



Data insight:

Work-based vocational education and training in the EU - more than you might think

Summary

There is more work based initial VET in the EU than originally thought.

- In 2022 in the EU, an estimated 60.1% of recent VET graduates had a period of work experience as part of their studies. Recent VET graduates are defined as 20-34-year-olds who obtained a vocational qualifications at ISCED levels 3 or 4 in the last three years.
- Although slightly down from the 60.6% in 2021, the 2022 figure exceeds the target of 60% by 2025 set in the [2020 Council Recommendation on VET](#) and the [2021 Council Resolution on the European Education Area](#).
- There are significant geographical differences behind the EU average. Estimates of recent VET graduates having experienced work-based learning ranges from 8.4% in Romania to 98.4% in Spain.

Periods of work experience as part of VET tend to be long and paid

- In the EU overall, in 2022, 37.9% of recent VET graduates had a 'long' work experience, defined as seven months or over. Some 22.2% had a short work experience lasting one to six months.
- Some 39.9% of recent VET graduates had a paid work experience and 20.2% had an unpaid one. This varies considerably across Member States.
- In Germany, Austria, the Netherlands and Denmark, a high proportion of recent VET graduates benefited from long (lasting seven months or more) and paid periods of work experience. In other countries shorter (from one to six months), paid and unpaid periods of work experience are more common and in some of them considerably contribute to raise exposure to work-based learning.

Methods and sources for the data are in the Annex.



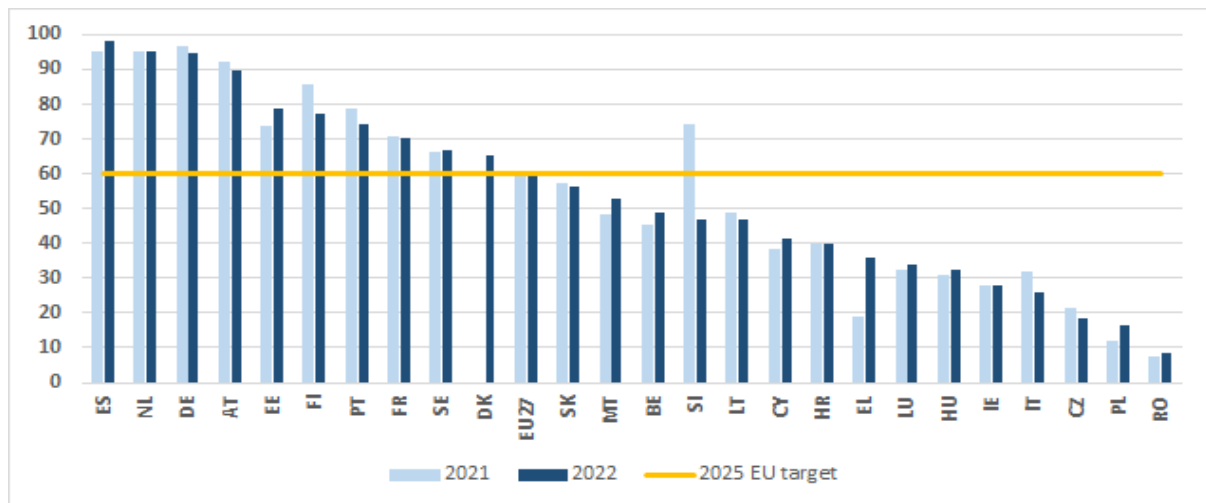
Extent and forms of work-based initial VET

[Cedefop research shows](#) that work-based learning can provide a bridge to the labour market by supporting the transition from education to work and developing relevant skills for the labour market. The 2010-20 European VET policy cycle called for work-based learning to become a key feature of initial VET systems.

The post-2020 European VET policy cycle has continued the emphasis on work-based learning in VET. The [2020 Council Recommendation on VET](#) and the [2021 Council Resolution on the European Education Area](#) set a quantitative statistical target, for the EU overall, of 60% of recent graduates from VET having work-based learning as part of their VET studies by 2025.

In 2022, in the EU an estimated 60.1% of recent VET graduates had a period of work experience as part of their studies (Figure 1) exceeding the EU's target of 60% by 2025. There are significant geographical differences behind the EU average. Estimates of recent VET graduates having experienced work-based learning ranges from 8.4% in Romania to 98.4% in Spain.

Figure 1. Recent IVET graduates (20-34-year-olds) with work-based learning experience as part of their VET (%), 2021 and 2022.



Source: Eurostat, EU LFS. The indicator covers graduates who obtained a VET qualification as their highest at ISCED level 3-4 in the last 3 years. NB: 2021 and 2022 data for Bulgaria and Latvia as well as 2021 data for Denmark are not sufficiently reliable to publish due to small sample sizes. 2021 and 2022 data for Cyprus, Germany and Ireland as well as 2021 data for Hungary should be interpreted with caution as they are affected by some reliability issues

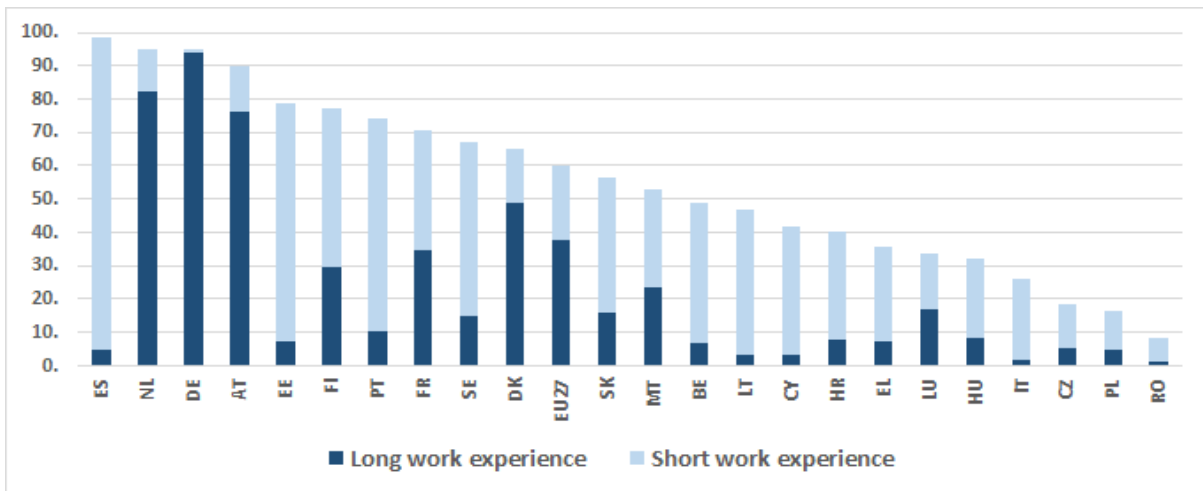
Measured by the EU Labour Force Survey (LFS), this target indicator defines recent VET graduates as people aged 20-34 years, who have acquired in the last three years an upper secondary or post-secondary non-tertiary vocational qualification (ISCED 3-4) as their highest level of educational attainment. It reports the share of recent VET graduates who said that they had work experience as part of their formal programme. Work experience with a (cumulative) duration of at least one month is counted, whether compulsory or not. Work



experience is distinguished by remuneration (paid or unpaid) and duration (short-term lasting from one to six months; or long-term more than seven months) ([see Eurostat](#)).

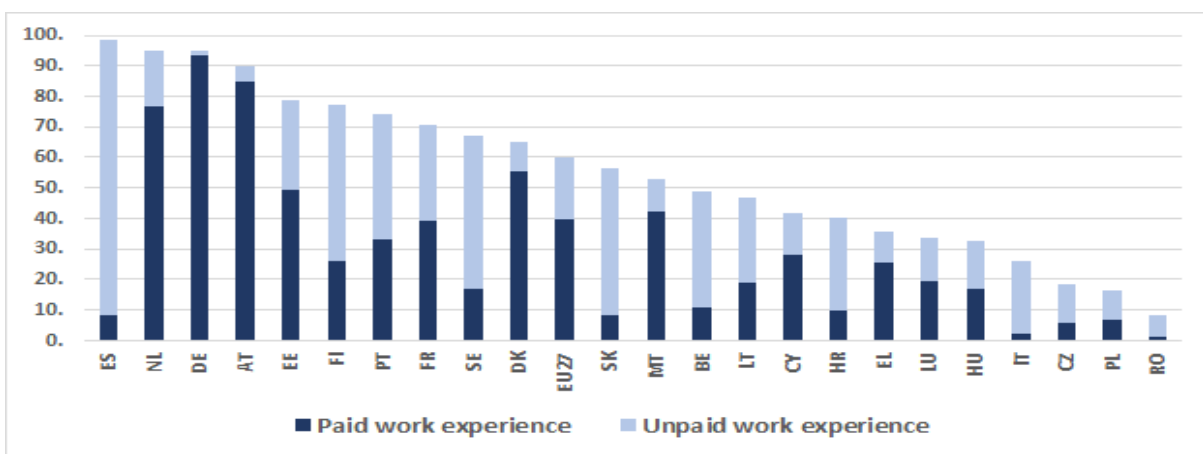
Periods of work experience in VET, tend to be, mostly although not necessarily, long and paid. At EU level, 37.9% of recent VET graduates had a long period, seven months or more, of work experience, while 22.2% a short period of between one and six months (Figure 2). Some 39.9% had a paid work experience, while 20.2% had an unpaid one (Figure 3).

Figure 2. Recent IVET graduates (20–34-year-olds) with work-based learning experience as part of their VET (% of recent VET graduates) by duration, 2022.



Source: Eurostat, EU LFS. NB: The indicator covers graduates who obtained a VET qualification as their highest at ISCED level 3-4 in the last 3 years. Breakdown by duration distinguishes: Short work experience (1 to 6 months). Long work experience (7 months or over). 2022 data for Bulgaria, Latvia and Ireland are not sufficiently reliable to publish with this breakdown due to small sample sizes. 2022 data for Cyprus, Malta and Germany should be interpreted with caution as they are affected by some reliability issues.

Figure 3. Recent IVET graduates (20–34-year-olds) with a work-based learning experience as part of their VET (% of recent VET graduates), by remuneration, 2022.



Source: Eurostat, EU LFS. NB: The indicator covers graduates who obtained a VET qualification as their highest at ISCED level 3-4 in the last 3 years. Breakdown by remuneration distinguishes paid and unpaid work experiences. Data for Bulgaria, Latvia and Ireland are not sufficiently reliable to publish due to small sample sizes. 2022 data for Cyprus, Malta and Germany should be interpreted with caution as they are affected by some reliability issues.

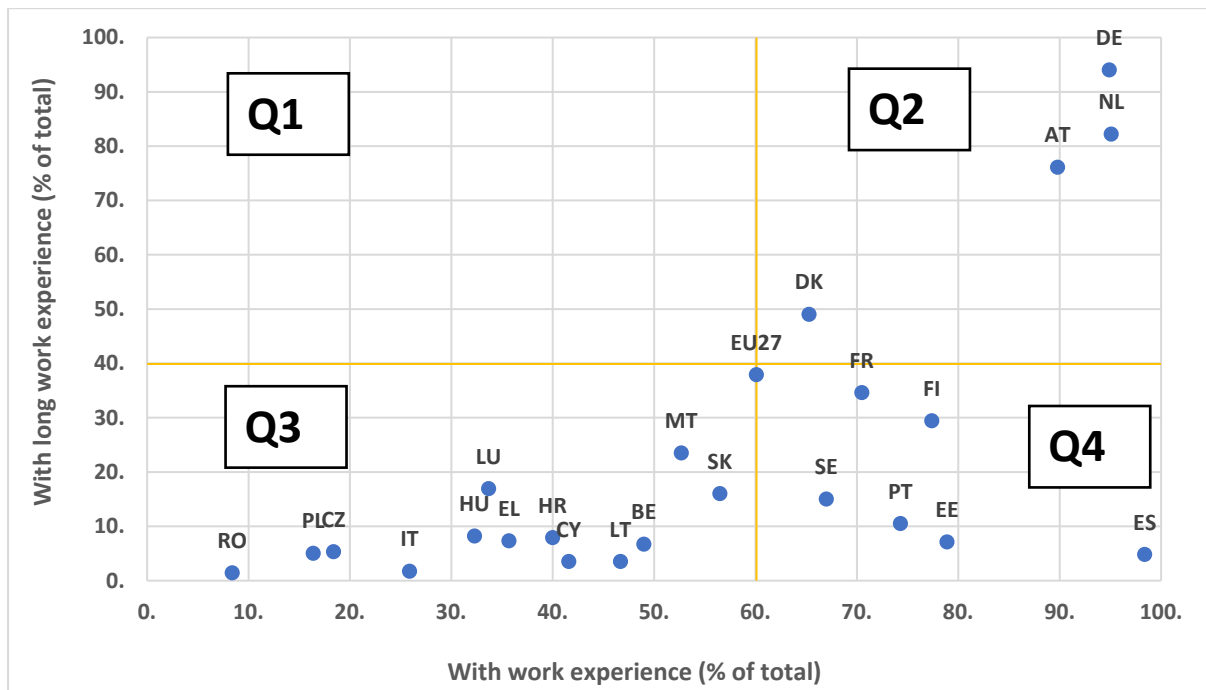


Duration and remuneration of work experience varies considerably across Member States. Using available country data, some of which are affected by reliability issues, an indicative picture can be derived.

Many countries where work experience is considerably below the EU average tend to have small shares of VET graduates benefiting from longer and paid periods of work experience (section Q3 of Figures 4 and 5). However, in Germany, Austria, the Netherlands and Denmark, high levels of long and paid work experience in VET combine with high shares of VET graduates (section Q2 of Figures 4 and 5). This reflects a well-established work-based VET model that includes apprenticeships.

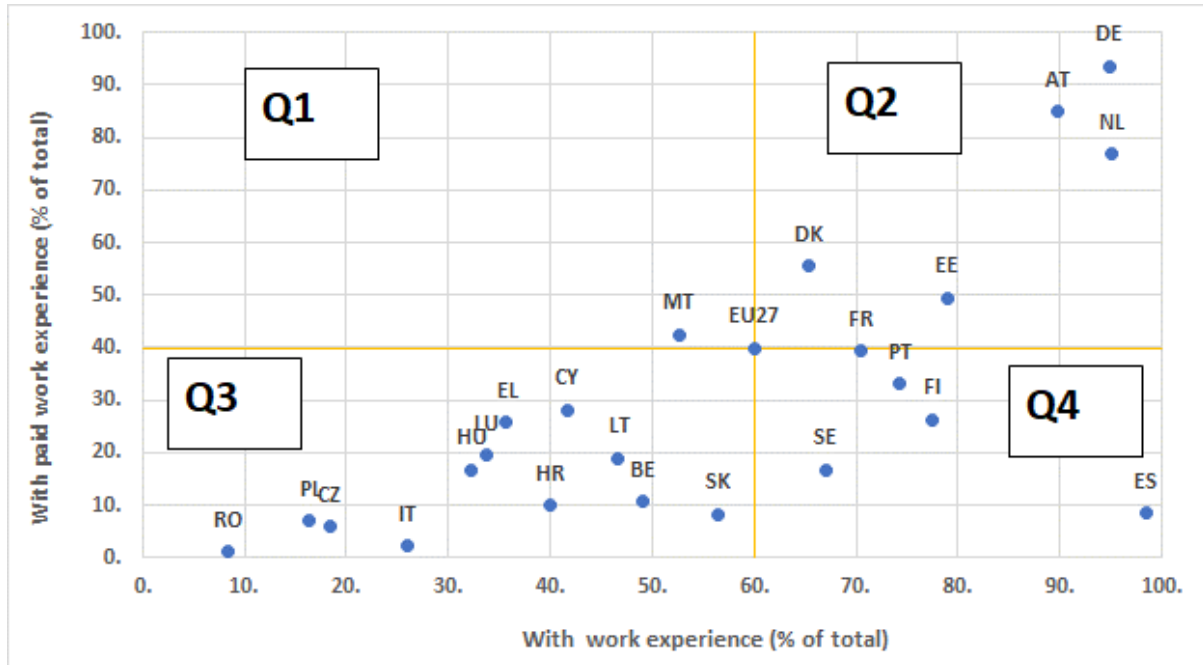
Other countries where the share of recent VET graduates who had a period of work experience is above the EU average, provide shorter periods of work experience (section Q4 of Figure 4). For example, in Spain and Sweden, which have above average levels of work experience in VET, data suggest that those periods of work experience are mostly short and unpaid. In Estonia and Portugal data also suggest that most work experience is of short duration, but the share of VET graduates being paid during their work experience is higher than in Spain and Sweden. In France and Finland, most work experience in VET is of short duration, but many VET graduates also benefit from longer periods of work experience.

Figure 4. Recent IVET graduates (20-34- year-olds) with a (long) work-based learning experience as part of their VET (% of recent VET graduates), 2022.



Source: Eurostat, EU LFS. NB: The indicator covers graduates who obtained a VET qualification as their highest at ISCED level 3-4 in the last 3 years. The breakdown by duration distinguishes: Short work experience (1 to 6 months). Long work experience (7 months or over). The axis of the chart are centred at the EU averages for both indicators. 2022 data for Bulgaria, Latvia and Ireland are not sufficiently reliable to publish due to small sample sizes. 2022 data for Cyprus, Malta and Germany should be interpret with caution as they are affected by some reliability issues

Figure 5. Recent IVET graduates (20–34-year-olds) with a (paid) work-based learning experience as part of their VET (% of recent VET graduates), by duration, 2022.



Source: Eurostat, EU LFS. The axes of the chart are centred at the EU averages for both indicators. NB 2022 data for Bulgaria, Latvia and Ireland are not sufficiently reliable to publish due to small sample sizes. 2022 data for Cyprus, Malta and Germany should be interpreted with caution as they are affected by some reliability issues

To some extent, these findings can be complemented by how many students in initial VET are enrolled in programmes combining work- and school-based components, as opposed to vocational programmes which are wholly, or mainly, school-based.

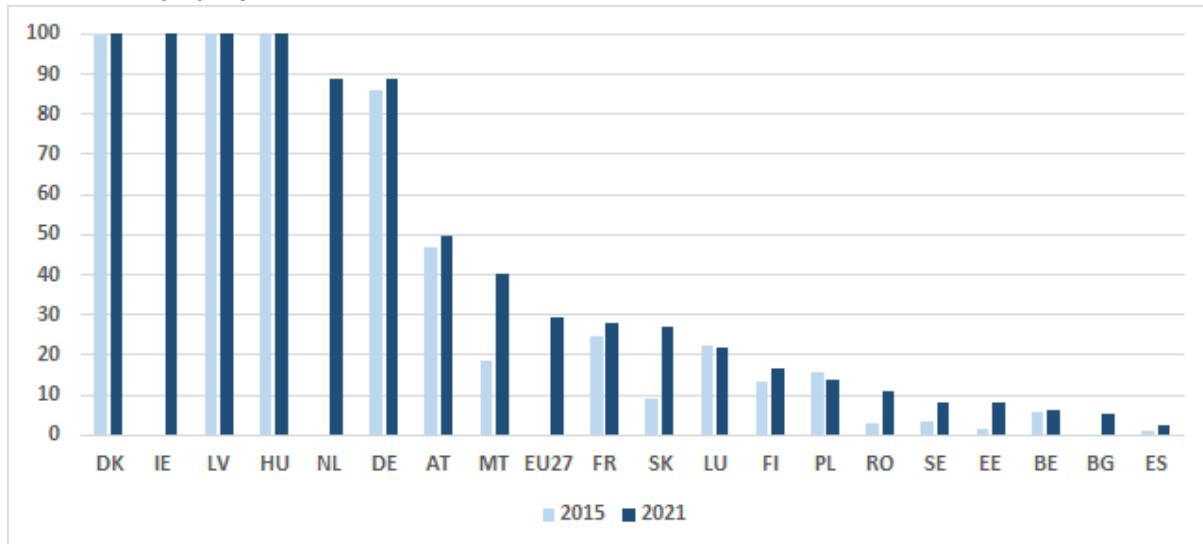
The indicator is defined as the percentage of upper secondary VET students enrolled in combined work- and school-based programmes. In the UNESCO, OECD, Eurostat data collection on formal education (UOE), a vocational programme is classified as combined work- and school-based if between 25% and 90% of the curriculum is presented outside the school environment; otherwise, it is classified as school-based. This definition includes apprenticeships.

Using Eurostat data, Cedefop estimates that in the EU, in 2021, 29.3% of upper secondary VET students were enrolled in combined work- and school-based VET (Figure 6). This suggests that the incidence of work-based learning for the EU overall is well below the estimates of the levels of recent VET graduates benefiting from work experience. However, the data are not comparable.

Data on work experience refers to graduates, data on work-based learning refers to students. More importantly, work-based learning is defined more narrowly to capture apprentice type schemes in formal initial VET, which are characterised by structured, paid, mandatory and long term alternance between school and work. There are wide variations across countries in the availability of, and enrolments in, such schemes. In most countries availability of work-based learning has remained stable or increased.



Figure 6. IVET work-based students as % of all upper secondary IVET, ISCED 3, 2015 and 2021.



Source: Cedefop calculations, based on Eurostat data, UOE data collection on formal education. EU averages are Cedefop estimations based on available country data. NB: 2015 data for the Netherlands and the EU are not presented due to break in time series. Data for the Netherlands only cover the public sector of upper secondary VET. The distinction between combined work-based and school-based and mainly school-based vocational programmes is not applicable for statistical purposes in the EU member states not displayed in the chart.

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
Recent IVET graduates (20–34-year-olds) with a work-based learning experience as part of their vocational education and training (%)	Percentage of recent IVET graduates benefitting from exposure to work-based learning during their vocational education and training. Recent IVET graduates are considered those aged 20-34 who have graduated in the last 3 years before the survey and who have a medium-level vocational qualification (ISCED 3 or 4) as their highest educational attainment. Benefitting from exposure to work-based learning during IVET refers to having had work experience(s) undertaken as part of the curriculum of the formal programme leading to the highest education successfully completed. Work experiences are considered those with a duration of at least one month and occurred at a workplace in a market or non-market unit (i.e. in a company, government institution or non-profit organisation). Purely school-based work experiences are not considered. (Eurostat, LFS).
IVET work-based students as % of all upper secondary IVET	Number of students in combined work- and school-based upper secondary IVET (ISCED 3) as a percentage of all students in upper secondary IVET. (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.

Enrolments in IVET can be further distinguished in combined work- and school-based VET programmes as opposed to mainly or solely school-based VET programmes. A programme is classified as 'combined work- and school-based' if 25% or more of the curriculum is presented outside the school environment. Programmes where the work-based component accounts for 90% or more of the



curriculum are excluded from the UOE data collection. Under these conditions, apprenticeships are included in work-based IVET.

A3. Abbreviations

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