

Vocational education and training statistics

Statistics Explained

Data extracted in October 2021.

Planned article update: November 2022.

This article presents statistics on [vocational training](#) in the [European Union \(EU\)](#) and forms part of an [online publication on education and training in the EU](#). It provides a comprehensive picture of [vocational education and training](#) in the EU. The first half of the article analyses vocational education of pupils in schools or similar educational institutions, which may be undertaken as part of secondary or post-secondary non-tertiary education. The second part of the article looks at vocational training within enterprises, presenting initial vocational training (IVT) and more detailed information relating to continuing vocational training (CVT) within enterprises. Only enterprises from the [business economy](#) are included in the analysis; in other words, most economic activities are covered, with the exclusion of agriculture, forestry and fishing, public administration and defence, compulsory social security, education, human health and social work activities.

Vocational training within secondary and post-secondary non-tertiary education

The first section of this article looks at vocational education within [secondary and post-secondary non-tertiary education](#), typically within educational institutions: generally this concerns initial education, before a person enters the [labour market](#) for the first time, although it may also include [adult education](#). Within these education levels (which are covered by the [international standard classification of education \(ISCED\)](#) levels 2-4), vocational educational programmes are distinguished from general educational programmes, as they are specifically designed for pupils to acquire the knowledge, skills and competencies for a particular occupation or trade.

Numbers of pupils

Within lower secondary education (ISCED level 2), vocational programmes are relatively rare: in 2019 they accounted for 2.3 % of the total number of pupils at this level in the [EU](#) (note that there were 10 EU Member States where there were no vocational programmes offered within lower secondary education). A somewhat higher proportion of male than female pupils followed vocational programmes within lower secondary education, as the shares were 2.6 % among male pupils and 2.0 % among female pupils. As can be seen in Table 1, two Member States reported a double-digit share of pupils following vocational programmes within lower secondary education — Croatia and Belgium (where a peak of 19.0 % was recorded). In the EU there is a higher proportion of male pupils than female pupils in vocational training, except for Bulgaria, Ireland or Croatia, which were the Member States that reported a higher proportion of female than male pupils attending a vocational programme within lower secondary education.

In 2019, close to half (48.4 %) of all upper secondary (ISCED level 3) school pupils in the EU followed vocational programmes, with the share for males (54.9 %) clearly higher than that recorded for females (41.6 %). In 14 of the EU Member States, less than half of all upper secondary pupils were studying vocational programmes, with this share dropping below one fifth in Cyprus (16.9 %). By contrast, in eight EU countries the share of students in upper secondary vocational education went above 60.0 %, with even higher shares — 70 % or above — in Czechia and Slovenia, where a peak of 70.8 % was recorded.

Within post-secondary non-tertiary education (ISCED level 4), the vast majority of pupils followed vocational programmes, an average of 94.5 % across the EU Member States in 2019 (the average includes 2016 data for Italy and 2017 data for Cyprus). Unlike the two secondary education levels, the share of females (95.2 %) in post-secondary non-tertiary education enrolled in vocational programmes was somewhat higher than that for males (93.5 %). In a majority of the EU Member States (17 of the 22 with post-secondary non-tertiary education) all of the pupils at this educational level were enrolled in vocational programmes. Czechia was one of only two Member States where less than half of the total number of pupils within post-secondary non-tertiary education were following vocational programmes (36.1 %). Note there were no post-secondary non-tertiary education pupils in Denmark, Croatia, Malta, the Netherlands or Slovenia.

Share of students in vocational education programmes, 2019

(%)

	Lower secondary			Upper secondary			Post-secondary non-tertiary		
	Total	Male	Female	Total	Male	Female	Total	Male	Female
EU (*)	2.3	2.6	2.0	48.4	54.9	41.6	94.5	93.5	95.2
Belgium	19.0	19.3	18.7	56.2	58.8	53.9	92.2	94.8	89.8
Bulgaria	4.6	3.5	5.7	52.1	58.8	44.8	100.0	100.0	100.0
Czechia	0.6	0.6	0.5	70.5	76.0	64.7	36.1	49.8	26.8
Denmark	0.9	1.2	0.6	37.3	43.7	30.6	–	–	–
Germany	4.1	5.0	3.1	48.1	56.2	37.9	93.7	92.0	95.0
Estonia	2.8	3.1	2.4	39.8	46.5	33.3	100.0	100.0	100.0
Ireland	7.0	6.2	7.8	27.6	23.4	31.4	100.0	100.0	100.0
Greece	1.5	2.0	1.1	29.1	35.6	21.8	100.0	100.0	100.0
Spain	1.4	1.5	1.3	36.4	38.9	34.0	100.0	100.0	100.0
France	–	–	–	39.3	45.0	33.3	52.5	42.1	58.1
Croatia	10.5	7.9	13.1	69.0	76.9	61.0	–	–	–
Italy (*)	–	–	–	53.0	64.5	40.5	100.0	100.0	100.0
Cyprus (*)	–	–	–	16.9	24.9	8.4	100.0	100.0	100.0
Latvia	0.3	0.5	0.2	38.9	44.2	33.4	100.0	100.0	100.0
Lithuania	1.8	2.5	1.0	26.1	32.5	19.0	100.0	100.0	100.0
Luxembourg	–	–	–	61.7	64.7	58.7	100.0	100.0	100.0
Hungary	0.1	0.1	0.1	44.0	50.4	37.2	100.0	100.0	100.0
Malta	0.8	1.0	0.5	27.7	31.0	24.4	–	–	–
Netherlands	6.4	7.2	5.4	67.5	69.0	66.1	–	–	–
Austria	–	–	–	68.8	73.4	63.6	100.0	100.0	100.0
Poland	–	–	–	52.5	62.4	41.8	100.0	100.0	100.0
Portugal	6.0	6.9	5.0	39.0	44.1	33.8	100.0	100.0	100.0
Romania	–	–	–	56.2	62.7	49.5	100.0	100.0	100.0
Slovenia	–	–	–	70.8	77.6	63.7	–	–	–
Slovakia	2.2	2.4	2.0	67.5	73.4	61.5	100.0	100.0	100.0
Finland	–	–	–	68.7	72.2	65.5	100.0	100.0	100.0
Sweden	–	–	–	35.2	36.7	33.7	72.1	65.5	76.8
Iceland	–	–	–	28.4	36.2	20.0	98.7	99.1	97.9
Liechtenstein	–	–	–	67.6	71.9	61.7	–	–	–
Norway	–	–	–	50.3	58.3	41.2	100.0	100.0	100.0
Switzerland	–	–	–	63.3	70.0	55.6	78.3	78.0	78.4
Montenegro	–	–	–	68.2	72.8	63.3	–	–	–
North Macedonia	–	–	–	60.2	64.0	56.0	100.0	100.0	100.0
Serbia	–	–	–	73.8	79.0	68.4	100.0	100.0	100.0
Turkey	–	–	–	42.5	44.8	39.8	–	–	–

(*) Including 2016 data for post-secondary non-tertiary education for Italy and 2017 data for post-secondary non-tertiary education for Cyprus.

(*) Post-secondary non-tertiary education: 2016.

(*) Post-secondary non-tertiary education: 2017.

(–) not applicable.

Source: Eurostat (online data codes: educ_uoe_enrs01, educ_uoe_enrs04 and educ_uoe_enrs07)

Table 1: Share of students in vocational education programmes, 2019 Source: Eurostat (educ_uoe_enrs01), (educ_uoe_enrs04) and (educ_uoe_enrs07)

Graduates from vocational programmes

In 2019, typically between one third and one half of all graduates from upper secondary vocational programmes in the EU Member States were female, with this share averaging 44.4 % across the EU. The lowest share was 24.7 % in Cyprus while shares just above 50.0 % were recorded in in Finland (53.9 %) and Ireland (where a peak of 64.2 % was registered).

A similar comparison for post-secondary non-tertiary graduates reveals a wider range between the EU Member States. In 2019, the share of female graduates from vocational programmes was 22.7 % in Luxembourg. By contrast, female graduates accounted for close to three quarters of all post-secondary non-tertiary graduates from vocational programmes in Austria (74.5 %) and Poland (76.2 %) and more than nine tenths (93.4 %) in Malta — see

Figure 1.

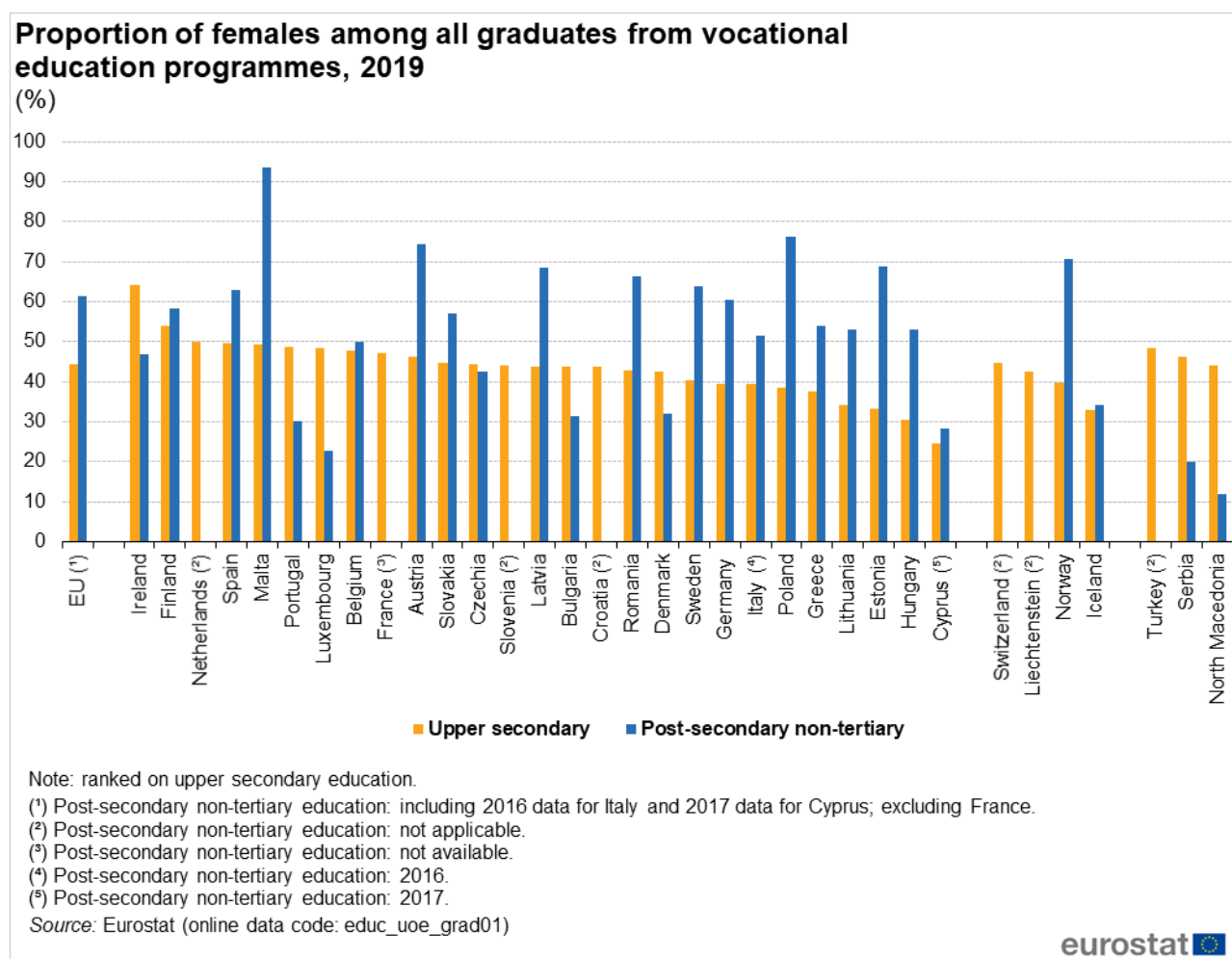
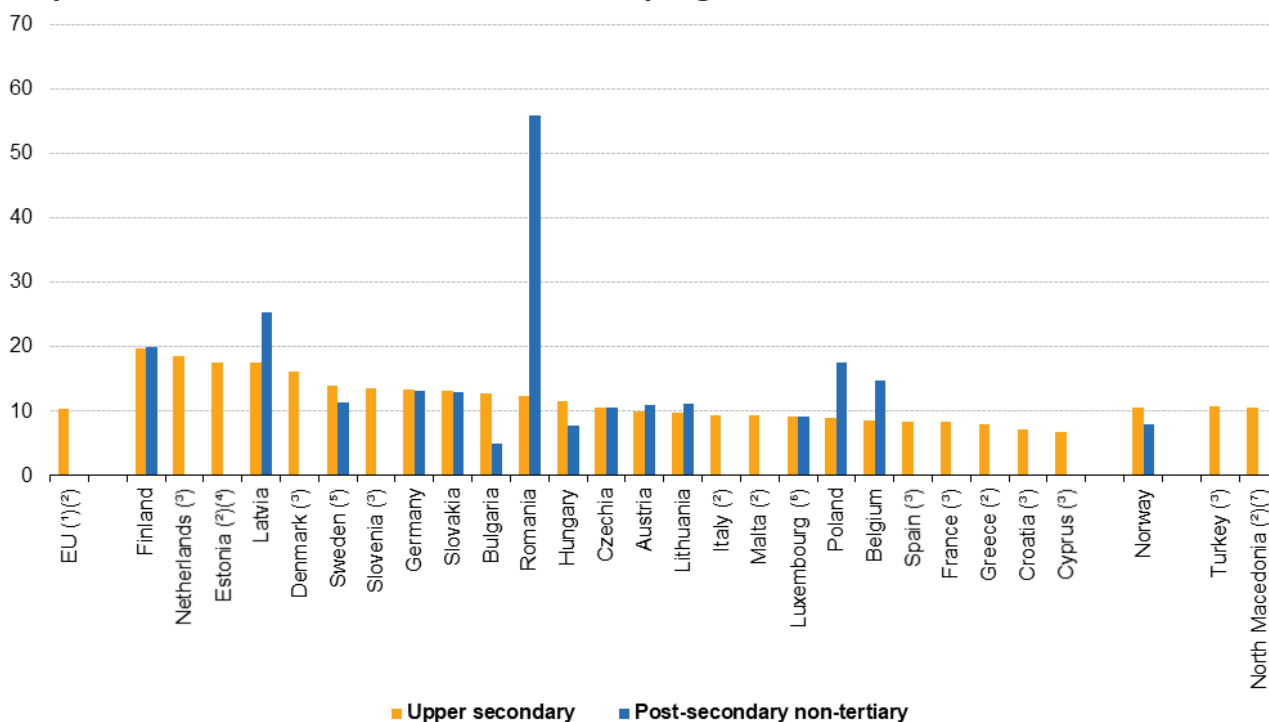


Figure 1: Proportion of females among all graduates from vocational education programmes, 2019 (%)
 Source: Eurostat (educ_uoe_grad01)

Pupil-teacher ratios for vocational programmes

There was a relatively high degree of variation in [pupil-teacher ratios](#) for vocational education programmes across the EU Member States, depending on whether these were at upper secondary level or post-secondary non-tertiary level — see Figure 2. In 2019, the largest difference was recorded in Romania, where the ratio for post-secondary non-tertiary education was 4.5 times as high as that recorded for upper secondary education. By contrast, there were six Member States (out of 14 for which data are available) where pupil-teacher ratios in vocational programmes were higher for upper secondary education than for post-secondary non-tertiary education. The largest difference among these was reported in Bulgaria, where the pupil-teacher ratio for upper secondary vocational education was 2.6 times as high as that for post-secondary non-tertiary education; the other five Member States were Hungary, Sweden (2016 data for upper secondary education), Germany, Slovakia and Luxembourg (upper secondary vocational education included in upper secondary education). Across the EU Member States, the pupil-teacher ratio within upper secondary education for vocational programmes in 2019 was 10.3.

Pupil-teacher ratio in vocational education programmes, 2019



Note: Ireland and Portugal, not available. Ranked on upper secondary education.

(1) Excluding Ireland, Greece and Sweden.

(2) Post-secondary non-tertiary education: not available.

(3) Post-secondary non-tertiary education: not applicable.

(4) Upper secondary education: includes lower secondary and post-secondary non-tertiary education.

(5) Upper secondary education: 2016.

(6) Excludes independent private institutions. Post-secondary non-tertiary education: 2017.

(7) Upper secondary education: includes all pupils at further education institutions regardless of level taught (so includes a small number of lower secondary and tertiary education courses).

(8) Upper secondary education: includes post-secondary non-tertiary education.

(9) Post-secondary non-tertiary education: 2017.

Source: Eurostat (online data code: educ_uae_perp04)

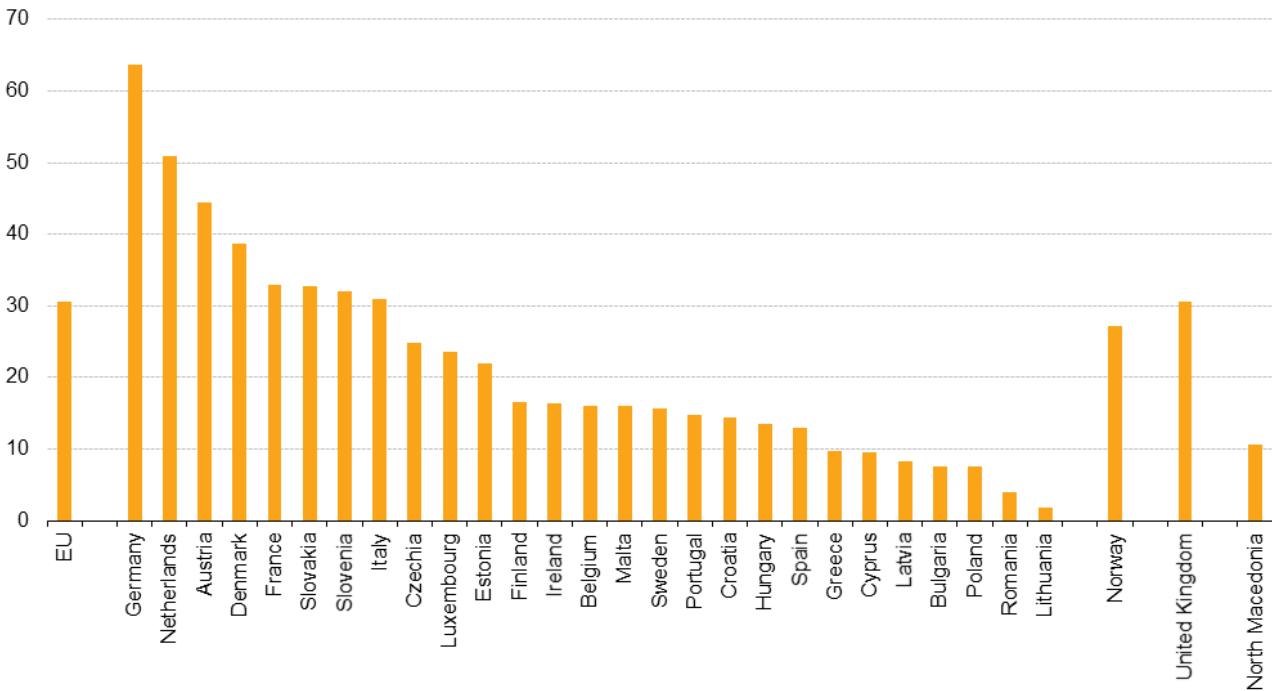
eurostat 

Figure 2: Pupil-teacher ratio in vocational education programmes, 2019 Source: Eurostat (educ_uae_perp04)

Initial vocational training in enterprises

Although the data presented in Figure 3 are from the [continuing vocational training survey \(CVTS\)](#), they show the proportion of enterprises providing initial vocational training (IVT), rather than continuing vocational training (CVT); a detailed description of these terms is provided below in the key concepts section under **Data sources**. In 2015, almost one third (30.5 %) of all enterprises with 10 or more persons employed in the EU's business economy provided IVT, although the proportion varied greatly across EU Member States. Only eight Member States reported a share that was above the EU average, with around a third of all enterprises in Italy, Slovenia, Slovakia, France and Denmark providing IVT, more than two fifths in Austria, around one half in the Netherlands, and more than three fifths in Germany. At the other end of the scale, less than 1 in 10 enterprises provided IVT in seven of the Member States, principally [Member States that joined the EU in 2004 or 2007](#), but also Greece.

Enterprises employing IVT participants, 2015 (% of all enterprises)



Source: Eurostat (online data code: trng_cvt_34s)

eurostat

Figure 3: Enterprises employing IVT participants, 2015 (% of all enterprises) Source: Eurostat (trng_cvt_34s)

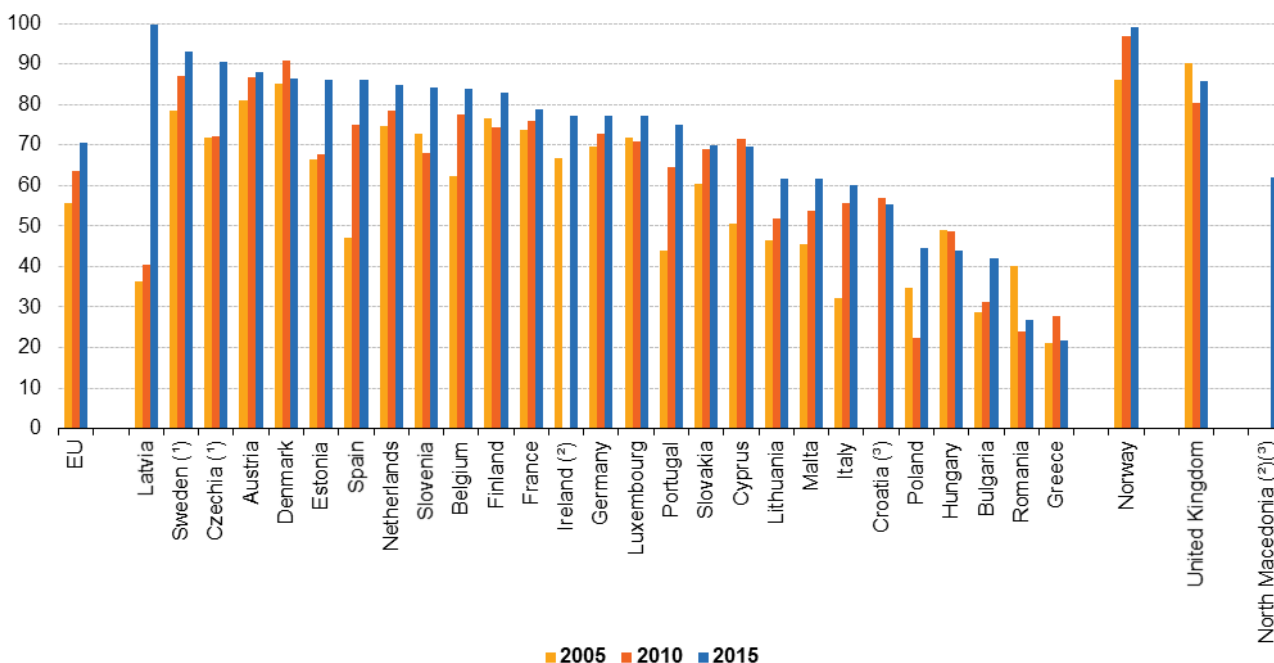
Continuing vocational training in enterprises

The remainder of this article focuses on data from the continuing vocational training survey and in particular on the provision of continuing vocational training (CVT) by enterprises. This information refers to education or training activities which are financed, at least in part, by enterprises; part financing could include, for example, the use of work time for the training activity. CVT can be provided either through dedicated courses or other forms of CVT, such as guided on-the-job training. In general, enterprises finance CVT in order to develop the competences and skills of the people they employ, hoping that this may contribute towards increasing [competitiveness](#) and productivity. A large majority of CVT is non-formal education or training, in other words, it is provided outside the formal education system.

In 2015, 70.5 % of enterprises employing 10 or more persons in the EU provided CVT to their staff (see Figure 4); this marked an increase compared with 2005 and 2010 when the corresponding shares were 55.6 % and 63.6 % respectively. Among the EU Member States, the share of enterprises that provided such training in 2015 ranged from 21.7 % in Greece to 99.9 % in Latvia; note that this share was also very high in Norway (99.1 %).

Enterprises providing CVT, 2005, 2010 and 2015

(% of all enterprises)



(*) 2015: break in series.

(*) 2010: not available.

(*) 2005: not available.

Source: Eurostat (online data code: trng_cv_01s)

eurostat

Figure 4: Enterprises providing CVT, 2005, 2010 and 2015 (% of all enterprises) Source: Eurostat (trng_cv_01s)

Enterprises providing continuing vocational training by economic activity

Table 2 provides a more detailed analysis of the proportion of enterprises providing CVT. Within the EU, enterprises in services (other than distributive trades or accommodation and food services) were more likely to offer CVT. This was particularly the case for the grouping of information and communication services and financial and insurance activities where the proportion of enterprises offering CVT peaked at 84.5 %.

In 24 EU Member States, the highest proportion of enterprises providing CVT was recorded for information and communication services and financial and insurance activities. In the remaining three Member States — Denmark, Latvia and Lithuania — the highest shares were recorded for other services, which includes for example real estate activities, professional, scientific, technical, administrative and support service activities, arts, entertainment and recreation; Latvia also reported that 100 % of its construction enterprises provided CVT. The same pattern as for the vast majority of EU Member States was repeated in the United Kingdom, Norway and North Macedonia, where the highest proportion of enterprises providing CVT was recorded for information and communication services and financial and insurance activities.

Enterprises in the EU were slightly more likely to provide CVT through courses (either internal or external) than to provide other forms of CVT, such as planned learning through guided on-the-job training, job rotation, exchanges or secondments, conferences and workshops, participation in learning or quality improvement groups, or self-directed learning. In 2015, 60.2 % of EU enterprises offered at least CVT courses and 56.7 % provided at least other forms of CVT; note that some of these enterprises provided both CVT courses and other forms of CVT. The proportion of enterprises providing CVT courses exceeded 80.0 % in Czechia, Austria, Sweden and Spain and was also above the EU average in Belgium, Finland, the Netherlands, France, Slovenia, Luxembourg, Denmark, Estonia, Slovakia and Germany; it was even higher in Norway (at 90.4 %). By contrast, less than one quarter of enterprises provided CVT courses in Romania and Greece. The proportion of enterprises providing other forms of CVT had a slightly wider range, from below one quarter in Greece and Romania up to more than four fifths in Estonia and Sweden, peaking at 99.9 % in Latvia; the share recorded in Norway was again relatively high (at 93.4 %).

Comparing the proportion of enterprises providing CVT courses and those providing other forms of CVT,

differences in excess of 10 percentage points were observed in 12 of the EU Member States, with enterprises in Finland, Spain, France and Czechia more likely to provide CVT courses, whereas enterprises in Poland, Lithuania, Germany, Portugal, Malta, Estonia, Ireland and Latvia were more likely to provide other forms of CVT.

Enterprises providing CVT by NACE Rev. 2 activity and type of training, 2015

(% of all enterprises)

	NACE Rev. 2 activity						Type of training	
	All activities	Industry	Construction	Distributive trades and accommodation and food services	Information and communication services and financial and insurance activities	Other services (*)	Proportion providing CVT courses	Proportion providing CVT other than courses
EU	70.5	69.5	69.4	66.5	84.5	76.5	60.2	56.7
Belgium	83.9	86.1	82.8	80.7	95.9	85.3	78.4	68.6
Bulgaria	42.2	41.8	47.4	36.1	61.2	50.1	31.9	37.3
Czechia	90.6	92.1	92.5	88.6	95.0	89.5	89.4	38.6
Denmark	86.6	82.6	83.2	83.7	92.2	94.1	69.9	74.4
Germany	77.3	79.9	72.8	75.4	92.4	76.5	61.9	73.7
Estonia	86.1	82.6	87.3	86.8	89.2	88.2	64.4	80.5
Ireland	77.4	75.9	74.3	73.2	89.8	84.3	57.1	74.3
Greece	21.7	23.5	18.1	18.9	41.8	25.2	12.7	18.0
Spain	86.0	87.2	89.7	84.4	93.0	85.0	80.6	64.4
France	78.9	81.5	66.4	76.4	86.2	86.1	75.1	47.9
Croatia	55.4	53.8	49.2	53.0	65.5	64.6	42.7	47.1
Italy	60.2	61.4	74.8	50.6	79.8	65.3	52.3	42.6
Cyprus	69.5	70.9	61.3	65.0	87.1	75.0	52.1	52.8
Latvia	99.9	99.9	100.0	99.9	99.4	100.0	31.3	99.9
Lithuania	61.6	60.4	58.6	57.5	71.5	73.0	43.7	55.3
Luxembourg	77.1	80.3	60.8	75.0	93.1	83.9	71.9	70.5
Hungary	43.8	47.1	46.1	38.6	65.3	43.1	32.1	37.3
Malta	61.6	55.7	41.7	51.4	86.1	81.6	43.3	58.4
Netherlands	85.0	85.0	86.4	83.8	88.1	85.4	75.5	76.4
Austria	88.1	88.6	87.4	85.4	94.9	92.3	81.6	79.5
Poland	44.7	45.5	39.0	39.2	67.2	56.0	29.2	40.6
Portugal	75.0	71.0	67.6	76.2	92.7	83.4	53.8	67.7
Romania	26.7	27.3	26.2	21.9	42.1	32.8	21.1	22.1
Slovenia	84.1	84.8	69.4	85.1	93.4	90.2	72.9	77.2
Slovakia	70.0	71.6	74.3	65.8	85.3	70.3	63.6	56.3
Finland	83.1	81.6	82.3	82.8	93.9	82.1	78.0	63.6
Sweden	93.1	91.9	91.4	91.2	97.1	96.6	81.6	86.7
Norway	99.1	99.7	98.1	99.3	100.0	98.8	90.4	93.4
United Kingdom	85.7	82.2	90.2	81.8	90.5	89.8	67.1	80.2
North Macedonia	61.9	63.6	54.4	58.4	77.2	69.7	45.9	38.9

(*) NACE Rev. 2 Sections L to N and R and S.

Source: Eurostat (online data code: trng_cvt_01n2)

eurostat 

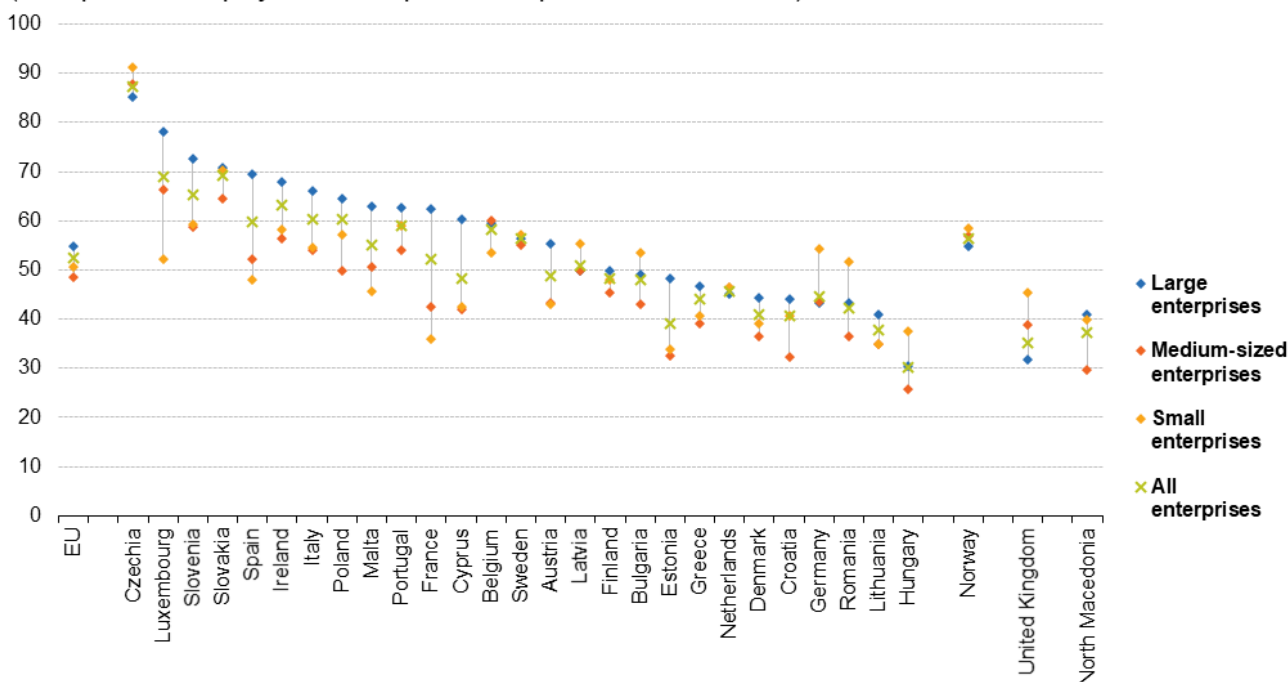
Table 2: Enterprises providing CVT by NACE Rev. 2 activity and type of training, 2015 (% of all enterprises)
Source: Eurostat (trng_cvt_01n2)

Participation rates for continuing vocational training courses

The data on participation rates in Figure 5 only relate to participation in CVT courses and not to participation in other forms of CVT. On average, **enterprise size** appears to be a relatively minor factor influencing the provision of CVT courses across the EU: in 2015, more than half (54.8 %) of all persons employed in **large enterprises** (with 250 persons employed or more) participated in CVT courses, compared with 48.5 % for **medium-sized enterprises** (with 50-249 persons employed) and 50.6 % of those employed by **small enterprises** (with 10-49 persons employed); see Figure 5. It is interesting to note that in seven of the EU Member States the highest participation rates were reported for small enterprises, while small enterprises and medium-sized enterprises in the Netherlands recorded the joint highest rates. The most notable example was Germany as participation rates for CVT courses in 2015 were more than 10 percentage points higher among small enterprises than they were among large enterprises.

Participants in CVT courses by enterprise size class, 2015

(% of persons employed in enterprises that provide CVT courses)



Note: ranked on large enterprises.

Source: Eurostat (online data code: trng_cvt_13s)

eurostat 

Figure 5: Participants in CVT courses by enterprise size class, 2015 (% of persons employed in enterprises that provide CVT courses) Source: Eurostat (trng_cvt_13s)

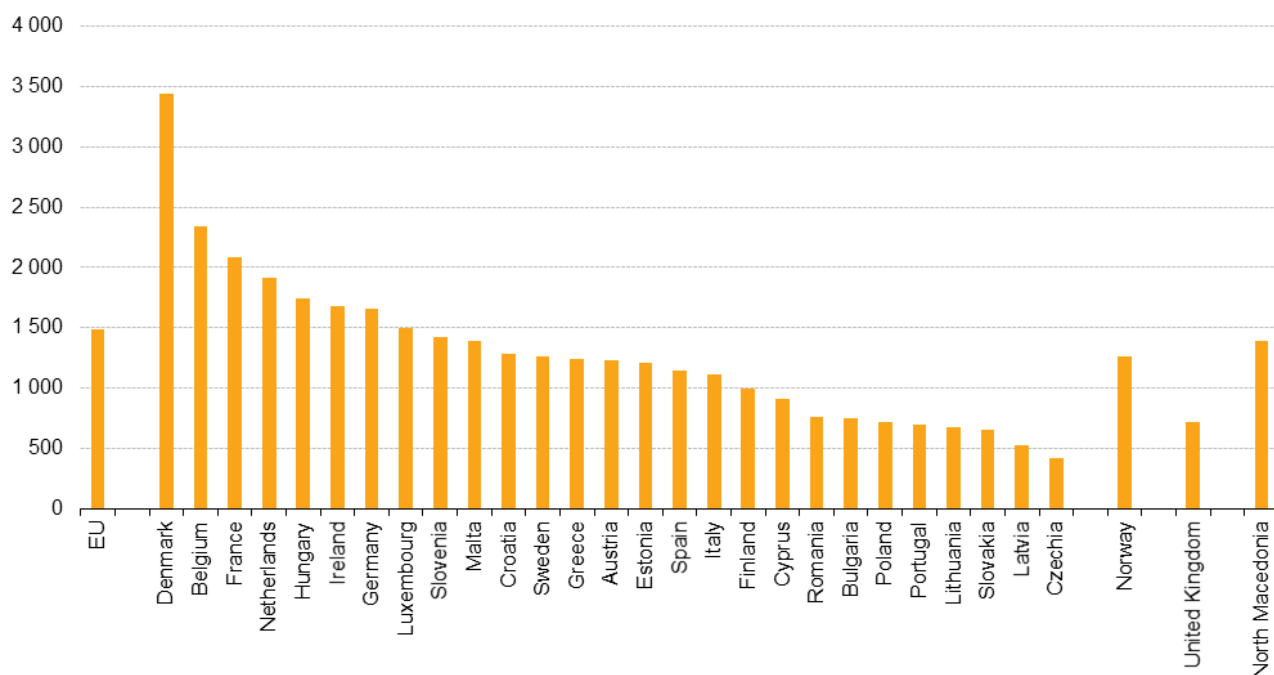
Cost of continuing vocational training courses

As for CVT participation rates, data on the cost of CVT only relate to CVT courses and not to other forms of CVT. The data on the cost of CVT courses (as shown in Figure 6) have been converted to [purchasing power standards \(PPS\)](#) rather than presenting these costs in euros; purchasing power standards are an artificial currency which adjusts for price level differences between countries.

In 2015, the average expenditure on CVT courses by enterprises in the EU was 1 484 PPS per participant; note that each person is only counted once, regardless of how many courses they attend during a year and regardless of the course duration. The average expenditure per participant on CVT courses ranged from 426 PPS in Czechia to 1 912 PPS in the Netherlands, with France (2 081 PPS), Belgium (2 337 PPS) and Denmark (3 439 PPS) above this range. Among the 10 EU Member States where average expenditure per participant was below 1 000 PPS, eight were Member States that joined the EU in 2004 or 2007, with Portugal and Finland the only exceptions.

Cost of CVT courses per participant, 2015

(PPS)



(*) Definition differs.

Source: Eurostat (online data code: trng_cvt_19s)

eurostat 

Figure 6: Cost of CVT courses per participant, 2015 (PPS) Source: Eurostat (trng_cvt_19s)

The overall costs incurred by enterprises for the provision of CVT courses correspond to total monetary expenditure. This total is composed of direct costs, participants' labour costs and net contributions, where the latter is the balance between contributions to and receipts from training funds. In 2015, total training costs for EU enterprises represented an average of 1.7 % of total labour costs (see Table 3); just over half of this figure (0.9 %) represented participants' labour costs, and most of the rest (0.7 %) was direct costs. Latvia was the only EU Member State where the cost of CVT courses in 2015 was less than 1.0 % of total labour costs (this situation was also recorded in North Macedonia; 0.5 %), while this ratio exceeded 2.0 % in Luxembourg, Malta, Ireland, the Netherlands, Belgium, France, Slovenia and Denmark.

Cost of CVT courses, 2015

(% of total labour cost of all enterprises)

	Total	Direct costs	Labour costs of participants
EU	1.7	0.7	0.9
Belgium	2.4	0.9	1.5
Bulgaria	1.4	0.7	0.7
Czechia (*)	1.5	0.7	0.8
Denmark	2.7	1.1	1.2
Germany	1.4	0.7	0.7
Estonia	1.8	0.8	1.0
Ireland	2.2	0.9	1.4
Greece	1.1	0.3	0.5
Spain	1.8	0.5	0.9
France	2.5	0.6	1.1
Croatia	1.3	0.6	0.7
Italy	1.3	0.4	0.8
Cyprus	1.2	0.4	0.5
Latvia	0.8	0.4	0.4
Lithuania	1.1	0.7	0.4
Luxembourg	2.1	1.0	1.3
Hungary	1.8	0.6	0.4
Malta	2.1	1.1	0.9
Netherlands	2.3	1.2	1.0
Austria	1.3	0.6	0.8
Poland	1.2	0.6	0.7
Portugal	1.5	0.6	1.0
Romania	1.0	0.4	0.7
Slovenia	2.5	0.7	1.8
Slovakia	1.6	0.7	0.9
Finland	1.1	0.6	0.6
Sweden	1.6	0.8	0.8
Norway	1.8	1.0	0.9
United Kingdom	1.8	1.2	0.5
North Macedonia	0.5	0.3	0.2

(*) Definition differs.

Source: Eurostat (online data code: trng_cvt_16s)

eurostat 

Table 3: Cost of CVT courses, 2015 (% of total labour cost of all enterprises) Source: Eurostat (trng_cvt_16s)

Reasons for enterprises not providing training

As noted above, 70.5 % of EU enterprises provided CVT (including courses and other forms) in 2015 and therefore 29.5 % did not (as shown in Table 4). The two main reasons given by enterprises in the EU for not providing CVT related to recruitment strategies: more than half (53.4 %) of those enterprises not providing CVT did not do so because they tried to recruit people with the required skills while more than four fifths (81.2 %) said that the existing skills and competences of their workforce already corresponded to their needs. A lack of time and the high cost of CVT were the third and fourth most common reasons, given by around 3 in 10 enterprises not providing training.

Among nearly all of the EU Member States, the most common reasons for enterprises not to provide CVT were that the existing skills and competences of their workforce already corresponded to the enterprise's needs or that they tried to recruit people with the required skills. In 2015, the only exceptions to this pattern were in: Czechia, Estonia and Italy, where the residual category of 'other reasons' was the second most common reason; and France which reported a lack of time as the second most common reason, with trying to recruit people with the required skills becoming the third most common reason.

Enterprises not providing CVT, 2015

(%)

	Proportion of enterprises not providing CVT	Proportion of enterprises not providing CVT that cited selected reasons for not providing CVT								
		High costs of CVT courses	Focus on IVT rather than on CVT	Major CVT efforts made in recent years	Existing qualifications, skills and competences corresponded to the current needs of the enterprise	Lack of suitable CVT courses in the market	People recruited with the skills needed	Difficult to assess enterprise's training needs	High workload and limited / no time available for staff to participate in CVT	Other reasons
EU	29.5	29.0	24.7	13.0	81.2	12.9	53.4	15.0	31.7	17.1
Belgium	16.1	10.7	3.2	2.0	75.5	6.4	28.3	2.5	19.0	.
Bulgaria	57.8	42.7	21.7	9.5	81.2	21.5	82.8	15.0	39.5	6.7
Czechia	9.4	5.6	1.0	1.4	69.1	2.3	4.3	.	5.6	23.3
Denmark	13.4	22.0	44.0	4.5	73.9	19.5	65.3	38.1	41.9	16.4
Germany	22.7	23.3	47.1	13.9	87.7	12.2	53.2	23.3	32.4	21.8
Estonia	13.9	8.8	1.0	.	43.9	2.3	15.8	.	10.7	36.7
Ireland (*)	22.6	14.8	7.0	3.5	78.6	9.3	51.3	10.3	27.3	15.1
Greece	78.3	28.8	16.4	2.7	65.7	13.8	55.5	9.2	42.2	12.6
Spain	14.0	38.3	4.2	22.0	84.4	31.2	61.4	20.3	47.7	33.4
France	21.1	48.3	58.3	33.5	88.5	21.0	63.4	37	72.6	19.0
Croatia	44.6	14.1	4.2	2.2	79.2	7.0	34.5	6.2	12.1	11.6
Italy	39.8	13.3	8.5	12.1	74.3	6.0	15.4	5	14.5	17.1
Cyprus	30.5	19.8	7.4	8.7	78.2	13.8	59.7	3.8	34.2	3.3
Latvia	0.1	.	.	.	.	.	.	.	.	100.0
Lithuania	38.4	63.7	15.8	12.2	87.4	26.1	85.2	45.5	40.3	6.6
Luxembourg	22.9	6.0	4.2	.	70.1	3.5	22.3	.	16.1	15.3
Hungary	56.2	30.6	14.2	5.0	85.2	13.4	63.5	10.5	22.7	16.9
Malta	38.4	20.7	6.9	3.8	79.9	8.2	60.9	11.5	39.6	15.0
Netherlands	15.0	14.1	5.9	2.2	73.1	4.4	53.5	3.1	9.5	33.3
Austria	11.9	32.0	12.2	1.6	88.2	10.8	50.0	10.9	44.0	19.2
Poland	55.3	33.7	38.3	16.1	85.2	11.4	70.4	12.1	24.9	17.7
Portugal	25.0	46.3	22.3	7.9	76.5	30.3	64.4	30.6	40.5	40.4
Romania	73.3	34.0	5.4	5.6	83.5	8.0	78.3	6.7	26.1	1.5
Slovenia	15.9	31.3	11.9	30.0	92.0	10.1	64.1	5.5	20.8	13.0
Slovakia	30.0	30.6	22.9	15.0	74.2	8.9	48.1	7.9	30.2	12.2
Finland	16.9	39.9	36.1	5.1	89.3	14.4	66.2	17.5	48.7	16.4
Sweden	6.9	.	.	.	.	.	.	.	.	.
Norway	0.9	44.6	.	.	100.0	.	30.0	.	2.9	.
United Kingdom	14.3	19.1	23.3	13.6	88.7	19.4	73.2	30.8	35.7	10.8
North Macedonia (*)	38.1	26.8	8.6	2.8	47.2	10.2	28.1	7.7	20.4	17.9

(*) Low reliability.

(.) not available.

Source: Eurostat (online data codes: trng_cv1_01n2 and trng_cv1_02s)

Table 4: Enterprises not providing CVT, 2015 (%) Source: Eurostat (trng_cv1_01n2) and (trng_cv1_02s)

Source data for tables and graphs

- [Vocational education and training statistics: tables and figures](#)

Data sources

Sources The standards for international statistics on education are set by three international organisations:

- the [United Nations Educational, Scientific, and Cultural Organization \(UNESCO\)](#) institute for statistics (UIS);
- the [Organisation for Economic Cooperation and Development \(OECD\)](#) ;
- [Eurostat](#) , the statistical office of the European Union.

Two principal sources of data are used in this article:

- a [joint annual UNESCO/OECD/Eurostat \(UOE\) data collection](#) on education statistics which forms the basis for the core components of Eurostat's database on education statistics; data concerning vocational programmes in initial education are presented in this article;
- data from the five-yearly [continuing vocational training survey \(CVTS\)](#) which collects information on enterprises' efforts in the continuing vocational training of their workforce; the most recent year for which data are available is 2015; the coverage is enterprises with 10 or more persons employed in [NACE Rev. 2](#) Sections B to N, R and S (excluding therefore agriculture, forestry and fishing, public administration and defence, compulsory social security, education, human health and social work activities).

More information about these sources is available in the following articles:

- [methodology of the UNESCO-OECD-Eurostat data collection](#) ;
- [methodology of the continuing vocational training survey \(CVTS\)](#) .

Classification The [international standard classification of education \(ISCED\)](#) provides the basis for the classification of education statistics, describing different levels of education; it was first developed in 1976 by UNESCO and revised in 1997 and 2011. [ISCED 2011](#) distinguishes nine levels of education: early childhood education (level 0); primary education (level 1); lower secondary education (level 2); upper secondary education (level 3); post-secondary non-tertiary education (level 4); short-cycle tertiary education (level 5); bachelor's or equivalent (level 6); master's or equivalent (level 7); doctoral or equivalent (level 8). The first statistics based on ISCED 2011 were published in 2015 starting with data for the 2013 reference period. Within ISCED 2011, two categories of programme orientation are identified for ISCED levels 2-5, namely, general and vocational educational programmes.

Key concepts UOE concepts

Vocational education programmes are designed for learners to acquire the knowledge, skills and competencies specific to a particular occupation, trade, or class of occupations or trades. Vocational education may have work-based components (such as apprenticeships or traineeships). 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.

A **graduate** is an individual who has successfully completed an education programme.

Pupil-teacher ratios are calculated by dividing the number of [full-time equivalent](#) pupils in each level of education by the number of full-time equivalent teachers at the same level; this ratio should not be confused with average class size, which refers to the number of pupils in a given course or classroom.

Continuing vocational training concepts

CVT in enterprises concerns training measures or activities which have as their primary objective the acquisition of new competences or the development and improvement of existing ones. CVT in enterprises must be financed, at least in part, by the enterprise and should concern persons employed by the enterprise (either those with a work contract or those who work directly for the enterprise such as unpaid family workers). Persons employed holding an apprenticeship or training contract should not be taken into consideration for CVT. The training measures or activities must be planned in advance and must be organised or supported with the special goal of learning. Random learning and initial vocational training (IVT) are explicitly excluded.

CVT courses are typically clearly separated from the active workplace (learning takes place in locations specially assigned for learning like a classroom or training centre). They show a high degree of organisation (time, space and content) by a trainer or a training institution. The content is designed for a group of learners (for example a curriculum exists), while two distinct types of courses may be identified — internal and external CVT courses.

Other forms of CVT are typically connected to active work and the active workplace, but they can also include participation (instruction) in conferences, trade fairs and similar events for the purpose of learning. These other forms of CVT are often characterised by a degree of self-organisation (time, space and content) by the individual learner or by a group of learners. The content is often tailored according to the learners' individual needs in the workplace. The following types of other forms of CVT may be identified:

- planned training through guided on-the-job training;
- planned training through job rotation, exchanges, secondments or study visits;
- planned training through participation (instruction received) in conferences, workshops, trade fairs and lectures;
- planned training through participation in learning or quality circles;
- planned training through self-directed learning/e-learning.

A **participant in CVT courses** is a person who has taken part in one or more CVT courses during the reference year. Each person should be counted only once, irrespective of the number of CVT courses he or she has participated in.

The **costs of CVT courses** cover direct costs, participants' labour costs and the balance of contributions (net contribution) to and receipts from training funds.

Direct course costs :

- fees and payments for CVT courses;
- travel and subsistence payments related to CVT courses;
- the labour costs of internal trainers for CVT courses (direct and indirect costs); and
- the costs for training centres, training rooms and teaching materials.

Participants' labour costs include the labour costs of participants for CVT courses that take place during paid working time.

The **net contribution** to training funds is made up of the cost of contributions made by the enterprise to collective funding arrangements through government and intermediary organisations minus receipts from collective funding arrangements, subsidies and financial assistance from government and other sources.

The CVTS also collects some information on **initial vocational training (IVT)** within enterprises which is defined as a formal education programme or a component of it where the working time of the paid apprentices/trainees alternates between periods of practical training in the workplace and general/theoretical education in an educational institution or training centre. For 2015, the coverage was training within ISCED levels 2-5, in other words, secondary and post-secondary non-tertiary education as well as short-cycle tertiary education. The length of IVT should be between six months and six years. Voluntary apprenticeships/traineeships are excluded.

Tables in this article use the following notation:

:	not available, confidential or unreliable value.
–	not applicable.

Context

Copenhagen process and European initiatives Since 2002, national authorities and social partners from European countries have taken part in the [Copenhagen process](#) which aims to promote and develop [vocational education and training \(VET\) systems](#). In June 2010, the European Commission presented its proposals for ' [a new impetus for European cooperation in vocational education and training to support the Europe 2020 strategy](#) ' (COM(2010) 296 final). In December 2010, in Bruges (Belgium) the priorities for the Copenhagen process for 2011-2020 were set, establishing a vision for vocational education and training. Cooperation on vocational education and training was further enhanced by the [Bruges communiqué](#) on enhanced European cooperation in vocational education and training for the period 2011-2020 and [Council conclusions from a meeting held in Riga](#) in June 2015, whereby those countries participating in the Copenhagen process agreed on a set of deliverables for the period 2015-2020, including to:

- promote work-based learning in all its forms with special attention to apprenticeships;
- further develop quality assurance mechanisms in VET;
- enhance access to VET and qualifications for all through more flexible systems;
- strengthen key competences in VET curricula;
- introduce systematic approaches to, and opportunities for, initial and continuous professional development for VET teachers, trainers and mentors.

For more information, see the article on [Education and training statistics introduced](#) .

Erasmus+

The [Erasmus programme](#) was one of the most well-known European programmes and ran for just over a quarter of a century; in 2014 it was superseded by the [EU's programme for education, training, youth and sport](#) , referred to as ' [Erasmus+](#) '. The programme currently covers the period 2021-2027 and has an overall budget of EUR 26.2 billion. This is nearly double the funding compared to its predecessor programme (2014-2020).

It supports priorities and activities set out in the European Education Area, Digital Education Action Plan and the European Skills Agenda. The programme also:

- supports the [European Pillar of Social Rights](#) ;
- implements the [EU Youth Strategy 2019-2027](#) ;
- develops the [European dimension in sport](#) .

Erasmus+ replaced (and integrated) several programmes:

- the lifelong learning programmes — Comenius, Erasmus, Leonardo da Vinci and Grundtvig;
- the Youth in Action programme designed for young people aged 13-30 years with the goal of giving them a sense of active European citizenship, solidarity and tolerance;
- some international cooperation programmes — Erasmus Mundus, Tempus, [Alfa](#) , and programmes for cooperation with industrialised countries.

With respect to education and training, the programme supports three main types of actions:

- learning opportunities and mobility for individuals, both within the EU and beyond, for example through study and training, traineeships, and teaching and professional development;
- institutional cooperation — for innovation and the exchange of good practices — between educational institutions, youth organisations, businesses, local and regional authorities and non-governmental organisations (NGOs);
- support for policy reform — designed to promote the active participation of young people in democratic life.

Erasmus+ offers mobility and cooperation opportunities in:

- higher education;
- vocational education and training;
- school education (including early childhood education);
- adult education;
- youth;and
- sport.

Other articles

- [Being young in Europe today — education](#)
- [Education and training in the EU — facts and figures](#)
- [The EU in the world — education and training](#)

Tables

- [Education and training \(t_educ\)](#) , see:

Participation in education and training (t_educ_part)

Education and training outcomes (t_educ_outc)

Database

- [Education and training \(educ\)](#) , see:

Participation in education and training (educ_part)

 Pupils and students - enrolments (educ_uoe_enr)

 Continuing vocational training in enterprises (trng_cvt)

 Education personnel (educ_uoe_per)

 Teachers and academic staff (educ_uoe_perp)

 Education and training outcomes (educ_outc)

 Graduates (educ_uoe_grad)

Dedicated section

- [Education and training](#)

Methodology

Metadata

- [Education administrative data from 2013 onwards \(ISCED 2011\)](#) (ESMS metadata file — educ_uoe_enr_esms)
- [Continuing vocational training in enterprises](#) (ESMS metadata file — trng_cvt_esms)

Manuals and other methodological information

- [Classification of learning activities — Manual](#) — 2016 edition
- [Further methodological information on the CVTS](#)
- [International Standard Classification of Education \(ISCED\)](#)
- [ISCED 2011 operational manual — Guidelines for classifying national education programmes and related qualifications](#)
- [UOE data collection on formal education — Manual on concepts, definitions and classifications](#) — 2019 edition

Legislation

- For information on legislation see [EU legislation on education and training statistics](#)

External links

- [CEDEFOP — European centre for the development of vocational training](#)
- [CEDEFOP — VET toolkit for tackling early leaving](#)
- [European Commission — Education and training — Adult learning](#)
- [European Commission — Education and training — Strategic framework for education and training](#)
- [European Commission — Education and training — Vocational education and training](#)
- [European Commission — Education and training monitor](#)
- [European Commission — Programmes — Erasmus+](#)
- [Eurydice — Better knowledge for better education policies](#)
- [OECD — Skills beyond school](#)
- [OECD — OECD policy reviews of vocational education and training \(VET\) and adult learning](#)
- [UNESCO — Institute for lifelong learning](#)
- [UNESCO — Strategy for technical and vocational education and training \(TVET\) \(2016-2021\)](#)