of these services is increasing among enterprises of all sizes (by the number of persons employed). These services are purchased by 23% of small (18%; 2017), 37% of medium-sized (34%; 2017) and 64% of large enterprises (54%; 2017).

Enterprises that purchase cloud computing services most often purchase e-mail as a cloud computing service (71%). 57% of enterprises purchase office software as a cloud computing service, e.g. Office 365, and the service for storing files in a cloud, e.g. Dropbox, SkyDrive, Google Drive. 37% of enterprises host the enterprise database in the cloud, 33% buy finance or accounting software applications, 25% purchase computing power to run the enterprise's own software, e.g. virtual processers, 20% purchase CRM – software application for managing information about customers and 12% purchase other IT services as a cloud computing service.

Robots are most often used by enterprises in manufacturing activities

Robotisation enables automation and digitalisation of work processes, where robots replace workers in difficult and repetitive work processes. The use of robots allows, among others, greater productivity, lower production costs and constant quality of products. 7% of enterprises with at least 10 persons employed use robots (industrial or service). Regarding the enterprise size, they are used by 4% of small, 16% of medium-sized and 34% of large enterprises.

6% of enterprises use industrial robots – automatically controlled, reprogrammable, multipurpose manipulator programmable in three or more axes, e.g. robots for welding, laser cutting, spray painting, etc.). Industrial robots are used by 12% of enterprises in manufacturing activities and by 1% of enterprises in service activities.

Industrial robots are most often used by enterprises engaged in the production of petroleum, chemical, pharmaceutical products and pharmaceutical preparations and products from rubber, non–metallic mineral products (23%) (C 19–23 of NACE Rev. 2), followed with 22% by enterprises in the manufacture of basic metal, metal products (C 24–25 of NACE Rev. 2) and with 20% by enterprises in manufacture of computers, electronic products, machinery, vehicles, electrical equipment, furniture (C 26–33 of NACE Rev. 2).

1% of enterprises use service robots – machines that have a degree of autonomy and are able to operate in complex and dynamic environment that may require interaction with persons, objects or other devices. Enterprises most often use service robots for warehouse management systems, e.g. palletising, handling goods, etc., for assembly work and for cleaning of waste disposal tasks.

4% of enterprises used 3D printing

3D printing or additive layer manufacturing enables with the usage of special printers production of 3-dimensional objects with applying sequential layers of different materials. One of the benefits of using 3D printing is a shortened product development and manufacturing period. In 2017, 4% of enterprises with at least 10 persons employed used 3D printing. Regarding the size, 3D printing was used by 3% of small, 6% of medium-sized and 21% of large enterprises.

2% of enterprises used their own 3D printers and 3% of enterprises used 3D printing services provided by other enterprises.

As regards enterprise activity, 7% of enterprises in manufacturing activities and 2% in service activities used 3D printing.
3D printing was most often used by enterprises engaged in manufacturing of computers, electronic products, machinery, vehicles, electrical equipment, furniture (17%) (C 26–33 of NACE Rev. 2), followed by enterprises in production of petroleum, chemical, pharmaceutical products and pharmaceutical preparations and products from rubber, non–metallic mineral products (15%) (C 19–23 of NACE Rev. 2).

Enterprises that used 3D printing in 2017 used it in the following ways: 77% for 3D printing of prototypes or models for internal use, 41% for 3D printing of prototypes or models for sale, 37% for 3D printing of goods to be used in the production process and 22% for 3D printing of goods for sale excluding prototypes or models, e.g. moulds, tools, parts of goods, semi-finished goods, etc.

A tenth of enterprises analysed big data

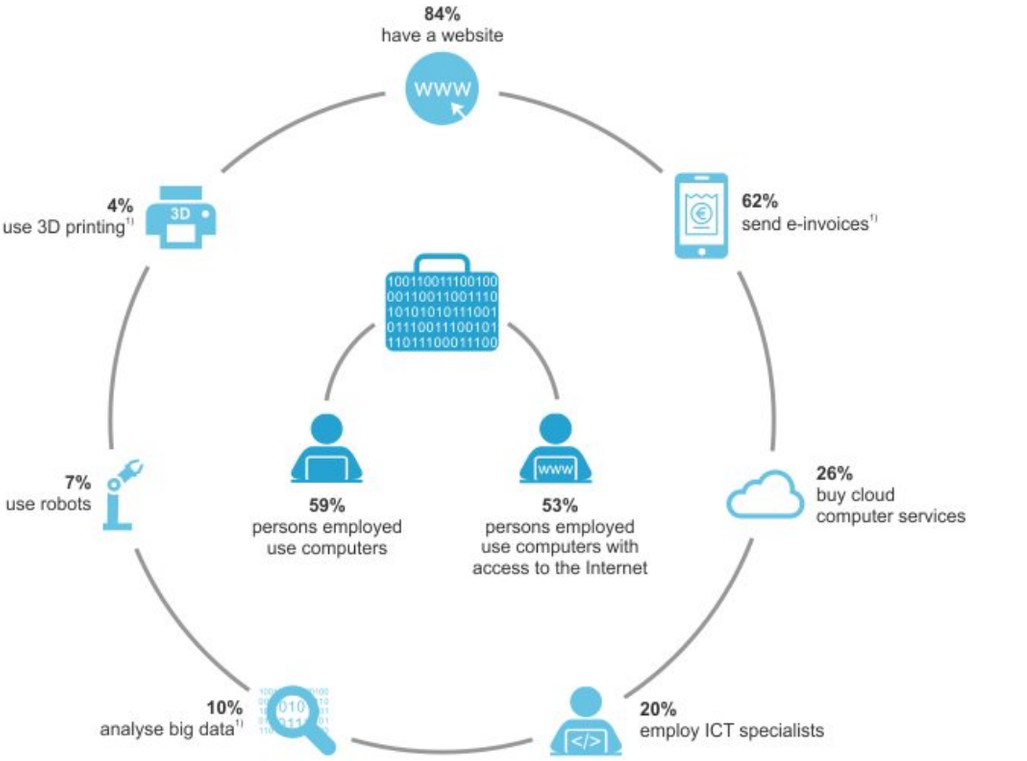
Everyday usage of the information-communication technologies generates large amounts of different data. Data are also generated by the growing number of smart devices that are connected to the Internet. In cases of large amounts of data which can be in various formats, structured or unstructured, which are quickly generated, and quickly available, we are talking about big data. One of the main advantages of analysing big data is to provide quick important information that is crucial for making decisions.

10% of enterprises with at least 10 persons employed analysed big data in 2017: 8% of small, 17% of medium-sized and 38% of large enterprises.

Enterprises that analysed big data in 2017 most often analysed big data from the following data sources: 65% enterprise's own data from smart devices or sensors, e.g. Machine to Machine -M2M- communications, digital sensors, radio frequency identification tags (RFID), 40% geolocation data from the use of portable devices, e.g. portable devices using mobile telephone networks, wireless connections or GPS, 31% data generated from social media, e.g. social networks, blogs, multimedia content sharing websites, etc., and 14% other big data sources.

In 91% of enterprises big data analysis was performed by the enterprise’s own employees, including those employed in parent or affiliate enterprises, while in 24% of enterprises big data were analysed by external service providers.

Digitalisation in enterprises with at least 10 persons employed, Slovenia, 2018



1) Data refer to 2017.
Source: SURS

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Methodological note

The published data are estimates derived from the survey on the sample which represents enterprises with at least 10 persons employed.

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Next release: 7. 11. 2018

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