eurostat | newsrelease

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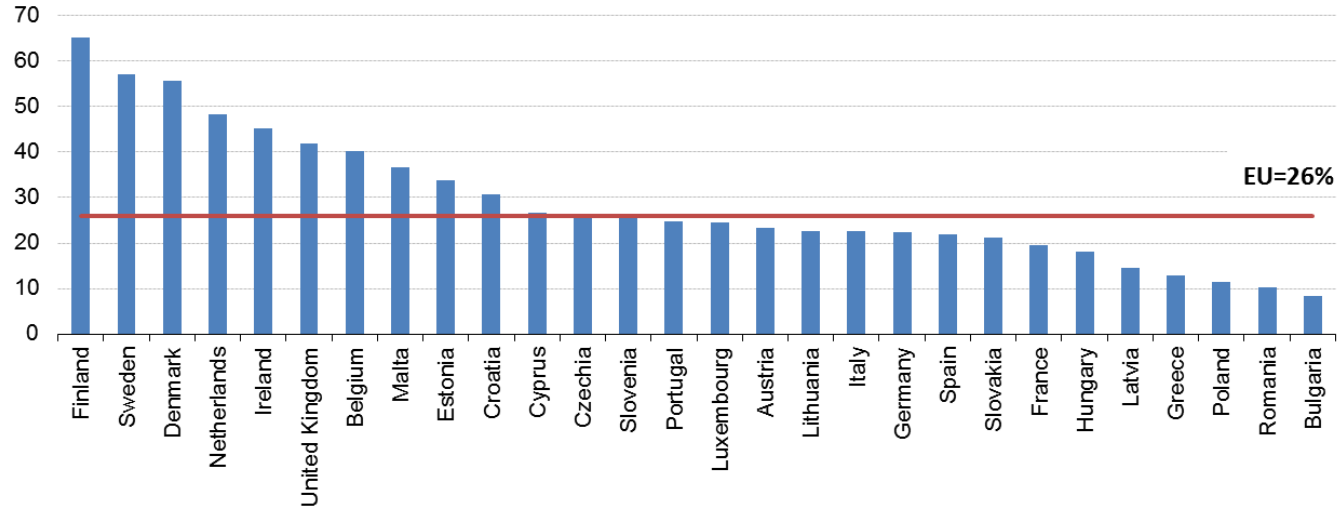
ICT usage in enterprises in 2018

# Cloud computing services used by more than one out of four enterprises in the EU

12% of enterprises reported analysing big data and 4% used 3D printing

In 2018, 26% of EU enterprises with at least 10 persons employed purchased cloud computing services. Cloud computing usage grew rapidly over the last few years, as in 2014 it stood at 19% and in 2016 at 21%. Large enterprises use cloud computing much more (56% of enterprises employing 250 persons or more) than small ones (23% of enterprises employing 10 to 49 persons). Over the last four years (between 2014 and 2018), the highest increase in cloud computing usage was observed in large enterprises (+21 percentage points), compared with +12pp in medium sized enterprises and +6pp in small enterprises.

**Use of cloud computing services by enterprises in the EU Member States, 2018**
(% of enterprises)



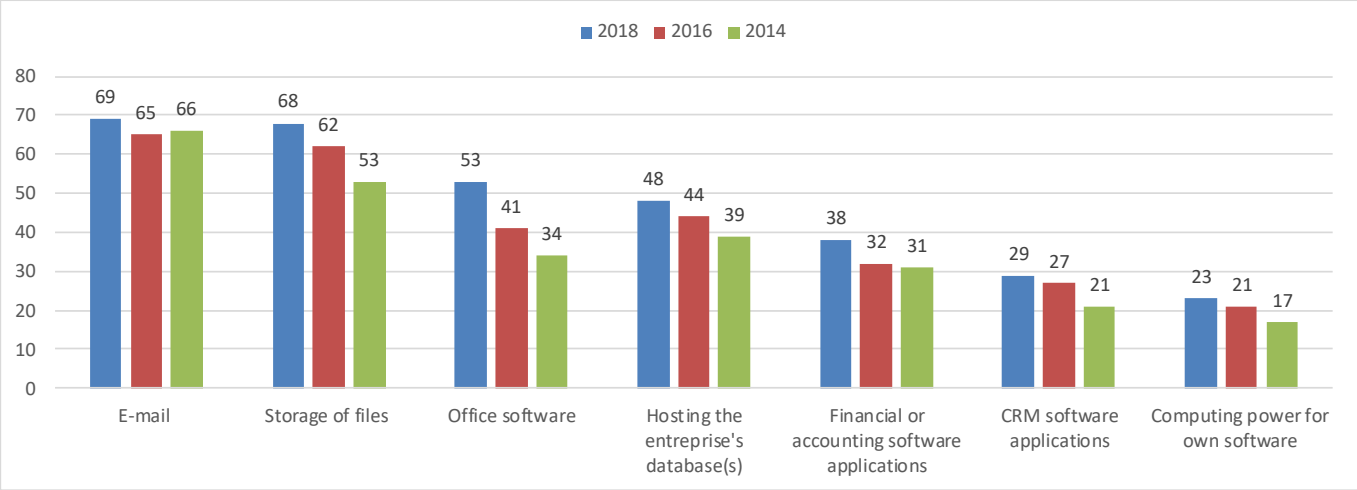

## Over half of enterprises used cloud computing services in Nordic EU Member States

Significant differences can be observed across countries in regards to cloud computing usage. Over half of enterprises in **Finland** (65%), **Sweden** (57%) and **Denmark** (56%) used cloud computing. At the opposite end of the scale, cloud computing services were used by 10% or fewer enterprises in **Bulgaria** (8%) and **Romania** (10%).

This information comes from an article issued by **Eurostat, the statistical office of the European Union**, and forms part of the results of a survey conducted in 2018 on ICT (Information and Communication Technologies) usage in enterprises.

In 2018, enterprises used cloud computing mostly for e-mail (69% of enterprises that used cloud computing), closely followed by the storage of files in electronic form in a cloud (68%). Enterprises less frequently purchased computing power to run the enterprise's own software (23%), or used CRM software applications over the cloud for managing information about customers (29%).

**Use of cloud computing services by enterprises in the EU, by purpose**
(% of enterprises using the cloud)



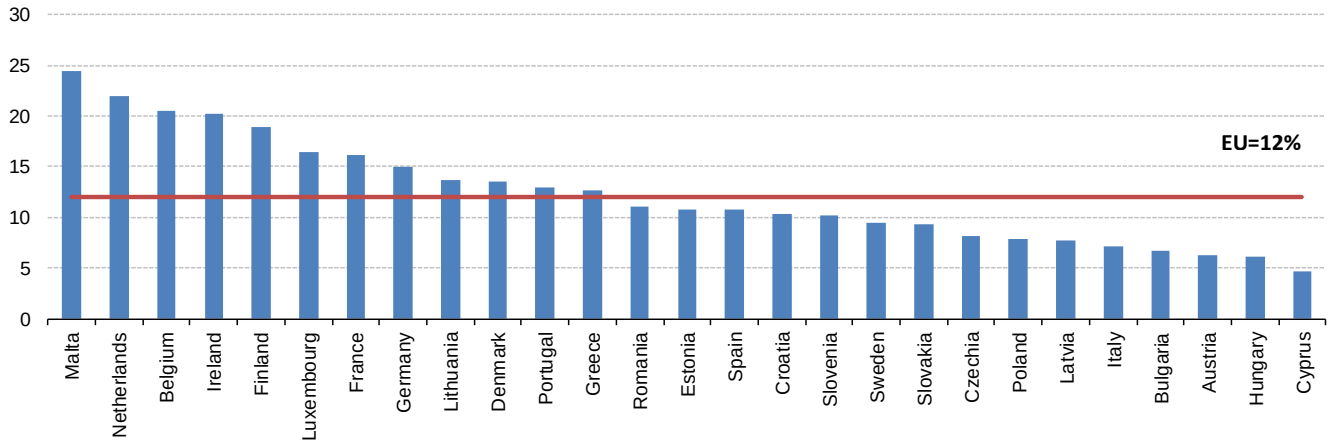

## More than 1 in 10 EU enterprises analysed big data

In recent years, the quantity of digital data created, stored and processed in the world has grown exponentially. Each activity conducted online or by using information and communication technologies generates series of digital imprints which, given their volume, variety and velocity, are referred to as 'big data'. In the EU, 12% of enterprises with at least 10 persons employed reported analysing big data. Such analyses are predominantly done by large (33%) and medium sized (19%) enterprises, and carried out by internal staff (8%) or by external service providers (5%).

## Big data analysis most used in Malta, the Netherlands, Belgium and Ireland

Among EU Member States, the largest shares of enterprises analysing big data were observed in **Malta** (24%), the **Netherlands** (22%), **Belgium** and **Ireland** (both 20%). The smallest shares were noted in **Cyprus** (5%), **Hungary** and **Austria** (both 6%), **Bulgaria** and **Italy** (both 7%).

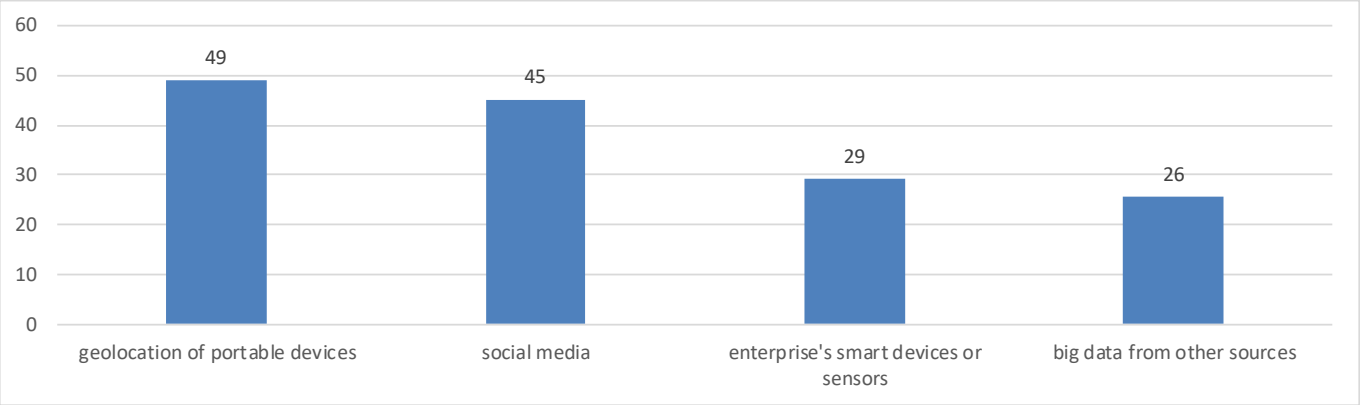
**Use of big data analysis by enterprises in the EU Member States, 2018**
(% of enterprises)



## Mostly used data sources are geolocation of portable devices and data generated from social media

Enterprises that analysed big data used a variety of data sources. Almost half of all enterprises analysed geolocation data from the use of portable devices e.g. portable devices using mobile telephone networks, wireless connections or GPS (49%), followed by data generated from social media e.g. social networks (45%). Less than one third of enterprises analysed own big data from smart devices or sensors (29%) or data from other sources (26%).

**Use of big data analysis in the EU by data source, 2018**
(% of enterprises analysing big data)




## 4% of EU enterprises used 3D printing, with highest share in Finland, lowest in Cyprus and Latvia

In the EU, 4% of enterprises with at least 10 persons employed used 3D printing in 2018. In large enterprises, the share of 3D printer usage stood at 13% compared with 3% in small enterprises.

The largest shares of enterprises using 3D printing in 2018 were observed in **Finland** (7%), **Denmark, Malta**, the **United Kingdom** and **Belgium** (all 6%). The smallest shares were reported by enterprises in **Cyprus** and **Latvia** (both 1%), followed by **Estonia**, **Bulgaria**, **Greece**, **Hungary**, **Romania** and **Poland** (all 2%).

More than half of enterprises that used 3D printing used this technology for prototypes or models for internal use (57%). Less than one third used 3D printing for prototypes or models for sale (32%) or for goods to be used in the enterprise's production process (27%). Only 17% used 3D printing for goods other than prototypes or models to be sold.

Geographical information

The **European Union** (EU) includes Belgium, Bulgaria, Czechia, Denmark, Germany, Estonia, Ireland, Greece, Spain, France, Croatia, Italy, Cyprus, Latvia, Lithuania, Luxembourg, Hungary, Malta, the Netherlands, Austria, Poland, Portugal, Romania, Slovenia, Slovakia, Finland, Sweden and the United Kingdom.

Methods and definitions

Data presented in this News Release are based on the results of the 2018 European Union survey on 'ICT usage and e-commerce in enterprises'. This survey covered enterprises with at least 10 persons employed in manufacturing; electricity, gas and steam; water supply; construction; wholesale and retail trade, repair of motor vehicles and motorcycles; transportation and storage; accommodation and food service activities; information and communication; real estate; professional, scientific and technical activities; administrative and support activities; repair of computers and communication equipment.

Results on big data analysis and use of 3D printing refer to the year 2017. United Kingdom: big data analysis not available.

**Cloud computing** refers to ICT services that are used over the internet to access software, computing power, storage capacity etc. where the services have all of the following characteristics:
- are delivered from servers of service providers;
- can be easily scaled up or down (e.g. number of users or change of storage capacity);
- can be used on-demand by the user, at least after the initial set up (without human interaction with the service provider);
- are paid for, either per user, by capacity used, or they are pre-paid.

**CRM** refers to Customer Relationship Management software application for managing information about customers (as a cloud computing service).

**Big data** refers to data generated from activities that are carried out electronically and from machine-to-machine communications and can be characterized by:
- significant volume referring to vast amounts of data generated over time;
- variety referring to the different format of complex data, either structured or unstructured (e.g. text, video, images, voice, sensor data, activity logs, click streams, coordinates, etc.);
- velocity referring to the high speed at which data is generated, becomes available and changes over time.

**Big data analysis** refers to the use of techniques, technologies and software tools for analysing big data extracted from enterprise's own data sources or other data sources.

**3D printing** refers to the use of special printers either by the enterprise itself or the use of 3D printing services provided by other enterprises for the creation of three dimensional physical objects using digital technology.

**Enterprises** are classified in different categories according to the number of persons employed.
- small enterprises: 10 to 49 persons employed;
- medium sized enterprises: 50 to 249 persons employed;
- large enterprises: 250 or more persons employed.

## Timetable

A news release on ICT usage in household and by individuals is scheduled for 20 December 2018.

## For more information

Eurostat website section on digital economy and society statistics.

Eurostat database on digital economy and society.

Eurostat Statistics Explained article on Cloud computing – statistics on the use by enterprises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## Use of digital technologies in enterprises, 2018

(enterprises with at least 10 persons employed)

| | % of enterprises | | |
|---|---|---|---|
| | **Cloud computing** | **Big data analysis** | **3D printing** |
| **EU** | **26** | **12** | **4** |
| **Belgium** | 40 | 20 | 6 |
| **Bulgaria** | 8 | 7 | 2 |
| **Czechia** | 26 | 8 | 4 |
| **Denmark** | 56 | 14 | 6 |
| **Germany** | 22 | 15 | 5 |
| **Estonia** | 34 | 11 | 2 |
| **Ireland** | 45 | 20 | 3 |
| **Greece** | 13 | 13 | 2 |
| **Spain** | 22 | 11 | 3 |
| **France** | 19 | 16 | 4 |
| **Croatia** | 31 | 10 | 3 |
| **Italy** | 23 | 7 | 4 |
| **Cyprus** | 27 | 5 | 1 |
| **Latvia** | 15 | 8 | 1 |
| **Lithuania** | 23 | 14 | 4 |
| **Luxembourg** | 25 | 16 | 4 |
| **Hungary** | 18 | 6 | 2 |
| **Malta** | 37 | 24 | 6 |
| **Netherlands** | 48 | 22 | 5 |
| **Austria** | 23 | 6 | 4 |
| **Poland** | 11 | 8 | 2 |
| **Portugal** | 25 | 13 | 4 |
| **Romania** | 10 | 11 | 2 |
| **Slovenia** | 26 | 10 | 4 |
| **Slovakia** | 21 | 9 | 3 |
| **Finland** | 65 | 19 | 7 |
| **Sweden** | 57 | 10 | 5 |
| **United Kingdom** | 42 | : | 6 |

: Data not available

The source dataset can be found here for cloud computing, here for big data and here for 3D printing. The dimension "Time" refers to the survey year.