This article is part of an online publication and provides details on information and communication technologies (ICTs) across the European Union (EU) enlargement countries, in other words the candidate countries and potential candidates. Montenegro, North Macedonia, Albania, Serbia and Turkey currently have candidate status, while Bosnia and Herzegovina and Kosovo are potential candidates.

The article provides details in relation to this fast-moving aspect of the economy presenting information on mobile phone subscriptions and fixed telephone lines, households having access to a personal computer or the internet, and use of the internet by enterprises.

Mobile phone subscriptions

In the EU-28 there were, on average, 1 367 mobile phone subscriptions per 1 000 inhabitants in 2016; in other words, there was an average of 1.4 mobile subscriptions per person. Since the late 1980s and early 1990s the number of subscriptions has increased rapidly as mobile phones have become commonplace.

1 This designation is without prejudice to positions on status, and is in line with UNSCR 1244/1999 and the ICJ Opinion on the Kosovo declaration of independence.
There was a rapid take-up of mobile telephony services in several enlargement countries.

Over the period 2007-2017, the increase in the mobile phone penetration rate — the number of subscriptions relative to the size of the population — was fastest among the enlargement countries in Albania, where the number of subscriptions per inhabitant more than doubled. This rate increased by approximately a half in Bosnia and Herzegovina, Montenegro (break in series) and Kosovo (2008-2017).

In 2017, the number of mobile phone subscriptions was higher than the number of inhabitants in several enlargement countries, indicating that some people had more than one mobile subscription: this could result from some subscriptions remaining active even when they were no longer in use, or may be linked to some people having subscriptions for work and private use or because they owned several connected devices. Among the enlargement countries, Albania recorded the highest ratio of mobile phone subscriptions to population size in 2017 (see Figure 1), an average of 1 875 subscriptions per 1 000 inhabitants. Montenegro was the only other enlargement country to record a ratio of mobile phone subscriptions per inhabitant that was above the average for the EU-28, although the ratio in Serbia (1 231 per 1 000 inhabitants) in 2017 was not far below that in the EU-28. At the other end of the range, Kosovo recorded the lowest number of mobile phone subscriptions per 1 000 inhabitants, at 553.

**Fixed telephone lines**

Figure 2 presents information in relation to the number of fixed telephone lines per 1 000 inhabitants. Fixed telephone lines are those which connect a customer’s equipment (telephone handset or facsimile machine) to
the public switched telephone network (PSTN). This indicator, together with that for mobile telephony, is one of the broadest and most common measures used to evaluate the development of telecommunications.

![Fixed telephone line penetration, 2007 and 2017](image)

**Figure 2: Fixed telephone line penetration, 2007 and 2017(number of lines per 1 000 inhabitants)**

As mobile technology became abundant, the number of fixed telephone lines fell

In the EU-28 there were, on average, 431 fixed telephone lines per 1 000 inhabitants in 2013. This figure was below the ratio recorded in 2007, when there had been, on average, 34 more fixed telephone lines per 1 000 inhabitants, although it should be noted that there is a break in series.

There was also a reduction between 2007 and 2017 in the number of fixed telephone lines per 1 000 inhabitants in the two enlargement countries for which a time series is available, namely Montenegro and Turkey. Looking at the latest available data, Serbia recorded the highest ratio of fixed telephone lines per 1 000 inhabitants (364 in 2017) among the enlargement countries and Turkey the lowest (142), with Montenegro between these two values (245). As such, all three countries reported fixed telephone penetration rates that were lower than the average in the EU-28 in 2013.

**Access to a personal computer**

As of 2017, 84 % of households in the EU-28 had access to a personal computer (PC); this marked an increase of 4 percentage points when compared with 2013 (see Figure 3).
More than two thirds of households in North Macedonia and Serbia had access to a PC...

The proportion of households with access to a PC in the enlargement countries (subject to data availability) was lower than in the EU-28. Just over 7 in 10 households (72%) in Serbia had access to a PC in 2018, while the corresponding ratios in Bosnia and Herzegovina and Kosovo (2017 data) were somewhat lower (64% and 61% respectively). Notably lower shares were recorded in Montenegro (36%) and Turkey (19%). Note that the figure for Turkey covers only desktop PCs and that this particular market has been relatively stagnant in recent years as an increasing share of people have bought more portable types of computer, such as laptops, netbooks, tablets or personal digital assistants (PDAs).

Access to the internet

Widespread access to the internet (via broadband) is seen as essential for the development of advanced services on the internet, such as e-business, e-government or e-learning. Digital subscriber lines (DSL) remain the main form of delivery for broadband technology in the EU, although alternatives, such as the use of cable, satellite, fibre optics and wireless local loops are becoming more widespread.

The proportion of households in the EU-28 with access to the internet was 89% in 2018, slightly higher than the proportion of households with access to a PC (84%, 2017 data). The proportion of households in the EU-28 having access to the internet rose by 10 percentage points between 2013 and 2018 (see Figure 4); as such it outstripped the growth in households having access to a PC.
... and more than two thirds of households had access to the internet in nearly all enlargement countries

As with household access to PCs, a generally lower proportion of households in the enlargement countries had access to the internet when compared with households in the EU-28, with the notable exception of Kosovo where the proportion was 93%, in other words 4 percentage points higher than in the EU-28. The next highest share recorded among the enlargement countries was for Turkey (84%), followed by North Macedonia, Serbia, Montenegro and Bosnia and Herzegovina with proportions in the range of 69-79%, while in Albania the share of households with access to the internet was much lower (30%; 2017 data). All six enlargement countries for which data are shown for both reference years in Figure 4 recorded increases (in percentage points) in their proportion of households having access to the internet that were higher than the increase in the EU-28 (where household internet access appeared to be approaching saturation).

More than 9 out of 10 enterprises had access to the internet in each of the enlargement countries

Note that the data shown in Figure 5 for the proportion of enterprises having access to the internet generally refer to enterprises with 10 or more persons employed and that several enlargement countries are characterised by having a relatively high number of micro enterprises with fewer than 10 persons employed. With this proviso, almost all (97%) of the enterprises in the EU-28 had access to the internet in 2018. Similarly high proportions were reported in the enlargement countries: slightly higher proportions of enterprises had access to the internet in Serbia (100%), Montenegro (99%) and Bosnia and Herzegovina (99%) while even the lowest proportion —
92% in North Macedonia — was only slightly below that recorded for the EU-28.

Figure 5: Proportion of enterprises having access to the internet, 2013 and 2018(%) Source: Eurostat (isoc_ci_in_en2)

Source data for tables and graphs

- Enlargement countries — information and communication technology: tables and figures

Data sources

Data for the enlargement countries are collected for a wide range of indicators each year through a questionnaire that is sent by Eurostat to partner countries which have either the status of being candidate countries or potential candidates. A network of contacts in each country has been established for updating these questionnaires, generally within the national statistical offices, but potentially including representatives of other data-producing organisations (for example, central banks or government ministries). The statistics shown in this article are made available free-of-charge on Eurostat’s website, together with a wide range of other socio-economic indicators collected as part of this initiative.

Eurostat’s survey on ICT usage in households and by individuals is an annual survey used to benchmark ICT-driven developments. Eurostat’s survey on ICT usage in enterprises is also an annual survey and generally covers enterprises with at least 10 persons employed; note that the activity coverage excludes financial and insurance activities (NACE Rev. 2 Section K). These surveys follow developments for a set of core variables over time and also provide greater depth for specific subjects (through ad-hoc additional survey modules). While the surveys initially concentrated on access and connectivity issues, their scope has subsequently been extended to cover a range of subjects (for example, e-government, social media or e-commerce). Several enlargement
countries carry out ICT surveys according to the same specifications as those used by EU Member States.

Internet access of households refers to the percentage of households that have an internet access, so that anyone in the household could use the internet at home, if so desired, even simply to send an e-mail.

Tables in this article use the following notation:

<table>
<thead>
<tr>
<th>Value in italics</th>
<th>data value is forecasted, provisional or estimated and is therefore likely to change;</th>
</tr>
</thead>
<tbody>
<tr>
<td>:</td>
<td>not available.</td>
</tr>
</tbody>
</table>

Context

Information and communication technologies (ICTs) affect people’s everyday lives in many ways, both at work and in the home, for example, through communications with friends and colleagues or buying and ordering goods online. The development and expansion of the information society is regarded as critical to improve the competitiveness of the EU, while EU policymakers also seek to regulate specific areas, such as e-commerce or the protection of an individual’s privacy when using such technologies.

The Digital Agenda for Europe is one of the EU’s flagship initiatives under the Europe 2020 strategy, which aims to reboot Europe’s economy by providing help to individuals and enterprises so they can get the most out of digital technologies. The agenda focuses on seven priority areas for action: creating a digital single market, greater interoperability, boosting internet trust and security, providing much faster internet access, encouraging investment in research and development, enhancing digital literacy skills and inclusion, and applying ICTs to address challenges facing society (for example, climate change or the gradual ageing of the EU’s population).

Statisticians are well aware of the challenges posed by rapid technological change in areas related to the internet and other new applications of ICTs. As such, there has been a considerable degree of development in this area, with statistical tools being adapted to satisfy new demands for data. Indeed, statistics within this domain are reassessed on an annual basis in order to meet user needs and reflect the rapid pace of technological change.

While basic principles and institutional frameworks for producing statistics are already in place, the enlargement countries are expected to increase progressively the volume and quality of their data and to transmit these data to Eurostat in the context of the EU enlargement process. EU standards in the field of statistics require the existence of a statistical infrastructure based on principles such as professional independence, impartiality, relevance, confidentiality of individual data and easy access to official statistics; they cover methodology, classifications and standards for production.

Eurostat has the responsibility to ensure that statistical production of the enlargement countries complies with the EU acquis in the field of statistics. To do so, Eurostat supports the national statistical offices and other producers of official statistics through a range of initiatives, such as pilot surveys, training courses, traineeships, study visits, workshops and seminars, and participation in meetings within the European Statistical System (ESS). The ultimate goal is the provision of harmonised, high-quality data that conforms to European and international standards.

Additional information on statistical cooperation with the enlargement countries is provided here.

Other articles

- Enlargement countries — statistical overview — online publication
- Statistical cooperation — online publication
Publications

- Statistical books/pocketbooks

  Key figures on enlargement countries — 2019 edition
  Key figures on enlargement countries — 2017 edition
  Key figures on the enlargement countries — 2014 edition
  Digital economy & society in the EU — a browse through our online world in figures — 2018 edition

- Leaflets

  Basic figures on enlargement countries — 2019 edition
  Basic figures on enlargement countries — 2018 edition
  Basic figures on enlargement countries — 2016 edition

Database

- Candidate countries and potential candidates (cpc), see:

  Industry, trade and services (cpc_in)
    Candidate countries and potential candidates: information society statistics (cpc_inisoc)

- Digital economy and society (isoc), see:

  ICT usage in households and by individuals (isoc_i)
  ICT usage in enterprises (isoc_e)
  Digital economy and society - historical data (isoc_h)
    Telecommunication services (isoc_tc)

Dedicated section

- Enlargement countries

Methodology

- Candidate countries and potential candidates (cpc) (ESMS metadata file — cpc_esms)

External links

- European Commission — Digital single market
- European Commission — Communications Networks, Content and Technology
- European Commission — European Neighbourhood Policy and Enlargement Negotiations