

SDG 4 - Quality education

Statistics Explained

Ensure inclusive and equitable quality education and promote lifelong learning opportunities for all

*Data extracted in April 2023.
Planned article update: June 2024.*



EU trend of SDG 4 on quality education





This article is a part of a [set of statistical articles](#) , which are based on the Eurostat publication '[Sustainable development in the European Union — Monitoring report on progress towards the SDGs in an EU context — 2023 edition](#)' . This report is the seventh edition of Eurostat's series of monitoring reports on sustainable development, which provide a quantitative assessment of progress of the EU towards the SDGs in an EU context.

SDG 4 seeks to ensure access for all to quality education through all stages of life, as well as to increase the number of young people and adults who have the relevant skills for employment, decent jobs and entrepreneurship.

Quality education in the EU: overview and key trends

Education and training are key drivers for growth and jobs because they help to improve employability, productivity, innovation and competitiveness. In the broader sense, education is also a pre-condition for achieving many other

SDGs. Monitoring SDG 4 in an EU context focuses on basic education, tertiary education, adult learning and digital skills. Over the assessed five-year period, the EU has made significant progress in increasing participation in basic and tertiary education as well as in adult learning and to a lesser extent in in early childhood education. In contrast, trends in educational outcomes have been less favourable. The percentage of underachievers in the PISA test has further deteriorated, and the share of adults with at least basic digital skills remains far from its target.

Indicator	Period	Annual growth rate	Trend
Basic education			
 Low achieving 15-year-olds in reading, mathematics or science	2006–2018	Observed: 0.6 % ⁽¹⁾	↓
		Required: –1.4 % ⁽¹⁾	
	2015–2018	Observed: 4.0 % ⁽²⁾	↓
		Required: – 1.9 % ⁽²⁾	
 Participation in early childhood education	Time series too short for long-term assessment		:
	2015–2020	Observed: 0.2 %	↗
Required: 0.3 %			
 Early leavers from education and training	2007–2022	Observed: – 2.8 %	↑
		Required: – 2.1 %	
	2017–2022	Observed: – 1.8 %	↑
		Required: – 1.2 %	
Tertiary education			
 Tertiary educational attainment	2007–2022	Observed: 2.5 %	↑
		Required: 1.9 %	
	2017–2022	Observed: 2.2 %	↑
		Required: 1.4 %	
Adult learning			
Adult participation in learning in the past four weeks	2007–2022	2.8 %	↑
	2017–2022	2.7 %	↑
Digital skills			
Share of adults with at least basic digital skills	Time series too short for long- and short-term assessment		:

Note: See Annex I for a description of the methodology used for the growth rate calculation and the trend assessment. For indicators without a target, the growth rates observed over the specified periods are given. For indicators with a quantified EU target, both the observed growth rates and the growth rates that would have been required in the specified periods for meeting the target are given.
⁽¹⁾ Trend refers to worst performance among the three subjects (science).
⁽²⁾ Trend refers to worst performance among the three subjects (reading).

Table 1: Indicators measuring progress towards SDG 4, EU







Symbol	With quantitative target	Without quantitative target
	Trends for indicators marked with this 'target' symbol are calculated against an official and quantified EU policy target. In this case the arrow symbols should be interpreted according to the left-hand column below. Trends for all other indicators should be interpreted according to the right-hand column below.	
	Significant progress towards the EU target	Significant progress towards SD objectives
	Moderate progress towards the EU target	Moderate progress towards SD objectives
	[Category not applicable]	No progress towards SD objectives
	Insufficient progress towards the EU target	Moderate movement away from SD objectives
	Movement away from the EU target	Significant movement away from SD objectives
:	Calculation of trend not possible (for example, time series too short)	

Table 2: Explanation of symbols for indicating progress towards SD objectives and targets

Basic education

Basic education covers the earliest stages in a child's educational pathway, ranging from early childhood education and care to primary and secondary education. An inclusive and quality education for all, which eliminates school segregation, is an essential element of sustainable development. SDG 4 thus aims to ensure that by 2030 all girls and boys have access to quality early childhood development, care and pre-primary education so they are ready for primary education. In addition, SDG 4 intends to ensure that all boys and girls complete free, equitable and quality primary and secondary education leading to relevant and effective learning outcomes. Furthermore, SDG 4 focuses on ensuring that all youths have the literacy, numeracy and relevant skills needed for employment, decent jobs and entrepreneurship.

Participation in early childhood education and care is rising too slowly in the EU to meet the 2030 target

Early childhood education and care is usually the first step on a child's educational pathway. According to the [EU Quality Framework for Early Childhood Education and Care](#), access to quality early childhood education and care for all children contributes to their development, wellbeing and educational success. Also, as highlighted in the [2022 Council Recommendation on early childhood education and care](#), the absence of early childhood education and care is a significant constraint on female labour market participation.

The [2021 Council Recommendation on a European child guarantee](#) also emphasise the importance of equal access to quality and inclusive early childhood education and care for breaking the transmission of social exclusion and securing equal opportunities for children in a disadvantaged situation. Tackling disadvantage from early years is a cost-effective investment as it contributes to the inclusion of children and their integration into the labour market and social life when they are adults.

[Participation in early childhood education](#) is defined as the share of the population aged between three years and the starting age of compulsory primary education who take part in early education. Participation in early childhood education has risen slowly in the EU since 2014, reaching 93.0 % in 2020. Stronger progress will be necessary in the coming years to meet the target of 96 % by 2030.

Educational attainment levels in the EU are improving

Early school leaving is linked to unemployment, social exclusion, poverty and poor health. Thus, it is in the interest

of societies as a whole, as well as individuals themselves, to make sure that everyone completes a certain level of education and training. Consequently, the [EEA strategic framework](#) has set a target to reduce the share of early leavers from education and training (ELET) to below 9 % by 2030.

Since 2002, the ELET rate has fallen continuously in the EU, albeit more slowly in recent years. In 2022 the share had reached 9.6 %, putting the EU well on track to meeting the 2030 target. An analysis by degree of urbanisation reveals that young people living in towns and suburbs (10.6 %) and rural areas (10.0 %) were more likely to leave school early than young people living in cities (8.6 %) in 2022¹. For further analyses of ELET trends by sex and citizenship, see the articles on SDG 5 ' [Gender equality](#) ' and on SDG 10 ' [Reduced inequalities](#) '.

Monitoring of the 9 % target is complemented by a supplementary indicator on the completion of at least upper secondary education, which is generally considered the minimum requirement for gaining satisfactory employment in today's economy and is important for full participation in society. The indicator, which measures the share of people aged 20 to 24 with at least an upper secondary qualification, shows that 83.6 % had completed this level of education in 2022².

Educational outcomes in reading, maths and science have continued to deteriorate

Besides educational attainment in general, achieving a certain level of proficiency in basic skills is a key objective of all educational systems. Basic skills, such as reading a simple text or performing simple calculations, provide the foundations for learning, gaining specialised skills and personal development. Low achievers in the OECD's Programme for International Student Assessment (PISA) are those pupils who fail to reach the minimum proficiency level necessary to participate successfully in society. These pupils face having fewer opportunities in future, at both the personal and the professional level³.

In 2018, more than one in every five 15-year-old pupils showed insufficient abilities in one or more of these basic skills. Test results in that year showed 22.3 % of pupils were low achievers in science, followed by 22.5 % for reading and 22.9 % for mathematics⁴. Compared with 2015, the results were a step backward, indicating the EU is lagging seriously behind in all three domains when it comes to reaching the 2030 EU-level target of reducing the share of low-achieving 15-year-olds in basic skills to less than 15 %.

Tertiary education

Continuing education after the basic level is important because people with higher qualifications are more likely to be employed and less likely to face poverty in a knowledge-based economy. Therefore, investing efficiently in education and training systems that deliver high-quality and up-to-date services lays the foundation for a country's prosperity. Moreover, employment rates are generally higher for highly educated people. Conversely, low levels of tertiary educational attainment can hinder competitiveness, innovation and productivity and undermine growth potential.

The share of people with tertiary education has increased significantly since 2002

The [EEA strategic framework](#) aims to raise the share of the population aged 25 to 34 that has completed a higher education qualification (levels 5–8 in the 2011 [International standard classification of education](#) , ISCED) to at least 45 % by 2030. As a result of an 18.9 percentage point increase since 2002, the EU reached a tertiary education attainment rate of 42.0 % in 2022 and is well on track to meeting its 2030 target. The degree of urbanisation seems to be related to tertiary attainment levels. While in 2022 more than half (52.2 %) of the population aged 25 to 34 living in cities had attained tertiary education, the rate was significantly lower for towns and suburbs (35.9 %) and

¹Source: Eurostat (online data code: [\(edat_lfse_30\)](#)).

²Source: Eurostat (online data code: [\(yth_educ_030\)](#)).

³European Commission (2019), [PISA 2018 and the EU. Striving for social fairness through education](#) , p. 7.

⁴Within the EU weighted averages for 2018, Spain's results were excluded for reading. The PISA results for 2022 will only be released in December 2023 and are therefore not included in the analysis.

rural areas (30.2 %)⁵.

The share of 25- to 34-year-olds with tertiary education has been growing steadily since 2002 in all Member States. This partly reflects their investment in higher education to meet the demand for a more skilled labour force. Moreover, some countries shifted to shorter degree programmes following the implementation of the [Bologna process](#) reforms. For further analyses of the trends in tertiary education by sex, see the articles on [SDG 5 'Gender equality'](#) and on [SDG 9 'Industry, innovation and infrastructure'](#).

Adult learning

Keeping skills up to date to support the ongoing quest for a high-quality labour force is one of the goals of adult learning. [Adult education](#) covers the longest period in a person's learning lifetime. It is crucial for maintaining good health, remaining active in the community and being fully included in all aspects of society. Moreover, it helps to improve and develop skills, adapt to technological developments, advance a person's career or aid their return to the labour market (upskilling and reskilling).

Adult participation in learning is growing

Adult participation in learning monitors the share of people aged 25 to 64 who stated they received formal or non-formal education and training in the four weeks preceding the survey. While this share has grown since 2002, when it stood at 5.3 %, it has remained at a rather low level, reaching just 11.9 % in 2022. A drop to 9.1 % in 2020 might be related to the COVID-19 pandemic and the adjustments to the related contingency measures, such as lay-offs and teleworking. Similarly, for adults not in employment, enrolment into education and training programmes was reduced temporarily in the beginning of the pandemic due to extended lockdown periods.

Women are more likely to participate in adult learning than men. In 2022, the share of 25- to 64-year-old women was 2.1 percentage points higher than that for men (12.9 % compared with 10.8 %, respectively). The rate for women was not only higher than for men, it had also been improving faster, gaining 7.4 percentage points since 2002, compared with 5.8 percentage points for men. The participation rate in adult learning also differs in terms of degree of urbanisation. In 2022, adults living in cities were more likely to participate in learning (14.6 %) than those living in towns and suburbs (10.6 %) or rural areas (9.0 %)⁶.

While the above-mentioned indicator is based on the question of whether adults participated in learning during the four weeks preceding the survey, the target defined in the [EEA strategic framework](#) and the [European Pillar of Social Rights Action Plan](#) refers to the share of adults participating in learning during the past 12 months. Baseline data for the target definition have so far only been collected in 2016⁷. At that time, the share stood at 37.4 %, which is 9.6 percentage points below the EU target of 47 % for 2025 and 22.6 percentage points below the 2030 target of 60 %. Participation rates were particularly low for low-educated adults (ISCED 2011 levels 0–2), at 17.9 %. The European Skills Agenda consequently also set a target for raising the share of adults aged 25 to 64 with low qualification and who participated in learning during the past 12 months to 30 % by 2025. In contrast to this group, more than half (58.1 %) of adults with tertiary education (ISCED 2011 levels 5–8) participated in learning in 2016.

Digital skills

Digitalisation is having a massive impact on the labour market and the type of skills needed in the economy and society. Thus, digital skills are of critical value for working, learning and social interaction. The COVID-19 pandemic accentuated the digital skills gap that already existed and new inequalities are emerging as many people still do not have a basic level of digital skills or are in workplaces or schools that are lagging behind in digitalisation.

⁵Source: Eurostat (online data code: [\(edat_lfs_9913\)](#)).

⁶Source: Eurostat (online data code: [\(trng_lfs_14\)](#)).

⁷Source: Eurostat, [adult education survey \(AES\)](#).

The share of people with at least basic digital skills remains far from the 2030 target

The [European Pillar of Social Rights Action Plan](#) has set a complementary target for the EU to raise the share of people aged 16 to 74 who have at least basic digital skills to 80 % in 2030. This target is monitored using the composite indicator for digital skills, based on selected activities performed by individuals on the internet in specific areas: information and data literacy, communication and collaboration, digital content creation, safety and problem solving. The level of 'at least basic digital skills' refers to the two highest out of six levels derived from the survey on the use of information and communication technologies (ICT) in households and by individuals. It is assumed that individuals who can perform certain activities have the desired digital skills, therefore the indicator can be considered as a proxy for the digital competences and skills of individuals.

In 2021, the share of people aged 16 to 74 with at least basic digital skills stood at 53.9 % and thus at a level considerably below the 80 % target for 2030. In contrast to most other education indicators presented in this chapter, fewer women (52.3 % in 2021) had at least basic digital skills than men (55.6 %). Age and formal education also affect a person's level of digital skills. While 71.2 % of 16- to 24-year-olds had basic or above-basic overall digital skills in 2021, this was only the case for 62.1 % of 25- to 54-year-olds. Older people struggle in particular with the use of digital media, with only 34.6 % of people aged 55 to 74 having at least basic digital skills in 2021. Additionally, 79.0 % of people with high formal education had such digital skills in 2021, while this was only the case for 31.9 % of people with no or low formal education⁸.

Digital competences constitute an essential skill for participating in a technology-driven world. In the [EEA strategic framework](#), the EU sets a target for the share of low-achieving eighth-graders in computer and information literacy to be less than 15 % by 2030. One of the key findings of the 2018 study shows that young people do not develop sophisticated digital skills just by growing up using digital devices: in 8 out of 13 Member States participating in the [International Computer and Information Literacy Study \(ICILS\)](#), more than one-third of pupils achieved scores below level 2 on the ICILS CIL scale. This level can be defined as the threshold for underachievement in digital competence⁹.

Presentation of the main indicators

Low achieving 15-year-olds in reading, mathematics or science

⁸Source: Eurostat (online data code: [\(ISOC_SK_DSKL_I21\)](#)).

⁹For more information see: European Commission (2022), [Education and Training Monitor 2022 \(europa.eu\)](#)

LONG TERM
2006-2018



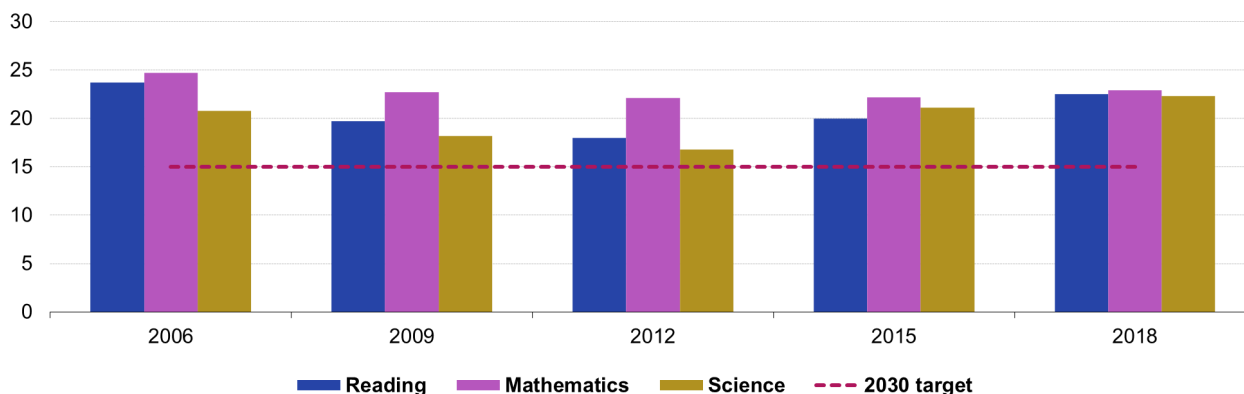
SHORT TERM
2015-2018



This indicator measures the share of 15-year-old students failing to reach level 2 ('basic skills level') on the Programme for International Student Assessment (PISA) scale for the three core school subjects of reading, mathematics and science. The data stem from the PISA study, a triennial international survey that aims to evaluate education systems by testing the skills and knowledge of 15-year-old students.

Low achieving 15-year-olds in reading, mathematics or science, EU, 2006-2018

(% of 15-year-old students)



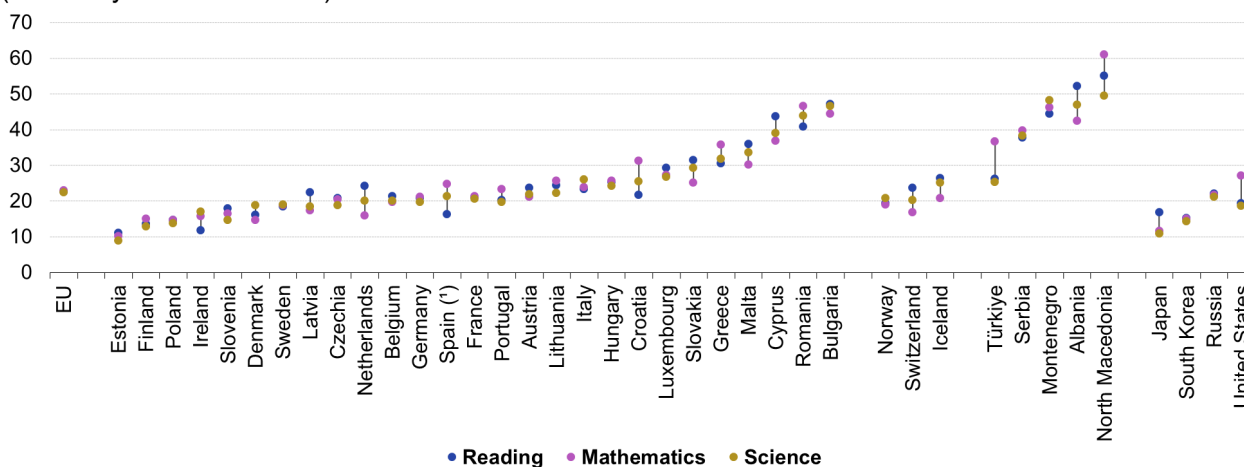
Source: OECD (Eurostat online data code: sdg_04_40)

eurostat

Figure 1: Low achieving 15-year-olds in reading, mathematics or science, EU, 2006–2018 (% of 15-year-old students) Source: OECD (Eurostat online data code (sdg_04_40))

Low achieving 15-year-olds in reading, mathematics or science, by country, 2018

(% of 15-year-old students)



(*) 2015 data for reading.

Source: OECD (Eurostat online data code: sdg_04_40)

eurostat

Figure 2: Low achieving 15-year-olds in reading, mathematics or science, by country, 2018 (% of 15-year-old students) Source: OECD (Eurostat online data code (sdg_04_40))

Participation in early childhood education

LONG TERM



Time series
too short

SHORT TERM

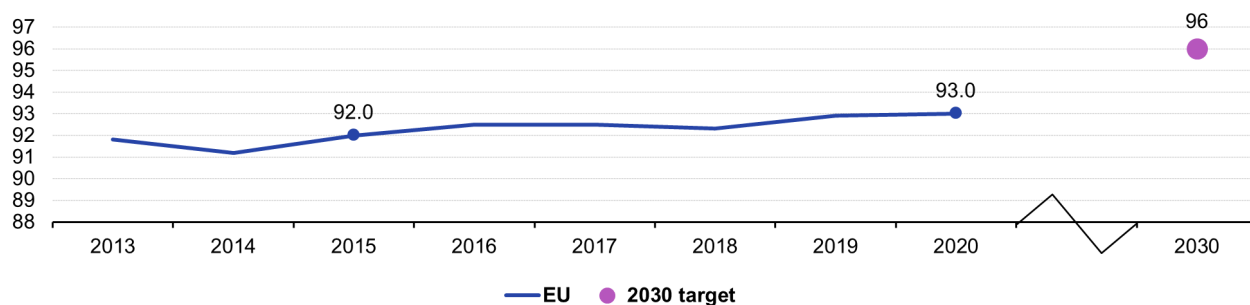
2015–2020



This indicator measures the share of children between the age of three and the starting age of compulsory primary education who participated in early childhood education. Data presented here stem from the joint UIS (UNESCO Institute of Statistics)/OECD/Eurostat (UOE) questionnaires on education statistics, which constitute the core database on education.

Participation in early childhood education, EU, 2013-2020

(% of children aged 3 and over)



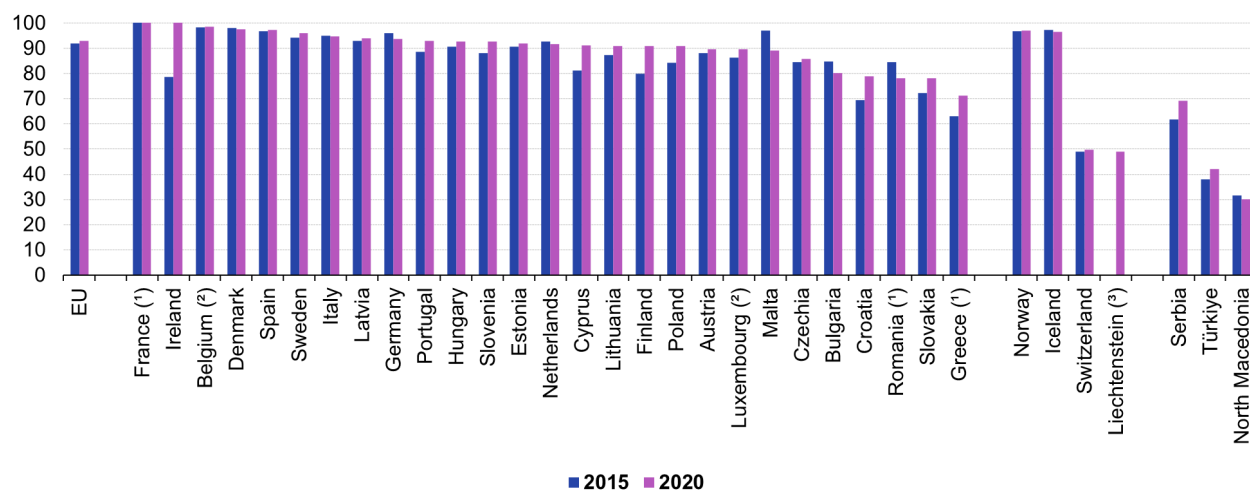
Source: Eurostat (online data code: sdg_04_31)

eurostat

Figure 3: Participation in early childhood education, EU, 2013-2020 (% of children aged 3 and over) Source: Eurostat (sdg_04_31)

Participation in early childhood education, by country, 2015 and 2020

(% of children aged 3 and over)



(1) 2020 data are estimated or provisional.

(2) Break(s) in time series between the two years shown.

(3) No data for 2015.

Source: Eurostat (online data code: sdg_04_31)

eurostat

Figure 4: Participation in early childhood education, by country, 2015 and 2020 (% of children aged 3 and over) Source: Eurostat (sdg_04_31)

Early leavers from education and training

LONG TERM 2007–2022

Total



Gender gap



SHORT TERM 2017–2022

Total

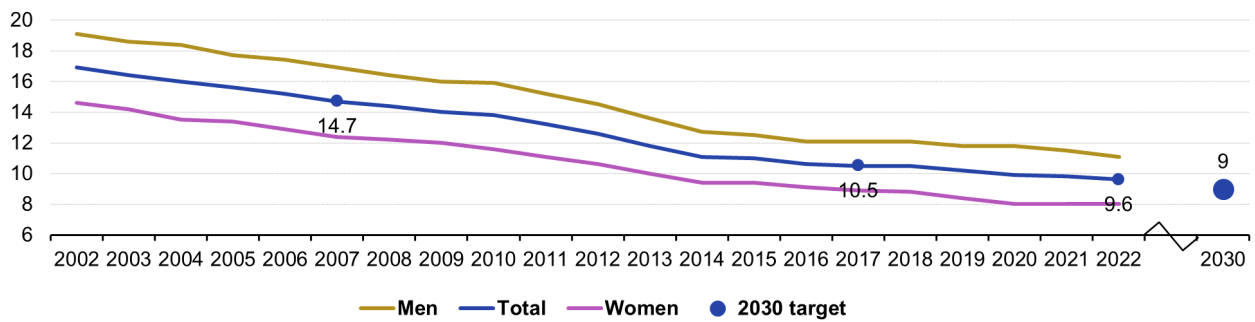


Gender gap



The indicator measures the share of the population aged 18 to 24 with at most lower secondary education who were not involved in any education or training during the four weeks preceding the survey. The data stem from the [EU Labour Force Survey \(EU-LFS\)](#).

Early leavers from education and training, by sex, EU, 2002-2022 (% of population aged 18 to 24)

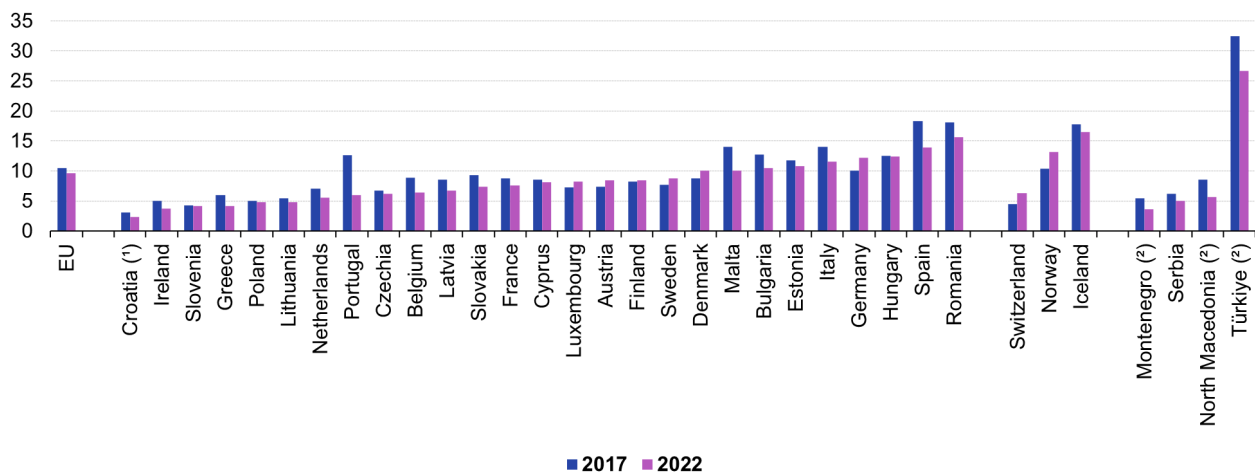


Note: Breaks in time series in 2003, 2006, 2014 and 2021.
Source: Eurostat (online data code: sdg_04_10)

eurostat

Figure 5: Early leavers from education and training, by sex, EU, 2002-2022 (% of the population aged 18 to 24) Source: Eurostat (sdg_04_10)

Early leavers from education and training, by country, 2017 and 2022 (% of population aged 18 to 24)



Note: Break in time series in 2021 for all countries.
(1) 2022 data have lower reliability.
(2) 2020 data (instead of 2022).
Source: Eurostat (online data code: sdg_04_10)

eurostat

Figure 6: Early leavers from education and training, by country, 2017 and 2022 (% of the population aged 18 to 24) Source: Eurostat (sdg_04_10)

Tertiary educational attainment

LONG TERM 2007–2022

Total



Gender gap



SHORT TERM 2017–2022

Total

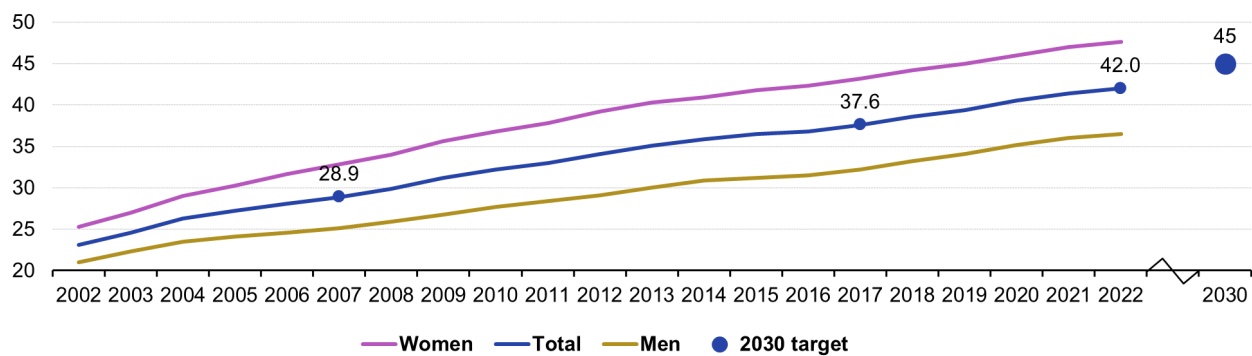


Gender gap



This indicator measures the share of the population aged 25 to 34 who have successfully completed tertiary studies (for example, at university or a higher technical institution). Tertiary educational attainment refers to [ISCED](#) (International Standard Classification of Education) 2011 levels 5–8 for data from 2014 onwards and to ISCED 1997 levels 5–6 for data up to 2013. The indicator is based on the EU [Labour Force Survey \(EU-LFS\)](#) .

Tertiary educational attainment, by sex, EU, 2002-2022 (% of population aged 25 to 34)

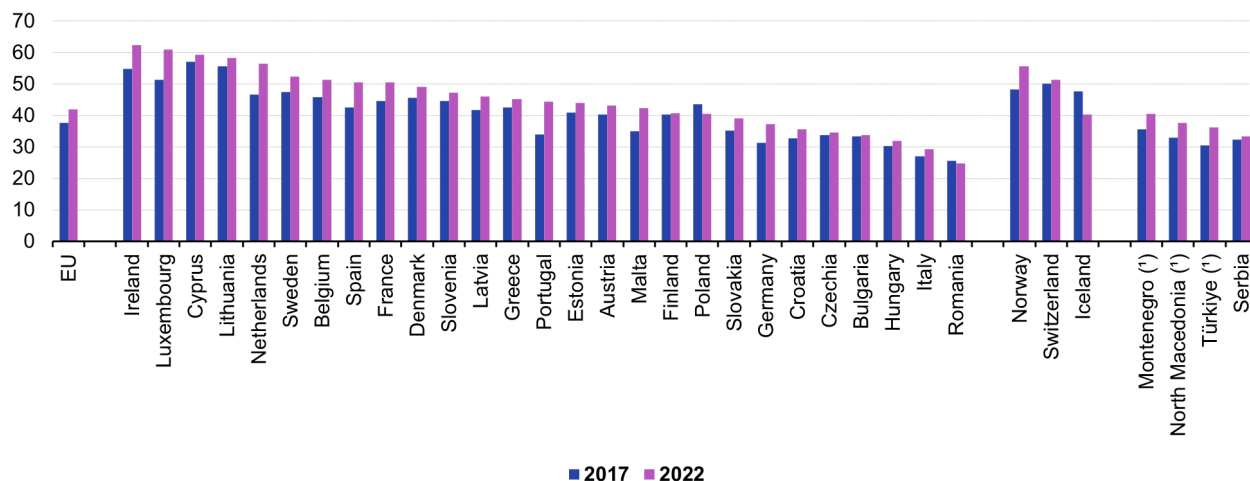


Note: Breaks in time series in 2014 and 2021.
Source: Eurostat (online data code: sdg_04_20)

eurostat

Figure 7: Tertiary educational attainment, by sex, EU, 2002-2022 (% of the population aged 25 to 34) Source: Eurostat (sdg_04_20)

Tertiary educational attainment, by country, 2017 and 2022 (% of population aged 25 to 34)



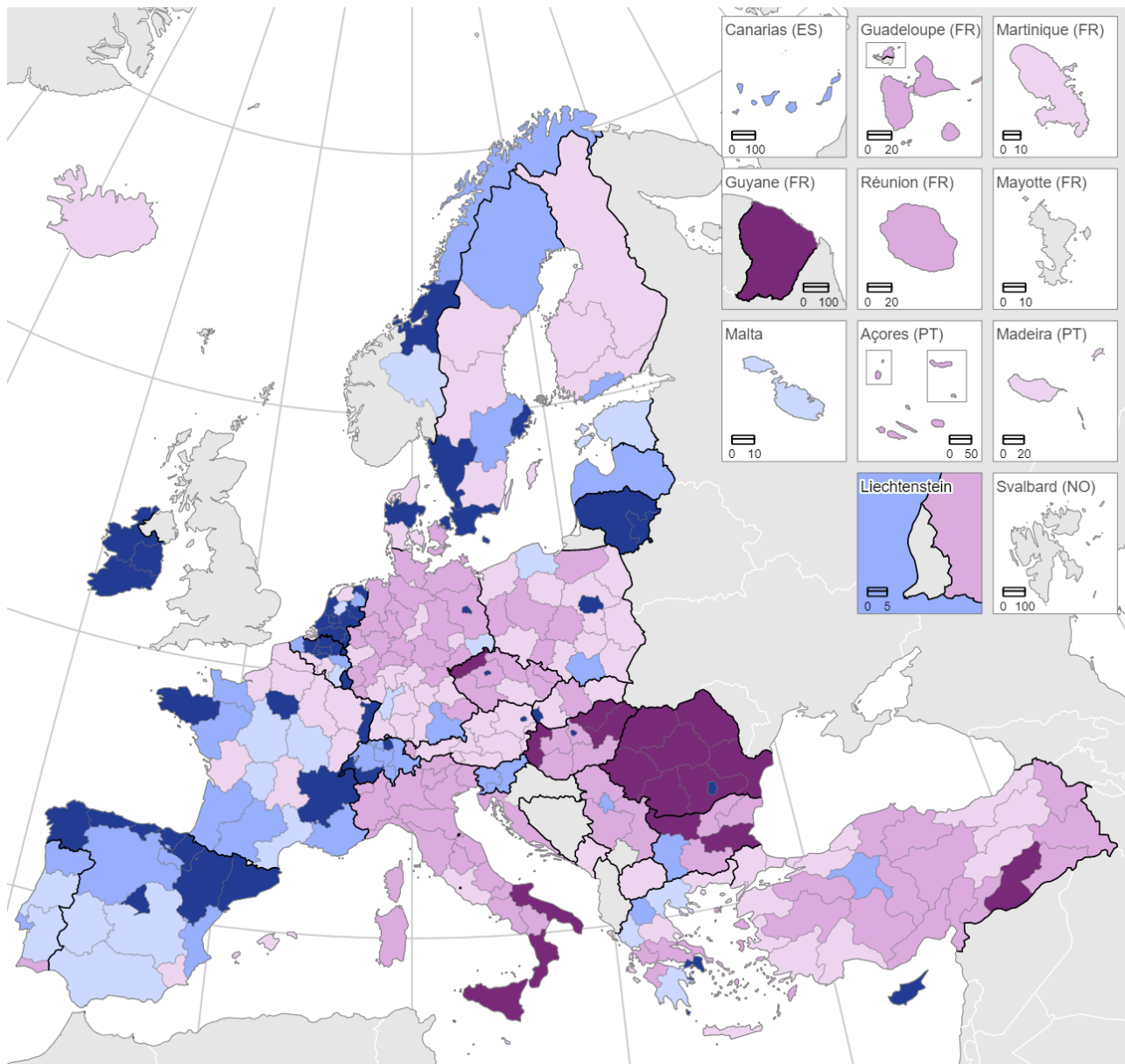
Note: Break in time series in 2021 for all countries.
(1) 2020 data (instead of 2022).
Source: Eurostat (online data code: sdg_04_20)

eurostat

Figure 8: Tertiary educational attainment, by country, 2017 and 2022 (% of the population aged 25 to 34) Source: Eurostat (sdg_04_20)

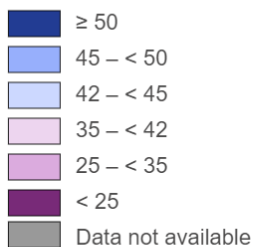
Tertiary educational attainment, by NUTS 2 region, 2022

(% of population aged 25-34)



EU = 42.0

Administrative boundaries: © EuroGeographics © UN-FAO © Turkstat
Cartography: Eurostat – IMAGE, 05/2023



Note: 2020 data for Corse (FR) as well as for all regions in Montenegro, North Macedonia and Turkey.
Source: Eurostat (online data code: EDAT_LFSE_04)

Map 1: Tertiary educational attainment, by NUTS 2 region, 2022 (% of population aged 25 to 34) Source: Eurostat (edat_lfse_04)

LONG TERM
2007–2022



SHORT TERM
2017–2022

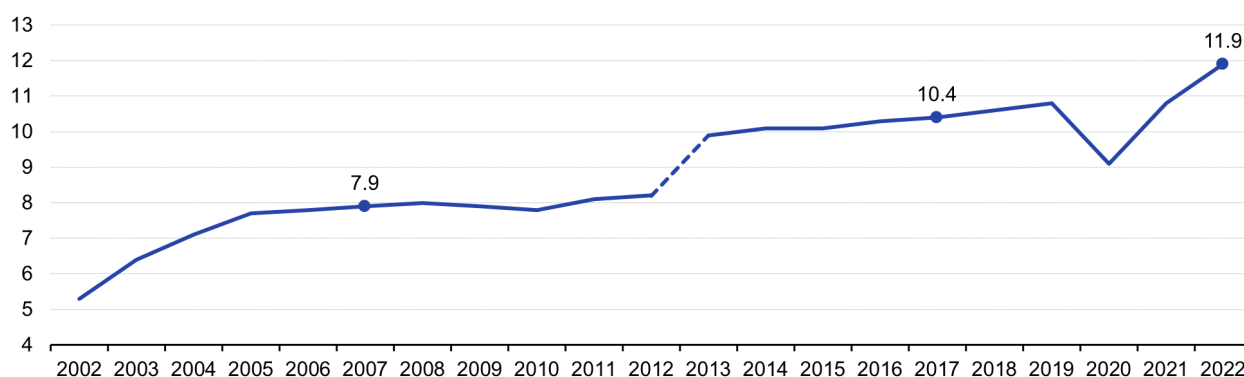


Adult participation in learning refers to people aged 25 to 64 who stated they received formal or non-formal education and training in the four weeks preceding the survey (numerator). The denominator consists of the total population of the same age group, excluding those who did not answer the question 'participation in education and training'. Adult learning covers formal and non-formal learning activities — both general and vocational — undertaken by those aged 25–64¹⁰. Data stem from the EU [Labour Force Survey \(EU-LFS\)](#) .

¹⁰The general definition of adult learning covers formal, non-formal and informal training but the indicator adult participation in learning only covers formal and non-formal education and training. For more information, see: Eurostat, [Participation in education and training](#) .

Adult participation in learning in the past four weeks, EU, 2002-2022

(% of population aged 25 to 64)



Note: Breaks in time series in 2003, 2006, 2013 and 2021.

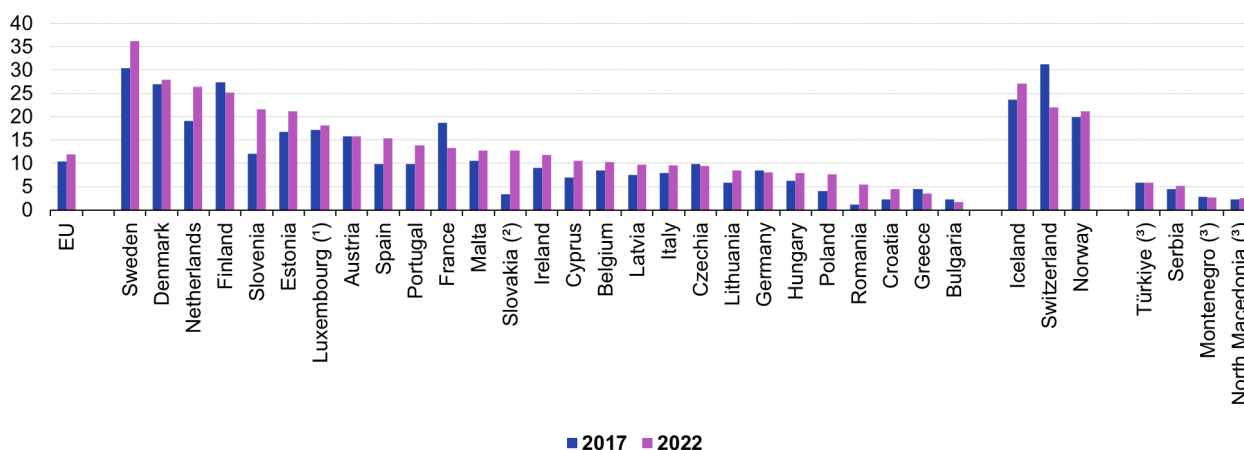
Source: Eurostat (online data code: sdg_04_60)

eurostat

Figure 9: Adult participation learning, EU, 2002-2022 (% of population aged 25 to 64) Source: Eurostat (sdg_04_60)

Adult participation in learning in the past four weeks, by country, 2017 and 2022

(% of population aged 25 to 64)



Note: Break in time series in 2021 for all countries.

(¹) 2022 data have lower reliability.

(²) Break in time series in 2022.

(³) 2020 data (instead of 2022).

Source: Eurostat (online data code: sdg_04_60)

eurostat

Figure 10: Adult participation in learning, by country, 2017 and 2022 (% of population aged 25 to 64) Source: Eurostat (sdg_04_60)

Share of adults having at least basic digital skills

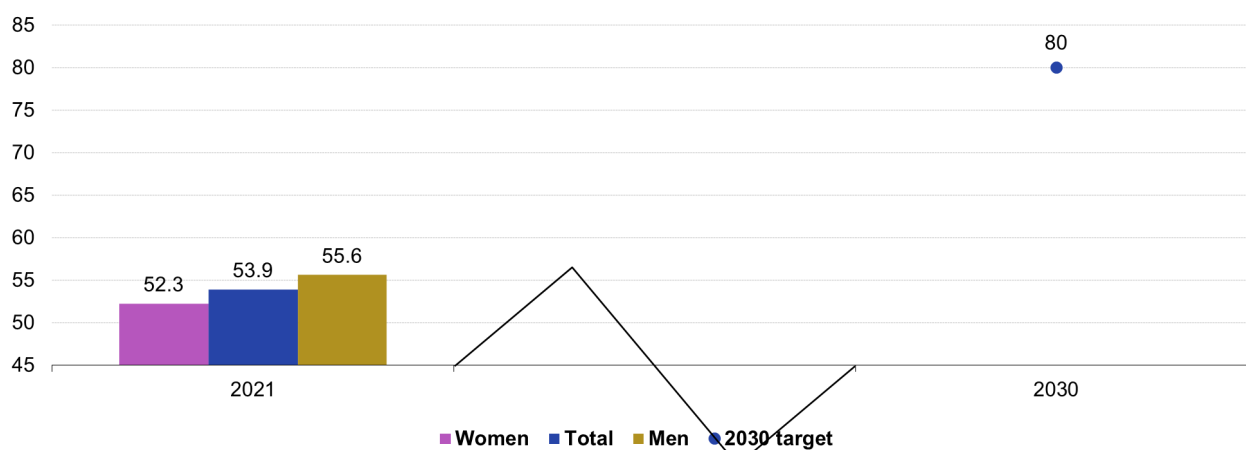
X

Assessment not possible due to break in time series in 2021

This indicator measures the share of people aged 16 to 74 who have at least basic digital skills. It is a composite indicator based on selected activities performed by individuals on the internet in specific areas: information and data literacy, communication and collaboration, digital content creation, safety and problem solving. The indicator assesses digital skills classified into six levels, of which the two highest constitute the basic or above basic level of digital skills. The indicator is based on data from the EU survey on the use of ICT in households and by individuals.

Share of adults having at least basic digital skills, by sex, EU, 2021

(% of individuals aged 16 to 74)



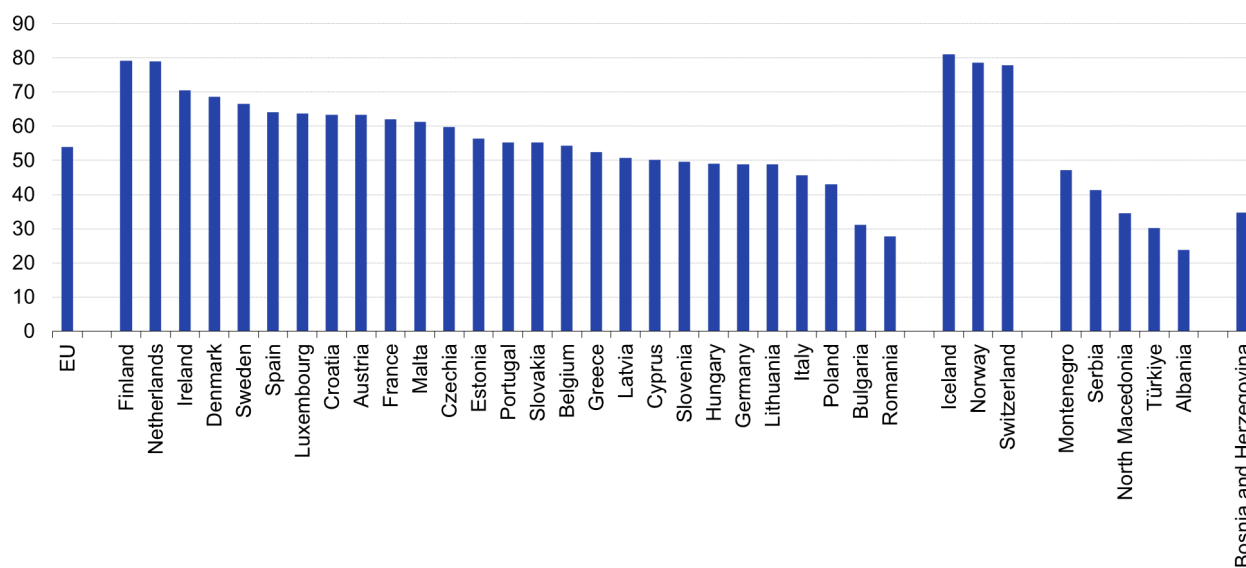
Source: Eurostat (online data code: sdg_04_70)

eurostat

Figure 11: Share of adults having at least basic digital skills, by sex, EU, 2021 (% of individuals aged 16 to 74) Source: Eurostat (sdg_04_70)

Share of adults having at least basic digital skills, by country, 2021

(% of individuals aged 16 to 74)



Source: Eurostat (online data code: sdg_04_70)

eurostat

Figure 12: Share of adults having at least basic digital skills, by country, 2021 (% of individuals aged 16 to 74) Source: Eurostat (sdg_04_70)

See also

- [All articles on sustainable development goals](#)

Database

- [Sustainable development indicators](#)

Dedicated section

- [Sustainable development indicators](#)

Methodology

More detailed information on EU SDG indicators for monitoring of progress towards the UN Sustainable Development Goals (SDGs), such as indicator relevance, definitions, methodological notes, background and potential linkages, can be found in the [introduction](#) of the publication '[Sustainable development in the European Union — Monitoring report on progress towards the SDGs in an EU context — 2023 edition](#)' .

Publications

Further reading on quality education

- [European Commission \(2022\), Education and Training Monitor 2022, Publications Office of the European Union, Luxembourg.](#)
- [European Commission \(2019\), PISA 2018 and the EU. Striving for social fairness through education, Publications Office of the European Union, Luxembourg.](#)
- [OECD \(2019\), Skills Matter: Skills Matter: Additional Results from the Survey of Adult Skills, OECD Skills Studies, OECD Publishing, Paris.](#)
- [OECD \(2022\), Education at a Glance 2022: OECD Indicators, OECD Publishing, Paris.](#)
- [UNESCO \(2018\), Handbook on Measuring Equity in Education, Montreal.](#)

External links

Further data sources on quality education

- [OECD, Data on Education.](#)
- [UNESCO, Data for the Sustainable Development Goals.](#)