



Data insight:

Vocational education and training in the EU: opportunities for further and higher learning

Summary

- Initial vocational education and training (VET) prepares young people for the labour market and can offer opportunities for further learning. In 2021 in the EU, Cedefop estimates that 71.1% of students in upper secondary VET were enrolled in programmes that gave direct access to tertiary education
- Almost 40% of young VET graduates in the EU continue in either further formal or non-formal, or both types of education and training.
- VET at higher levels of education sends mixed signals. In the EU overall, in 2021, more than 90% of enrolments in post-secondary non-tertiary education (ISCED level 4) and short-cycle tertiary level education (ISCED level 5) were in VET programmes. Higher-level VET students are also concentrated in a few countries.
- Compared to upper secondary education (ISCED level 3), which, in 2021, attracted 8.8 million students, almost half (48.7%) of upper secondary students in the EU, the number of higher-level VET students is much smaller at around 1.3 million at ISCED level 4 and 1.4 million at ISCED level 5.
- At higher levels of tertiary education (above ISCED 5), international statistics fail to capture the general or vocational orientation of programmes and qualifications.

Methods and sources for the data are in the Annex.

Does initial VET provide opportunities for further learning?

For initial VET to be a high quality and attractive learning option, it should provide opportunities for further learning in continuing VET, general and higher education ([2020 Council Recommendation on VET](#)).

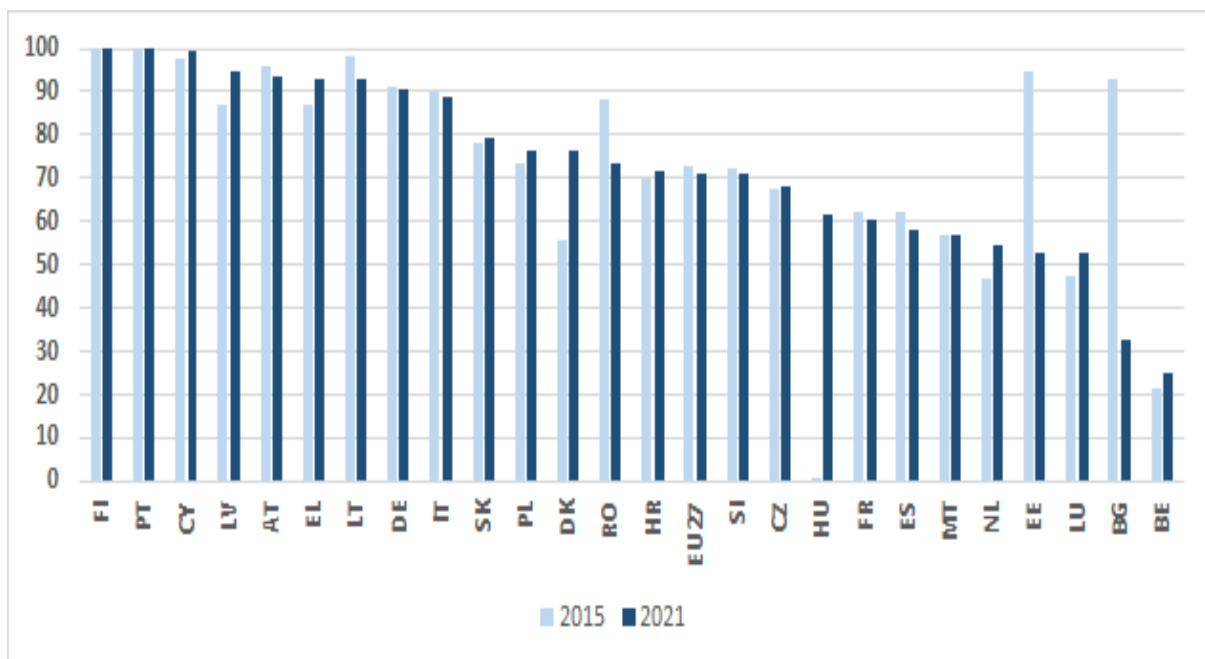
Education programmes in upper secondary VET are diverse. Shorter programmes may raise education levels above lower secondary, reducing early school leaving and improving the transition to the labour market. Other longer and more complex programmes may develop higher skills for work or education and training at tertiary level.



In the EU, in 2021, Cedefop estimates that 71.1% of students in upper secondary VET were enrolled in programmes giving direct access to tertiary education (Figure 1). This share stood at, or close to, 100% in Finland, Portugal and Cyprus. Only in Belgium (25.2%) and Bulgaria (32.8%) were fewer than 50% of VET students in programmes giving them direct access to tertiary education. Compared to 2015, the EU average share slightly dropped by 1.6 percentage points but remained over 70%.

At country level, most changes over the same period, were relatively small. However, there were major falls in Bulgaria (down 60.2 percentage points), Estonia (down 41.6 percentage points but was still above 50%). There was also a fall of 14.8 percentage points, in Romania, but the share of VET students in programmes giving direct access to tertiary education remained above the EU average. Major increases were observed in Denmark (up 20.4 percentage points) and Hungary (up 60.9 percentage points).

Figure 1. IVET students in programmes with direct access to tertiary education (as % of all upper secondary IVET), ISCED 3, 2015 and 2021

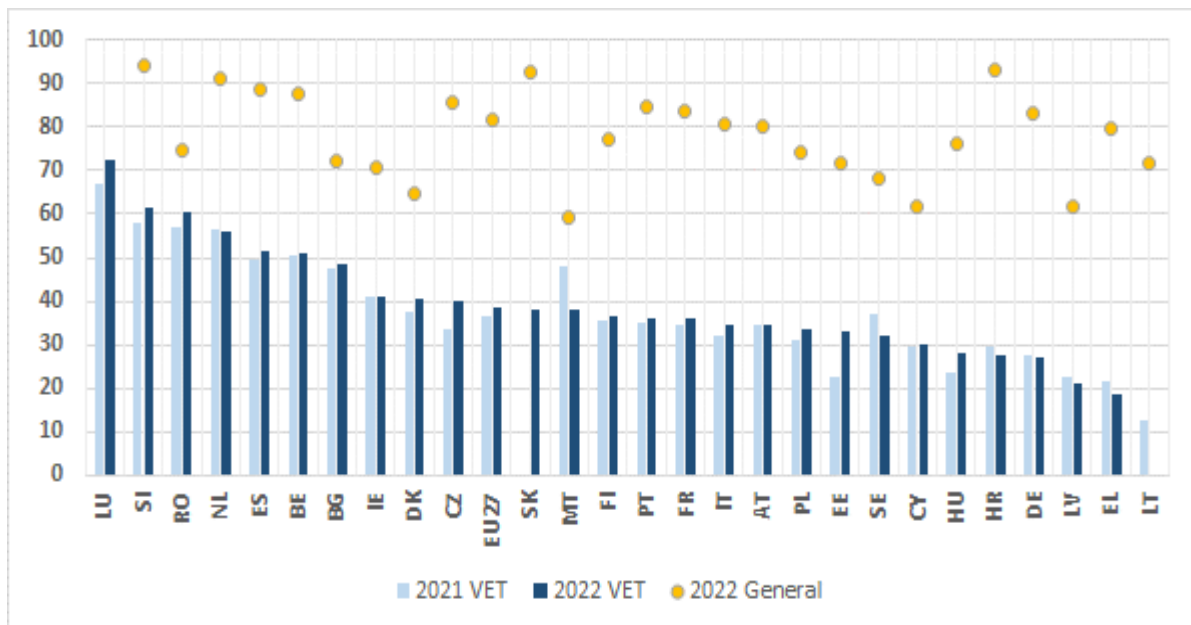


Source: Cedefop calculations based on Eurostat data, UOE data collection on formal education. NB: data are not available for Ireland and Sweden.

Almost 40% of young VET graduates in the EU continue in further formal and/or non-formal education and training (Figure 2). In 2022, 38.4% of VET graduates aged 18 to 24, declared that they had participated in further education and training in the previous four weeks, according to the EU Labour Force Survey. In countries such as Luxembourg, Slovenia, Romania Belgium and the Netherlands more than 50% of young VET graduates in the EU continue in some form of education and training. Due to time in break series, proper comparisons over an extended period of time are not entirely reliable. In previous years estimates for the EU were stable at around 33%.



Figure 2. Young IVET graduates in further education and training (%), 2021-2022



Source: Cedefop calculations based on Eurostat data, EU LFS, data supplied at Cedefop request. NB Slovakia, 2021 data for VET are not shown due to break in time series; Lithuania, 2022 data for VET are not sufficiently reliable due to small sample sizes; Luxembourg, 2022 data for general education are not available.

At some 81.6%, the proportion of general education graduates who continue in education and training is more than twice the proportion of VET graduates. However, this reflects structural differences between VET and general education. VET is mainly designed to prepare people for the labour market and work, while general education is mainly designed to prepare young people for further studies. However, that some 40% of VET graduates in the EU go on to further studies shows that VET provides opportunities for further learning.

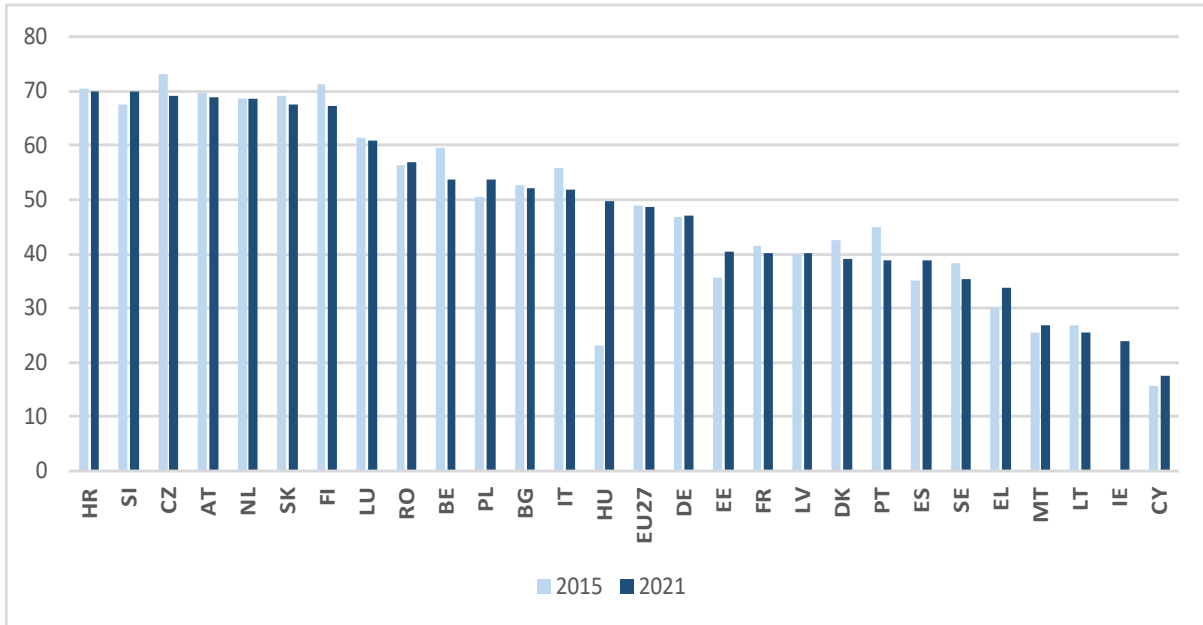
Is initial VET an attractive learning choice?

A key aim of EU education and training policy is to promote initial vocational education and training (IVET) as an attractive choice ([2020 Osnabrück Declaration](#), [2020 Council Recommendation on VET](#)).

In the EU, initial VET takes place principally at upper secondary level (ISCED level 3). At this level, in 2021, there were 8.8 million initial VET students, almost half (48.7%) of the total number of upper secondary students in the EU. The proportions of VET and general education students has remained relatively stable, at around half and half, for several years (Figure 3). All Member States have upper secondary VET programmes, but participation across countries varies considerably. In 2021, the share of upper secondary students enrolled in VET ranged from 70% in Croatia to 17.6% in Cyprus. Most countries have seen no major change in recent years, except for Hungary, Belgium and Portugal.



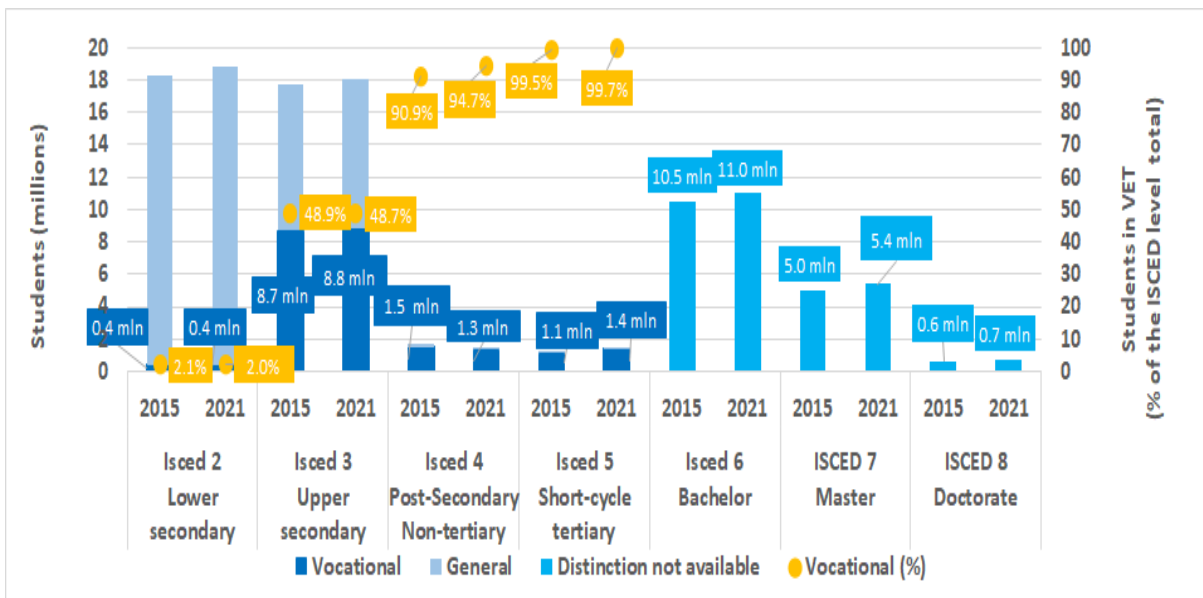
Figure 3. IVET students (as% of all upper secondary students)-ISCED 3, 2015 and 2021.



Source: Cedefop calculations based on Eurostat data, UOE data collection on formal education.

There is some initial VET in lower secondary education (ISCED level 2) in the EU. However, at this level, in 2021, only 0.4 million students were enrolled in vocational programmes, around 2% of all students at the ISCED 2 level (Figure 4). In 2021, the proportion of students in lower secondary level VET was above 5% only in Belgium (17.1%), Croatia (10.3%) and the Netherlands (6.8%)

Figure 4. Students in VET, ISCED levels 2 to 5, (in millions and as a % of students at the same ISCED level). EU, 2015 and 2021



Source: Cedefop calculations based on Eurostat data, UOE data collection on formal education.



VET has a stronger presence in post-secondary non-tertiary education (ISCED level 4). Some 94.7% of all students at ISCED level 4, in the EU, are enrolled in vocational programmes. However, the number of enrolments at ISCED level 4, some 1.3 million students in the EU in 2021, is much lower than the 8.8 million in upper secondary ISCED level 3 VET programmes in the same year. Compared to 2015, enrolments in level 4 VET programmes in the EU fell by 0.2 million students, but the share of VET students at this level, rose by 3.6 percentage points.

Although present in almost all Member States, post-secondary non tertiary VET tends to be country specific in many aspects. Six Member States do not collect of data that distinguishes between vocational and general programmes at this level. In the EU overall, about two thirds of all students in post-secondary non-tertiary VET are in only two countries, Germany, with 50.9% all EU students in level 4 VET, and Poland with 15.2%. Only in Czechia (27.9%) and France (43.3%) is the proportion of VET students at ISCED level 4 less than half of all students.

Short-cycle tertiary education in the EU (ISCED level 5) is dominated by VET, which accounts for 99.7% of all students at this level and type of learning. Indications are that the number of short-cycle tertiary VET students, in 2021, was around 1.4 million students. Compared to 2015, the number of students in short cycle tertiary VET went up by 0.3 million and the share of VET students rose by 0.2 percentage points.

Short-cycle tertiary VET is concentrated in several countries. Seven Member States do not collect of data that distinguishes between vocational and general programmes at this level. In the EU overall, about three quarters of all students in short cycle tertiary VET are in only two countries, France (37.6%) and Spain (40.6%).

In the EU in 2021, the 1.4 million students in short cycle tertiary VET are a small proportion of all students in tertiary education, accounting for about 7.6% of the 18.5 million students at ISCED level 5 or above. This includes 11 million students at Bachelor level (ISCED level 6), 5.4 million students at Master level (ISCED level 7) and 0.7 million students at Doctoral level (ISCED level 8). At higher levels of tertiary education (above ISCED 5), international statistics do not distinguish between vocational and general programmes and qualifications. An internationally definition of academic and professional programmes and qualifications that would enable the collection of such data is being discussed. In the EU as whole, enrolments in tertiary education grew as compared to 2015, but there is no sign that this happened at major expenses of enrolments in upper secondary VET, with no remarkable decrease in related enrolments. The policy attention to Initial VET may have well played a role in this.



About 'Data insights'

'Data Insights' comment on selected statistical indicators relating to vocational education and training (VET). They are part of Cedefop's continuing effort to increase availability, quality, relevance, analysis, use and dissemination of [statistical information and evidence on VET](#) and adult learning.

Data insights are drawn from Cedefop's [Key indicators on VET](#), a high-quality data framework that provides a concise and internationally comparable statistical picture of strategic aspects of initial and continuing VET, adult learning, skill development and their context. The indicators provide data for the European Union overall, its Member States and a selection of other European countries. Data are presented in interactive charts and include EU and country specific time series.

A subset of indicators is used for Cedefop's [European VET policy dashboard](#), which presents a comparative statistical snapshot of progress by the EU and its Member States towards the agreed quantitative targets and other priorities of post-2020 European VET policy (which covers the period 2021 to 2025/30).



Annex

A1. Indicators labels, descriptions and sources

Indicator label	Indicator description and source
IVET students with direct access to tertiary education as % of all upper secondary IVET	Number of students in upper secondary IVET (ISCED 3) enrolled in programmes giving direct access to tertiary education as a percentage of all students in upper secondary IVET. (Cedefop calculations based on Eurostat data, UOE data collection on formal education)
Young IVET graduates in further education and training (%)	Percentage of the population aged 18-24 with a medium-level vocational qualification (ISCED 3 or 4) as their highest educational attainment who participated in formal or non-formal education and training over four weeks prior to the survey (Cedefop calculations based on Eurostat, LFS data supplied at Cedefop's request). Data are compared with a similar indicator calculated for those in the same age group and holding a medium level qualification of general orientation.
IVET students as % of all upper secondary students	Number of students in upper secondary IVET (ISCED 3) as a percentage of all upper secondary graduates. (Cedefop calculations based on Eurostat data, UOE data collection on formal education)
Students in VET, ISCED levels 2 to 5, (in millions and as a % of students at the same ISCED level). EU, 2015 and 2021	Number of students enrolled at selected ISCED levels. For ISCED levels 2-5, a distinction is presented by orientation (general and vocational) of the education. Data for VET is displayed in absolute terms and as a percentage of all students at the same level. At ISCED levels 6-8 the distinction is not available (Cedefop calculations based on Eurostat data, UOE data collection on formal education)

A2. Additional notes

All indicators and breakdowns in this report are subject to the specific methodology of the source from which they originate. For indicators and related breakdowns derived from the LFS and the UOE data collection on education systems, the definitions used for levels, orientations and access to higher levels of formal education are those agreed in ISCED 2011. By using the first digit of the classification, ISCED 2011 distinguishes and defines the following levels of education:

ISCED 2011 levels of education	
Level 0 -	Early childhood education
Level 1 -	Primary education
Level 2 -	Lower secondary education
Level 3 -	Upper secondary education
Level 4 -	Post-secondary non-tertiary education
Level 5 -	Short-cycle tertiary education
Level 6 -	Bachelor or equivalent level
Level 7	Master or equivalent level



Level 8 -

Doctor or equivalent level

In some cases, such as indicators from sample surveys (e.g. LFS), ISCED levels are aggregated to compute indicators. Aggregations used are: ISCED 0-2 (low educational attainment); ISCED 3-4 (medium educational attainment); ISCED 5-8 (tertiary educational attainment). Individuals whose highest level of education derives from completion of ISCED 3 programmes of duration of less than two years are considered as having low educational attainment.

At levels 2 to 5, by using the second digit of the classification, ISCED 2011 distinguishes and defines general and vocational orientation:

ISCED 2011 levels of education	
Vocational orientation	Designed for learners to acquire the knowledge, skills and competencies specific to a particular occupation, trade, or class of occupations or trades. Such programmes may have work-based components (e.g. apprenticeships, dual system education programmes). Successful completion of such programmes leads to labour market-relevant, vocational qualifications acknowledged as occupationally oriented by the relevant national authorities and/or the labour market.
General orientation	Designed to develop learners' general knowledge, skills and competencies, as well as literacy and numeracy skills, often to prepare participants for more advanced education programmes at the same or a higher ISCED level and to lay the foundation for lifelong learning. These programmes are typically school- or college-based. General education includes education programmes that are designed to prepare participants for entry into vocational education but do not prepare for employment in a particular occupation, trade, or class of occupations or trades, nor lead directly to a labour market-relevant qualification

At higher levels of education, ISCED 2011 does not distinguish between general and vocational education. It considers but does not yet define a distinction between academic and professional education, which is therefore not used in this report. The third digit of ISCED 2011 is used in one indicator distinguishing between upper secondary vocational programmes granting or not direct access to tertiary programmes at levels 5, 6 or 7.

A3. Abbreviations

ISCED	International Standard Classification of Education
LFS	European Union labour force survey
UOE	Unesco OECD Eurostat Joint data collection on formal education