



# Education and Training Monitor 2023

## Comparative report



## DISCLAIMER

This publication is based on SWD(2023)450. The 2023 Education and Training Monitor's comparative report was prepared by the European Commission's Directorate-General for Education, Youth, Sport and Culture, with contributions from the Directorate-General for Employment, Social Affairs and Inclusion. The report is accompanied by 27 country reports, as well as an online Monitor Toolbox with underlying data, sources, and the teachers' dashboard. Authors are grateful for contributions from the European Education and Culture Executive Agency, the Eurydice network, the Joint Research Centre, Eurostat, the European Centre for the Development of Vocational Training (Cedefop), the European Expert Network on Economics of Education (EENEE), and the Network of Experts working on the Social dimension of Education and Training (NESET). The Education Committee and the Standing Group on Indicators and Benchmarks were consulted during the drafting phase.

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## Foreword

The challenges of the 21st century, from climate change to the impact of Artificial Intelligence, require intense collaboration between the countries of the European Union. Central to this collaboration is improving the access to education and its quality within the European Education Area. Cooperative effort relies on a well-established evidence base, offering a platform for comparative analysis, shared learning, and the exchange of best practices.

At the heart of quality education are our educators: teachers, trainers, and school leaders. Yet, today, the teaching profession faces numerous pressures and is in dire need of both societal reevaluation and recognition.

This year's Education and Training Monitor places a spotlight on the teaching profession, underscoring its critical role in advancing the European Education Area.

To tackle increasing teacher shortages and increase the appeal of the profession, it is imperative that EU education systems recognise and support teachers' roles. This includes measures for recruitment and retention, comprehensive initial training and ongoing professional development, support during early career stages, and the creation of attractive career paths coupled with fair financial rewards. The teachers' dashboard presented with this year's Monitor, is a compass to navigate through these and other aspects of the teaching profession and helping to make it more attractive.

Furthermore, the Monitor evaluates the progress of EU countries towards the quantified targets agreed to shape the European Education Area. We see encouraging trends: young people in Europe are better educated than ever before, early school leaving is on a decline, and higher education participation rates have significantly increased across the EU.

However, challenges remain, particularly for young people from disadvantaged backgrounds who risk leaving the education system unprepared. Continued collective efforts are essential, guided by the pathways to school success, the digital education Council recommendations, and their policy strands.

Support for the teaching profession is also receiving attention through numerous policy initiatives. The Erasmus+ programme with its flagship initiative "Erasmus+ Teacher Academies" is at the heart of this joint work.

The European Commission remains committed to working closely with all relevant parties. I encourage you to join the discussion we are launching with this year's Education and Training Monitor, aiming to design effective and innovative actions together.

**Iliana Ivanova**

European Commissioner for Innovation, Research,  
Culture, Education and Youth



## Executive summary

### The teaching profession

#### **Teacher shortages are an increasing cause of concern.**

A lack of comparable data makes it hard to capture the complex interplay of supply and demand in the teaching profession. And yet, using country-specific evidence, teacher shortages are widely reported and, in some cases, expected to increase. Shortages vary depending on demographics, subject, and geographic area. Prominent examples are understaffed schools in disadvantaged regions, a lack of science, technology, engineering, and mathematics (STEM) teachers, too few language teachers, and a shortage of male teachers at lower education levels. There is also considerable ageing of the teaching workforce in countries such as Greece, Portugal, the Baltic countries, and Hungary. Policy responses tend to be aimed at addressing shortages in specific subjects rather than at addressing geographic imbalances. A few countries are also looking into innovative solutions, such as pooling teachers across schools or organising school timetables differently.

#### **Making teaching more attractive requires a balanced policy approach to both teacher recruitment and retention.**

Assessing the attractiveness of the teaching profession helps to understand inflow and retention rates. EU countries use many policy levers to make a teaching career more attractive. Examples are efforts to alleviate heavy workloads, and the early identification of support and development needs through appraisal exercises. Countries are also working on measures to attract more students into initial teacher training, for instance through scholarship schemes, while at the same time introducing alternative pathways into the profession. Compared to the average salaries of tertiary educated workers, teachers' salaries remain low, and EU countries are looking into solutions, be they across-the-board salary increases or targeted bonuses. Bulgaria, Czechia, Estonia, Lithuania, and Romania have been implementing major salary increases in recent years ranging from 20% to 70%. In short, only a comprehensive and balanced policy approach to both teacher recruitment and retention can do justice to the complex nature of shortages.

### EU-level target areas

#### **Progress on broadening participation in early childhood education and care (ECEC) is stagnating.**

Six EU countries (France, Belgium, Denmark, Ireland, Sweden, and Spain) have reached the EU-level 2030 target of 96% participation of children aged 3 and above in ECEC. But the EU average is stagnating, with the 2021 rate (92.5%) identical to the 2016-17 one. Participation remains low in five EU countries (Greece, Slovakia, Romania, Croatia, and Bulgaria). In many EU countries, the ECEC gap (the amount of time between the end of adequately paid leave and a legal entitlement to ECEC) remains wide. Despite the challenges, EU countries increasingly focus on more than just access and affordability and try to also improve the quality of ECEC. Measures tend to focus on curricula or educational guidelines, minimum qualification levels for core practitioners, and teacher training. Almost all EU countries report severe staff shortages, often with large regional disparities.

## **The two-decade success in bringing down early school leaving rates continues.**

The average proportion of early leavers from education and training keeps going down, from 10.2% in 2019 to 9.6% in 2022. Caution remains warranted however, as progress masks considerable variation between EU education systems. Still, despite the COVID-19 pandemic, the EU remains on a clear trajectory to be able to reach its 2030 target of less than 9% of 18-24-year-olds leaving school without at least upper secondary educational attainment. In terms of the policy response, initial teacher training, continuing professional development and multidisciplinary support teams increasingly work towards diversity and inclusion. A new emphasis on well-being at school is evident in widespread bullying and violence prevention measures, as well as psychosocial support services, although it remains to be seen what evidence there is of the effectiveness of these policy responses.

## **Cross-curricular learning and active participation may help (re)engage people in school education, motivating and supporting the acquisition of basic and digital skills.**

Cross-curricular learning and active participation in decision-making are both heavily promoted in EU countries. However, only 13 education systems have set specific quality criteria for cross-curricular learning in school evaluations and even fewer make sure that students provide input into various quality assurance mechanisms. Cross-curricular learning is also a common approach used in teaching digital skills in the EU, especially in primary education, although it is not the only one. Digital skills are taught using several approaches, often in parallel. Teacher shortages are a major obstacle to the teaching of digital skills, particularly for subjects such as informatics. However, only 13 education systems offer both alternative pathways and retraining schemes for (prospective) informatics teachers at one or more education levels.

## **A closer look at diversity and inclusion in school education acknowledges the many potential aspects of educational disadvantage.**

Prevalent underachievement in basic skills remains a cause for concern across the EU. Having introduced a new EU-level indicator on equity in education in the previous Education and Training Monitor, this year's report takes a closer look at the various sub-components of socio-economic status, as well as the aspects of educational disadvantage that go beyond it. New findings from the Progress in International Reading Literacy Study (PIRLS) 2021 show a clear correlation between reading performance and the number of books at home. First-generation migrants who, like their parents, were born outside the EU are three times more likely to leave school early (23.9%) than young people who, like their parents, were born in the reporting country (8.0%). Furthermore, over 1.3 million displaced children from Ukraine are being hosted across EU countries, with a concerted effort to integrate them into each country's education system.

### **The 2025 EU-level target for work-based learning has been reached, but teacher shortages are particularly severe in vocational education and training (VET).**

In 2022, 60.1% of recent initial VET graduates experienced work-based learning during their education and training, reaching the 2025 EU-level target of at least 60%. Across the EU on average, recent VET graduates who experienced work-based learning during VET were more likely to be employed (82.5% in 2022) than those who had not (71.6%). After a volatile period linked to the COVID-19 pandemic, the employment rate of recent VET graduates (79.7% in 2022) is moving closer to the EU-level target of 82% by 2025. Learning mobility in VET is also recovering from the pandemic but remains considerably below target. Teaching professionals in VET are in high demand, with shortages reported in many countries.

### **The EU-level target for tertiary educational attainment will be reached much earlier than 2030, but equity challenges remain.**

The rate of tertiary educational attainment among 25-34-year-olds continues to increase, from 39.4% in 2019 to 42.0% in 2022, putting the EU well on track to reaching the 2030 target of at least 45%. Considerable progress has been made at EU level, and yet in eight EU countries, fewer than two in five young people have reached the level of tertiary education. There are persistent gender gaps in all EU countries, both in terms of attainment rates and areas of education. Only 18 education systems in the EU currently have strategies aimed at gender equity in higher education, while strategies helping under-represented groups access higher education are slightly more common. Meanwhile, countries continue modernising higher education through, for instance, digitalisation, competence frameworks, and micro-credentials.

### **The proportion of graduates who spend time abroad during their studies remains below 10% in most EU countries.**

The COVID-19 pandemic has resulted in a decline in the proportion of graduates who spend time in another country during their studies, known as credit mobility. In 2021, only six EU countries had over 10% of their bachelor's and master's graduates participate in credit mobility. However, the pandemic is only one of many barriers to mobility in the EU. Despite progress being made since 2011, new evidence shows there is room for improvement in all EU countries. In contrast to the decline in the number of stays abroad, the proportion of graduates completing a full degree in a country other than their country of origin, known as degree mobility, has continued to increase. The many graduates from outside the EU, amounting to 71.0% of all inbound degree mobility, are a testament to the EU's attractiveness as a study destination.

### **Priority groups for strengthened policy action in adult learning are reconfirmed by all the available evidence.**

Data underpinning the targets for adult participation in lifelong learning are not yet available. Nonetheless, all the available evidence shows there are a few salient points that will require more attention from policymakers, particularly in the context of upskilling and reskilling promoted by the European Year of Skills. Action is needed to (re)engage all adults of working age, but particularly adults who are older, less educated, outside the labour force, and living in rural areas. Up-to-date adult learning data will provide new insights into how to steer future reforms.



## Introduction

The Education and Training Monitor is the European Commission's annual report on EU education and training systems, and their progress towards reaching the EU-level targets adopted as part of the [2021 Council Resolution](#) on a strategic framework for European cooperation in education and training towards the European Education Area (EEA)<sup>1</sup>. It comprises this comparative report, 27 [country reports](#) and an online [Monitor Toolbox](#) with the most prominent data and sources used to analyse education and training systems in the EU<sup>2</sup>.

The comparative report looks at the most noticeable differences across EU countries and striking changes over time. It tracks progress towards reaching the seven EU-level targets (Box 1) and complements them with numerous supporting indicators to shed light on context and possible policy levers. The 2023 edition starts off with a special focus on the teaching profession, zooming in on teacher shortages across EU countries, as well as their various efforts to make teaching more attractive. This special focus is a direct response to the [2021 EEA strategic framework Resolution](#) and the [2023 Council Resolution](#) on the EEA<sup>3</sup>.

### Box 1. Seven EU-level targets

EU-level target	Latest EU average		
	Total	Female	Male
1. By 2030, at least 96% of children between 3 years old and the starting age for compulsory primary education should participate in early childhood education and care	92.5% [2021]	92.6% [2021]	92.4% [2021]
2. By 2030, the share of early leavers from education and training should be less than 9%	9.6% [2022]	8.0% [2022]	11.1% [2022]
3. By 2030, the share of low-achieving 15-year-olds in reading, mathematics and science should be less than 15%	Reading: 22.5% [2018]	Reading: 17.5% [2018]	Reading: 27.4% [2018]
	Mathematics: 22.9% [2018]	Mathematics: 22.9% [2018]	Mathematics: 22.8% [2018]
	Science: 22.3% [2018]	Science: 21.2% [2018]	Science: 23.2% [2018]
4. By 2030, the share of low-achieving eighth graders in computer and information literacy should be less than 15%	[*]	[*]	[*]
5. By 2025, the share of recent VET graduates who benefit from exposure to work-based learning during their vocational education and training should be at least 60%	60.1% [2022]	59.3% [2022]	60.8% [2022]
6. By 2030, the share of 25-34-year-olds with tertiary educational attainment should be at least 45%	42.0% [2022]	47.6% [2022]	36.5% [2022]
7. By 2025, at least 47% of adults aged 25-64 should have participated in learning over the previous 12 months	[**]	[**]	[**]

Source: for target 1, Eurostat (UNESCO OECD Eurostat [UOE] joint data collection); for targets 2, 5, 6, and 7, EU Labour Force Survey (LFS); for target 3, OECD (Programme for the International Assessment of Students [PISA]); and for target 4, the International Association for the Evaluation of Educational Achievement [IEA] (International Computer and Information Literacy Study [ICILS]). Note: [\*] an EU average for underachievement in digital skills is not shown due to the limited number of EU countries with available data in ICILS 2018 (ICILS 2022 data, covering 22 EU countries, are expected towards the end of 2024); [\*\*] data underpinning the 2025 EU-level target for adult learning in the preceding 12 months have not yet been made available (chapter 6 uses EU Labour Force Survey data referring to a 4-week window instead, alongside data from the 2016 Adult Education Survey).

1 Referred to in the remainder of this report as the 2021 EEA strategic framework Resolution.

2 The Education and Training Monitor covers all EU education systems. The online Monitor Toolbox also includes the results for the EEA/EFTA and candidate countries whenever data are available.

3 It follows the [last edition's](#) special focus on equity in education, with a new EU-level indicator proposed in the [2022 EEA Progress Report](#).

The comparative report brings together the latest evidence and follows recent European Commission reports on, for instance, COVID-19 learning deficits and investment in education. Firstly, a 2023 [report](#) from the European Network on Economics of Education (EENEE) provides a comprehensive analysis of research done across many European countries between 2020 and 2022 to understand how COVID-19 affected learning outcomes<sup>4</sup>. Overall, the impact of the COVID-19 crisis on learning outcomes was mixed. It ranged from no effect in a few countries and major negative effects in other countries. Countries with advanced levels of digitalisation and more intensive use of ICT in education before the pandemic recorded lesser negative effects. Socio-economically disadvantaged students suffered greater learning losses, raising concerns about the impact of the pandemic on equity in education<sup>5</sup>.

Secondly, a 2023 European Commission [report](#) shows that there are both significant opportunities for investing, as well as difficulties in investing, in the education sector in the pandemic's aftermath. On the one hand, EU countries are receiving considerable support for investment in education and skills is available to EU countries between 2021 and 2026 through the Recovery and Resilience Facility and Cohesion Policy funding<sup>6</sup>. On the other hand, competition for public funding among the various policy sectors is likely to increase, due to the expenditures needed to support the digital and green transitions, and to address the challenges of population ageing.

Addressing all the current economic and social challenges in the EU, including the digital and green transitions and the new geopolitical dimension, will require major public investments in several economic sectors, while keeping public finances under control. This potential competition for funding makes it all the more pressing to improve the overall quality of investment in education. Building on previous work with EU countries, the European Commission launched a [Learning Lab on](#)

[Investing in Quality Education and Training](#) in November 2022 (Box 2).

### Box 2. The Learning Lab on Investing in Quality Education and Training

The Learning Lab on Investing in Quality Education and Training aims to promote a culture of evaluation in education policy and to provide knowledge and resources to identify how to make EU education systems more effective, efficient and equitable. Its activities will cover three main areas:

- capacity building for evaluation methodologies: the Learning Lab proposes training courses on education policy evaluation methodologies to national, regional, and local policymakers and education practitioners.
- collaborative work among EU countries: the Learning Lab created a Community of Practice, where representatives of EU countries and international organisations can discuss their experiences with impact evaluation in education and share good practices.
- analysis and evaluation of education policies: the Learning Lab will analyse education policies, from impact assessments to in-depth analyses of existing research findings. Specific calls under the Horizon Europe programme will support research projects on education policy evaluation.

Supported by the previous edition of the Education and Training Monitor, the [2022 EEA Progress Report](#) reviewed the progress made since 2020 towards establishing the EEA in terms of setting out key EU-level initiatives, mobilising EU funding and technical support for national reforms and investments, stepping up cooperation and co-creation under the strategic framework for European cooperation in education and training, and monitoring trends in the reaching of EU-level targets<sup>7</sup>. The report drew attention to significant structural challenges that

4 Student performance in various subjects, such as reading, mathematics, science, and foreign languages, measured through standardised tests.

5 Research has identified several types of policy interventions to remedy observed learning losses. They focus on compensatory measures for the groups of students whose learning outcomes were most affected by the pandemic, the development of adequate monitoring and policy evaluation systems, and investment in the quality of education.

6 See a 2023 overview of how Cohesion Policy supports education, training, and skills [here](#). It features further information on the available support for 2021-27 under the European Social Fund Plus (ESF+), the European Regional Development Fund (ERDF) and its European Territorial Cooperation strand (Interreg).

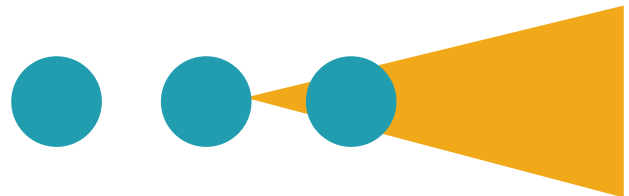
7 The assessment concluded that, in the period leading up to 2025, the focus must be on implementation, ensuring quality investment and the effective absorption of funds for education and training reforms, as well as robust monitoring.

affect most EU education systems<sup>8</sup>. These include educational inequities and teacher shortages across the EU. The 2022 Education and Training Monitor focused on equity (and presented the new EU-level indicator for equity in education) and the 2023 Education and Training Monitor shifts the focus to the teaching profession.

This comparative report has 6 chapters. Chapter 1 focusses on the teaching profession, with an analysis of teacher shortages and the profession's attractiveness. The latter is supported by an online [teachers' dashboard](#),

in which various indicators are brought together for a system-level comparison of 27 EU countries. Chapters 2 to 6 cover the EU-level target areas and mention the teaching profession where relevant. These chapters overlap, so they should not be seen as mutually exclusive<sup>9</sup>.

The Education and Training Monitor's comparative report and country reports are structured the same way and are backed up by the online [Monitor Toolbox](#), with all key sources and data organised by country and theme.



<sup>8</sup> As a follow-up, the European Commission dedicated 2023 to the EEA midterm review, a process of listening, dialogue, and joint reflection with EU countries, EU institutions and the broader education community, to take stock and maintain the momentum and commitment of all key actors to continue working together on achieving and further developing the EEA. In May 2023, the Council adopted a [Resolution on the European Education Area: Looking to 2025 and beyond](#), which proposed to focus on priorities such as improving equity, addressing teacher shortages, and promoting mobility. The 2023 EEA midterm review process provides considerable input into the 2025 EEA evaluation report, that will in turn feed into the preparation of the next stage until 2030, including the Council's review of the strategic framework for European cooperation in education and training.

<sup>9</sup> For instance, school-based initial vocational education and training features the same challenges as included under school education here, whereas the participation of adults in formal learning may involve continuing vocational education and training or higher education.

## Chapter 1. The teaching profession

### 1.1. Teacher shortages across the EU

Teacher shortages are reported in nearly all the 2023 Education and Training Monitor's [country reports](#). A lack of qualified teachers persists across the EU and has been aggravated in the last few years by, among other things, the COVID-19 pandemic. Moreover, in some countries, a dramatic increase in reported teacher shortages is expected in the coming years<sup>10</sup>. Commonly associated with a decline in student performance and educational outcomes, doing something about the lack of a qualified teacher body is high on the EU's agenda<sup>11</sup>.

This chapter starts off by identifying the areas most affected by the shortages, then goes on to discuss the attractiveness of the teaching profession, as a main factor determining inflow, retention rates and outflow. There is currently no comparative indicator for teacher shortages, and there are considerable coverage and comparability challenges to be overcome for a cross-EU indicator to be developed (Box 3). Using the most recent evidence<sup>12</sup>, this chapter examines the severity of teacher shortages according to demographics<sup>13</sup>, geographical area, and subject<sup>14</sup>. Subsequent chapters come back to the overarching theme of the teaching profession and, if relevant, teacher shortages by level of education.



#### Box 3. Monitoring teacher shortages at EU level<sup>15</sup>

Monitoring teacher shortages at EU level meaningfully and reliably is hard. Most EU countries have introduced indicators to measure or even forecast shortages, but methodologies vary, so coverage and comparability remain an issue. Lithuania developed a forecasting tool with EU support, and Italy and Austria have started similar projects under the EU Technical Support Instrument.

Some countries focus on single indicators, such as the number of unfilled vacancies, the pupil-teacher ratio, or enrolment in teacher training programmes. Others combine multiple indicators in a more granular measure, comparing various supply and demand factors. The latter approach may provide a more comprehensive picture, but it is difficult to collect the required data. The challenge of making any of the current national monitoring approaches an EU-level standard is accentuated by the variation in teacher accreditation systems and methodologies adopted by each EU country.

Potential cross-EU comparative indicators could focus on the proportion of unfilled teaching positions at the start of the academic year or on future teacher shortages, composed from the number of available and qualified teachers, the enrolment rate, and the desired pupil-teacher ratio. There are currently no data for such indicators, however.

- 10 See the [2023 report](#) by the European Commission's Joint Research Centre. The report cites the examples of Slovakia, where the lack of teachers is estimated to rise from 1 300 to almost 8 600 in 2025, and the Netherlands, where shortages are expected to top 4 000 teachers for 2023-24, compared to 2 322 for 2019.
- 11 See, for instance, the European Commission's [2022 EEA Progress Report](#) and the [2023 Council Resolution](#).
- 12 This chapter draws on the [2023 report](#) by the European Commission's Joint Research Centre; a [2023 joint analytical report](#) on evidence-based solutions to teacher shortages by the European Expert Network on the Economics of Education (EENE) and the Network of Experts working on the Social dimension of Education and Training (NESSET); and the [2023 special data collection](#) from the Eurydice network in support of the 2023 Education and Training Monitor. The 2023 Education and Training Monitor's [country reports](#) feature more detailed and up-to-date country-specific examples.
- 13 Age and sex are singled out here. A [2016 European Commission study](#) has also highlighted the limited diversity of the EU teaching force in terms of migrant background, especially compared to the increasing diversity of learners. Five EU countries (Denmark, Germany, Ireland, Italy, and Portugal), from a group of 12 with sufficient data, recorded high under-representation of teaching staff from migrant backgrounds, while five other EU countries had medium under-representation (Estonia, the Netherlands, Slovakia, Slovenia, Spain, and Sweden). Only in Hungary and Slovakia was the disparity between the numbers of teachers and students from migrant backgrounds relatively narrow.
- 14 Another significant aspect of teacher shortages is special needs education and students with disabilities. See the [2023 report](#) by the European Commission's Joint Research Centre.

15 See the [2023 report](#) by the European Commission's Joint Research Centre.

An ageing teaching workforce, with high attrition rates, risks creating an imbalance between teachers leaving the profession and those joining it<sup>16</sup>. Figure 1 compares the 2021 proportion of teachers aged 55 and over to its 2016-21 development, singling out the countries with a particularly old and ageing teaching workforce. The problem is the worst in Greece (secondary education) and Portugal (primary and secondary education), but the Baltic countries (particularly secondary education in Latvia and Lithuania) and Hungary also give cause for concern. Finally, Italy stands out, with its proportion of teachers aged 55+ significantly outweighing its proportion of teachers under the age of 30. Overall, the challenge of an ageing profession gets progressively worse from primary to lower secondary to upper secondary education.

A shortage of male teachers is most evident at the lower levels of education (Figure 2). In pre-primary education, the proportion of female teachers tops 90% in all EU countries except the Netherlands (88.1%), and averages 95.5% across the EU. Men are severely under-represented in primary education, with only Denmark recording a proportion of male teachers (31.7%) above 30%. In secondary education, some EU countries come close to having a gender balance. The proportion of female teachers drops below 60% in lower secondary education for two EU countries (the Netherlands and Luxembourg) and six more countries can be added to that list for upper secondary education<sup>17</sup>. Tertiary education is a different story. In some EU countries<sup>18</sup>, female teachers are the majority, although the proportion does not go over 60%. In others<sup>19</sup>, the proportion of female teachers in tertiary education drops below 40%.

Figure 1. The ageing of the teaching profession is most pronounced in Greece, Portugal, the Baltic countries, and Hungary.



Source: Eurostat (UOE) data. [Download data](#) [Monitor Toolbox](#) Note: the 2016-21 change averages the proportion of teachers aged 55+ at the levels of primary, lower secondary and upper secondary education. The bubble size illustrates the ratio between teachers aged 55+ and those aged below 30.

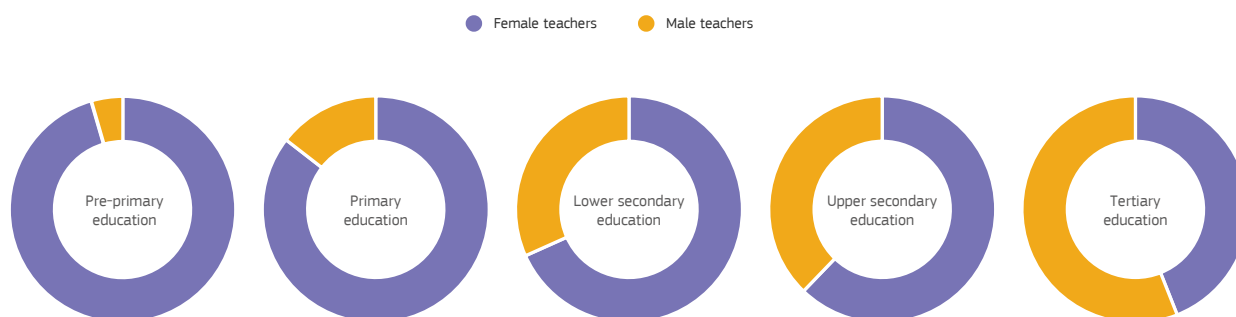
16 The inflow of teachers is determined by the number of graduates from initial teacher training programmes entering the profession and the inflow of entrants from other areas of study.

17 Denmark, Sweden, Austria, Spain, Germany, and Greece. [Monitor Toolbox](#)

18 Lithuania, Latvia, Finland, Romania, Bulgaria, and Croatia. [Monitor Toolbox](#)

19 Luxembourg, Greece, Malta, and Italy. [Monitor Toolbox](#)

Figure 2. **Male teachers are severely under-represented at lower education levels.**



Source: European Commission calculations based on Eurostat (UOE 2021) data. [Download data](#) [Monitor Toolbox](#)

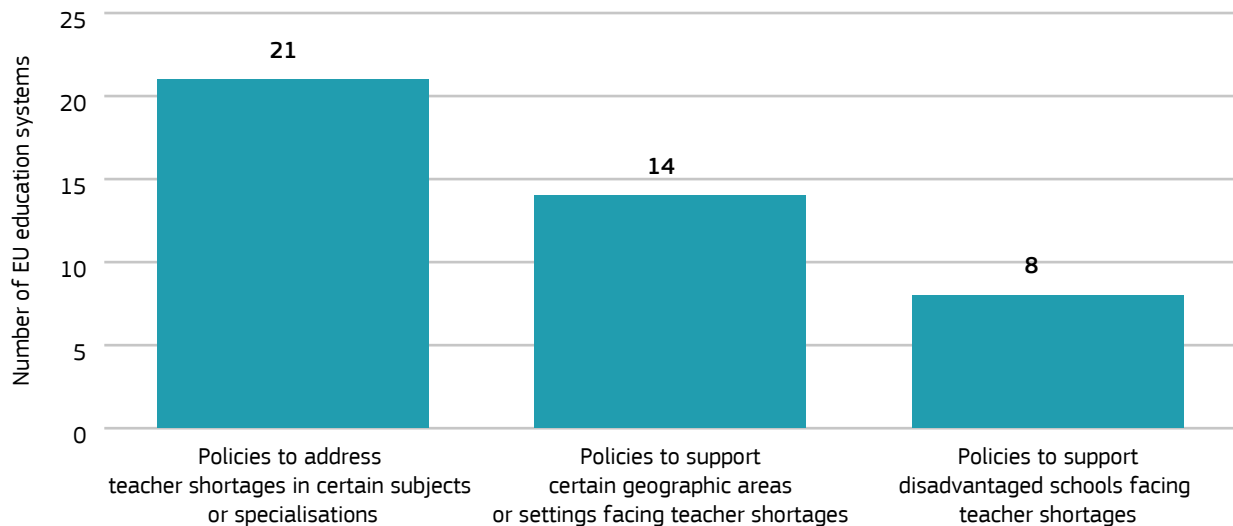
#### Box 4. Examples from the country reports

Some countries are coming up with innovative solutions to address immediate needs due to teacher shortages. In Ireland, a pilot scheme for sharing teachers among schools has been announced. It would give teachers of high-demand subjects such as Irish, mathematics, sciences, and modern languages a full-time teaching contract, but this would be split between more than one school. In the same vein, the new pre-university education law in Romania envisages the possibility of sharing resources, including teachers. For this, school consortia will be established, in which the participation of disadvantaged schools from rural and isolated areas will be encouraged. In the Netherlands, the Ministry of Education allows schools in the 5 biggest cities to experiment with alternative week schedules. Schools may organise education differently one day a week, for instance by inviting professionals from outside school, such as artists, musicians, and technicians, to teach classes for a small part of the curriculum. The French and Flemish Communities of Belgium have piloted platforms and pools of replacement teachers.

Teacher shortages also vary from one subject to another, and are particularly severe in science, technology, engineering, mathematics (STEM)<sup>20</sup>. Several EU countries report a lack of foreign language teachers<sup>21</sup> and native language teachers<sup>22</sup>. It also proves difficult to attract specialist informatics teachers. Specific to informatics is the relatively low number of students obtaining an academic degree<sup>23</sup>, making the initial pool from which teachers are taken small. This situation is exacerbated by the more attractive salaries graduates can earn in industry<sup>24</sup>. Most EU education systems are acting to address shortages in certain subjects or specialisations (Figure 3).

- 20 Most EU education systems report shortages of permanent or temporary STEM teachers, with only a few exceptions. The exceptions are Greece, Italy, Cyprus, Hungary, Portugal, and Romania. See the [2022 Eurydice report](#) on mathematics and science learning in schools (referring to the 2020-21 school year).
- 21 French Community of Belgium and Flemish Community of Belgium, Bulgaria, Czechia, France, Croatia, Latvia, Hungary, Poland, and Portugal. See the [2023 EENEE-NESET report](#).
- 22 Bulgaria, Czechia, Estonia, and Latvia ([2023 EENEE-NESET report](#)).
- 23 Only 4.2% of 2020-21 tertiary graduates are ICT specialists (less than half of the graduates in education). The percentage is particularly low in Italy (1.5%), where there is one ICT graduate per five graduates in education, and below 3% in Portugal (2.5%), Belgium, and Cyprus (2.8%). [Monitor Toolbox](#)
- 24 See the [2022 Eurydice report](#) on informatics education. The European Commission adopted a [2023 proposal for a Council Recommendation](#) on improving the provision of digital skills in education and training, with the purpose of addressing the shortage of specialised teachers on informatics and related digital areas.

Figure 3. Policies to address teacher shortages in specific subjects are more frequently reported than policies to address geographical imbalances.



Source: Eurydice 2023. [Download data](#) [Monitor Toolbox](#) Note: the figure adds up EU education systems recording the existence of policies. There are 29 systems surveyed in total, with all three Communities in Belgium recorded separately.

An unequal distribution of teachers has also been reported across geographic areas or different types of schools, with schools in disadvantaged areas finding it harder to recruit and retain teachers<sup>25</sup>. In 2023, 14 education systems have measures in place to address the geographical challenge<sup>26</sup> and eight systems<sup>27</sup> have set up measures for disadvantaged schools (Figure 3).

### In a nutshell

A lack of comparable data makes it hard to capture the complex interplay of supply and demand in the teaching profession. And yet, using country-specific evidence, teacher shortages are widely reported and, in some cases, expected to increase. Shortages vary depending on demographics, subject, and geographic area. Prominent examples are understaffed schools in disadvantaged regions, a lack of science, technology, engineering, and mathematics (STEM) teachers, too few language teachers, and a shortage of male teachers at lower education levels. There is also considerable ageing of the teaching workforce in countries such as Greece, Portugal, the Baltic countries, and Hungary. Policy responses tend to be aimed at addressing shortages in specific subjects rather than at addressing geographic imbalances. A few countries are also looking into innovative solutions, such as pooling teachers across schools or organising school timetables differently.

- 25 Teacher shortages may not concern equally all schools within a country. Schools in big cities, disadvantaged neighbourhoods, remote or rural areas, or where most residents speak a different language, can face more difficulties to attract and retain teachers. See the [2023 Eurydice report](#).
- 26 French Community of Belgium, Flemish Community of Belgium, Czechia, Germany, Estonia, Ireland, Greece, Spain, Croatia, Lithuania, Hungary, the Netherlands, Romania, and Finland. See the [2023 Eurydice report](#).
- 27 Bulgaria, Czechia, Germany, Spain, France, Hungary, the Netherlands, and Sweden ([2023 Eurydice report](#)).

## 1.2. The attractiveness of the teaching profession

This section is supported by an online teachers' dashboard in the [Monitor Toolbox](#). The development of the dashboard is described in Box 6.

### 1.2.1. Motivation

High workloads and long hours are reasons teachers leave the profession<sup>28</sup>. A workload reduction may make it necessary to recruit additional staff, such as (non-) teaching staff or support teachers<sup>29</sup>, to safeguard students' learning time, and maintain the quality of education. Many EU countries have invested in (non-) teaching assistants and support teachers<sup>30</sup>. In terms of allocation, only 50.2% of lower secondary teachers' workload is spent on teaching in the classroom, with teachers in Finland (62.1%) and Latvia (59.8%) spending a significantly higher proportion in the classroom than teachers in Sweden (43.9%)<sup>31</sup>.

On the positive side, perceived teacher autonomy in the classroom is high across EU countries, all scoring within a 6 percentage point deviation from the high EU average of 90.8%<sup>32</sup>. Somewhat lower percentages of teachers (75.8% on average) feel they can participate in school decision-making<sup>33</sup>. This degree of collegial leadership ranges from countries such as Belgium (68.4%) to Bulgaria (89.0%).

Perceived societal appreciation of teachers scores significantly lower, with only 17.7% of teachers across EU countries reporting that their profession is valued<sup>34</sup>. Teachers from France (6.6%), Slovenia (5.6%) and Slovakia (4.5%) report much lower scores. Reasons for the decreasing social status may include the changing working conditions as well as negative media coverage of teachers and education as a whole<sup>35</sup>. It is also reflected in the fact that, compared to average tertiary-educated workers, teachers' salaries are 10.5% lower across the EU (Figure 4)<sup>36</sup>. Several countries have implemented major salary increases in recent years (Box 5).

28 See the [2023 EENEE-NESET report](#). In turn, with fewer teachers to divide the work, a higher workload is also one of the consequences of teacher shortages.

29 (Non-)teaching support staff include teacher training students, special education teachers and social workers, who could take over some of the teaching duties, such as additional supervision during non-instructional periods, preparation of the learning environment, administrative tasks, and closer supervision of students with special educational needs.

30 For example, the Flemish Community of Belgium, Bulgaria, Ireland, and Lithuania, as reported in the [2023 EENEE-NESET report](#).

31 TALIS 2018 data. [Monitor Toolbox](#) [Teachers' dashboard](#) The OECD's [Education at a Glance 2022](#) has more recent results for upper secondary teachers in 14 EU countries, ranging from 33.8% in Poland to 63.0% in Latvia.

32 TALIS 2018 data. [Monitor Toolbox](#) [Teachers' dashboard](#)

33 TALIS 2018 data. [Monitor Toolbox](#) [Teachers' dashboard](#)

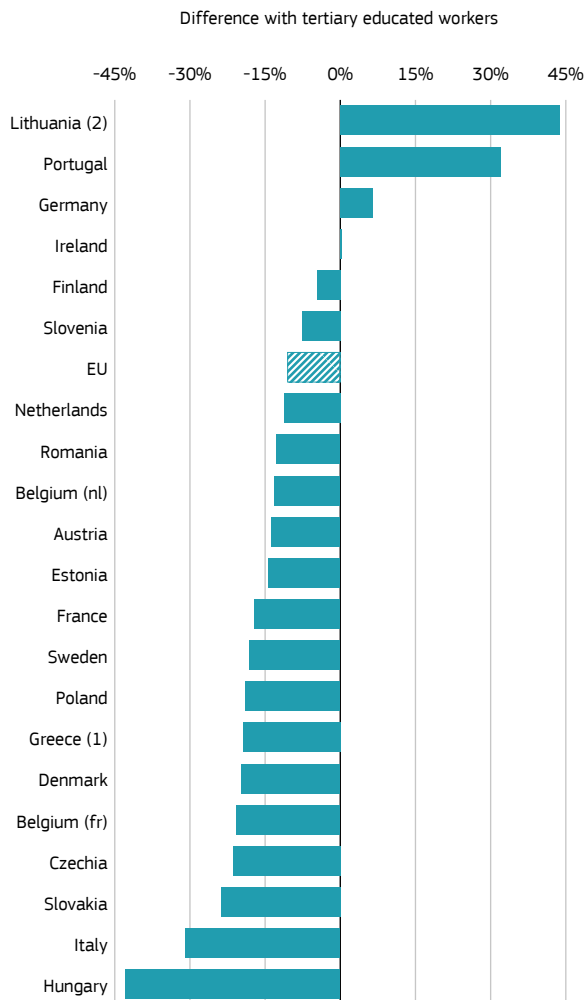
34 TALIS 2018 data. [Monitor Toolbox](#) [Teachers' dashboard](#)

35 According to the [2023 Eurydice report](#), the German-speaking and Flemish Communities of Belgium, Czechia, Germany, Ireland, France, Luxembourg, the Netherlands and Austria have all started dedicated communication campaigns to contribute to improving recognition for the profession. However, the [2023 EENEE-NESET report](#) emphasises that, while such campaigns may represent a low-cost option to change perceptions of careers in teaching, their effectiveness so far remains unclear.

36 An across-the-board salary increase seems to be the best way of attracting students into initial teacher training programmes, with the added advantage of increasing the profession's social status and signalling the value that societies attach to education. The [2023 EENEE-NESET report](#), however, also identifies an across-the-board salary increase as one of the most expensive measures available to policymakers. The [2023 Eurydice report](#) mentions Czechia, Estonia, France, and the Netherlands with recent measures including pay rises aimed at making teacher salaries more competitive. Countries can also consider, with greater cost-effectiveness, targeted financial incentives, such as bonuses or salary increases for teachers who meet specific criteria, like working in high-needs areas or teaching certain subjects. The [2023 Eurydice report](#) includes a number of examples. The Flemish Community of Belgium changed legislation to allow retired teachers to earn an unlimited amount of extra income upon return to their profession. Spain can offer special benefits to teachers who accept a position in rural and remote areas. In Croatia, teachers in areas of special state concern receive a higher salary. In Hungary, teachers in schools in socioeconomically disadvantaged areas receive a higher salary. Estonia and France provide additional financial support for starting teachers. Estonia pays higher salaries to teachers in schools in Russian-speaking areas. In the Netherlands and Sweden, disadvantaged schools receive special financial bonuses that can be transferred to their teachers.



Figure 4. Teachers' salaries are almost 11% lower than those of average tertiary-educated workers.



Source: OECD (Education at a Glance 2023).

[Download data](#) [Monitor Toolbox](#) [Teachers' dashboard](#) Note: the indicator captures the actual salaries (including bonuses and allowances) of full-time lower secondary (general) teachers in public institutions relative to earnings of full-time, full-year workers aged 25-64 with tertiary educational attainment; the reference year is 2022 in all countries except Czechia, Slovakia, Slovenia, and Sweden (2021) and France (2020); (1) refers to all teachers, including vocational education, adult education, and special needs education; (2) includes unqualified teachers; countries are shown in descending order according to the difference with tertiary educated workers; data are not available for Bulgaria, Spain, Croatia, Cyprus, Latvia, Luxembourg, and Malta.

### Box 5. Examples from the country reports

To make the teaching profession more attractive, a number of EU countries have engaged in major salary increases and some have set targets for teachers' salaries in comparison to the national average wage. This is the case, for example, for Lithuania (130%), Czechia (130%), Bulgaria (125%), and Estonia (120%). In Bulgaria, starting salaries have more than doubled since 2017. In Lithuania, teachers' salaries have gone up by 70% since 2019, and in Latvia by 59% since 2016. The raise has been between 20% and 30% in Czechia, Estonia, and Romania in recent years. Nevertheless, real increases have been lower in all countries due to inflation, and remain below the salaries of other tertiary graduates across the EU. Some EU countries have introduced other financial incentives for teachers working in schools with a lot of disadvantaged students (see also Section 3.3). For instance, the Netherlands has launched a 'labour market allowance' (*arbeidsmarkttoelage*) for teachers who teach at disadvantaged schools. In Sweden, schools can receive extra grants to reward excellence or the teaching of disadvantaged children.

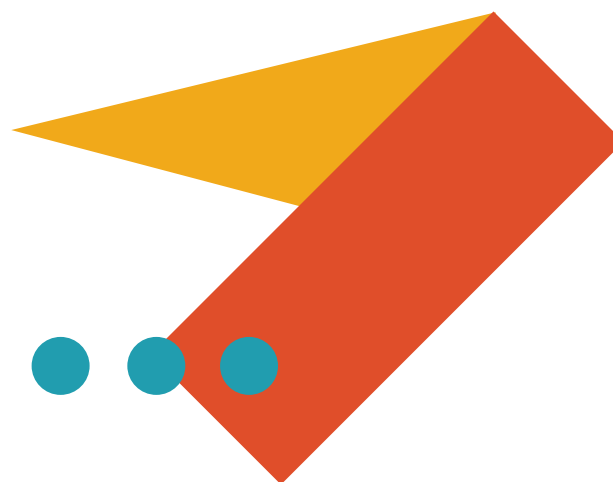
Finally, linking career progression to a formal feedback process such as appraisal may give teachers a sense of agency and ownership. Indeed, career progression, besides being an automatic process after a given number of years' service, is increasingly being linked to the assessment of a teacher's performance<sup>37</sup>. In 15 EU education systems, regulations (or collective agreements) create links between teacher appraisal and the decision on promotion to positions with special responsibilities or a higher career level<sup>38</sup>. Appraisal is linked to salary progression in 6 systems<sup>39</sup> and to allowances in 12<sup>40</sup>. There are only five EU countries where no financial incentives or promotion are linked to appraisal: Belgium (all three Communities), Denmark, Estonia, Ireland, and Luxembourg.

- 37 See the [2023 Eurydice report](#). A link between appraisal and career progression can improve teachers' professional development, motivation, and performance.
- 38 Bulgaria, Germany, Greece, Spain, France, Croatia, Cyprus, Latvia, Lithuania, Hungary, Poland, Portugal, Romania, Slovenia and Sweden ([2023 Eurydice report](#)). [Monitor Toolbox](#) [Teachers' dashboard](#)
- 39 France, Malta, the Netherlands, Portugal, Slovenia, and Sweden ([2023 Eurydice report](#)). [Monitor Toolbox](#) [Teachers' dashboard](#)
- 40 Bulgaria, Czechia, Spain, Italy, Latvia, Hungary, the Netherlands, Austria, Poland, Slovenia, Slovakia, and Finland ([2023 Eurydice report](#)). [Monitor Toolbox](#) [Teachers' dashboard](#)

### 1.2.2. Abilities

Teacher certification systems usually require prospective teachers to graduate from an approved initial teacher training programme<sup>41</sup>. EU countries are adopting different types of measures to attract more students into initial teacher training programmes. An increase in capacity<sup>42</sup> or the quality and duration of professional training<sup>43</sup> are among the measures being implemented to make initial teacher training more attractive. Evidence suggests that school placements and professional training, which most initial teacher training systems across the EU include<sup>44</sup>, decreases the likelihood of dropout from initial teacher training.

High levels of support<sup>45</sup> help to keep students in initial teacher training and novice teachers in the profession<sup>46</sup>. Early career support is widespread across the EU. Most education systems have a compulsory induction phase, while in Estonia, Slovenia, and Finland, it is recommended<sup>47</sup>. Mentoring support is provided on a compulsory basis to all newly qualified teachers in almost all education systems where induction is regulated<sup>48</sup>. However, despite the mandatory nature of mentoring, its uptake in some education systems remains low. On entering the profession, 19% of novice teachers across EU countries reported having an assigned mentor in 2018, ranging from 5.1% in Italy to 40.8% in the Netherlands<sup>49</sup>.



41 Initial teacher training programmes are the first step in a teacher's career, and are often seen as the traditional pathway, compared to alternative pathways into the teaching profession (see Section 1.2.3). Initial teacher training aims to provide prospective teachers with core professional skills and to develop the attitudes needed for their future role and responsibilities. In a [2018 Eurydice report](#), a large majority of EU countries reported using teacher competence frameworks to define learning outcomes expected by the end of initial teacher training. Section 3.1 features more (recent) evidence in relation to teacher competence frameworks in both initial teacher training and continuing professional development, both in the context of tackling early school leaving.

42 Bulgaria, Germany, Ireland, and Sweden ([2023 Eurydice report](#)).

43 The Flemish Community of Belgium, Czechia, Denmark, France, Romania, and Sweden ([2023 Eurydice report](#)). [Monitor Toolbox Teachers' dashboard](#). According to the [2023 Eurydice report](#), other measures include special scholarships for initial teacher training (Bulgaria, Estonia, Lithuania, Hungary) and increased flexibility in terms of timing (Flemish Community of Belgium, Estonia, Malta) or content (the Netherlands). According to a [2018 Eurydice report](#), 21 EU education systems had a framework in place defining learning outcomes in initial teacher training.

44 See a [2021 Eurydice report](#) on teachers in Europe. [Monitor Toolbox Teachers' dashboard](#)

45 Here, support comes from tutors, higher education institution staff and school mentors.

46 The [2023 EENEE-NESET report](#) suggests that introducing induction, support, and mentoring programs of at least two years can enhance the retention rates of new teachers and improve the performance of both teachers and students. A supportive growth environment proves to be effective by fostering a collaborative working culture, expanding induction, support, and mentoring programs, ensuring continuing professional development, and developing strong school leadership.

47 See the [2018 Eurydice report](#) on teaching careers in Europe.

48 See the [2021 Eurydice report](#) on teachers in Europe.

49 TALIS 2018 data. [Monitor Toolbox Teachers' dashboard](#)

## Box 6. The conceptual framework for looking at the attractiveness of the teaching profession

As a direct response to the 2021 EEA strategic framework Resolution, the European Commission, in cooperation with the Standing Group on Indicators and Benchmarks (SGIB), developed a brand-new indicator dashboard as a means to support EU countries' debates on the teaching profession. The dashboard is an interactive, online tool that can be found in the [Monitor Toolbox](#). Its primary purpose is to offer a broad comparison of enabling factors and potential policy levers in school education, thereby helping policymakers and stakeholders to identify and contextualise system-wide challenges and needs.

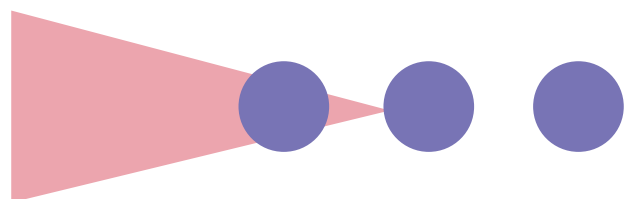
The dashboard's conceptual framework takes inspiration from a 2020 European Commission report<sup>50</sup> that was the product of a discussion on teacher and school leader careers for over 18 months. The conceptual framework<sup>51</sup> is built around the concepts of motivation, abilities and opportunities, each with a number of actionable and policy-relevant indicator domains (Figure 5). Looking at aspects that affect teachers' motivation, ownership over one's career comes into view, but also matters such as a sense of control in the classroom, collegial leadership and the value society attaches to teachers. Indicator domains for abilities focus on how prepared teachers are for their career, whether they receive the right training at the right time and whether they can fall back on support networks. Finally, for opportunities, indicator domains give an indication of how accessible, flexible, and open teachers' careers are.

Figure 5. The conceptual framework as based on a 2020 European Commission report.

Motivation – Agency, recognition, and reward					
Actual teaching time	Perceived autonomy	Collegial leadership	Societal appreciation	Competitive salary	Ownership over career progression
Abilities – Preparedness, training, and support					
On-the-job training in initial teacher training	Mentoring	Competence frameworks	Quality assurance in continuing professional development	Identifying development needs	Identifying support needs
Opportunities – Accessibility, permeability, and adaptability					
Pathways to becoming a teacher	Stability	Career diversification	International mobility	Statutory starting salary	Progressive pay range

50 Developed by the Working Group on Schools as part of the previous strategic framework for European cooperation in education and training (ET2020).

51 The conceptual framework can be populated with concrete indicators at (sub-)national or EU level. This chapter, and the online indicator dashboard that underpins it, focus on cross-EU indicators at the level of school education. Avoiding placing additional administrative burdens on EU countries, the indicator dashboard is almost exclusively populated with pre-existing comparative indicators, which are inevitably outdated in some cases.

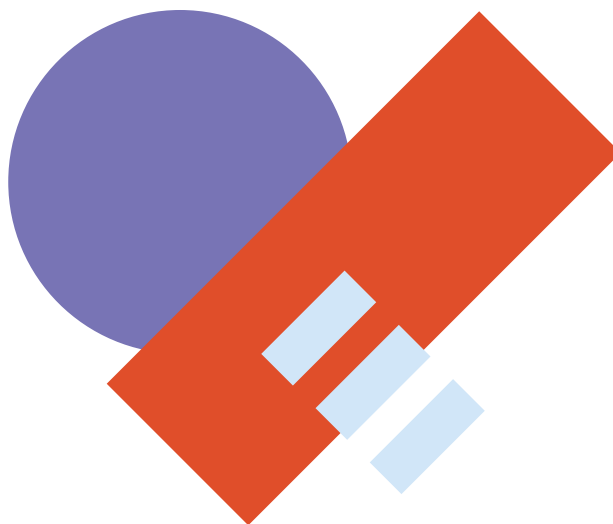


Throughout their career, teachers in most EU countries have a statutory duty to participate in at least one activity of continuing professional development, with high participation rates often reported to be high<sup>52</sup>. Quality control of professional development is done through accreditation in 13 EU countries for primary and lower secondary education<sup>53</sup>. Continuing professional development and professional support are increasingly acknowledged as not just tools to improve the performance of teachers and students. They are a way of improving teachers' job satisfaction, with the potential to reduce their workload and improve teacher retention rates<sup>54</sup>.

A way to ensure that professional development and specialist support<sup>55</sup> are based on actual needs – and that such needs are identified early and often – is to link them to appraisal. Over two thirds of EU education systems<sup>56</sup> use appraisal to discuss teachers' needs and participation in continuing professional development, while 11 of them also use appraisal to decide on access to specialised support<sup>57</sup>.

### 1.2.3. Opportunities

When it comes to entry into the teaching profession, important aspects are the recruitment of non-qualified teachers and opening entry up to alternative paths and certifications<sup>58</sup>. Around two thirds of EU education systems have introduced some alternative pathway into the teaching profession, such as professional-oriented education programmes, employment-based training, or special procedures such as examinations and certifications (Figure 6). In 2018, however, only an estimated 4.4% of EU teachers were reported to have qualified through alternative pathways, leaving traditional initial teacher training as the way most teachers enter the profession<sup>59</sup>.



52 See a [2021 Eurydice report](#).

53 Czechia, Denmark, Ireland, Greece, Spain, France, Italy, Latvia, Lithuania, Luxembourg, Austria, Poland, and Slovakia. All except Denmark have accreditation providers for upper secondary. Data are from the OECD's Education at a Glance 2022. [Monitor Toolbox](#) [Teachers' dashboard](#)

54 See the [2023 EENEE-NESET report](#). The question which types of continuing professional development are most effective still calls for more research. Evidence shows that success factors for professional development activities are a high content focus, active learning, sustained duration, collective participation, coherence, and ownership.

55 For instance, specialists, counsellors, coaches, and mentors.

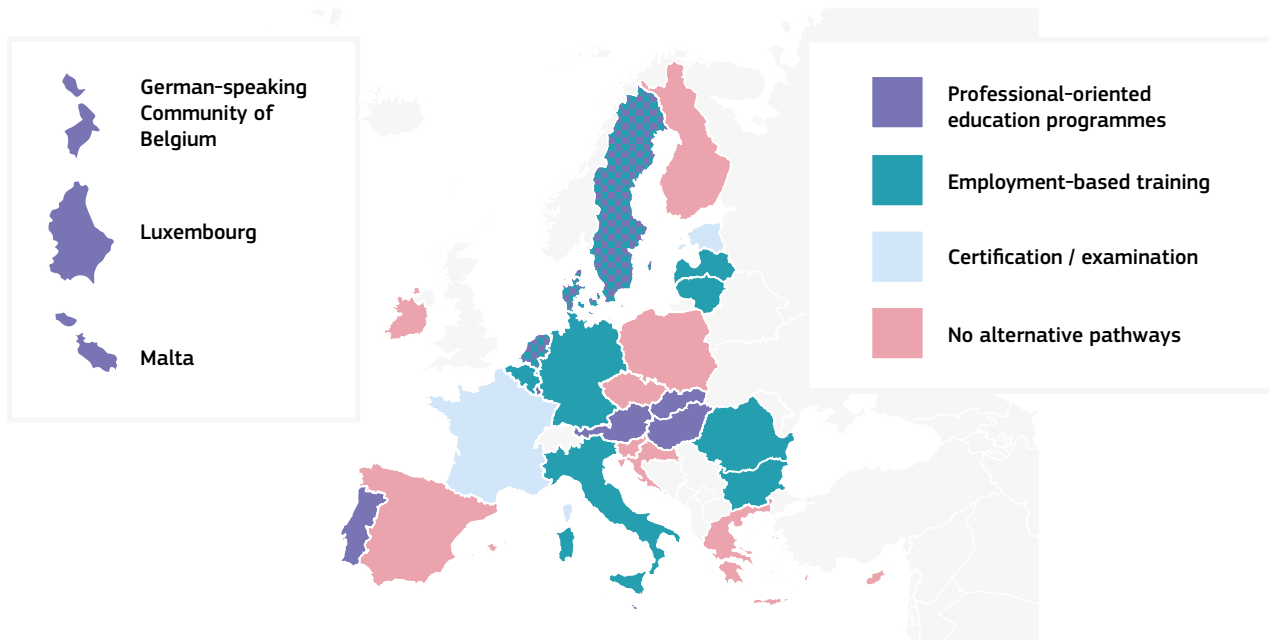
56 French Community of Belgium, Bulgaria, Czechia, Denmark, Estonia, Greece, Spain, France, Croatia, Cyprus, Latvia, Lithuania, Hungary, Malta, Austria, Portugal, Romania, Slovenia, Slovakia, Finland and Sweden ([2023 Eurydice report](#)). [Monitor Toolbox](#) [Teachers' dashboard](#)

57 The French Community of Belgium, Bulgaria, Czechia, Greece, France, Cyprus, Lithuania, Hungary, Malta, Austria and Sweden ([2023 Eurydice report](#)). [Monitor Toolbox](#) [Teachers' dashboard](#)

58 Alternative pathways are ones leading to a teaching qualification in addition to the main initial teacher training programmes, to deal with teacher shortages and attract other graduates or professionals to the teaching profession. According to the [2023 EENEE-NESET report](#), student achievement has not been found to be negatively affected the entry into the profession of people from other professions, which is an endorsement of this measure designed to ensure a greater inflow of potential candidates. However, it should be noted that entrants from other professions are less likely than teachers who have done initial teacher training to stay in the profession.

59 As reported in a [2021 Eurydice report](#) on the basis of TALIS 2018 data.

Figure 6. **Around two thirds of all EU education systems have introduced alternative pathways into the teaching profession.**



Source: Eurydice 2023. [Monitor Toolbox](#) [Teachers' dashboard](#) Note: professional-oriented education programmes usually aim to provide teacher training to university students or graduates in disciplines other than education, to workers in the private sector or to temporary teachers that are not fully qualified.

Across the EU, 82.4% of teachers have permanent contracts, with teachers in Spain (66.6%) and Portugal (73.8%) less likely to be permanent than teachers in Denmark (96.8%) and Latvia (92.9%)<sup>60</sup>. Career diversification is less common, with 15 EU countries adopting a multi-level career structure<sup>61</sup> and 11 a single-level structure<sup>62</sup>. With career advancement opportunities more limited in the latter, an effective policy measure could be to introduce more diversified career structures<sup>63</sup>.

60 TALIS 2018 data. [Monitor Toolbox](#) [Teachers' dashboard](#) Stability, or teachers' perceived job security, while attractive, can make it difficult for young non-permanent teachers to find a stable workplace. The Flemish Community of Belgium has tried to tackle this by giving non-permanent teachers opportunities to replace absent teachers and take on different assignments such as co-teaching, supervision, or support.

61 A multi-level career structure is a career structure with several career levels formally defined by a set of skills and/or responsibilities. Career levels are usually structured in terms of ascending complexity, greater responsibility, and a higher salary. According to a [2021 Eurydice report](#) on teachers in Europe, 15 EU countries have implemented a multi-level career structure: Bulgaria, Estonia, Ireland, France, Croatia, Cyprus, Latvia, Lithuania, Hungary, Malta, Poland, Romania, Slovenia, Slovakia, and Sweden. [Monitor Toolbox](#) [Teachers' dashboard](#)

62 Belgium, Czechia, Denmark, Germany, Greece, Spain, Italy, Luxembourg, Austria, Portugal, and Finland (see the [2021 Eurydice report](#) on teachers in Europe). [Monitor Toolbox](#) [Teachers' dashboard](#)

63 See the [2023 EENEE-NESET report](#). The EEA strategic framework Working Group on Schools has developed a template for a career framework to be used by EU countries. Six countries participated in the National Career Frameworks project to develop and implement national school career frameworks by engaging in peer learning.

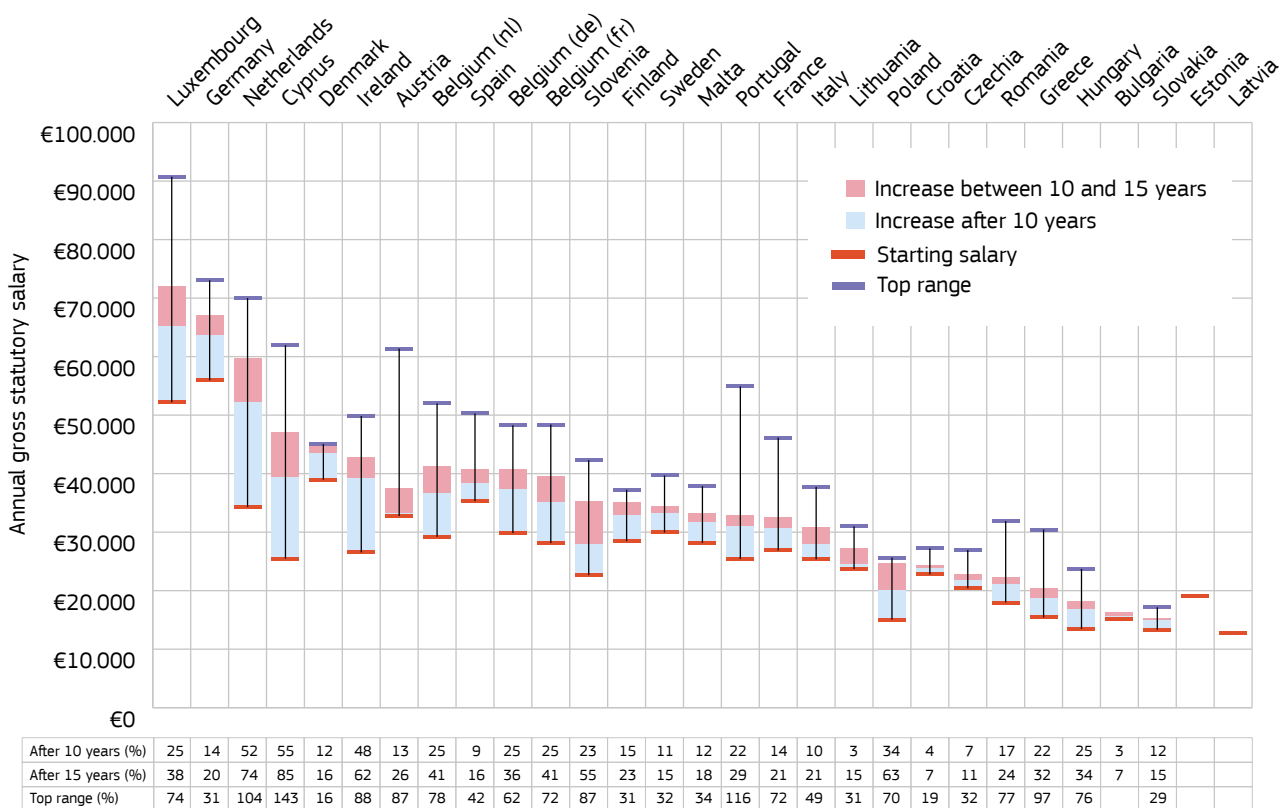
### Box 7. Examples from the country reports

To address teacher shortages, some countries, such as the [Netherlands](#) and [Estonia](#), have adopted comprehensive teacher action plans, covering the various aspects of attractiveness. [Bulgaria](#) is a noteworthy example, where comprehensive measures implemented since 2016 have already delivered some tangible results. Between 2018 and 2022, the number of students in bachelor's programmes in education increased by 25.2%, along with a 40% increase in the relevant master's programmes. Other countries have also done a lot to prevent or address teacher shortages. For instance, the [Flemish Community of Belgium](#) encourages entrants from other professions by recognising up to 10 years of seniority for people from the private sector. [Latvia](#) has introduced new fast-track initiatives for young professionals to obtain teaching qualifications (in particular STEM professionals) and created opportunities for teachers to extend their qualifications to other subjects. Scholarships for students in initial teacher training have been introduced in [Bulgaria](#), [Croatia](#), [Estonia](#), and [Lithuania](#). [Spain](#) aims to reduce the proportion of teachers with non-permanent contracts to 8%. In [Sweden](#), some schools employ teaching assistants to reduce the administrative burden on teachers. [Romania](#) is developing a mentoring programme for novice teachers.

International staff mobility is another way to make a teaching career attractive and flexible<sup>64</sup>. The Erasmus+ programme provides opportunities for teaching staff to participate in mobility activities in EU countries, in other countries associated with the Erasmus+ programme, and, since the new programme began in 2021, third countries not associated with the programme. Erasmus+

mobility has been growing rapidly since 2014, and even rebounded in 2022, despite the major decrease in mobility due to the COVID-19 pandemic, resulting again in growing numbers of mobile teaching staff and educational organisations' growing interest in mobility<sup>65</sup>.

Figure 7. A progressive pay range takes many different shapes and sizes across EU countries.



Source: European Commission calculations based on a [2022 Eurydice report](#), [Download data](#), [Monitor Toolbox](#), [Teachers' dashboard](#). Note: Annual gross statutory salary of full-time fully-qualified lower secondary school teachers, as adjusted for differences in purchasing power. The data table shows all differences relative to the respective statutory starting salary (%) in 2020-21. Countries are shown in descending order according to the salary after 15 years. The [2022 Eurydice report](#) has country-specific notes.

64 In general, modern foreign language teachers are the most mobile of EU teachers. Across the EU, according to TALIS 2018 data, about 70% of modern foreign language teachers had been abroad, most of them for language learning. See the [2023 Eurydice report](#) on language teaching.

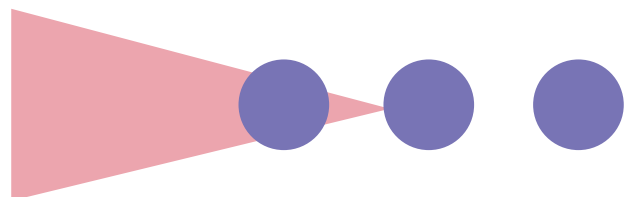
65 Total EU staff mobility to other countries increased from 6 314 in 2014 to 78 129 in 2019, and (after dropping to 18 952 in 2020 and 43 020 in 2021) reached a record 112 930 in 2022. This concerns all staff mobility abroad, combining key action 1 and key action 2 mobilities from the 2014-20 programme and key action 1 mobilities from the 2021-27 programme. [Monitor Toolbox](#), [Teachers' dashboard](#)

Figure 7 shows the progression of annual gross statutory salaries from the starting salary to the top range<sup>66</sup>. Comparing salary progression across EU countries is complex, however, given the stark differences in statutory starting salaries (even when adjusted for differences in purchasing power<sup>67</sup>), the absolute and relative progression from these starting salaries, and the time it takes to get to them. For instance, relative salary progression over a career ranges from 16% in Denmark<sup>68</sup> to 143% in Cyprus, but both countries reach comparable salaries (adjusted for differences in purchasing power) after 15 years<sup>69</sup>.

### In a nutshell

Assessing the attractiveness of the teaching profession helps to understand inflow and retention rates. EU countries use many policy levers to make a teaching career more attractive. Examples are efforts to alleviate heavy workloads, and the early identification of support and development needs through appraisal exercises. Countries are also working on measures to attract more students into initial teacher training, for instance through scholarship schemes, while at the same time introducing alternative pathways into the profession. Compared to the average salaries of tertiary educated workers, teachers' salaries remain low, and EU countries are looking into solutions, be they across-the-board salary increases or targeted bonuses. Bulgaria, Czechia, Estonia, Lithuania, and Romania have been implementing major salary increases in recent years ranging from 20% to 70%. In short, only a comprehensive and balanced policy approach to both teacher recruitment and retention can do justice to the complex nature of shortages.

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- 66 For a recent analysis of teacher salaries and the factors influencing them, see the OECD's [Education at a Glance 2023](#).
- 67 Ranging, for general lower secondary full-time teachers, from almost EUR 13 000 in purchasing power standard (PPS) per year in Latvia, to about EUR 56 000 euro in PPS per year in Germany. In most countries, teacher salaries rise with minimum qualification requirements, so pre-primary teachers earn less, and upper secondary teachers earn more.
- 68 Data from Denmark show the share of centrally defined statutory salaries. However, as stated in its collective agreements, part of the statutory salaries must be decided at local level.
- 69 The average number of years required to reach the salary at the top of the range in general lower secondary education ranges from 12 years in Denmark to 42 in Hungary, and at least 33 years in half of the countries for which data are available.



## Chapter 2. Early childhood education and care

EU-level 2030 target:  
**‘At least 96% of children between 3 years old and the starting age for compulsory primary education should participate in early childhood education and care by 2030.’**

### 2.1. Broadening participation

Broadening the participation of children aged 3 and older in early childhood education and care (ECEC)<sup>70</sup> to near-universal levels increases the likelihood that underprivileged children are included too, for whom a strong start may diminish educational disadvantages in primary and later education<sup>71</sup>. The ambitious EU-level 2030 target of at least a 96% participation rate has now also been adopted as the revised [Barcelona target for 2030](#) for children aged 3 and older (Box 8).

#### Box 8. The Barcelona targets for 2030

The Barcelona targets, first set in 2002 by the European Council, have been revised as part of the broader [European Care Strategy](#). The main objective is to give everyone high-quality, accessible and affordable care. The [2022 Council Recommendation on early childhood education and care](#) sets two new Barcelona targets for 2030, recommending that:

- at least 45%<sup>72</sup> of children under 3 participate in formal childcare<sup>73</sup>;
- at least 96% of children between the age of 3 and the starting age for compulsory primary education participate in ECEC<sup>74</sup>.

The recommendation focuses on qualitative aspects (such as affordability, accessibility, staff-child ratios, group sizes and the territorial distribution of care facilities), but also working conditions of staff. Its main aims are to ensure higher ECEC enrolment, to improve the social and cognitive development of vulnerable children in particular, and to increase parents' labour market participation.



- 70 The OECD gives a recent analysis of ECEC systems around the world, including their staffing and financing, in [Education at a Glance 2023](#).
- 71 The [2021 EU strategy on the rights of the child](#) underlines how enrolment rates for children with disabilities, with a migrant background, and for Roma children are considerably lower. A [2022 report](#) from the Fundamental Rights Agency mentions that only two out of five Roma children (44%) attend ECEC. The EU Roma framework calls on EU countries to narrow the gap between Roma and the general population by at least half for participation in ECEC. That means ensuring that at least 70% of Roma children attend ECEC by 2030.

72 Specific targets apply to EU countries that have yet to reach the 2002 goals. It is recommended that EU countries increase ECEC participation in relation to their respective current participation rates as follows: (1) by at least 90% for EU countries whose participation rate is under 20%; or (2) by at least 45%, or until they reach a participation rate of at least 45%, for EU countries whose current participation rate is between 20% and 33%. The current participation rate is calculated as the 2017-21 average participation rate in ECEC of children under 3.

73 This target is based on data from the EU statistics on income and living conditions (EU-SILC). EU-SILC survey data measure participation in any kind of ECEC, regardless of programme content. Using EU-SILC, it is possible to measure the participation of children both in programmes that are considered educational, and in programmes that are considered to offer only childcare (educational activities may still take place in childcare-only programmes, but they are not intentionally designed to support a child's development with the help of, for example, a curriculum or trained teaching staff). In 2021, seven EU countries reported that national ECEC services for children under 3 could not be considered educational (with programmes designed to support a child's development inexistent for children under 3).

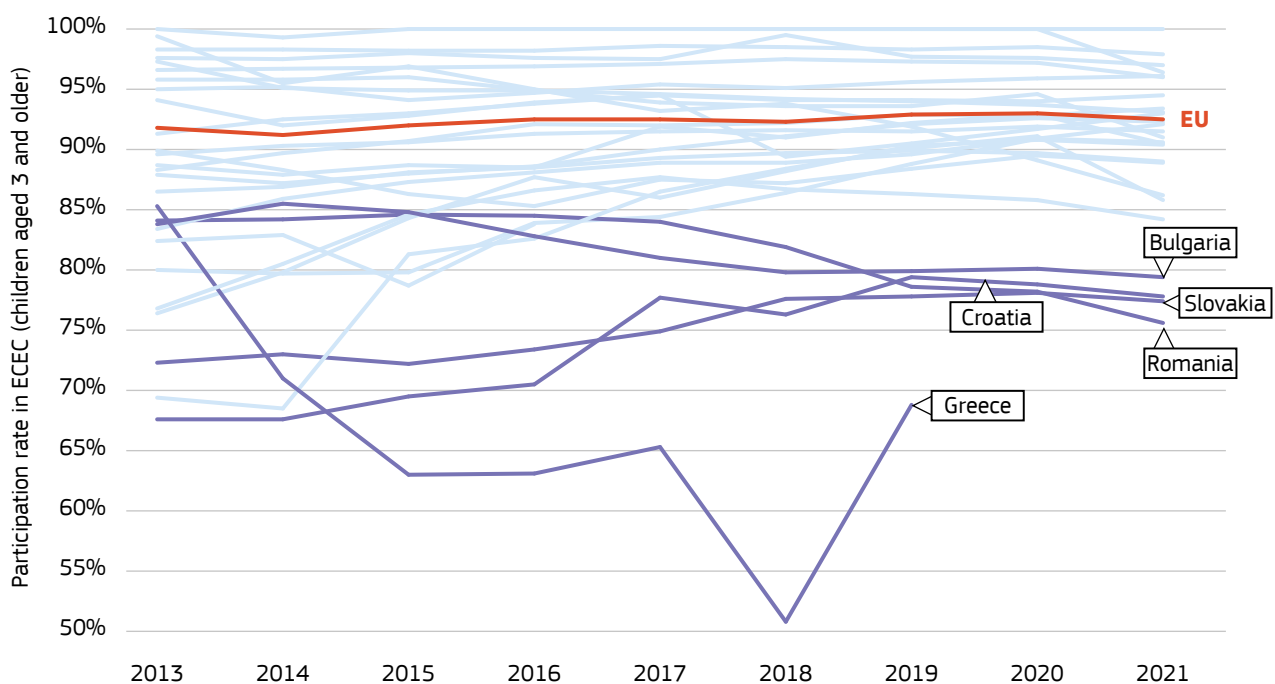
74 This target is identical to the EU-level target for ECEC as part of the [2021 EEA strategic framework Resolution](#), using UOE administrative data. UOE administrative data measure participation in ECEC that is intentionally designed to support children's cognitive, physical, and socio-emotional development and can therefore be classified as educational.



The EU average participation rate was 92.5% in 2021<sup>75</sup>. Most EU countries have stagnated around participation rates above 90%<sup>76</sup>. However, only six EU countries have reached the EU-level 2030 target of 96% or higher, and average EU progress is at a standstill, dropping half a percentage point from 2020. Looking at the 2013-21 trends (Figure 8), five outliers<sup>77</sup> emerge, with rates below 80% in 2021 and insufficient overall progress (Bulgaria, Croatia, Greece, Romania, and Slovakia)<sup>78</sup>.

In some countries, the challenge is to get the youngest children into ECEC. ECEC participation rates among 3-year-olds (2021) are particularly low in Romania (64.1%), Croatia (66.5%), Slovakia (66.6%), Luxembourg (67.9%), and Cyprus (68.2%)<sup>79</sup>. Progress has been made in the case of the youngest children, with countries like Ireland, Cyprus, Lithuania, Poland, and Finland all recording a significant 2013-21 improvement. Nonetheless, the average EU ECEC participation rate of 3-year-olds (at 87.6% in 2021) has remained stable over the last 3 years.

Figure 8. **There are a few exceptions to the high average participation rates in ECEC.**



Source: Eurostat (UOE). [Download data](#) [Monitor Toolbox](#) Note: the age brackets' upper limits are defined by each country's [starting age for compulsory primary education](#). Breaks in series for France (2014), Belgium (2017) and Luxembourg (2017). Data for Greece lack full coverage. In Ireland, while compulsory education starts at age 6, many 4-5-year-olds are enrolled at the level of primary education rather than in early childhood settings. The total enrolment of children aged 3 and above is used to derive participation rates regardless of the level of education that they are enrolled in.

75 About two thirds concern public institutions (66.1%) and one third private institutions (33.9%). [Monitor Toolbox](#)

76 ECEC participation rates above 90% are found across 17 EU countries. [Monitor Toolbox](#)

77 Malta's ECEC participation rates are also worth mentioning, with the biggest 2013-21 drop, albeit still well above 80% in 2021 (86.2%). [Monitor Toolbox](#)

78 Looking at the available regional data, particularly low ECEC participation rates are recorded in Croatia's *Panonska Hrvatska* (61.9%), Slovakia's *Východné Slovensko* (66.0%), and Romania's *Bucuresti – Ilfov* (67.3%). [Monitor Toolbox](#) For further details about the regional dimension, see the [2023 Eurostat regional yearbook](#).

79 The 2020-21 ECEC participation rates for Greece are not available, but its 2019 ECEC participation rate among 3-year-olds stood at 34.9%. [Monitor Toolbox](#)

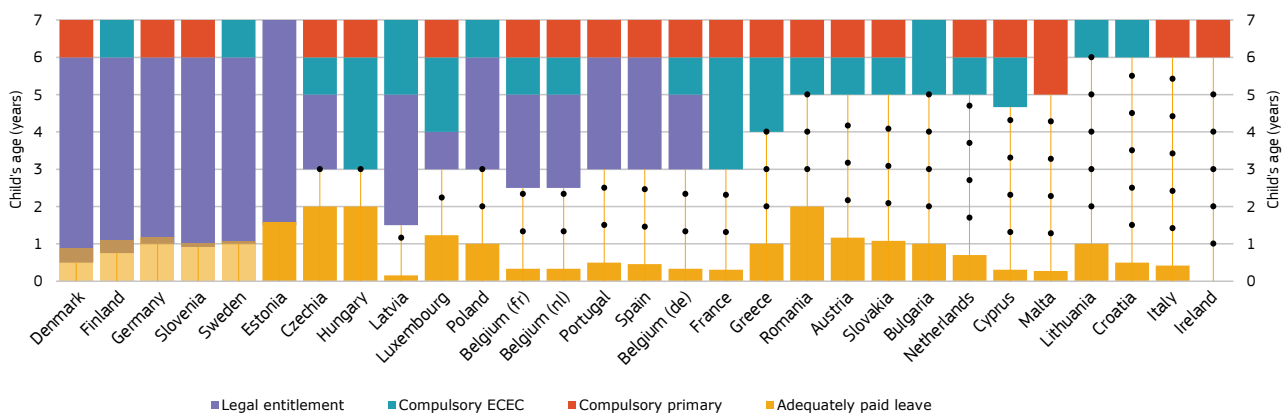
## Box 9. Examples from the country reports

Some EU countries undertake specific measures to enhance access to ECEC for disadvantaged groups or children who do not speak the language of instruction at home. For instance, in [Sweden](#), municipalities must offer a place in ECEC to children who have lived in the country for a short time, even if their guardians have not applied for it. In [Slovakia](#), the European Social Fund Plus (ESF+) supports targeted measures to increase participation of children from disadvantaged backgrounds, including Roma children or children with disabilities. In [Lithuania](#), as of 2022, participation in ECEC is mandatory for children from families at social risk.

At the same time, EU countries increasingly focus on developing the quality of ECEC services and on reducing

regional differences. For instance, in [Denmark](#), a new law on minimum standards for children-to-staff ratios will enter into force early 2024. In [Greece](#), continuing professional development of ECEC staff has been reinforced. Its Institute of Educational Policy develops and organises training related to the novelties introduced in the ECEC curricula such as various 'skills labs' activities and teaching the English language. In [Germany](#), the federal government continues supporting *Länder* in providing quality services, covering areas such as staff/child ratio, recruiting and retaining qualified staff, leadership, language education, and child development. In [Lithuania](#), work on pre-school guidelines on the content of the programmes is underway.

Figure 9. Most EU countries record a multi-year ECEC gap.



Source: [Eurydice 2023](#). [Download data](#) [Monitor Toolbox](#) Note: the reference year is 2022-23. The ECEC gap is defined as the amount of time between the end of adequately paid leave and the start of a guarantee to ECEC. The space between two bullets equals 1 year. Adequately paid leave is defined as the maximum length of maternity, paternity and parental leave compensated at a rate of at least 66% of earnings-related payment. The length of leave is counted from the child's perspective. Leave that coincides, such as when two parents take leave simultaneously, is viewed as one. Most data on leave come from the [International Network on Leave Policies and Research](#) and refer to April 2022. The Netherlands and Finland were updated by Eurydice to reflect recent reforms. Countries are shown in ascending order according to the ECEC gap.

To encourage participation in ECEC, EU countries can provide a legal entitlement to an ECEC place or make attendance compulsory. But the age at which children have a guaranteed place in ECEC varies a lot across the EU<sup>80</sup>. When leave and ECEC policies are harmonised, a place in ECEC is guaranteed for every child at the end of

leave (or even before)<sup>81</sup>, and no ECEC gap exists (Figure 9). In most EU education systems, however, families face a long period of time after adequately paid leave expires and before a child has a guaranteed place in ECEC<sup>82</sup>.

80 Denmark, Germany, Estonia, Latvia, Slovenia, Finland, and Sweden guarantee a place in ECEC from an early age (6-18 months); the three Communities of Belgium, Czechia, Spain, France, Luxembourg, Hungary, Poland, and Portugal guarantee a place in publicly subsidised ECEC from age 3 or earlier. Pre-primary education is compulsory from age 4, 5 or 6 (during the last 1-2 years) in Bulgaria, Greece, Croatia, Cyprus, Lithuania, the Netherlands, Austria, Romania, and Slovakia. See the [2023 Eurydice report](#).

81 Denmark, Germany, Estonia, Slovenia, Finland, and Sweden. See the [2023 Eurydice report](#).

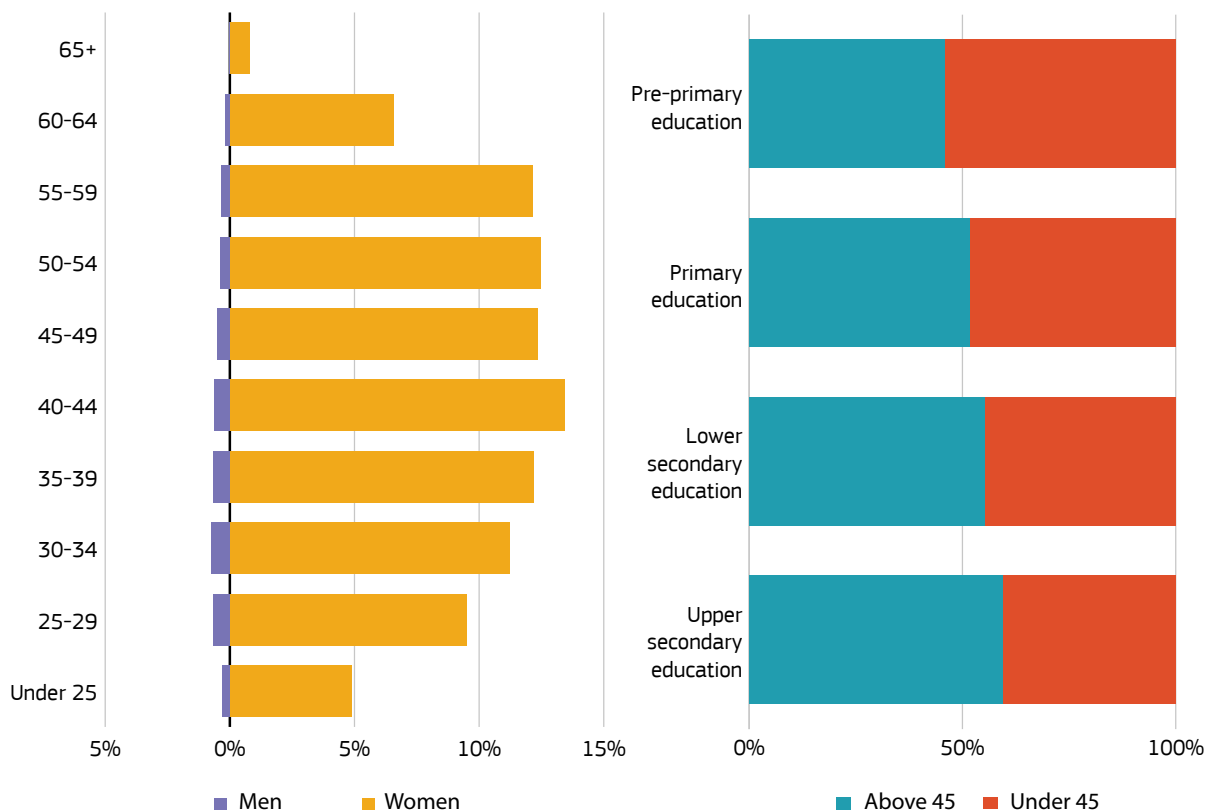
82 The theoretical ECEC gap may equal up to 6 years. In practice, it may be 1 or 2 years, in which families face waiting lists and must choose between costly private ECEC or keeping children at home. Publicly subsidised ECEC may be available, albeit not as a legal entitlement, from around age 3 or 4.

## 2.2. A closer look at staff

Educational value is a key aspect of ECEC across the EU<sup>83</sup>. Indeed, the educational value of ECEC is widely acknowledged for children aged 3 and over, in contrast to that of ECEC for children under 3, which one third of EU countries view as childcare and do not provide educational guidelines for<sup>84</sup>. Educational guidelines differ from country to country, but they often focus on developmental or learning goals and age-appropriate activities, sometimes in the form of a standard curriculum. It is ECEC professionals who ensure this educational aspect of ECEC provision is there as the main driver of quality in ECEC centres<sup>85</sup>.

As Chapter 1 says, ECEC staff are predominantly female, even more so than at other levels of education, with only 4.4% male staff on average in 2021<sup>86</sup>. They are also relatively younger than other teachers, with over half of them (54.2%) under 45 (Figure 10). And yet, nearly all EU countries<sup>87</sup> report that they (expect to) experience shortages of ECEC staff, either across the country or in specific regions, sometimes so acutely that services cannot be provided anymore. To tackle these issues, EU countries are working, often with the support of EU funds, on improving working conditions or on improving, expanding, or introducing more flexibility into training or pathways into the profession<sup>88</sup>.

Figure 10. ECEC educators are predominantly female and younger than teachers at other levels of education.



Source: Eurostat (UOE 2021). [Download data](#) [Monitor Toolbox](#) Note: the distribution age and sex refers to teachers in pre-primary education in the EU.

83 See also the [2022 European Care Strategy](#).

84 The German-speaking Community of Belgium, Bulgaria, Czechia, Greece, Cyprus, the Netherlands, Poland, Portugal, and Slovakia have no ECEC educational guidelines for the youngest children. See the [2023 Eurydice report](#).

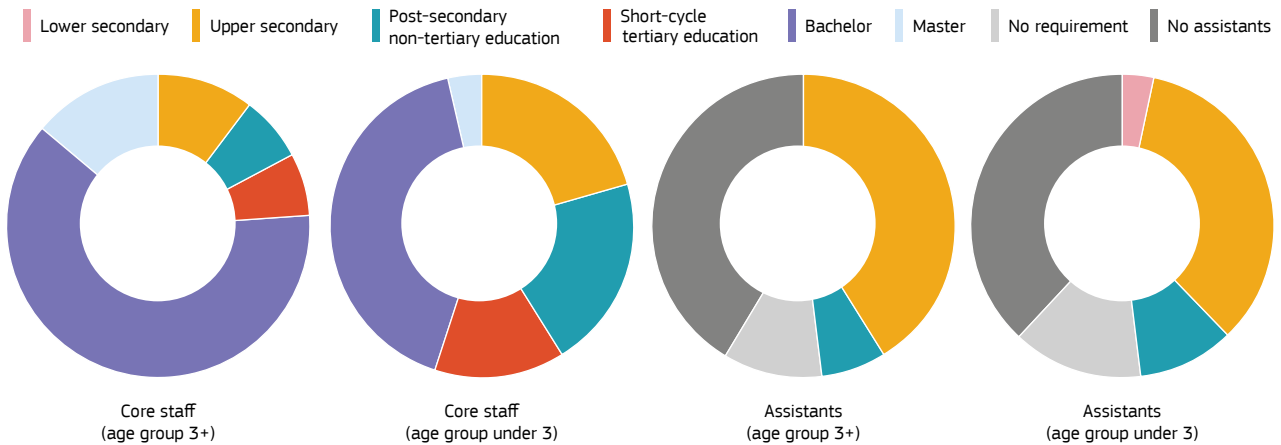
85 See the [2019 Council Recommendation](#) on high-quality ECEC systems. Other core principles governing the quality of ECEC revolve around accessibility and affordability, financing and governance, curricula and monitoring and evaluation.

86 [Monitor Toolbox](#) Male teachers are slightly more common in younger age categories, with only 3.1% men in the age group above 45, as opposed to 5.5% men among ECEC staff up to 45 years old.

87 Based on an ad hoc survey among the members of the EEA strategic framework Working Group on ECEC.

88 Based on an ad hoc survey among the members of the EEA strategic framework Working Group on ECEC.

Figure 11. **Qualification requirements are stricter for core staff and for those working with older children.**



Source: [Eurydice 2023](#). [Download data](#) [Monitor Toolbox](#) Note: the charts show the distribution of EU education systems according to the criteria in the legend.

Staff skills and competences are linked to the quality of ECEC experiences. ECEC staff are increasingly expected to develop specific competences to deal, for instance, with technological advancement, multilingualism<sup>89</sup>, or the integration of refugees and displaced children<sup>90</sup>. Initial education requirements for ECEC professionals differ across EU countries and according to the age of the children (Figure 11). For core practitioners<sup>91</sup> working with children aged 3 and over, most EU education systems require a bachelor's qualification<sup>92</sup>, with four countries<sup>93</sup> requiring a master's qualification. By comparison, for younger children, only 12 education systems<sup>94</sup> demand a bachelor's or equivalent degree, whereas Portugal is the only country that requires a master's degree.

In two thirds of EU countries, assistants work alongside ECEC educators<sup>95</sup>. Qualification requirements for assistants are usually lower, with upper secondary education<sup>96</sup> being a minimum requirement, or no requirements at all<sup>97</sup>.

Countries continue to work on staff professionalisation. Several countries have introduced structural reforms of staff qualifications or continuing professional development<sup>98</sup>, some with the help of EU funding and technical support<sup>99</sup>. Professional development is available to core ECEC staff in most EU countries (Figure 12). Core practitioners working with children aged 3 and over are required to participate in a specified minimum amount of continuing professional development in half of EU education systems<sup>100</sup>. Usually, 1 to 3 days of professional development a year are

89 See a [2023 NESET report](#) on multilingualism.

90 See for example a [2023 OECD report](#) on ECEC in the digital age, a [2023 UNICEF study](#) on ECEC services for Ukrainian displaced children, and Box 13 in Section 3.3 with examples from the [country reports](#).

91 A core practitioner is an individual tends to a group of children at the class or playroom level and works directly with children and their families. See the [2023 Eurydice report](#).

92 The three Communities of Belgium, Bulgaria, Denmark, Germany, Estonia, Greece, Spain, Croatia, Cyprus, Lithuania, Luxembourg, Hungary, the Netherlands, Slovenia, Finland, and Sweden. See the [2023 Eurydice report](#).

93 France, Italy, Poland, Portugal. See the [2023 Eurydice report](#).

94 Bulgaria, Denmark, Germany, Estonia, Greece, France, Croatia, Italy, Lithuania, Slovenia, Finland, and Sweden. See the [2023 Eurydice report](#).

95 An assistant is an individual who helps the core practitioner with a group of children or class on a daily basis. See the [2023 Eurydice report](#).

96 This is the case in the three communities of Belgium (except in the French Community of Belgium, where assistants in pre-primary schools are required to have an educational attainment of at least post-secondary non-tertiary level), Bulgaria, Germany, France, Cyprus, Hungary (except for settings for children under 3, where a minimum of secondary educational attainment is required), Malta, Austria, Portugal, Slovenia, Finland, and Sweden. See the [2023 Eurydice report](#).

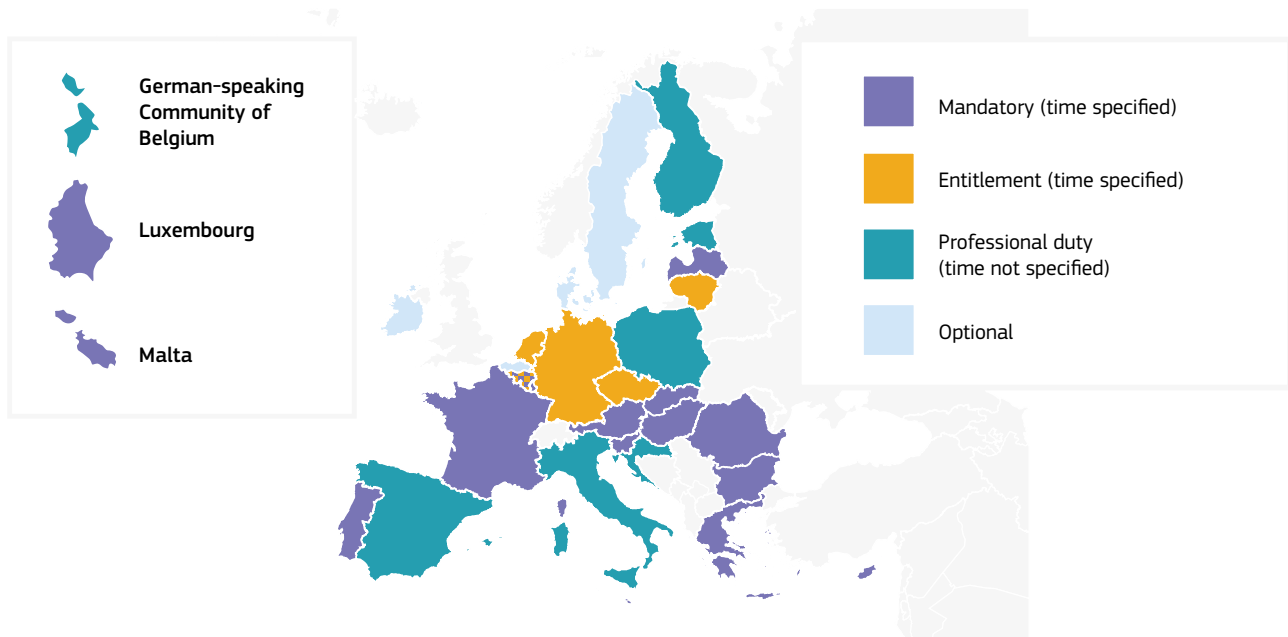
97 Denmark, Estonia, Latvia, and Luxembourg. See the [2023 Eurydice report](#).

98 For instance, Ireland, Italy, and Slovakia, are working on raising the minimum qualification requirement for staff working with children. In Finland, by 2030, a larger proportion of staff will be required to have a university degree. See the [2023 Eurydice report](#).

99 For instance, using the Technical Support Instrument, Austria and Cyprus are reforming staff framework conditions for better quality in ECEC.

100 French Community of Belgium, Bulgaria, Greece, France, Cyprus, Latvia, Luxembourg, Hungary, Malta, Austria, Portugal, Romania, Slovenia, and Slovakia. See the [2023 Eurydice report](#).

Figure 12. Continuing professional development is a right or duty for most ECEC core staff working with children aged 3 and over.



Source: Eurydice 2023. Monitor Toolbox

mandatory. In five ECEC systems<sup>101</sup>, core practitioners are entitled to a minimum amount of time to participate in professional development. For core practitioners working with younger children, fewer EU countries allot a specific amount of time to professional development<sup>102</sup>. Moreover, for assistants, continuing professional development is usually not required<sup>103</sup>.

### In a nutshell

Six EU countries (France, Belgium, Denmark, Ireland, Sweden, and Spain) have reached the EU-level 2030 target of 96% participation of children aged 3 and above in ECEC. But the EU average is stagnating, with the 2021 rate (92.5%) identical to the 2016-17 one. Participation remains low in five EU countries (Greece, Slovakia, Romania, Croatia, and Bulgaria). In many EU countries, the ECEC gap (the amount of time between the end of adequately paid leave and a legal entitlement to ECEC) remains wide. Despite the challenges, EU countries increasingly focus on more than just access and affordability and try to also improve the quality of ECEC. Measures tend to focus on curricula or educational guidelines, minimum qualification levels for core practitioners, and teacher training. Almost all EU countries report severe staff shortages, often with large regional disparities.

101 The French Community of Belgium, Czechia, Germany, Lithuania, and the Netherlands. See the [2023 Eurydice report](#).

102 It is mandatory in the French Community of Belgium, Bulgaria, Czechia, Latvia, Luxembourg, Hungary, Austria, Portugal, Romania, and Slovakia, but it is an entitlement in Germany and Lithuania. See the [2023 Eurydice report](#).

103 There are a few exceptions. Continuing profession development is mandatory for assistants in the French Community of Belgium, France (in ECEC for children aged 3 and over), Luxembourg, Slovenia, and Slovakia.

## Chapter 3. School education

### 3.1. Early school leaving

EU-level 2030 target:  
**'The share of early leavers from education and training should be less than 9% by 2030.'**

Efforts to bring down early school leaving<sup>104</sup> have been a great success in the last two decades. Figure 13 takes all pre-COVID-19 early school leaving data and estimates

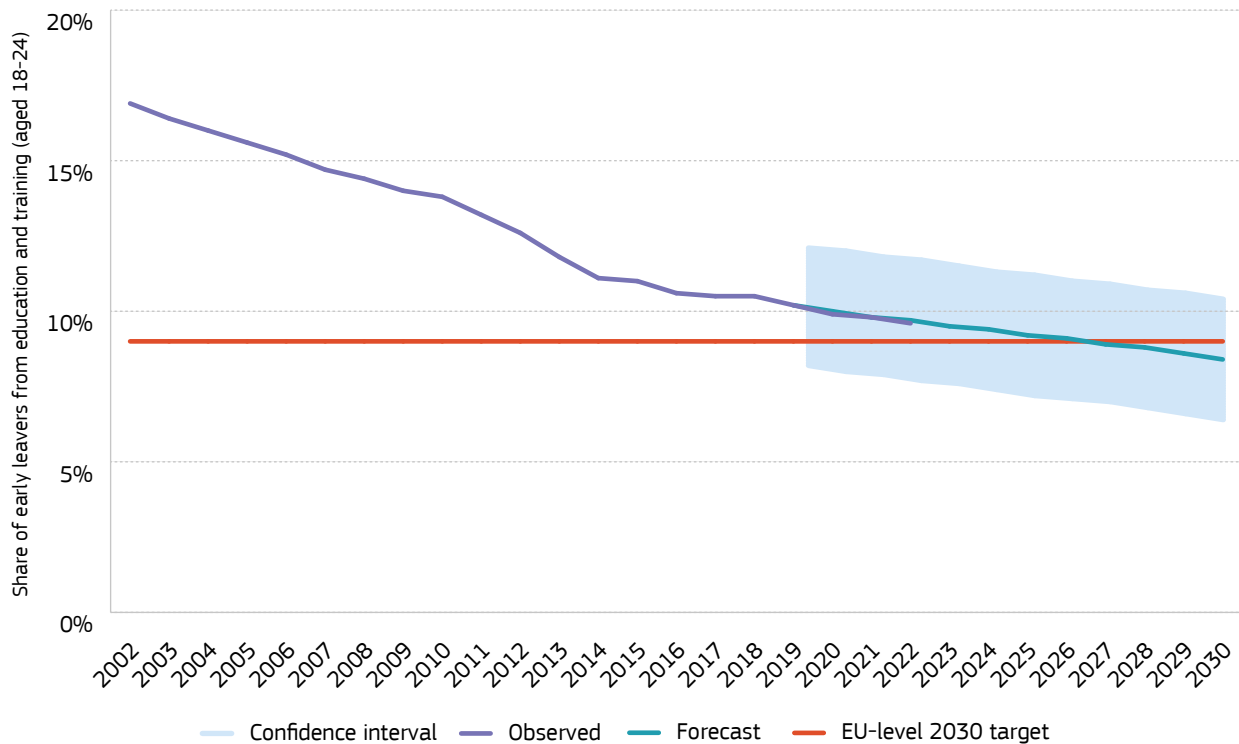
104 Early leavers from education and training, used here interchangeably with early school leavers, are 18-24-year-olds whose highest level of education or training is at most lower secondary education and who received no education or training (neither formal nor non-formal) in the 4 weeks preceding the survey. Sex-disaggregated data are discussed in Section 3.3.

their trajectory towards 2030, using forecasts of known determinants such as unemployment rates and proxies for parental educational attainment. Firstly, these estimates do not differ from observed early school leaving rates post-2019, suggesting negligible COVID-19 effects on the EU average so far<sup>105</sup>. Secondly, they suggest that the EU-level 2030 target for early school leavers is within reach, falling below 9% around 2027.

105 The [2023 report](#) from the European Commission (Joint Research Centre) suggests caution remains warranted. Both positive and negative effects of COVID-19 are at play, varying substantially between countries and over time, not to mention the extent to which such effects have since rebounded and mixed with various other megatrends. Moreover, it is worth noting that, for some of these 18-24-year-olds, the decision not to pursue further education or training may have been taken quite a while ago, which is why not all disengagement due to COVID-19 may be reflected in this indicator already. Finally, the decrease in observed figures appears to stagnate, suggesting that further progress does become more difficult as early school leaving rates become lower.



Figure 13. Estimates suggest the EU-level 2030 target will be reached.



Source: European Commission (Joint Research Centre) 2023 based on Eurostat (EU Labour Force Survey). [Download data](#) Note: the confidence interval depicts the range in which the EU average is likely to be with 95% certainty.

In 2022, 9.6% of all 18-24-year-olds across the EU had disengaged from school without attaining upper secondary education, widely acknowledged as a minimum threshold for educational attainment<sup>106</sup>. This percentage translates into approximately 3.1 million young people. It continues a persistent decrease in the early school

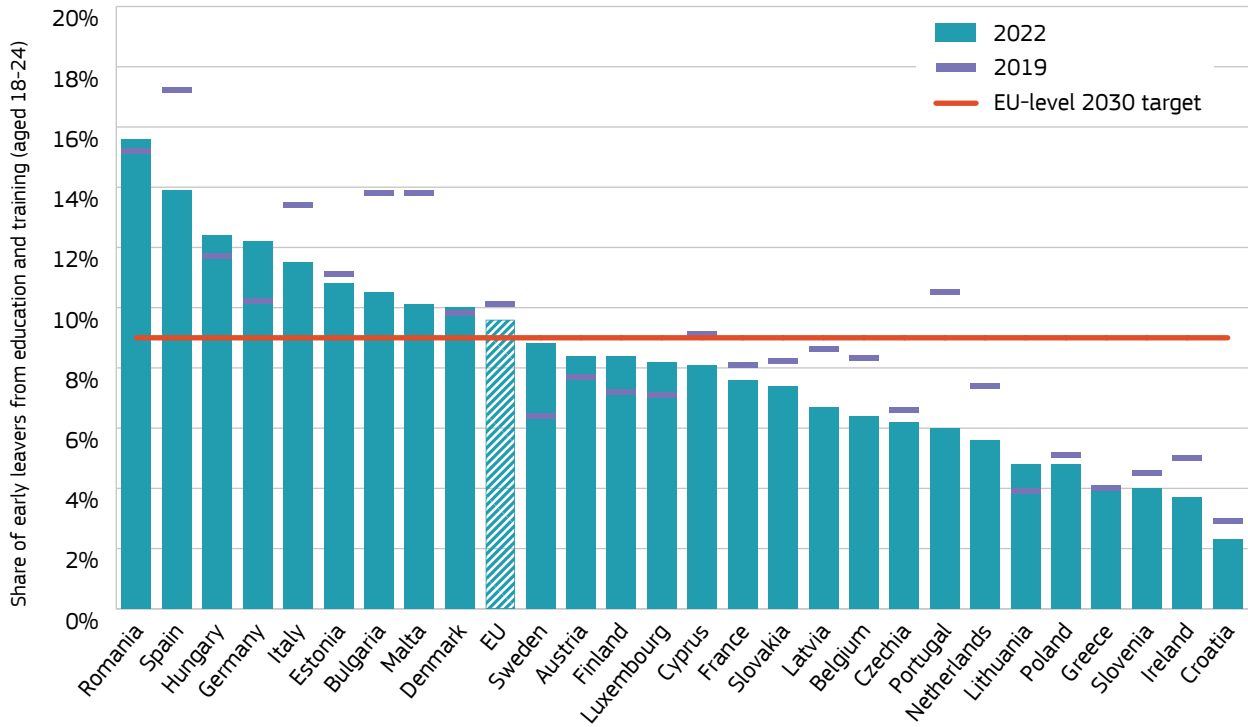
leaving rate, with only nine EU countries now recording early school leaving rates above 9% (Figure 14)<sup>107</sup>. Six of these have early warning systems in place to prevent early school leaving based on detailed student data (Bulgaria, Estonia, Italy, Hungary, Malta, Romania)<sup>108</sup>.

106 Young people's labour market integration is but one measure for the effects of not reaching this minimum threshold in educational attainment. Of the approximately 3.1 million early school leavers in 2022, only 45.8% was employed in 2022, rebounding from 42.4% in 2020 and 42.9% in 2021. [Monitor Toolbox](#) The NEET rate (the share of young people aged 15-29 who are neither in employment nor in education and training) was 2.9 percentage points higher among youth without upper secondary educational attainment (13.6%) than those with at least upper secondary educational attainment (10.7%). [Monitor Toolbox](#) Youth unemployment (age 15-29) was 11.3% on average, and 7.7 percentage points higher among youth without upper secondary educational attainment (19.0%). [Monitor Toolbox](#) The [2023 Eurydice report](#) reveals that the vast majority of EU education systems surveyed record policies on the provision of career education and guidance in secondary schools, whether through the compulsory curriculum, internal/external services or work placements/job shadowing. Only the Netherlands and Portugal record no such policies.

107 Looking at the available regional data for the three bottom-performing EU countries, early school leaving rates are particularly high (18% or above) in Romania's *Centru* (23.4%) and *Sud-Est* (23.1%), Spain's *Región de Murcia* (18.7%) and *Illes Balears* (18.2%), and Hungary's *Észak-Magyarország* (23.6%). Similarly high early school leaving rates are recorded in Bulgaria's *Yugoiztochen* (18.9%) and Italy's *Sicilia* (18.8%), alongside outermost regions such as *Guyane* (France, 28.0%) and *Açores* (Portugal, 26.5%). [Monitor Toolbox](#) Averaging early school leaving rates for a country's rural areas reveals high shares (18% or above) for Romania (24.5%), Hungary (19.7%), and Bulgaria (19.1%). [Monitor Toolbox](#) For further details about the regional dimension, see the [2023 Eurostat regional yearbook](#).

108 See the [2023 Eurydice report](#). Out of all EU education systems surveyed, 9 do not record any policies for early warning systems or similar monitoring actions to prevent early school leaving.

Figure 14. **Nine EU countries record early school leaving rates above 9%.**



Source: Eurostat (EU Labour Force Survey). [Download data](#) [Monitor Toolbox](#) Note: data for Croatia have low reliability due to small sample sizes. Breaks in time series for Germany (2020) and for all countries in 2021<sup>109</sup>. Countries are shown in descending order according to the early school leaving rate in 2022.

The 2019-22 period is of particular interest, comparing the latest annual figures against the last fully pre-COVID-19 data. The 2019-22 trends paint a mixed picture across EU countries, with four recording an increase in early school leaving rates of 1 percentage point or more (Sweden, Germany, Finland, and Luxembourg), compared

to 11 EU countries with an equally sizeable decrease. Four of the five biggest 2019-22 drops are observed in the 2022 bottom performers (Malta, Spain, Bulgaria, and Italy). Across the EU on average, the 2019-22 early school leaving rate shows a 0.6 percentage point decline.

109 As from 2021, new legislation applies to the EU Labour Force Survey (LFS). The methodological changes have a particular impact on labour force status but can also affect other LFS indicators. Further information on the changes can be found [here](#).





## Box 10. Examples from the country reports

In [Estonia](#), measures to reduce early school leaving aim to increase all students' motivation to continue education. A project funded by the EU's Technical Support Instrument is helping Estonia develop policy options to better integrate non-formal and formal learning. The Ministry's approach to reducing early school leaving also includes supporting pupils with special educational needs and improving the school climate (for instance more systematically implementing anti-bullying measures). A new national curriculum is also being designed to increase students' motivation and autonomy.

To reduce early school leaving and youth unemployment, [Luxembourg](#) raised its compulsory schooling age from 16 to 18 in July 2023. The law in question will enter into force as of 2026–27 and will be combined with an expansion of the education and training offer to give young people more chances to obtain a qualification. Alternative schooling pathways will be offered at socio-professional integration centres (*centres d'insertion socio-professionnelle*). The centres offer tailored support alongside formal education in close collaboration with social workers, their partner schools, the Regional Childcare Office, and young people's families.

In [Romania](#), the national programme for reducing school dropout aims to address the structural challenge of early school leaving with a budget of EUR 500 million financed by the Recovery and Resilience Facility. In the first round, over 1 400 schools received grants of up to EUR 200 000 to provide students with teaching, support, and extra-curricular activities, and to develop partnerships with stakeholders. An additional call for projects was organised in 2023, giving schools a maximum grant of EUR 300 000. At the same time, the early warning tool, developed with the support of the Technical Support Instrument, has been extended to primary and lower secondary education. The tool will help identify children at risk of dropout and give them support. The Recovery and Resilience Facility will also fund training for 45 000 teachers on how to use the early warning tool.

Successful strategies to tackle early school leaving tend to combine prevention, intervention, and compensation measures comprehensively and over a long time<sup>110</sup>. Box 10 summarises a few recent examples from the 2023 Education and Training Monitor's [country reports](#). The 2023 comparative report looks at a few enabling factors linked to the teaching profession. Tackling early school leaving continues to be a key priority for teachers across the EU, with policies increasingly built around diversity, inclusion and well-being.

Figure 15 captures the prevalence of various characteristics of competence frameworks for initial teacher training<sup>111</sup> and programmes for continuing professional development<sup>112</sup>. Overall, it suggests professional development compensates for some gaps in initial teacher training<sup>113</sup>, although both tend to focus on diversity and inclusion (see also Section 3.3). Promoting a positive school climate has become another priority for both initial teacher training and continuing professional development, reflected in widespread measures to prevent bullying and violence through quality assurance mechanisms<sup>114</sup>.

110 See the [2022 Council Recommendation](#) on Pathways to School Success.

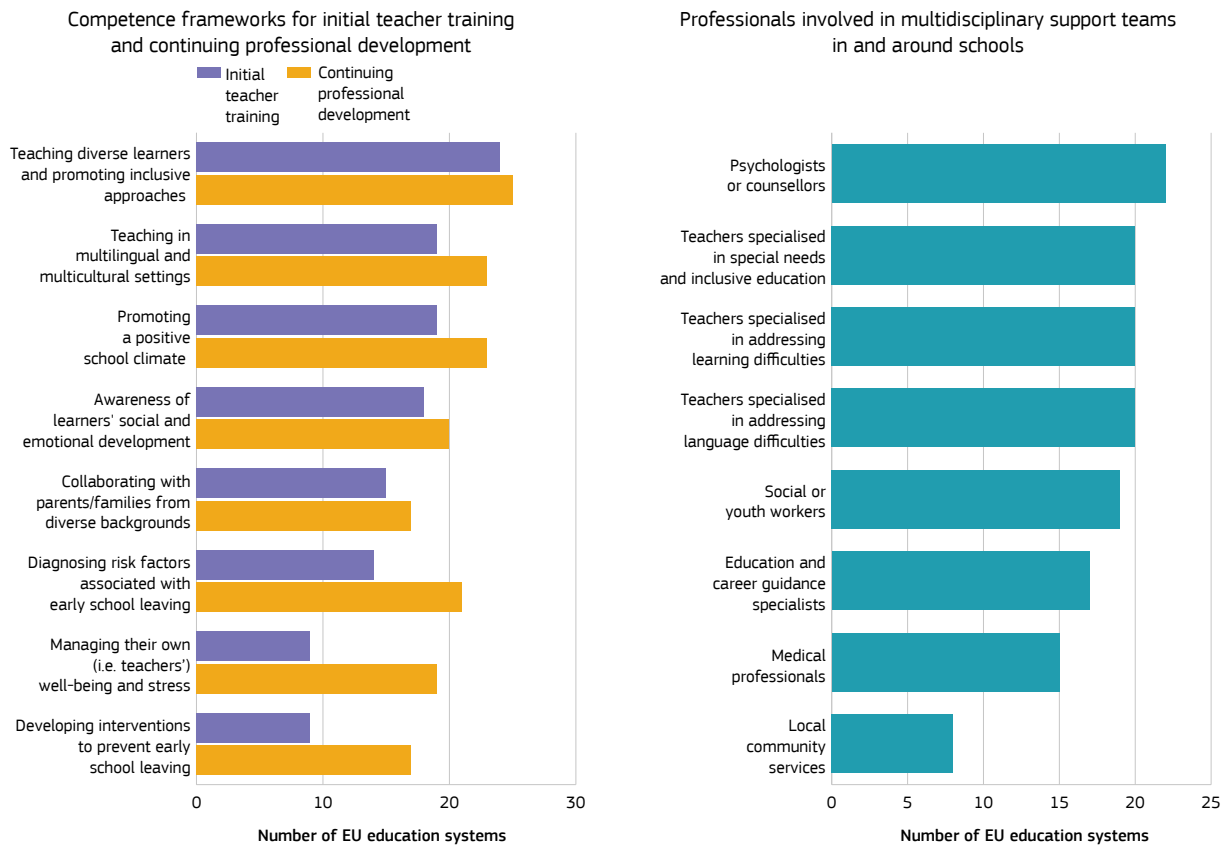
111 Five EU countries do not have competence frameworks for ITE (Greece, the Netherlands, Romania, Slovenia, and Finland). See the [2023 Eurydice report](#). [Monitor Toolbox](#)

112 Only one EU country, the Netherlands, reported no continuing professional development promoted through education authorities. Measures to tackle early school leaving are decided at the level of municipalities and schools. See the [2023 Eurydice report](#). [Monitor Toolbox](#)

113 A notable gap in initial teacher training appears to be teachers' well-being, recorded in only 9 EU education systems while part of continuing professional development programmes in 22 systems. But it is also worth noting that developing prevention measures and diagnosing risk factors are largely left to continuing professional development in most systems, echoed by the finding that, out of all EU education systems surveyed, 9 do not record any policies for early warning systems or similar monitoring actions to prevent early school leaving. See the [2023 Eurydice report](#). [Monitor Toolbox](#)

114 According to the [2023 Eurydice report](#), bullying and violence prevention measures are either among the criteria for internal evaluation or school development plans (recorded for 19 EU education systems) or for external school evaluations (19 systems). Exceptions are the German-speaking Community of Belgium, Ireland, Croatia, Luxembourg, the Netherlands, and Poland. [Monitor Toolbox](#)

Figure 15. Teachers have many support measures at their disposal to help them deal with the complex challenge of early school leaving.



Source: Eurydice 2023. [Download data](#) [Monitor Toolbox](#) Note: the figure adds up EU education systems reporting the existence of policies in the areas mentioned above. There are 29 systems surveyed in total, with all three Communities in Belgium recorded separately.

Figure 15 also captures policies promoting the development of multidisciplinary support teams in and around schools<sup>115</sup>. Psychologists and counsellors are most frequently cited in policies on multidisciplinary support (recorded for 22 EU education systems), again indicating a new emphasis on well-being at school<sup>116</sup>. They are followed by specialised teachers (such as teachers for special needs education, inclusiveness, learning difficulties, language difficulties), all recorded for 20 systems.

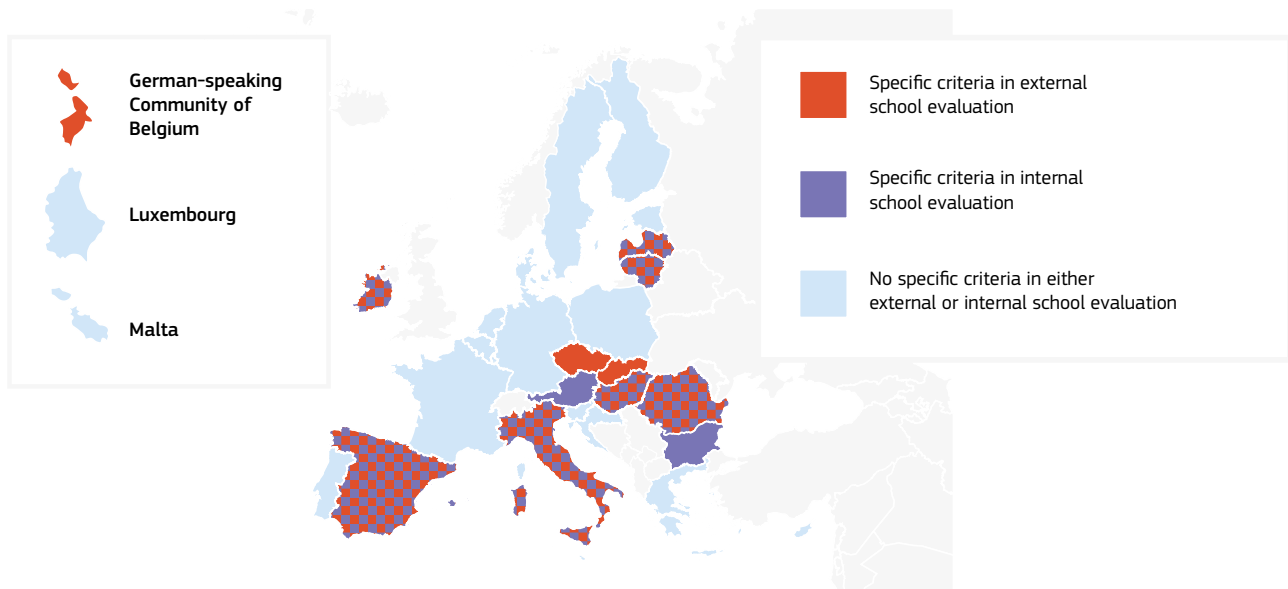
### In a nutshell

The average proportion of early leavers from education and training keeps going down, from 10.2% in 2019 to 9.6% in 2022. Caution remains warranted however, as progress masks considerable variation between EU education systems. Still, despite the COVID-19 pandemic, the EU remains on a clear trajectory to be able to reach its 2030 target of less than 9% of 18-24-year-olds leaving school without at least upper secondary educational attainment. In terms of the policy response, initial teacher training, continuing professional development and multidisciplinary support teams increasingly work towards diversity and inclusion. A new emphasis on well-being at school is evident in widespread bullying and violence prevention measures, as well as psychosocial support services, although it remains to be seen what evidence there is of the effectiveness of these policy responses.

115 Five EU education systems do not record policies on multidisciplinary support teams (the German-speaking Community of Belgium, Ireland, Croatia, the Netherlands, and Romania). See the [2023 Eurydice report](#). [Monitor Toolbox](#)

116 The [2023 Eurydice report](#) also records the specific policies supporting well-being. Psychosocial support services are promoted by 26 EU education systems, excluding only Italy, the Netherlands and Romania. Policies on psychosocial assessments are less common, though still reported for 20 EU education systems. [Monitor Toolbox](#)

Figure 16. **Only 12 systems have set specific quality criteria for cross-curricular learning in school evaluations.**



Source: Eurydice 2023. [Monitor Toolbox](#) Note: the indicator covers primary, lower secondary and upper secondary education, with no variation across levels of education.

### 3.2. Enabling factors in school education

There are several enabling factors<sup>117</sup> at the system and institutional levels that may act as policy levers, helping teachers (re)engage people in school education, motivating and supporting them in acquiring key competences<sup>118</sup> such as basic skills<sup>119</sup> and digital skills<sup>120</sup>.

Benefiting from the latest available evidence, this section focuses on a few of those enabling factors, some applying to key competences in general and others more specifically to digital skills and informatics.

Cross-curricular learning<sup>121</sup> can enrich learning and strengthen the connections between the different subjects in the curriculum, establishing a firm link between what is being taught at school versus its evolving societal relevance. Based on steering documents, cross-curricular learning for all study content<sup>122</sup> is widespread in primary education while becoming progressively less so in secondary education<sup>123</sup>. This is matched with measures to support teachers in delivering cross-curricular learning, such as continuing professional development, in 22 EU countries<sup>124</sup>. However, only 12 systems have set specific quality criteria related to cross-curricular learning in school evaluations (Figure 16).

- 117 Examples are cross-discipline learning, whole school approaches, learner continuity, cross-sectorial cooperation, active participation and decision making of learners, guidance and support for innovative learning methodologies (including access to centres of expertise, tools and materials), and competence-oriented approaches (in initial teacher education, continuing professional development and staff exchanges).
- 118 The European Commission promotes the development of key competences in line with the [2018 Council Recommendation](#) on key competences for lifelong learning, the [2020 Commission Communication](#) on achieving the European Education Area by 2025, the [2020 Commission Communication](#) on the European Skills Agenda and the [2022 Council Recommendation](#) on Pathways to School Success. In 2023, the European Commission also adopted a [proposal for a Council Recommendation](#) on improving the provision of digital skills in education and training and a [proposal for a Council Recommendation](#) on the key enabling factors for successful digital education and training.
- 119 The corresponding EU-level 2030 target is for the share of low-achieving 15-year-olds in reading, mathematics, and science to be less than 15%. Data underpinning this EU-level target come from the OECD's Programme for International Student Assessment (PISA). The 2023 Education and Training Monitor precedes the publication of PISA 2022 data.
- 120 The corresponding EU-level 2030 target is for the share of low-achieving eighth graders in computer and information literacy to be less than 15%. Data underpinning this EU-level target come from the IEA's International Computer and Information Literacy Study (ICILS). ICILS 2022 data, covering 22 EU countries, are expected towards the end of 2024.

- 121 Under this approach, rather than only explicitly mentioned as part of particular subjects, educational content and objectives are understood to be transversal and therefore taught across subjects and curriculum activities. See the [2023 Eurydice report](#). [Monitor Toolbox](#)
- 122 Study areas that are commonly taught in a cross-curricular way include personal and social development, environmental education, entrepreneurship, media education, multicultural education, and health education.
- 123 See the [2023 Eurydice report](#). [Monitor Toolbox](#)
- 124 Exceptions are Belgium (French and Flemish Communities), Cyprus, Germany, Lithuania, the Netherlands, and Slovenia. See the [2023 Eurydice report](#). [Monitor Toolbox](#)

Formative assessment<sup>125</sup>, a second enabling factor, has the potential to tackle underachievement as it involves adapting teaching and learning to address and support the individual learner's needs effectively<sup>126</sup>. It no longer consists of tests or exams but is rather an integrated part of teaching by representing a dynamic process in which teaching and learning adapts according to the learner's needs. Components of effective formative assessment include a planned and structured classroom<sup>127</sup>, feedback that is aimed at helping the learner<sup>128</sup>, learners' active engagement<sup>129</sup>, the use of different assessment tools, and the adjustment of teaching and learning.

Another enabling factor that can enrich learning is the active participation of learners in school governance and decision-making<sup>130</sup>, which has the potential to (re)engage and motivate young people<sup>131</sup>. Student participation in decision-making at school is a requirement in most EU countries. Only Czechia, Croatia, Malta, and Slovakia have no such requirement<sup>132</sup>. However, it is less common for students to provide mandatory input in quality assurance activities. For each of the three categories of quality assurance that are considered (external evaluations, internal evaluations, and setting up a school development plan), only 11 to 13 EU education systems<sup>133</sup> require student participation<sup>134</sup>.

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125 Formative assessment provides timely feedback during the learning process and has the potential to provide information on each student's progress in learning, thereby enabling teachers and learners to make informed adjustments to the process.

126 See a [2023 thematic report](#) from the EEA strategic framework Working Group on Schools (sub-group on Pathways to School Success).

127 For instance, observation, review of written work products and portfolios, student presentations and projects, inquiry learning, interviews, tests, and quizzes. These activities align with cross-curricular activities as they involve knowledge being applied in different contexts.

128 Feedback is most effective when it is timely, focused on learning processes, and comprises specific suggestions on how to improve future performance and meet learning goals.

129 Learners' active engagement in their learning and assessment is key to effective formative assessment as it encourages them to reflect on their own thinking and learning, thereby developing their *learning to learn* key competence.

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130 Student involvement in decision-making at school, through student councils, parliaments and similar bodies, may concern a range of areas such as school management (budget, decisions on school infrastructure, internal regulations), design and delivery of learning (choice of study topics, feedback on missing perspectives in the curriculum, feedback on the use of innovative/engaging teaching practices), well-being/anti-bullying strategies, equality strategies, sustainability declarations and actions, various reporting and evaluation activities, school partnerships, extra-curricular activities, and allocation of student aid.

131 A [2021 report](#) by five child rights organisations (Eurochild, UNICEF, Save the Children, World Vision, and Child Fund Alliance) emphasised how children want a greater say in the decisions affecting their lives, with the vast majority of respondents (70% in the EU) wanting to participate more if they were given the opportunity to.

132 This applies to lower secondary education. In primary education, that list of exceptions also includes Greece, Spain, France, Italy, Lithuania, Luxembourg, the Netherlands, and Austria. See the [2023 Eurydice report](#). [Monitor Toolbox](#)

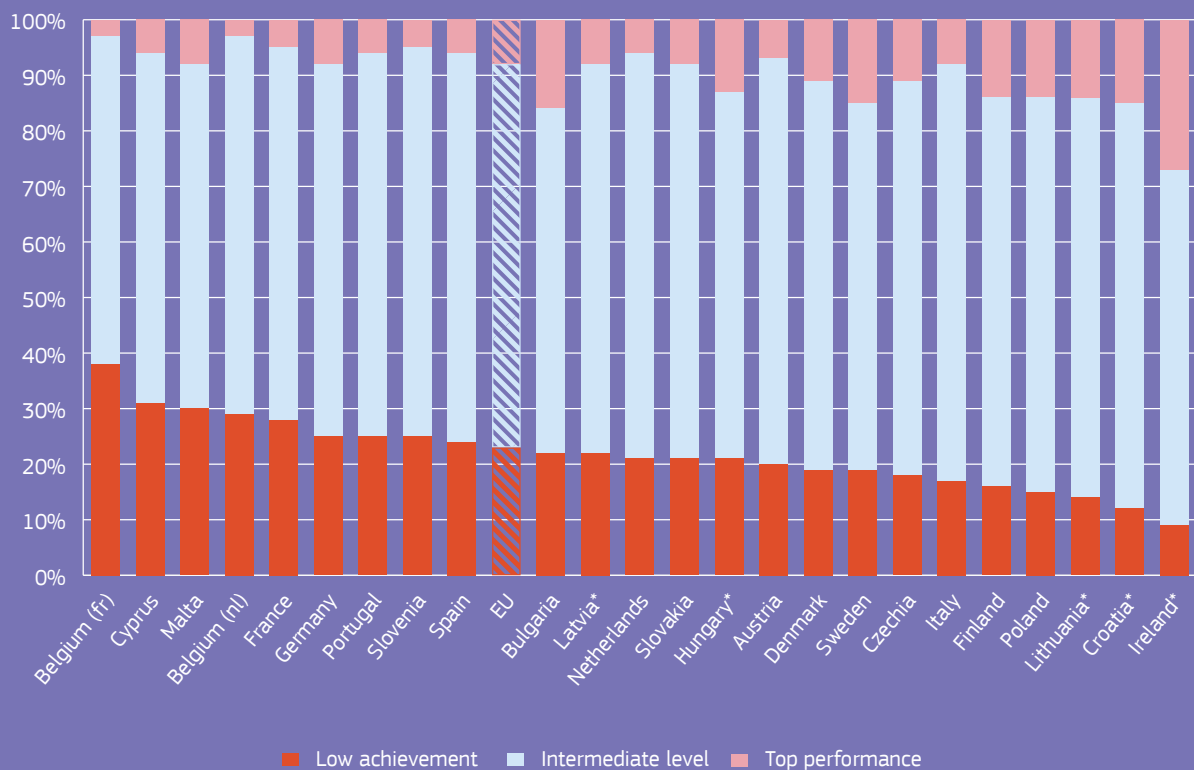
133 This applies to lower secondary education. In primary education, the requirement to involve students in quality assurance mechanisms is much less common. See the [2023 Eurydice report](#). [Monitor Toolbox](#)

134 France, Latvia, Portugal, and Spain are worth singling out for their requirement to involve students in all three quality assurance mechanisms in lower secondary education. See the [2023 Eurydice report](#). [Monitor Toolbox](#)

### Box 11. A downward trend in reading literacy is primarily driven by an increase in underachievement.

The European Commission recently published an [EU comparative analysis](#) of new findings from Progress in International Reading Literacy Study 2021 (PIRLS), which focusses on reading literacy among fourth grade students. Almost a quarter of all students fail to reach the intermediate benchmark on the PIRLS achievement scale (Figure 17), with underachievement particularly high in the French Community of Belgium (38%), Cyprus (31%), and Malta (30%).

Figure 17. **Almost one in four fourth grade students underachieve in reading literacy.**

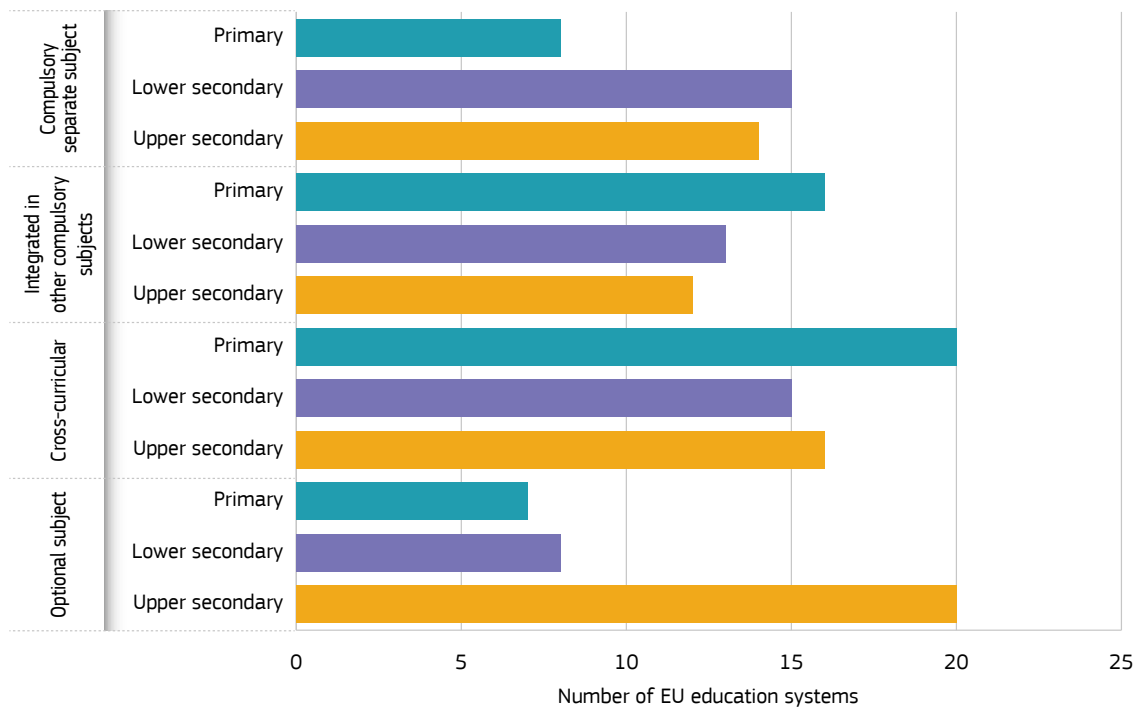


**Source:** European Commission calculations based on PIRLS 2021 data. [Download data](#) [Monitor Toolbox](#) **Note:** Low achievement is defined as being below the intermediate benchmark on the PIRLS achievement scale, intermediate level includes students who have reached the intermediate or high benchmarks, and top performance comprises students who reached the advanced benchmark. The education systems are divided according to first wave and second wave [\*] data collections. Only education systems with data collections in the first wave are included in the EU average. Countries are in descending order according to the proportion of underachievement. Data are not available for Estonia, Greece, Luxembourg, and Romania.

What is more, 2016-21 comparisons point at a downward trend for reading performance across EU countries. While almost all participating EU education systems score above the international average in 2021, only France recorded an increase in reading performance from 2016 to 2021. Further exploration of this development reveals that, while a small decrease in top performance has occurred, the negative trend is primarily driven by an increase in underachievement<sup>135</sup>.

135 Moreover, PIRLS 2021 adds to the existing evidence about the importance of well-being at school for child academic performance. Exposure to bullying, including cyberbullying, proves to be widespread, and sizeable shares of children often experience unhealthy situations, such as feeling tired or hungry when they arrive at school.

Figure 18. **Different curricular approaches to teaching digital skills are frequently used in parallel.**



Source: Eurydice 2023. [Download data](#) [Monitor Toolbox](#) Note: the figure adds up EU education systems recording the existence of policies. There are 29 systems surveyed in total, with all three Communities in Belgium recorded separately.

When it comes to digital skills<sup>136</sup>, curricular approaches vary between countries<sup>137</sup>. In the EU, digital skills are being taught using several curricular approaches, often in parallel<sup>138</sup>. The most common at primary level is the cross-curricular approach (Figure 18), where digital skills are understood to be transversal, and the aim is to have students developing digital skills in multiple subjects. Integrating digital education into other compulsory

subjects, such as mathematics or science, is also a common approach at this level. In secondary education, it is more common to teach digital skills through a compulsory separate subject, which is as common as the cross-curricular approach at lower secondary level. Upper secondary education sees a shift in the curriculum approach to optional subjects, although compulsory separate subjects and cross-curricular approaches are still quite common<sup>139</sup>.

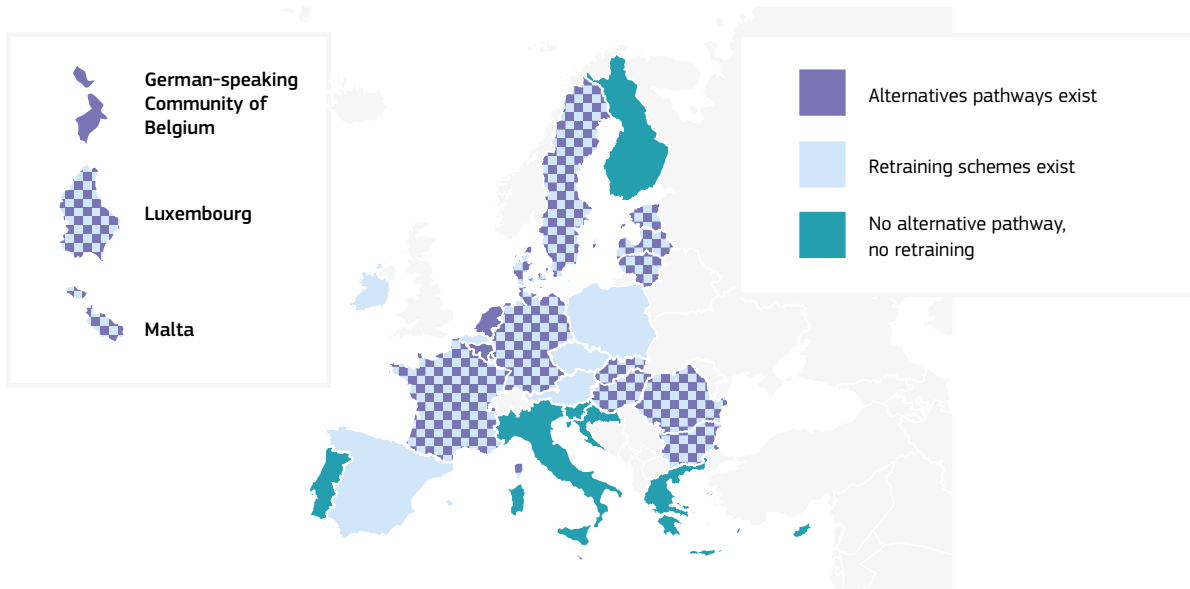
136 For the purposes of this report, the terms digital skills and digital competences are used interchangeably.

137 The [2023 Eurydice report](#) shows that compulsory teaching of digital skills for all (or most) students starts in primary education in most EU countries. There are only a few education systems where the teaching of digital skills starts in lower secondary education (Croatia, Cyprus, Austria, and Malta). Some education systems do not have a compulsory starting grade, only a recommendation (Ireland and Slovenia) or it is left to lower levels of governance (Belgium, Germany, and the Netherlands). [Monitor Toolbox](#) According to a [2019 Eurydice report](#), most education systems in the EU have either a specific strategy devoted to digital education or a broad strategy that incorporates elements of digital education in primary and general secondary education. While it is common across EU countries to have strategies related to the digital transformation of education and training and providing digital skills, these are not always specific, detailed, or comprehensive enough.

138 Two or more approaches are used in 19 education systems at primary level, 18 at lower secondary level, and 22 at upper secondary level ([2023 Eurydice report](#)). [Monitor Toolbox](#) Although each approach is valid, do not exclude each other, and can co-exist and help in supporting learners to develop digital skills, implementing each approach carries both advantages and disadvantages, often depending on the level of education. Each approach also has a different impact on learners' digital skills and learning outcomes, depending on how it is implemented, and on teachers' required competence level.

139 In most EU countries, the compulsory separate subject relating to digital competence referenced in Figure 18 corresponds to the informatics subject. Providing informatics as a separate subject is not widespread in primary education. The education systems tend to start offering informatics as a separate subject towards the end of primary education or in lower secondary education, usually as a compulsory subject. Most countries have one or more informatics subjects in upper secondary education, but these are often optional or are only compulsory for some students. Only two EU countries introduce informatics as a compulsory subject for all students as early as first grade (Greece and Latvia, depending on the school). A second group of countries (Bulgaria, Hungary, Poland, and Slovakia) start in grade 3 or 4. In education systems where informatics is only offered as an optional subject or is left to the school's discretion, not all students benefit from having a separate informatics subject. See the [2023 Eurydice report](#). [Monitor Toolbox](#) The [2023 Commission proposal](#) for a Council Recommendation on improving the provision of digital skills in education and training acknowledges the need to provide quality informatics education at school. See the [2022 Eurydice report](#) on informatics education at school in Europe for an in-depth analysis of the current state of informatics education in Europe.

Figure 19. Only 13 EU education systems offer both alternative pathways and retraining schemes for (prospective) informatics teachers.



Source: Eurydice 2023. [Monitor Toolbox](#)

Over half of the education systems in EU countries record a mandatory inclusion of teacher-specific digital competences<sup>140</sup> in initial teacher training for all teacher profiles and prospective teachers of all or some education levels<sup>141</sup>. There are also some systems where developing teacher-specific digital competences is only mandatory for some teachers' profiles (such as informatics or mathematics teachers)<sup>142</sup>. Remaining systems either do not have a requirement or leave the decision on providing teacher-specific digital competences to the institutional autonomy of initial teacher education providers<sup>143</sup>.

140 These are competences needed to support and improve teaching and learning by using digital technologies, along with the ability to use digital technologies for communication, collaboration, and professional development.

141 In 16 education systems, this applies to prospective teachers of all education levels. However, some education systems do not have this requirement for all levels. In 19 education systems, teacher-specific digital competences are mandatory for all prospective teachers of primary education, compared to 20 systems for prospective teachers of lower secondary education, and 20 systems for prospective teachers of upper secondary education (2023 Eurydice report). [Monitor Toolbox](#)

142 This is the case in Latvia (for prospective primary and lower secondary teachers), Luxembourg, Malta (prospective secondary education teachers) and the Netherlands (prospective upper secondary teachers). See the 2023 Eurydice report. [Monitor Toolbox](#)

143 Before the COVID-19 pandemic, only 37.5% of lower secondary teachers in the EU felt that they were well or very well prepared to use digital technologies in teaching (data from TALIS 2018). Digital training of teachers and staff is one of the enabling factors highlighted in the 2023 Commission proposal for a Council Recommendation on the key enabling factors for successful digital education and training. The quality of teachers and teaching, and in particular the availability of specialised teachers for subjects such as informatics, are key enabling factors for successful digital education.

Looking closer at informatics, attracting, and retaining specialist informatics teachers<sup>144</sup> is a challenge shared by countries that are introducing informatics into their curriculum and countries that have been providing it for a long time. One of the main reasons for informatics teacher shortages is that relatively few students gain an academic degree in informatics compared with the number the labour market requires<sup>145</sup>. ICT graduates are in high demand in the job market, and salaries and career opportunities in the industry are generally more attractive than in schools<sup>146</sup>. Only two education systems (Greece and Italy) reported no informatics teacher shortages in general education for the 2022-23 school year<sup>147</sup>.

144 In primary education, informatics is still mostly taught by generalist teachers when offered as a separate subject. By contrast, in secondary education it is always specialist teachers who teach informatics as a separate subject. In lower secondary education, teachers with specialisation in other subjects are largely involved in teaching informatics (for instance teachers who specialise in mathematics, physics, or other sciences), whereas in upper secondary education, specialist informatics teachers are required in almost all EU education systems. See a 2022 Eurydice report on informatics education at school in Europe for an in-depth analysis of the current state of informatics education in Europe.

145 See the 2022 Eurydice report on informatics education at school in Europe.

146 Setting up and improving measures to recruit and train specialised teachers in the area of informatics is one of the recommendations to EU countries in the 2023 Commission proposal for a Council Recommendation on improving the provision of digital skills in education and training.

147 This concerns both primary and secondary education in Greece, and upper secondary education in Italy (2023 Eurydice report). [Monitor Toolbox](#)

Many countries have introduced alternative pathways or retraining programmes to train specialist informatics teachers (Figure 19), but it remains to be seen how effective they are<sup>148</sup>. Only 13 EU education systems offer both alternative pathways and retraining schemes for (prospective) teachers at one or more education levels. Alternative pathways targeting professionals without teaching qualifications exist in 11 education systems for prospective lower secondary education teachers and in 14 education systems for prospective upper secondary education teachers<sup>149</sup>.

### In a nutshell

Cross-curricular learning and active participation in decision-making are both heavily promoted in EU countries. However, only 13 education systems have set specific quality criteria for cross-curricular learning in school evaluations and even fewer make sure that students provide input into various quality assurance mechanisms. Cross-curricular learning is also a common approach used in teaching digital skills in the EU, especially in primary education, although it is not the only one. Digital skills are taught using several approaches, often in parallel. Teacher shortages are a major obstacle to the teaching of digital skills, particularly for subjects such as informatics. However, only 13 education systems offer both alternative pathways and retraining schemes for (prospective) informatics teachers at one or more education levels.

## 3.3. Equity and inclusion

This section builds on the new EU-level indicator for equity in education proposed in the [2022 EEA Progress Report](#) and reported in the [previous edition](#) of the Education and Training Monitor.

The previous edition of the Education and Training Monitor introduced a new EU-level indicator on equity in education<sup>150</sup>. Combining the OECD's PISA assessments of proficiency in reading, mathematics and science, the new indicator compared country-level shares of underachievement between 15-year-olds from more advantaged socio-economic backgrounds and those from disadvantaged socio-economic backgrounds<sup>151</sup>. This section looks at several other dimensions of educational disadvantage, some associated with socio-economic status and others not directly.

The OECD's index for economic, social and cultural status captures dimensions such as parental education<sup>152</sup>, parental occupation<sup>153</sup> and certain home possessions, the latter comprising a household's educational resources and wealth. Following the approach of the EU-level equity indicator, results show that 15-year-olds with less educated parents are, on average across the EU, 2.5 times more likely to underachieve in all three assessments than those with high educated parents<sup>154</sup>. Similarly, the risk of underachievement is 4.7 times greater for 15-year-olds whose parents have a low-level occupation compared with children whose parents have a high-level occupation<sup>155</sup>.

When it comes to educational resources, sub-dimensions associated with a home learning environment are particularly important<sup>156</sup>. New findings from the Progress

148 An extra measure to recruit specialised teachers in the area of informatics and advanced digital technologies is mentioned in the [2023 Commission proposal](#) for a Council Recommendation on improving the provision of digital skills in education and training. A recommendation to EU countries has been proposed to support a two-way exchange and collaboration between education and training institutions on the one hand and the private sector on the other, building upon initiatives such as the Pact for Skills and the Digital Skills and Jobs Coalition. This type of exchange and collaboration would allow (1) professionals working in the digital sector (for instance in informatics) to support classroom teachers at primary or secondary level; and (2) specialised teachers to acquire specific skills in informatics and specific digital technology fields.

149 The scope to provide informatics as a separate compulsory subject is limited in primary education. Nonetheless, five education systems (Bulgaria, Estonia, Lithuania, Romania, and Slovakia) offer alternative pathways to train specialist informatics teachers to teach at this level. Retraining schemes to equip other specialist teachers with the necessary skills to teach informatics is relatively widespread for lower secondary education (16 education systems) and upper secondary education (18 education systems), but opportunities are limited for primary education teachers (6 education systems). See the [2023 Eurydice report](#). [Monitor Toolbox](#)

150 [Monitor Toolbox](#)

151 In 2024, PISA 2022 microdata will be used to rebuild the EU-level indicator on equity in education, reveal the latest trends and inform estimates in the run up to 2030. In the meantime, this section uses PISA 2018 data whenever the equity indicator is mentioned.

152 This dimension covers the highest level of educational attainment provided for a respondent's parent(s) or legal guardian(s). In the current analysis, low-level educational attainment (lower secondary education at most) is compared against high-level educational attainment (tertiary education).

153 This dimension covers the highest level of occupation provided for a respondent's parent(s) or legal guardian(s). In the current analysis, a low-level occupation comprises plant and machine operators as well as assemblers, whereas a high-level occupation comprises managers, professionals, technicians, and associate professionals.

154 [Monitor Toolbox](#)

155 [Monitor Toolbox](#)

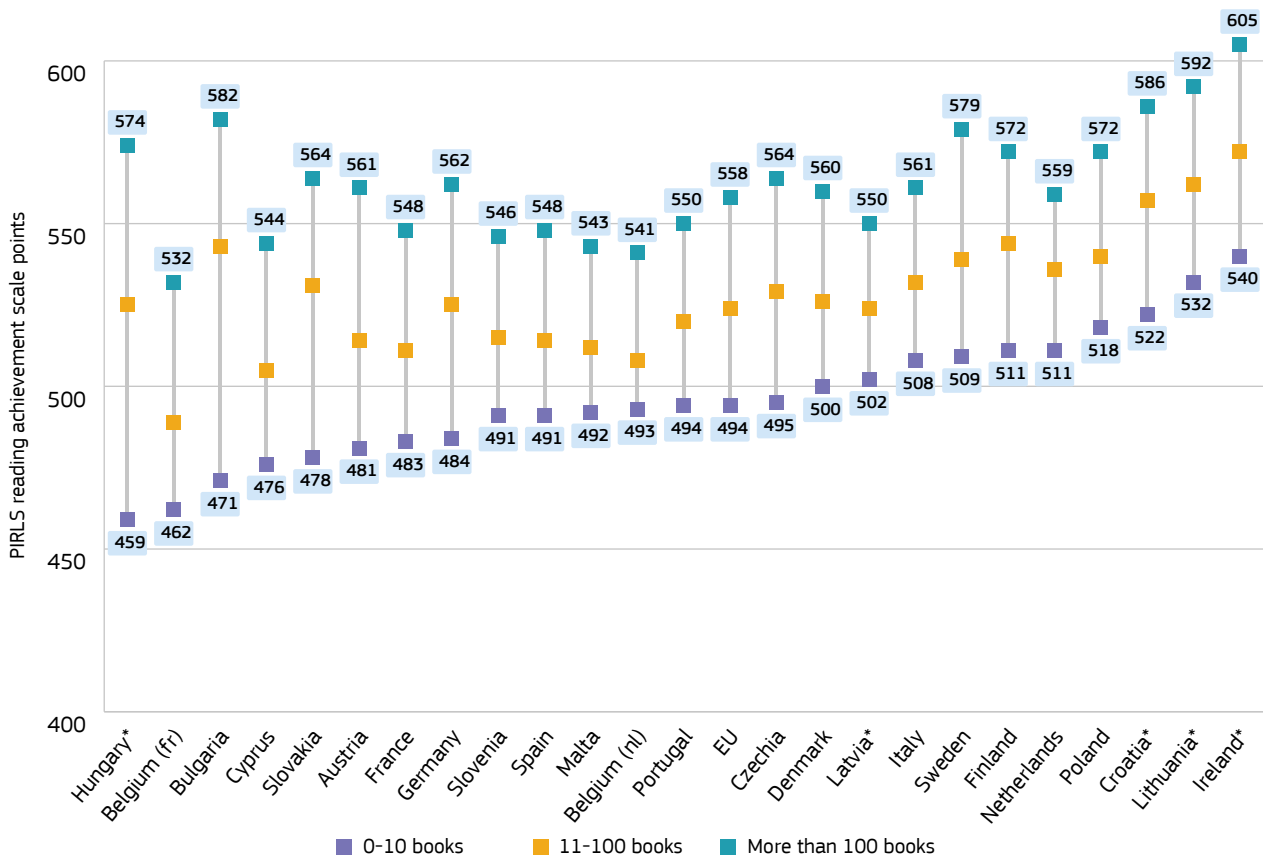
156 For instance, not having a quiet place to study doubles a 15-year-old's likelihood of underachieving in all three PISA assessments. [Monitor Toolbox](#)



in International Reading Literacy Study (PIRLS) 2021 among fourth grade students show a clear correlation between reading performance and the number of books at home<sup>157</sup>. On average, students from homes with more than 100 books score 64 scale points higher on the PIRLS reading achievement scale than students from

homes with 10 books or fewer (Figure 20). The gap is particularly large in Bulgaria (111), Slovakia (86), and Hungary (115), but is apparent in all surveyed educational systems, with the lowest gap found in the Netherlands and Latvia (47).

Figure 20. **The home learning environment yields a strong educational advantage.**



Source: [European Commission calculations](#) based on PIRLS 2021 data. [Download data](#) [Monitor Toolbox](#) Note: the PIRLS reading achievement scale has a centerpoint of 500, representing the mean of the combined achievement distribution for all sampled education systems in PIRLS 2021. The education systems are divided according to first wave and second wave [\*] data collections. Only education systems with data collections in the first wave are included in the EU average. Countries are presented in ascending order according to the achievement score of students with 0-10 books at home. Data are not available for Estonia, Greece, Luxembourg, and Romania.

157 The number of books at home is reported by the students' parents with the question: 'About how many books are there in your home? (Do not count ebooks, magazines, newspapers, or children's books.)'.

### Box 12. Boys are slowly catching up with girls

Across the EU on average, young women are 3.1 percentage points less likely to leave school before attaining upper secondary education than young men, with early school leaving rates of 8.0% and 11.1% respectively. The gender gap has decreased since 2019, but only because the average rate among men has gone down. In fact, the average proportion of early school leaving among women has now remained unchanged for three years in a row<sup>158</sup>, albeit beyond the below 9% EU-level 2030 target since 2017.

Similarly, young women are 4.5 percentage points more likely to attain the level of upper secondary education than young men (20-24 age group), with rates of 85.9% and 81.4% respectively. While there has been a slight 2019-22 increase in the proportion of young men attaining upper secondary education (up 0.4 percentage point), for young women the proportion has slightly decreased (down 0.3 percentage point)<sup>159</sup>. On average, the gender gap has decreased 0.7 percentage point.

Having a migrant background is often associated with strong educational disadvantages<sup>160</sup>. In 2022, first-generation migrants who, like their parents, were born outside the EU were three times more likely to leave school early (23.9%) than young people who, like their parents, were born in the reporting country (8.0%)<sup>161</sup>. The heightened risk of early school leaving among first-generation migrants increased 1.3 percentage points from 2021 to 2022. The deterioration is most significant among young women (increasing from 18.1% in 2021 to 20.3% in 2022), although it is still not as marked as that for young men (from 26.5% in 2021 to 27.0% in 2022).

The implications of Russia's aggression against Ukraine, with an unprecedented volume of displaced people, are having a significant impact on the EU education systems, emphasising the challenge of integrating newcomers into school education. EU countries are hosting more than 1.3 million displaced children from Ukraine, out of which approximately 840 000 are of compulsory schooling age, and over 680 000 are enrolled in schools in the host country. Though not doing justice to the nature of the challenge, Figure 21 quantifies the relative size of the challenge in relation to the size of each country's education system. The number of displaced children from Ukraine enrolled in the 2022-23 school year represents almost 3% of the total cohort of students in Estonia, Poland, Czechia, and Lithuania<sup>162</sup>.

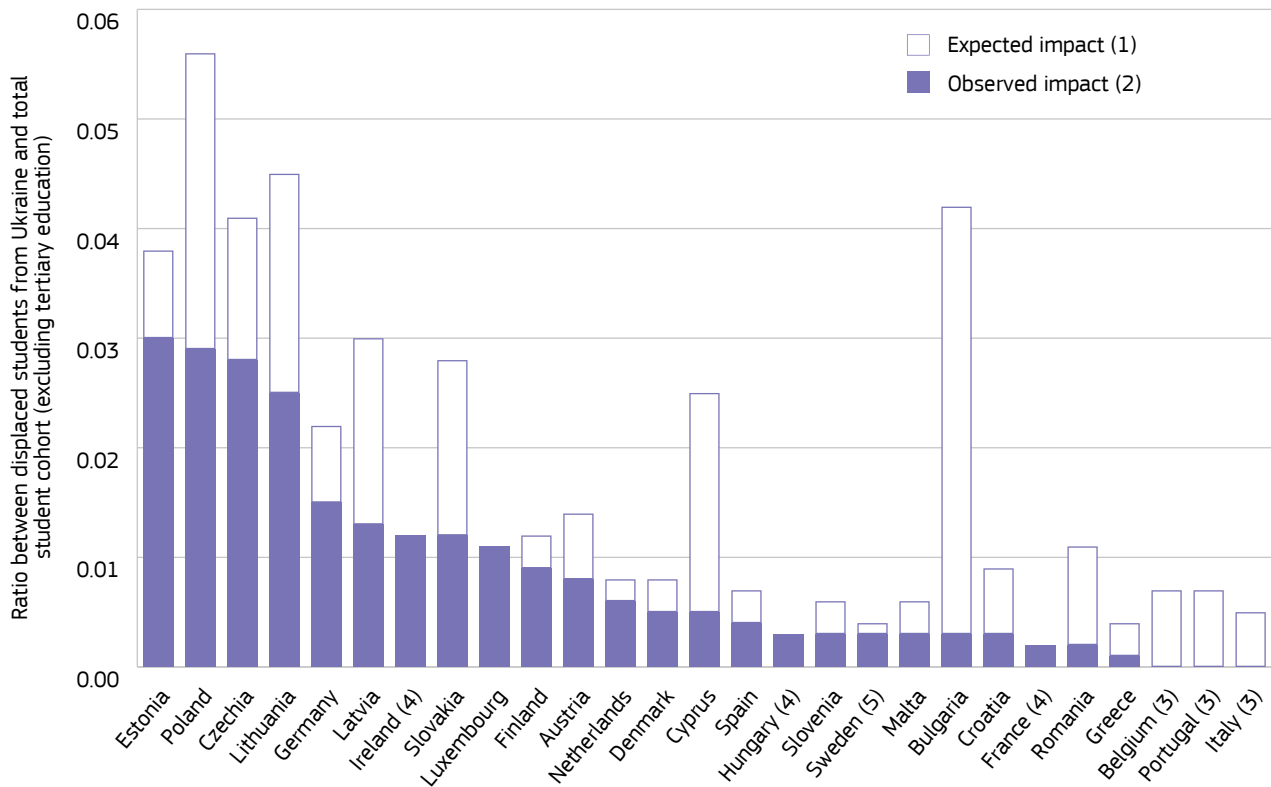
158 The disadvantage for men in 2022 as regards early school leaving figures is most evident in Estonia, Latvia, and Spain (all over 5 percentage points). Only in Bulgaria and Greece do young men record lower early school leaving rates than young women. [Monitor Toolbox](#)

159 The disadvantage for men in 2022 as regards upper secondary educational attainment is most evident in Denmark (11.0 percentage points), Estonia (8.7), and Luxembourg (8.0). Again, only in Bulgaria and Greece do men record an advantage. [Monitor Toolbox](#)

160 As for the EU-level indicator on equity in education, the language spoken at home is the best available proxy, as reported in the previous edition of the Education and Training Monitor. The underperformance gap between low-level and high-level socio-economic status is 20.9 percentage points when the test language is not spoken at home, compared to 17.4 percentage points when it is. [Monitor Toolbox](#)

161 The disadvantage faced by second-generation migrants is significantly smaller in the EU on average. Young people born in the reporting country whose parents were born outside the EU record a 11.6% early school leaving rate on average. [Monitor Toolbox](#)

162 The share would exceed 4% in Lithuania, Bulgaria, and Czechia and 5% in Poland if their enrolment rate were at the same level as that for the rest of the population under 18 residing in the country.

Figure 21. **EU education and training systems are working on the inclusion of displaced children from Ukraine.**

**Source:** European Commission calculations based on available figures on children from Ukraine enrolled in school education in 2022-23 (European Commission, OECD, and EU countries' education authorities), population under temporary protection (Eurostat) and enrolment data for the school year 2020-21 (Eurostat). [Download data](#) [Monitor Toolbox](#) Note: (1) ratio between the expected volume of displaced children from Ukraine enrolled and the total cohort of students in the hosting country (tertiary education excluded), assuming that the enrolment of displaced children from Ukraine is at the same level as the participation rate in education and training among the population under 18 years old in the host country; (2) ratio between the volume of displaced children from Ukraine actually enrolled in the host country's education system and the total cohort of students in the host country (tertiary education excluded); (3) information on the volume of displaced children from Ukraine enrolled in the host country not available; (4) information on the volume of displaced children from Ukraine not available; (5) information on the volume of displaced children from Ukraine enrolled estimated by the Swedish National Agency for Education (September 2022). Countries are in descending order according to the observed impact on the education system.

### Box 13. Examples from the country reports

Czechia has integrated over 50 000 displaced pupils from Ukraine in its schools in 2022-23. Most children under temporary protection are placed in public schools and are obliged to enrol no later than 3 months after their arrival. They represent approximately 2.8% of all pupils in early childhood education and care, primary education, and secondary education. Children receive free preparatory classes in the Czech language and special adaptation groups can also be organised at the request of the parents. In 2022 and 2023, the Ministry of Education provided financial support for those taking up the position of a Ukrainian teaching assistant in pre-primary, primary, and secondary education and helped employ over 350 displaced teachers from Ukraine.

Estonia has enrolled more than 7 500 displaced pupils from Ukraine into its school system, which represents around 3% of enrolments, among the highest in the EU. To accommodate the increased student numbers, an additional 800 school places were created in Tallinn, including a separate school – the Freedom School for Ukrainian pupils – teaching the Estonian curriculum partly in Ukrainian. Local governments receive a grant per Ukrainian pupil enrolled in education, which takes into account labour costs, recreational activities, school meals, teaching materials as well as language training. Participation in early childhood education and care is not obligatory and capacity shortages are a challenge.

The challenge of equal access to quality, inclusive and mainstream education is one that persists for many children coming from marginalised Roma communities. A [2022 report](#) from the Fundamental Rights Agency<sup>163</sup> stresses that substantial efforts need to be made to achieve the EU Roma strategic framework education objectives and targets by 2030<sup>164</sup>, with only negligible progress between the 2016 and 2021 surveys. Nearly three out of four young Roma aged 18–24 (71%) leave the education system early, with only one in four young Roma aged 20–24 (27%) completing upper secondary education. In compulsory school, more than half of Roma children aged 6–15 (52%) are in segregated schools where most or all schoolmates are Roma (44% in 2016). Discrimination rates when in contact with school authorities increased between 2016 and 2021, from 7% to 11%, across the EU countries surveyed. One in five Roma children experienced bullying or harassment while in school.

A [2023 Eurydice report](#) on diversity and inclusion in schools captures efforts to address discrimination<sup>165</sup> and promote diversity in a comparative, cross-EU perspective. It shows that students with special educational needs or disabilities<sup>166</sup> are the main target group in all analysed areas, including strategic policy frameworks, measures to promote access and participation, national curricula, learning and social-emotional support policies and measures, and teacher education and training. The second most widely targeted student group across most of the thematic areas<sup>167</sup> are migrant and refugee students, followed by ethnic minority students such as Roma.

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163 The report presents findings from a 2021 survey on Roma in eight EU countries (Croatia, Czechia, Greece, Hungary, Italy, Portugal, Romania, and Spain). By focusing on Roma, the survey provides unique data and information that are not available from general population surveys, though caution is needed when interpreting the comparison of results.

164 The EU Roma framework calls on EU countries to reduce the gap in upper secondary completion by at least one third and ensure that, by 2030, the majority of young Roma complete at least upper secondary education. EU countries should strengthen efforts to eliminate educational segregation and ensure that by 2030 fewer than 1 in 5 Roma children attend schools where most or all children are Roma.

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165 See also the [2023 European Commission issue paper](#) on tackling different forms of discrimination in and through education and training.

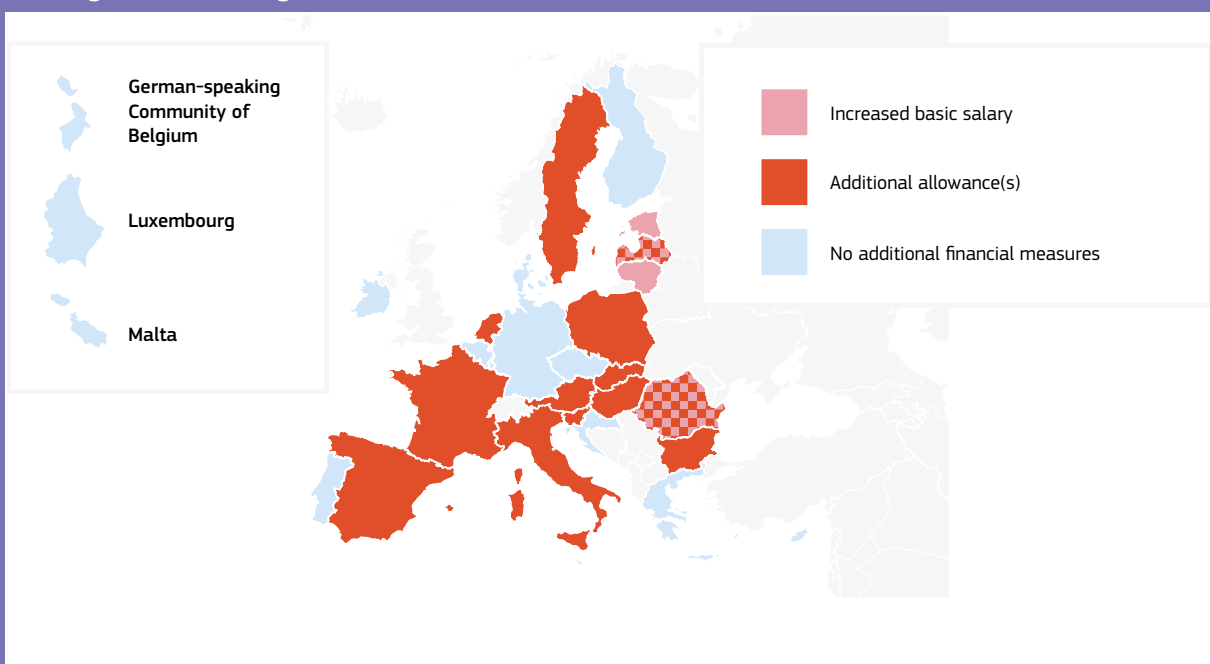
166 Young people with disabilities, for instance, have a much higher risk of early school leaving and are more likely to be neither in employment nor education and training (NEET). See a [2020 European Commission report](#) on European comparative data on persons with disabilities.

167 While gender equality is promoted through cooperation initiatives between education authorities and NGOs, strategic policy frameworks and national curricula, LGBTIQ+ students are rarely the focus of any targeted policies and measures aiming to promote diversity and inclusion in schools. See also the [2023 European Commission issue paper](#) on gender inequality in and through education, and the [2023 European Commission progress report](#) on implementing the LGBTIQ equality strategy.

### Box 14. Incentives for teachers working in schools with many disadvantaged students<sup>168</sup>

Financial incentives to support and motivate teachers working in disadvantaged schools can come in the form of an increased basic salary or an additional allowance. Less than half of all EU countries provide additional allowances for teachers working in schools with many disadvantaged students (Figure 22). An increased basic salary is even rarer, with only the Baltic countries and Romania providing such a financial measure<sup>169</sup>.

Figure 22. **Only in the Baltic countries and Romania teachers receive an increased basic salary for working in disadvantaged schools.**



Source: Eurydice 2023. [Monitor Toolbox](#)

Another way to support and motivate teachers to work in disadvantaged schools is to deploy non-financial incentives, such as offering better working conditions, preferential next assignments or faster career progression. Non-financial incentives are, however, no more prevalent than financial measures<sup>170</sup>. Across the EU, 15 education systems record better working conditions, such as a reduced workload or fewer students per teacher. A preferential next assignment is only possible in the French Community of Belgium, Spain, and France. The chance for faster career progression is provided only by France<sup>171</sup>.

168 Teachers are, moreover, supported in diversity and inclusion challenges through, for instance, initial teacher education, continuing professional development and multidisciplinary support teams (Section 3.1).

169 Additional financial support is also provided to schools enrolling disadvantaged students. Such measures are more prevalent, whether for some or all schools and whether automatic or not. Only Greece, Luxembourg, and Hungary provide no such additional support. See the [2023 Eurydice report](#). [Monitor Toolbox](#)

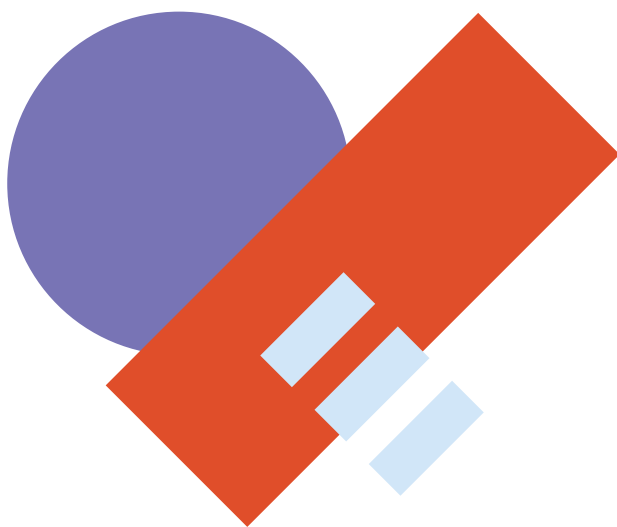
170 See the [2023 Eurydice report](#). [Monitor Toolbox](#)

171 Additional non-financial support is also provided to schools enrolling disadvantaged students. Across the EU, nine EU education systems offer non-financial support to all schools enrolling disadvantaged students, and another eight offer it to some schools. See the [2023 Eurydice report](#). [Monitor Toolbox](#)

Furthermore, teacher diversity can be beneficial for all students, particularly for those belonging to under-represented and/or disadvantaged groups<sup>172</sup>. However, a [2023 OECD report](#) reveals a lack of diversity within the teaching workforce in schools, for instance in terms of teachers' sex, ethnicity, and sexual orientation. The [2023 Eurydice report](#) on diversity and inclusion in schools shows that only seven EU countries have policies or measures in place promoting the recruitment of teachers from diverse backgrounds in schools<sup>173</sup>.

### In a nutshell

Prevalent underachievement in basic skills remains a cause for concern across the EU. Having introduced a new EU-level indicator on equity in education in the previous Education and Training Monitor, this year's report takes a closer look at the various sub-components of socio-economic status, as well as the aspects of educational disadvantage that go beyond it. New findings from the Progress in International Reading Literacy Study (PIRLS) 2021 show a clear correlation between reading performance and the number of books at home. First-generation migrants who, like their parents, were born outside the EU are three times more likely to leave school early (23.9%) than young people who, like their parents, were born in the reporting country (8.0%). Furthermore, over 1.3 million displaced children from Ukraine are being hosted across EU countries, with a concerted effort to integrate them into each country's education system.



172 A diverse teacher workforce can have positive impacts on learners as it brings a unique perspective based on teachers' life experiences, culture, and background, and because learners can identify themselves with the teachers they are learning from.

173 Croatia, Cyprus, France, Germany, Ireland, Lithuania, and Spain. Most of the policies and measures promoting teacher diversity concern specific quotas reserved for people with disabilities in the public sector, including public schools.

## Chapter 4. Vocational education and training



### 4.1. Work-based learning, employability and learning mobility

Vocational education and training (VET) aims to equip young people and adults with the knowledge, skills, and competences required in specific occupations, or more broadly on the labour market. It covers a wide range of qualifications: initial VET at secondary level<sup>174</sup>, continuing VET for adults and vocationally oriented education and training at higher levels. Across the EU in 2021, just over half (52.1%) of students enrolled in medium-level education<sup>175</sup> were in programmes with a vocational orientation. This proportion ranges from 17.6% in Cyprus to 70.0% in Austria<sup>176</sup>.

EU-level 2025 target:  
**'At least 60% of recent graduates from VET should benefit from exposure to work-based learning during their vocational education and training by 2025'**

174 Challenges outlined in Chapter 3 apply to school-based initial VET at secondary level too.

175 Upper secondary education and post-secondary non-tertiary education. [Monitor Toolbox](#)

176 Male students form a majority in medium-level VET overall (56%) and in upper secondary VET (58,4%). In post-secondary non-tertiary VET, female learners are overrepresented (58,0%). For male students, the main field in medium-level VET is 'engineering, manufacturing and construction' (45%). For female students, the most common fields are 'health and welfare' (25%), services (22%) and business, administration, and law (22%). [Monitor Toolbox](#)

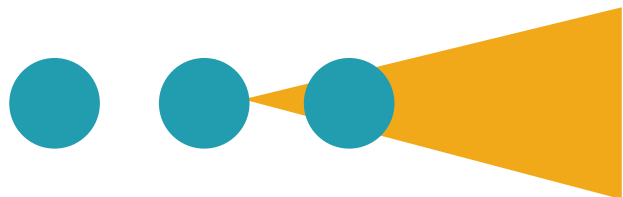
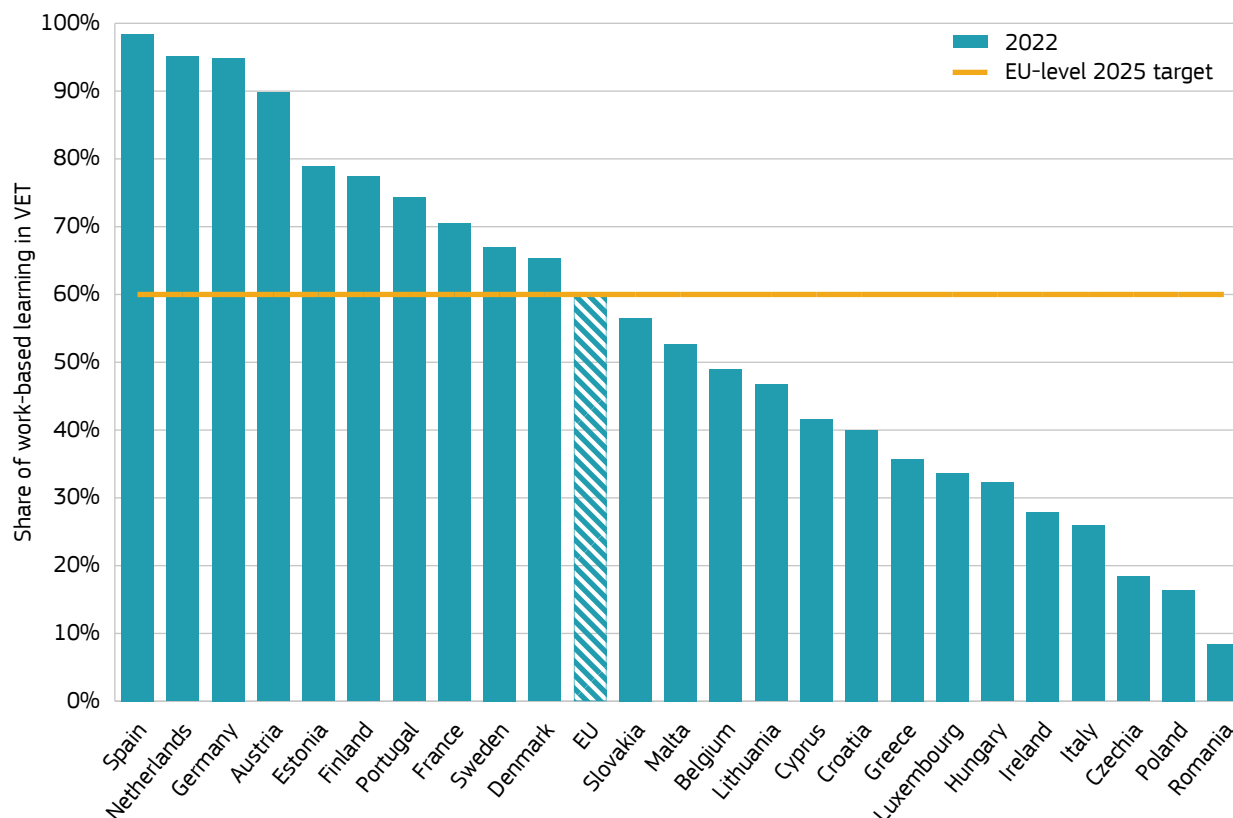


Figure 23. Three out of five recent VET graduates were exposed to work-based learning during their education and training.



Source: Eurostat (EU Labour Force Survey). [Download data](#) [Monitor Toolbox](#) Note: the indicator captures the share of 20-34-year-olds who had a work experience of at least 1 month as part of the curriculum and have graduated from medium-level VET (upper secondary or post-secondary non-tertiary) in the last 3 years. Data for Germany, Cyprus, and Ireland have low reliability. Data for Latvia and Bulgaria have low reliability and are not shown. Countries are shown in descending order according to the proportion with exposure to work-based learning.

In 2022, 60.1% of recent VET graduates had been exposed to work-based learning<sup>177</sup> during their education and training, meeting the 2025 target (Figure 23). The level recorded in 2022 is very similar to that of 2021

(60.6%), the first year these data became available<sup>178</sup>. Across the EU on average, recent VET graduates who had been exposed to work-based learning during VET were more likely to be employed (82.5% in 2022) than those who had not (71.6%).

177 [Monitor Toolbox](#) Work-based learning in this context refers to experience gained at a workplace (beyond or in addition to school-based learning or practical exercises at a training centre). Relevant work experience is part of the curriculum of the formal programme leading to a VET qualification (unlike most traineeships). Within these boundaries, there is a wide variety of experience in work-based learning. Work experience can take place in different sectors and types of workplaces (companies, government institutions or non-profit organisations), with varying duration (from 1 month to a year or more). Learners may work under different contractual statuses (dual learning with employment contract, apprenticeship) and conditions (paid or unpaid work experience). The indicator includes all VET graduates who left the VET programme 0-3 years ago, including those who are still in education and training, to cover the graduate population in the most comprehensive way possible while ensuring the quality and the precision of the indicator.

178 The latest data can be considered as a further validation of the rates observed a year prior, including an additional EU country (Denmark) and with certain data reliability issues having been resolved (Hungary). However, with only two consecutive data collections available for the EU and most countries, it would be premature to read trends from these numbers. Moreover, the reference period for the actual work-based learning experiences is broader than a single calendar year. The data include young people who graduated over the previous 3 years, reporting on work-based learning experiences during their VET programme. Therefore, some cases took place more than 3 years prior to the year of data collection. As a result, even major shifts at the country level would be expected to show up as a gradual increase or reduction over several data releases. Moreover, self-reported data may be subject to underreporting, including in cases where work-based learning is a mandatory element of VET.



The extent to which recent VET graduates were exposed to work-based learning varies considerably across countries. Work-based learning is near-universal (around 90% or above) in Spain, the Netherlands, Germany, and Austria. This proportion is below 30% in Romania, Poland, Czechia, Italy, and Ireland. Within most countries and across the EU on average, sex plays a relatively minor role (with a 2022 average proportion of 60.8% among men and 59.3% among women).

There are many ways to arrange of work-based learning, in terms of duration and remuneration. On average across the EU, two thirds of work-based learning in VET is paid and lasts 7 months or more<sup>179</sup>. This applies to several countries with relatively extensive work-based learning exposure, such as Germany, Austria, and the Netherlands, which account for a large proportion of the EU average<sup>180</sup>. Still, in 12 EU countries, the dominant form of work-based learning is unpaid and of short

duration<sup>181</sup>. There are some other countries where the most common work experience is relatively short and paid<sup>182</sup>.

The prevalence of work-based learning depends on its place in VET curricula, but also on the availability of relevant opportunities in workplaces. The Continuing Vocational Training Survey of 2020 sheds light on the labour demand side of work-based learning<sup>183</sup>. Nearly one third (32.4%) of businesses<sup>184</sup> in the EU employ participants in initial vocational training (IVT)<sup>185</sup>. Larger companies (250+ persons employed) are more likely to do so than medium-sized companies (50-249) or small companies (10-49), a gradient going from 58.5% to 43.6% to 29.3%<sup>186</sup>. Construction is the sector with the highest proportion of companies employing IVT participants (40.9%), followed by manufacturing (39.1%). For services sectors, the rate is below 30%<sup>187</sup>.

179 This analysis categorises countries by the main forms of work-based learning (at least 50% of the relevant dichotomies: paid or unpaid, short, or long duration). Bulgaria, Latvia, and Ireland are not included in the analysis. [Monitor Toolbox](#)

180 Other countries in this group are Denmark and Luxembourg. [Monitor Toolbox](#)

181 Belgium, Czechia, Spain, Croatia, Italy, Lithuania, Poland, Portugal, Romania, Slovakia, Finland, and Sweden. [Monitor Toolbox](#)

182 Estonia, Greece, France, Cyprus, Hungary, Malta, and Slovenia. [Monitor Toolbox](#)

183 [Monitor Toolbox](#)

184 Excluding micro-enterprises with fewer than 10 persons employed. According to Eurostat's structural business statistics, in 2020, such micro-enterprises accounted for 93.5% of all businesses in the non-financial business economy, and for 29.2% of its employment.

185 Across countries, the correlation between the exposure of VET graduates to work-based learning and companies employing IVT participants is not strong. Several countries have high rates using both indicators (Germany, the Netherlands, and Austria), or score low in both regards (Romania and Poland). But there are also outliers in different directions (Spain and Italy), which are linked to the different units of observation (businesses versus individuals).

186 Micro-enterprises (10 persons employed or fewer) are not covered in these statistics, but likely have smaller shares.

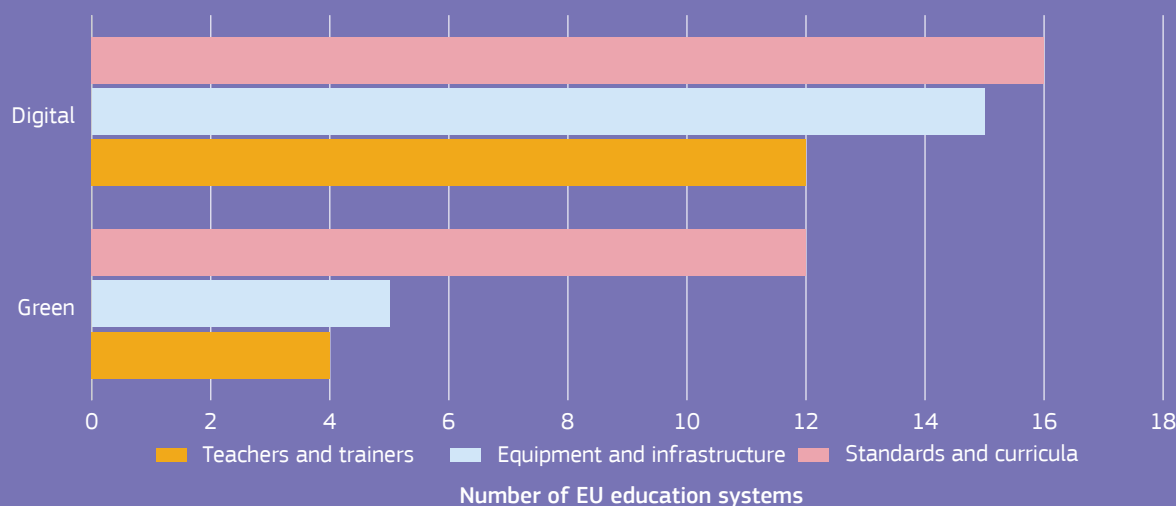
187 The main motivation for businesses in employing IVT participants is to train future employees according to the needs of the company (89.8% at EU level), and to select the best IVT participants for future employment (73.6%). The use of the productive capacities as such is cited less often (52.1%). [Monitor Toolbox](#)

### Box 15. VET for green and digital transitions

VET, with its close link to the labour market, plays a key role in providing workers and learners with skills required for the digital age and the move towards carbon neutrality. Many of the newly emerging jobs and activities require specific technical skills<sup>188</sup>, such as the ability to assemble and install renewable energy infrastructure, maintain ‘smart’ grids, carry out deep renovation of buildings making them energy efficient and digitally connected, and repair electric vehicles, including through software applications. VET and work-based learning are well suited to equip workers and learners with such skills, which are in growing demand, amid persistent shortages for technical and other profiles relevant to the transition towards climate neutrality.

The green and digital transitions are therefore expected to provide more job opportunities for VET learners in the coming years if the right accompanying measures are in place. VET programmes will need to be adapted to new needs requiring system-wide changes in their organisation and delivery. This includes all aspects, from changes in curricula, competences for teachers and trainers, to adaptation of learning venues and methods (schools, training centres or work-based learning sites)<sup>189</sup>.

Figure 24. EU countries planning VET measures by specific area concerning the digital and green transitions.



Source: Cedefop (2023). [Download data](#) [Monitor Toolbox](#) Note: the figure adds up EU education systems reporting activities in VET policies across different areas. There are 25 systems surveyed in total, with Belgium recorded for the Flemish and French Communities separately, whereas Czechia, Ireland, and Sweden are not covered.

Figure 24 summarises the number of EU education systems reporting activities in VET policies when it comes to the digital and green transitions, as based on EU countries’ national implementation plans<sup>190</sup>. Some countries report activities on nearly all areas for both green and digital (Austria, Germany, Hungary, and Malta). Others report none (Bulgaria and Cyprus). Some systems have a more digital profile (the French Community of Belgium, Greece, and Finland). Others have more activities related to the green transition (Denmark). Taken as a whole, this overview suggests that there is more widespread activity on the digital transition than the green transition<sup>191</sup>.

188 See the [2023 European Labour Authority report](#) on labour shortages and surpluses, the [Employment and Social Developments in Europe 2023 Annual Review](#) on addressing labour shortages and skills gaps in the EU, and a [2021 Cedefop report](#) on the green employment and skills transformation.

189 EU-funded *centres of vocational excellence* will also be key to developing local ‘skills ecosystems’, working closely with businesses including SMEs, and contributing to regional development, entrepreneurship, innovation, industrial clusters, and smart specialisation strategies, including for the digital and green transition. The centres specialise in different areas of activity, from advanced manufacturing to artificial intelligence, and from water technology to urban greening.

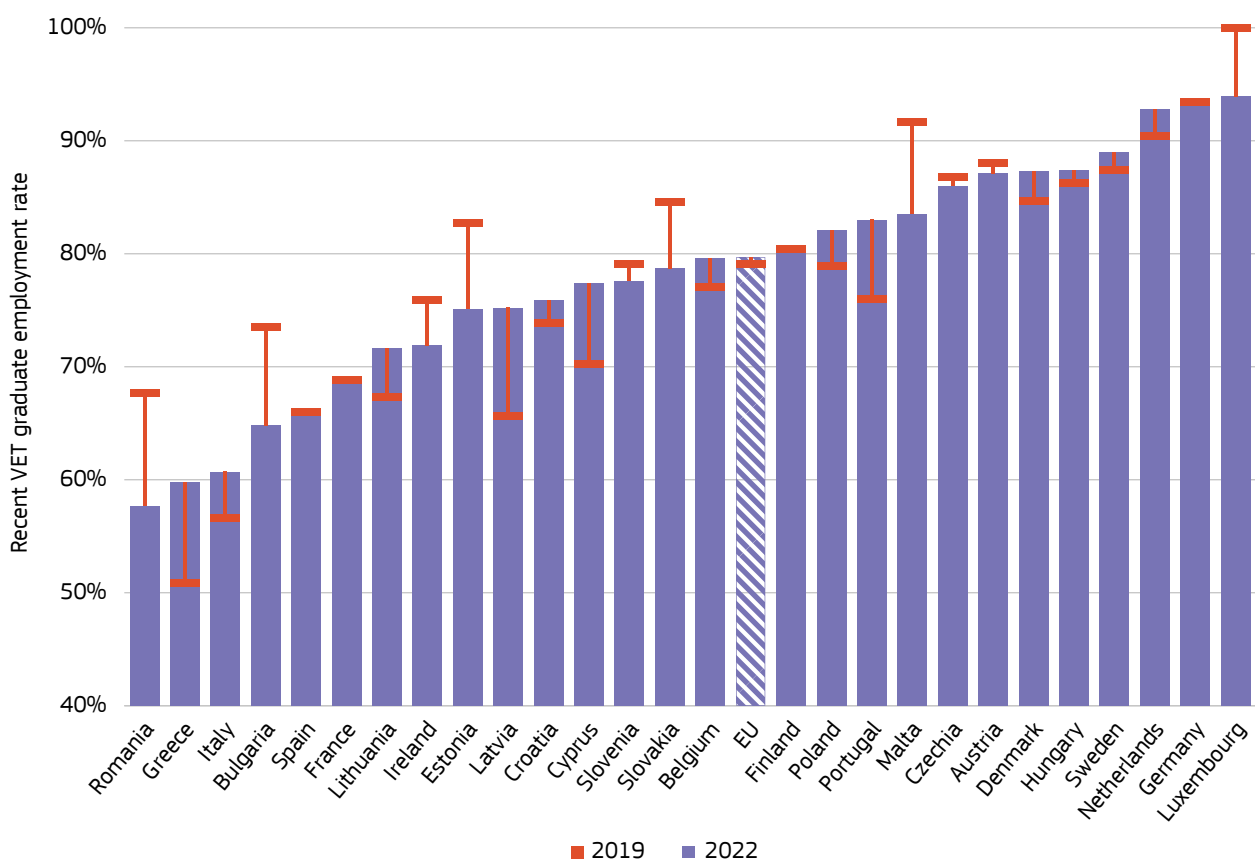
190 These national implementation plans were submitted for the [2020 Council Recommendation](#) on VET, which set out key principles to ensure VET provides quality learning opportunities for young people and adults, as well as the [2020 Osnabrück Declaration](#) on VET, which set out specific actions for 2021–25 at both national and EU level, focusing in particular on green and digital transitions. This summary builds on a [2023 Cedefop briefing note](#), focusing on how skills for the green and digital transitions have been addressed in the context of the national implementation plans.

191 Most of these national implementation plans were submitted in May 2022, setting out activities until 2025 (including proposals until 2028 and a further outlook to 2030). Since the submission of the national implementation plans, there have been significant developments. The Council adopted two Recommendations in 2022 on [learning for green transition and sustainable development](#) and on [ensuring a fair transition towards climate neutrality](#). VET and the green transition is a very dynamic area, which also features many bottom-up initiatives, as is evident from the ‘[compendium of inspiring practices](#)’ produced by the relevant Working Group under the EEA strategic framework. Work will continue in identifying possible good practices and promoting mutual learning. In 2023, the European Commission also adopted a [proposal for a Council Recommendation](#) on improving the provision of digital skills in education and training and a [proposal for a Council Recommendation](#) on the key enabling factors for successful digital education and training.

Figure 25 compares the 2022 employment rates of recent VET graduates with the last full set of pre-COVID-19 data (2019). After a volatile period linked to the pandemic, the employment rate of recent VET graduates is moving nearer to its target of 82% by 2025<sup>192</sup>. In 2022, the relevant employment rate stood at 79.7% and 11 EU countries had reached or exceeded the EU-level target (Luxembourg, Germany, the Netherlands, Sweden, Hungary, Denmark, Austria, Czechia, Malta, Portugal, and Poland). Among these countries, only the latter two had not yet attained this level before the COVID-19 pandemic. In the medium term, the best performing countries have shown a strong degree of resilience in sustaining high employment rates.

Female VET graduates tend to be employed at a lower rate than men, on average in the EU (3.5 percentage points) and in most countries. Whereas the biggest gap is recorded in the country with the lowest employment overall (23.6 percentage points in Romania), there are also very sizeable gaps among some of the better performers (14.6 percentage points in Sweden and 15.8 in Czechia), as well as among those nearer the EU average (11.4 percentage points in Poland and 13.2 in Slovenia). In seven countries, employment rates of VET graduates were lower among men than women, most noticeably in Estonia (8.5 percentage points) and Luxembourg (4.0).

Figure 25. **The employment rate of recent VET graduates is picking up after the COVID-19 pandemic.**



Source: Eurostat (EU Labour Force Survey). [Download data](#) [Monitor Toolbox](#) Note: the indicator captures the employment rates of young people aged 20 to 34 who are no longer in education and training, having graduated 1-3 years prior from VET at upper secondary or post-secondary non-tertiary level.

192 Adopted as part of the [2020 Council Recommendation](#) on VET. Across the EU on average, recent VET graduates who had been exposed to work-based learning during VET were more likely to be employed (82.5% in 2022) than those who had not (71.6%).

Furthermore, learning mobility in VET is recovering from the COVID-19 pandemic, but remains substantially below the relevant target<sup>193</sup>. The pandemic resulted in an interruption in the upward trend in VET mobility over the 2014-20 period. Fewer than 33 000 mobility exchanges in line with the target definition took place in 2020, in contrast with the nearly 110 000 exchanges completed in 2019<sup>194</sup>. The year 2021 still suffered from the negative impact of the pandemic and only around 2% of the respective cohort of VET learners – around 56 000 participants – could benefit from a mobility experience in upper secondary education and post-secondary non-tertiary VET<sup>195</sup>. The number of applications in Erasmus+ in VET for learners continued increasing in 2022-23 and, with such growing demand, the EU is gradually moving closer to its 2025 target.

## 4.2. A closer look at teachers and trainers

Teaching and training professionals in VET cover a wide spectrum of roles and activities, including VET-specific elements such as practical training and work-based learning<sup>196</sup>. It is common to distinguish VET teachers and trainers by the place of learning, whether it is a classroom, training centre or workplace. The subject matter taught by the teachers ranges from more general subjects to occupation-specific technical subjects<sup>197</sup>. Moreover, the mode of teaching may be mostly theoretical or may

include practical exercises. The specific job titles for VET teachers and trainers reflect the role of VET across sectors and occupations. Examples include vocational teachers in agriculture, hospitality or electronics and automation, instructors in the maritime or railway sectors, as well as trainers in the armed forces or the police<sup>198</sup>.

The qualification and training requirements for teaching professionals in VET vary, in line with their different roles and profiles. In most countries, a higher education degree is required to teach general subjects or theoretical vocational courses in VET schools. For staff teaching practical vocational subjects, the required qualifications generally include upper secondary education or a professional degree. In some countries, further requirements apply, such as professional experience, or a state exam or competition<sup>199</sup>. Continuing professional development is mandatory for VET teachers in 19 countries, whereas only 10 countries have such provisions in place for in-company trainers<sup>200</sup>.

Teaching professionals in VET may combine different roles, teaching and training both in school-based and work-based contexts, or working part-time in industry<sup>201</sup>. While such hybrid teaching is not limited to VET, it is more widespread in this field than in general education. Labour market data suggest that in most countries, it is more common for VET teachers to have a second job than for general education teachers<sup>202</sup>. Regulation of hybrid teaching seems to exist only in Belgium and Hungary, but the actual practice is relatively widespread, with combinations of some form or another observed in more than half of EU countries<sup>203</sup>. Hybrid teaching is seen as having several potential benefits, allowing teaching professionals to follow the latest developments in industry while increasing the attractiveness of the teaching profession<sup>204</sup>.

193 The [2020 Council Recommendation](#) on VET set the goal that by 2025 8% of VET learners should benefit from a learning mobility experience lasting a minimum of 10 days abroad. This is measured as the share of mobile VET learners in a calendar year, at upper secondary and post-secondary non-tertiary education levels, as a proportion of the cohort of VET graduates at the same level of education in the same year. The source for mobility data is Erasmus+, whereas VET graduate data is extracted from the UOE data collection. The ambition to reach the target has been accompanied by increased resources to VET mobility in the 2021-27 Erasmus+ programme.

194 **Monitor Toolbox** The indicator refers to the number of VET learners in upper secondary education and post-secondary non-tertiary education from EU countries taking part in mobility experiences abroad, shown by the year in which their mobility experience started. The data include all VET learner mobility experiences that took place in that period, as reported by project beneficiaries. This includes mobility related to projects funded under the 2014-20 programming period that are finalised. The data were extracted in August 2023, from the Erasmus+ mobility records for the programming periods 2014-20.

195 **Monitor Toolbox**

196 For a recent analysis of vocational teachers and the student-vocational teacher ratio, see the OECD's [Education at a Glance 2023](#).

197 A [2022 Cedefop briefing note](#) distinguishes between (1) staff teaching general subjects in VET schools; (2) staff teaching VET-related subjects in VET schools (theory taught in classrooms and practical training taught in workshops); and (3) trainers teaching at workplaces. In the International Standard Classification of Occupations, those teaching general subjects in VET schools are considered general education teachers.

198 According to the [classification of European Skills, Competences, and Occupations](#).

199 See a [2022 Cedefop briefing note](#).

200 See a [2022 Cedefop briefing note](#).

201 See a [2022 Cedefop synthesis report](#).

202 See a [2021 OECD report](#) on teachers and leaders in VET.

203 Austria, Belgium, Bulgaria, Czechia, Germany, Estonia, France, Hungary, Lithuania, Latvia, Malta, the Netherlands, Poland, and Portugal. See a [2022 Cedefop synthesis report](#).

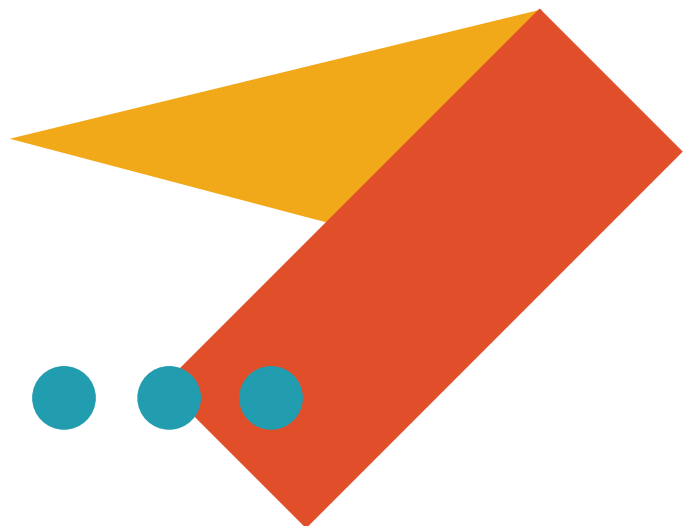
204 See the [2023 EENEE-NESET report](#) used throughout Chapter 1.

Classroom teachers in VET tend to be older than those in general education. In 2021, 44.2% of upper secondary VET teachers in the EU were aged 50 or older, compared to 40.8% among those teaching in general education<sup>205</sup>. Both in VET and in general upper secondary education, female teachers are overrepresented. The proportion of men is slightly higher in VET than general education (39.9% compared to 37.8% in 2021), although the difference between both forms has narrowed (from 5 percentage points in 2013, when the rates were 41.9% and 36.9% respectively)<sup>206</sup>.

Teacher shortages in VET have been reported in several countries. Shortages of ‘vocational education teachers’ have been reported in Belgium, Denmark, Estonia, France, Italy, the Netherlands, Poland, Portugal, and Sweden, with Slovenia reporting shortages in ‘teachers and assistants of vocational subjects’<sup>207</sup>. In addition, other sources have flagged current or future shortages for Germany and, in specific fields, for Finland<sup>208</sup>.

### In a nutshell

In 2022, 60.1% of recent initial VET graduates experienced work-based learning during their education and training, reaching the 2025 EU-level target of at least 60%. Across the EU on average, recent VET graduates who experienced work-based learning during VET were more likely to be employed (82.5% in 2022) than those who had not (71.6%). After a volatile period linked to the COVID-19 pandemic, the employment rate of recent VET graduates (79.7% in 2022) is moving closer to the EU-level target of 82% by 2025. Learning mobility in VET is also recovering from the pandemic but remains considerably below target. Teaching professionals in VET are in high demand, with shortages reported in many countries.



205 Conversely, teachers aged under 40 comprised 27.2% of general teachers, compared to 24.2% in VET. [Monitor Toolbox](#)

206 [Monitor Toolbox](#)

207 [European Labour Authority 2023 report](#) on labour shortages and surpluses. Based on data from EURES national coordination offices.

208 See a [2021 OECD report](#) on teachers and leaders in VET.

## Chapter 5. Higher education

EU-level 2030 target:  
**‘The share of 25-34-year-olds with tertiary educational attainment should be at least 45% by 2030.’**

### 5.1. Tertiary educational attainment

The steady growth in the proportion of tertiary-educated<sup>209</sup> 25-34-year-olds seen over the past two decades continued in 2022, up 0.6 percentage points from 2021 (Figure 26). The proportion now stands at 42.0% across

209 This means having completed a short-cycle tertiary, bachelor, master, doctoral or equivalent level of education.

the EU, on track to surpass the EU-level target of 45% by 2030<sup>210</sup>. Moreover, a new trajectory, using forecasts of known determinants such as employability<sup>211</sup> and proxies for parental educational attainment, estimates that the EU will surpass the 2030 target by a considerable margin, already topping 45% around 2025<sup>212</sup>.

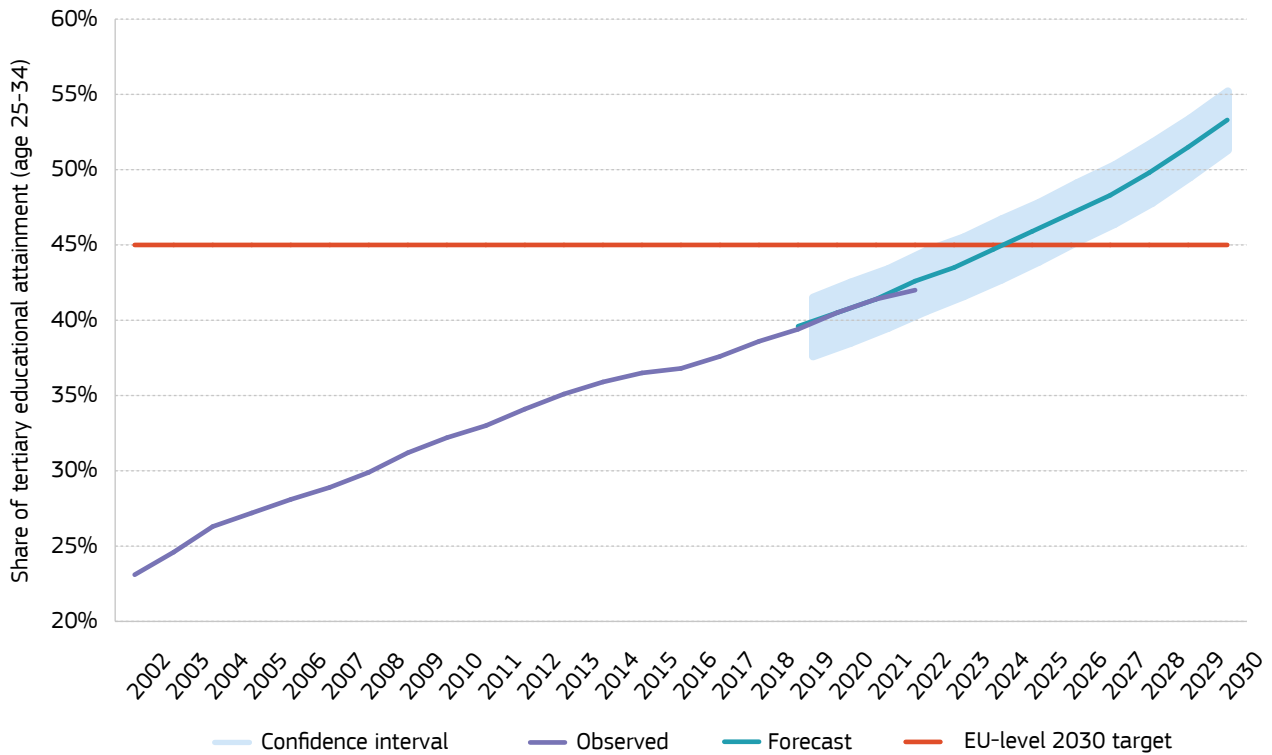
210 [Monitor Toolbox](#)

211 For instance, in terms of individual labour market outcomes, highly educated young people (86.4%) were more likely to be employed in 2022 than young people with a medium level of education (79.0%) and those with a low level of education (58.0%). [Monitor Toolbox](#)

212 Caution is still needed. The estimates are based on a model built to describe future trends in the context of socioeconomic and political stability using known determinants. For this reason, only pre-COVID-19 data are included in the model. Although the estimates do not deviate substantially from the recorded attainment rates post-2019, this does not preclude delayed effects of the pandemic or other unknown determinants altering the trajectory in the coming years. See the [2023 report](#) from the European Commission (Joint Research Centre).



Figure 26. The EU is set to surpass its target on tertiary level attainment.



Source: European Commission (Joint Research Centre) 2023 based on Eurostat (EU Labour Force Survey). [Download data](#) Note: the confidence interval depicts the range in which the EU average is likely to be with 95% certainty.

Educational attainment at tertiary level is close to becoming the most common level of attainment among younger adults in the EU<sup>213</sup>, albeit with sizeable variations at country level<sup>214</sup> (Figure 27). In nine EU countries, over 50% of 25-34-year-olds have attained tertiary level education. By contrast, fewer than two in five young people have reached this level in eight EU countries. Most countries recorded a 2021-22 increase in their tertiary attainment rate, at 0.5 percentage point or higher in 13 countries. Still, there were EU countries where the attainment rate decreased, with five countries recording declines of more than 0.5 percentage point (Slovenia, Denmark, Hungary, Luxembourg, and Portugal).

213 Upper secondary or post-secondary non-tertiary education is still the most common attainment level in the EU among 25-34-year-olds (43.4%), but the gap to tertiary level attainment has narrowed by a considerable margin (10.5 percentage points) over the past 10 years. [Monitor Toolbox](#)

214 Looking at regional data, 2022 tertiary educational attainment rates are below 20% in Romania's *Sud-Muntenia* (16.0%), *Sud-Est* (17.0%), *Nord-Est* (19.4%), and *Vest* (19.6%). Below-20% rates are also recorded in Czechia's *Severozápad* (18.0%), Hungary's *Észak-Magyarország*, and Italy's *Sicilia* (19.9%). [Monitor Toolbox](#) For further details about the regional dimension, see the [2023 Eurostat regional yearbook](#).

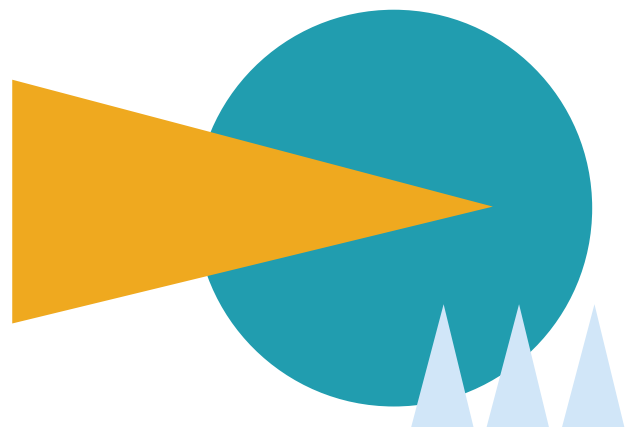
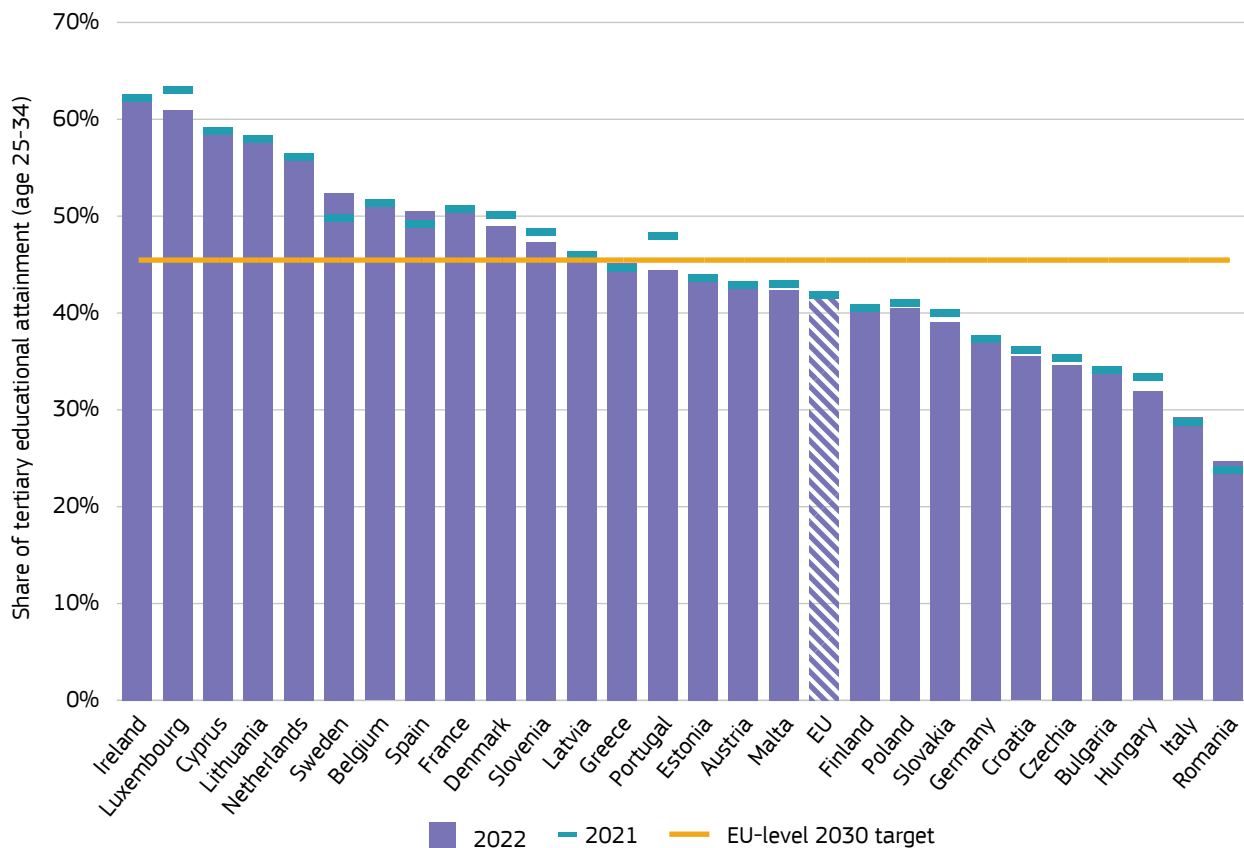


Figure 27. **Sizeable variations remain when it comes to rates of tertiary educational attainment at country level.**



Source: Eurostat (EU Labour Force Survey). [Download data](#) [Monitor Toolbox](#)

While the overall trajectory at EU and country level paints a positive picture, there are variations in educational attainment between different groups that need emphasising. Firstly, there is a persistent gender gap in tertiary attainment rates<sup>215</sup>, which has fluctuated between 10 and 11 percentage points over the past 10

years<sup>216</sup>. Men (36.5%) are far less likely to have gained tertiary level qualifications than women (47.6%)<sup>217</sup>. Although tertiary attainment is becoming more common in general, the increase over the past 10 years has been more pronounced for women (7.3 percentage points) than men (6.5 percentage points)<sup>218</sup>.

215 The gender gap in tertiary attainment rates reflects that more women than men chose to enter and complete higher education. Ensuring equal opportunities and gender equity will require institutional changes at tertiary level in the coming years. Also, the issue of gender equity at lower levels of education needs to be addressed. Gender gaps are introduced at an early age and continue to widen through the educational trajectory. A [2021 study](#) on gender behaviour and its impact on education outcomes points to a direct link between boys' underperformance in compulsory school education and the gender gap in tertiary educational attainment, as participation in higher education is highly dependent on grades and gaining an upper secondary education qualification. For an overview of other determinants underlying the gender gap identified in the literature, see a [2021 analytical report](#) from the European Expert Network on Economics of Education (EENEE).

216 The relatively stable gender gap over the past 10 years contrasts with the period from 2003 to 2012, when the gender gap more than doubled (from 4.7 percentage points to 10.1 percentage points). [Monitor Toolbox](#)

217 At EU country level, the gender gaps range from 4.6 percentage points to 23.8 percentage points. Only seven EU countries have gaps that are smaller than 10 percentage points. Moreover, in 17 EU countries, more than 50% of all 25-34-year-old women have a tertiary degree. In contrast, there are only four EU countries where more than half of 25-34-year-old men have a tertiary degree. [Monitor Toolbox](#)

218 Most young people (25-34-year-olds) in the EU who have attained a tertiary level qualification are women (55.9%), which is also the case in all EU countries. [Monitor Toolbox](#)



Noticeable gender gaps are also evident when distributing tertiary educated 25-34-year-olds across fields of education. At the EU level, the largest gaps are found within education; ICT; health and welfare; and engineering, manufacturing, and construction, where there is a gender gap of more than 50 percentage points<sup>219</sup>. In all other broad fields, the gaps are below 40 percentage points. A combined aggregate for the STEM (science, technology, engineering, and mathematics) disciplines has the fifth largest gap, at 40.4 percentage points<sup>220</sup>.

### Box 16. Closing the gender gap in STEM

Closing the gender gap in STEM is likely to encourage economic growth via both higher productivity and increased labour market activity, especially in ICT. All EU countries face a critical shortage of digital experts, which could hinder the development, uptake, and use of emerging key digital technologies<sup>221</sup>.

In response to the demands of the digital transition, the EU has set ambitious targets to provide for a digitally skilled population (80% of the population report having at least basic digital skills) and highly skilled digital professionals (20 million ICT specialists are in employment) by the end of the decade<sup>222</sup>.

Higher education has a key role to play in promoting women's access to ICT and increasing the number of ICT graduates<sup>223</sup>. Meeting the target on highly skilled digital professionals requires a drastic increase to the 9.4 million ICT specialists currently employed in the EU, of whom only 18.9% are women<sup>224</sup>.

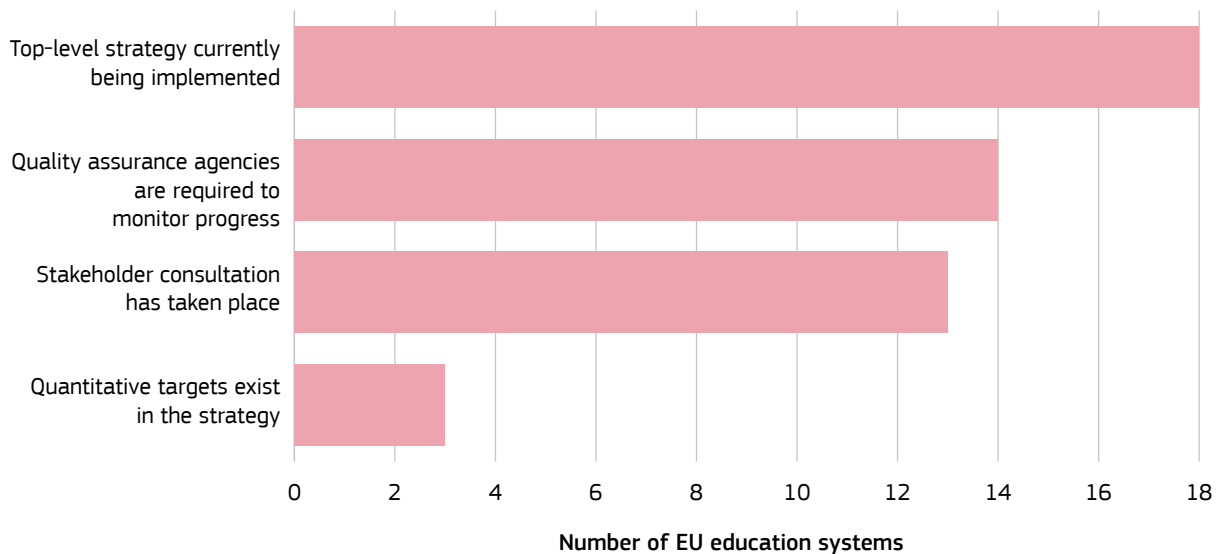
Figure 28 presents the policies for tackling gender equity issues in higher education currently in place in EU education systems<sup>225</sup>. Only two countries (the Netherlands and Sweden) have implemented all four measures for tackling gender equity issues. In about one third of the countries there are no measures in place.

- 219 Women account for the majority people with a tertiary education within education (80.6%) and health and welfare (75.2%), whereas men are dominant within ICT (80.4%) and engineering, manufacturing, and construction (75.1%). [Monitor Toolbox](#)
- 220 STEM encompasses natural sciences, mathematics, statistics, ICT, engineering, manufacturing, and construction. There are more men with tertiary level qualifications within the STEM fields (70.2%) than women (29.8%). Noticeably, the gap within natural sciences, mathematics and statistics is much narrower than the other constituent STEM fields at 7.3 percentage points, with more women (53.7%) than men (46.3%) having obtained tertiary level attainment. [Monitor Toolbox](#)
- 221 A detailed overview of Europe's digital performance and progress of EU countries is provided by the [Digital Economy and Society Index \(DESI\)](#).
- 222 The targets on basic digital skills and ICT specialists are 2 of the 12 EU-level targets established under the [Digital Decade policy programme](#).
- 223 Only 2.0% of women in the 25-34 age bracket with tertiary level attainment have a degree in the field of ICT. By contrast, 10.4% of men in this age group gained qualifications in ICT. This is reflected in the number of graduates from higher education in ICT, which is male dominated (78.8% of graduates in 2022). [Monitor Toolbox](#)
- 224 [Monitor Toolbox](#)



- 225 For a country to be considered as having these measures, the following more specific aspects have been taken into account: a strategy for gender equality exists for all institutions; the targets in the strategy are measurable (quantitative); a stakeholder consultation for the strategy has taken place; and quality assurance agencies are required to monitor progress of strategy implementation.

Figure 28. **Policies for tackling gender equity issues in higher education are not prevalent across the EU.**



Source: [Eurydice 2023](#), [Download data](#), [Monitor Toolbox](#) Note: the figure adds up EU education systems recording the existence of policies. There are 29 systems surveyed in total, with all three Communities in Belgium recorded separately.

Another area worth emphasising concerns variations in attainment rates by country of birth. As shown in Figure 29, a young person born in the reporting country whose parent(s) were also born in the reporting country has a similar likelihood of gaining tertiary level qualifications (43.1%) as a young person born in the reporting country whose parent(s) were born in another EU country (44.4%) or outside the EU (43.3%). By contrast, a young person who was born in another EU country and whose parent(s) were born in another EU country is less likely to gain tertiary level qualifications (36.9%). The least likely to have gained tertiary level qualifications is a young person who was born outside the EU and whose parent(s) were also born outside the EU (35.2%).

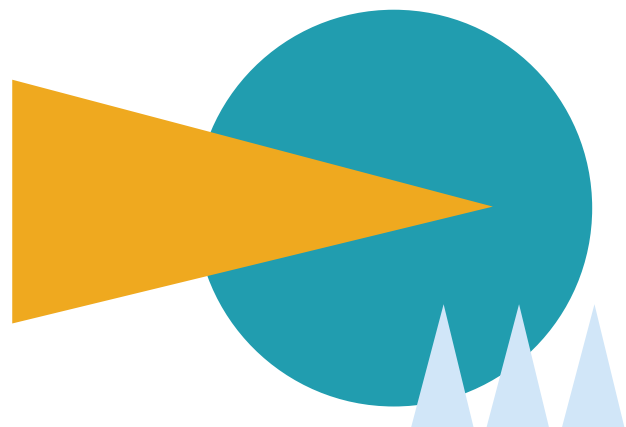
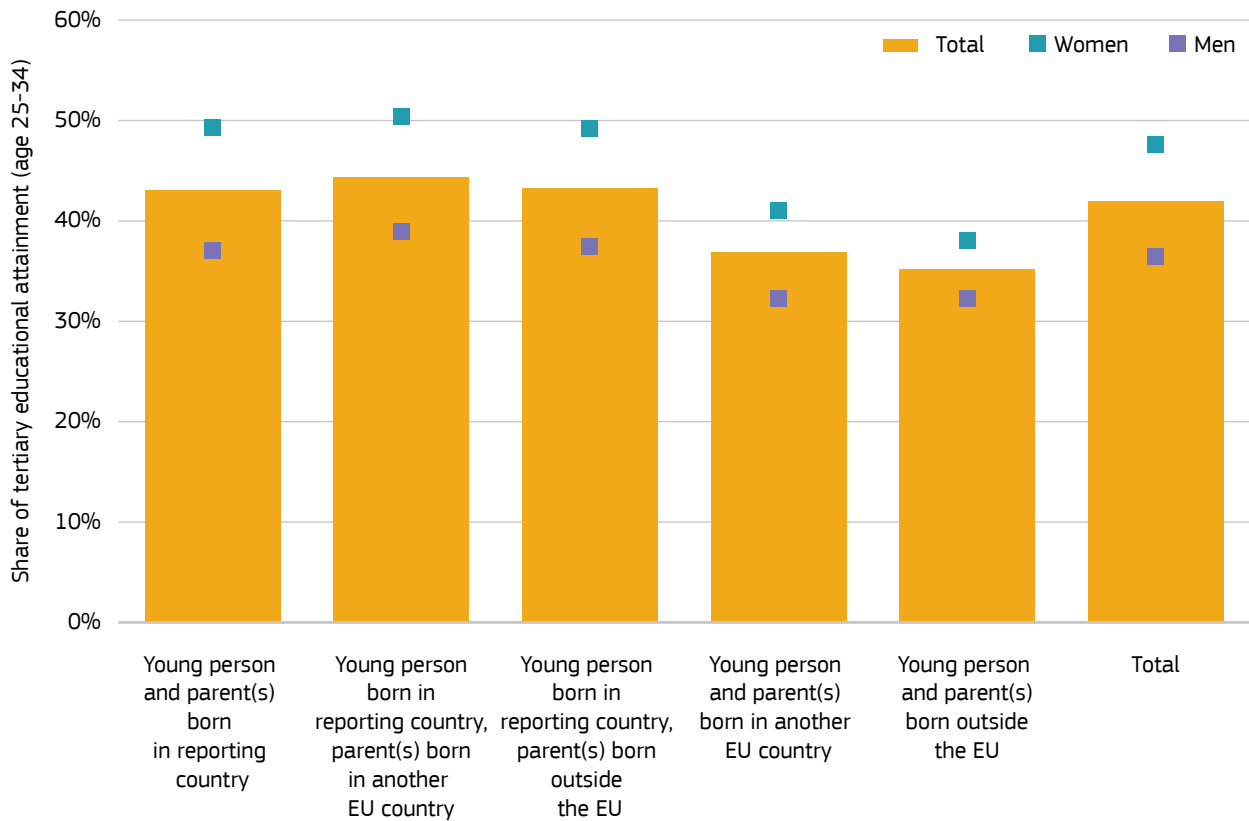


Figure 29. Country of birth and parental country of birth affect the likelihood of tertiary educational attainment.



Source: Eurostat (EU Labour Force Survey 2022). [Download data](#) [Monitor Toolbox](#)

### Box 17. Examples from the country reports

**Bulgaria** is rolling out a large-scale programme to modernise its higher education system, with co-funding from the European Social Fund Plus (ESF+). Its aim is to introduce a competency model, help develop joint university programmes, enable people to develop transversal skills, and improve the competences of teaching staff. The curricula will also be updated to increase focus on knowledge and skills for the green transition. ESF+ co-financed operations have been launched in 2023 to introduce dual training in higher education.

**Croatia** is reforming its higher education system to promote excellence and improve labour market relevance, digitalisation, and internationalisation, partly under the national recovery and resilience plan and with the support of the EU's Technical Support Instrument. In particular, it has introduced performance agreements and revised methods for internal quality assurance and external evaluation of higher education institutions, as well as accreditation procedures for such institutions and new study programmes.

In **Spain**, according to the new Organic Law 2/2023 on the University System, universities can provide 'own degrees'

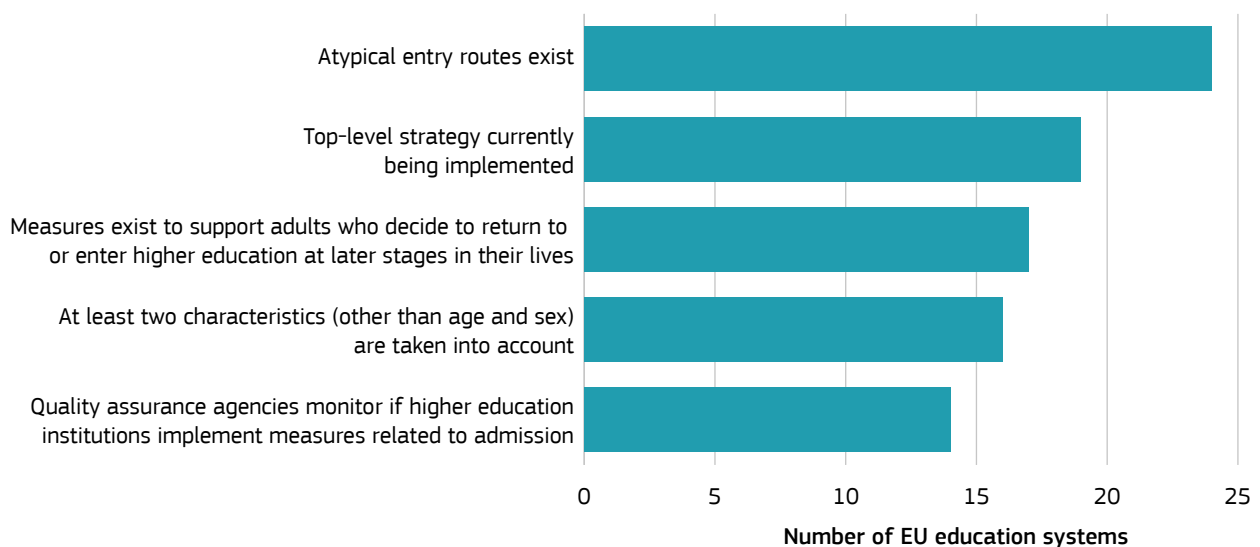
(*títulos propios*) and lifelong education that includes micro-credentials, micro-modules, and other programmes of short duration. Universities may provide micro-credentials or micro-modules of less than 15 ECTS credits; access to these may or may not require a previous university degree. An action plan to develop micro-credentials has been launched, partly supported by the Technical Support Instrument and under the Recovery and Resilience Facility, under which around 1 000 new courses will be created and 60 000 micro-credentials of 10 ECTS credits on average will be granted per year. Around a quarter of them will be free for unemployed individuals, employees in precarious or non-standard work situations, self-employed and micro-enterprise workers, and groups at risk of social exclusion.

**Austria** adopted the 'Universities and Digital Transformation 2030' strategic framework, which lays down a set of principles for universities and a series of actions to promote digitalisation of higher education. This followed the 'Recommendations on digital teaching, learning and eAssessment at higher education institutions' issued by the Austrian Higher Education Conference in 2021, which already provided detailed guidance to universities.

There has been more progress made with strategies related to admission procedures for under-represented groups than with strategies for gender equity (Figure 30). In 19 education systems, three or more measures exist. The most common of these relate to atypical entry routes

into higher education, such as bridging programmes or entry through recognition of prior learning, which exist in 24 education systems. Moreover, there is a strategy or another major policy plan currently being implemented in 19 education systems.

Figure 30. **More progress in strategies related to admission for under-represented groups than in strategies for gender equity.**



Source: [Eurydice 2023](#), [Download data](#), [Monitor Toolbox](#). Note: the figure adds up EU education systems recording the existence of policies. There are 29 systems surveyed in total, with all three Communities in Belgium recorded separately.

### In a nutshell

The rate of tertiary educational attainment among 25-34-year-olds continues to increase, from 39.4% in 2019 to 42.0% in 2022, putting the EU well on track to reaching the 2030 target of at least 45%. Considerable progress has been made at EU level, and yet in eight EU countries, fewer than two in five young people have reached the level of tertiary education. There are persistent gender gaps in all EU countries, both in terms of attainment rates and areas of education. Only 18 education systems in the EU currently have strategies aimed at gender equity in higher education, while strategies helping under-represented groups access higher education are slightly more common. Meanwhile, countries continue modernising higher education through, for instance, digitalisation, competence frameworks, and micro-credentials.



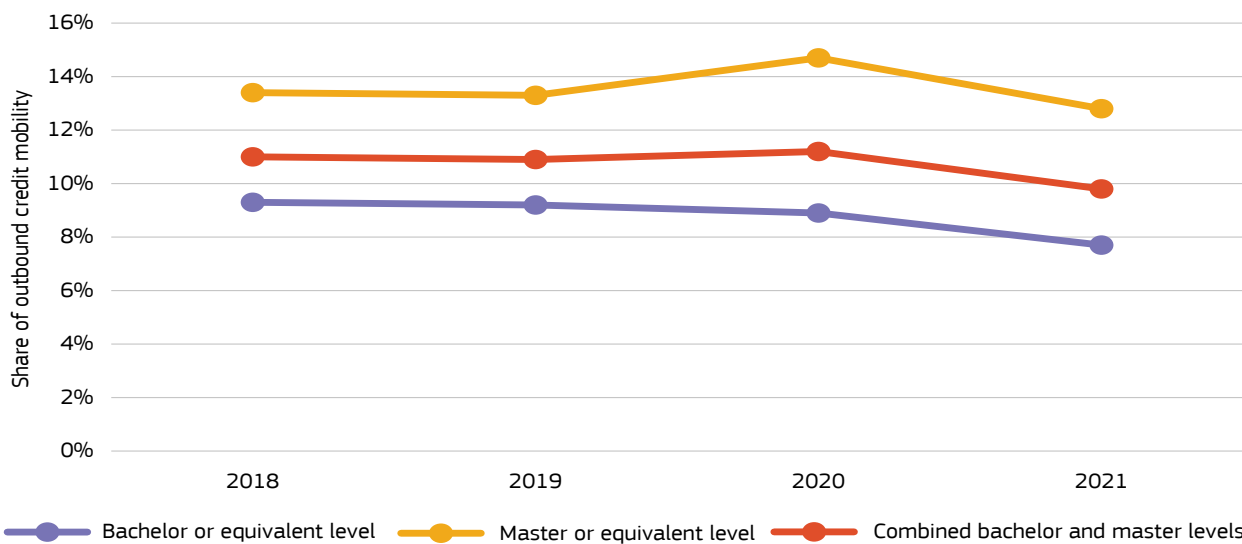
## 5.2. Learning mobility

In 2021, 9.8% of EU graduates at bachelor and master level had been on a temporary stay abroad<sup>226</sup>, known as credit mobility, at some point during their studies (Figure 31)<sup>227</sup>. This was an expected decline compared to 2020, when 11.2% of the graduates had spent time abroad to gain academic credits. The drop is likely due to the COVID-19 pandemic, which resulted in widespread restrictions to cross-border mobility<sup>228</sup>.

The highest shares of credit-mobile graduates in the EU – combining both bachelor and master levels – are

recorded by Luxembourg (25.9%) and France (25.6%)<sup>229</sup>, where approximately one in four graduates in 2021 had completed a temporary stay abroad (Figure 32). Only four other countries – the Netherlands (14.1%), Austria (12.4%), Sweden (11.7%), and Germany (11.2%) – have mobility rates exceeding 10%. In the remaining EU countries, fewer than 1 in 10 graduates had completed a temporary stay abroad during their studies. Compared to the pre-COVID-19 data from 2019, almost all EU countries have experienced a decline in the mobility rate<sup>230</sup>.

Figure 31. COVID-19 resulted in a decline in credit mobility rates.



Source: European Commission calculations based on Eurostat (UOE) data. [Download data](#) [Monitor Toolbox](#) Note: calculations and metadata are detailed in the downloadable Excel file.

226 This refers to all graduates in the EU, regardless of country of origin, with a temporary tertiary education study period and/or work placement abroad (within or outside the EU) of at least 3 months or 15 ECTS credits throughout the cycle of study.

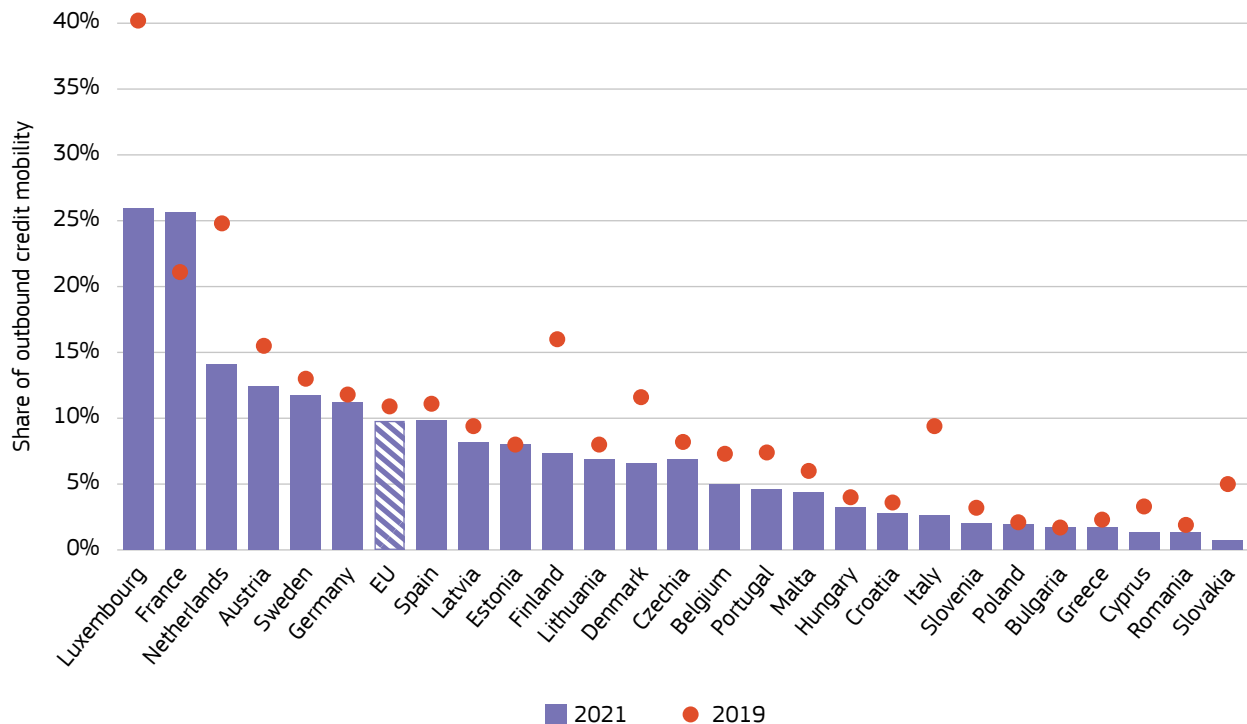
227 More women than men in the EU complete a temporary study period abroad. In 2021, 58.5% of the credit-mobile bachelor's and master's graduates were women. The share was slightly higher for female bachelor's graduates (62.8%) compared to female master's graduates (54.8%). However, relative to the respective graduate populations a different picture emerges. While the combined rates for the bachelor and master levels show no discernible difference (9.8% for women and 9.7% for men), there are marked differences between the two levels of education. At bachelor level, the mobility rate is higher for women (8.2%) than men (6.9%). The opposite is the case at the master level, where the mobility rate is higher for men (13.9%) than women (12.0%). The rates are higher for women in both short cycle tertiary education (2.7% versus 2.5%) and at doctoral or equivalent level (12.5% versus 11.5%). [Monitor Toolbox](#)

228 Despite an increase in graduates at all levels of tertiary education, the number of credit-mobile graduates in the EU dropped from 2020 to 2021 in short-cycle tertiary education (-9.3%, but data are limited to 16 EU countries), at bachelor or equivalent level (-15.8%), and at master or equivalent level (-9.5%). At doctoral or equivalent level there was an increase in credit-mobile graduates (+15.9%, but data are limited to 22 EU countries), mainly due to a 40.2% increase in credit-mobile graduates reported by Italy. Without the Italian data, there would have been a decrease of 1.5%. [Monitor Toolbox](#)

229 French data on credit-mobile graduates are obtained by applying the rates of tertiary education graduates in 2017 who had a temporary stay abroad to the 2020 graduate data. This means that the data does not account for a possible decline in the number of credit-mobile graduates due to the COVID-19 pandemic and should be interpreted with caution.

230 France (+4.5 percentage points) is the only EU country recording a noteworthy increase in the share of credit-mobile graduates compared to the pre-COVID-19 data, but the 2021 data does not account for a possible decline in the number of credit-mobile graduates due to the estimation method applied to get the figures. Bulgaria did not experience any change, and in Estonia the difference is negligible. [Monitor Toolbox](#)

Figure 32. **Fewer than 1 in 10 graduates have spent time abroad in most EU countries.**



Source: European Commission calculations based on Eurostat (UOE) data. [Download data](#) [Monitor Toolbox](#) Note: calculations and metadata are detailed in the downloadable Excel file. Data are not available for Ireland.

Destinations within the EU were most popular among credit-mobile graduates in 2021<sup>231</sup>. Figure 33 shows intra-EU graduate credit mobility flows for the bachelor and master levels combined<sup>232</sup>. Countries recording the highest number of credit-mobile graduates who completed a temporary stay abroad in the EU are France (68 254)<sup>233</sup>, Germany (30 800), Spain (26 431),

the Netherlands (9 308), and Italy (9 063). Four of these countries are also among those where most credit-mobile graduates from other EU countries are reported to have spent time abroad: Spain (35 254 graduates), Italy (24 652), Germany (22 047), and France (15 411). Here, Finland (10 794) completes the top five<sup>234</sup>.

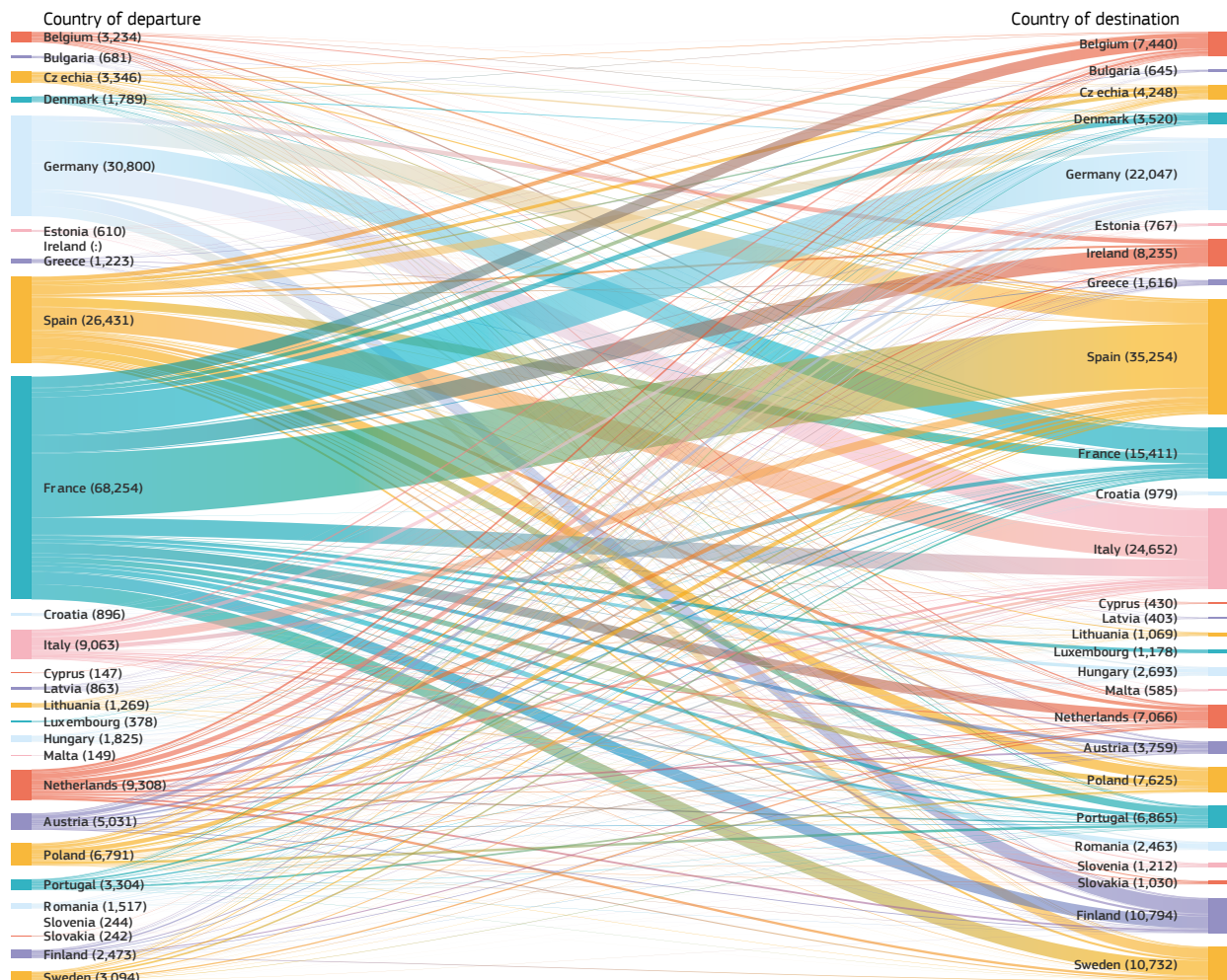
231 At least 50.5% of graduates recorded by EU countries (at bachelor and master level combined) in 2021 who had a credit mobility stay abroad completed it in an EU country. The share is likely to be higher since Germany, the country with the second-highest number of outbound credit-mobile graduates, only reports breakdowns by country of destination for seven EU countries (aggregated data are reported and contribute towards the calculation of the share). There are only four EU countries (France, the Netherlands, Denmark, and Sweden) where less than 50% of credit-mobile graduates chose to travel to a destination within the EU. [Monitor Toolbox](#)

232 The emphasis of the data collection on credit-mobile graduates is on whether a credit mobility stay abroad took place during the cycle of study. Only the longest credit mobility stays, or highest number of ECTS credits, are reported. As a result, credit mobility by country of destination could be misleading, as it is possible for a graduate to have had more than one credit mobility stay in different countries.

233 French data on credit-mobile graduates are obtained by applying the rates of tertiary education graduates in 2017 who had a temporary stay abroad to the 2020 graduate data. This means that the data do not account for a possible decline in the number of credit-mobile graduates due to the COVID-19 pandemic and should be interpreted with caution.

234 Outside the EU, the five most popular destinations are the United Kingdom (40 150 graduates), the United States (28 211), Canada (16 509), China (10 057), and Australia (8 369). [Monitor Toolbox](#)

Figure 33. France, Italy, Spain, and Germany are departure and destination countries for the bulk of intra-EU credit mobility.



Source: Eurostat (UOE 2021). [Download data](#) [Monitor Toolbox](#) Note: combined totals for bachelor and master levels in 2021. Country of departure is on the left-hand side, and country of destination on the right-hand side. Data on outbound credit-mobile graduates are not available for Ireland.

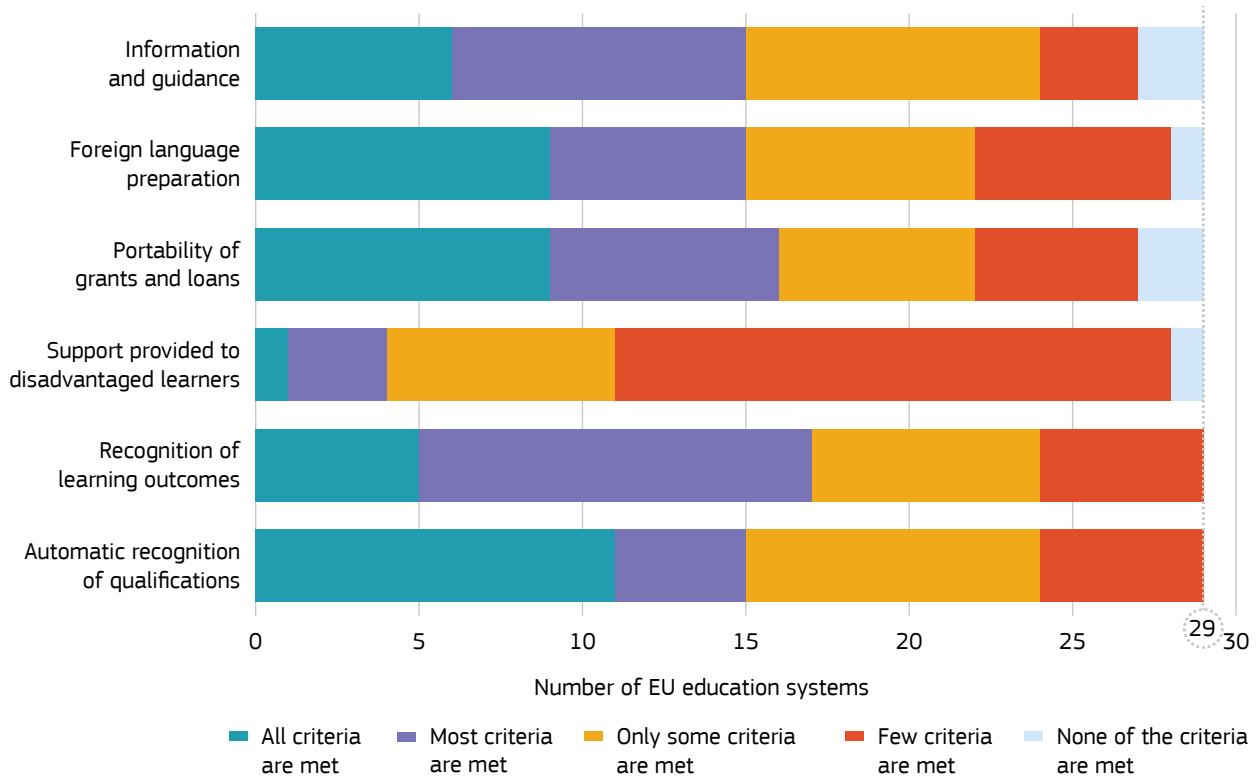
Limited growth in the share of credit-mobile graduates in the EU in the years leading up to 2021 suggests that there are other barriers to mobility besides those imposed by the pandemic that would need to be removed if the EU is to establish a European Education Area. Examples highlighted by young people in the EU include a lack of financial means, not feeling independent enough to go abroad for a longer period, insufficient foreign language skills, lack of information on the possibilities of studying abroad, or the experience not being recognised at home<sup>235</sup>.

The 2023 edition of the higher education Mobility Scoreboard shows progress has been made in developing and implementing policies favourable to learning mobility and in removing the obstacles hindering participation since 2011<sup>236</sup>. However, there are still issues to address and areas to improve in all EU education systems. Figure 34 provides an overview of the current performance of EU education systems relative to the mobility scoreboard indicators. At least half of EU education systems meet all or most criteria for five out of the six scoreboard indicators. The exception is support to disadvantaged learners, where only four education systems meet most or all criteria.

235 More details are available in a [European Commission 2022 report](#) on Youth and Democracy in the European Year of Youth.

236 See the [2023 Eurydice higher education background report on the Mobility Scoreboard](#).

Figure 34. **Support to disadvantaged learners lags behind the progress recorded in other areas.**



Source: Eurydice 2023. [Download data](#) [Monitor Toolbox](#) Note: The figure shows the number of education systems fulfilling criteria for different scoreboard indicators. There are 29 systems surveyed in total, with Belgium recorded for all three Communities separately.

### Box 18. Credit mobility under different funding schemes.

Credit mobility financed under EU programmes involved most credit-mobile graduates at the bachelor and master levels (52.8%). There are only four countries where less than 50% of the credit-mobile graduates took part in programmes financed by the EU: the Netherlands (40.0%), Denmark (37.8%), France (37.5%), and Sweden (37.0%). By contrast, programmes financed by the EU supported more than 80% of credit-mobile graduates in 16 EU countries.

Mobility under programmes financed by the EU is the main mode of credit mobility at bachelor level (60.9%), but it accounts for less than half of the credit mobility taking place at master level (45.8%). The corresponding percentages for short cycle tertiary education (data from 13 EU countries) and doctoral or equivalent level (data from 21 EU countries) are 48.7% and 32.3% respectively.

Although there are more credit-mobile master's graduates than bachelor's graduates, there are fewer graduates who took part in mobility funded under EU programmes. In 2021, there were 194 818 credit-mobile master's graduates, of which 89 213 took part in mobility funded under EU programmes, and 167 331 bachelor's graduates, of which 101 868 took part in mobility funded under EU programmes.

Moreover, there is a significantly higher proportion of 'free movers' – people who took part in credit mobility neither under EU programmes nor any other mobility programmes – at the master level (43.9%) compared to the bachelor level (29.5%). Credit mobility under other international or national mobility schemes account for 10.1% of mobility at bachelor level and 12.9% of mobility at master level.

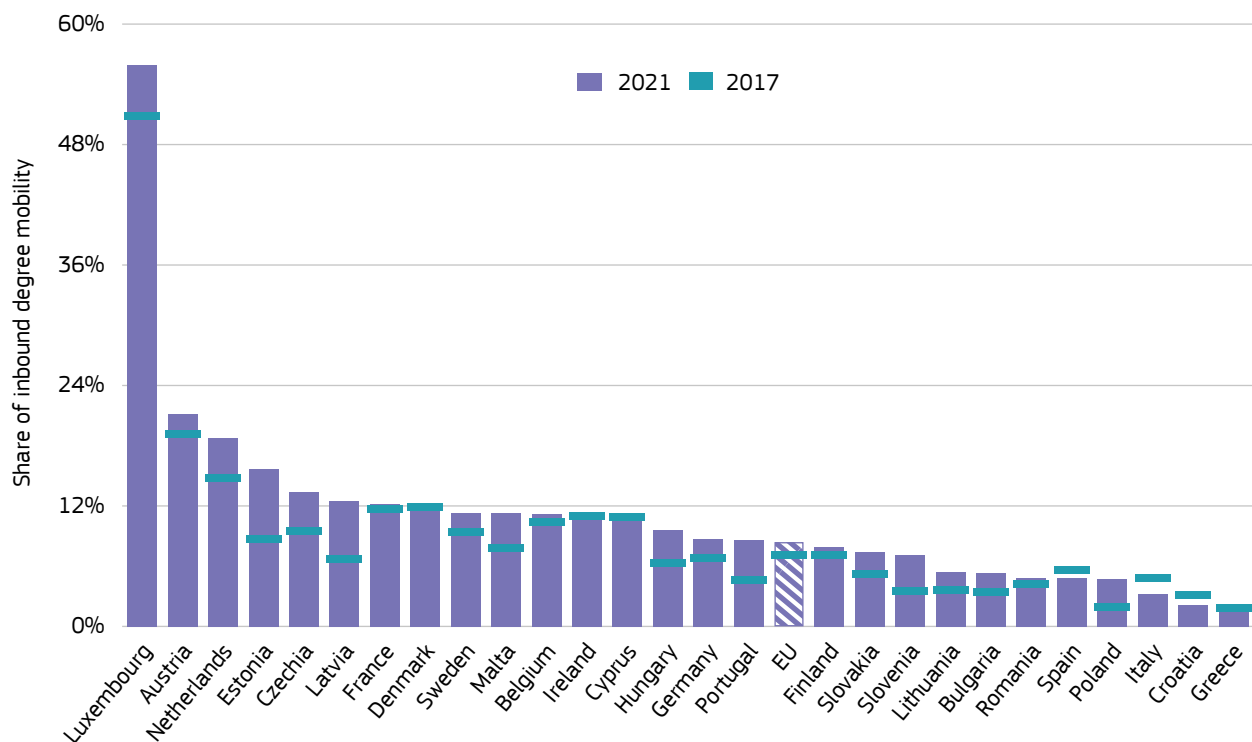
[Monitor Toolbox](#)



Mobility is not limited to temporary stays abroad. In 2021, there were over 305 000 degree-mobile graduates from tertiary education programmes at the bachelor and master level in the EU<sup>237</sup>. The number of inbound degree-mobile graduates in EU countries has increased by 23.3% in the past 5 years, and graduates completing a full degree in a country different from their country of origin now constitutes 8.4% of all graduates from these education levels in the EU (an increase of 1.3 percentage points from 2017). Slightly more than half of the

inbound degree-mobile graduates are women (53.3%) and, like temporary stays abroad, the proportion is higher at bachelor level (57.4%) than master level (51.8%)<sup>238</sup>. In addition, more than two out of three (71.0%) inbound degree-mobile bachelor's and master's graduates originated in countries outside the EU<sup>239</sup>. There are also noticeable variations in the shares of women and men when considering degree mobility to EU countries by region of origin<sup>240</sup>.

Figure 35. The share of inbound degree-mobile bachelor's and master's graduates is increasing in the EU.



Source: European Commission calculations based on Eurostat (UOE) data. [Download data](#) [Monitor Toolbox](#) Note: bachelor and master levels of education.

237 Degree-mobile graduates are those who completed a tertiary education programme taught in a country different from their country of origin. Only inbound degree-mobile graduates reported by EU countries are considered here. In 2021, in the EU, there were 7 983 degree-mobile graduates in short-cycle tertiary education, 115 220 at bachelor level, 189 884 at master level, and 21 724 at doctoral level. [Monitor Toolbox](#) For a recent analysis on the profile of internationally mobile students around the world, including an assessment of the impact of COVID-19 on international student migration, see the OECD's [Education at a Glance 2023](#).

238 There is also a higher share of degree-mobile women in short-cycle tertiary education (56.3%), while the share is lower at doctoral or equivalent level (43.9%). [Monitor Toolbox](#)

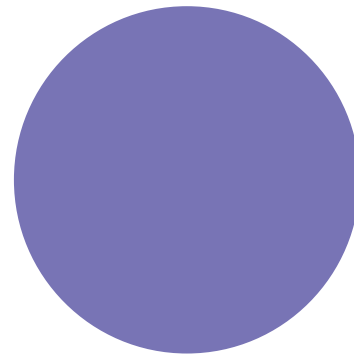
239 Graduates from Asia (23.2%) account for the highest share of degree-mobile graduates, followed by Africa (17.9%), Caribbean, Central and South America (7.4%), European graduates from non-EU countries (13.7%), Northern America (2.4%), and Oceania (0.2%). Although there have been increases in degree-mobile graduates from all regions in the past 5 years, the relative distribution has remained stable. [Monitor Toolbox](#)

240 In 2021, there were more degree-mobile female than male bachelor's and master's graduates originating in the EU (58.4%), European countries outside the EU (61.7%), Northern America (57.0%), and Caribbean, Central and South America (54.4%). Conversely there were more degree-mobile men than women originating in Africa (54.5%), Asia (52.3%), and Oceania (50.8%). [Monitor Toolbox](#)

The share of inbound degree-mobile bachelor's and master's graduates increased in all but five EU countries from 2017 to 2021 (Figure 35)<sup>241</sup>. Luxembourg (55.39%), Austria (21.2%), the Netherlands (18.8%), and Estonia (15.7%) have the highest shares relative to the number of graduates from their education systems, whereas the lowest shares are recorded by Greece (1.8%), Croatia (2.1%), and Italy (3.2%). In terms of absolute numbers, France (78 593), Germany (53 250), and the Netherlands (32 096) host the most degree-mobile graduates. In 2021, over 50% of degree-mobile graduates in the EU graduated in one of these three countries.

### In a nutshell

The COVID-19 pandemic has resulted in a decline in the proportion of graduates who spend time in another country during their studies, known as credit mobility. In 2021, only six EU countries had over 10% of their bachelor's and master's graduates participate in credit mobility. However, the pandemic is only one of many barriers to mobility in the EU. Despite progress being made since 2011, new evidence shows there is room for improvement in all EU countries. In contrast to the decline in the number of stays abroad, the proportion of graduates completing a full degree in a country other than their country of origin, known as degree mobility, has continued to increase. The many graduates from outside the EU, amounting to 71.0% of all inbound degree mobility, are a testament to the EU's attractiveness as a study destination.



241 Italy (-1.6 percentage points), Croatia (-1.0), Spain (-0.8) and Cyprus (-0.2) recorded declines in the share of degree-mobile graduates from 2017 to 2021. There were also declines recorded in Ireland (-0.1 percentage points) and Cyprus (-0.2), but these were negligible. [Monitor Toolbox](#)

## Chapter 6. Adult learning



EU-level 2025 target:  
**'At least 47% of adults aged 25-64 should have participated in learning during the last 12 months<sup>242</sup> by 2025'**.

EU-level 2030 target:  
**'At least 60% of adults aged 25-64 should have participated in learning during the last 12 months<sup>243</sup> by 2030'**.

242 Data underpinning the 2025 target have not been made available (see Box 19). Instead, this chapter uses EU Labour Force Survey data referring to a 4-week window, alongside data from the 2016 Adult Education Survey.

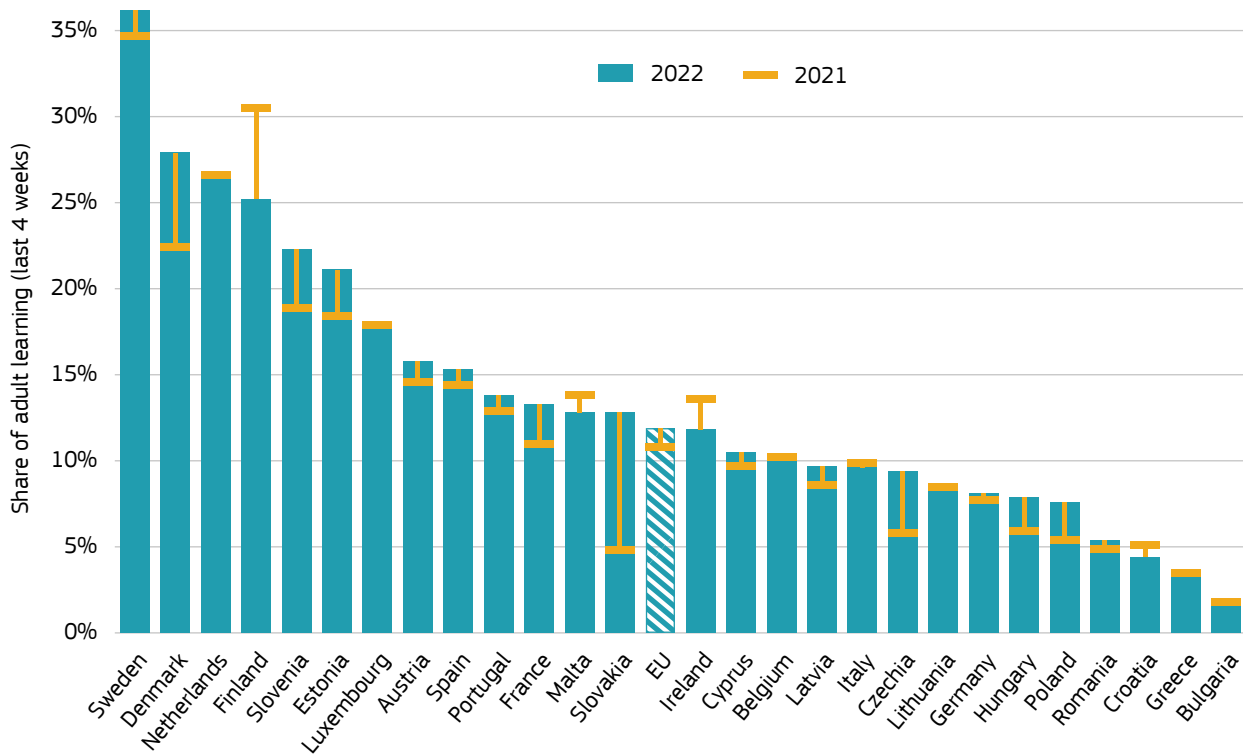
243 The ambitious 2030 EU-level target reflects the need to empower workers and adapt the workforce to changing skills needs, while supporting economic growth. Upskilling and reskilling have a big role to play in this regard, which is all the more evident in view of the persistent labour and skills shortages, as well as the green and digital transitions. Data underpinning the 2030 target have not been made available (see Box 19). Instead, this chapter uses EU Labour Force Survey data referring to a 4-week window, alongside data from the 2016 Adult Education Survey.

### 6.1. Adult learning in the last 4 weeks

As there is still a lack of data underpinning the 2025 and 2030 adult learning targets (Box 19), this section looks at all formal learning<sup>244</sup> and non-formal learning in the 4 weeks before respondents took part in the EU Labour Force Survey. The participation of 25-64-year-olds stood at 11.9% in 2022, up from 10.8% in 2021. The picture remains particularly diverse across EU countries (Figure 36). Adult learning is negligible in Bulgaria (1.4%), Greece (3.5%), and Croatia (4.4%), whereas at the other extreme Sweden (36.2%), Denmark (27.9%), the Netherlands (26.4%), and Finland (25.2%) stand out. Participation rates have increased since 2021 in most EU countries, with only Finland dropping by more than 5 percentage points.

244 Participation in formal education (last 4 weeks) is uncommon (3.3%), especially in the older age brackets. For formal learning among all 25-64-year-olds on average, only one EU country manages to retain double digits (Finland at 11.5%), due to higher participation rates among women (13.6%) than men (9.4%). [Monitor Toolbox](#)

Figure 36. **Adult learning in the last 4 weeks is up in most EU countries, though some still lag far behind.**



Source: Eurostat (EU Labour Force Survey). [Download data](#) [Monitor Toolbox](#) Note: the indicator captures participation of 25-64-year-olds in formal and non-formal learning. Break in series for Slovakia (2022); data unreliable for Luxembourg (2022). Countries are shown in descending order according to their 2022 participation rates.

There continues to be a higher proportion of women taking part in adult learning (12.9%) than men (10.8%), and the gap has increased since 2021<sup>245</sup>. Only in Romania and Slovakia do men record slightly higher adult learning rates than women. The female lead is over 8 percentage points in Sweden (13.8), Finland (8.8), Estonia (8.8), and Denmark (8.6). While the prevalence of

adult learning goes down with age in all EU countries<sup>246</sup>, women record higher average participation rates than men across all age groups<sup>247</sup>. Interestingly, as the share of formal and non-formal learning increases with levels of educational attainment for adults<sup>248</sup>, the gap between women and men does so too<sup>249</sup>. Figure 37 summarises these findings at the EU average level.

245 [Monitor Toolbox](#)

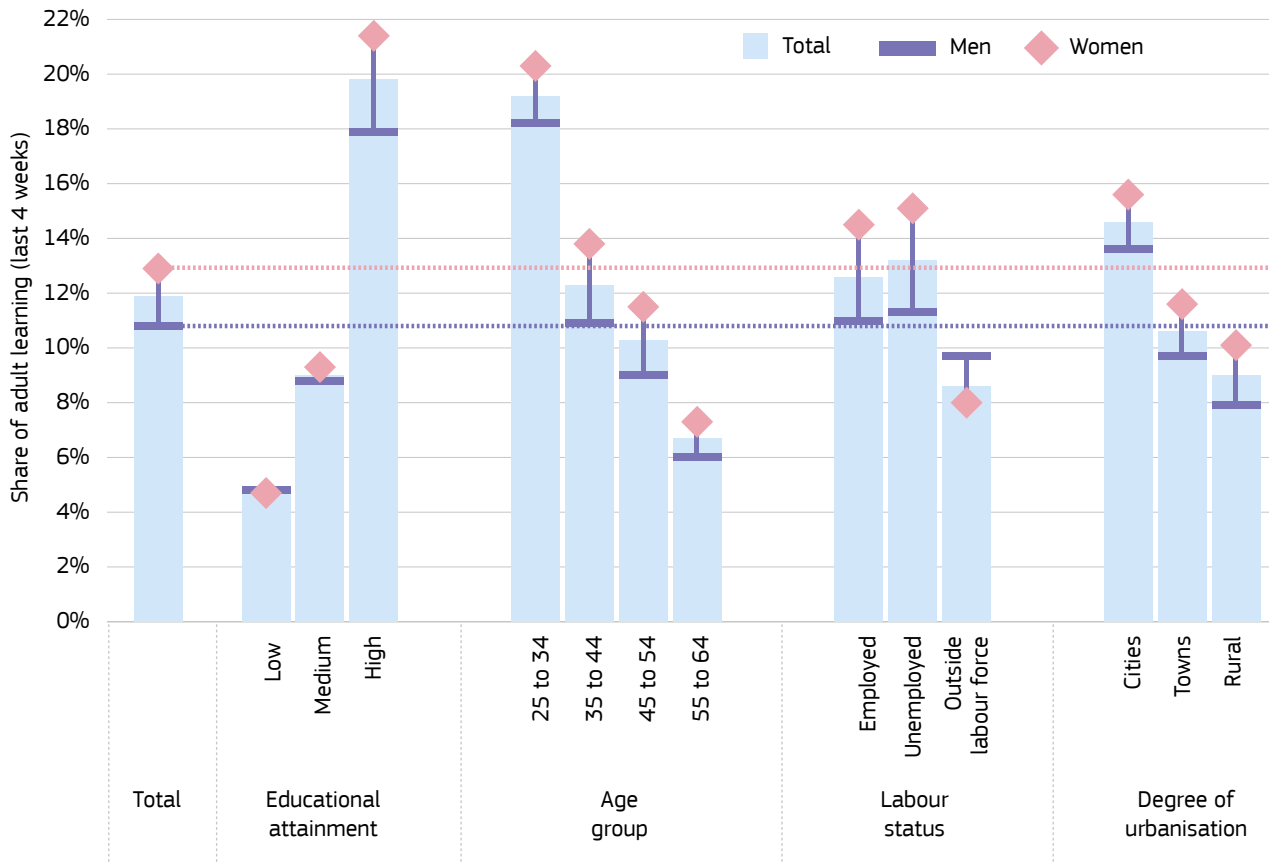
246 On average, participation rates in the last 4 weeks (2022) are 19.2% among 25-34-year-olds, 12.3% among 35-44-year-olds, 10.3% among 45-54-year-olds and 6.7% among 55-64-year-olds. [Monitor Toolbox](#)

247 [Monitor Toolbox](#)

248 On average, participation rates in the last 4 weeks (2022) are only 4.7% among adults with an education level below upper secondary, versus 19.8% among adults with tertiary educational attainment. Adults who have attained upper secondary or post-secondary non-tertiary education have an average adult learning rate of 9.0%, reaching 14.4% when it concerns general education and 7.6% when it concerns vocational education. [Monitor Toolbox](#)

249 The gap is almost non-existent among adults who have attained at most lower secondary education and reaches 3.5 percentage points on average among adults with tertiary educational attainment. [Monitor Toolbox](#)

Figure 37. **Adult learning in the last 4 weeks is particularly low among adults who are older, less educated, outside the labour force and in living in rural areas.**



Source: Eurostat (EU Labour Force Survey 2022). [Download data](#) [Monitor Toolbox](#) Note: the indicator captures participation in formal and non-formal learning of 25-64-year-olds.

Adult participation in formal and non-formal learning in the 4 weeks preceding the survey is, on average, less common in rural areas (9.0%) than it is in cities (14.6%) or towns and suburbs (10.6%)<sup>250</sup>. The average gap between women and men is about 2 percentage points across all degrees of urbanisation<sup>251</sup>. When it comes to occupational status, higher female participation rates are found among employed adults<sup>252</sup> and unemployed adults<sup>253</sup>, though not among adults outside the labour force (inactive)<sup>254</sup>.

The average share for people born outside the EU who took part in adult learning in the past 4 weeks (11.8%) is almost identical to the average share for adults born in the reporting country (11.9%)<sup>255</sup>. However, for EU countries with available data<sup>256</sup>, the picture is diverse. The participation rates for adults born outside the EU are comparatively low in Slovenia (13.0% versus 23.5% for adults born in the reporting country), Estonia (14.3% versus 22.0%), and Italy (4.7% versus 10.5%). On the other hand, the participation rates for adults born outside the EU are comparatively high in Finland (33.7% versus 24.4%), Ireland (15.5% versus 10.8%), and Poland (11.4% versus 7.6%).

250 [Monitor Toolbox](#)

251 [Monitor Toolbox](#)

252 Among employed adults, participation in learning stands at 14.5% for women and 11.0% for men (a total average of 12.6%). [Monitor Toolbox](#)

253 Among unemployed adults, participation in learning stands at 15.1% for women and 11.3% for men (a total average of 13.2%). [Monitor Toolbox](#)

254 Among inactive adults, participation in learning stands at 8.0% for women and 9.7% for men (a total average of 8.6%). [Monitor Toolbox](#)

255 [Monitor Toolbox](#)

256 This excludes Bulgaria, Romania, and Slovakia.

## 6.2. Adult learning in the last 12 months

Data underpinning the 2025 and 2030 adult learning targets have not been made available (Box 19), but a different source from 2016 (the Adult Education Survey) can be used as it includes data on adult learning with a 12-month reference period as used in defining the targets. The two reference periods (12 months versus 4 weeks) and the 6 years between measurements are two differences between the sources prohibiting direct comparison. Naturally, when using the 12-month window, average participation rates are considerably higher.

### Box 19. Data underpinning the 2025 and 2030 adult learning targets.

The May 2021 Porto summit and the June 2021 European Council welcomed three headline targets for social policy as proposed in the [European Pillar of Social Rights action plan](#). One EU-level target is that 60% of adults should take part in learning in the last 12 months by 2030. This target builds upon the 2025 EU-level target of 47% included in the [2021 EEA strategic framework Resolution](#). Indeed, the European Commission now regards the 2025 EU-level target on adult learning as a milestone towards achieving the 2030 EU-level target.

The momentum for adult learning continued to build with the 2022 publication of national 2030 targets, set by EU countries, as well as the announcement by European Commission President von der Leyen of a European Year of Skills, addressing the skills and labour shortages on the EU labour market, taking place from May 2023 to May 2024.

However, data underpinning the adult learning targets are yet to be made available. The most up-to-date data on adults taking part in learning concern their participation in the last 4 weeks, stemming from the 2022 annual EU Labour Force Survey. The 2022 questionnaire also asked respondents about their participation in learning in the last 12 months, which is a new biennial question that is intended to underpin the adult learning targets. Results are still being processed and analysed.

Data using the 4-week reference period are not fit to monitor the adult learning targets, which both refer to a 12-month period. The data using the 4-week reference period have the advantage of an historical series, providing an insight into the trends in general participation and its comparison against several individual background characteristics, while the 12-month reference period increases the quality and comparability of the results.

The patterns illustrated in the previous section were already evident in the 2016 data. Differences in participation rates by sex, age, and degree of urbanisation are replicated, but the gaps appear smaller overall<sup>257</sup>.

In 2016, learning activities in the preceding 12 months among adults with low educational attainment were least common in Greece (2.8%), Poland (4.6%), Czechia (5.5%), and Croatia (6.2%). The respective EU average was 17.9% and out of the 23 EU countries with available data<sup>258</sup>, five recorded participation rates above 30% even in the group of less educated adults<sup>259</sup>. Comparatively, adult learning in the last 4 weeks among adults with low educational attainment is least prevalent in Greece (0.4%), Croatia (0.5%), Poland (1.2%), Romania (1.3%) and Cyprus (1.5%). Using the 4-week window, 14 EU countries out of 25 with available data<sup>260</sup> record participation rates below 5%, with the respective EU average at 4.7%.

The available evidence suggests that action is needed in all EU countries when it comes to (re)engaging marginalised learners. Such action is all the more urgent to make sure everyone retains an active role in the labour market and across society during the green and digital transitions. Priority groups comprise adults who are older, have low educational attainment, live in rural areas or are outside the labour force<sup>261</sup>. Currently, various country-level and EU-level measures are contributing to the progress being made towards achieving the EU-level adult learning targets<sup>262</sup> and to the general notion

257 [Monitor Toolbox](#)

258 Respective Adult Education Survey 2016 data (12-month window) are not available for Bulgaria, Lithuania, Romania, and Slovakia.

259 Hungary (41.2%), Sweden (40.2%), Finland (35.4%), the Netherlands (32.9%) and Denmark (31.6%). [Monitor Toolbox](#)

260 Respective EU Labour Force Survey 2022 data (four-week window) are not available for Bulgaria and Latvia.

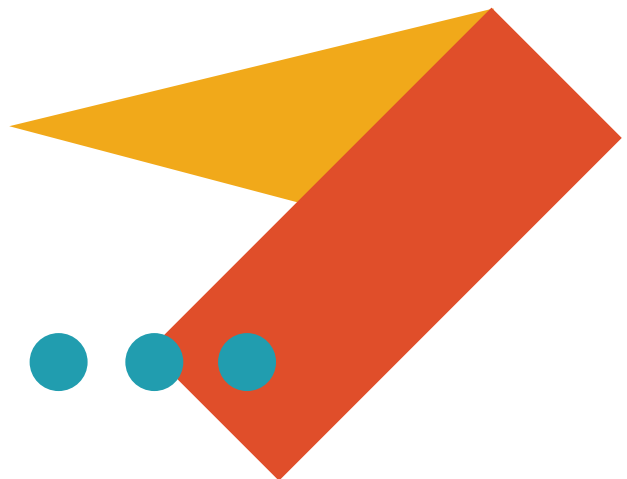
261 The [2023 evaluation](#) of the Council Recommendation on Upskilling Pathways suggests that measures to support lower education adults have had limited impact so far, due to projects often being small scale and fragmented rather than mainstream, coordinated activities.

262 In response to the [2022 Council Recommendation](#), as of the summer of 2023, close to half of the EU countries are working on schemes of individual learning accounts, often starting with a pilot project before embarking on full-scale implementation. The [2022 Council Recommendation](#) on a European approach to micro-credentials provides a framework to guide EU countries and education and training providers, including VET stakeholders, in their discussions on how to make the most of such credentials to promote upskilling and reskilling. The [2016 Council Recommendation](#) on Upskilling Pathways supports lower-skilled adults to acquire minimum levels of literacy, numeracy, and digital skills and empowers them to take up further upskilling opportunities according to their needs. At EU level, as part of the [Pact for Skills](#), 18 large-scale partnerships in all sectors of the [EU industrial strategy](#) have committed to reskilling more than 10 million workers. The [net-zero academies](#) are being set up under the [green deal industrial plan](#) to equip workers with the skills needed in emerging sectors such as solar energy and hydrogen technology.

of upskilling and reskilling, which is at the core of the [European Year of Skills](#).

### **In a nutshell**

Data underpinning the targets for adult participation in lifelong learning are not yet available. Nonetheless, all the available evidence shows there are a few salient points that will require more attention from policymakers, particularly in the context of upskilling and reskilling promoted by the European Year of Skills. Action is needed to (re)engage all adults of working age, but particularly adults who are older, less educated, outside the labour force, and living in rural areas. Up-to-date adult learning data will provide new insights into how to steer future reforms.

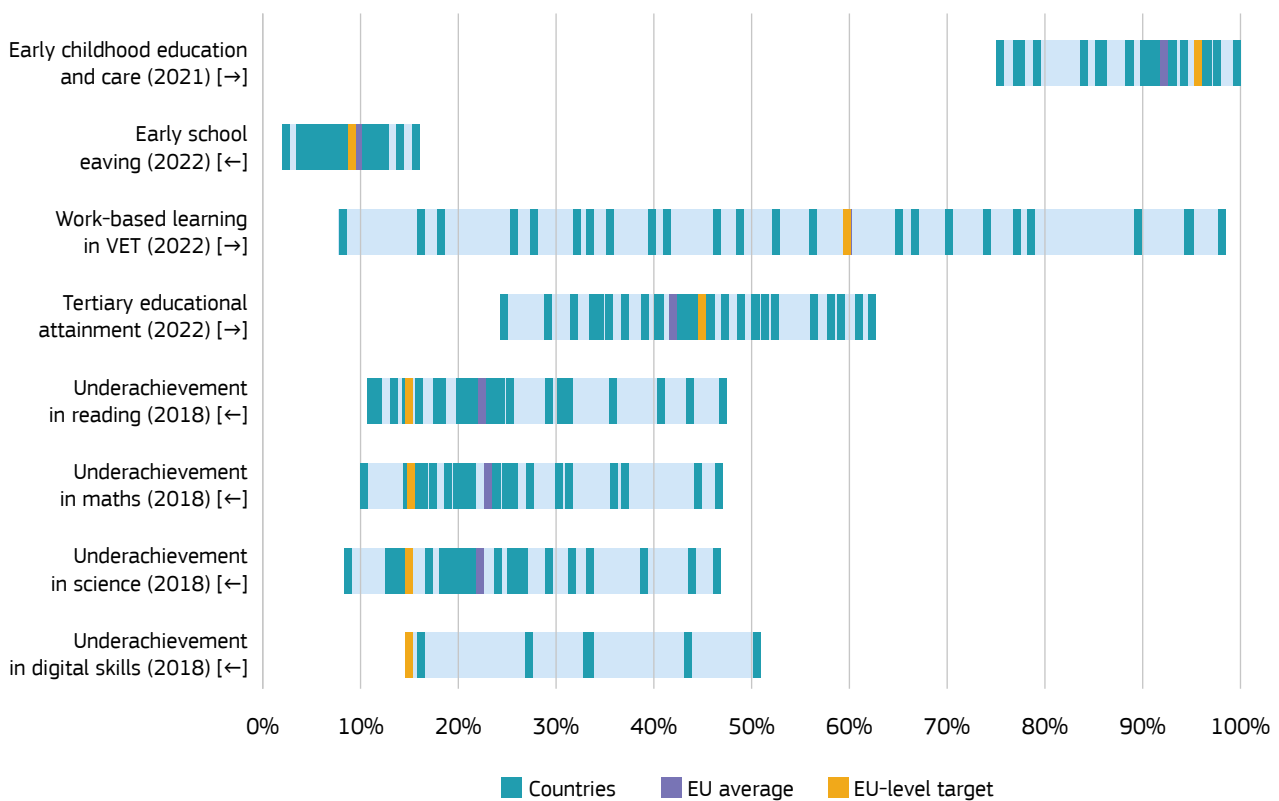


## Summary chart

The Education and Training Monitor's comparative report tracks progress towards achieving the seven EU-level targets agreed under the [2021 EEA strategic framework Resolution](#). Data are available for six of the main indicators<sup>263</sup> (Figure 38) and this year's Education and Training Monitor presents new figures for four of them<sup>264</sup>.

Six EU countries (France, Belgium, Denmark, Ireland, Sweden, and Spain) have reached the EU-level 2030 target of 96% children aged 3 and above participating in ECEC, while the EU average (92.5% in 2021) seems to have stagnated. The average proportion of early leavers from education and training keeps falling (9.6% in 2022) and, despite the COVID-19 pandemic, the EU still remains

Figure 38. EU-level targets and country performance.



Source: Eurostat (EU Labour Force Survey 2022 and UOE 2021), OECD (PISA 2018) and IEA (ICILS 2018). [Download data](#) Note: the EU-level target on adult learning is omitted as data supporting the main indicator is not yet available. Data are not available for Bulgaria (work-based learning in VET), Greece (ECEC), and Latvia (work-based learning in VET). Data on underachievement in digital skills are only available for Denmark, Germany, France, Italy (not shown due to limited comparability with other countries), Luxembourg, Portugal, and Finland.

263 Data underpinning the 2025 EU-level target on adult learning in the preceding 12 months have not yet been made available. Instead, Chapter 6 uses EU Labour Force Survey data referring to a 4-week window instead, alongside data from the 2016 Adult Education Survey.

264 This year's Education and Training Monitor will be followed by the publication of new data from the OECD's Programme for International Student Assessment (PISA), which underpins the EU-level target on underachievement in reading, mathematics, and science. Data underpinning the 2030 EU-level target on computer and information literacy come from the IEA's International Computer and Information Literacy Study (ICILS). ICILS 2022 data, covering 22 EU countries, are expected towards the end of 2024.



clearly on track to reaching its 2030 target. In 2022, 60.1% of recent initial VET graduates had participated in work-based learning during their education and training, meeting the 2025 EU-level target of at least 60%. Furthermore, at 42.0% in 2022, the tertiary educational attainment rate among 25-34-year-olds continues to increase, and the EU is well on track to reaching its 2030 target of at least 45%.

The [Monitor Toolbox](#), supporting the Education and Training Monitor, lists the main indicators mentioned here, and complements them with several supporting indicators to shed light on context and possible policy levers. In addition, the Monitor Toolbox features new EU-level indicators requested in the [2021 EEA strategic framework Resolution](#). Firstly, it shows the new EU-level indicator on equity in education, proposed as part of the [2022 EEA Progress Report](#) and detailed in the 2022 Education and Training Monitor's [comparative report](#). Secondly, the Monitor Toolbox hosts the new [teachers' dashboard](#), with several indicators capturing the attractiveness of the teaching profession.



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