
VOCATIONAL EDUCATION
AND TRAINING IN EUROPE

LUXEMBOURG





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This VET in Europe report is part of a series prepared by Cedefop's ReferNet network. VET in Europe reports provide an overview of national vocational education and training (VET) systems of the EU Member States, Iceland and Norway. The reports help to understand VET's main features and role within countries' overall education and training systems from a lifelong learning perspective, and VET's relevance to and interaction with the labour market. VET in Europe reports follow a common Cedefop format. They are available at <http://www.cedefop.europa.eu/EN/Information-services/vet-in-europe-country-reports.aspx>.

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Luxembourg



Area:	2 586 km ²
Capital:	Luxembourg
System of government:	Unitary parliamentary constitutional monarchy
Population:	602 000 (2018)
Per capita gross domestic product (GDP) (nominal):	EUR 92 600 (2017)
Legislative power:	Exercised jointly by the Chamber of Deputies, the government and the Council of State

Box 1. Terms

From a European perspective the term vocational education and training (VET) is understood as 'education and training which aims to equip people with knowledge, know-how, skills and/or competences required in particular occupations or more broadly in the labour market' (Cedefop, 2014). Irrespective of the provider or governance scheme, VET can take place at secondary, post-secondary or tertiary level in formal education and training or non-formal settings including active labour market measures. VET addresses young people and adults and can be school-based, company-based or combine school- and company-based learning (apprenticeships).

In Luxembourg, the terms initial vocational training (*formation professionnelle initiale*) and vocational programme tend to be reserved for specific parts of VET. VET for young people, offered mostly at secondary level, is nationally referred to as technical secondary education. It comprises lower cycle pre-VET and medium/upper cycle technician and vocational programmes. Technical programmes are also linked to VET in this report.

CHAPTER 1.

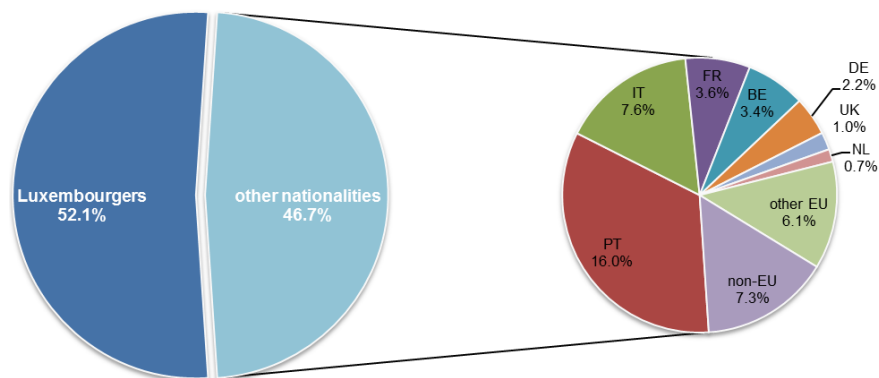
External factors influencing VET

1.1. Demographics

In 2018, Luxembourg has 602 000 inhabitants. Since 1991 the population has increased by 50%.

Figure 1 shows that 47% of the country's population are foreign citizens ⁽¹⁾. Their share has more than doubled in the past 25 years. In the first half of the 1960s most of the immigrants came from Italy. However, since 1966, the immigrant population from Portugal increased from 1 100 to 82 400 in 2011⁽²⁾ and became the largest in the country. In 2018, the Portuguese community was 96 800 inhabitants (16.0%).

Figure 1. **Population structure by nationality - 2018 (%)**



Source: *Statec2018*- Table b1101 [accessed 30.7.2018].

The share of foreign nationals from neighbouring countries has also increased: the French population grew from 1.6% in 1961 to 7.6% in 2018 and the Belgian from 1.7% to 3.4%. The number of Germans living in the country has

⁽¹⁾ Foreign citizens residing in Luxembourg can obtain Luxembourgish nationality by naturalisation. Legislation requires them to attend citizenship training and to pass an oral Luxembourgish language exam.

⁽²⁾ The latest population census available from 2011.

increased by half but their share in the total population has remained unchanged. The number of foreign nationals other than Portuguese, Italian, German, French or Belgian rose from 7 700 (2.4% of the total population) in 1961 to 59 700 (11.6%) in 2011 and has reached 90 550 in 2018 (15%); the raise mostly took place since the 1980s.

The share of foreign nationals with mother tongue other than the official German, French and Luxembourgish languages is high. Multilingualism is one of the country's strengths but it is also a challenge for education and training (Section 1.3). The high share of foreign nationals requires education and training and labour market integration policies. A public agency for integration (*Office Luxembourgeois de l'Accueil et de l'Intégration*) under the auspices of the Ministry of Family, Integration and the Greater Region implements this policy. This includes providing information on training in the official languages (Section 2.2.8.5) and recognition of foreign diploma and secondary general education ⁽³⁾ and vocational education and training (VET) certificates and reports (Section 3.3.2) ⁽⁴⁾.

Table 1 shows forecasts on population growth up to 2030 based on three hypotheses by varying the share of cross-border workers in the labour supply: 33% (hypothesis 1), 50% (hypothesis 2) and 66% (hypothesis 3). The higher the share of cross-border workers, the smaller the increase in the 15 to 64 age group.

Table 1. **Population forecast**

Share of cross-border workers	Total population in 2030	Growth of total population	Growth of the 15 to 64 age group
33% (hypothesis 1)	785 000	+32.8%	27.1%
50% (hypothesis 2)	759 000	+28.6%	22.3%
66% (hypothesis 3)	735 000	+24.5%	17.8%

Source: Statec2018

⁽³⁾ General education is nationally referred to as '*classical*' education. In the report the term 'general education' is used instead.

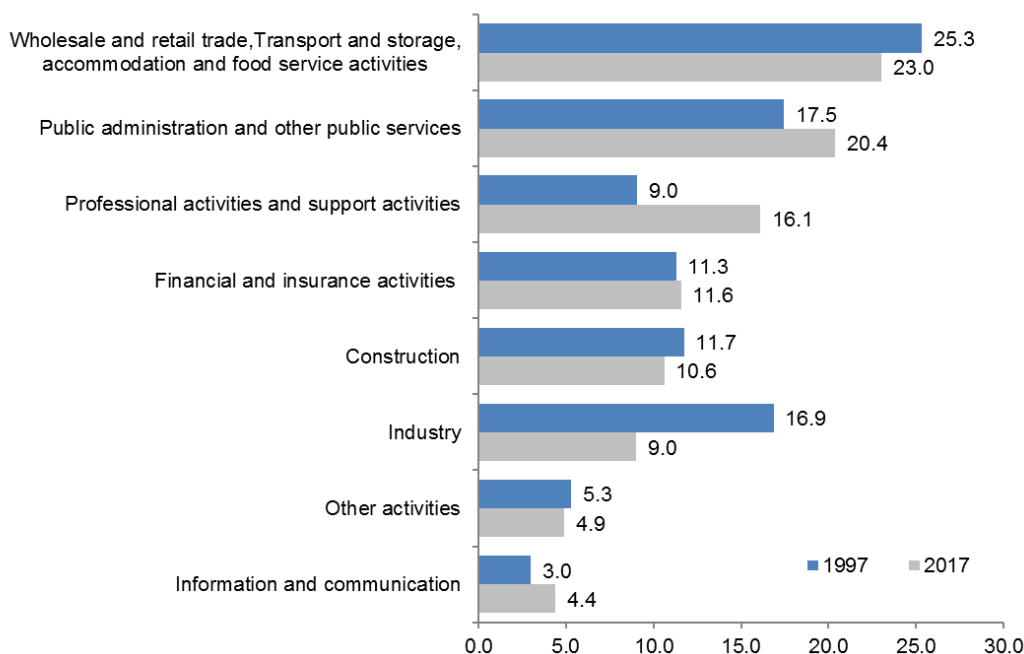
⁽⁴⁾ This information is also easily accessible on well-known web portals such as www.guichet.lu and www.lifelong-learning.lu [accessed 23.1.2019].

1.2. Economic background and labour market developments

Between mid-2012 and 2016, the economy grew faster than in neighbouring countries and the euro zone. However, in 2017, GDP growth was with 2.3 %, slightly below the growth in the euro zone (+2.4%) (Statec, 2018). This was lower than in previous years: +3.1% in 2016, +4.8% in 2015 and +4.1% in 2014. 2017 is mainly marked by the decline in the value-added volume of the financial sector (-3.3%), especially in the banking sector (-6%).

Luxembourg's economic growth is supposed to should increase again by around 4% in 2018 and in 2019. Despite improvement in the European economic context, scheduled growth for 2018 in particular, is less dynamic than envisaged in previous years, in particular due to a less favourable perception of activity (observed and planned) in the financial sector. Growth should nevertheless be solid and driven mainly by non-financial activities. Investment, which had been lagging over the past three years, should benefit from a catch-up effect, and household consumption should increase due to the effects of tax reform and improvement in the labour market.

Figure 2. **Employment by activity sector in 1997 and 2017 (%)**



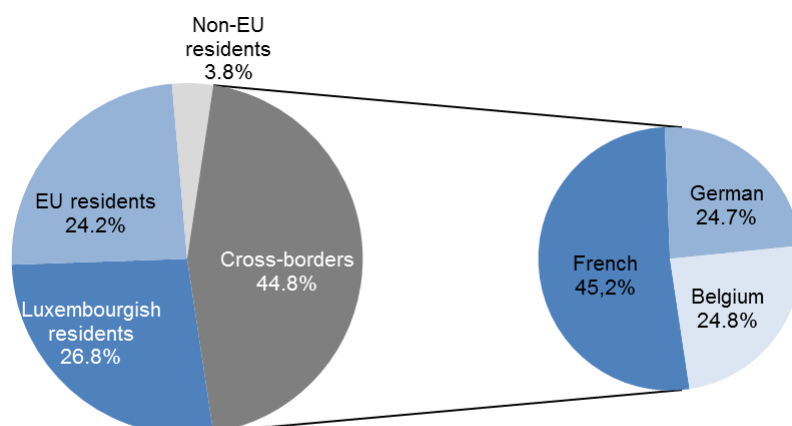
Source: Statec 2018 Table - B3003 *Emploi salarié intérieur par branche d'activité - données désaisonnalisées 1997 - 2017*

The economy has undergone structural changes in the past two decades (Figure 2). The industrial economy evolved into a service economy with jobs that

often require tertiary level qualifications. Employment in the industrial sector decreased from 16.9% in 1997 to 9.0% in 2017. The service, professional, scientific and technical sectors and the administrative and support service sectors have had the highest growth, from 9.0% to 16.1%. Adapting VET provision to the constantly changing employment structure has been a challenge. In 2017, more than 40% of employment was concentrated in the following sectors: wholesale and retail trade, transport and storage, accommodation and food service activities (23.0%) and public administration and other public services (20.4%). The public administration includes Civil servants and public employees from the State and Municipalities and permanent staff from national railways. In 2016, there were approximately 11 204 teachers among which 4 931 in secondary general and technical education (MENJE, 2018a).

Access to skilled craftsperson and commercial activities and some liberal professions is regulated. Commercial activities and skilled craftsmanship in the territory require a business permit issued if the manager satisfies qualification requirements and professional integrity. Qualification requirements for skilled craftsperson companies differ depending on the trade. For main craft trades such as baker/confectioner, dental technician, specialist in mechatronics, the manager must have: a master craftsperson certificate (*brevet de maîtrise*) or a bachelor degree (if not linked to the core business it should be complemented with at least two years of professional experience), or a vocational aptitude diploma (*diplôme d'aptitude professionnelle*, DAP) completed by a managing experience of six years in the field. For secondary craft trades such as dry-cleaner/laundrer, heating mechanic, the manager must have a DAP or similar in a related field or three years' professional experience in the activity (Chapter 2).

Figure 3. **Employment by place of residence and nationality in 2017 (%)**



Source: Statec, 2016 – Table b3002

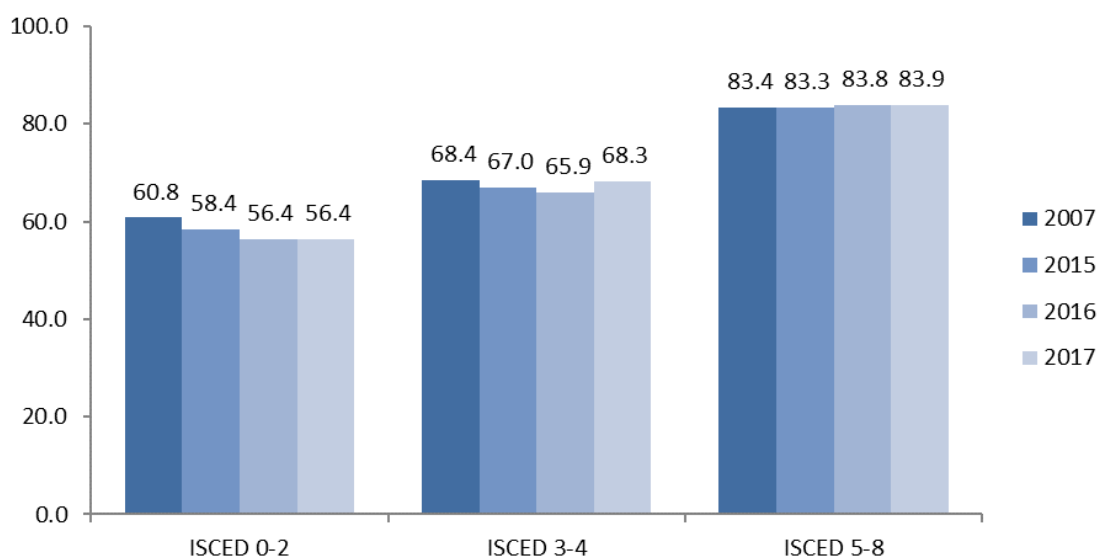
As shown in Figure 3, the labour market is also characterised by a high proportion of cross-border workers (44.8%), living in Belgium, Germany and France and working in Luxembourg. Among the working population 26.8% are Luxembourgish residents and 24.2% EU residents.

The labour market has recovered since the 2008 economic crisis. In 2015, employment grew by 2.6% over the year, a trend that continued in 2016 and in 2017 (+3.3%) (Statec, 2018; Statec, 2016). The increase in employment is mainly due to cross-border workers in Luxembourg.

Since 2003, employment has increased for all age groups except for 20-24 year-olds. In this age group, the employment rate decreased from 43.1% in 2008 to 33.3% in 2014. It registered an increase, up to 44.1% in 2015 and is equal to 42.1% in 2017, still below the EU average (Eurostat, Table Ifsa_ergaed). On the other hand, employment of people aged 45+ that had increased up until 2014, then decreased in 2015 (from 83.4% in 2014 to 80.6% in 2015 for the 45-49 age group and from 57% to 52.8% for the 50-64 age group). The employment rate for both age groups experienced a positive upturn in 2016 and 2017. In 2017, the employment rate was equal to 84.7% for the 45-49 age and to 54.7% for the 50-64 age group.

Educational attainment has a strong impact on employment (Figure 4).

Figure 4. **Employment rate by education level, 2007-17 (%)**



NB: Resident salaries, age 20-64 years, ISCED 2011

Source: Eurostat, 2018. Ifsa_ergaed; extracted 18.10.2018

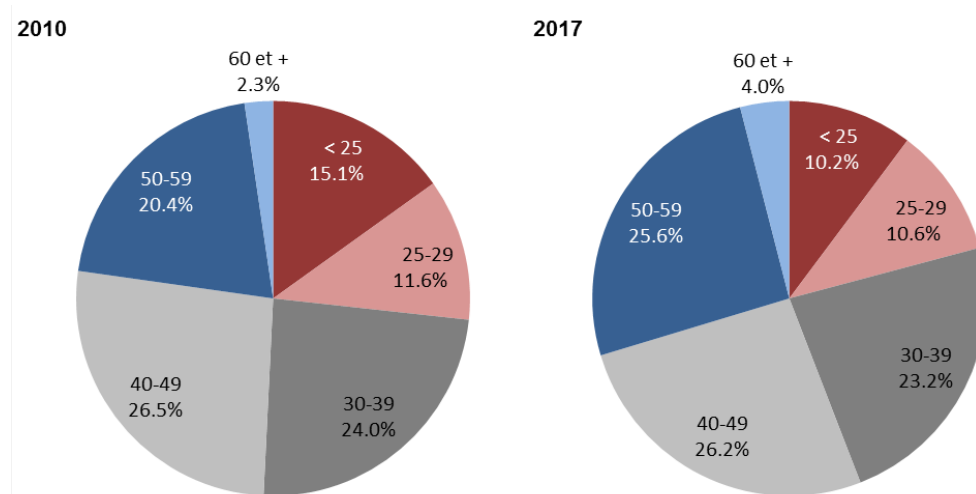
In 2017, employment of higher education graduates (83.9%, ISCED 5-6) was 15.6 pp higher than that of people with upper- and post-secondary non-tertiary backgrounds (68.3%, ISCED 3-4) and 27.5 pp higher than that of people

with pre-primary, primary and lower secondary education (56.4%, ISCED 0-2). For people with higher levels of education (ISCED 5-8) and with medium-level education (ISCED 3-4), employment has not changed significantly. The percentage of employment of low- or non-qualified people (ISCED 0-2), has decreased slightly from 2007 to 2017.

Unemployment is among the lowest in the EU, but increased from 2.4% in 2000 to 6.9% at the end of 2015 (Statec, Table b3100). However, unemployment has been falling since mid-2014, and this trend continues. In 2016, the unemployment rate was 6.4% and 5.9% in 2017.

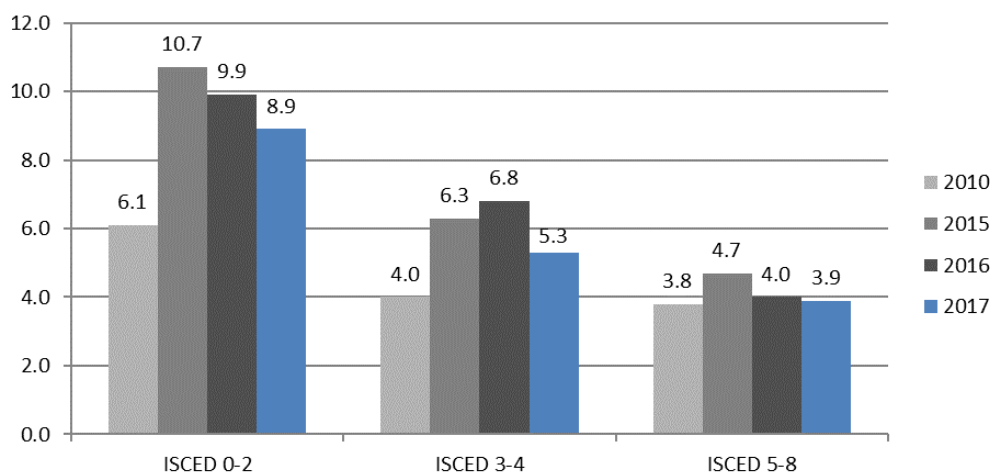
Since the beginning of the economic crisis, the unemployment age structure has changed (Figure 5).

Figure 5. **Unemployment by age in 2010 and 2017**



Source : Adem 2018 - Demandeurs d'emploi résidents disponibles déc 2010 et dec 2017 (classe d'âge)

Unlike developments in many other European countries, the share of young (<25) unemployed people decreased from 15.1% in 2010 to 10.2% in 2017. Education levels have an important impact on unemployment (Figure 6).

Figure 6. Unemployment rate by education level in 2010 and 2015-17

NB: Data based on ISCED 2011.

Source: Eurostat, 2018. Ifsa_urgaed; extracted 18.10.2018.

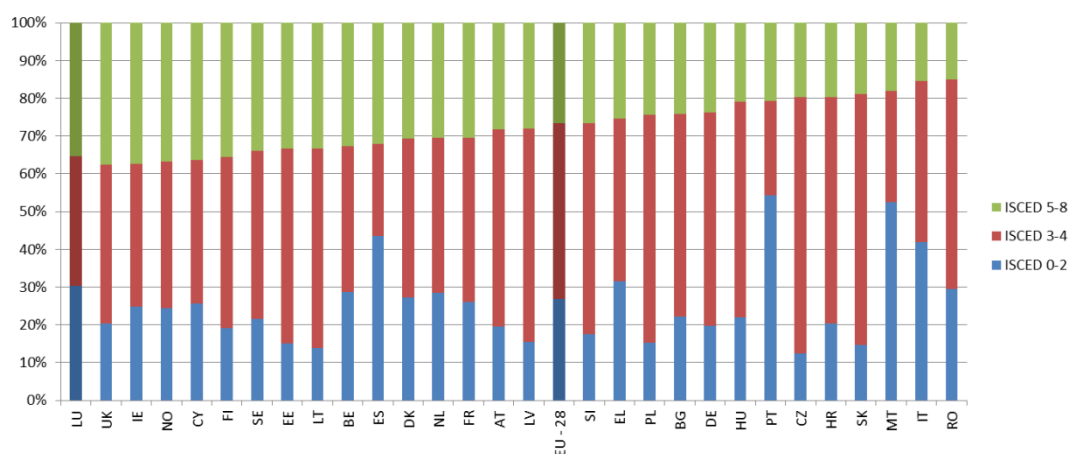
In 2017, the unemployment rate was with 8.9% the highest for people with a lower secondary education at most (ISCED 0-2). For those who completed upper secondary non-tertiary education (ISCED 3-4) it was 5.3 % and the lowest (3.9%) for those with tertiary education (ISCED 5-6). Whilst unemployment rose significantly for people with a lower level of education (4.6pp) from 2010-15, it decreased in 2016 and in 2017 to reach 8.9%. For those with a secondary education after an increase in the unemployment rate between 2010 and 2016 (2.8pp), it then decreased in 2017 (-1.5pp). Since 2016, the unemployment rate has remained relatively stable at 4% for people with tertiary education. This data is collected from the labour force survey (LFS) based on the resident population. However, due to the high share of foreign residents that studied outside the country, it is difficult to establish the impact of the Luxembourgish education system on the national labour market.

1.3. Educational attainment

In 2015⁽⁵⁾, higher education attainment of residents aged 15 to 64 is one of the highest in the EU-28 (Figure 7). There are generally more foreign residents with higher (tertiary) education than Luxembourgers, who – until the early 2000s – had to study abroad (Chapter 2).

⁽⁵⁾ In 2016 and 2017 the share on non respondent is too high to use these reference years.

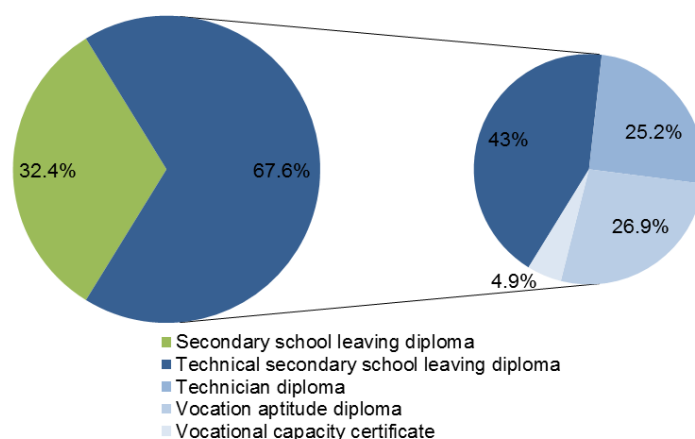
Figure 7. Population (15-64) by highest level of education attained in 2015 (%)



Source: Eurostat, 2016, Table: Ifsa_pgaed; extracted 1.6.2016.

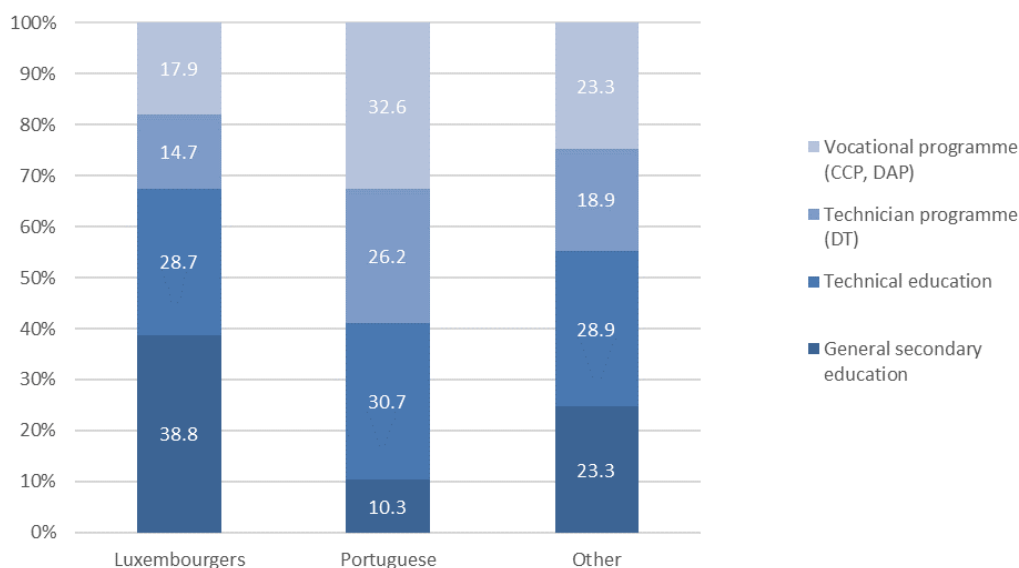
In 2017, graduates from technical secondary education accounted for 67.6% of all secondary education graduates (Figure 8) (MENJE, 2018a). Amongst them 29% were enrolled in technical programmes and 31.8% were graduates from vocational programmes.

Figure 8. Diplomas and certificates issued in 2016/17



Source: (MENJE, 2018a), p. 47.

As shown in Figure 9, in 2016/17 among the Portuguese upper secondary graduates, 89.5% graduated from vocational, technician and technical programmes and only 10.3% from general secondary education. Among Luxembourg graduates, 'only' 61.2% graduated from vocational, technician and technical programmes (MENJE, 2018a, p. 87).

Figure 9. VET certificates/diplomas by nationality – 2016/17 (%)

Source: (MENJE, 2018a), p. 90.

1.4. Lifelong learning

The 2016/17 adult education survey (AES)⁽⁶⁾ showed that, while 77% of adults were active in terms of education, on average, 9% of adults attended formal education and training activities in 2015. This rate was higher (19%) among young adults (25 to 34) and remained relatively low for other age groups (3% to 7%). Participation in non-formal learning was higher than in formal education and training. According to the survey, 45% of adults took part in non-formal learning. This rate remained high for all age groups for employees, but is lower for inactive people (20%) and for the unemployed (39%). Adults have mainly attended non-formal learning for work-related reasons (76%). Most informal learning is linked to the use of computers, healthcare, languages and the Arts.

The latest Continuing Vocational Training Survey (CVTS5)⁽⁷⁾ shows that 77% of companies with 10 employees or more provide training for their employees. This figure varies depending on sector and company size: almost every big company (250 employees or more) and 68% of small companies (10 to 19 employees) provide training. In 2015, more than 62% of the employees in the

⁽⁶⁾ The AES survey was conducted among a representative sample of residents aged between 25 and 64 and covers formal, non-formal and informal learning activities in which adults participated during the 12 months preceding the survey.

⁽⁷⁾ The latest CVTS5 survey was conducted in 2016 and presents data from 2015.

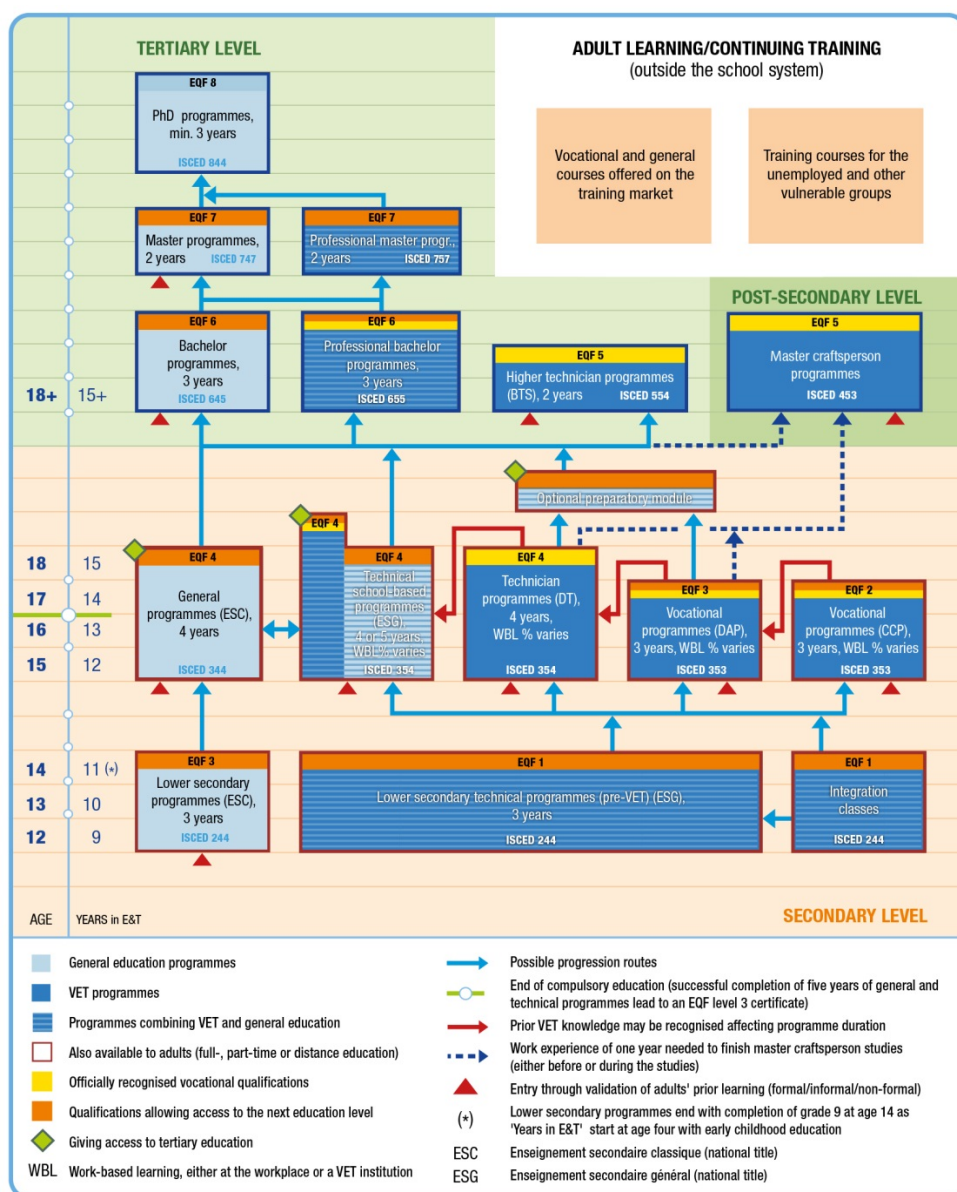
country participated in CVET courses. However, there were considerable differences between sectors: while 76% of the employees in the financial sector and other services sectors participated in training, the share in the construction sector was only 36%.

CHAPTER 2.

Provision of VET

2.1. VET in Luxembourg's education and training system

Figure 10. VET in Luxembourg's education and training system in 2018



NB: ISCED-P 2011.

Source: Cedefop and ReferNet Luxembourg.

Luxembourg's education system is shaped by the country's political, economic, demographic and linguistic particularities, and strongly influenced by its relatively small territory and multinational and multilingual population and workforce. The education system reflects multilingualism. While German is the main language of tuition in primary and lower secondary education, most subjects at upper secondary level are taught in French. The number of schools offering curricula both in French and German is increasing and it is up to the learners to choose which language path they want to follow. Luxembourgish is mostly used as a spoken language in primary school.

School attendance is compulsory between 4 and 16, i.e. for at least 12 years, including two years of pre-school education. At the end of primary education (*enseignement primaire*) ⁽⁸⁾, learners receive an end-of-cycle report, stating the level attained for each competence domain. Learners are guided towards either general or technical secondary education by dedicated councils, which include a teacher working in VET ⁽⁹⁾. The guidance takes account of learning achievement (based on the end-of-cycle report), parent and teacher opinions and performance in standardised basic skills tests (in relation to the national average).

2.2. Government-regulated VET provision

Secondary education comprises two types with different objectives ⁽¹⁰⁾:

- a) general secondary education (*enseignement secondaire classique* ESC) which conveys general knowledge in humanities, mathematics and natural sciences and prepares for higher education studies;
- b) vocational secondary education, referred to as technical secondary education (*enseignement secondaire général*) which gives access to higher education and/or to the labour market (Box 1). Technical secondary

⁽⁸⁾ Primary education starts with pre-school education at the age of three and comprises four cycles; in the last one learners are 10 to 11 years old. Annex 2 provides an overview of programmes and certificates in French and English.

⁽⁹⁾ The councils also include the district inspector, the class teacher, and a teacher working in general secondary education.

⁽¹⁰⁾ Following the Law of August 29th 2017 (SCL, 2017d) on secondary education 'general secondary education' is nationally referred to as 'classical secondary education' (*éducation secondaire classique* ESC) while 'technical secondary education' is referred to as 'general secondary education' (*éducation secondaire générale* ESG). However, to allow comparison at EU level, the previous terminology will be kept.

education comprises an 'orientation path' and a 'preparation path' previously named modular system '*régime modulaire*'. Apprenticeship is part of vocational secondary education.

2.2.1. Secondary VET

The dual system is an important feature of secondary VET (hereafter referred to as technical secondary education), which implies a strong relationship between school-based education and work-based learning in enterprises.

In technical secondary education (*enseignement secondaire général*, ISCED 353 and 354) learners are prepared both for professional life and enrolment in higher education (Section 2.2.3). It is divided into three cycles:

- (a) the lower cycle (*cycle inférieur*),
- (b) the medium cycle (*cycle moyen*) and
- (c) the upper cycle (*cycle supérieur*).

A preparatory programme (*programme préparatoire*) ⁽¹⁾ supports learners who find it difficult to adapt to secondary education. After successful completion of the lower cycle, learners can choose between technical, vocational and technician programmes. Depending on the programme, duration varies between six and eight years. Since 2013/14, all technical secondary programmes are based on principles implemented with the 2008 VET reform [(SCL, 2008a); Section 2.2.5], providing also the possibility to learners to move from one type of secondary education to another. Tuition is in French, German and Luxembourgish

Depending on occupations, secondary VET programmes may be provided in technical secondary schools or in mixed schools that offer both technical and general secondary education. While most VET learners in 2016/17 attended public schools (86.9%), some were enrolled in private schools that apply national curricula (12.1%) or in private/international schools that do not apply them (1%) .

Lower cycle

The lower cycle of technical secondary education (ISCED 244, EQF 1) is considered as pre-VET and lasts three years. It offers learners an orientation phase in which they can decide on their further education pathway. Upon successful completion, they can continue in the medium cycle of technical, technician or vocational programmes.

⁽¹⁾ Previously named modular system '*régime modulaire*'.

Practical activities in workshops make up an important part of the technical secondary programmes and focus on supporting learners in choosing their career.

Each of the three grades focuses on specific aspects required for progression to the next level: languages (French and German), mathematics, natural sciences and humanities in the first grade; depending on their performance, learners are then directed to a theoretical (*théorique*) or a multidisciplinary (*polyvalente*) path. These two paths are distinguished by their general orientation, the relative importance of the subjects taught and the teaching methods. In the last grade an additional, more practically oriented path (*pratique*), is available. The decision on admission to the medium cycle is taken by the class council, depending on learner achievements.

The three-year preparatory programme (*régime préparatoire*) is part of the lower cycle of technical secondary education; it is designed for learners who struggle with the regular secondary education curriculum. It is based on a modular approach and gives priority to practical training. After successful completion of the preparatory programme, learners may pass to the second or third grade of the theoretical, multidisciplinary or practical path. They can also enter into vocational programmes (*diplôme d'aptitude professionnelle*, DAP or *certificat de capacité professionnelle*, CCP).

Medium and upper cycles

The medium and upper cycles of technical secondary education offer (mainly) school-based VET programmes, apprenticeships and similar schemes. Learners acquire occupational qualifications for which a certificate or a diploma is awarded ⁽¹²⁾. Schooling includes various training schemes, which last from six to eight years, depending on the chosen orientation. There are four different programmes within these cycles:

- (a) technical programmes (*régime technique*) leading to a technical secondary school leaving diploma (*diplôme de fin d'études secondaires générales*) (ISCED 354, EQF 4);
- (b) vocational programmes leading to a vocational capacity certificate (*certificat de capacité professionnelle*, CCP) (ISCED 353, EQF 2);
- (c) vocational programmes leading to a vocational aptitude diploma (*diplôme d'aptitude professionnelle*, DAP) (ISCED 353, EQF 3);

⁽¹²⁾ See Annex 1 for a list of the occupational diplomas offered by VET programmes. Annex 2 provides an overview of the available certificates and programmes in French and English.

- (d) technician programmes (*régime de la formation de technicien*) leading to a technician diploma (*diplôme de technicien*, DT) (ISCED 354, EQF 4).

Table 2. **VET programmes**

	Duration	EQF level	ISCED 2011	Career opportunities	Further learning opportunities
Vocational programme- CCP	3 years	2	353	Semi-skilled worker	DAP
Vocational programme – DAP	3 years	3	353	Skilled worker	Master craftsperson Higher technical studies (*)
Technician programme -DT	4 years	4	354	Technician	Master craftsperson Higher technical studies (*)
Technical programme	4-5 years	4	354	Technician	Higher education
Master craftsperson programme	3 years (extendable up to 6 years)	5	453	Entrepreneur	
Higher technician certificate – BTS	2 years	5	550	Higher technician	Bachelor (**)

(*) Subject to completion of preparatory modules.

(**) Depending on study field.

Source: ReferNet Luxembourg.

Since the entry into force of the 2008 reform, the vocational programmes and the technical programmes have been organised into modules. For each module, an assessment framework (*Evaluierungsrahmen*) has been set up. It distinguishes compulsory and optional skills and specifies indicators and minimum standards. At the end of the module, learners take an exam to assess the acquisition of required skills for the module and receive an assessment report (bulletin), which indicates whether the module has been passed (unsuccessful, successful, very successful).

Programmes which lead to a CCP, a DAP or a DT also foresee integrated projects (*projets intégrés*) in the middle (only for DAP and DT) and at the end (SCL, 2016e). These integrated projects aim to monitor whether the learner has developed the complex skills needed to solve a real or simulated work situation. An integrated project can be spread over a maximum duration of three days (24 hours) for DAP and DT programmes. For CCP programmes the integrated project is spread over a maximum duration of two days. This project allows learners to demonstrate the acquisition of required skills in a professional situation. The intermediary and the final integrated projects are a compulsory module for these programmes.

Since 2011/12, the total number of learners in secondary education remained stable (Table 4). Over this period, the share between general and technical secondary education has slightly changed: from 33.0% to 30.5% for learners attending the general path and from 67.0% to 69.5% for the technical path (MENJE, 2018a).

The total number of learners in technical secondary education (at all levels) has increased since 2011/12. At that time 26 330 learners attended technical secondary education programme, with the number increasing to 27 221 in 2016/17. Since 2011, technical programmes have become more attractive for learners: the share of VET students in technical programmes rose from 42.3% in 2011/12 to 48.6% in 2016/17. At the same time, vocational programmes (DAP and CCP) lost their attractiveness and their share decreased from 32.5% to 27%. The share of VET learners in technician programmes has also slightly decreased from 25.2 % to 24.2%.

Table 3. **Repatriation of learners in general and technical secondary education (2011/12 to 2016/17)**

	2011/12	2012/13	2013/14	2014/15	2015/16	2016/17
Learners in technical secondary education (lower, medium and upper level) of which:						
Lower technical secondary education	26 330	26 627	26 998	27 152	27 525	27 221
Medium and upper level technical secondary education of which:						
Technical programmes (medium and upper level)	12 915	13 152	13 316	13 185	13 172	12 760
Technician's programmes (medium and upper level)	13 415	13 475	13 682	13 967	14 353	14 461
Vocational programmes (medium and upper level)	5 677	5 897	6 239	6 568	6 845	7 043
Learners in general secondary education (lower and upper level)						
Total learners in secondary education	3 378	3 494	3 483	3 464	3 527	3 504
% of total learners in general secondary education	4 360	4 084	3 960	3 935	3 981	3 914
% of total learners in technical secondary education	12 975	12 958	12 832	12 501	12 057	11 950
% of learners in technical programmes*	39 305	39 585	39 830	39 653	39 582	39 171
	33.0%	32.7%	32.2%	31.5%	30.5%	30.5%
	67.0%	67.3%	67.8%	68.5%	69.5%	69.5%
	42.3%	43.8%	45.6%	47.0%	47.7%	48.6%

% of learners in technician's programmes*	25.2%	25.9%	25.5%	24.8%	24.5%	24.2%
% of learners in vocational programmes*	32.5%	30.3%	28.9%	28.2%	27.7%	27.0%

(*) Percentage of the total number of learners in technical secondary education at medium and upper level.

Source: (MENJE, 2018a)

2.2.1.1. Technical programmes

The technical programmes (ISCED 354, EQF 4) ⁽¹³⁾ cover grades 4 to 1 ⁽¹⁴⁾, for some healthcare and social professions grades have one additional year. There are the following strands (referred nationally as 'divisions') (Annex 1):

- (a) administrative and commercial (graduates can pursue to higher education in economics, law and accounting. Work in the administrative field in private companies or public institutions);
- (b) healthcare and social professions (graduates can pursue to higher education in the healthcare and social professions. Graduates in the nursing education section can continue their education as midwife or medical technical assistant in radiology. Graduates in the educator training section can continue their studies as a state-certified educator for a period of one year;
- (c) general technical (graduates can pursue to higher education in the specialties followed: engineering, natural science, architecture, design and sustainable development, computer science, environmental sciences);
- (d) division of arts (graduates can pursue higher education in the same domain);
- (e) division of tourism and innkeeper (graduates can pursue higher education while preparing for the profession of manager in hospitality).

The curriculum includes general and technical education; the latter includes practical and theoretical classes. The share of the technical part depends on the grade and on the chosen field and varies from approximately 25 to 65%. Technical programmes are organised into modules and for each module, an assessment framework is in place (see Section 2.2.1). Students who succeed in technical programmes are awarded a technical secondary school leaving diploma (*diplôme de fin d'études secondaires générales*). This diploma confers the same

⁽¹³⁾ In the national context technical programmes are not regarded as IVET programmes.

⁽¹⁴⁾ In secondary education the numbering of the seven school years is counted controversially, classes go from 7th to 1st grade.

rights as that from general secondary education; depending on the strand and section, students can enter the labour market or pursue higher education.

2.2.1.2. Vocational programmes including apprenticeship

Vocational programmes last three years and combine company-based and school-based learning. The general education, the theoretical part of VET, and some practical modules are offered in technical school and school workshops. Vocational programmes are organised into modules and for each module, an assessment framework is in place. Vocational programmes also include integrated projects in the middle and at the end (Section 2.2.1).

Learners are responsible for finding a training place in an enterprise. The vocational guidance service of the public employment service [*Agence pour le Développement de l'Emploi*, ADEM ⁽¹⁵⁾, Section 4.2] supports young people through counselling and a central register of all available apprenticeship places. Once the learner has signed a contract with a company, (s)he has the legal status of an apprentice and receives an apprenticeship allowance which varies between EUR 400 and 1 300 depending on the trade/profession learned ⁽¹⁶⁾ (SCL, 2016e). Upon successful completion of an academic year, learners receive a premium allowance (SCL, 2012) based on a monthly rate of EUR 130 for CCP or EUR 150 for DAP and DT. The best apprentices receive an award which also includes a prize of EUR 1 500 (Section 4.1.1).

Enterprises offering apprenticeship places need to comply with certain criteria, verified by the professional chambers. Financial support and an award to encourage their engagement are available (Section 4.1.2). VET trainers, who receive special training, supervise the apprentices in the training companies.

In accordance with the amended VET legislation of 2008 (Section 2.2.5), an apprenticeship is based on key principles such as:

- qualitative assessment of learning outcomes (transcript of acquired and non-acquired skills rather than marks in figures);
- modular system allowing apprentices who fail a required module to continue their training and catch up at a later stage during their apprenticeship.

Learners can choose between two types of vocational programmes, leading to:

- (a) vocational capacity certificate (*certificat de capacité professionnelle*, CCP);
- (b) vocational aptitude diploma (*diplôme d'aptitude professionnelle*, DAP).

⁽¹⁵⁾ Hereinafter referred to as public employment service.

⁽¹⁶⁾ <https://www.llc.lu/fr/formation-professionnelle-initiale/indemnites-d-apprentissage-nouveau-regime-dt-dap-ccp> [accessed 9.1.2019]

Vocational programmes can be followed in one of the following tracks:

- (a) the concomitant track (*filière concomitante*), where learning in school and in an enterprise takes place in parallel throughout the apprenticeship. Depending on the profession, the two parts can be organised as day-release (such as two days per week in school and three days in enterprise) or block-release scheme (for example, nine weeks at school and nine weeks in enterprise); the allocated time may also vary depending on the profession;
- (b) the mixed track (*filière mixte*) which is suitable for some professions. This programme offers theoretical and practical training in school in the first year. After successful completion of the school-based part, training is continued in line with the concomitant track;
- (c) the full time track (*filière de plein exercice*), where all trainings take place in an educational institution, with 12 weeks' practical training or more within an apprenticeship or internship contract.

Vocational programmes: CCP (ISCED 353, EQF 2)

This apprenticeship programme prepares learners for the labour market and leads to the vocational capacity certificate (*certificat de capacité professionnelle*, CCP) (Annex 1). It is designed for students with learning difficulties who cannot access studies leading to a vocational aptitude diploma (*diplôme d'aptitude professionnelle*, DAP) or a technician diploma (*diplôme de technician*, DT). This certificate attests that the holder has the social and basic practical skills for a trade/profession as a semi-skilled worker. After two years of working experience in this trade/profession, the holder is considered a skilled worker. Students graduating from CCP can progress to the second year of the DAP programme in the same field. By decision of the class council, the learner can even be admitted to the last year of the DAP programme in the same field (SCL, 2016e).

Vocational programmes: DAP (ISCED 353, EQF 3)

The vocational aptitude diploma (*diplôme d'aptitude professionnelle*, DAP) (Annex 1) also prepares learners for the labour market. The DAP certifies that the holder has the skills to perform the trade/profession in question as a skilled worker. DAP graduates may progress to the third year of a technician programme in the same field of study, the third year of the technical programme, or become a master craftsperson (*brevet de maîtrise*, ISCED 453, EQF 5). Subject to completing supplementary preparatory modules they can also pursue higher technical studies (*études techniques supérieures*, ISCED 550 or 650).

In 2016/17, the most popular vocational programmes are assistant nurse and administrative and commercial agent. There are trades/professions for which

both a CCP and DAP are available (such as hairdresser). They usually both contain general and vocational subjects – mandatory and optional ones – but with some difference. The general education part of both programmes includes a module on citizenship education: learners in DAP also have to study either French or German. The main differences are in the learning outcomes: credit units and modules are more detailed and extensive in the DAP programmes.

However, the shares of general education, VET theory and practice in vocational programme curricula vary by trade. Vocational learning ratios (practical training in companies and in vocational training school) for each trade/profession are defined by the education ministry on the advice of professional chambers.

Given the small size of the country, not all qualifications are offered by its education system. Learners can follow a cross-border apprenticeship, implying that they do their practical training in a company based in Luxembourg, while attending school in one of the neighbouring countries.

2.2.1.3. Technician programmes

Technician programmes (*programme de la formation de technicien*, ISCED 354, EQF 4) cover grades 4 to 1 and prepare learners for the technician diploma (*diplôme de technicien*, DT) (Annex 1). This programme is mainly offered as a full time track (*filière de plein exercice*), where all training occurs in an education institution and includes a minimum job placement of 12 weeks. The offer of programmes in the concomitant track (learning in school and in an enterprise takes place in parallel throughout the year - *filière concomitante*) or mixed track (theoretical and practical training in school in the first years and last year with the concomitant track - *filière mixte*) has been extended since 2015/16. Programmes also include integrated projects (Section 2.2.1).

Training focuses on the labour market, aiming at a high professional level, and prepares students for higher technical education through optional preparatory modules. These modules can be acquired either within the normal or extended duration of the studies. The technician diploma certifies that the holder is competent to perform the trade/profession in question. It differs from DAP by in-depth and diversified competences as well as in-depth general education. DT graduates may progress to the third year of the general programme.

In 2016/17, the most popular programmes are those training for administration and business, computer science and civil engineering.

One private school (the *Lycée technique privé Émile Metz*) provides technician programmes in English, so that young people can obtain a Technician's diploma in one of the following fields: electrotechnics, computer science and general mechanics.

2.2.1.4. *Developing VET programmes*

The implementation of the 2008 reform was complex. The VET Act (2008) was revised in 2015 to address this issue following an evaluation of the VET system by the University of Luxembourg. The main objectives were to improve learner's skills and the graduation rate.

The first revisions (SCL, 2016e) were to make the evaluation and progression system more understandable for learners, their parents, teachers and trainers. Relations between stakeholders were also strengthened through the implementation of a steering committee including the Education Ministry, the professional chambers, the coordinators of the curricula teams (Section 3.2), the college of directors of technical secondary education and the Department for Coordination of Educational and Technological Research and Innovation (SCRIPT).

The Ministry of Education has launched other adaptations that should benefit learners:

- (a) refocused programmes for better learning:
 - facilitating bridges between the various VET programmes,
 - revision of about 120 curricula to make them more understandable for all stakeholders: learners, parents, employers and general public. The curricular teams have been supported by the Division for Curriculum Development of the Department for Coordination of Educational and Technological Research and Innovation (SCRIPT) (Section 3.1) since 2017/18;
- (b) adapted school reports to improve information and motivation: the report card, defined as part of the 2008 VET reform, was only based on skill achievements. This was not clear enough for learners and their parents, and will be completed by marks and distinctions;
- (c) duration of the apprenticeship contract: with the 2008 reform the duration of apprenticeship was extended by a year for those who failed their training period. In the future, apprenticeships will automatically be extended by a year for apprentices who failed some modules. This may be extended for a second year with the agreement of all parties involved in the contract.

In October 2017, the Grand-Duchy of Luxembourg, and regional institutions in the bordering Lorraine region in France, signed an agreement on cross-border VET, allowing the 2014 framework agreement to be put into practice, so that young apprentices from Luxembourg and Lorraine (French regional department) could carry out the theoretical part of their training in one country and the work-based-learning part in a company in a neighbouring country.

Rhineland-Palatinate (Regional Department in Germany) and the Grand-Duchy of Luxembourg elaborated a bilateral project agreement on cross-border VET based on discussions started in 2016, which was signed on 13th March, 2018. This agreement provides young people with new perspectives and facilitates the flow of labour forces on both sides of the border, thus preventing skill shortages and ensuring a sufficient supply of skilled employees on both sides of the border.

The three countries thereby promote the attractiveness of these dual training schemes and promote the integration of a cross-border employment market in the Greater Region.

2.2.2. Post-secondary education: master craftsperson programmes

Post-secondary non-tertiary education offers one type of programme, the master craftsperson qualification (*brevet de maîtrise*; ISCED 453, EQF 5), which entitles the holder to settle in the craft industry as self-employed and to train apprentices. The qualification confers the title of master craftsperson in the particular trade.

Preparatory programmes are organised by the Chamber of Trades and Skilled Crafts. To access these programmes, learners are required to have reached at least EQF level 3. Learners should also have at least one year of work experience to be able to take the final exam. The programmes are modular and the number of hours may vary by trade. However, all modules have to be accomplished within six years. The master craftsperson qualification does not give any access right for higher education; progression opportunities depend on the certificate gained at secondary level.

2.2.3. VET at tertiary level

Traditionally, tertiary students acquired their qualifications abroad. In 2003, Luxembourg established its own university (SCL, 2003) including The university three interdisciplinary research centres and the following three faculties:

- (a) science, technology and communication;
- (b) law, economics and finance; and
- (c) human sciences, arts and educational science.

VET at tertiary level offers the following two programmes:

- (a) higher technician programme,
- (b) professional bachelor programmes.

2.2.3.1. Higher technician programmes

In VET, short-cycle programmes are offered, leading to a higher technician certificate (*brevet de technicien supérieur*, BTS; ISCED 550, EQF 5) which is

awarded to students who complete two years of studies in one of the following fields (Annex 1):

- (a) applied arts (to become an audiovisual technician, electro in cinema production, lighting designer in live shows, game artist, or graphic designer);
- (b) commerce (to become an accounting and tax manager, business and marketing manager, or assistant manager);
- (c) health (to become a medical technical assistant of surgery, nurse in pediatrics, psychiatric nurse, nurse in charge of general care, or midwife);
- (d) industry (to become a higher technician in buildings and infrastructure, chemical analysis, site supervisor, or metal draftsman and builder);
- (e) services [to become a higher technician in cloud computing (cloud administrator cloud system administrator...), or work in the field of game programming and game design, automatic engineering (project manager or designer of automatic systems or automated equipment...), or in computer science (programmer, system administrator, web administrator), real estates];
- (f) crafts (such as higher technician wood technology).

To be admitted to the programme, learners require either a general or a technical secondary school leaving diploma (*diplôme de fin d'études secondaires classique, diplôme de fin d'études secondaires générales*), or a technician diploma (*diplôme de technicien – DT*) complemented by optional modules.

BTS programmes alternate; they provide both theoretical instruction (including general education subjects such as languages) and training in a work environment. Programmes are offered in public and private secondary schools, and technical secondary schools recognised by the State. Depending on the domain, BTS graduates can pursue bachelor studies.

2.2.3.2. Professional bachelor programmes

Professional bachelor (*bachelor professionnel*) programmes are accessible to holders of a general or technical secondary leaving diploma or a technician diploma in the field of study. These programmes last over six semesters including one semester of compulsory mobility abroad. They combine general education subjects and applied courses. They include internship abroad and/or case studies. Professional bachelors are offered in the following fields:

- (a) IT,
- (b) engineering (electrical, energy and environment, mechanical engineering),
- (c) management (insurance, banking or business sector),
- (d) educational sciences,

- (e) social and educational sciences,
- (f) accounting and taxation,
- (g) animation drawing.

Professional bachelor programmes prepare students for career entry or for an application-oriented master degree (professional master, *master professionnel*).

2.2.4. VET for adults

All adults have access to education and training opportunities regardless of their age, education and employment status. Adult education and continuing vocational training more specifically, allow everyone at different stages of their lives to pursue training, be it to obtain a first degree, to develop or improve knowledge, to change careers or to adapt to new technologies.

2.2.4.1. Vocational secondary education for adults

The following vocational secondary programmes lead to a qualification and are available for adults:

- (a) last year of lower cycle,
- (b) technical programmes: evening and young adult classes,
- (c) technician programmes,
- (d) vocational programmes: adult apprenticeship,
- (e) vocational programmes: evening classes,
- (f) vocational programmes: on-the-job training.

Last year of lower cycle for adults

Adults may attend the last year of the lower cycle (grade 5) and then access the technical and technician programme as well as a vocational programme (Section 2.2.1).

Technical programmes for adults: evening and young adult classes

Adults can enrol in evening classes in grades 4 to 1 of the administrative and commercial technical programmes and obtain the Technical Secondary School Leaving Diploma. Grades 4 and 3 of the health care programmes are also accessible in evening classes and participant can potentially continue their school education until they obtain the Technical Secondary School Leaving Diploma.

Young adults may also enrol in daytime administrative and commercial technical programmes in grades 3 and 2. These programmes are reserved for

students who have failed at school or who wish to reorient themselves. After grades 3 and 2 students can move on to the next grade.

The sandwich course for social education workers is a training course organised by the National School for adults (previously *École de la 2e Chance* (E2C)) for people who are in employment (on-the job training). The course is aimed at adults with no recognised professional qualifications as a social education worker but who are already active in the childcare or social field. The sandwich course for social education workers includes both the studies required to obtain the Technical Secondary School Leaving Diploma, which normally takes two years, and the studies leading up to obtaining the diploma for social education workers, which normally takes one year.

Technician programmes for adults

Adults, aged 18+ who left school at least a year ago and are willing to learn a trade or to change their career, can access one of the following four technician diplomas (DT):

- Grade 1 of the Administration and Business Technician Diploma as an apprenticeship;
- Grade 3 (2nd year) of the Logistic Technician Diploma as an apprenticeship;
- Grade 1 (last year) of the Sales and Management Technician Diploma as an apprenticeship under the additional condition that they hold a vocational aptitude diploma (*diplôme d'aptitude professionnelle*, DAP) as a Sales person;
- Aircraft Mechanic Technician Diploma (cat B), as an apprenticeship. Applicants must have an apprenticeship contract with an air carrier, hold a DAP in mechanics or electro-technics or the previous CATP (certificate of technical and vocational capability), and have sufficient knowledge of English. Training to obtain an Aircraft Mechanic Technician Diploma is certified by an international 'aircraft maintenance licence'.

Vocational programmes for adults: adult apprenticeship

Except for admission criteria, there are no differences between apprenticeships for adults and young people. Those 18 years old and above, having left school more than one year before and willing to learn a trade or to change their career, can follow an 'adult apprenticeship' leading to DAP or CCP (Section 2.2.1.2); this is available both to job holders and seekers registered at the public employment service. Upon proof of certain work experience, a dedicated committee may orient the adult learner to the suitable grade. The committee includes representatives of the education ministry, Vocational Training Service, labour ministry, guidance service of the employment service, Chamber of Commerce,

Chamber of Trades and Skilled Crafts, Chamber of Agriculture, and Chamber of Employees (SCL, 2010c).

Theory training takes place in a technical secondary school or at the national continuing vocational training centre. The practical part is apprenticeship in an enterprise. Adult apprentices receive allowances equal to the minimum wage for unskilled workers (EUR 1 922.96, 1 January 2016) as defined in a 2010 regulation (SCL, 2010c).

The 2008 reform introduced a modular system for apprenticeship (Section 2.1.1 and 2.2.1.2 which guarantees the validity of any module acquired during initial training for a certain period, aiding access to lifelong learning.

Vocational programmes for adults: evening classes

Employed adults can follow the vocational programme leading to DAP to become an administrative and commercial agent. In the first year, the general education part is provided through evening classes in a technical secondary school or in the national continuing vocational training centre. The practical part is acquired through full-time employment in a company. After this first year, adults can continue the second and third year under the adult apprenticeship contract, whereby general education classes are offered during the day-time.

Vocational programmes for adults: on-the-job training

The nursing assistant vocational aptitude diploma (*diplôme d'aptitude professionnelle, aide-soignant*) can be obtained through on-the-job training. This training is suitable for those with some work experience in the care sector, who have not had the opportunity to undertake IVET. The three-year training course leads to a nursing assistant DAP. Applicants must fulfil admission criteria such as professional experience of minimum 2 500 hours in the care sector, an employment contract (minimum 50% part-time) and the agreement of their employer.

2.2.4.2. Training for job seekers on employer demand

The public employment service and the education ministry collaborate in providing training for job seekers. Training schemes are organised directly for a sector or an enterprise at the request of employer(s). Training content is decided jointly with the employer who, in agreement with the education ministry and the labour ministry, recruits learners after successful completion of the scheme. Training schemes generally last between six weeks and three months and are complemented with period(s) of job placement.

2.2.5. Major VET reform of 2008

The major VET reform of 2008 (SCL, 2008a) was implemented between 2010/11 and 2013/14. It aimed at strengthening the links between VET and the labour market and focused on competence-based and modular qualifications. Key principles of the reform are:

- (a) promoting VET;
- (b) improving VET quality;
- (c) easing access to lifelong learning;
- (d) strengthening partnerships with the business world;
- (e) teaching and evaluation methods based on competences;
- (f) replacing teaching by subject with teaching by units and modules; each module focuses on concrete professional situations; the learning outcomes to be acquired (competences and knowledge) are defined for each module;
- (g) assessment and certification in apprenticeships based on learning outcomes; evaluation is qualitative: at the end of each module, apprentices' competences are assessed against the intended learning outcomes;
- (h) training of VET teachers;
- (i) introducing 'adult teachers' and providing special training for them;
- (j) improving collaboration between the State and the social partners.

2.2.6. VET governance

The Ministry of National Education, Children and Youth (*Ministère de l'Éducation Nationale, de l'Enfance et de la Jeunesse*, MENJE) ⁽¹⁷⁾ is responsible for all types of education, including initial and continuing VET. Initial and continuing higher education is under the Ministry of Higher Education and Research (*Ministère de l'Enseignement Supérieur et de la Recherche*, MESR) ⁽¹⁸⁾. In cooperation with the Ministry of Labour, Employment and the Social and Solidarity Economy (*Ministère du Travail, de l'Emploi et de l'Économie Sociale et Solidaire*, MTE) ⁽¹⁹⁾, MENJE is also responsible for training measures for the unemployed.

Higher education is under the responsibility of the higher education ministry.

Cooperation between the State and the social partners is a core principle in VET. As stated in the law reforming VET (SCL, 2008a), social partners are essential stakeholders who contribute to its organisation and implementation. The professional chambers' opinion is systematically sought on laws and

⁽¹⁷⁾ Hereinafter referred to as education ministry.

⁽¹⁸⁾ Hereinafter referred to as higher education ministry.

⁽¹⁹⁾ Hereinafter referred to as labour ministry.

regulations on economic, financial and social policy: labour law, social security, taxation, the environment, initial and continuing vocational training, and education. Development and periodic revision of programmes are ensured by curricular teams (Section 3.1).

There are five professional chambers in Luxembourg. The Chamber of Commerce (*Chambre de Commerce*), Chamber of Trades and Skilled Crafts (*Chambre des Métiers*) and Chamber of Agriculture (*Chambre d'Agriculture*) represent employers. The Chamber of Employees (*Chambre des Salariés*), and Chamber of Civil Servants and Public Employees (*Chambre des Fonctionnaires et Employés Publics*) represent wage earners. These chambers act as independent policy institutes; they are involved in Luxembourg's legislative procedures and are officially consulted on education matters. They are represented both at national (Economic and Social Council, Tripartite Advisory Committee on Vocational Training) and at European level (Cedefop Governing Board, Advisory Committee on Vocational Training). In contrast to trade unions and employers' associations, membership in the professional chambers is compulsory (with an annual subscription) for all employees and private companies.

The professional chambers were created by law in 1924 (SCL, 1924) and in 1964 [Chamber of Civil Servants and Public Employees (SCL, 1964)]. They are public establishments, legal persons governed by civil law. Although the professional chambers are supervised by the government, they enjoy financial autonomy. Since 1929, the chambers have been involved in initial education, especially with regard to VET preparing for an occupation. They also have substantial powers regarding apprenticeships; in 1945, their remit in the establishment, supervision and termination of apprenticeship contracts was extended. Their power and involvement were reinforced by the 2008 law reforming VET (SCL, 2008a and 2008b). Their involvement in vocational training includes:

- (a) identifying training needs;
- (b) guidance and information on training;
- (c) determining the professions or trades offered in VET;
- (d) training offers;
- (e) organising training;
- (f) designing framework training programmes;
- (g) assessing training programmes and the training system;
- (h) qualifications and validating experience acquired.

Professional chambers have established a platform for supervisors/tutors where they can find all the necessary support during apprenticeship. They have

also created the label 'training enterprise' to put the companies committed to training young people into the limelight.

The Chamber of Commerce and the Chamber of Trades and Skilled Crafts have appointed apprenticeship counsellors for each trade and profession (Section 4.2). Their main mission is to inform companies and apprentices about vocational training issues (legislation, organisation, programmes, class visits). They also assist enterprises and apprentices in practical process where they:

- (a) can intervene as mediators in case of disagreement or conflict between the company, the school or the apprentice;
- (b) participate in organisation of intermediary tests and support the relationship between the school and the company in case of difficulties;
- (c) are available to apprentices who need to reorient themselves and find an appropriate apprenticeship;
- (d) follow their evaluation and, if needed or concerned, take part in the class council and in the disciplinary councils;
- (e) signal irregularities in legislation on vocational training to the competent institutions.

The professional chambers are also authorised by law to organise continuing training courses (Section 2.2.8.1).

The Education Ministry has created two new structures, to improve the adaptation of schools to the needs of learners and the professional world.

A National Programme Council (*Conseil national des Programmes*) was created alongside the National Observatory of School Quality (Section 3.4) at the beginning of 2018, to allow more exchanges and debates about educational matters and to build a bridge between the educational and professional world. It should represent the voice of society in discussions about school programmes. The council consists of eight people (at least three men and at least three women), chosen according to their experience and expertise in different fields such as culture, economics, ecology, associations, the digital and others.

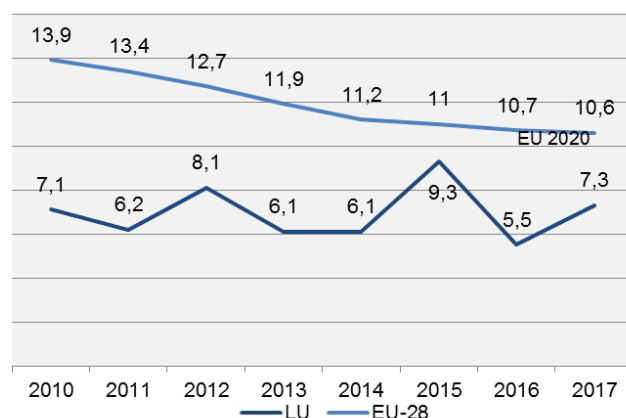
2.2.7. Reducing early leaving from education and training

In the framework of the NEET problem, Luxembourg with a school dropout rate of 7.3% (Eurostat), has a proactive approach. The NEET issue is tackled at its roots: prevention of school dropout.

Two types of indicators can be used to measure early leaving from education and training: the Eurostat indicator comparable across the EU (% of the population aged 18 to 24 with, at most, lower secondary education and not in further education or training); and the national statistics which are based on administrative data on early school leavers among learners in secondary

education (mainly 12 to 19 year-olds but also including young people up to 25) ⁽²⁰⁾.

Figure 11. **Early leavers from education and training 2010-17, %**



NB: % of the population aged 18 to 24 with, at most, lower secondary education and not in further education and training.

Source: Eurostat code: t2020_40; extracted 18.09.2018.

As demonstrated in Figure 14, the share of early leavers from education and training according to Eurostat is below the EU 2020 target of 10%. However, these data are subject to important variations due to the small sample size in the country and may not necessarily allow to easily identifying the causes of early school leaving at national level. In response to the lack of reliable data, the national education authorities produce annual statistics based on administrative data and on a survey of early school leavers. These data indicate a higher early leaving rate for those up to age 25 (13.5%) (MENJE, 2017b) than the rate calculated via the labour force survey in 2015. The share of early leavers is relatively high among the migrant population, especially for those not having one of the three national languages as mother tongue.

PISA results for 15-year-old students show performance somewhat below the OECD average in mathematics, reading and science also partly due to problems in mastering one of the three national languages.

⁽²⁰⁾ National statistics refer to the number of learners in secondary education who, during a given school year, have:

- (a) left school 'temporarily' without acquiring a certificate or diploma but resumed their education and training at a later stage either in the country or abroad;
- (b) left school 'permanently' (at least until the new data on secondary education learners are published) without acquiring a certificate or diploma. This category also includes those who had left, were temporarily reintegrated but left school again.

All skills and competences acquired during initial education are considered acquired for the entire life. Anyone who has interrupted studies can resume them.

The law of 29th August 2017 on secondary education allows schools to develop measures in a more autonomous way to support learners, whose academic results may compromise their success at the end of the school year. The Ministry of Education has developed a set of reference documents and tools in cooperation with SCRIPT.

A more diversified school offer is another response to school failures and dropping out. The school offer has been diversified in recent years and includes international, European, French, English schools, as well as a German-Luxembourgish school, and classes conducted in specific languages (RLS).

It also includes provision of special schooling and support for young people aged 11-15 with a high risk of dropping out of school. (*Verhalen, testen a trainéieren*), National school for adults (ENAD *Ecole nationale pour adultes*, previously Second Chance School), Mosaic classes, and COIP courses (*cours d'orientation et d'initiation professionnelles*).

2.2.7.1. Remedial measures

Remedial measures were introduced with the VET reform (SCL, 2008b) to help any learner struggling to make his/her way of learning more effective or to provide him/her with further support in certain areas. They are decided by the class council, proposed to the learner and implemented by the director. Remedial measures may take the form of:

- (a) individualised learning support;
- (b) additional learning time;
- (c) support with homework;
- (d) support in acquiring learning techniques.

If the learner does not demonstrate enough motivation, the school director may decide to stop participation in the remedial measures.

2.2.7.2. Mosaic classes

The action plan for dropout prevention ⁽²¹⁾ addresses learners with motivation problems and in 2005/06 initiated a pilot project of mosaic classes with four secondary schools. Through support based on a 6 to 12 week individualised management plan, the mosaic classes aim to reintegrate students in their initial grade or in a grade appropriate to current development. Since 2009, 'mosaic

⁽²¹⁾ Following pilot project *Prävention der Schulverweigerung* (Petry & Neunkirch, 2009).

classes' have been introduced in the entire school system including VET(SCL, 2009). In 2015/16, 26 mosaic classes in 22 schools have welcomed 316 learners, approximately the same number as in the previous year (MENJE, 2017b).

2.2.7.3. National school for adults

National school for adults in Luxembourg (*Ecole national pour adultes* ENAD previously *Second chance schools*) was set up in 2011 and targets young people (16 to 30) who have dropped out of school or do not find an apprenticeship place. The goal is to help these young people develop general, social and practical skills that empower them to (re)integrate in a general or technical secondary programme, an apprenticeship or the labour market. Learner motivation is essential for the success of the programme; learners have to show a real willingness to engage again in school to be admitted.

The pedagogical approach differs from the one used in mainstream education. The training includes general subject modules and practice in schools, placement in enterprises and complementary activities. The programme is organised in small groups, with tutors supervising learners. The duration of this training scheme varies from several months to two years.

ENAD is able to offer general secondary education from the 5e class upwards, and secondary technical programme from the 5e class upwards. The vocational programmes are also available: DAP as cooker, plant nursery worker-landscape gardener, electrician and carer.

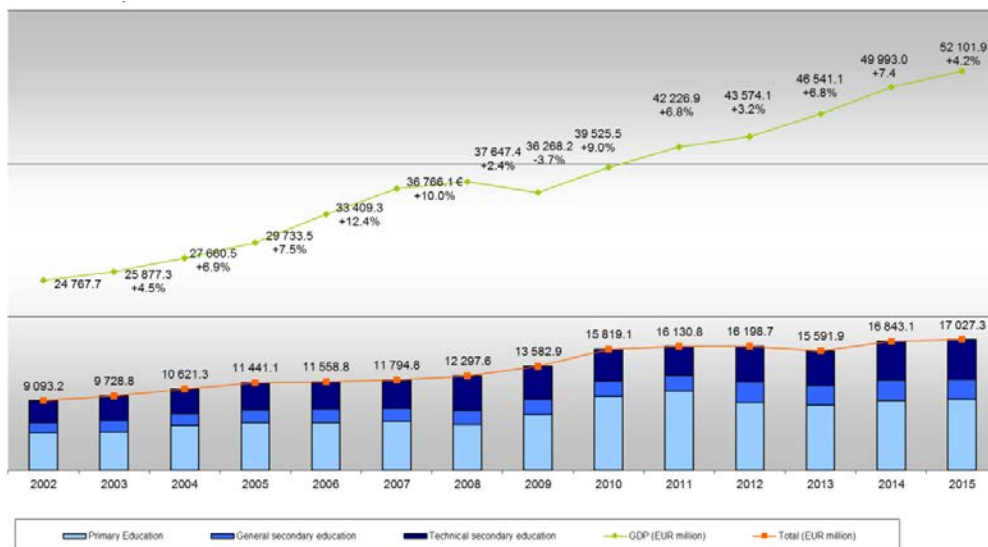
The ENAD also offers sandwich training courses for social education workers leading to the social education worker's diploma and to the technical secondary school leaving diploma as well as preparatory modules providing access to higher studies. In July 2018, 90 learners graduated from national school for adults.

The DAES diploma which gives access to higher education (*diplôme d'accès aux études universitaires*) is a new training route provided by ENAD as part of the adult education and is offered for the first time in the school year 2016/17. It prepares learners for the reality of teaching and learning at university by developing the subject-related knowledge and cross-disciplinary competencies needed for higher studies. The DAES is recognised as being equivalent to the Luxembourgish general secondary school leaving diploma (*Diplôme de fin d'études secondaires*); it also provides access to the regulated professions and employment in the public sector. Funding initial VET

Total education expenditure in percentage of GDP increased from 4.8% in 2008 to 5.0% in 2017 ⁽²²⁾. Luxembourg devotes the highest level of financial resources to education per student among the OECD ⁽²³⁾ countries. At secondary level, the expenditure per student is EUR 18 484, while the OECD average is about EUR 8 080 (OECD, 2015) ⁽²⁴⁾.

In 2017, funding for initial public education was EUR 2.09 billion (MENJE, 2018b), shared between the three levels of initial education: primary, general secondary, and technical secondary. Education is financed at two levels: central government and local administrations (106 municipalities). In 2015, more than half (54.5%) of the funding goes to primary education (EUR 928 million). At secondary level, expenditure on technical education is higher (EUR 517 million, 30.4% of total funding) than general education (EUR 258 million, 15.1% of total funding). It covers remuneration of teachers, administrative and technical staff, operating costs and investments (Figures 13 and 14).

Figure 12. **Investment in education 2002-15**



Source: MENJE 2018.

Public funding for general and VET schools has been slightly, but constantly, increasing until 2012. In 2013, it has decreased by 3.7% but increased in 2014

⁽²²⁾ Eurostat (Table gov_10a_exp) [accessed 7.11.2018].

⁽²³⁾ OECD Table (10.1787/ca274bac-en) [accessed 7.11.2018].

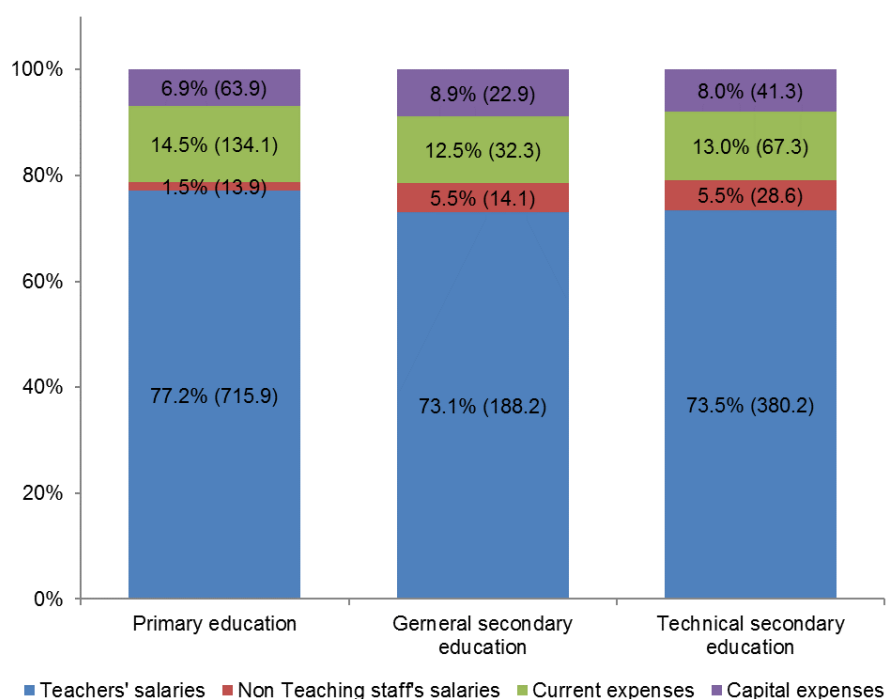
⁽²⁴⁾ European Central Bank Euro foreign exchange reference rate as on 3 June 2016 EUR/USD=1.1154, <https://www.ecb.europa.eu/stats/exchange/eurofxref/html/index.en.html> [accessed 9.1.2019].

(+8%) and remain quite stable in 2015 (+1%). There was a break in time series in 2009; since then the State has been fully in charge of remunerating primary education teachers, previously shared between the State and the communes.

Public funding includes:

- (a) teachers' salaries;
- (b) non-teaching staff salaries;
- (c) current expenses (goods and services to ensure the daily functioning of educational services; school allowances; care of children outside school hours at municipal level for extra-curricular and after-school activities; the costs incurred by school medicine and school transport);
- (d) capital expenses (movable and immovable assets).

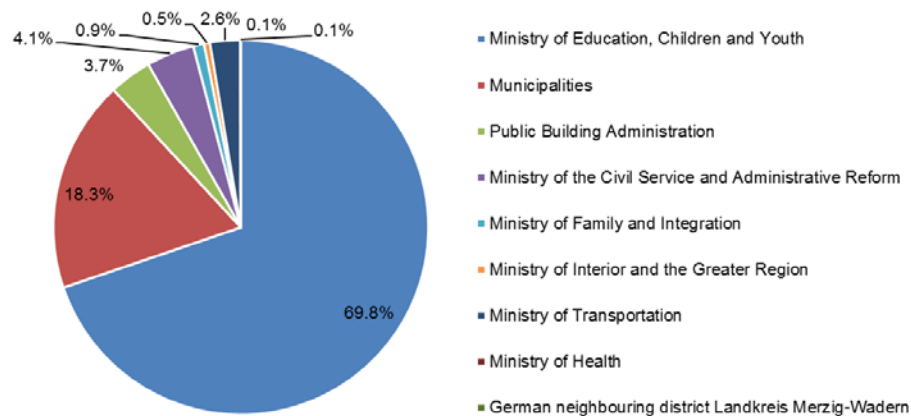
Figure 13. **School funding in 2015, % (EUR million)**



Source: MENJE 2018a.

As shown in Figure 13, salaries make up the highest costs for all education programmes (73-77%). Their shares are greater in primary education (77%) than in secondary education. The share of current expenses is higher in primary (14.5%) education than in general (12.5%) or in technical (13.0%) secondary education, possibly because care of children outside school hours at municipal level is costlier at this level.

Figure 14. Funders of public education in 2015



Source: MENJE, 2018a.

According to the latest available data, total central government expenditure (the cumulative expenditure of the various ministries and administrations involved in the financing of education) was nearly EUR 1 390 million. With a total contribution of 81.7%, the State is the primary funder of education in Luxembourg. The 106 communes contribute 18.3%, or about EUR 311 million.

Apart from national funds, money spent on public education can also come from foreign sources. The Schengen-Lyzeum Perl is a German and Luxembourgish high school set up in 2007, located in Germany close to the border. Learners can acquire the general and technical secondary school leaving diplomas (administrative and commercial division). The Landkreis Merzig-Wadern (LKMV), a German neighbouring district, pays 60% of the running costs and 50% of the building maintenance and the investment for the school equipment. The Luxembourg State pays the other part.

Funding for individuals in higher education

The government offers higher education students financial support in the form of a grant and a loan (basic grant: EUR 1 000, mobility grant: EUR 1 225, grant on social criteria: EUR 0 to 1 900, family grant: EUR 250, student loan: EUR 3 250, registration fee: EUR 0 to 1 850) per academic semester: the grant and loan proportions depend on the applicant's income ⁽²⁵⁾. Tuition fees are taken into account when calculating the financial support. In each academic year, higher education students apply for the support twice: before the winter and summer semesters (SCL, 2010a).

⁽²⁵⁾ <http://portal.education.lu/etudes/Laide-financi%C3%A8re> accessed [6.3.2017].

Funding continuing VET

Continuing training for employees or for individuals (private initiative) is normally funded by the enterprises or individuals themselves. However, in some sectors, companies must pay a levy to sectoral training providers to benefit from specific access conditions and prices. Companies may also contribute to training centres voluntarily to benefit from specific access conditions and prices. Companies and individuals can receive support and incentives for CVET, often non-financial but linked to working time arrangement (Chapter 4).

Funding training for unemployed and other vulnerable groups

Training for the unemployed and other groups excluded from the labour market is supported by the labour and the education ministries. The labour ministry finances training schemes run by the national centres for continuing vocational training and training schemes run by private centres under contract with the labour and the education ministries. The public employment service also provides financial support for different training programmes for job seekers (Section 2.2.4.2).

Some projects for job seekers are co-financed by the European Social Fund. Most of them are focused on job segment with a high potential of development, such as Fit4coding (development of skills for the IT sector) or Fit4 Greenjobs (in cooperation with Institute for Construction Training - IFSB).

2.3. Teachers and trainers

The Law of 25th March 2015 established different teacher careers in the Luxembourgish educational system.

Table 4. **Teacher career**

Type of teacher	Type of teaching	Required diploma
Secondary school Teachers A1	Technical and general secondary education	BA and MA
Technical education Teachers A2	Technical secondary education	BA
Master of technical education B1	Technical secondary education	Master Craftsman's Diploma or BTS

Source: Authors

In addition to diploma (Table 5) and language requirements (proficiency in the three administrative languages), there are no additional specific access or training requirements for VET teachers. Indeed, recruitment procedures and

training provisions for teachers in general secondary education are the same as for teachers in technical secondary education.

All teacher applicants must have a relevant bachelor or master degree for the subject that is being taught. They must pass an examination, and complete a three year induction course at the Training Institute of National Education (*Institut de formation de l'Éducation nationale*, IFEN) which was created in 2015 (SCL, 2015). During the induction course, future teachers are already teaching at secondary schools whilst attending a teacher education programme at the IFEN. The induction course ends with a final examination.

The Training Institute of National Education designs, implements and evaluates the professional insertion (internship) and the continuing professional development of teachers and psycho-social staff in education.

Continuing professional development has become increasingly important over the years and is now considered a professional duty in the Luxembourgish education system. A new regulation has entered into force, in which the minimum mandatory continuing training for secondary school teachers has been increased to 48 hours over three years (SCL, 2015b). Within the SCHiLW framework (*Schulinterne Lehrer/innen-Weiterbildung* - School teachers' continuing training), the IFEN supports secondary schools that are willing to set up training plans (*plans de formation*, not compulsory). These plans contribute to a better coherence between the school's objectives and teachers' training activities.

The Continuing training offer is elaborated by the IFEN in collaboration with school staff, who are consulted annually, and upon their request. IFEN endeavours to meet individual needs that have been identified at various levels, as well as political decisions. Continuing professional development is therefore organised according to training objectives and the availability of the teachers being trained, such as seminars (one-off training courses), training days, conferences, sequential continuing training (introductory module followed by a practical phase which may or may not be accompanied by an exchange and intensification phase). In a period of rapid technological change, it is essential that VET teachers continuously update their vocational skills and knowledge, to ensure trainees leave the VET system with skills that can be put into practice immediately.

In 2017, training courses were provided for teachers about handling increasing heterogeneity in schools.

Luxembourg University has provided a Master Degree in secondary education since 2016-17 academic year, accessible to students with a Bachelor Degree in Maths, Romance or German languages, who wish to develop the necessary didactic skills to teach in class. Trainee teachers can thereby acquire teaching skills before applying for the examination at the IFEN. The programme

includes courses in educational sciences, sociology of education and psychology to provide students with the necessary skills to understand and meet the challenges of teaching in a multicultural and multilingual school system. Four options are available: Maths, French language and literature, German language and literature, Luxembourgish language and literature.

The Chamber of Commerce has a training programme for teachers providing continuing vocational training, to facilitate the transfer and appropriation of knowledge by learners. This programme provides fundamental tools for effective teaching, as well as specific aspects to perfect teachers' pedagogic approaches.

The law of 19 December 2008 stipulates that an enterprise offering training or apprenticeship has to designate one or more tutors to mentor apprentices all along their apprenticeship. The tutor is in charge of the practical training and the pedagogic supervision of the apprentice. He is also appointed as the contact person for the apprenticeship counsellor and the competent professional chamber with regard to the progress of the apprentice. The law has increased the responsibility of the tutor in the training and assessment of the apprentices. The training of tutors has become central to increase and assure the quality of initial and continuing vocational training and in promoting the recognition of diplomas and certificates across the borders. Participation in tutor training is mandatory for each enterprise involved in the training of one or more apprentices. Each tutor has to undergo a three-day training activity, organised by the competent professional chamber. A trainer holding a Master Craftsperson Diploma (*Brevet de Maîtrise*) or equivalent is exempted from this mandatory training. The training '*Tuteur en Entreprise*' (Tutor in company) comprises a legal section, a pedagogic section and a section on assessment. It gives tutors useful tools to set up a training path, manage the relationship with the apprentice, identify the mission of the tutor and be able to help apprentices integrate in the working world and the enterprise.

CHAPTER 3.

Shaping VET qualifications

3.1. Anticipating skill needs

VET standards are developed in cooperation between the education ministry and the professional chambers. Curricula are based on occupational standards and informed by skill needs in enterprises. The following institutions ensure VET provision in line with labour market needs:

- (a) Permanent Labour and Employment Committee (*Comité Permanent du Travail et de l'Emploi*): the ministries of education and labour, cooperate through this committee. It is responsible for reviewing the labour market situation regularly. Its working methods include analysis of job supply and skills demand;
- (b) Training Observatory: established in 2012 by the National Institute for the Development of Continuing Vocational Training (INFPC), it provides the government and social partners with detailed statistics and reliable qualitative analyses on training issues; these are useful insights for public policy and private strategies in the lifelong learning domain;
- (c) Employment Observatory: established by the labour ministry; analyses labour market data, publishes a labour market dashboard and organises annual conferences on relevant labour market issues and employment;
- (d) Competence Observatory: to help improve initial and continuing training offers, the University of Luxembourg competence center (previously Luxembourg International University Institute - *Institut Universitaire International Luxembourgeois* - IUIL), in cooperation with companies, identifies and anticipates competence needs in sectors and occupations. Analyses cover the trade, law, health, food and catering sectors, management, socio-professional integration and green professions;
- (e) Business Federation of Luxembourg: since 1997 has conducted annual surveys ⁽²⁶⁾ on skill needs, alternatively in the industrial and in the information technology and communication sectors. It explores skill needs of enterprises to achieve a good balance between vocational training supply and labour market demand. The survey is the basis for the

⁽²⁶⁾ This survey is conducted in collaboration with the Luxembourg Bankers' Association, the Luxembourg Confederation of Commerce, the Chamber of Commerce and the education ministry, with support from the European Union (EURES).

Qualifications of tomorrow (Les qualifications de demain) publication. It offers forecasts of enterprise skill requirements for replacements and new job openings, and the associated qualification levels. The publication provides young people and their parents with insights into education paths and encourages public authorities, professional chambers and other VET actors to take account of enterprises' training needs in CVET.

Transition from VET to the labour market is monitored by different bodies conducting studies and analyses:

- (a) the Training Observatory has a project on transition from school to work [*Transition École-Vie Active*, INFPC] ⁽²⁷⁾ that analyses labour market entry and the professional trajectories of secondary education graduates. The last results show that 82% of graduates who took part in a vocational or a technician programme in 2012/13 were employed three years after they had left school against 73% for non-graduate learners (INFPC, 2018). The percentage among graduates may differ depending on the programme they attended: from 77% for graduates from technician programme (DT) to 85% for semi-skilled workers, who attended programmes leading to a CCP (or previously CITP and CCM) and for skilled workers from DAP (or previously CATP) programmes. In the technical programmes, 82% of the graduated learners are in employment three years after they left school;
- (b) in 2012, the statistical and analysis service of the education ministry (*Service des Statistiques et Analyses*) published a paper on school to work transition based on 2 869 questionnaires completed by learners (MENFP, 2012): almost two thirds of the respondents indicated that they pursue studies after secondary education, while 29% entered the labour market and 7% neither pursued studies nor entered employment;
- (c) the University of Luxembourg competence center has developed a project to evaluate the employability of graduates, to improve and adapt curricula. Seven curricula have already been analysed: European criminal law master, professional master in entrepreneurship and innovation, bachelor in educational and social sciences, bachelor in engineering, master in psychology evaluation and assessment, master in European law, and bachelor in business administration. The results of these analyses are presented in detailed reports ⁽²⁸⁾.

⁽²⁷⁾ See www.lifelong-learning.lu/teva [accessed 6.3.2017].

⁽²⁸⁾ See <http://www.iuil.lu/fr/etudes/employabilite-ul> [accessed 8.11.2018].

3.2. Designing qualifications

The development of the CCP, DAP and DT programmes is based on the following elements with the professional chambers:

- (a) occupational profile: lists the areas of activities as well as the activities and tasks of future occupations after two to three years of workplace experience;
- (b) training profile: based on the occupational profile by areas of competence: occupational and general competences;
- (c) training programme based on the training profile:
 - (i) defines the learning outcomes for each competence and regroups them by learning domain;
 - (ii) organises the learning domains and outcomes in modules and credits;
 - (iii) curriculum: determines the content of the different modules.

The main bodies responsible for designing qualifications are curriculum teams and national vocational commissions (SCL, 2011). A curriculum team is associated with a specific profession or group of professions; training centres and schools are equally represented. The education minister decides on the maximum number of representatives for each team. The curriculum team:

- (a) develops and revises programmes for the trades and professions it is responsible for;
- (b) ensures consistency between the objectives of school-based and work-based training;
- (c) provides guidelines and procedures for continuous assessment of learners at school and in the workplace, in cooperation with the respective committees. The guidelines and procedures feed into evaluation frameworks adopted by the education minister;
- (d) develops and evaluates the 'integrated project' (*projet intégré*) that replaces the former final exams. The project aims to check whether the student has developed the complex competences needed to solve a real or simulated work situation.

National vocational commissions (*commissions nationales de formation*) exist for each division, trade and profession of general and technical secondary education; they propose course content, methods and evaluation criteria to the education minister. The commissions are made up of:

- a) a teacher from each school where CCP, DAP or DT programmes are offered (Sections 2.2.1.2 and 2.2.1.3);

- b) a representative of the national general education commissions (*commissions nationales de l'enseignement général*), designated by the minister;
- c) a representative of each professional chamber associated to the training;
- d) representatives of the higher council of health professions and employer representatives in the case of health sector professions;
- e) employer representatives of education and social institutions, in the case of social sector professions.

A Division for Curriculum Development (SCL, 2017a) was created within the Department for Coordination of Educational and Technological Research and Innovation (SCRIPT) within the Ministry of Education, to simplify the implementation of the 2008 reform. It provides support to the National Commissions of programmes in elementary and secondary education, as well as the curricular teams and National vocational commissions of vocational training in their tasks, developing and adapting curricula (Section 2.2.1.4.). This division coordinates the work of national commissions, guarantees the implementation and supervises the coherence and consistency of curricula. The division works in close collaboration with various stakeholders to guarantee the scientific framework of curriculum development. It also works in collaboration with the recently installed National Programme Council.

The development and implementation of the European qualifications framework for lifelong learning (EQF) is seen as an opportunity to make explicit the existing education and training levels and the links between them. The key objective of the eight-level national qualifications framework (*cadre luxembourgeois des qualifications*, CLQ) is to increase transparency of qualifications. The CLQ serves as a non-binding guiding framework for stakeholders: individuals, education and training providers, and the labour market.

The CLQ was referenced to the EQF and the qualifications framework in the European higher education area (QF-EHEA) in 2012. Beginning 2014, a committee represented by the education ministry and the higher education ministry published a report which detailed the links between the CLQ and the EQF and to the QF-EHEA. Levels 6-8 include qualifications awarded by Luxembourg University only. VET qualifications have been assigned to EQF levels 2-5, with the higher technician and the master craftsperson certificate, for instance, at the latter.

The philosophy of the CLQ is to show that lifelong learning is not fragmented and that it should not be restricted to formal qualifications. The referencing report, however, only reflects formal education and training, which is changing and

moving towards a learning outcomes approach. Once this change is complete, a new report reflecting an adjusted lifelong learning framework, including qualifications acquired through non-formal and informal learning, will be published.

3.3. Recognition of prior learning

3.3.1. Validation of formal, non-formal and informal learning

The 2008 legislation (SCL, 2008a) reforming VET stipulates that everyone has the right to have his/her prior learning and occupational experience validated to obtain a professional qualification. Validation of prior learning (*validation des acquis de l'expérience*) is a procedure that recognises the value of learning at school (incomplete qualifications), non-formal and informal learning, and work experience. Individuals who have at least three years (5 000 hours) of paid, unpaid or voluntary work (whether continuous or not) directly related to the requested qualification may request certification from the education ministry (SCL, 2010b). A recent law (SCL, 2016c) modifying the 2008 legislation, specifies that during the process of validation of prior learning the education ministry offers support to candidates through either collective workshop or personalised interviews with a coach nominated by the Minister. Validation is possible for all VET diplomas and certificates as well as for the master craftsmanship. If all conditions are met, the process, leads to a certificate or diploma or to a part thereof. Experience must be directly related to the requested certification. At higher technician certificate level, an ad hoc evaluation committee is set up for each individual asking for recognition of prior learning (SCL, 2016b).

At university level, validation of non-formal and informal learning allows experience to be recognised with a view to accessing various bachelor's or master's university studies. The request is considered by a board of examiners whose members are appointed by the Chancellor, following recommendation of the dean of the relevant faculty (SCL, 2003).

3.3.2. Recognition and equivalence of foreign diplomas

A dedicated service of the education ministry assesses the equivalence of foreign general and technical secondary education and vocational education diplomas against national diplomas. A diploma certifying educational attainment may be issued for an incomplete secondary education cycle.

The recognition of foreign higher education diplomas is conducted by the higher education ministry. The procedure for obtaining formal recognition of a

higher education diploma acquired in another country is either by listing in the higher education section of the register of qualifications or by accreditation.

A higher education diploma is listed in the higher education section of the register of qualifications if it constitutes the final diploma in a cycle of studies and it has been issued in accordance with the legislation of the State where it has been awarded. In May 2015, the Benelux countries signed an agreement for mutual recognition of higher education diplomas.

Since the entry into force of the Law of 28 October 2016 (SCL, 2016d) on the recognition of foreign professional qualifications, titles and degrees in medicine, dental medicine, veterinary medicine and pharmacy, and foreign titles and degrees in philosophy and humanities, human sciences, physical sciences and mathematics and natural sciences with a view to acceding to the regulated profession of a teacher of humanities or sciences in post-primary education no longer need to be accredited. Accreditation is still a prerequisite for access to the regulated profession of lawyer and for admission to additional classes in Luxembourg law.

3.4. Quality assurance

A national approach to quality assurance has been devised, and evaluation and review procedures are in development stage. There is no real quality framework, but legislation and the current organisation take the quality component into account.

Quality standards for VET providers are part of legislation and used for accreditation and funding. Guidelines and standards are used to promote a culture of continuous improvement. Over the past 10 years, the education and training system has been overhauled to provide the resources needed to cope with the challenges of a rapidly changing environment. Administrative structures have been changed to allow modern school management with a degree of autonomy. In 2004, the legislation promoted partnership-based school community approaches and school initiatives to improve the quality of education. For VET (programmes leading to CCP, DAP and DT), the education ministry coordinates the implementation of the EQAVET recommendation ⁽²⁹⁾.

⁽²⁹⁾ See EQAVET recommendation at [http://eur-lex.europa.eu/legal-content/EN/TXT/PDF/?uri=CELEX:32009H0708\(01\)&from=EN](http://eur-lex.europa.eu/legal-content/EN/TXT/PDF/?uri=CELEX:32009H0708(01)&from=EN) [accessed 6.3.2017].

National indicators related to the 10 proposed by the recommendation are used and monitored nationally (Annex 3). While most are applied in IVET, their use for CVET, which is not monitored centrally, varies by sector or provider.

3.4.1. Secondary education

The school development plan (*plan de développement de l'établissement scolaire* (PDS)) was introduced by the law of 15th December 2016 (SCL, 2016a).

Schools should describe their school and extracurricular activities in the PDS to outline their profile and analyse their general situation, as well as to constantly develop and innovate. This approach covers domains that may help their learners receive the best quality education. Each school should elaborate its own steps in a series of areas that are critical for success. Seven domains are foreseen for secondary education:

- 1) organisation of pedagogical support. Each learner should have access to remedial measures that meet their needs and capabilities;
- 2) supervision of children with specific needs to provide tailor-made solutions for their needs and support their learning process;
- 3) partnerships with parents to improve their involvement in the schooling process and create a partnership culture between families and schools;
- 4) integration of information and communication technologies (ICT) to prepare learners for the challenges of the employment market influenced by ICT;
- 5) psycho-social support for learners who face problems at school, or have psychological or family problems, to prevent school dropouts/failure;
- 6) relevant guidance for learners to help them make the right choices, according to their profiles;
- 7) extracurricular activities to guarantee equal access for all the learners to non-formal learning opportunities, in addition to main-stream classes.

For each of these domains, national objectives have been defined in a national reference-framework.

The PDS also contains:

- (a) definition of at least one objective from the description and analysis mentioned above;
- (b) an action plan for each objective (persons in charge, resources needed, schedule, evaluation criteria);
- (c) an evaluation and continuous adaptation of the current PDS.

Following the law of December 2016 (SCL, 2016a), as of the 2017/18 school year, each secondary school should elaborate a school development plan (PDS) produced by a school development committee (*cellule de développement scolaire*, CDS). The CDS is coordinated by the school directorate and includes

school staff appointed by the Director for a three-year period that may be renewed. Its mission is to analyse and interpret the school's data, to identify the school's priority needs, to define school development strategies, to elaborate the school charter, the profile and the PDS, to ensure internal and external communication, whilst establishing a triennial plan for the continuing training of its high-school staff.

The Division for the Development of Schools (*division du développement des établissements scolaires*) from The Department for Coordination of Educational and Technological Research and Innovation (SCRIPT) was set up according to the law of 14th March 2017 (SCL, 2017a). Its mission is to accompany schools in their general approach for school development and more specifically to elaborate and implement the School Development Plan (PDS), to collaborate with various departments, educational structures, national and international partners, who may to optimise the quality of schools. The Division for the Development of Schools has provided several transversal tools, such as a website ⁽³⁰⁾ dedicated to the development of schools, forms allowing schools to coordinate and follow up their PDS, adaptable questionnaires to facilitate data collection about the perception of school actors.

The CDS has been working on the PDS since September 2017, which was then adopted by the Education Ministry in September 2018.

A National Observatory of School Quality (*Observatoire national de la qualité scolaire*), created at the start of 2018 (SCL, 2018a), is responsible for evaluating and supervising the quality of the education system. It is an independent structure. The Observatory systematically evaluates the quality of the school system and the implementation of educational policies. It does not assess the individual work of teachers, but the organisation and operation of schools and the Ministry of Education. The Observatory is composed of eight observers, from public or private sectors, who are totally independent. They visit schools and meet representatives for various school stakeholders, such as parents, learners, teachers and exchange with Education Ministry departments. The Observatory produces an annual activity report and at least one thematic report on a priority area. Every three years, it produces a national report on the school system with its findings and recommendations.

These reports are transmitted to the Government and the Chamber of Deputies and made accessible to the public.

The Division for Data Analysis of The Department for Coordination of Educational and Technological Research and Innovation (SCRIPT) is

⁽³⁰⁾ <https://portal.education.lu/developpementscolaire/Accueil-Lyc%C3%A9es>

commissioned to collect and analyse data on the quality of the educational offer by analysing school reports or in the context of a project. The results of the surveys may be consulted during the elaboration of a school development plan (PDS) or before making decisions to improve the school's organisation. This division organises national and international standardised tests. Standardised tests elaborated by the Luxembourg Center for Educational Testing (University of Luxembourg) and common tests are used as instruments of formative or summative evaluation or the individual student guidance process. The international tests like the OECD's PISA (Programme for International Student Assessment), the IEA's ICILS (International Computer and Literacy Study) generate results which help with the governance of the educational system.

3.4.2. Tertiary education

Short-cycle programmes leading to higher technician certificates (*brevet de technicien supérieur*, BTS) (Section 2.2.3.1.) are evaluated externally before being accredited by the higher education ministry for a period of five years. After this time, the accreditation has to be renewed through a new evaluation. This procedure should ensure that the programmes are relevant to the related professional sector (SCL, 2010d).

The university is largely free to design and implement its own quality assurance processes. At Luxembourg University, quality culture and regular quality control through internal and external evaluation of teaching, research and technical, administrative and logistic services are key elements. Since 2008, an external audit of the University of Luxembourg is done every four years by an external evaluation committee. The independent Committee of External Evaluation is appointed by the Minister of Higher Education and Research.

In the frame of a multiannual development contract between the Luxembourgish government and the University of Luxembourg (*Contract d'Etablissement Pluriannuel entre l'Etat et l'Université du Luxembourg 2014-2017*), the University produces key performance indicators report (publications per researcher, awarded bachelor degrees, awarded master degrees, master recruitment rate).

Luxembourg has been a member of the European Quality Assurance Register for Higher Education (EQAR) since 2008 ⁽³¹⁾.

⁽³¹⁾ Although there are no agencies registered in Luxembourg three foreign EQAR agencies operate in the country.

3.4.3. Continuing VET

Even though there is no real quality framework, quality is a major concern and is covered in the legislation and in the organisation of CVET. Quality will be a major issue in the future of CVET.

The white paper on the national lifelong learning strategy (Anefore, 2012 www.S3l.lu), defines six cross-cutting key principles and related measures and recommendations for implementation. These include developing the quality of lifelong learning and establishing a framework for the quality of adult education and training. This framework will be based on:

- (a) a quality label awarded to training providers that meet specified criteria in structure and content of the training offer;
- (b) accreditation of training offers. The working group on training provider accreditation set up in 2014 continues working on this issue in 2016.

A quality label for municipal governments and non-profit associations can be awarded in CVET by the education minister for a five-year period (SCL, 2000). Courses must be of general interest in so-called areas of general education and social advancement. They must meet educational and financial quality criteria. Objectives and course content must be in line with the priorities for adult education.

Quality criteria and priorities are defined for periods of up to five years by the education ministry based on the advice of the Adult Education Advisory Committee (*Commission Consultative à l'Éducation des Adultes*). The committee consists of the persons in charge of the Adult Education Department, two representatives delegated by schools offering evening classes, a representative of the Department of Vocational Education and a private sector representative. The committee may also involve adult training experts in its work.

While some private providers commit to quality assurance approaches, a large part of adult education is not subject to systematic evaluation or quality assurance.

CHAPTER 4.

Promoting participation in VET

4.1. Incentives for learners and enterprises

Participation in IVET and CVET is promoted by financial and non-financial incentives for learners and enterprises. No specific incentives for VET providers (based on merit or similar) are available.

4.1.1. Incentives for learners

4.1.1.1. Individual training leave

The objective of individual training leave (*congé individuel de formation*) is to ease access to continuing training. Employees working in the company for at least six months, self-employed workers and individuals in a liberal profession (and having been affiliated to the social security system for at least two years) can benefit from 80 days of paid leave during their entire career, but not more than 20 days per two years. Employers can have salaries reimbursed by the government. Training must be provided by an institution issuing certificates recognised by the government. The employee is required to submit a request to the education ministry that approves the leave – stating the number of days granted – or refuses it.

4.1.1.2. Language training leave

Language training leave (*congé linguistique*) allows employees, the self-employed and individuals in a liberal profession of all nationalities to learn Luxembourgish for social and professional integration. The courses take place during normal working hours. The maximum paid leave is 200 hours over a professional career. Each leave hour entitles employees to a compensatory allowance equal to their average hourly salary paid by the employer. The employer advances the allowance and is reimbursed 50% by the State. The request must be sent to the labour ministry by the employer prior to the start of the course; the leave can be deferred by the employer if it disrupts company operations.

4.1.1.3. Unpaid training leave and personal working time arrangement

The 2006 Grand Ducal regulation on the organisation of working time (*organisation du temps de travail*) (SCL, 2006) stipulates a general obligation to

reach an agreement on access to CVET through inter-occupational social dialogue to be signed between the trade union federations and the Union of Enterprises. Organising working hours within a flexi-time arrangement and unpaid leave for vocational training purposes is part of this regulation.

Unpaid training leave (*congé sans solde pour formation*) releases the worker from duties to take part in professional training. The agreement applies to private sector employees who have been employed for at least two years, regardless of the type of employment contract. During the leave, the employment contract is suspended. The employer can refuse the unpaid leave, if the applicant is a high-level executive or if the company employs fewer than 15 employees. The employer can also defer the unpaid leave for up to one year where the leave is no more than three months or for up to two years where the leave exceeds three months.

Employees working flexi-time may request amendment of their working time to support participation in training (*aménagement personnel du temps de travail*). The employer can refuse to grant such an amendment based on operational needs or impact on the efficient organisation of the business.

4.1.1.4. Tax exemptions

Every income tax payer may deduct expenses for professional development from taxable income (*déductibilité fiscale*). Such expenses must have a direct link with the business activity performed by the employee and allow improving professional knowledge. They must be paid by the participant and refund claimed through a tax declaration.

4.1.2. Incentives for enterprises

4.1.2.1. State shared funding for CVET

A company can receive State funding (operated by the education ministry) for investment in CVET (*cofinancement de la formation en entreprise*). Private companies established in Luxembourg that undertake most of their activities inside the country are eligible. The training targets:

- (a) employees affiliated with the national social security system;
- (b) persons bound to the company by an employment contract (fixed-term or permanent);
- (c) subcontractors working for the applicant company;
- (d) owners of craft, trade, industry, agriculture or forestry companies.

Investment in training is capped according to the size of the company:

- (a) at 20% of total payroll for companies with 1 to 9 employees;

- (b) at 3% of total payroll for companies with 10 to 249 employees;
- (c) at 2% of total payroll for companies with more than 249 employees.

The share of funding is calculated based on the investment in CVET (SCL, 2018a). Companies receive direct grants: 15-35% of investment (depending on employee profiles).

4.1.2.2. *Support for learning Luxembourgish*

Private sector companies legally established in the country can partly recover the costs associated with learning Luxembourgish. Eligible costs include training fees and the costs of study materials and are paid by the labour ministry.

4.1.2.3. *Funding for additional apprenticeship places*

The fund for employment provides financial support for the creation of apprenticeship places to encourage enterprises to hire apprentices. It partly reimburses the apprenticeship allowance (27% for DAP training and 40% for CCP training) and covers the employer's share of social security costs for the apprentice (SCL, 2012). Applications for financial support must be submitted by the enterprises and the apprentice to the public employment service before the 1st of July of the year following the year in which the learning ended.

4.1.2.4. *Apprenticeship award for a training company*

Since 2013, the award for the best training company has been presented each year during the apprenticeship graduation ceremony to the company that commits itself most to apprenticeships (creation of apprenticeship places, follow-up of apprentices).

4.2. Guidance and counselling

Professional guidance is given at the end of cycle 4 at primary schools, before children start general secondary education or technical secondary education. A new guidance procedure started in 2016/17, based on the fact that decisions about possible career paths are only made after extensive discussions between teachers, learners and parents throughout the cycle and the analysis of a series of documents.

The reorganisation of this procedure makes it more transparent and increasingly takes into account the need for information and parents' opinions.

Supervision of schools and professional guidance for learners is a priority for the government programme.

Starting from secondary education, most guidance services operate within the guidance house (*maison de l'orientation*, 2012). The initiative centralises administrations and counselling services that help people move into working life through access to guidance services. It focuses on young people but anyone can find information and advice there. The guidance house includes:

- (a) the vocational guidance service of the public employment service (*Agence pour le développement de l'emploi – Adem*) which informs on trades/professions and apprenticeship placement;
- (b) Psycho-Social and Educational Accompaniment Centre (*Centre psycho-social et accompagnement scolaires - CePAS*) which helps students in their school or career guidance and may provide psychological support;
- (c) the National Youth Service (*Service national de la jeunesse - SNJ*) which aids the acquisition of practical experience through the voluntary Youth Service;
- (d) Local Bureau for Youth (*Antennes locales pour jeunes*) which offers individual coaching to achieve their school or professional project;
- (e) the school reception centre for newcomers for 12 to 17 year-old immigrant students;
- (f) Centre of Documentation and Information on Higher Education (*Centre de Documentation et d'Information sur l'Enseignement Supérieur - CEDIES*).

The law of 22nd June 2017 (SCL, 2017b) gives its legal basis to the House of Guidance (*Maison de l'orientation*). It becomes a single point of contact and platform for stakeholders in school and professional guidance. This centralisation ensures better coordination of services and stakeholders, whilst improving visibility. From an outreach perspective, centralisation facilitates access for people seeking guidance or help.

This law also establishes a national council, called the Guidance Forum (*Forum orientation*), in charge of establishing a national information and guidance strategy. It includes ministries, social partners, directors of secondary schools, parent and learner representatives. The guidance forum has adopted the following definition of guidance:

'Guidance refers to a series of activities that enable the citizen, at any time in his/her life:

- (a) to identify his/her abilities, skills and interests;
- (b) to make informed decisions as regards his/her studies and training choices as well as his/her professional activities;

with the shared goal of fostering personal fulfilment and the development of society.'

The law of 22nd June 2017 (SCL, 2017b) art. 12) also foresees that each secondary school should develop its own clear and general guidance approach.

Although national targets will be defined, secondary schools are autonomous to choose the best guidance practices that take into account their learners' needs.

The guidance approach has to be in accordance with the reference framework for school and professional guidance elaborated by the guidance house (*Cadre de référence pour l'orientation scolaire et professionnelle*) (MENJE, 2017a), a tool which allows secondary schools to structure and monitor their existing guidance actions, practices and initiatives, to evaluate them and, if necessary, to adapt them or introduce new initiatives. The main goal is to provide the best possible guidance to learners and to help them choose the training programmes they are most likely to succeed in.

In each secondary school, a guidance unit is responsible for the implementation of the guidance process set out in the school's development plan (PDS) (Section 3.4.1). It is composed of at least two members of teaching staff, two educational or psychosocial staff and at least one guidance counsellor. As part of the growing autonomy granted to secondary schools, the head of school is free to choose whether this guidance unit is to be integrated in the Psycho-social and Educational Accompaniment Service (*Service psycho-social et d'accompagnement scolaires*, SPAS previously Psychological and Educational Guidance Centre) or whether it should be organised as a separate service.

The law also redefined (Article 11) the missions of the Psycho-social and Educational Accompaniment Centre (*Centre psycho-social et d'accompagnement scolaires*, CPAS) ⁽³²⁾ around three main pillars:

- (a) to be a psycho-social resource centre for secondary schools,
- (b) to complete the psycho-social support, by way of the Psycho-social and Educational Accompaniment Service (*Service psycho-social et d'accompagnement scolaires*, SPAS) provided in all secondary schools,
- (c) to act as a school mediator.

The CePAS is responsible for developing a reference framework for the psycho-social support of students by secondary schools to be validated by the Minister, for organising meetings between SePAS to share best practices, for offering the SePAS a range of methods and tools, for developing training offers organised by the Training Institute of National Education (IFEN) (Section 2.4).

The Ministry of National Education has launched a new application for all VET pupils called eduBoard. This dashboard ⁽³³⁾ allows learners to keep track of their individual training paths and progression. Learners can see at any time how

⁽³²⁾ Former Psychological and Educational Guidance Centre (*Centre de Psychologie et d'Orientation Scolaire*, CPOS)

⁽³³⁾ <http://eduboard.lu> [accessed 23.1.2019].

many modules they must do during their training courses, how many modules they have already been completed and how many are left, in order to pass the various stages of their training courses. Access to the eduBoard is strictly personal and secure. There are 154 pages about vocational courses on offer in Luxembourgish secondary schools (name, duration, number of modules, different steps in the curricula...), which have been made accessible on the 'eduBoard' platform, since September 2016.

The Higher Education Documentation and Information Centre (*Centre de Documentation et d'Information sur l'Enseignement Supérieur*) is available to people who require general information about higher education.

The web portal Anelo ⁽³⁴⁾ is an information and exchange platform for all young people preparing for training, studies or work experience. It centralises information on:

- (a) trades and professions ⁽³⁵⁾;
- (b) the steps to follow during a job search;
- (c) ePortfolio tool that allows young people to gather important documents and certificates showing their strengths and skills;
- (d) how to gain practical experience in the world of work (jobs for students, volunteer services);
- (e) where to find information on guidance and support.

The Anelo Web portal and the various connected sites are now being managed by the Guidance House Coordination Department. They are also in charge of promoting of the Web portal and training courses to help young people use the various tools on Anelo.

The Youth guarantee ⁽³⁶⁾ was launched in June 2014. It commits national authorities (National Employment Agency, Local Action for Youth, National Youth Service, etc.) to offer young people between 16 and 25 high-quality guidance to help them find a job, make it possible to return to school or an apprenticeship, or to offer work experience in projects on a voluntary basis. Each is offered support tailored to his/her background, personal situation and aspirations.

Diversification of the school offer is the main priority for educational policies in Luxembourg. A recent reform provides growing autonomy to schools to boost this diversification and to support individual school's efforts to innovate. Choosing the right school is becoming more challenging for learners. So, the

⁽³⁴⁾ <https://www.anelo.lu/> [accessed 9.1.2019].

⁽³⁵⁾ <http://beruffer.anelo.lu> [accessed 9.1.2019].

⁽³⁶⁾ <http://www.jugendgarantie.lu/> [accessed 9.1.2019].

MENJE has launched a platform www.mengschoul.lu to help young people and their parents find the right school. The platform is for learners going into secondary education, as well as learners going into higher secondary education and foreign learners joining the Luxembourgish school system. The platform is based on a standardised detailed portrait of each school. An interactive map allows users to filter secondary schools according to the innovative projects on offer, other filters allow users to select the school programmes. This tool helps parents and pupils to instantly compare VET schools and their specificities to make the best choice.

4.3. Increasing attractiveness of initial VET

The education ministry and the professional chambers regularly organise campaigns and develop new mechanisms to promote VET, including apprenticeship, among learners, their parents and enterprises:

- a) in 2014, the education ministry published the brochure 'Accompany your child to vocational training' (in FR, DE and PT) for parents with information on IVET and how to enrol in it;
- b) 'increase your chances of success' (*augmente tes chances de réussite*) was a publication produced in 2010, explaining to pupils the advantages and changes in vocational training;
- c) the Chamber of Trades and Skilled Crafts launched the artisanship promotion 'hands up' initiative. This informs young people about careers in craft trades: their value, richness and diversity, and showcases its innovative approaches. At the heart of the initiative is its website ⁽³⁷⁾, which presents useful information about craft trades, and training necessary to access them, in a user-friendly way in French and German;
- d) to assist people (mostly adults) interested in the master craftsperson qualification, the Chamber of Trades and Skilled Crafts organises annual information sessions;
- e) the Chamber of Employees has a web page dedicated to apprenticeship and training, where there are information on the rights and obligations of apprentices, on apprentice allowances, the list of apprenticeship counsellors by trades and professions ⁽³⁸⁾;

⁽³⁷⁾ <https://www.handsup.lu/fr/> [accessed 9.1.2019].

⁽³⁸⁾ <https://www.lllc.lu/fr/formation-professionnelle-initiale/presentation> [accessed 9.1.2019]

- f) the Chamber of Commerce has developed two platforms respectively for the apprenticeship candidates and one for the companies welcoming apprentices ⁽³⁹⁾. Under the slogan 'winwin.lu', the campaign aims to incite companies to hire more apprentices in order to level the lack of offer. On the other hand, the campaign aims to motivate young people to engage in apprenticeship;
- g) the Chamber of Trades and Skilled Crafts has created a 'training enterprise' label to identify enterprises committed to training young people.

Other initiatives that increase young people's awareness of VET are:

- a) 'girls' day/boys' day' to discover professions which are unusual for their gender. It aims at contributing to more gender diversity in the choice of professions;
- b) the biennial WorldSkills and EuroSkills competitions, bring together young VET students and graduates from different countries to demonstrate technical skills.

4.4. Recent developments

Objective, independent and continuous debate is necessary so that schools can adapt to the world of today. Therefore, the MENJE plans to create the *Lëtzebuurger Bildungsdësch*, a national conference on education, which will include the National Observatory of School Quality (Section 3.4) and the National Programme Council, as well as all stakeholders (schools, parents, learners, scientific experts, civil society...) to shape educational policies. This platform of discussion and reflection will allow for a larger, continuous debate, which is independent of any political changes in the country.

In the summer of 2018, a law was adopted (SCL, 2018c) to set up regional and national representation of parents to act as spokespersons representing all minor pupils in primary, secondary and differentiated education (*éducation différenciée*). This will strengthen the culture of cooperation between schools and parents.

The mediator for school maintenance, inclusion and integration was set up mid-2018 (SCL, 2018b). The mediator's role is to deal with complaints about learners at risk of dropping out of school, the inclusion of learners with special educational needs and the integration of children from immigrant backgrounds into the 'main-stream' school system. In this context, the parents of minor

⁽³⁹⁾ <https://winwin.lu/> [accessed 9.1.2019].

learners, the adult learners and the educational staff (teacher, director, educator, etc.) can appeal to the mediator by submitting a written complaint. Persons involved can only request the mediator's intervention once they have tried to find a solution with the members of the school community (class teacher, regent, regional director, high school director, etc.). Recourse to the mediator is strictly anonymous and confidential.

List of abbreviations

AES	adult education survey
ALJ	Local Bureau for Youth
ADEM	public employment service
BTS	higher technician certificate
CCP	vocational capacity certificate or basic vocational programme
CDS	school development committees
CePAS	Psycho-social and Educational Accompaniment Centre
CNFPC	National Centre for Continuing Vocational Training
CLQ	national qualifications framework
CPOS	Psychological and Educational Guidance Centre
CVET	continuing vocational education and training
CVTS	continuing vocational training survey
IVET	initial vocational education and training
DAP	vocational aptitude diploma
DT	technicians diploma
ENAD	National school for adults
EQF	European qualifications framework
IFEN	Training Institute of National Education
INFPC	National Institute for the Development of Continuing Vocational Training
MENFP	Ministry of National Education and Vocational Training (before December 2013)
MENJE	Ministry of National Education, Children and Youth (since December 2013)
MESR	Ministry of Higher Education and Research
MTE	Ministry of Labour, Employment and the Social and Solidarity Economy

PDS	school development plan
SCRIPT	Department for Coordination of Educational and Technological Research and Innovation
SCL	Central Service of Legislation (Legilux)
SePaS	Psycho-social and Educational Accompaniment Service
SNJ	National Youth Service
VET	vocational education and training

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Law of 22 June 1999 supporting and developing continuing vocational training.

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Websites

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www.cdm.lu	Chamber of Trades and Skilled Crafts
https://cepas.public.lu/fr.html	https://cepas.public.lu/fr.html
http://www.cosp.lu/	
www.csl.lu	Chamber of employees
ec.europa.eu/eurostat	Eurostat
www.fedil.lu	Business Federation Luxembourg
www.fonction-publique.public.lu	portal of the civil service
www.fsi.lu	fund for training in the temporary work sector
www.girlsday.lu	girls' day Luxembourg
www.grande-region.lu	the portal of the Greater Region
https://portal.education.lu/mo/	
www.ifbl.lu	Institute of Banking Training in Luxembourg
www.ifsb.lu	Institute for Construction Training
www.ifen.lu	Training Institute of National Education
www.infpc.lu	National Institute for the Development of Continuing Vocational Training
www.inl.lu	National Languages Institute
www.institutfmc.lu	Luxembourg Institute for Continuing Medical Training
www.lifelong-learning.lu	national portal for lifelong learning
www.lllc.lu	Luxembourg Lifelong Learning Centre
www.luxembourg.public.lu	gateway to the Grand Duchy of Luxembourg
www.eco.public.lu	Ministry of Economy
www.men.public.lu	Ministry of National Education, Children and Youth (MENJE)
www.mesr.public.lu	Ministry of Higher Education and Research (MESR)
www.script.lu	Department for Coordination of Educational and Technological Research and Innovation
www.statistiques.public.lu	National Institute of Statistics and Economic Studies of Luxembourg (Statec)

ANNEX 1.

Diplomas and certificates

General (classic) secondary education

Secondary school leaving diploma

- a) modern languages
- b) mathematics and computer science
- c) natural sciences and mathematics
- d) economics and mathematics
- e) visual arts
- f) musical sciences
- g) humanities and social sciences

Technical secondary education

Technical secondary school leaving diploma

- a) administrative and commercial division
 - management
 - communication and organisation
- b) division of visual arts
 - visual arts and communication
- c) division of tourism and innkeeper
 - management of innkeeper
- d) division of health professions and social professions
 - health professions and social professions
 - social science section
 - social science section
 - training of educator
 - training of nurse
 - health science section
- e) general technique division
 - engineering
 - natural science section
 - architecture, design and sustainable development
 - computer science
 - environmental sciences section

Technician diplomas

- Aircraft mechanic – category B
- Technician in 3D design
- Technician in administration and business
- Technician in agriculture
- Technician in automotive technology
- Technician in building services engineering
- Technician in civil engineering
- Technician in communication electronics
- Technician in computer science
- Technician in electrical
- Technician in energy electronics
- Technician in forestry and natural environment
- Technician in graphic art
- Technician in hotel business
- Technician in image editing
- Technician in logistic services
- Technician in market gardener
- Technician in mechanics
- Technician in metal construction
- Technician in sale and management
- Technician in tourism

Vocational diploma: DAP – vocational aptitude diploma

(a) DAP – vocational aptitude diploma

- Administrative and commercial agent
- Aircraft mechanic – category A
- Architectural drafter
- Assistant nurse
- Baker-confectioner
- Bakery products salesperson
- Beauty therapist
- Bookbinder
- Bricklayer
- Butcher
- Butchery products salesperson
- Cabinet maker
- Care assistant
- Carpenter

- Clothing alteration hand
- Confectioner and ice cream maker
- Construction and industrial mechanic
- Cook
- Cutting machine operator
- Dental laboratory technician
- Driving instructor
- Electrician
- Electronics technician – communication
- Electronics technician – energy
- Farmer
- Floriculturist
- Florist
- Garden and landscape designer
- Hairdresser
- Horticulturist
- Hotelier-restaurateur
- Industrial and maintenance mechanic
- Information technology specialist
- Installer for heating and sanitary systems
- Joiner
- Locksmith
- Marbler
- Mechanic general
- Mechanic for viticultural and agricultural engines
- Mechatronics technician
- Mechatronics technician for commercial vehicle
- Metal worker
- Motor vehicle body builder
- Motor vehicle body painter
- Motor vehicle body repairer
- Motor vehicle technician
- Operator in forestry and natural environment
- Optical products salesperson
- Optician
- Painter and decorator
- Parquet floor layer
- Pharmacy technician
- Photographer
- Plasterer

- Qualified managers in logistic
- Qualified managers in automotive
- Restaurant waiter
- Restaurateur
- Roofer
- Salesman
- Salesperson in clothing alteration
- Stonemason
- Swimming instructor
- Tiler
- Tinsmith
- Traiteur
- Travel agent
- Warehouse operator
- Warehouse operator – automobile sector

CCP – vocational capacity certificate

- Automotive mechanic assistant
- Baker-confectioner
- Bicycle mechanic
- Bricklayer
- Butcher
- Chimney mason and sweep
- Confectioner and ice cream maker
- Cook
- Electrician
- Florist assistant
- Garden and landscape designer assistant
- Gardener assistant
- Hairdresser
- Housekeeping aide
- Installer for heating and sanitary systems
- Marbler
- Motor vehicle body painter
- Motor vehicle body repairer
- Painter and decorator
- Parquet floor layer
- Plasterer
- Restaurant waiter

- Roofer
- Sales assistant
- Shoe repairer
- Stonemason
- Tiler

(b) DAP or CCP via cross-border apprenticeship

- Advertising merchant
- Agricultural services specialist
- Animal keeper
- Audiovisual media clerk
- Automobile business administrator
- Automobile upholsterer
- Bank clerk
- Bicycle mechanic
- Blacksmith for horses
- Bobbin winder
- Brewer and maltster
- Bureau communication tools manager
- Car upholsterer
- Chemical laboratory assistant
- Chimney sweep and stove fitter
- Clerk in public administration
- Clothing alteration hand
- Construction mechanic – specialisation in welding
- Cooling device installer
- Craft glazier
- Decorative glass worker
- Designer of digital and print media
- Dressmaker
- Dry construction builder
- Electronics technician for automation technology
- Electronics technician for devices and systems
- Electronics technician for industrial engineering
- Electronics technician for motors and drive technology
- Equine manager
- Event manager
- Event technology specialist
- Filling station attendant

- Freight forwarding and logistics services clerk
- Funeral services specialist
- Furrier
- Glass blower
- Glazier
- Gold- and silversmith
- Gunsmith
- Hearing aid audiologist
- Heavy goods vehicle driver
- Heavy goods vehicle mechanic
- Industrial cleaner
- Industrial draughtsperson
- Industrial sales representative
- Information technology specialist – specialisation in applications development
- Information technology specialist – specialisation in systems integration
- Insurance and financial services broker
- Insurance management assistant
- IT products salesman
- Knitting and sewing machine mechanic
- Leather craftsman
- Maker and repairer of musical instruments
- Maker of orthopaedic footwear
- Make-up and manicure artist
- Management assistant in wholesale and foreign trade
- Marketing and communication manager
- Mechanic in plastics and rubber processing
- Media agent
- Miller
- Milliner
- Motorbike mechanic
- Orthopaedic technician and truss maker
- Pedicurist
- Pipe, sewer and industrial service technician
- Process mechanic for coating technology
- Professional caterer
- Qualified dental employee
- Real-estate agent
- Recycling and waste management technician
- River boatman

- Roller shutters and sunshade mechatronic technician
- Scaffolder
- Scene painter and scene sculptor
- Screed layer
- Screen printer
- Sewage engineering technician
- Shoemaker
- Shoemaker and repairer
- Shutters and blinds builder
- Sign and luminous advertisement maker and installer
- Skilled express and postal services employee
- Specialist in food technology
- Specialist in furniture, kitchen and removal services
- Specialist in the hotel business
- Specialist veterinary employee
- Sports and fitness administrator
- Stitching leather specialist
- Tailor
- Technical building equipment installer
- Technical product designer
- Textile cleaner
- Thermal and noise insulation fitter
- Visual marketing designer
- Warehouse operator for electronic devices
- Warehouse operator for energy devices
- Watchmaker
- Water supply engineering technician
- Water supply engineering technician
- Winemaker

BTS – higher technician certificate

(a) applied arts

- audiovisual and cinema
- animation drawing
- prepress operator

(b) commerce

- assistant manager
- accounting and tax manager
- trade and marketing manager

(c) health:

- nurse responsible for general care
- nurse anaesthesia and reanimation
- paediatric nurse
- psychiatric nurse
- midwife
- medical technical assistant in surgery
- medical technical assistant radiology

(d) industry:

- analytic chemistry
- buildings and infrastructure
- designer and metal constructor
- information technology
- site manager
- technical engineering
- telecommunication network services

(e) crafts

- wood technology

(f) services

- automatic engineering
- computer sciences
- enterprise management and sustainable development
- media writing
- real estate profession

ANNEX 2.

Certificates and programmes in French and English

<i>bachelor professionnel</i>	professional bachelor
<i>brevet de maîtrise</i>	master craftsman certificate
<i>brevet de technicien supérieur (BTS)</i>	<i>higher technician certificate</i>
<i>certificat de capacité professionnelle (CCP)</i>	vocational capacity certificate
<i>certificat intermédiaire</i>	intermediate certificate
<i>diplôme d'accès aux études universitaires</i>	diploma for access to higher education
<i>diplôme d'aptitude professionnelle (DAP)</i>	vocational aptitude diploma
<i>diplôme de fin d'études secondaires</i>	secondary school leaving diploma
<i>diplôme de fin d'études secondaires techniques</i>	technical secondary school leaving diploma
<i>diplôme de technicien (DT)</i>	technician diploma
<i>éducation secondaire classique</i>	general secondary education
<i>enseignement primaire</i>	primary education
<i>enseignement secondaire technique</i>	technical secondary education
<i>études supérieures et universitaires</i>	higher education and university studies
<i>études techniques supérieures</i>	higher technical studies
<i>formation professionnelle initiale</i>	initial vocational training
<i>programme de la formation de technicien</i>	technician programme
<i>programme préparatoire</i>	preparatory programme
<i>programme professionnel</i>	professional programme
<i>programme technique</i>	technical programme

ANNEX 3.

National monitoring of EQAVET indicators

EQAVET indicators	Organisation	National monitoring
<p>No 1</p> <p>Relevance of QA systems for VET providers:</p> <p>(a) share of providers applying internal QA systems defined by law/at own initiative</p> <p>(b) share of accredited VET providers</p>	Education ministry	Agency for the Development of School Quality (including support), (see below).
<p>No 2</p> <p>Investment in teacher and trainer training:</p> <p>(a) share of teachers and trainers participating in further training</p> <p>(b) amount of funds invested</p>	Education ministry	<p>Professional chambers</p> <p>The qualification of teachers and trainers is a legal requirement in IVET ⁽⁴⁰⁾. The education ministry and the professional chambers provide training for IVET teachers and trainers (Section 2.4). The participation rate and funds invested are monitored.</p>
<p>No 3</p> <p>Participation rate in IVET/CVET programmes:</p> <p>Number of participants by type of programme and individual criteria</p>	Education ministry	<p>Statec</p> <p>The statistical department of the education ministry monitors participation in IVET and CVET. The national statistical office manages CVTS and AES data collection.</p> <p>In IVET, a centralised information system is used to monitor participation and completion rates.</p>
<p>No 4</p> <p>Completion rate in IVET programmes:</p> <p>Number of persons having successfully completed/abandoned IVET programmes, by type of programme and individual criteria</p>	Education ministry	Completion and dropout rates in IVET are monitored by the statistical department of the education ministry. The 2008 VET reform aims to increase the number of qualified people and reduce dropout rates (Section 2.2.7).

⁽⁴⁰⁾ In this table the term IVET refers only to CCP, DAP and DT programmes and does not include the technical programmes.

<p>No 5</p> <p>Placement rate in IVET programmes:</p> <p>(a) destination of IVET learners at a designated point in time after completion of training, by type of programme and individual criteria</p> <p>(b) share of employed learners at a designated time after completion of training, by type of programme and individual criteria</p>	<p>Education ministry, labour ministry</p>	<p>In IVET, this indicator is used by the statistical department of the education ministry and labour ministry.</p> <p>As CVET is not monitored centrally these indicators are difficult to implement.</p>
<p>No 7</p> <p>Unemployment rate according to individual criteria</p>	<p>Labour ministry, public employment service, Statec</p>	<p>Monitored by the National Statistical institute (Statec) and the labour ministry.</p>
<p>No 9</p> <p>Mechanisms to identify training needs in the labour market:</p> <p>(a) information on mechanisms set up to identify changing demands at different levels</p> <p>(b) evidence of their effectiveness</p>	<p>Education ministry, professional chambers</p>	<p>In IVET, training needs are identified by the tripartite national vocational commissions (Section 3.1) supervised by the education ministry. These commissions are composed of experts representing the labour market nominated by the professional chambers and by teachers representing the education sector. All initial training programmes are validated by the professional chambers before implementation.</p> <p>Several observatories (Section 3.1) have been created to provide government with statistical and qualitative data on the labour market skill needs.</p>
<p>No 10</p> <p>Schemes used to promote better access to VET:</p> <p>(a) information on existing schemes at different levels</p> <p>(b) evidence of their effectiveness</p>	<p>Education ministry, labour ministry, higher education ministry, Ministry of Family, Integration and the Greater Region, professional chambers</p>	<p>The different guidance services have recently been regrouped in a single location to increase networking and efficiency (Section 4.2).</p>

ANNEX 4.

Glossary

apprentice	A learner being trained in a workplace under an apprenticeship contract.
apprenticeship	Systematic, long-term training alternating periods at the workplace and in an education institution or training centre. The apprentice is contractually linked to the employer and receives remuneration (wage or allowance). The employer assumes responsibility for providing the apprentice with training leading to a specific occupation (Cedefop, 2014).
apprenticeship counsellor	A person who, under the authority of the minister and the competent professional chambers, closely monitors the learner's progress for the employer responsible for his or her training; this person also acts as the interlocutor of the two parties for questions or problems that may arise.
competence	An organised set of knowledge, aptitudes and attitudes that a person has to possess to be able to practice a trade or profession.
continuing vocational training	A scheme which enables to acquire, maintain and expand vocational knowledge and skills, adapt them to social and technological requirements or obtain promotion at work.
formal learning	Learning that occurs in an organised and structured environment in an education or training institution or on the job and is explicitly designated as learning in terms of objectives, time or resources.
informal learning	Learning resulting from daily activities related to work, family or leisure. It is not organised or structured in terms of objectives, time or learning support. Informal learning is mostly unintentional from the learner's perspective (Cedefop, 2014).
initial vocational training	A scheme which aims to provide general and vocational training, organised by alternating between education and workplace settings, to obtain a vocational qualification leading to an official diploma.
learning outcome	What the learner knows, understands and is able to achieve after completion of a learning process.
lifelong learning	All learning activity undertaken throughout life, which results in improving knowledge, know-how, skills, competences and/or qualifications for personal, social and/or professional reasons (Cedefop, 2014).

module	The basic element of a training credit preparing for one or more vocational, social and personal skills of a field of learning.
non-formal learning	Learning embedded in planned activities not explicitly designated as learning (in terms of learning objectives, learning time or learning support). Non-formal learning is intentional from the learner's point of view (Cedefop, 2014).
qualification	Certification of the set of skills belonging to the training profile of a specific trade or profession, which leads to a diploma or certificate.
skill	An organised set of insights (knowledge), aptitudes (know-how) and attitudes (life skills) needed to perform the tasks and activities of a profession or trade.
training body	The undertaking, administration, public institution, foundation, association or professional offering an apprenticeship or traineeship.
validation of formal, non-formal and informal learning	A means of evaluating and recognising a wide variety of skills acquired throughout life in different contexts, such as education, work and leisure, to obtain a certificate or diploma.
work-based learning	Acquisition of knowledge and skills through carrying out – and reflecting on – tasks in a vocational context, either at the workplace (such as alternance training) or in a VET institution (Cedefop, 2014).