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ESTUDIOS



OBSERVATORY ON  
VOCATIONAL EDUCATION  
AND TRAINING IN SPAIN

2020 ANNUAL REPORT

Summary & Conclusions



# Observatory on Vocational Education and Training in Spain 2020 annual report



Fundación **Bankia**  
por la Formación Dual

Platform for the Observatory on Vocational Education and Training  
<http://www.observatoriofp.com>

# Observatory on Vocational Education and Training in Spain 2020 annual report

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# Executive summary

## Education and training system

The education and training system is the context in which Initial VET (IVET) is provided and within which it occupies its current position.

- **IVET's position in post-compulsory education improves**

- In the 2018–2019 academic year, the number of VET students increased by a greater proportion (9.4%) than that of university undergraduates (1.1%). At the same time, the number taking the baccalaureate upper-secondary qualification fell by 4% when compared with 2015–2016.
- The proportion of students enrolled in IVET (at the post-compulsory education stage) increased by two percentage points, rising from 28% in the 2015–2016 academic year to 30% in 2018–2019. Meanwhile, the share taking the baccalaureate fell from 25.4% to 23.9% and the number of university undergraduates contracted slightly from 46.6% to 46.1%.
- In the 2017–2018 academic year (the last year for which data are available), the number of IVET graduates increased by 5.7% when compared with 2015–2016, above the rise in the number of university (5.2%) or baccalaureate (2.9%) graduates.

- **Ample room to improve level of education among population aged 25–64**

- The size of the population with minimal qualifications (compulsory education or lower) fell between 2014 and 2019. Even so, in 2019 this group still accounted for 38.3% of the population aged 25–64, a figure 17.3 points above the EU-28 average (21.4%).
- The population holding VET qualifications grew by almost 2 percentage points, rising from 19% in 2014 to 20.9% in 2019. The population holding the baccalaureate remained practically unchanged (13.4%), while the

proportion of university graduates grew from 24.1% to 27% of the population aged 25–64.

- **Participation in lifelong learning activities below the Europe 2020 target**
  - The proportion of the population aged 25–64 receiving training reached 10.6% in 2019, well below the 15% targeted by the Europe 2020 Strategy. Within the EU-28 the average stood at 11.3%.
  - Participation in training is associated with level of education. In 2019, the proportion of the population holding VET qualifications participating in training stood at 10.9% compared with 18.7% among the population holding bachelor's degrees or equivalent.
- **Fall in public spending on education as a percentage of GDP**
  - Public spending on education rose by 13.4% between 2014 and 2018. However, expenditure as a percentage of GDP dropped from 4.34% in 2014 to 4.23% in 2018.
  - Spending on non-university education in 2018 accounted for 74.2% of public education expenditure while spending on secondary education and VET accounted for 29.7%. These percentages have remained relatively stable in recent years.

## **Initial Vocational Education and Training (IVET)**

IVET is designed to provide young people with the skills — accredited with qualifications — demanded by the labour market.

- **Increased enrolment in IVET**
  - The number of VET students has risen by 19.8% in recent years, increasing from 698,694 in the 2013–2014 academic year to 837,199 in 2018–2019. This was due to greater enrolment in Higher VET, which offset the downturn in students enrolling in Intermediate VET. In the last academic year, the greatest proportion of students was enrolled in Higher VET (49.4%), followed by Intermediate VET (41.8%) and Basic VET (8.8%). Following the trend of previous years, 44% of students were female.
  - In the 2018–2019 academic year, VET students (of all ages) accounted for 36.6% of the population eligible for these programmes (15–19 years old). This gross VET enrolment rate was 1.5 percentage points higher than in 2014–2015.
- **The IVET completion rate indicates system inefficiencies**
  - The number of VET graduates has risen by 15.2% in recent years, increasing from 211,557 in the 2013–2014 academic year to 243,718 in 2017–2018.

This increase is partly due to the inclusion of Basic VET graduates in the figures since 2015–2016. Most VET graduates took Higher VET qualifications. In the 2017–2018 academic year (the last year for which data are available) they accounted for 51.3% of the total. They were followed by Intermediate VET (41.0%) and Basic VET (7.6%) graduates. The widening gap between enrolment in VET (19.8%) and graduation (15.3%) indicates system inefficiencies, reflected in the fact that only 61.6% of students complete VET (completion rate over two academic years). Within that figure, efficiency is highest in Higher VET (66.2%), followed by Intermediate VET (58.1%) and Basic VET (53.6%).

- In the 2017–2018 academic year, 47.3% of graduates were female, continuing the slight though steady decline seen in recent years.

- **High student concentration in few occupational groups and unequal male/female participation**

- In the 2018–2019 academic year, 9 of the 26 occupational groups accounted for 79.7% of students. Healthcare had the most students (15.6% of the total) and was one of the most predominantly female (representing 75.3% of participants). By number of students, business administration and management (14.7%), IT and communications (11.6%) and social, cultural and community services (9.8%) likewise stand out, the latter also having a high percentage of female students (86.8%).
- The STEM occupational groups accounted for 35.6% of students while industry-related ones attracted 22.8%. In both cases, female students made up around 11.5% of the total, indicating that these remain predominantly male fields.

- **High proportion of students in service sector occupational groups**

- In terms of sector, the occupational groups targeting the service sector accounted for 80% of students (business services, personal services, healthcare, retail and hospitality). The groups in the manufacturing sector were the second most highly subscribed with 16.7% of students, of which only 14.4% were female. Finally, the agriculture and construction occupational groups attracted just 3.5% of all students.

- **Internationalisation of VET advances, though room for improvement remains**

- Learning and internships mobility under the Erasmus+ programme grew by 63% between 2014 (6,130 mobility cases) and 2016 (9,992), with the increases in Basic VET and Intermediate VET (86.5%) being greater than in Higher VET (37.9%).

- The number of students studying English as a subject has risen by 6.3 percentage points since the 2014–2015 academic year, though still only represented 30.2% of the total in 2018–2019.
- **Distance VET has strong development potential**
  - In the 2018–2019 academic year, 11.5% of Intermediate and Higher VET students studied remotely. The proportion was higher among Higher VET students (14.5%) than among Intermediate VET ones (7.8%). Likewise, growth since 2014–2015 was greater in the Higher VET cohort (4 percentage points) than in the Intermediate VET one (1.7 percentage points). This same pattern was seen in centres providing distance VET, which still only make up a small proportion of the total number (6.9% in the case of Intermediate VET and 12.8% in that of Higher VET).
- **IVET schools address the challenges of multi-functionality and specialisation**
  - In total, 4,323 registered IVET schools were authorised to provide IVET in 2018–2019, with 3,763 actually doing so in that academic year.
  - Within that number, 66.6% provide Higher VET and display greater sophistication in the training given.
  - The average of 2.4 occupational groups covered suggests that diversification is low.
  - Overall, 27.6% of schools solely provide VET, making them specialists in this training option.
  - Only 4.8% of registered schools offer both Initial VET and Continuous VET (CVET), indicating that these areas should be strengthened.
  - Spain has 37 National Reference Centres covering 23 occupational groups.
  - In total, 67.9% of schools are state-owned, a percentage that rises to 81.7% in the case of Basic VET, and 71.7% of students attend public centres .
- **Full-time teaching staff are principally found in state-owned centres**
  - In 2018, VET schools (both standard and special) employed 93,556 teaching staff, mostly in Basic and Intermediate VET (61%). Of that number, 17.2% worked part-time. The majority of full-time teaching staff are employed in state-owned schools (81.5%) and their number has grown by 21.8% compared to 2013. State-owned schools are estimated to have a ratio of 20 students per VET teacher.
- **Low participation by Higher VET graduates in university access exams**
  - Around 5% of people taking Spain’s university access exams comes from VET or arts courses to raise their grade point average and so gain access to university education. Of those taking the exams, around 71% pass the

subjects in which they are examined. This indicates that links between VET and university education need to be strengthened.

### **Dual Vocational Education and Training (Within the education system)**

Under the Dual VET model, at least 33% of the qualification's training hours (2,000) must be spent at an enterprise.

- **Enrolment in Dual VET remains low**

- In the 2018–2019 academic year, 26,340 students were enrolled in Dual VET. Although this is twice the number recorded in 2015–2016, it still only represents 3.1% of all VET students. The number of students enrolled in this programme as a proportion of the total is highest in Higher VET (4%) and lower in both Intermediate (2.7%) and Basic VET (0.7%). Although Higher VET students make up the majority of those enrolled in Dual VET (62.3%), this figure has declined as the number of students taking Intermediate VET courses has risen. Females account for 38.2% of Dual VET students and are found in greatest numbers in Higher VET (40.3%).

- **Dual VET concentrates on a small number of occupational groups**

- In the 2018–2019 academic year, of the total number of students taking Dual VET the most popular occupational group was business administration and management (12.1%). Nevertheless, a high proportion was enrolled in the STEM (45.2%) and industry (37.4%) groupings, which were characterised by low female participation (below 15% in both cases). From a sectoral perspective, the occupational groups with the highest numbers of students enrolled in Dual VET as a proportion of the total were those targeting industry (5.2%) and agriculture, fisheries, mining and energy (5.8%).

- **Increase in the number of VET schools providing Dual VET**

- In the 2018–2019 academic year, 991 schools provided Dual VET (26.3% of all VET centres). This number has increased considerably since 2015–2016, when just 516 centres taught these courses.

### **Continuous VET (CVET)**

CVET is a useful tool for continuous training and re-skilling of the active population, both employed and unemployed people.

- **The Continuous VET system is particularly complex**

- Spain's Continuous VET system is particularly complex and, at present, it is undeniably fragmented and lacking in overall integration due to the division



of powers and functions between the various public authorities and levels of government.

- **Low use of training and apprenticeship contracts**

- The number of training and apprenticeship contracts grew from 46,384 in 2016 to 52,803 in 2018 before falling to 39,435 in 2019. In general, they are not widely used because of the requirements associated with them: content must form part of a programme leading to a certificate of professional competency, bureaucracy associated with the contract, and so on.

- **Very low participation ratio among the unemployed**

- Continuous VET's participation ratio among Spain's unemployed stood at 5.1% in 2018 (according to partial data). Various bodies point out that this participation ratio is very low and should be raised, especially in light of the recessionary context brought about by COVID-19.

- **Participation in subsidised Continuous VET programmes as one of Spain's main re-skilling tools**

- Between 2015 and 2019 company participation in subsidised training fell by 7.6 percentage points to stand at 19.8% in the latter year. Within that period there was a notable difference in participation between microenterprises (15.1%) and firms with 10 or more employees (53.3%). In Spain, more than 90% of companies fall within the microenterprise category.

- Most participation in subsidised training (76.7%) occurs within 5 occupational groups. These groups are cross-cutting and may not be linked to the sectors and priorities addressed in the smart specialisation strategies implemented in the territories in which they are provided.

- Female participation in subsidised training within the STEM and industry-related groupings is considerably lower than that of males.

- **Online training needs to increase in quantity and reach**

- Spain has a total of 7,929 CVET schools with the capacity to provide online training, and 14,830 with the capacity to provide face-to-face training. Participation in online learning mostly occurs among employees who have completed upper of secondary education (which includes Intermediate VET). This group is followed by those who have completed up to lower secondary education. Between them, these two groups account for 41.2% of all participants.

## **Structural conditions within the socioeconomic context**

The contextual conditions mark the boundaries within which the VET system operates and produces results. They also determine the priorities it must meet.

- **VET must address an ageing population**

- The population aged 15–19 (age at which in theory students take Initial VET) will represent just 5.1% of Spain's total population in 2020, 5.5% in 2025 and 4.6% in 2035. Thus, by 2035 the population in this age group will be 8% smaller than it was in 2020. These changes will require the VET system to adapt to the corresponding challenges.
- By 2035, population ageing in Spain will result in a significant increase in people aged 50–64 (10.4%) and 65+ (38%) when compared to 2020. It will also mean a rise in the number of job vacancies to replace the older generation as they retire, although this increase will be influenced by other factors of transformation of the labour market, such as the automation, the evolution of companies themselves and so on.
- Spain's population density (93 people per km<sup>2</sup>) is below the EU average (118 per km<sup>2</sup>) and varies significantly between regions like Madrid (830) and Extremadura (26), which may result in difficulties in accessing education in areas where density is low.

- **The ratio between GDP per capita and investment in education will be influenced by the COVID-19 crisis**

- Spain's GDP per capita was estimated at €26,440 euros in 2019. The positive trend observed since 2014 is expected to continue, although growth will be lower than previously. GDP in 2020 and beyond will be influenced by the COVID-19 pandemic, which will have implications for public and household investment in education.

- **The working population is concentrated in the service sector**

- Projections indicate that the working population engaged in the service sector will continue to grow, rising from accounting for 75.5% of the total in 2019 to 80.4% by 2030. Meanwhile, the working population engaged in industry (down from 14% to 10.3%), agriculture (from 4% to 2.7%) and construction (from 6.5% to 6.4%) will decrease. These forecasts should be taken into account when analysing the balance between the supply of VET graduates and demand for them from the various sectors.

- **Small average size of companies**

- Spain's business fabric is largely made up of microenterprises (94.7% of the total). In 2018, the average number of employees per company was 9. This small business size limits their opportunity to participate in Dual VET and is associated with low participation in Continuous VET.
- In 2018, average company size varied between 16.5 employees in industry, 8.3 in services and 6.4 in construction.

## **Employment and labour market**

VET must respond both to labour market needs and trends and to personal and professional aspirations of individuals.

- **Employment in Spain is influenced by megatrends, and VET is growing in importance**

- Like the rest of the world, Spain's labour market is impacted by a series of megatrends, among them demographic change and automation. The Cedefop's forecasts expect 12.1 million new vacancies to emerge in the Spanish labour market between 2018 and 2030. Of that number, 10.4 million (81.7%) will be to replace existing workers. The OECD believes that 21.7% of jobs are at high risk of disappearing and 30.2% could undergo significant change.
- The forecasts also indicate that there will be a rise in demand for the profiles produced by VET. According to the Cedefop, the proportion of intermediate-skill occupations demanded by the Spanish labour market will increase from 27% in 2019 to 32% in 2030. The growth in VET will be at the expense of profiles requiring lower or non-specialist skills.

- **VET must address the challenge of adapting to the service sector's needs**

- The greatest proportion of VET graduates is found in industry (30.2%). In the service sector, they account for 21.7% of all employees. This, however, belies their significance as the service sector employs 76% of Spain's entire working population. The service sector's growing importance presents a challenge for VET which, traditionally, has had closest links with industry.

- **Employment rate among VET graduates higher than among the general population**

- In 2019, the employment rate among people holding Intermediate VET qualifications stood at 64.1% and among those with Higher VET qualifications at 71.8%. Among the general population the employment rate was 50.4%.

- **The number of VET graduates making social security contributions is gradually increasing**

- The number of graduates registered into the social security system is steadily rising across all levels of VET, from the first year after graduation through to the fourth. The proportion stands at 68.5% for Higher VET, 69.0% for Intermediate VET (graduation in the academic year 2014-2015) and 45.8% for Basic VET (in the third year, for those who graduated in the 2015-2016 academic year).

- **Training as a shield against unemployment**

- In general, the unemployment rate falls as the level of education rises. In 2019, unemployment among university graduates stood at 7.6%, among Higher VET graduates at 10.9% and among the general population at 14.1%.

- **The unemployment rate for female VET graduates is higher than for males**
  - The unemployment rate among VET graduates is higher among women than among men both as regards Higher VET (13.5% compared to 8.8% in 2019) and Intermediate VET (17.4% compared to 12.2%). This is the case throughout the period analysed (2015 to 2019). This structural situation may be related to the fact that several of the groupings with the highest employment rates, such as industry and STEM, are predominantly male.
- **Spain's labour market has two areas in which occupation and level of education are mismatched**
  - Although level of education is decisive in the labour market, there are two areas in Spain in which occupation and qualifications are mismatched. One is the skills deficiency (underqualification) among the population with the lowest level of education and the other is overqualification among the population with university and Higher VET qualifications. In both areas, VET can play a vital role.
- **Vacancies requiring VET qualifications have been growing since 2015**
  - Job offers targeting applicants with VET qualifications (particularly Intermediate VET) increased by 8.8 percentage points between 2015 and 2019. They currently account for 38.8% of all labour market vacancies.
- **Having VET qualifications makes a difference in the labour market**
  - Today, employment opportunities for people with ISCED level 3 or 4 vocational qualifications (predominantly Intermediate VET graduates) are 12.4 percentage points greater than those for people with a lower level of education (ISCED 0-2).
  - At the same time, the employment rate among Higher VET graduates is 0.7 percentage points higher than among people with general ISCED level 6 qualifications. This indicates that the employment opportunities are very similar to those for university graduates (240 ECTS degrees and equivalent degrees).

## **VET and social challenges**

VET is a driver of economic development, regional competitiveness and personal development and, as such, addresses various social challenges.

- **The youth qualifications challenge**
  - The early-school-leaving rate in Spain fell from 20% in 2015 to 17.3% in 2019. It nevertheless remains well above both the EU-28 average (10.3%) and the 15% target set for Spain for 2020. Early school-leaving among Spanish males

exceeds 20% and is practically twice the European average (11.9%). Basic VET is key to bringing those youths back into the education system.

- Over the five years preceding 2019 the proportion of youths neither in education nor employment (from 15 to 24 years) in Spain decreased by 3.5 points to stand at 12.1%, albeit still 1.2 percentage points above the EU-28 average. Guidance is a means of preventing and reducing this rate early school leaving.

- **The youths with disabilities qualifications challenge**

- Overall, the percentage of VET students with disabilities and severe disorders rose slightly from 0.8% in the 2014–2015 academic year to 1.5% in 2018–2019. This percentage is much higher in Basic VET (6%) than in Intermediate (1.7%) or Higher VET (0.5%).

- **The immigrant youth qualifications challenge**

- Immigrant students make up 7.5% of the total number enrolled in IVET in a context in which 9.6% of the population aged 15–19 is immigrant. This group is therefore under-represented in VET. Its members are more numerous in Basic VET (14.3% in the 2018–2019 academic year) than in Intermediate (8.6%) and Higher VET (6.2%).

- **The working-age adult qualifications challenge**

- In 2019, 5.8% of the total population aged 50–64 participated in life-long learning. This percentage increased slightly over the preceding five years but it is still below the EU-28 average, which in 2018 stood at 7.3%. Continuous VET is essential to upgrading and developing this group's skills.

- **The female STEM and industrial VET challenge**

- The percentage of female students enrolled in or graduating from the STEM occupational groups as a proportion of total students remains low and relatively stable in the 2017-2018 academic year: standing at 11.5% in the case of enrolments and 11.3% in that of graduates.
- Female students enrolled in the industrial occupational groups represented 10.7% of total students in this field in the 2017–2018 academic year, while female graduates made up 11.4% of the total in these groupings.
- As regards VET for Employment, in 2019 female students constituted 35.5% of participants in the STEM occupational groups and 27.5% in the industrial ones.

- **The female participation in VET for Employment challenge**

- The proportion of female participation in Continuous VET for the unemployed has not exceeded 5% in recent years and remained one percentage point

below the figure among males (4.6% in 2018, according to partial data). The proportion of female participation in subsidised training for the employed has increased in recent years and reached 33% in 2019. It was nonetheless 2.5 percentage points below the figure among males.

## **Conclusions and recommendations**

### **Overview**

- VET is key to fostering post-COVID competitiveness and social well-being.
- VET must be organised holistically and not as the sum of its parts.
- Effective VET is required to address the issues arising from the current crisis, the ageing population and constant change.
- The challenge of training/re-skilling both employees and the unemployed must be met rapidly and effectively.
- There is a need for greater efficiency and methodological, technological and organisational innovation in VET.
- There is a need to rethink Dual VET and promote hybrid alternance training models in companies.
- There is a need to create a collaborative, highly specialised VET ecosystem
- There is a need for data and evidence to assess and support VET's progress.

### **Initial VET**

- IVET in Spain: a well-established education system.
- A system that contributes dual value: social and economic.
- Diverse and structured range of vocational qualifications.
- Extensive IVET deployment nationwide.
- Increasing number of students enrolling in and graduating from this education option.
- Growing IVET system sophistication.
- VET centres steadily repositioning themselves.
- Institutional commitment to strengthening VET.
- Challenge of balancing specialisation and polyvalence within the IVET system.
- Challenge of conversion and multi-functionality of VET schools within the IVET system.
- Challenge of efficiency in the IVET system.

- Challenge of extending accessibility to the IVET system.
- Challenge of ensuring quality, diversity and responsiveness when upgrading the curriculum.
- Challenge of closing the gender gap.

### **Dual Vocational Education and Training**

- Dual VET in Spain: a training model with closer links to enterprise.
- Multiple advantages of Dual VET.
- Limited and uneven history of enrolment in Dual VET.
- Differing regional understanding and implementation.
- Limited systematisation of Dual VET.
- The business fabric conditions Dual VET.
- Dual VET faces various challenges.

### **Continuous VET**

- Organisation of Continuous VET is particularly complex.
- CVET is key to correcting labour market imbalances and stimulating competitiveness.
- CVET is also a powerful tool with which to respond to labour market needs.
- Employers are key agents in developing a culture of lifelong learning.
- VET schools potential to provide Continuous VET is yet to be exploited.
- In parallel, the Continuous VET offering needs to be broader (public and private).
- The level of participation in Continuous VET among the unemployed is low.
- COVID-19 will increase unemployment, and CVET will provide the unemployed with access to the labour market.
- In an uncertain environment, decision-making must be steered by vocational guidance.
- Subsidised Continuous VET programmes have the greatest reach in terms of participation among enterprises.
- Microenterprises' participation in subsidised training is low.
- Participation in training mainly occurs in cross-cutting occupational groups.
- The percentage of female participation in Continuous VET is lower than that of males.

- The role of companies and employers is fundamental in fostering a culture of lifelong learning.
- Distance learning is growing in importance.

### **Socioeconomic environment, employment and labour market**

- Challenge of adapting to demographic change.
- VET: versatility and broad socioeconomic scope.
- Demand for people with intermediate skills will increase in Spain.
- Challenge of adapting to changes in the labour market.
- VET is not uniform throughout the labour market.
- The employment rate among Higher VET graduates is slightly greater than that of university graduates (240 ECTS degrees and equivalent degrees).
- Higher VET qualifications are a gateway to the labour market and university education.
- Intermediate VET as a driver of employability.
- Gender differences among VET graduates in the labour market are notable.
- The Spanish labour market simultaneously suffers from both overqualification and underqualification.
- VET faces multiple challenges in the labour market.
- VET will play a vital role in Spain's economy in coming years.

### **VET and social challenges**

- VET is a tool for promoting inclusion of vulnerable groups.
- Challenge of attracting young people who have left the education system.
- Challenge of encouraging learning among older adults.
- Challenge of encouraging female participation in STEM-based VET.



# Conclusions and recommendations

## Overview

### ***VET is key to fostering post-COVID competitiveness and social well-being***

VET will be an essential tool in the process of change that Spanish society is set to undergo in the years ahead. It will also be vital in addressing the consequences of the unemployment that the COVID-19 pandemic will cause in the near future. In order to ensure VET receives the right impetus it is necessary to understand the role it plays and the potential it holds in terms of competitiveness and social well-being.

### ***VET needs to be organised holistically and not as the sum of its parts***

VET is a field in which education, training and employment converge. This means that it should not be understood as two subsystems — Initial VET (IVET) and Continuous VET (CVET) — but rather as a whole. Vocational training systems only have social meaning and importance insofar as they effectively create value for the enterprises and other employers (public authorities or the third sector) operating in the labour market, and insofar as they contribute to individuals' personal and professional development.

### ***Effective VET is required to address the issues arising from the current crisis, the ageing population and constant change***

VET has to be capable of meeting the needs of a country in crisis, home to an ageing population and undergoing constant change. Firstly, it is essential to adapt to the challenges posed by the economy. The industrial sector will continue to decrease in importance relative to others, leading to growing employment opportunities in the service sector, where VET needs to position itself as a supplier of qualified candidates. It is also important to provide opportunities for the unemployed, among which the high rates of unemployment among the young and the over 45s stand out particularly. At the same time, it is necessary to guarantee VET's capacity to address the demographic challenge, given that although the population aged 15–19 is forecast to grow in the short term it is expected to shrink in the medium-to-long term.

### ***The challenge of training/re-skilling both employees and the unemployed needs to be met rapidly and effectively***

In the short term, it is essential to promote CVET that enables people who find themselves excluded from the labour market to train or gain new skills, as well as to bring enterprise into closer contact with the education system. VET schools can play a key role in reskilling. In addition, it could be of great interest to make short-term forecasts — based on the employment contract and unemployment data available — identifying the sectors expected to need employees. This change would be an important step towards providing better vocational guidance.

### ***There is a need for greater efficiency and pedagogical, methodological, technological and organisational innovation in VET***

IVET will also need to prepare for the short- and medium-term challenges brought by the fourth industrial revolution and the green economy, as well as those presented by the pandemic. In this regard, pioneering VET schools could act as benchmarks for the rest, sharing the advances made and lessons learned via VET school networks and associations. In addition to greater involvement by enterprise, there is a pressing need to adapt various teaching techniques and methodologies to an approach based on problem-solving so as to increase student engagement and, consequently, the course completion rate. In parallel, it is necessary to increase investment in education to upgrade the equipment and resources that, along with an enabling framework, will boost VET schools' responsiveness and functionality when it comes to upskilling society and transferring applied technology to SMEs.

### ***There is a need to rethink Dual VET and promote hybrid alternance training models in companies***

Given Dual VET's limited take-up in terms of student participation, there is a need to reflect on the nature and scope of that training and to examine in depth its successes and challenges. This needs to be done collaboratively, experimenting with and creating models that are more accessible to all VET students. This transformation should be accompanied by a battery of pedagogical, methodological, organisational and resourcing measures, as well as by new national legislation and a new type of training and apprenticeship contract that simplifies and systematises implementation at regional level. In addition, greater commitment for these and other measures must be gained from enterprise and the Spanish economy's various strategic sectors. Dual VET should also be extended to CVET, especially as regards giving greater weight to occupational certificates, so as to expedite labour market entry for the unemployed.

### ***There is a need to create a collaborative, highly specialised VET ecosystem***

To exploit the opportunities the VET system offers it will be necessary to commit to creating a collaborative, highly specialised VET ecosystem in which public and private organisations actively participate. To this end, it will be necessary to establish permanent dialogue with enterprises and the other socioeconomic agents (trade unions, business associations, clusters, etc.), involving them in the creation and delivery of training and deploying the full range of instruments and options that several of Spain's most pioneering VET schools are already developing. In the medium-to-long term, it is important that society come to view education and training as a continuum, and it is vital to encourage lifelong learning. To achieve this, stakeholders have to think and work collaboratively.

### ***There is a need for data and evidence to assess and support VET's progress***

There are barriers that must be overcome: society's perception of VET as a lower status alternative when compared with other post-secondary education; the need for information systems and tools with which to assess the VET system and that facilitate analysis and decision-making; sociodemographic changes and access to education in areas with steadily declining populations; and implementation of new learning methodologies and technologies in VET schools, among others. All of this must be addressed, moreover, in the context of a health crisis and the transition to a new socioeconomic model in which the VET system's capacity to adapt will have a decisive impact on the lives of many people and the performance of numerous businesses.

The main conclusions drawn from analysis of each of the pillars within the VET system and assessed in this report are detailed below.

## **Initial VET (IVET)**

### ***IVET in Spain: a well-established education system***

IVET is a well-established part of Spain's education system and is playing an increasing role in post-secondary learning. IVET operates within a regulatory framework that guarantees individuals' rights and is rooted in Spain's political-administrative system. The framework is implemented through public education policy at both state and regional level and is assigned its own specific budgets. In absolute terms, total public expenditure on education has risen in recent years, as has the number of students enrolled in almost all the options, particularly VET. However, public spending on education as a percentage of GDP has steadily fallen since the onset of the financial crisis in 2008, indicating that education expenditure has not grown at the same rate as GDP in recent years.

### ***A system that contributes dual value: social and economic***

The main function of the IVET system is to train young people and to lay the foundations of their lifelong learning, all aligned with the needs of the labour market, Spain's strategic sectors and the country's business fabric in general. IVET therefore offers young people a window of opportunity, giving them the chance to gain qualifications and enter the labour market (within a framework of equal training opportunities) so as to provide companies with candidates who possess the skills they require to remain competitive.

### ***Diverse and structured range of vocational qualifications***

Various levels of VET (Basic VET, Intermediate VET and Higher VET) are available to students depending on their educational background, thereby meeting the labour market's differentiated needs. In this regard, it is important to note that the professional profile of Basic VET graduates is different to that of Intermediate and Higher VET graduates given the former's role as a bridge between compulsory secondary education and vocational education and training. As for Intermediate and Higher VET, there are differences in the respective job opportunities and types of occupation that they provide access to because of their increasing levels of specialisation. In respect of the training on offer, VET students can choose between 174 programmes spanning 26 occupational groups. The broad range of options available is consistent with Spain's National Catalogue of Vocational Qualifications that identifies and classifies occupations within the labour market.

### ***Extensive IVET deployment nationwide***

VET is provided throughout Spain via VET schools (in total, there are 4,323 registered schools). There are VET schools in every autonomous community and province in Spain. From a demographic perspective, there are 1.6 schools for every 1000 inhabitants in the theoretical VET target age group (16–19). Intermediate VET is provided by the largest proportion of schools, followed by Higher VET and, at some distance, Basic VET. Most VET students attend state-owned schools (71.7%) and the highest proportion of state-owned schools is found in the Basic VET segment (81.7%).

### ***Increasing number of students enrolling in and graduating from this education option***

IVET's position within Spain's education system is steadily strengthening due to the sustained increase in recent years in the number of enrolments. These students accounted for 9.4% of those enrolled in post-compulsory education in the 2015–2016 and 2018–2019 academic years. Among the other post-compulsory non-university education options, enrolment in the baccalaureate fell by 4% while participation in undergraduate courses rose slightly by 1.1%. In the last five academic years, enrolments in IVET have grown by almost 20%. That said, the figure for Intermediate VET has not seen the same growth as the other VET options.

### ***Growing IVET system sophistication***

Over the past decade, the IVET system has become more sophisticated as it pursues three goals: to strengthen the skills of young people and prevent early school-leaving; to meet companies' needs by generating shared learning processes; and to increase the capacity to transfer technology to the local environment. Firstly, a new level, Basic VET, has been added. This is designed as a bridge between compulsory secondary education and Intermediate VET. This new option still has a long way to go in terms of enrolment numbers and course completion. Secondly, the creation of Dual VET creates a new pathway via which to encourage work-based learning and promote methodological innovation. Enrolment, however, has so far been minimal and varies widely between Spanish regions. In this sense, specialisation courses, an option that requires further development, have also been available since 2019. Thirdly, the emergence of centres of excellence, promoted by the European Commission, strengthens VET schools' technology transfer function and provides a window of opportunity to extend successful pilot programmes that showcase the VET system's function as a source of innovation.

### ***VET schools steadily repositioning themselves***

VET schools play a central role in the operation of the system as they are the basic organisational unit on which it is built, they hold significant relational capital (with other schools, students, families and businesses) and they are a vehicle for transferring knowledge and new technology to companies. Their repositioning stems from their own conception of their nature and function: on the one hand, the proportion of schools devoted exclusively to VET is rising (27.6%) and, on the other, they are starting to take on new functions beyond training young people. These include training for employment, provision of technical services to SMEs and local firms, etc. The ultimate expression of this shift is the emergence and development of Integrated VET Schools covering all the above-mentioned functions. These, however, still only account for a small proportion nationally and require changes in legislation, management and investment. Finally, the creation of VET school networks and associations (like FPEmpresa) is fostering a collective outlook and shared premises on which to build cooperation and increase dynamism.

### ***Institutional commitment to strengthening VET***

This commitment is set out in Spain's 1st Strategic Plan for Vocational Education and Training and the Plan for Modernisation of Vocational Education and Training announced by the Ministry of Education and Vocational Education and Training at the end of 2019 and in mid-2020, respectively. The initiative has a budget of €1,497,578,000 and is designed to partially integrate the IVET and CVET subsystems and to strengthen VET as a growth lever, doing so through three lines of action. The first of these lines is the spearhead of the entire Plan (allocated 57% of the budget) and aims to provide recognition and accreditation of the basic and professional competences acquired through work experience. The second is to make the IVET system more flexible and accessible by improving vocational guidance. Finally, the third line of action is designed to incorporate digitisation, innovation and entrepreneurship into the VET system. To implement this ambitious Plan it will be necessary to work together with the education authorities in Spain's various autonomous communities, as well as with those responsible at both state and regional level for employment, and to foster public-private partnerships.

### ***Challenge of balancing specialisation and polyvalence within the IVET system***

Global trends indicate that professional profiles are going to be strongly affected by the changes stemming from digitisation, the fourth industrial revolution and the green economy, within all of which new technologies and automation will be deployed intensively. The IVET system must be prepared for this as regards instructor qualifications, availability of suitable facilities and equipment, and close relationships with businesses. All this requires major investment. In this respect, it will be necessary to seek economies of scale through VET school specialisation and to create collaborative networks of schools, a phenomenon that is already occurring in some of Spain's autonomous communities. It will also be necessary to assess the role of the National Reference Centres (37 throughout Spain). This trend, however, will have to be balanced with the demand for polyvalent schools that meet the geodemographic needs of the large proportion of the nation's territory that has a scattered, low-density population. This therefore requires schools that fulfil the need for social and territorial cohesion within the local environment.

### ***Challenge of conversion and multi-functionality of VET schools within the IVET system***

Most VET schools do not exclusively provide VET nor do they perform functions other than training young people, which is clearly their core purpose. However, if the aim is to have focused, state-of-the-art VET schools that also perform other functions that are key to developing the skills that society requires, such as training for the unemployed or employees, or the transfer of applied technologies to SMEs, it is necessary to give them the structure and organisational and management resources necessary to develop the corresponding capacity, flexibility and responsiveness (e.g. evening classes, guest lecturers from businesses, specific courses for particular sectors and/or companies, release programmes so instructors can gain experience in companies, enterprise relations units, business use of laboratories for testing and/or prototyping, etc.). The Integrated VET School model facilitates this shift.

### ***Challenge of efficiency in the IVET system***

Although the number of VET students has grown by almost 20% since the 2014–2015 academic year, the graduation rate has failed to rise as rapidly (15%). Meanwhile, the two-year completion rate, which ranges between 53.6% in Basic VET and 66.2% in Higher VET, also has room for improvement. It will be difficult to achieve a more positive social perception of VET if specific measures (pedagogical and organisational) are not

taken at each VET level, which in turn have very different profiles. The challenge in Basic VET is fundamentally methodological, since overcoming the scenarios produced by early school-leaving requires promotion of a mode of learning that generates greater motivation and is both more flexible — based on projects and challenges — and practical. This implies greater training of instructors, especially in pedagogy, and allocation of more resources. Similarly, students enrolled in Intermediate and Higher VET require learning approaches with a strong focus on challenge-based and experiential learning supported by intensive follow-up and direct contact with businesses. Finally, vocational guidance is of key importance for all students as it draws attention to the options that most closely align with the students' capabilities and interests and the situation in the labour market.

### ***Challenge of extending accessibility to the IVET system***

The IVET system is framed in the educational context of secondary education for young people. This entails a certain degree of rigidity in terms of timetables, although these are under review (Ministry of Education and Vocational Education and Training, 2020c) with the aim of granting greater access to both young people and adults without qualifications. The two forms of VET (classroom and distance) are affected by this rigidity: classroom training requires greater flexibility as regards format (part-time, modular, etc.), while distance VET needs strengthening as regards content, methodologies, instructors and technology (greater range of courses, specialist staff, etc.). In addition, making VET more practical requires a variety of resources (e.g. more investment in facilities and equipment), other governance mechanisms (inclusion of companies on VET schools' boards) and introduction of different incentives and activities by instructors. In the case of Higher VET, it is important to highlight its nature as tertiary education, given its level of specialisation, which entails different and highly specific features in terms of research, promotion of instructors, etc.

### ***Challenge of ensuring quality, diversity and responsiveness when upgrading the curriculum***

The VET system must ensure that young people obtain the knowledge, competences and skills required for each qualification. However, at the same time it must also meet the short-, medium- and long-term needs of the market and strategic sectors. In this sense, it is important to review current procedures and formats in order to make them more responsive and so upgrade existing programmes or create new ones. All this must be overseen by learning quality assurance systems. Likewise, the diversity and current relevance of the qualifications in the various occupational groups (agriculture, industry, business services, healthcare, construction, etc.) is a key factor for businesses — even if some occupational groups are under-represented — so as to allow them to meet the market's needs effectively while enhancing and integrating cross-cutting digital and linguistic competences (especially fluency in English), among others.

### ***Challenge of closing the gender gap***

Although the number of female students has increased over time there remains a clear gender gap, which becomes even more evident when the programmes are analysed by occupational group. Women account for the majority of students in the groups targeting proximity services like social, cultural and community services (86.8%) and healthcare (75%), while they are a minority in the STEM (11.4%) and industry-related (11.5%). This difference is rooted in cultural archetypes, where early academic/vocational guidance could be of great value, as could awareness-raising campaigns targeting parents and society in general.

## **Dual Vocational Education and Training**

### ***Dual VET in Spain: a training model with closer links to enterprise***

Dual VET is designed as a type of block-release training clearly differentiated from other alternance training models (due to its greater number of training hours and the collaborative relationship between educational VET schools and businesses). The aim is to promote greater integration between theory and practice and so create a dynamic and versatile learning model while strengthening training methodologies that encourage development of a specific learning project for each student. Dual VET goes beyond traditional work placement and makes enterprise a training agent within the education system. In the Spanish context, Dual VET addresses two domains: education (IVET) and employment (CVET).

### ***Multiple advantages of Dual VET***

*A priori*, Dual VET's advantages apply to all the system's stakeholders. On the one hand, it gives students real contact with the workplace, allowing them to learn on the job and gain work experience that will position them well in the labour market. On the other, it puts companies in direct contact with young people who already have the qualifications needed to meet their business's requirements and whom they could potentially recruit. Finally, it facilitates contact between teaching staff, the schools themselves and the companies in their local environment, thereby creating a feedback loop.

### ***Limited and uneven history of enrolment in Dual VET***

Dual VET has a longer, albeit still limited, history in the educational sphere than in the employment one. At present, it only accounts for 3% of student enrolments. Although this increase is positive, the model does not appear to have taken off. It is notable that the higher the level of VET, the higher the percentage of take-up. Companies prefer more mature, more specialised students. Thus, in 2018–2019 this training mode was most prevalent in Higher VET (62.3%) and least frequent in Basic VET (1.9%). It is also noted that the industry-related and STEM occupational groups are more likely to adopt Dual VET. In part, this is because the most up-to-date facilities and equipment are usually found in companies and that is where participating students learn most about the state of the art. The same gender bias is found here as in VET in general.

### ***Differing regional understanding and implementation***

The regulatory framework governing Dual VET is lax, the result being that interpretation and regulation of it varies widely between Spain's autonomous communities. Block-release duration and intensity likewise differs between the various regions, ranging from annual release (one year in the education school followed by one year in the workplace) to release on a weekly, daily and even hourly (half a day on each site) basis. Similarly, there are differences in the format and size of the student groups, as in some autonomous communities the groups are made up exclusively of Dual VET participants and in others they are mixed. The latter has pedagogical and organisational implications. It is also worth highlighting the differences in student remuneration, i.e. whether the student has a training and apprenticeship contract (or training grant). When companies remunerate students, it implies greater commitment by the firm and, in many cases, an interest in hiring them later. In this sense, it is important to reflect on the nature of Dual VET, which would appear to be more of a supplement than a replacement of other alternance training models and could be of enormous value in strengthening block-release training by combining formats.

### ***Limited systematisation of Dual VET***

The lack of shared understanding and of well-established implementation frameworks, as well as the minimal additional resources generally available, has meant that Dual VET has been incorporated into VET schools in a variety of ways and, in many cases, solely as a result of voluntary efforts by teaching staff and management teams. One of the keys to its development in the autonomous communities that have made most progress has been to release instructors to perform the functions associated with Dual VET, give a new use to facilities, provide resources with which to monitor projects under this scheme, and facilitate student participation by providing training grants or contracts, as has already been mentioned.

### ***The business fabric conditions Dual VET***

The low level of company participation is due in part to the sectors involved, corporate culture and average company size. The fact that most Spanish firms are microenterprises or SMEs makes it difficult to involve them in these programmes, or for a learning culture to take root. Similarly, the economic climate plays a highly relevant part, as Dual VET is also associated with firms' underlying intention to hire new staff. In this sense, it is important to work with sector-specific programmes or those based on the types of firm attracted to this kind of training, either due to their staff turnover and recruitment levels, or due to their focus on innovating their own business processes (digitisation, internationalisation, etc.).

### ***Dual VET faces various challenges***

Strengthening Dual VET poses challenges at both the state and regional levels. Firstly, it is desirable to adopt new state-wide regulations on Dual VET and to introduce a new type of training and apprenticeship contract that simplifies implementation in all of Spain's autonomous communities. Secondly, it is necessary to create coordination spaces to strengthen Dual VET in firms based on mutually agreed mechanisms. Thirdly, IVET schools require pedagogical, organisational and management resources with which to promote Dual VET and involve their teaching staff, students and local firms.

## **Continuous VET (CVET)**

### ***Organisation of CVET is particularly complex***

The lack of integration in Spain's VET system is plainly seen in the way CVET, which is particularly complex, is organised. It reveals the following: 1) Firm-scheduled CVET is managed at national level (SEPE and Fundae), with little involvement by regional governments; 2) Decisions on and implementation of CVET for the unemployed remain in the hands of regional governments; 3) Regional governments vary in their tendency to work with VET schools to deliver CVET and the latter is usually aimed at the unemployed. Within this combination of organisations and institutions it is necessary to reinforce the mechanisms that facilitate coordination, interrelation and joint action between them and so streamline and optimise the system according to the needs of the working population (both employed and unemployed), the business fabric and, consequently, IVET.

### ***CVET is key to correcting labour market imbalances and stimulating competitiveness***

As regards this point it should be noted that CVET's importance has grown in recent years to the extent that it has become a key instrument in correcting labour market imbalances and stimulating competitiveness.



Transformations within the economy are creating the need to regularly upgrade skills and acquire new competences and knowledge. Such is the case that since 2010 it has been adopted and promoted by the European Commission and is now a core line of action within the EU Skills Agenda (European Commission, 2020). This sets the target of 120 million adults participating in training annually and places special emphasis on people with low skill levels.

### ***CVET is also a powerful tool with which to respond to labour market needs***

When compared with IVET, CVET possesses greater flexibility to respond to labour market needs or shifts. Starting up a new IVET programme can take a long time, but an occupational certificate or other type of continuous training programme can be added much more quickly.

### ***Employers are key agents in developing a culture of lifelong learning***

Promoting a culture of lifelong learning requires interacting with employers and the working population itself. A commitment to lifelong learning can mean, among other things, strengthening and upgrading the qualifications system with emerging knowledge or promoting specific programmes and new instruments such as learning passports that reflect the participant's training pathway and the competences they have acquired over time.

### ***IVET schools' potential to provide CVET is yet to be exploited***

The European Commission wants to strengthen VET schools and promote them as benchmarks and providers of lifelong learning both for businesses and the working population. In many cases, VET schools have the equipment (especially in the industrial sector where this equipment is very expensive) and skilled personnel necessary to provide high-quality training. This link with enterprise also favours VET schools because it allows them to update their knowledge in the cutting-edge spheres demanded by companies. To achieve this in Spain it would be necessary to implement measures both internal and external to VET schools. It would also be necessary to facilitate hybridisation between IVET and CVET in VET schools (which is already the case in Integrated VET Schools), as well as to allow more management autonomy and to develop flexible recruitment formulas for CVET instructors in public schools and to make it possible to work with instructors recruited from businesses, etc. In this sense, it is advisable to promote a policy of awareness-raising and communication between VET schools and companies to position those schools as potential providers of CVET. Finally, this should be encouraged through the governance and management of the schools themselves, e.g. through recognition in the form of the working hours and remuneration of the teaching staff who participate in CVET, or through strategic planning of CVET by the VET school.

### ***In parallel, the CVET offering needs to be broader (public and private)***

For CVET to be implemented properly it is necessary for there to be a broad offering that includes a variety of providers (public and private) in addition to VET schools. In this sense, this sector of the CVET offering needs the opportunity to grow under multi-annual funding programmes following, above all, criteria based on quality and responsiveness in adapting to market requirements.

### ***The level of participation in CVET among the unemployed is low***

The proportion of unemployed people participating in CVET is very low, standing at just 5.1% in 2018. This percentage is well below the tentative target set by Spain's CEOE employers' organisation in 2017, which intended it should account for at least 20% of the unemployed every year. Furthermore, there is a group within Spain's

working population with very low skill levels and which has difficulty even obtaining level 1 and 2 occupational certificates. Specific actions need to be taken to ensure this group enters the labour market, particularly since during the economic recovery of recent years potential participants increasingly came from this group.

### ***COVID-19 will increase unemployment, and CVET will provide the unemployed with access to the labour market***

European Commission employment forecasts estimate that as a result of COVID-19 unemployment will reach 19% by the end of 2020. CVET will therefore be a key tool for those who find themselves out of work. In this regard, it should enable the acquisition of skills that improve employability and meet real labour market needs in the medium-to-long term. It should also be taken into account that trends like digitisation may substantially alter demand for some occupations and the tasks performed within them.

### ***In an uncertain environment, decision-making must be steered by vocational guidance***

In parallel, vocational guidance services (both in VET schools and employment services) must have access to reliable information on labour market dynamics, especially at local and regional level. That information should be used to steer the unemployed towards training that offers the possibility of employment and that generates learning pathways that increase job stability and professional growth. In this sense, the information provided on hiring and unemployment must be reinforced with sources capable of providing medium-to-long term forecasts on trends in employment and occupations at provincial level, as well as more extensive and better collated statistics on entry to the labour market and the skills demanded. Several tools of this type are already being developed in several autonomous communities and the Cedefop offers data at national level. In other European countries, various promising initiatives (e.g. occupational barometers) are already under way in this regard.

### ***Subsidised CVET programmes have the greatest reach in terms of participation among enterprises***

Subsidised CVET is one of the main reskilling tools. In 2019, overall 19.8% of the companies in Spain potentially eligible for the subsidies took part in the scheme, and 4.5 million employees were trained (34.4% of the total in the private sector). These figures make it, within CVET, the option with greatest reach in terms of participation and, consequently, an instrument with a considerable capacity to foster lifelong learning.

### ***Microenterprises' participation in subsidised training is low***

Over 90% of Spanish firms are microenterprises. The number of employees in a company is a decisive factor when it comes to participation in subsidised CVET. Thus, the percentage of participating firms with fewer than 10 employees is much lower than that of those with 10 or more. Involvement by companies with fewer than 10 employees (which make up 94% of Spain's business fabric) stands at 15.1% compared with 53.3% among those with more than that number of employees.

### ***Participation mainly occurs in cross-cutting occupational groups***

Overall, 77% of participation in subsidised CVET occurs in five cross-cutting occupational groups that are not linked to priority sectors or strategies. These groups are business administration and management (27%); safety and environment (23.6%); retail and marketing (9.1%); social, cultural and community services (8.6%) and supplementary training (8.4%). Training employees in specific technical skills is increasingly important in the

knowledge economy. As pointed out by Spain's Economic and Social Council (2015), training should be diversified and greater weight should be given to occupational groups associated with the sectors and priorities within the business fabric targeted by smart specialisation strategies. In this respect, 18.5% of participation occurred in STEM occupational groups and 34.6% in industry-related ones.

### ***The percentage of female participation in subsidised CVET is lower than that of males***

Another notable shortcoming is that female participation (44%) in subsidised training was lower than that of males (56%). This mirrored the situation in IVET and, if we look at the STEM and industry-related occupational groups, the gap is even wider.

### ***Other factors dissuade participation***

Although this report does not analyse these in depth, there are several other factors that should be taken into consideration, among them age and level of education. The percentage of participation also varies according to economic sector.

### ***The role of companies and employers is fundamental in fostering a culture of lifelong learning***

In the knowledge economy, skills renewal is key to innovation, competitive intelligence and, in general, business performance. Therefore, a business awareness-raising policy should be implemented in conjunction with fostering and developing other initiatives. One example would be to encourage diagnoses of training needs, especially in sectors related to smart specialisation via, for instance, business associations or clusters. At the same time, given that Spain's business fabric is mainly made up of microenterprises, training practices in these organisations should be facilitated and given appropriate recognition.

### ***Distance learning is growing in importance***

Rapid adoption of emerging technologies and new ways of organising work mean that distance learning is irretrievably gaining in importance. The health crisis caused by COVID-19 could serve as the catalyst that accelerates this process. As the evaluation conducted by Fundae (2020) indicates, skilled participants are found in significant numbers in three occupational groups: business administration and management, safety and environment, and supplementary training. In 2018, the combined figure accounted for over 74% of the total. In turn, the fact that participation in online learning is most common among employees with qualifications gained outside higher education (64.4%) suggests a lack of specialist training within this mode. At the same time, Spain has 7,929 distance-learning schools compared with 14,830 classroom-based ones.

## **Socioeconomic environment, employment and labour market**

### ***Challenge of adapting to demographic change***

VET will have to adapt both to demographic change in Spain's population in the years ahead and to that population's lifelong learning needs. The population aged 15–19 will grow in size in the short term but will decline in the medium-to-long term. For this reason, while the IVET subsystem must be ready to serve more students in the immediate future it must also prepare for possible alternatives that allow it to diversify its target population given the medium-to-long term population projections. Meanwhile, the population will continue to

age as members in the 50–64 bracket gradually account for an increasing proportion of those of working age. The population aged 65 and over will likewise increase. This will pose a major challenge for the CVET subsystem in terms of adapting to develop and upgrade the skills of an older population.

### ***VET: versatility and broad socioeconomic scope***

The occupational structure of Spain's labour market is transforming in terms of the profiles, knowledge and competences demanded. Vocational education and training, starting with IVET, is positioned as one of the main suppliers of candidates within that market and, via CVET, as one of the main sources of reskilling. In this regard, VET holds two essential assets. On the one hand, it is a training mode with very close links to the country's business fabric and possesses highly versatile tools with which to adapt to its evolving demands (work-based learning training, company-scheduled CVET, Dual VET, etc.). On the other, it has notable reach within society and the labour market. This takes concrete form in its capacity to foster employability and social inclusion (especially through Basic and Intermediate VET) and, likewise, to stimulate smart specialisation strategies (mainly through Higher VET).

### ***Demand for people with intermediate skills will increase in Spain***

According to Cedefop, in the coming years demand for intermediate and higher skills will increase in Spain at the expense of low-skilled occupations, meaning that the country needs VET capable of meeting that demand. This is especially relevant in the Spanish labour market, which is characterised by its polarisation — it has a high percentage of employees with low or non-specialist intermediate skill levels (45.8%) and also a high percentage of people with university degrees (30.8%) according to 2019 data. Overall, employees with VET qualifications account for 22.8% of the total.

### ***Challenge of adapting to changes in the labour market***

Looking ahead, the industrial sector will account for an ever-declining proportion of the economy in terms of net employment opportunities. In parallel, the service sector will increase in prominence. Although VET addresses occupational groups and areas of competence in all the economic sectors, it has mainly been industry in which it has become established as a successful, high-value-added training model. Faced with a changing economic context and the dynamics unleashed by process automation, VET must explore ways of adapting to the service industry and so achieve the same standard of excellence reached in the manufacturing sector.

### ***VET is not uniform throughout the labour market***

To meet this labour demand properly, however, a series of factors must be taken into account. Firstly, VET should not be viewed as homogeneous; each VET level behaves differently within the labour market. Analysing the employment and unemployment rates reveals that Higher VET performs better than Intermediate VET. Furthermore, in light of other regional references it is also known that Higher VET provides access to occupations with stronger prospects as regards job stability and opportunities for professional growth, although this does also depend on other factors like the occupational group of origin and the local business fabric. Intermediate VET generates more employment opportunities than training at lower levels. Finally, Basic VET's recent creation means it occupies a residual position in the labour market, and its performance also varies by occupational group.

### ***The employment rate among Higher VET graduates is slightly greater than that of university graduates***

Currently, the employment rate among Higher VET graduates is slightly greater than among university graduates (university degrees of up to 240 credits, and diplomas).

### ***Higher VET qualifications are a gateway to the labour market and university education***

As mentioned above, this type of VET is now a gateway to university education and employment (creation of new dual degrees accessible from VET or general secondary education, and specialised third-year courses).

### ***Intermediate VET as a driver of employability***

At the same time, and as anticipated, Intermediate VET qualifications can be considered a strong driver of employability. This is shown by the employment premium they enjoy as compared with lower-level qualifications (+12 percentage points). It is therefore emerging as a training pathway partly capable of overcoming some of the systemic obstacles encountered in the Spanish labour market, such as long-term unemployment, immigrant entry in the labour market and the employment issues stemming from early school-leaving. If these problems are to be addressed effectively, it is necessary to do so from a holistic perspective that includes elements additional to training (guidance services, teaching staff, parents, etc.).

### ***Gender differences among VET graduates in the labour market are notable***

There are notable gender differences among VET graduates in the labour market. Between 2015 and 2019, unemployment was higher among females than males for both Intermediate and Higher VET graduates. This makes it possible to affirm that the situation is structural and may be related to the fact that several of the occupational groups with the highest post-qualification employment rates, such as industry and STEM, are predominantly male.

### ***The Spanish labour market suffers from overqualification***

Within the Spanish labour market, the balance between occupational requirements and employee qualifications reveals two areas for improvement. The first is among the working population holding Higher VET qualifications. In total, 68.8% of people with these qualifications are employed in occupations that do not require the level of training completed and, as such, they are overqualified. With this degree of imbalance it would be reasonable to conclude that it could be corrected by increasing the proportion of Intermediate VET qualifications. However, analysing the situation for university qualifications reveals that these also exhibit a high degree of overqualification (36.2%). This space could potentially be occupied by people with Higher VET qualifications. Overqualification is an imbalance that does not usually receive attention. This is partly because it involves people already in employment and it is those who are out of work whose circumstances most urgently need addressing. Nevertheless, it exacts a high cost in terms of employment quality (low salaries, personal frustration, etc.) and public and private investment — Higher VET courses are two years long while university degrees take around four years to complete. The best way to correct the imbalance caused by overqualification is to increase the proportion of highly skilled occupations within Spain's productive structure. This however is a complex task that largely can only be achieved by a change in demand from employers.

### ***Spain's labour market also suffers from underqualification***

In parallel, there is an enormous imbalance (74.5%) among people who did not progress beyond primary education. In this case, the imbalance is caused by underqualification. These people, as well as those who did not progress beyond secondary education and are likewise underqualified, could take either the baccalaureate, Basic VET, Intermediate VET or an occupational certificate, which offers greater specialisation.

### ***VET faces multiple challenges in the labour market***

Finally, the VET system faces a series of challenges in the labour market, among them adapting to a novel economic model in which complementariness between humans and automation is steadily evolving, and a service sector that is establishing itself as Spain's biggest source of employment and generator of GDP. Furthermore, as previously commented, demographics could both create replacement issues in the labour market and, at the same time, result in a lack of new students in VET schools.

### ***VET will play a vital role in Spain's economy in coming years***

In light of the data discussed, VET is set to play a fundamental role in advancing the Spanish economy if several prior conditions are met, namely extending student competences into new economic activities, updating occupational requirements and fostering strong links with the employment market.

## **VET and social challenges**

### ***VET is a tool for promoting inclusion of vulnerable groups***

The overall VET system is a key instrument for promoting social and labour market inclusion among vulnerable groups like immigrants and persons with disabilities. The challenge still remains, however, of facilitating and stimulating these groups' participation in Intermediate and Higher VET as they continue to account for a negligible number of students. This leads to these groups missing out on the benefits associated with these VET programmes in terms of greater participation in the labour market and less risk of exclusion. In the sphere of CVET it is highly desirable that we assess these groups' participation in training that holds the potential for them to update their knowledge and expand their skillset and so enter and remain in employment.

### ***Challenge of re-attracting young people who have left the education and training system***

Spanish society faces the challenge of attracting young people who have dropped out of education and training prematurely (e.g. those who neither study nor work). The early school-leaving figures are concerning, particularly since Spain still has the highest rate in the European Union despite the advances made in recent years. There is therefore a need to analyse the keys to addressing this situation, such as early educational and vocational guidance, ways of making VET more attractive to these young people, and of making IVET and CVET more efficient in this respect. Specifically, Basic VET performs a fundamental function for young people who have left school without completing compulsory secondary education. Furthermore, as the completion rate in Basic VET is fairly low there is therefore a need to review key aspects of it, such as the profile of the instructors, given the increased need to provide students with further guidance, as well as the resources required to perform this task. Intermediate VET is also relevant in the case of young people who left school after compulsory secondary education (Sáinz y Sanz,

2020) or during baccalaureate, and attracting young people to this training option is equally challenging in Spain. All those would help reduce the drop-out and early school-leaving rates in Spain.

### ***Challenge of encouraging learning among older adults***

VET has a key role to play in meeting the challenge of encouraging older adults who are still of working age (50–64) to participate in education and training. This has been identified by Cedefop (2020a) as a highly significant indicator in the VET sphere. Although there have been improvements in this regard, Spain remains below the EU-28 average. In this scenario, CVET performs the crucial task of training and reskilling older adults given the constant rapid change occurring in the workplace and the high proportion of Spaniards in this age group with low skill levels.

### ***Challenge of encouraging female participation in STEM-based VET***

Stimulating both female enrolment in STEM occupational groups and their completion of these courses is fundamental to fostering their participation in activities that generate added value and, therefore, that contribute to economic progress within their environment. And perhaps more importantly, that contribute to their own professional and personal development. In this sense, there is still a long way to go since women only represent just over 10% of the total number of students either enrolled in or graduating from these occupational groups.



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