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VET INTERNATIONALISATION POLICIES AND EXPERIENCES IN BUCHAREST-ILFOV

Introduction and Methodology

This report is based on a qualitative, evidence-informed approach combining **secondary data analysis**, **desk research**, and **in-depth interviews** with key stakeholders from the vocational education and training (VET) ecosystem. The multi-method design ensured both breadth and depth in understanding the policy context, institutional practices, and current challenges related to VET and its internationalisation in the Bucharest-Ilfov region.

- **Desk Research and secondary data analysis:** The research team conducted an extensive review of national and European-level reports, statistical data (e.g. from Eurostat and national education authorities), policy documents, and existing literature. This helped map the structure of the VET system, highlight ongoing reforms, identify internationalisation trends, and understand the role of VET in supporting the region's smart specialisation strategy.
- **In-depth interviews:** A series of semi-structured interviews were carried out to validate and expand upon the findings derived from desk research. Interview participants included:
 - Teachers from vocational and technical high schools in the Bucharest-Ilfov region ($n=2$);
 - A staff member from the international relations office of a major university ($n=1$);
 - A representative from the Ministry of Education and Research ($n=1$);
 - A representative from the National Authority for Research ($n=1$);
 - Two industry partners with active involvement in dual education and workforce development ($n=1$).

The interviews served to **confirm the accuracy** of information gathered during the desk research and to **validate the findings of the SWOT analysis**, particularly regarding practical implementation challenges, stakeholder engagement, and perceptions of internationalisation in VET.

The report is structured thematically from contextual background to policy insights. It is organised as follows:

1. **Regional and Economic Overview** – Provides demographic and economic context for the Bucharest-Ilfov region, highlighting its strategic role in Romania's development.
2. **The Education System and the Role of VET** – Describes Romania's educational architecture with a focus on vocational and dual education pathways, including recent legislative changes.
3. **Dual Education and Workforce Upskilling** – Explores the structure, partnerships, and labour market relevance of dual education and post-secondary VET.
4. **Internationalisation of VET** – Analyses national and regional strategies, funding programmes (e.g., Erasmus+), and Romania's engagement in international networks and partnerships.
5. **Smart Specialisation Strategy** – Examines Bucharest-Ilfov's regional innovation priorities and how VET and HVET contribute to advancing green and digital transitions.

6. **SWOT Analysis** – Synthesises insights from both research and interviews, highlighting the internal and external factors influencing VET internationalisation in the region.

Bucharest-Ilfov Region: Overview and Economic Performance

The Bucharest-Ilfov region (see **Figure 1**) is the most developed in Romania and serves as its economic engine, comprising the capital city of Bucharest and Ilfov County. Covering an area of 1,804 km², it is home to a population of approximately 2,56 million residents (as of January 2024). The region is administratively structured into one municipality (Bucharest), eight cities, 32 communes, and 91 villages.

Figure 1

Map of the Bucharest-Ilfov Region: Urban and Transport Network Representation

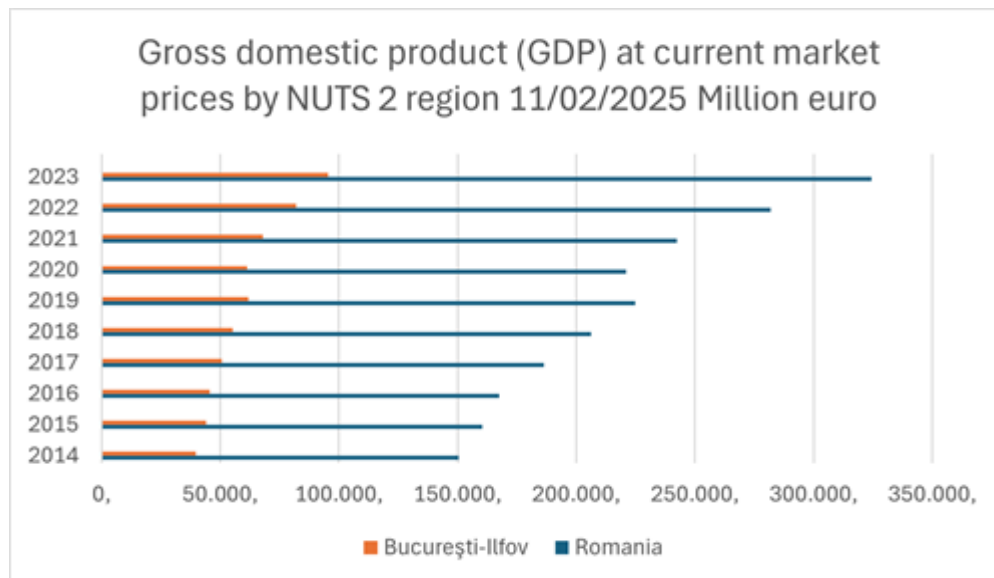


Source: Bucharest-Ilfov Regional Development Agency

Economically, Bucharest-Ilfov is a powerhouse, generating approximately 25% of Romania's GDP. It has a GDP per capita (expressed in purchasing power standard) reaching 190% of the EU average, placing it ahead of many European capitals, such as Athens, Madrid, Rome, Vienna, Berlin, and Budapest. Over the past decade, the region has demonstrated continuous economic growth, improving from 116% of the EU average in 2009 to its current standing.

Figure 2

Gross Domestic Product (GDP) at Current Market Prices by NUTS 2 Region (Bucharest-Ilfov & Romania) as of 11/02/2025 (Million Euro)



Source: Eurostat Regional Statistics: <https://ec.europa.eu/eurostat>

The region's economy is primarily service-based, with key industries including finance, IT, telecommunications, commerce, construction, and logistics. It is also the most significant industrial hub in Romania, encompassing a diverse array of manufacturing sectors. The presence of major multinational companies, most of them in energy, telecom and FMCG industries underscores its role as the country's primary business and financial center. Bucharest-Ilfov is also Romania's leading export region.

Infrastructure plays a pivotal role in the region's development. Bucharest serves as Romania's main transportation hub, integrating road, rail, and air transport networks. The region is strategically located along key European transport corridors, including Priority Axis 7 (Nădlac-Constanța) and the planned Giurgiu-Albița axis, as well as near the Danube River (Priority Axis 18). The Henri Coandă International Airport (Otopeni) further enhances its connectivity, making it the busiest airport in Romania and a major international gateway.

Despite its economic strength, the region faces challenges that require continued investment. While GDP per capita is high, disparities in infrastructure development, social services, and quality of life indicators remain areas of concern. Issues such as accessibility to green urban spaces, sustainable urban mobility, and environmental quality are gaining attention. Additionally, digitalization and governance improvements are necessary to ensure sustained growth and competitiveness.

The [European Commission's latest reports on economic and territorial cohesion](#) highlight Bucharest-Ilfov as part of a broader trend where capital regions significantly outperform other regions within their respective countries. However, regional disparities persist, emphasizing the need for continued investment in innovation, education, and infrastructure to maintain its competitive edge.

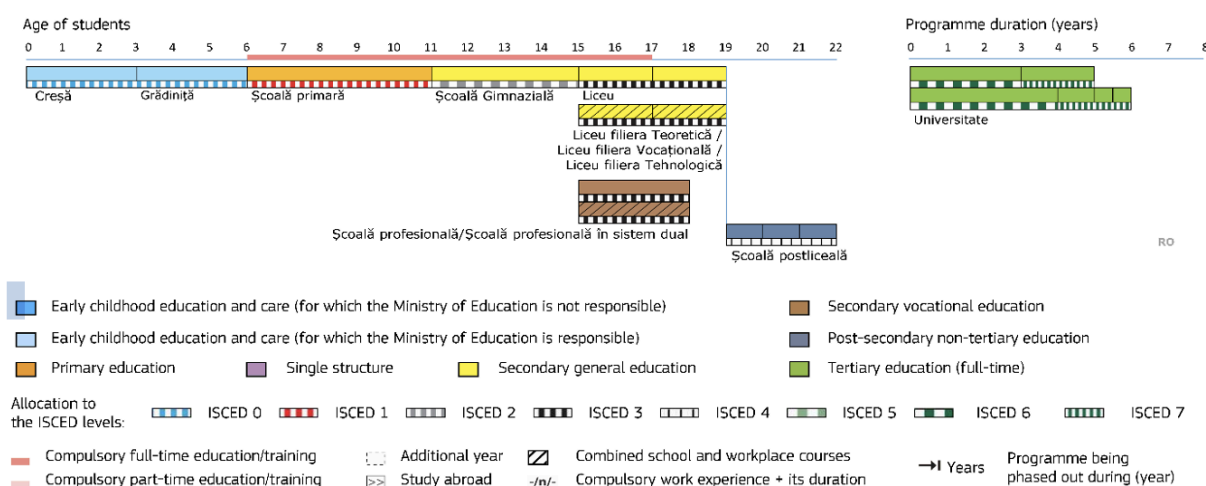
Romania's Education System and the Role of VET, HVET, and Dual Education

Overview of the Education System and VET in Romania

Romania's education system (see **Figure 3**) is structured into pre-primary, primary, lower secondary (gymnasium), upper secondary, and tertiary levels. Upper secondary education (grades 9-12) offers both general academic programmes and vocational tracks. Notably, a **new education law in 2023 (Law 198/2023) extended compulsory education to include the entire upper secondary cycle, encompassing vocational education and training (VET).**

Figure 3

Romanian Education System



Source: Eurydice

Students can enroll in initial VET at age 15 (grade 9) after completing lower secondary and passing national exams. There are two main pathways for initial VET at upper secondary level:

(1) **Three-year vocational programmes** (învățământ profesional, EQF level 3) which combine school-based learning with about 50% work-based learning, and

(2) **Four-year technological high school programmes** (EQF level 4) that lead to a baccalaureate diploma and a technician qualification (with ~25% work-based learning). Both paths prepare students for the labour market, and graduates of the 3-year VET have options to continue their studies – for example, VET graduates have been allowed to enroll into the third year of a technological high school programme to pursue an EQF 4 qualification.

Beyond upper secondary, Romania offers **post-secondary non-tertiary VET (Higher VET)** programs, known as școli postliceale, which provide 1–3 year courses yielding advanced professional qualifications at [EQF level 5](#).

These Higher VET programmes (HVET) are often organized by technological schools or colleges and offer secondary graduates (including those without a baccalaureate) an opportunity to acquire specialized skills (e.g. optician, medical assistant) to upskill for the workforce.

In summary, VET is an integral part of Romania's education system, forming a parallel route to general education at upper secondary and a bridge to higher qualifications. In fact, **nearly half (47%) of young adults (25–34-year-olds) in Romania have a vocational qualification as their highest educational attainment** (44% from upper-secondary VET and 3% from post-secondary VET)—one of the highest such proportions in Europe.

The Municipality of Bucharest benefits from the most extensive school network in the country, comprising both public and private institutions and offering relatively uniform coverage across the capital's territory. Bucharest is the most developed university centre in the country, hosting 31 universities—15 public and 16 private. Most universities are concentrated in the central area of the city, with several also located in the northern half of the capital. The majority of university places are offered by public institutions, which account for 68% of available seats, compared to 32% provided by private universities.

VET Development and Trends: Enrollment, Dropout and Graduation

Despite growing labour market demand for skilled professionals, vocational education and training (VET) in Romania has faced significant decline in recent years. The number of technical high schools dropped by 33% between 2012 and 2022, falling from 517 to 347 institutions. Even more striking, the number of vocational schools fell from 796 in 1996 to only 84 by 2022, according to the latest data from the National Institute of Statistics. Employers continue to report major shortages in skilled workers across professional occupations, often stating that too few young people are entering these career pathways. Low attractiveness of VET, limited visibility of professional opportunities, and poor performance rates in general education (e.g., low pass rates in the baccalaureate exam) further compound the issue. These trends point to the urgent need for systemic interventions to modernize VET, improve its image, and better align it with both student aspirations and economic needs.

Enrolment in VET programmes has undergone significant changes over the past decade. After a period of decline in the late 2000s, Romania reintroduced the 3-year vocational school route in 2014/2015, which initially led to growing VET participation. By 2020/2021, the gross enrolment rate in upper secondary education (all tracks) had climbed back to 88.4%, partly thanks to the expansion of vocational routes. In recent years, however, VET enrolments have shown a slight downward trend amid demographic decline and student preferences. In the 2023/2024 school year, **about 20% of students finishing lower secondary (8th grade) chose to continue in vocational education** (învățământ profesional) while roughly 80% entered high school (liceu). The number of students in vocational schools in 2023/24 was **4,100 lower than the previous year**, continuing a slight decline, whereas general high schools saw a modest increase in enrolment. There is a notable gender pattern: **boys are more likely to pursue VET, while girls tend to choose general high school**, reflecting a 7-8 percentage point gender gap in enrolment for these pathways.

Dropout and completion rates highlight both progress and challenges in VET. Overall upper secondary attendance has room for improvement – the gross enrollment rate for upper secondary (ages 15-18) was 78.5% in 2023/24, down from previous years. Still, once enrolled, vocational students are relatively retained: the annual **dropout rate in vocational education was 2.1% in 2022/2023**, an improvement from the prior year. This dropout rate, although higher than the mere 0.8% dropout in high school (liceu) that year, has been decreasing as VET programmes work to keep students engaged. Nevertheless, the **overall completion rate for vocational programmes remains quite low – only about 13% of the theoretical age cohort graduated from the 3-year vocational track in 2022/2023**. This figure has declined slightly from the previous year, indicating that many who start vocational school do not

ultimately finish and obtain the qualification. By comparison, the graduation rate for upper secondary education (including those who finish high school without passing the bacalaureate) was around 66% in the same year. The low share of vocational graduates is partly because a majority of students opt for the academic route, but it also signals challenges in throughput that policymakers are addressing. One positive outcome is seen after graduation: vocational qualifications can improve employability. According to [OECD data](#), **unemployment among young adults with upper-secondary or post-secondary VET qualifications (around 4.9%) is slightly lower than among those with general upper-secondary education (6.2%)**. This suggests that despite lower enrollment, those who do complete VET have skills valued on the labor market, reinforcing the importance of strengthening VET pathways. The number of students in technical education experienced a significant decline between 2012 and 2018, and most technical high schools have very low pass rates—ranging from below 50% to as low as 4%—making them an unviable alternative to theoretical (academic) education. For instance, in 2023, at Liceul Tehnologic Special nr. 3 in Bucharest, none of the 16 students who took the Bacalaureate exam achieved a passing grade, with an average score of 3.44. This institution has consistently recorded low performance in recent years. In 2024, the average Bacalaureate score was 2.80, with all 12 candidates failing. Similarly, in 2022, the average was 2.16 with zero percent passing among 10 candidates.

Teachers interviewed as part of this study confirmed the broader trends identified in secondary data, particularly around low completion rates and persistent dropout. They highlighted a range of factors that contribute to disengagement, including low levels of basic literacy and numeracy, limited student motivation, and a general lack of perspective regarding future career opportunities. In many cases, students enter VET with serious learning gaps and without the support structures needed to overcome them. One teacher remarked:

“We’re not just teaching a trade—we’re trying to fill in the gaps left by years of underachievement. Many of our students struggle with reading, writing, and basic maths. Without a clear idea of where VET can take them, it’s hard to keep them motivated.” (L.O, teacher with over 20 years of seniority)

Despite growing labour market demand for skilled professionals, VET in Romania continues to face major structural and systemic challenges, as revealed by a various studies. The interviews we conducted with employers pointed out a common drawback: the outdated curriculum:

“The current training standards in the VET system are outdated and not aligned with labour market demands, often being updated with a delay of more than two years.” (T.O, local transportation company)

This lag not only affects the quality of graduates but also delays the adoption of emerging skills and technologies in training programmes. In addition, companies reported that many VET graduates are not adequately prepared for the workplace. As one employer put it:

“They are poorly trained, have communication and adaptability issues, are unstable in their jobs, and often demand unjustifiably high salaries compared to what they actually know how to do.”

This gap between expectations and reality contributes to high turnover and low productivity. Another pressing concern is the lack of transversal, or soft, skills, noted one employer, underlining a systemic issue in the way VET prepares young people for real-life work environments.

“Skills like communication and teamwork are better developed at the workplace these days. The school curriculum doesn’t emphasize them enough.”

Financial and logistical barriers also limit the involvement of companies, especially small and medium-sized enterprises (SMEs), in dual education. As stated by one respondent:

“Work-based learning involves additional costs for employers—training mentors, providing equipment, scholarships—which restricts SME participation. We are a big company and we do have the resources, but smaller businesses hardly can do it.”

Lastly, cooperation between schools and employers remains superficial in many areas.

“In most cases, employers are not genuinely consulted within local decision-making structures, and when they are, their input is often disregarded.”

Together, these perspectives underscore the urgent need for a more modern, responsive, and employer-engaged VET system in Romania—one that not only aligns with current economic needs but also invests in the long-term development of the national workforce.

Negative perceptions of vocational and technical education are deeply rooted in Romanian society and have a strong influence on students’ motivation and educational choices. A study conducted by the GO-AHEAD Association with students from theoretical high schools revealed significant bias against their peers in technological schools. When asked, *“What do people around you think about students in technological high schools?”*, most responses were negative, including: *“they’re not good schools,” “bad reputation,” “students there study less than in academic high schools,” “they’re weak students who couldn’t get into a prestigious school.”*

Although a few participants acknowledged the practical value of such schools—*“they are useful for students with hands-on skills”*—the overall attitude was predominantly dismissive. These perceptions were echoed during the interviews conducted with VET teachers for this report. Teachers confirmed that such attitudes are not only widespread among students in general high schools but also **internalised by VET students themselves**, who often begin their studies with a diminished sense of self-worth and low expectations. As one teacher put it:

“Of course they see it like this... it’s the worst choice. The students don’t feel motivated, they lack perspective, they disengage—and this leads to failure.” (T.A., teacher with over 25 years of seniority and a background in industry)

This sense of resignation and limited outlook contributes to a cycle of low performance and early school leaving, reinforcing the stigma attached to vocational education and making it harder for students to break out of it.

Higher VET (Post-Secondary) and Workforce Upskilling

Higher Vocational Education and Training (HVET) in Romania refers to post-secondary non-tertiary programmes, which serve as a key mechanism for upskilling the workforce. These programmes, typically **1 to 3 years in length, lead to [EQF level 5 qualifications](#)** and are offered by post-secondary schools or colleges. Fields of study range from healthcare and pedagogy to technical trades, providing **advanced training for secondary graduates who either did not pursue university or seek practical professional skills**. In 2023/2024, about **82.6 thousand students were enrolled in post-secondary (HVET) programmes**, making this level the smallest segment of pre-tertiary education. Many HVET students are those who have completed high school (including vocational or technological high schools) and want to obtain a specialized qualification without attending a traditional university. Importantly, post-secondary schools in Romania accept students **with or without a baccalaureate diploma**, which means HVET offers a second chance for those who finished 12th grade but did not pass the bac exam to still gain a marketable qualification. Popular HVET qualifications include nursing, technicians in various fields, and master craftsman (maistru) programs, all aiming to address skill shortages in the economy.

HVET plays a significant role in upskilling the workforce, as it produces mid-level professionals and specialists. To enhance this role, recent policies are improving the links between initial VET and HVET. For instance, graduates of 3-year vocational schools have been given opportunities to bridge into higher-level technical training, reflecting an effort to create a **“complete vocational route” from secondary to tertiary education**. Indeed, a notable reform under the new education laws is the introduction of **[dual VET programmes at the tertiary level \(EQF 6-8\)](#)** – essentially allowing universities or higher education institutions to offer dual education formats in applied fields. Although the implementation methodology is still under development, this reform would enable a continuum from vocational high school through post-secondary and into **professional bachelor’s programmes (short-cycle tertiary)** that are practice-oriented. Such higher dual programmes are expected to further support workforce upskilling by producing graduates with both advanced theoretical knowledge and substantial on-the-job training. Overall, HVET in Romania is increasingly seen as a strategic tier for developing the technicians and specialists needed in the economy, complementing academic higher education and improving lifelong learning participation.

Dual Education: Structure, Partnerships, and Economic Relevance

Romania has been actively expanding **dual education**, a form of initial VET where training is shared between schools and employers. Introduced in 2017, dual VET is offered as an alternative format of the 3-year vocational programme (învăţământ profesional). What characterizes dual education is the high level of industry involvement: programmes are initiated **at the request of employers**, and companies partner with VET schools and local authorities under a formal agreement. Students in dual VET follow the same curriculum as those in school-based VET, but a larger portion of their practical training takes place in the company. Employers commit to providing work-based training and typically offer additional incentives – for example, **partner companies must provide a student scholarship equal to at least the government-funded scholarship, along with other support like meals, transportation, or equipment**. This close partnership ensures that the skills students acquire meet real labour market needs, making dual education highly relevant to the economy.

The effectiveness of dual education is evident in its rapid growth and the strong outcomes observed. **Enrolment in dual VET has risen sharply** since its inception. In the 2019/20 school year, 6,970

freshmen enrolled in dual vocational classes (grade 9), almost **three times more** than in 2017/18 when the dual system started. This growth has been driven by successful pilot projects and increasing demand from both students and employers. Sectors with skill shortages have particularly embraced dual VET: for example, the **car mechanics programme saw its enrolment jump from just 127 students in 2017/18 to 662 by 2019/20**, and similar trends occurred in trades like machine tooling (CNC operators) and retail. By tailoring training to high-demand qualifications, dual education acts as a **“communication bridge” between local employers and schools**, as noted by Romania’s National Centre for TVET Development. Companies report that dual VET helps them secure future skilled employees, while students benefit from real work experience and often job offers upon graduation. Although dual students still represent a minority of all VET learners (around 4.4% of total VET upper-secondary students in 2019/20), this share is expected to keep rising.

To solidify dual VET as a mainstream route, Romania has launched major initiatives with EU support. Under the National Recovery and Resilience Plan and other programmes, the government is **establishing 10 regional consortia for dual education and building 10 integrated occupational campuses**. These modern campuses (due by the end of 2025) will host state-of-the-art workshops and facilities for dual training, serving as hubs where multiple employers and VET schools collaborate. Policy makers project that by 2026, the dual consortia will be operating at full capacity, significantly expanding places in dual programmes. Additionally, as mentioned, the legal framework now allows dual education to extend to higher education institutions, meaning companies could soon partner with universities to offer dual [Bachelor’s degrees](#) in engineering, technology, and other fields. This innovation would further integrate the education system with labor market needs at all levels.

A relevant measure supporting the development of VET in Romania is the launch of the [Framework Agreement between the Government of Romania and the Swiss Federal Council](#), as part of Switzerland’s second contribution to reducing economic and social disparities in EU Member States. The programme aims to strengthen Romania’s dual VET system by enhancing collaboration between educational institutions and private companies. It supports the implementation of policy reforms, aligns level 5 qualifications in the National Qualifications Framework with labour market needs, and funds pilot projects to test new VET pathways. It also invests in training for teachers and in-company mentors to ensure the delivery of relevant dual education programmes, and promotes the development of a national public-private facilitator network for VET. With a total budget of CHF 10 million and coordinated by the National Centre for the Development of Vocational and Technical Education (CNDIPT), this programme exemplifies a best practice aligned with EU objectives for skills development, labour market relevance, and inclusive growth.

In summary, Romania’s dual education model – though relatively new – has proven to be a **viable solution for easing skills mismatches**, although there are other necessary measures to be implemented in order to strengthen the participation of industry partners and SMEs and implement more flexible learning pathways.

POLITEHNICA Bucharest’s Dual Education Projects

Romania is embarking on an ambitious initiative to enhance vocational education and training (VET) through the development of integrated **dual education campuses**. These projects, funded under the **National Recovery and Resilience Plan (PNRR)**, seek to create **modern, well-equipped learning environments** that align education with labour market needs. Two key projects in this framework are the

Campus Dual Politehnica București and the **Regional Polytechnic Campus for Dual Education in Giurgiu**. These initiatives aim to strengthen dual education at both pre-university and university levels, improving access to high-quality vocational training and fostering strong partnerships between educational institutions and industry stakeholders.

Campus Dual Politehnica București

The **Campus Dual Politehnica București** (see **Figure 4**) is designed to establish a **comprehensive dual education route** in the Bucharest-Ilfov region. Led by **Universitatea POLITEHNICA din București**, this project will create a **sustainable educational consortium** that integrates various qualifications from **level 3 to level 8 of the European Qualifications Framework (EQF)**. The central goal is to provide a **modern, industry-relevant educational pathway** that responds to current and future labour market demands.

The campus will span **over 20,000 square metres** and include **three main buildings**: a secondary school, a student dormitory, and a canteen. Additionally, a **multimodal workshop hall** will serve as a space for digitalised practical training. The campus will be equipped with **state-of-the-art teaching and learning technologies**, including digital workspaces and laboratories, allowing students to gain hands-on experience in a cutting-edge environment. The infrastructure is designed with a focus on **energy efficiency and sustainability**, ensuring a **modern, environmentally conscious educational facility**.

Figure 4

Dual campus at POLITEHNICA Bucharest



A key objective of the project is to **strengthen collaboration between academia and industry**. The initiative will involve **leading companies across various sectors**, ensuring that students receive **work-based training** that is directly aligned with employer expectations. The project also aims to **develop two new or revised qualifications** and introduce a **new university-level study programme** to support evolving industry needs.

To maximise impact, the project includes a strong **inclusion and accessibility component**, targeting **216 high school students and 135 university students**, including those from disadvantaged backgrounds. Through career counselling, professional mentoring, and technical workshops, students will receive **comprehensive support** to facilitate their **transition** from education to employment. Moreover, investments in cutting-edge digital tools will enable students to engage in high-tech, future-oriented learning experiences.

By 2026, the Campus Dual Politehnica Bucureşti aims to be a national reference model for dual education, supporting the economic ecosystem by producing highly skilled professionals who are equipped with both theoretical knowledge and practical expertise. The project will directly contribute to the development of regional industry clusters, ensuring that graduates are **workforce-ready** in key technical fields.

Regional Polytechnic Campus for Dual Education in Giurgiu

Located in the Sud-Muntenia region, the Regional Polytechnic Campus for Dual Education in Giurgiu seeks to expand dual education opportunities in one of Romania's most educationally disadvantaged areas. With a strong social dimension, this project is particularly focused on reducing educational inequality and increasing access to high-quality vocational training for young people in Giurgiu, Teleorman, and Călăraşi counties.

The overarching objective is to build, equip, and operationalise a modern dual education campus, capable of training at least 450 high school students and 110 university students. The facility will include state-of-the-art infrastructure, incorporating 11 digitalised laboratories and workshops, designed for practical learning in industrial production, agriculture, and environmental protection.

Figure 5

Campus for Dual Education in Giurgiu



The campus will serve as an educational hub for vocational and higher education, providing spaces for teaching, accommodation, catering, sports, and recreation. It will integrate innovative teaching methodologies, ensuring that students benefit from digital tools and smart learning

environments. The infrastructure is designed in compliance with European environmental and digitalisation standards, supporting sustainable education.

A strong industry-academia partnership lies at the heart of this initiative. The campus will host a functional consortium that connects education providers with regional employers, ensuring that students gain hands-on training tailored to local economic needs. The project also includes career guidance and mentoring programmes, aimed at increasing student motivation and employability. Activities such as career fairs, industry workshops, and skills competitions will further strengthen student engagement and provide direct exposure to potential employers.

By creating a structured and well-supported dual education route, the Regional Polytechnic Campus for Dual Education in Giurgiu aims to reduce dropout rates, upskill the local workforce, and bridge the gap between education and employment. The project is a cornerstone in Romania's efforts to modernise vocational education, fostering regional economic growth and increasing the competitiveness of the local labour market.

Challenges and Recent Policy Developments in VET and Dual Education

Despite the progress in expanding VET and dual education, Romania faces several enduring challenges. One major concern is the **high rate of early school leaving**. Many students, especially from rural areas or disadvantaged communities, drop out before completing upper secondary education. In 2023, Romania's overall early leavers from education and training (age 18-24 leaving before completion of upper secondary) stood at **16.6%**, far above the EU-27 average and missing the national target of 11.3%. This indicates that a significant share of youth – often those who might benefit most from VET – are not finishing any form of upper secondary qualification. Socio-economic disparities also affect VET outcomes: rural students have lower participation and completion rates, and there is a need to improve inclusion in vocational programmes for vulnerable groups. Another challenge is ensuring **attractiveness and quality of VET**. Academic high schools are often perceived as more desirable, and VET has struggled with an image of being a “second choice” for weaker students. To combat this, authorities are modernizing curricula and equipment, training VET teachers, and involving employers in curriculum design. The “**Educated Romania**” (**România Educată**) **national project**, initiated by the Presidential Administration, explicitly prioritized vocational and technical education (including dual VET) as a pillar of education reform. This project, through broad consultations from 2016–2021, laid out a vision and targets for 2030, many of which informed the new education laws adopted in 2023.

Recent policy developments show a strong commitment to addressing these issues. The Ministry of Education has a **[National Implementation Plan for VET \(PNI-VET\) 2021–2027](#)**, aligning with EU objectives to improve the **relevance, accessibility, flexibility and quality** of vocational training. Under this plan and the Recovery and Resilience Facility, investments are being made to upgrade training infrastructure (such as the dual campuses and labs), update qualifications, and expand guidance and apprenticeship opportunities. Dual education's roll-out is supported by incentives for companies and projects like **traineeships for students in key economic sectors (agriculture, industry, IT)**. Furthermore, **lifelong learning participation** among adults in Romania has historically been extremely low (around 1-2%), but there are signs of improvement. By 2023, adult participation in education and training (ages 25-64) rose to **6.7%**, a notable increase albeit still only about half of the EU average (12.8%). This

upswing is partly due to new upskilling programs and EU-funded initiatives targeting adult training. Still, the gap remains wide, indicating a need for continued efforts in promoting continuous VET and reskilling opportunities – an area that post-secondary VET and partnerships with employers can help address.

The Romanian government and stakeholders are actively working to strengthen VET and HET as engines for economic development. With **“Educated Romania” reforms becoming law in 2023**, the country is implementing measures such as: integrating vocational routes with higher education, securing resources for modern VET schools, and ensuring graduates have the competencies demanded by a changing labour market. Challenges such as reducing dropout, raising completion rates, and improving the public perception of VET are being tackled through these comprehensive reforms. The VET and dual education system in Romania is thus in a phase of transformation – aiming to produce a skilled workforce for the future while offering inclusive educational pathways for all learners. The continued monitoring of enrolment, graduation, and employment outcomes, accompanied by data-driven adjustments in policy, will be crucial to achieving the European and national targets set for 2030. Each percentage point increase in VET participation or decrease in early school leaving represents progress toward a more educated and resilient society, which is the ultimate goal of Romania’s current educational strategy.

Despite the ambitious reforms and increased funding—such as the Framework Agreement between the Government of Romania and the Swiss Federal Council to support dual VET—the impact on the ground remains limited. Teachers, employers, and policymakers all acknowledged that **change is underway, but the effects are yet to materialise in classrooms, workshops, or employment outcomes. One teacher commented:**

“There’s a lot of talk about reform, but in the classroom, things look the same. We’re still working with overcrowded timetables, and students who’ve already given up before they begin.”

The representative from the Ministry of Education was more optimistic, though cautiously so:

“We’ve laid the groundwork for systemic transformation, especially with new partnerships like the Swiss-funded programme—but we know it will take time before schools and companies fully feel the impact. Capacity-building is key. We also need to change the social mindset. We, as a society, need this qualifications, and we need to value education in all its shapes and forms. There is no other way forward.”

From the employers’ side, the enthusiasm for collaboration is tempered by persistent barriers. One industry partner noted:

“We support the idea of dual education and we’re open to partnerships, but we need qualified teachers, clear frameworks, and students who are genuinely prepared to learn. Right now, we still do most of the training ourselves.”

VET Internationalisation policy

Policy Frameworks and Strategies Supporting VET Internationalisation

Romania's vocational education and training (VET) policies are closely aligned with European frameworks and national education reforms. The new Law of Education No. 198/2023 (Pre-university Education Law) introduced a series of reforms to modernise and improve the efficiency of the education system. This law operationalises the presidential "România Educată" (Educated Romania) project by establishing the legal framework for equitable, high-quality education throughout the country. While the law's primary goals are improving quality, inclusion and reducing dropout, it also creates an environment conducive to international cooperation by aligning Romanian education with current European standards and practices. In this context, Romania has committed to implementing the EU's Council Recommendation on VET (2020) and the Osnabrück Declaration (2020) on VET, setting national priorities through 2030 in line with these [European objectives](#). The Ministry of Education explicitly recognises the "international dimension" of pre-university (including VET) education as a transversal domain of interest, and its official annual report dedicates a section to this topic.

Beyond EU alignment, Romania is preparing for OECD membership, which further drives internationalisation efforts. Romania has been an active contributor to OECD educational analyses – for the second year in a row, it was included in the OECD's Education at a Glance 2024 report, demonstrating the country's firm commitment to joining the organisation. Through a joint project with the European Commission's DG REFORM and the OECD, a comprehensive review "Reforma învățământului preuniversitar în România" was conducted, offering recommendations on governance and quality in pre-university education. The Ministry is analysing OECD's recommendations as part of the accession process, ensuring that VET policies incorporate international best practices. The representative of the Ministry of Education and Research highlighted the country's active engagement in OECD-led reviews and its commitment to aligning with international standards. The representative explained:

"OECD accession is more than a political objective—it's a catalyst for real, evidence-based reform. The recommendations we've received are shaping how we think about quality, equity, and the governance of vocational education."

From the perspective of the National Authority for Research, the OECD process also reinforces the connection between education and innovation policy:

"International benchmarks help us understand where we stand—and where we need to go. Aligning VET with OECD expectations pushes us to modernise not only the curriculum but also the way we integrate education with national research and innovation strategies. What is relevant from our perspective is that fact that we will collect and work with better data. This will make the difference. We are in the process of developing a monitoring platform that will help to implement and monitor the implementation of the National Strategy for Research, Innovation, and Smart Specialisation. This means that we will be able to design better policies and connect industry and societal needs to research and education."

Romania's strategic use of European funding instruments also supports VET internationalisation. Under the National Recovery and Resilience Plan (PNRR), substantial investments are directed to VET modernisation – for example, €588 million was allocated to pilot regional dual education consortia across all development regions. This initiative, inspired by successful dual VET models abroad, is being implemented with EU financial support, indicating how international frameworks and funds are

integrated into national VET strategy. The existence of dedicated bodies like the National Centre for the Development of VET ([CNDIPT](#)) further embeds internationalisation: CNDIPT not only updates curricula to meet European qualifications frameworks but also represents Romania in European VET networks (e.g. Cedefop's ReferNet and EU skill alliances), ensuring Romanian VET remains connected with European developments.

International Initiatives, Programs and Partnerships

Romania actively participates in a range of international programs and partnerships that drive the internationalisation of VET. Foremost among these is the Erasmus+ programme, which has become a pillar of Romania's VET internationalisation. In 2023, Erasmus+ provided €17.68 million in funding to 253 Romanian VET institutions holding Erasmus accreditation, and supported 46 short-term VET mobility projects. Through these projects, approximately 7,600 Romanian VET students and teachers took part in international mobilities. By 2024 the scale had grown: 299 VET institutions were accredited for Erasmus+, receiving €25.4 million in support, with 22 additional short-term projects enabling 12,000 VET learners and staff to go on mobility abroad.

Institutions in București and Ilfov have been among the most active. [Colegiul Economic "Costin C. Kirițescu"](#) in Bucharest, for example, has used its Erasmus+ accreditation to offer students internships in Portugal, Spain and Italy, while providing teachers with job-shadowing and upskilling opportunities. Similarly, [Liceul Tehnologic "Cezar Nicolau"](#) in Ilfov carried out extensive Erasmus+ projects including internships for students and training for teachers in Brussels and Avezzano. These projects resulted in "improved professional and linguistic competences for students" and allowed staff to gain exposure to innovative teaching methods.

Alongside individual mobilities, Romanian VET providers engaged in collaborative projects. In 2023, 18 small-scale partnerships and 13 larger transnational cooperation projects were underway, creating networks with peer institutions across Europe. For instance, [Liceul Tehnologic "Pamfil Șeicaru"](#) and [Liceul Tehnologic "Doamna Chiajna"](#) participated in the [Erasmus+](#) partnership "[MyWay to a Career in European Hospitality](#)." As a result, students gained real-life work experience abroad, with one [learner](#) reflecting that the mobility "shaped a path for my future career" ([source](#)). These Erasmus+ partnerships facilitate curriculum development, the exchange of best practices, and joint innovation in VET. Romanian authorities emphasise strengthening such international collaboration via European projects like Erasmus+ as an ongoing priority.

Romania also leverages other international funding programmes. Under the EEA and Norway Grants, the country implemented projects to enhance VET quality and work-based learning in cooperation with foreign partners. One example is the [EVRICA](#) project (2021–2023), which developed tools for assessing learning outcomes in workplace learning. Led by the National Centre for the Development of TVET (CNDIPT) and supported by Norway, Iceland, and Liechtenstein, EVRICA produced item banks and evaluation instruments, illustrating Romania's openness to international support beyond the EU.

In addition, Romania's National Agency for Erasmus+ coordinates initiatives like eTwinning and the European Solidarity Corps in schools. While primarily aimed at general education, vocational institutions like Colegiul Economic "Hermes" have long participated in international activities such as European practice firm fairs and student exchanges. Colegiul Economic "Viilor" and [Virgil Madgearu](#) have engaged in digital partnerships and mobility projects, further embedding international elements in vocational learning. One best practice is the [Youth Business Summit 2024](#), organized by HSBC, INTUIT, DELOITTE, VIACOM, NIELSEN, GOOGLE, AMAZON, SALESFORCE, NEW YORK CITY DEPARTMENT OF EDUCATION (DOE) where students from the Virgil Madgearu students participated.

Bilateral and multilateral partnerships with international organisations also contribute to VET internationalisation. Notably, Romania cooperates closely with Germany in vocational and language education. The Centre for Continuing Training in German (CFCLG), frequently highlighted in the Romanian-German Government Commission, delivered over 150 training sessions for more than 2,400

teachers in 2023. It works closely with Zentralstelle für das Auslandsschulwesen (ZfA) and the Goethe-Institut, helping align teaching standards—including in VET schools that offer instruction in German—to international levels. This collaboration strengthens the international dimension of education in minority languages and teacher development.

Romanian VET institutions are increasingly involved in European alliances addressing specific industry needs. For instance, CNDIPT and Gheorghe Asachi Technical University of Iași are members of the METASKILLS4TCLF alliance—an Erasmus+ Sector Skills Alliance targeting skills for the green and digital economy in textile, leather, clothing, and footwear sectors. Through such partnerships, Romanian VET providers gain access to cutting-edge curricula and cross-border innovation.

Romania also maintains an **EQAVET National Reference Point** and has used Erasmus+ to strengthen quality assurance in VET. Sixty VET schools across the country, including from Bucharest and Ilfov, are organised into 10 networks by training field and use a private online platform to exchange best practices. This initiative—developed through Erasmus+ EQAVET projects—demonstrates how EU-level frameworks are embedded into Romanian practice via peer learning and institutional cooperation.

International cooperation in Romanian education also includes support for foreign learners. In response to the war in Ukraine, Romania implemented special measures in 2023–2024 for Ukrainian children and adults granted protection. These included free Romanian language courses, recognition of prior learning, counselling, and inclusive access to vocational education. Schools such as **Școala Profesională Specială “Sfânta Maria”** in Bucharest have actively participated in international programmes (e.g., [ByCYBERwise](#), [OptEd](#)) and inclusive [mobility projects](#), ensuring education remains accessible to all learners, regardless of background or ability.

Higher VET institutions in Bucharest also benefit from international partnerships. **Școala Postliceală Sanitară “Fundeni”** hosted Pharmacy Assistant students from Greece for training placements, [enabling mutual exchange of expertise in healthcare](#). Meanwhile, **Școala Postliceală Sanitară “Carol Davila”** has sent students on [clinical internships](#) in France and Belgium. In 2023–2024, the school prepared 35 nursing students and staff for training at institutions like the Esquirol Medical Institute in Lyon. These exchanges, aligned with Erasmus+ goals, help harmonise Romanian health education with European standards.

Although not strictly VET, Romania’s participation in **European Universities Alliances** has deepened internationalisation across education sectors. A strong example is **POLITEHNICA Bucharest’s** membership in **EELISA (European Engineering Learning Innovation and Science Alliance)**. Through this partnership, the university launched joint programmes, short-term courses, and multilingual, multi-campus learning paths. As a representative from POLITEHNICA’s international office shared:

“Being part of EELISA has been transformative—it’s more than a network, it’s a space where we co-create future skills. We have boosted student and teacher mobility, created more flexible, multi-campus learning pathways, promoted multilingualism, and contributed to other joint initiatives. This makes POLITEHNICA more attractive and consolidates its position in the area.”

POLITEHNICA has actively contributed to 64 Erasmus+ projects from 2020 to 2024. Other Bucharest-based universities—like the **University of Bucharest** and **Technical University of Civil Engineering**—also belong to European Universities Alliances such as **CIVIS** and **EU-CONEXUS**, boosting their international research and mobility capacities.

Another successful initiative is the **InoVerde CoVE**, a Centre of Vocational Excellence founded under Erasmus+. It was launched by **Liceul Tehnologic “Cezar Nicolau”** in collaboration with a professional association, a private company in urban greening, and the **WorldSkills Romania Foundation**, with support from CNDIPT. This CoVE supports skills development for sustainable cities and green infrastructure—highlighting how Romanian VET institutions are aligning with EU green transition goals.

Romania also coordinates with **UNESCO** and other international bodies to promote intercultural dialogue and diversity in education. These efforts further broaden the reach of internationalisation in the pre-university system and contribute to inclusive policy-making.

Supporting education for Romania's diaspora is another important component. Through the **Limba, Cultură și Civilizație Românească (LCCR)** programme, over 800 groups were formed in 300 schools across eight countries in 2023–2024, reaching more than 10,500 Romanian children abroad. While not VET-specific, the LCCR helps maintain cultural and educational ties, supports future student reintegration, and lays the groundwork for possible VET participation among returnees.

Lastly, the Ministry of Education and Research has prioritised **teacher development** as a cornerstone of VET internationalisation. Two flagship initiatives—the **PROF project** and **Start în carieră prin master didactic**—have offered thousands of teachers both continuous training and international experience.

As one representative shared:

"We've implemented two strategic projects to support teacher development. The first is the PROF project, through which 28,000 teachers from pre-university education benefited from continuous training and professional development opportunities by 2023. The second, Start în carieră prin master didactic, supported initial teacher training by offering international practice placements and recognising learning outcomes from mobility experiences. Over 400 pre-service teachers were involved, gaining valuable insights into educational practices abroad."

Data and Trends in VET Internationalisation

Participation in international programmes has risen markedly in recent years, indicating growing internationalisation of Romanian VET. According to official statistics, Romania's Erasmus+ involvement in VET reached new highs in 2023 and 2024. In 2023, a total of 7,600 Romanian VET students and teachers went on Erasmus+ mobility exchanges, a figure which climbed to 12,000 participants in 2024. These mobilities span work placements, study visits, and training courses in various European countries. The number of Romanian VET institutions engaged in Erasmus+ is also expanding: 253 VET providers held Erasmus+ accreditation in 2023, and 299 in 2024. This suggests that a large proportion of Romania's vocational schools and colleges are now involved in EU-funded international activities. Financially, over €25 million was invested via Erasmus+ in Romanian VET projects in 2023, and this rose to more than €26.8 million in 2024 (combining grants for accredited mobilities and short-term projects). These funds have supported hundreds of small-scale partnerships, curricular cooperation projects and capacity-building initiatives within VET, in addition to mobility grants.

Romania's engagement with European VET networks is reflected in data from quality assurance and skills development projects. Under the EQAVET initiative, 60 vocational schools are part of sustained partnership networks focusing on quality improvement. Likewise, Romania's contribution to international skills development consortia is evidenced by its involvement in multi-country projects like METASKILLS4TCLF, which includes 30 partners from 11 countries – a testament to Romania's readiness to collaborate on sectoral skills at scale.

On the inbound side of internationalisation, by mid-2024 thousands of Ukrainian refugee students had entered Romanian schools (including VET streams). While exact numbers in VET specifically are not published in the report, the government's measures (e.g., establishing over 4,000 places in Romanian language classes for refugees) suggest a significant effort to accommodate these international learners. The presence of foreign students and teachers in Romanian education is also growing through bilateral programmes. For instance, Romania hosts language assistant teachers from countries like France, Spain, and Italy via cultural agreements, and sends Romanian language teachers abroad (over 170 assigned to LCCR courses across Europe in 2023–2024). These figures underscore a two-way

internationalisation: Romanian VET students and staff gaining experience abroad, and foreign or expatriate students/teachers participating in Romanian education.

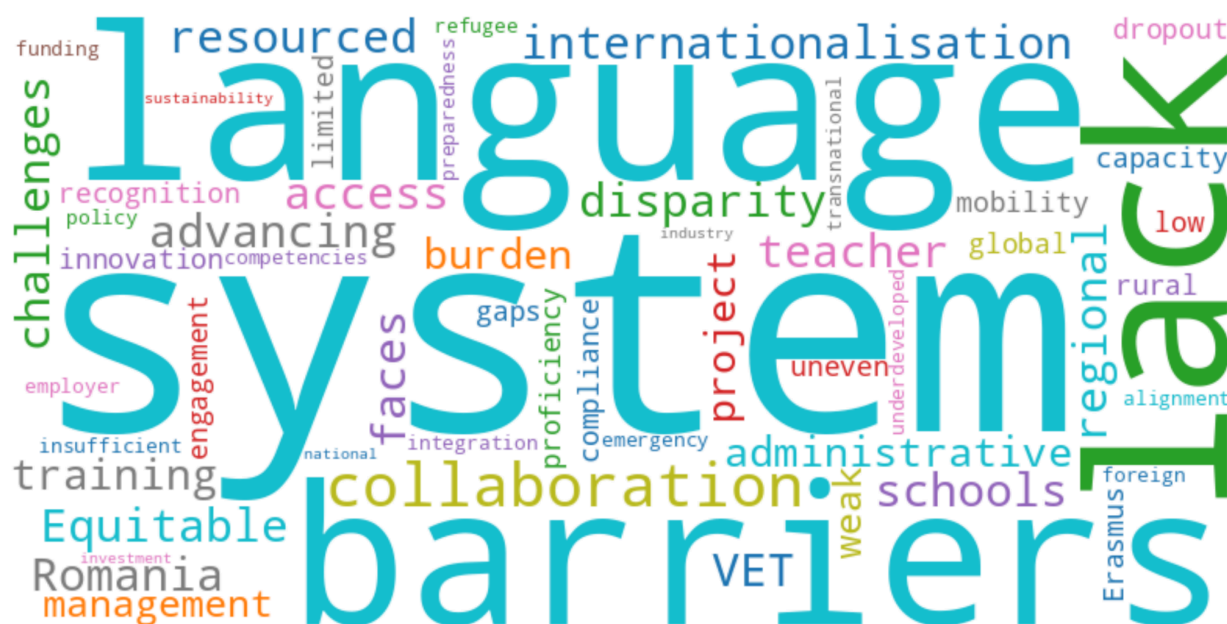
Despite these positive trends, it should be noted that the proportion of VET students benefiting from international mobility is still relatively modest compared to the total VET population. Romania has tens of thousands of students enrolled in upper-secondary vocational and technical programmes, so the few thousands going abroad each year represent an important but not yet majority share. This gap highlights the potential for further growth in coming years.

Challenges in VET Internationalisation

Romania faces several challenges in advancing the internationalisation of its VET system - see Figure 6, namely inequalities of access, language barriers, lack of skills and motivation, and the administrative burden.

Figure 6

Challenges in VET internationalisation from the interviews



Source: Generated by the authors based on verbatim transcriptions of the interviews

One challenge is ensuring equitable access to international opportunities across all regions and institutions. There is a disparity between well-resourced urban technical colleges (which often have the staff and language skills to secure Erasmus+ projects) and smaller or rural vocational schools that may lack the capacity to engage internationally. The government has recognised this and taken steps to broaden participation – for example, County School Inspectorates have co-opted 267 disadvantaged schools (supported under the national dropout reduction programme PNRAS) into Erasmus+ consortia to involve them in mobility projects. One teacher noted:

“In the countryside, there’s often only one teacher who speaks English well—and they already wear ten hats. These schools are eager to participate but simply don’t have the capacity or experience,”

Bridging such gaps remains an ongoing challenge: continued support and training are needed to help all VET providers, including those in marginalised communities, to develop international partnerships.

While internationalisation efforts through programmes like Erasmus+ have expanded significantly in recent years, the **practical implementation at school level remains uneven and often challenging**, particularly for under-resourced VET providers. Many teachers report facing **linguistic and organisational barriers** when managing exchange projects. As one VET teacher recalled:

“We had exchange programmes with Greece and Malta. It was a great experience for the students, but very difficult to manage. We needed the English teacher to mediate everything—without them, we couldn't communicate properly. It's exhausting on top of our regular work.”

This excerpt reflects a wider issue: while international opportunities are growing, many schools lack the internal capacity, foreign language proficiency, and project management experience to fully benefit from them. Strengthening institutional support, teacher training, and language preparation is essential to ensure that these exchanges are not just symbolic, but meaningful learning experiences for both staff and students.

While many Romanian students study foreign languages, the overall proficiency in English and other major languages is uneven, which can limit the pool of students and teachers confident to participate in exchanges. Even when international experiences are completed, their value is often not adequately recognized: tools like Europass or ECVET are available, but the integration of international learning outcomes into Romania's qualifications framework is not systematic, leading to weak formal validation of skills acquired abroad. Institutional culture and staff preparedness can further impede international engagement. As a representative from the Ministry of Education and Research explained:

“We've made progress with mobility tools, but formal recognition is still catching up. We need a more consistent application across institutions to ensure international experiences have real weight in a learner's trajectory. What is also important is the willingness of both students and their families to engage in study mobilities. Usually, the families lack the financial means to support such a mobility and they are rather reluctant.”

Many VET teachers have limited experience in international projects or transnational collaboration, and schools often prioritize compliance with national norms over innovation or internationalisation. One teacher from a vocational college in Ilfov noted:

“Most of the time, we're so focused on inspection checklists and reporting that there's no room left for international projects”

Moreover, administrative burdens—such as project reporting and financial management—discourage many institutions from applying for international grants or partnerships. This gap in international exposure contributes to broader issues of visibility, relevance, and competitiveness in Romanian VET. Students in VET tracks often have fewer opportunities to develop global competencies, build transnational networks, or experience diverse work environments—advantages increasingly valued in a globalized economy.

Employers also echoed these concerns. While they are generally supportive of VET internationalisation, many noted the **disconnect between school projects and real industry needs**:

“Some international initiatives sound good on paper, but we’re rarely involved in planning or follow-up. We’d like to see more alignment with what’s actually needed in the labour market”

To address this, Romania has emphasised teacher training and mentoring. Initiatives like the German Training Centre (CFCLG) help by upskilling teachers in foreign language pedagogy, and the Ministry encourages schools to offer more bilingual programmes and language courses. Still, improving foreign language competence among VET students is a priority to fully capitalise on mobility opportunities. Likewise, administrative burdens and the ability to develop high-quality project applications pose challenges for some VET schools, something that national agencies are trying to alleviate through guidance and by sharing best practices from successful Erasmus projects.

Ensuring recognition and integration of learning from abroad into domestic pathways is another area to develop. While frameworks exist (e.g., use of Europass Mobility documents and alignment with the European Qualifications Framework), Romanian VET institutions must continue working on recognising skills gained through international mobility. The ongoing reforms in curriculum and qualifications (such as introducing new qualifications aligned with European standards) help create a more flexible system where foreign-acquired competences can be valued. The country’s active involvement in EQAVET and the development of standardized assessment tools (via projects like EVRICA) aim to ensure that quality and outcomes of training – whether domestic or abroad – are consistently measured. Nonetheless, maintaining quality equivalence and credit transfer for international experiences is an iterative challenge that requires updated regulations and institutional commitment. The internationalisation of vocational education and training (VET) in Romania remains underdeveloped, despite EU frameworks that emphasize mobility, cooperation, and the recognition of skills acquired abroad. Participation in European initiatives such as Erasmus+ or bilateral partnerships is largely limited to a small number of better-resourced institutions, typically located in urban centers. Rural or underfunded VET providers often lack the administrative capacity, digital infrastructure, or foreign language proficiency needed to engage internationally.

The recent influx of Ukrainian refugees presented a sudden challenge of integrating non-Romanian speaking students into VET and other schools. Romania had to rapidly adapt its policies – issuing special ordinances and methodologies in late 2022 and 2024 – to recognise prior learning without documents and to provide Romanian language tuition. While largely successful, this highlighted the need for better emergency preparedness in the education sector and the importance of having support mechanisms for foreign students. Providing sufficient Romanian language teachers, counsellors, and resources for these learners has strained the system, but Romania’s prompt action (with support from EU Civil Protection and UNICEF, among others) mitigated a larger crisis. Going forward, integrating such students into vocational tracks (should they remain in Romania) will require flexibility in curriculum and perhaps offering VET classes in other languages or with translation support as needed.

Finally, sustaining funding and institutional support for internationalisation is an enduring concern. Romania’s current boom in VET international activities is buoyed by generous EU funding (Erasmus+, PNRR, etc.) and strong political will.

The challenge now is not just access, but sustainability. We need stable national funding, not just reliance on EU programmes,” said the Ministry representative.

This includes securing national co-financing where required and encouraging industry partners to invest in international training opportunities (for instance, via apprenticeships or student exchanges with companies abroad).

Future Directions for VET Internationalisation in Romania

The strategic outlook for Romania's VET internationalisation is broadly positive, with clear plans to deepen global engagement. The Ministry of Education's development roadmap for 2025 and beyond explicitly prioritises expanding international cooperation. Key future directions include strengthening participation in European programmes like Erasmus+ even further and encouraging more VET institutions to join transnational projects. Romanian authorities intend to "intensify international collaboration through projects at the European level (Erasmus+ and others)", signalling continued support for outbound mobility and partnerships. This will likely involve targeting an even greater number of mobilities and possibly new initiatives under the forthcoming Erasmus+ programme cycle (2027–2034).

Another planned direction is to stimulate synergies between international and national initiatives. Recognising that internationalisation works best when complementing domestic reform, Romania will continue linking programmes like PNRR or PNRAS with Erasmus+ opportunities. By doing so, schools that benefit from investments in infrastructure or inclusion (via national funds) are also encouraged to engage internationally, creating a virtuous cycle of development. The Ministry's strategy explicitly mentions accentuating the involvement of PNRAS-supported schools in accredited Erasmus consortia, which should lead to a broader base of schools sending learners abroad. Additionally, there is an impetus to align international projects with key thematic priorities. Future Erasmus+ and bilateral projects are expected to give priority to themes such as social inclusion, green skills and environmental protection, digitalisation, and promotion of European values – all areas highlighted as national priorities. This means Romanian VET schools will likely partake in more projects focusing on inclusivity (e.g., mobility for students with fewer opportunities), climate-friendly practices, and civic engagement, in tune with EU programme guidelines.

Romania also plans to expand its global outreach and networks. Beyond Europe, the country may seek new education partnerships under initiatives like Erasmus+ worldwide or through [UNESCO-UNEVOC](#) networks for TVET. The continued expansion of the LCCR diaspora education programme (aiming for 850 groups abroad in the near term) will further internationalise Romania's educational presence and could open doors for bilateral youth exchanges and cultural projects involving VET students. Likewise, Romania's pursuit of [OECD](#) membership will remain a driving force: the process involves adopting OECD best practices in education policy and increased participation in OECD working groups and assessments (for example, Romania is joining the OECD's [PIAAC adult skills survey 2024–2029](#)). Achieving OECD standards in VET (on issues like work-based learning, employer engagement, and adult training) will be a focal point, and the accession recommendations will guide future reforms. We can expect Romania to continue hosting and attending international conferences, data projects and peer learning events as part of this journey.

Figure 7

Potential directions in VET internationalisation from the interviews



Source: Generated by the authors based on verbatim transcriptions of the interviews

In summary, Romania's VET internationalisation is underpinned by robust policy commitments and a growing portfolio of international engagements. Strategic frameworks like the 2023 education law and alignment with EU/OECD agendas provide a supportive foundation. A variety of initiatives – Erasmus+ mobilities, European projects, EEA grants, bilateral training programmes – are actively connecting Romanian VET learners and educators with their peers worldwide. Data show a positive trend in participation, though challenges such as unequal access and language barriers need ongoing attention. Looking ahead, Romania is set on a course to further integrate its VET system into the European Education Area and global education networks, leveraging international cooperation to enhance the quality and relevance of vocational training at home. This comprehensive approach, blending policy reform, international funding, and partnerships, positions Romania's VET sector to become increasingly cosmopolitan and future-ready in the years to come.

Economic sector - Smart Specialisation Strategy

Overview of the Regional Smart Specialisation Strategy

The Bucharest-Ilfov region – Romania's capital area – is the country's economic and innovation powerhouse. Almost **two-thirds of national R&D expenditure and half of Romania's research infrastructure are concentrated in Bucharest-Ilfov**, reflecting its strong knowledge economy. As an EU region, Bucharest-Ilfov was required to develop a Research and Innovation Strategy for Smart Specialisation (RIS3) as a precondition for receiving structural funds. The European Commission has encouraged all regions to adopt **smart specialisation strategies** that focus resources on competitive niches and foster a new innovation-driven economic model. In line with this, Bucharest-Ilfov's smart

specialisation strategy has been formulated through a [quadruple-helix](#) consultation (engaging public authorities, academia, industry and civil society) to identify priority domains with high growth potential.

Bucharest-Ilfov's smart specialisation vision is to **maintain an [upward innovation](#) trajectory**, aiming to reach at least 70% of the EU average innovation performance. To achieve this, the regional strategy aligns with the National Strategy for Research, Innovation and Smart Specialisation 2022–2027 (SNCISI) and EU objectives. The strategy's objectives include strengthening regional R&D capacity, boosting a competitive innovation-driven economy, advancing the [digital transformation](#) of society, and improving cooperation among innovation actors. In essence, Bucharest-Ilfov seeks to leverage its strong educational base and industrial diversity to drive smart, sustainable and inclusive growth. Notably, Bucharest-Ilfov already **stands out as a more [developed region](#)** in Romania, with high performance in higher education, skills and labour market indicators. This favourable context provides a solid foundation for implementing the RIS3 and achieving coherence with national and EU innovation agendas.

Key Smart Specialisation Areas and Their Economic Role

Through an [Entrepreneurial Discovery Process](#), the region has pinpointed several key smart specialisation domains. These priority areas reflect Bucharest-Ilfov's existing strengths and future opportunities, and are intended to generate high value-added growth. The main smart specialisation fields identified for the Bucharest-Ilfov region are:

- **Information and Communication Technology (ICT):** This domain capitalises on Bucharest's thriving tech sector, which includes software development, cybersecurity, artificial intelligence (AI), fintech and other IT services. As a major [digital innovation hub](#), the capital region specialises in digital technologies and related industries. ICT not only contributes substantially to regional GDP and exports, but also enables innovation across all other sectors (through digitalisation of manufacturing, e-governance, smart city solutions, etc.). The strong ICT cluster in Bucharest-Ilfov helps drive productivity and positions the region as a leader in Romania's digital economy.
- **Cultural and Creative Industries (CCI):** Creative sectors – such as audiovisual production, design, media, gaming, and arts – form another priority area. Bucharest-Ilfov hosts a significant concentration of creative talent, studios and cultural institutions. Smart specialisation in CCI focuses on digital content creation, interactive technologies (e.g. virtual/augmented reality) and new formats for preserving and promoting cultural heritage. These industries stimulate innovation by merging technology with the arts, generating jobs for young professionals and enhancing the region's cultural vibrancy. The creative industries also contribute to tourism and urban regeneration, making them important for **regional development** alongside economic growth.
- **Intelligent Systems and Components:** This field covers advanced manufacturing systems, electronics and mechatronics – areas where the region has both industrial and research capabilities. It includes [new manufacturing systems and smart equipment](#), sensors and micro-electromechanical components, as well as robotics and automation. With Bucharest-Ilfov being home to major engineering universities and the national hub for aerospace and defence, this specialisation leverages local expertise in electronics, optics, and automotive parts. Developing intelligent systems and components addresses both industrial modernization and creates high-skilled jobs, reinforcing the region's competitiveness in sectors like automotive, defence, and advanced machinery.
- **Advanced Materials and Intelligent Manufacturing:** This priority focuses on novel materials (e.g. nano-materials, bio-materials, smart textiles) and innovative production technologies (such as

3D printing and industrial automation). Bucharest-Ilfov's R&D institutes and companies are exploring [smart and eco-friendly materials](#) and manufacturing processes for use in various industries – from healthcare and construction to textiles. By specialising in advanced materials, the region aims to spur industrial diversification and higher value-added production. This domain also strengthens links between research and industry (through technology transfer in materials science) and supports the shift towards a more knowledge-intensive manufacturing base in the local economy.

- **New Foods and Food Safety:** Agri-food innovation is included as a smart specialisation to modernise food production, nutrition and safety. Although Bucharest-Ilfov is largely urban, it encompasses agri-food businesses and research institutes focusing on food technologies. The **“New foods & food safety”** domain promotes development of functional foods, innovative food processing, and improved food quality standards. This is vital for ensuring sustainable food supply to the metropolitan population and for tapping into niche markets (organic produce, nutraceuticals, etc.). Smart specialisation in this area supports regional agribusiness SMEs to upgrade with R&D, aligning rural-urban economic links and contributing to public health objectives.

These smart specialisation areas are engines for economic growth and regional development.

They were chosen for their potential to create high-value jobs, stimulate innovation, and attract investment in Bucharest-Ilfov. Each domain builds on existing regional strengths – from the large ICT sector to the presence of universities, research institutes and a skilled workforce in engineering and creative fields. By concentrating resources in these areas, the region seeks to boost its overall competitiveness and move up the value chain. In particular, the ICT and engineering-related specialisations reinforce Bucharest-Ilfov's role as the country's innovation locomotive, while creative industries and agri-food tech ensure that growth is diversified and inclusive across different segments of the economy.

Supporting the Green and Digital Transitions

Bucharest-Ilfov's smart specialisation strategy is closely aligned with the EU's twin transitions – the **green transition** (towards a low-carbon, sustainable economy) and the **digital transition**. The chosen S3 domains inherently contribute to these twin goals. For instance, the strong focus on ICT and intelligent systems directly advances the [digital transformation](#) of the region's economy. By promoting AI, automation and digital solutions in industry and public services, the strategy supports both enhanced competitiveness and the EU's Digital Decade ambitions. In the Bucharest-Ilfov strategy, digitalisation is treated as a cross-cutting priority to be integrated into all smart specialisation areas. This means that whether it is creative industries or advanced manufacturing, the adoption of ICT and digital tools is encouraged as a driver of innovation.

At the same time, the smart specialisations are geared towards the [green transition](#). Advanced materials research in the region includes developing eco-friendly and circular materials (for example, biodegradable plastics and recyclable textiles) which supports a more sustainable, resource-efficient economy. Likewise, intelligent manufacturing emphasises energy-efficient and clean production technologies. The focus on new foods and food safety can contribute to greener agriculture and food supply chains (e.g. through promoting organic foods, reducing waste, and improving food security). These priorities echo the European Green Deal's objectives of decarbonisation and circular economy, as well as Romania's national commitments on climate and sustainability.

Strategically, **Bucharest-Ilfov's RIS3 explicitly aims to facilitate the “double transition” – both ecological and digital** – in its regional development vision. This alignment is reinforced by national and EU policy instruments. For example, the region's 2021–2027 Regional Operational Programme dedicates funding to innovation in smart specialisation sectors, with a strong emphasis on projects that have environmental or digitalisation benefits. In broader terms, the European Commission's updated industrial strategy highlights the need for all regions to transition to a **green, digital and resilient economy**, which Bucharest-Ilfov addresses through its S3 focus areas. By investing in green tech (clean materials, sustainable food) and digital industries (ICT, automation), the region is positioning itself to meet EU climate targets and to thrive in an economy increasingly defined by sustainability and digital innovation.

Role of VET and HVET in Developing Smart Specialisations

Vocational Education and Training (VET) – including Higher VET and technical tertiary education – plays a pivotal role in **building the human capital** needed for the region's smart specialisation areas. Bucharest-Ilfov's strategy recognises that a skilled workforce is essential to sustain growth in its priority sectors. One of the region's strategic objectives is strengthening the competences of innovation actors **by improving the skills and abilities of human resources in smart specialisation areas**. This underscores the link between education and the success of the RIS3: without a pipeline of technicians, engineers, IT specialists, creative professionals, and researchers, the identified sectors cannot expand fully.

Currently, there are challenges to address. Nationally, Romania suffers from a **misalignment of education and labour market needs**, and this affects the capital region as well. For example, only about 8% of Romanian VET students had access to work-based learning in 2022, and the employment rate of recent graduates is well below the [EU average](#). Skills taught in VET and higher education often do not match the requirements of modern industries, indicating a need for curriculum updates and closer industry-education linkages. In the context of Bucharest-Ilfov, this means VET schools and technical universities must adapt their programmes to the specific needs of the ICT companies, manufacturing firms, creative studios, and labs operating in the region. Encouragingly, the region has many strong educational institutions (e.g. National University of Science and Technology POLITEHNICA Bucharest, University of Bucharest, vocational colleges etc.) which, if mobilised properly, can support the RIS3 domains with skilled graduates.

Enhancing the role of VET and HVET in the innovation ecosystem can take several forms. Firstly, **modernising VET curricula** to include digital skills, green technologies, and entrepreneurship will better prepare students for careers in smart specialisation sectors. Internships and apprenticeships with companies in ICT, manufacturing or creative fields would improve practical experience and job readiness. Secondly, strengthening partnerships between VET providers and industry is crucial. Through clusters and sectoral committees, firms can signal their skill needs and even co-design courses. The European SKYLA initiative (Smart Specialisation Skills Ecosystems for the Twin Transition) exemplifies the approach: it aims to **close skills gaps for the green transition by strengthening VET's role in innovation ecosystems and integrating skills into the twin transition**. Such initiatives align well with Bucharest-Ilfov's goals, as they promote anticipating future skills needs and embedding lifelong learning into regional development. For instance, [InoVerde](#), the first Centre of Vocational Excellence (CoVE) in the field of

urban greening in Romania, proposes a new professional training standard and curricula for EQF level 3 initial VET qualification ‘Urban gardener’, developed through a collaborative process involving two professional associations, one company and teachers from five VET schools. Other technical colleges have pursued international partnerships to modernise their training. For example, **Pamfil Șeicaru Technological High School** in Ciorogârla (Ilfov) recently [earned an Erasmus+ VET accreditation \(2025\)](#), which will expand its students’ access to EU-funded practical placements. The school’s technical programs – in mechanics, economics, tourism and food services – will leverage this accreditation to send students on international internships and develop their professional competencies. Similarly, the **Costin C. Kirițescu Economic College** in Bucharest has engaged in Erasmus+ projects to enhance skills in the creative and services sectors. In 2022, Kirițescu students from the tourism and commerce tracks completed a two-week internship in Barcelos, Portugal as part of a [VET mobility project](#). These exchanges support the region’s **creative industries and tourism** by equipping youth with language skills, intercultural competence, and up-to-date service industry know-how.

In the high-tech domain, universities are likewise forging ties with industry and EU initiatives. **Politehnica Bucharest** – the region’s leading technical university – has actively aligned its programs with **ICT and advanced manufacturing** priorities. POLITEHNICA Bucharest helped found the “Go Electric” cluster to drive electric vehicle innovation in the capital (Rivas, 2018). By updating curricula in areas like Industry 4.0, automation, and medical technology, the university is producing graduates with skills attuned to regional innovation needs. The University of Bucharest has also sought to support smart specialisation through entrepreneurship and research initiatives – for instance, by participating in the Bucharest Smart City Association and offering new postgraduate courses related to digital innovation and urban development. More recently, POLITEHNICA Bucharest has developed a cluster for innovation in smart cities, [CITI](#). The cluster is oriented towards identifying the strengths and opportunities of the targeted sector, in order to connect various actors and implement projects through collaboration in the field of research–development–innovation and technology transfer.

A key trend in recent years is the formation of partnerships bridging schools, universities, and industry. Both Bucharest and Ilfov authorities have recognized that stronger collaboration is needed to produce work-ready graduates in priority fields. In 2021, the Ilfov County Council and Bucharest City Hall signed a cooperation protocol to jointly support [dual vocational education in the metropolitan area](#). As a result, several pilot dual classes were launched in Ilfov’s technical high schools. For example, in the 2020–2021 school year, Pamfil Șeicaru, Cezar Nicolau, and Dumitru Dumitrescu technical high schools each opened dual vocational classes in trades like automotive mechanic and pastry production. In these programs, employers such as manufacturing firms and food companies partnered with schools to provide on-the-job training, stipends, and updated equipment, as the representative of the Ministry of Education and Research pointed out:

„While still limited in scale this model represents a shift toward the work-based learning that is characteristic of European vocational excellence. It addresses one of the region’s long-standing challenges – the lack of practical training opportunities – by directly involving industry in curriculum delivery. [...] There are challenges, though. Smart specialisations are not fully understood. Perhaps some companies would know about them, but not faculty or schools teachers.”

Finally, **Higher VET (or professional higher education)**, such as short-cycle tertiary programmes and applied science universities, can provide advanced vocational training for technicians and specialists in S3 fields. In Bucharest-Ilfov, institutions like technical universities and research institutes often collaborate on postgraduate courses or professional certificates (for example, in cybersecurity, multimedia design, or food safety management). These programmes can be expanded to support upskilling and reskilling aligned with smart specialisation. As a best practice aligned with EU priorities for digitalization and sustainability, four EELISA institutions—Universidad Politécnica de Madrid, École des Ponts ParisTech, BME Budapest, and POLITEHNICA Bucharest—collaborated to launch EELISA’s first [Joint Executive Master on Digital Twins in 2022](#). The program exemplifies how higher education can respond to EU needs by equipping professionals with the skills to lead the green and digital transition in civil engineering and the built environment. By creating clear pathways from secondary VET to higher VET and onto the labour market, the region can ensure a steady supply of qualified workers – from skilled trades and technicians up to R&D engineers – to fuel innovation in its priority domains. In sum, **integrating VET and HVET into the smart specialisation strategy** will help Bucharest-Ilfov not only address current labour shortages but also build a resilient talent pool for future economic transformations.

Despite these positive initiatives, significant challenges remain. Work-based learning opportunities, while growing, are still not widespread – many vocational students in Bucharest-Ilfov do not yet have access to apprenticeships or state-of-the-art equipment. Curricula at some technical colleges lag behind the fast pace of technological change, leaving gaps in areas like digital skills, creative media, or green tech. Furthermore, coordination between the education system and the research and innovation system is still evolving (European Commission, 2020; European Commission. Directorate General for Research and Innovation., 2022)

“Our country has many pockets of excellence, but they don’t yet form a coherent ecosystem,” observed the National Research Authority representative, emphasizing that fragmentation across ministries and between national and regional bodies has hampered unified action. For years, research and innovation strategy was developed largely separately from educational policy. Smart specialisation domains were identified at regional level, but universities and vocational schools were not always fully involved in the early strategy discussions. This led to a disconnect – for instance, a national research institute or university department might pursue a high-tech project with little input from local training institutions, or vice versa (European Commission. Directorate General for Research and Innovation., 2022). The result has been isolated successes rather than systemic change. Governance reforms are now underway to bridge these divides. The 2021–2027 National RDI and Smart Specialisation Strategy explicitly calls for better integration of education and skills into innovation policy (European Commission. Directorate General for Research and Innovation., 2022).

At the regional level, the Bucharest-Ilfov Regional Development Agency is working more closely with school inspectorates, universities, and clusters to align funding priorities. One promising step is the creation of a **Committee for Coordination of Smart Specialisation (CCSI)** that brings together representatives from research, education, industry, and government, as the representative of the National Research Authority indicated. Through such forums, policymakers hope to continuously adjust curricula and training programs based on the evolving entrepreneurial discovery process. In addition, there is recognition that local administrations (like Bucharest’s sectoral city halls) have a role to play by acting as “living labs” or testbeds for innovation in education

“We need stronger governance mechanisms to connect the dots between research, innovation and education,” the research authority official stressed. “Only by coordinating our policies – from the national ministry down to local schools – can we ensure the talent pipeline truly serves our smart specialisation goals.”

This perspective is driving proposals to establish a single oversight framework for human capital development under the smart specialisation strategy. In practice, this could mean joint task forces, as well as regional skills councils that include universities and vocational schools when planning innovation projects. The recent protocol between Ilfov County and Bucharest municipality on dual education is a local example of such joined-up governance, aligning efforts across jurisdictions.

As the Policy Support Facility country report pointed out, the Bucharest-Ilfov region has made notable progress in orienting its education and training system toward the needs of a smart, innovative economy. From Erasmus+ projects and new vocational curricula to university-industry clusters and dual training campuses, a range of initiatives are helping develop the human capital required in **ICT, advanced manufacturing, creative, green, and health** sectors. These efforts have started to produce success stories – highly skilled graduates, modernised training facilities, and stronger school-business partnerships – that support the region’s competitiveness and social development. At the same time, this is a work in progress. Ensuring that every technical college and university faculty keeps pace with technological change will require sustained policy attention. Strengthening the governance of the skills ecosystem is crucial: better horizontal coordination (among ministries and agencies) and vertical coordination (between national and regional/local levels) must underpin the strategy implementation.

VET Internationalisation in Bucharest-Ilfov Region – SWOT Analysis

The internationalisation of VET has become a strategic priority across Europe, underpinning efforts to enhance the quality, relevance, and attractiveness of VET systems in a globally connected labour market. In the context of the Bucharest-Ilfov region – Romania’s economic and innovation powerhouse – internationalisation plays a pivotal role in aligning vocational education with European standards, promoting cross-border collaboration, and improving graduate employability.

With its concentration of universities, advanced infrastructure, and diverse economic base, Bucharest-Ilfov is well-positioned to serve as a national model for modern, internationally connected VET. The region has made significant strides in recent years, participating actively in European programmes such as Erasmus+, developing dual education campuses, and engaging in strategic partnerships that support the green and digital transitions.

This SWOT analysis (see Figure 8) explores the strengths, weaknesses, opportunities, and threats associated with the internationalisation of VET in the Bucharest-Ilfov region.

Figure 8
Challenges in VET internationalisation from the interviews



Strengths

- **Strategic Geographical and Economic Position:** Bucharest-Ilfov is Romania's most developed region, serving as the national economic and innovation hub. Its position as a major transport and business centre enhances connectivity and attractiveness for international partnerships.
- **Strong Policy and Strategic Alignment with European and International Frameworks.** The internationalisation of VET in the Bucharest-Ilfov region is underpinned by a robust and coherent policy framework that aligns national priorities with broader European and global standards. Central to this framework is the adoption of Law 198/2023 on pre-university education, which operationalises the [România Educată](#) vision. This legislative reform introduces key measures aimed at improving quality, equity, and inclusiveness in education, while explicitly recognising internationalisation as a cross-cutting priority. Romania's commitment to aligning with the European Union's Council Recommendation on VET (2020) and the Osnabrück Declaration ensures that the country's VET system evolves in step with EU objectives, such as sustainable competitiveness, social fairness, digital transition, and environmental responsibility. Moreover, Romania's preparations for [OECD accession](#) have further reinforced its drive for international benchmarking, with VET policy benefiting from joint reviews and technical assistance provided

through collaborations with the OECD and the European Commission. Strategic investment under the National Recovery and Resilience Plan (PNRR), including €588 million dedicated to developing regional dual education consortia and integrated campuses, demonstrates the state's use of international funding mechanisms to foster globally relevant educational models. These initiatives reflect an openness to adopting best practices from successful European dual systems. Institutionally, Romania has established key structures that sustain its international engagement. The National Centre for the Development of VET ([CNDIPT](#)) not only leads curriculum alignment with the European Qualifications Framework but also represents Romania in EU-level networks such as Cedefop's ReferNet and sectoral alliances. These bodies provide essential platforms for collaboration, knowledge exchange, and innovation. In parallel, Romania's national education reports now systematically include internationalisation indicators, ensuring visibility, accountability, and evidence-based policy evolution.

- Strong Educational Infrastructure:** Institutions such as POLITEHNICA Bucharest lead dual education (see the section *Campus Dual Politehnica București*) and higher VET projects, offering programmes aligned with European standards and industry needs. Through the National Recovery and Resilience Plan, Romania launched a call for projects aiming to fund the improvement of infrastructure in agricultural high schools, as part of the investment to transform them into professional training centres under the National Recovery and Resilience Plan. Funding will support construction and renovation works, as well as the procurement of specialised teaching and learning materials. In 2023, a funding contract worth 41 million lei was signed through Romania's National Recovery and Resilience Plan to equip 21 high schools or colleges, and 4 special education institutions in Sector 1 in Bucharest with furniture, specialised teaching materials, and state-of-the-art digital equipment. The goal is to ensure that students are genuinely prepared for life and for a constantly evolving labour market, rather than becoming mere collectors of diplomas with little practical value. As part of this investment, [38 classrooms](#) will be fully equipped with ultra-modern IT equipment. These classrooms belong to institutions within the vocational and technical education network, specifically: "Dinicu Golescu" College – 1 classroom, "Mircea cel Bătrân" Technical College – 11 classrooms, "Media" Technical College – 10 classrooms, and the "Ioan N. Socolescu" Technical College of Architecture and Public Works – 16 classrooms.
- Active partnerships** in both VET and HVET institutions. POLITEHNICA Bucharest has developed an ecosystem of 2000 economic partners (e.g., industry, CSOs, secondary schools and high-schools) and has developed a virtual space to build a community of practice <https://connect.upb.ro/> - CONNECT POLITEHNICA Bucharest. Recently, POLITEHNICA Bucharest in partnership with GO-Ahead Association launched the [DREAM](#) community. The long-term goal is to change the educational paradigm and create a positive impact for 30.000 young people in the next five years. It addresses exclusively students in VET high schools and supports them to successfully graduate their studies and get into the job market. Furthermore, all VET high schools have partnerships with industry to conduct professional practicum activities (e.g., the [list of partners](#) of the Edmond Nicolau College). CNDIPT monitors the professional insertion of VET graduates through a dedicated platform: <https://cndipt-angajatori.ro/cndipt/> In addition, higher education institutions organize science fairs to offer VET students attractive educational pathways (e.g., [POLIFEST](#)). In the same line of thought, POLITEHNICA Bucharest organized in

2024 the first edition of [EDUFEST](#) targeting specifically VET students). Aligned with this, the National Strategy for Research, Innovation and Smart Specialisation 2022-2027 along with the National Plan for Research, Development, and Innovation support the development of stronger education ecosystems through various initiatives such as „[Science in schools](#)” (e.g., Fab-labs, summer schools jointly organized by industry and universities)

- **Active Participation in EU Programmes:** A growing number of accredited VET institutions benefit from **Erasmus+** and other EU-funded projects, supporting thousands of mobilities and partnerships annually. Moreover, HE institutions actively participate in Erasmus+ (e.g., Teacher Academies, Cooperation Partnerships), Horizon Europe, Digital Europe, and other EU-funded programmes. **Integration into European VET Networks:** Romania is involved in initiatives like EQAVET, ReferNet, Sector Skills Alliances, and European Universities Alliances (e.g., EELISA), enhancing quality assurance and innovation capacity in VET.
- **Already implemented projects** that contributed to the development of curricula that can boost higher education quality and offer attractive career paths (e.g., innovation skills, green skills, transformative skills, digital skills). A best practice is the [Digital Twins](#) Master’s programme designed to equip professionals with the skills to lead the green and digital transition in civil engineering and the built environment.
- **Dual education** represents an attractive alternative; in 2022- 2023, 10 institutions in the capital offered dual [education programmes](#) in technical or services-related fields, benefiting a total of 1656 students. Moreover, the development of a dual education campus has been initiated at POLITEHNICA Bucharest.

Weaknesses

- **Uneven Access Across Schools:** Rural and under-resourced VET providers often lack the capacity to engage in national or international projects due to administrative burdens, insufficient digital infrastructure, untrained staff, or limited foreign language competencies. This creates significant territorial disparities in access to quality education and innovation.
- **High Dropout Rates and Poor Performance:** Many VET schools experience high levels of early school leaving and consistently low Baccalaureate performance. For example, *Liceul Tehnologic Special nr. 3* in Bucharest recorded average exam scores of 2.16 in 2022 and 2.80 in 2024, with a 0% pass rate in both years. These figures reflect a systemic issue that undermines the credibility and attractiveness of VET pathways.
- **Outdated Professional Standards:** Employers point to serious delays in updating training standards. Some of the current standards are outdated and often revised with a delay of more than two years, making it difficult to align training with evolving industry needs and technologies.
- **Lack of Transversal Skills:** VET graduates frequently lack soft skills such as communication, teamwork, and adaptability. *“These competencies are better developed at the workplace, since schools don’t emphasize them enough,”* an employer noted.
- **Weak Cooperation with Employers:** Despite policy frameworks encouraging public-private partnerships, meaningful cooperation is still limited. Employers report that they are rarely consulted in local decision-making structures, and when consulted, their input is often ignored.

- **Weak coordination among agencies**, and other institutions responsible for VET education in the region.
- **Low Engagement of SMEs in Dual Education**: Work-based learning requires significant resources. Training mentors, providing equipment, and funding scholarships impose costs that small companies cannot absorb, which limits SME participation in dual education.
- **Stigma and Low Public Perception of VET**: VET continues to be viewed by many students and parents as a second-choice option. This perception discourages enrolment and affects the motivation of those who do pursue vocational tracks.
- **Language Barriers**: Limited foreign language proficiency among both students and teachers restricts participation in mobility programmes such as Erasmus+ and inhibits cross-border cooperation. This language gap also reduces students' competitiveness in a global labour market.
- **Low Recognition of International Learning**: While tools like Europass exist, the integration of learning outcomes from mobility programmes into the national qualifications framework is inconsistent. As a result, international learning remains under-acknowledged and undervalued in Romania's formal education system.
- **Insufficient Institutional Capacity for Internationalisation**: Many VET schools lack staff with the experience or training to design, manage, and implement international projects. Administrative complexity and funding constraints discourage schools from engaging in EU-funded initiatives or bilateral partnerships.
- **Limited Exposure to Global Competencies**: Students in Romanian VET often miss out on opportunities to develop international experience and global skills—assets increasingly vital in today's interconnected economy. The lack of international mobility and collaboration further limits the system's ability to modernize and prepare learners for diverse labour markets.
- **Lack of an ecosystem-based approach** to the development of VET in the region.

Opportunities

- **Expansion of Erasmus+ and PNRR-funded Consortia**: Continued EU funding offers the potential to further increase student and staff mobility, especially in disadvantaged schools.
- **Access to Substantial International Funding**: Through Erasmus+, EEA/Norway Grants, and the National Recovery and Resilience Plan (PNRR), Romania has secured generous external financing for mobility, infrastructure, curriculum development, and dual VET consortia. This provides a strong platform to accelerate internationalisation.
- **Smart Specialisation and Twin Transition Alignment**: The region's focus on ICT, advanced manufacturing, and creative industries creates opportunities for targeted international VET collaborations in these sectors.
- **Introduction of Dual Higher Education**: The emerging framework for dual education at tertiary levels (EQF 6–8) can foster new international models of work-integrated learning.
- **Growing Demand for Green and Digital Skills**: Projects focusing on sustainability and digital transformation can attract international partners and funding aligned with EU policy priorities.

- **Diaspora Engagement and Multilingual Programmes:** Initiatives like LCCR and integration of Ukrainian learners can strengthen Romania’s international education footprint and promote intercultural exchange.
- **New Professional Routes and Qualification Reform:** The rollout of EQF-aligned qualifications, short-cycle tertiary programmes, and dual education at the university level presents a flexible continuum for international learning mobility and qualifications recognition.
- **Policy Emphasis on Inclusive Mobility.** Programmes like PNRAS actively support disadvantaged schools’ participation in Erasmus+ consortia. This opens new doors for underrepresented students and institutions to engage internationally.

Threats

- **Dependence on External Funding:** Current success is heavily reliant on EU and donor funding (Erasmus+, PNRR, EEA Grants). Long-term sustainability may be at risk without national investment.
- **Political and Bureaucratic Delays:** Complex administrative processes or shifts in political priorities may delay implementation of internationalisation strategies.
- **Demographic Decline and Dropout Rates:** Romania’s high early school leaving rate (16.6% in 2023) and demographic challenges may reduce the pool of VET students eligible for international programmes.
- **Global Competition for Talent and Partnerships:** Other countries are also investing heavily in internationalisation, which may make it harder for Romanian VET institutions to stand out or retain skilled graduates.
- **Persistent Inequalities in Participation.** Rural and under-resourced schools still face major capacity gaps in accessing international projects due to lack of staff, foreign language skills, and administrative support.
- **Cultural and Social Perception of VET.** Negative stereotypes about vocational education continue to reduce student motivation and societal support, which in turn limits the impact of internationalisation on student outcomes.

As previously discussed, the internationalisation of VET in the Bucharest-Ilfov region benefits from a solid foundation of structural, policy, and institutional strengths that can be strategically leveraged to address critical threats facing the system.

The region’s strong policy alignment with European and global frameworks—anchored in the 2023 Education Law and Romania’s commitments to the Osnabrück Declaration and OECD standards—serves as a buffer against political and bureaucratic delays that often hamper the implementation of international initiatives. This legal and policy infrastructure, reinforced by the operationalisation of the *România Educată* vision, could ensure continuity in VET internationalisation even amid shifting political priorities.

Moreover, the presence of substantial international funding—notably the €588 million allocated through the PNRR for dual education campuses—helps mitigate the threat of dependence on EU funds by building institutional resilience and infrastructure. For example, the Campus Dual Politehnica București, which integrates EQF level 3 to 8 qualifications, serves not only as a best practice in

cross-level dual education but also as a long-term investment in sustainable, modern learning environments.

The region's strong economic and geographical position, coupled with its integration into EU VET networks (e.g. EQAVET, ReferNet), provides a competitive edge in countering global competition for talent and partnerships. This strategic positioning allows the region to remain visible and relevant in European VET ecosystems.

In the face of demographic decline and dropout rates, Bucharest-Ilfov's investments in inclusive and flexible VET routes offer viable alternatives. The DREAM community, created by POLITEHNICA and GO-Ahead Association, directly targets 30,000 VET students over five years, providing mentorship and pathways into employment—an initiative that strengthens student retention and improves perceptions of VET as a valuable education choice.

Threats such as cultural stigma and the low social perception of VET can also be addressed through active partnerships and innovative outreach programmes. Events like EDUFEST and POLIFEST, designed specifically for VET learners, showcase science, technology, and creative industries in engaging formats. These initiatives help shift public narratives and improve the visibility and desirability of VET pathways.

Finally, regional participation in international curricula development and digital skills programmes, such as the Digital Twins Master's Programme, offers a forward-looking solution to the threat posed by skills mismatch and outdated standards. By embedding green, digital, and transformative competencies into the curriculum, Bucharest-Ilfov VET institutions are equipping learners for emerging labour markets while contributing to the EU's green and digital transitions.

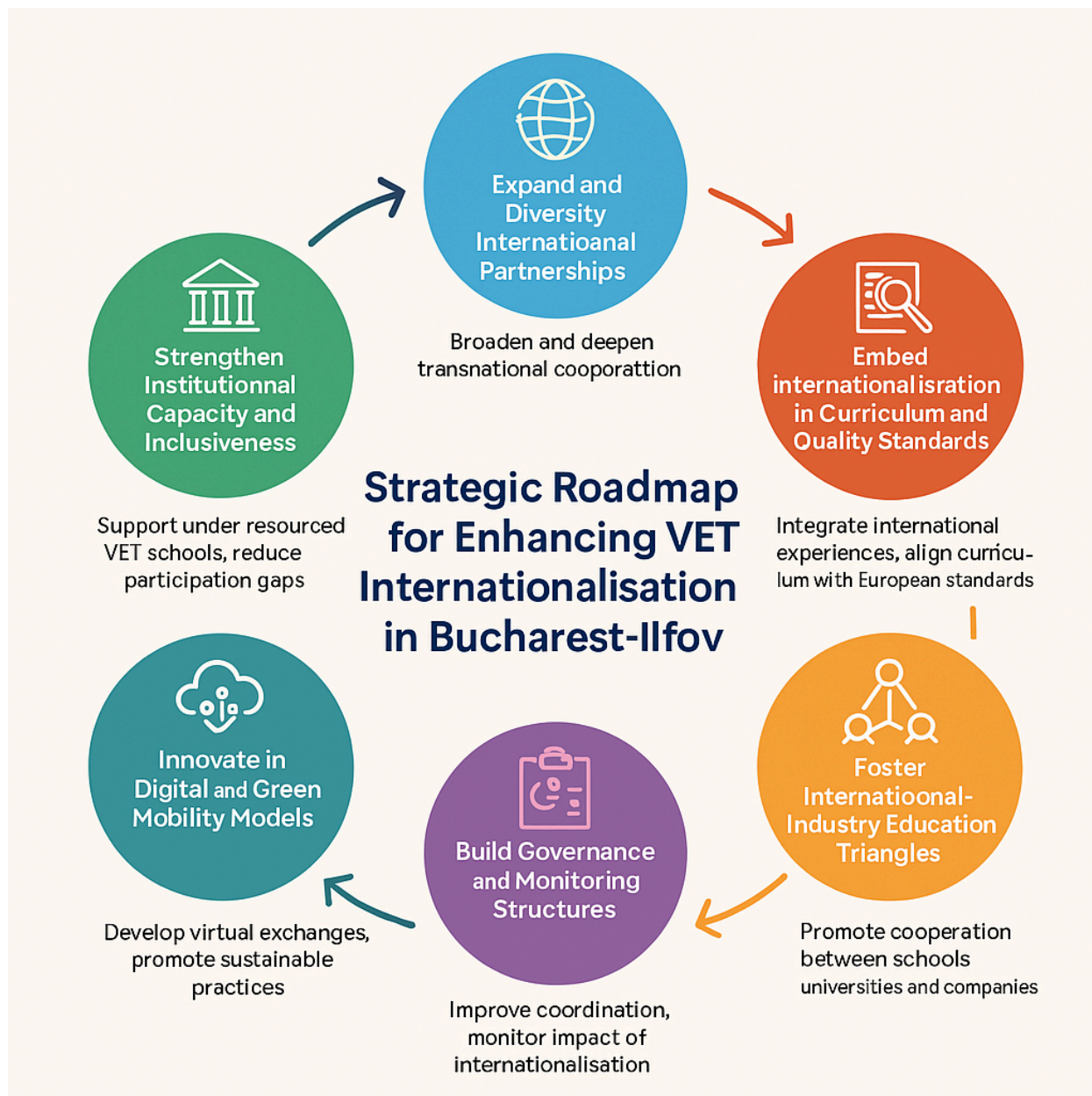
Thus, the Bucharest-Ilfov region is not only well-equipped to meet its current challenges but also uniquely positioned to lead by example in shaping a modern, resilient, and globally integrated VET system. However, continued efforts are needed to extend these strengths to under-resourced institutions and to ensure the sustainability of reforms beyond the current funding cycles.

Based on the data collected from the various sources, including in-depth interviews, we propose a **roadmap** to further support the development and internationalisation of VET in the Bucharest-Ilfov region between 2025-2030 (see Figure 9), supported by an **implementation matrix** (see Annex 2).

This roadmap focuses on **six priority areas**: strengthening institutional capacity, expanding international partnerships, embedding global perspectives in curricula, fostering collaboration with industry, improving governance, and innovating in sustainable and digital mobility models. The roadmap is designed to support regional smart specialisation by ensuring that VET learners gain the skills needed for Bucharest-Ilfov's key economic sectors such as ICT, green innovation, advanced manufacturing, and creative industries. It proposes concrete actions, timelines, and responsibilities to build a more connected, inclusive, and innovation-ready VET system. By aligning education with labour market needs and EU priorities, the roadmap aims to create a future-proof talent pipeline for regional development.

Figure 9

Strategic roadmap for VET internationalisation in the Bucharest-Ilfov region



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Annex 1: Interview Guideline: Internationalisation of VET in the Bucharest-Ilfov Region

Purpose of the Interview

To explore stakeholder perspectives on the state of vocational education and training (VET) in the Bucharest-Ilfov region, with a specific focus on:

- The role and effectiveness of dual and vocational education
- Perceptions of VET internationalisation
- Institutional challenges and opportunities
- Alignment between education and labour market needs

Interview Format

- Duration: 45–60 minutes
- Type: Semi-structured
- Recording: With participant consent
- Confidentiality: Responses will be anonymized in reporting

1. Introductory Section

Purpose: Set context, establish rapport, and collect basic information

- Can you briefly describe your role and responsibilities in your current position?
- How is your organisation involved in vocational or dual education?

2. Current State of VET and Dual Education

Purpose: Understand the functioning and perceptions of VET/dual education

- How would you describe the current state of VET in the Bucharest-Ilfov region?
- In your opinion, what are the strengths and weaknesses of the VET/dual education system?
- What changes or trends have you observed in recent years?

3. Alignment with Labour Market Needs

Purpose: Explore relevance and employer involvement

- To what extent do VET programmes align with current labour market needs?
- Are employers actively involved in shaping curricula or providing work-based training?
- What barriers limit employer participation, particularly for SMEs?

4. Internationalisation of VET

Purpose: Understand participation in international programmes and partnerships

- How do you define “internationalisation” in the context of VET?
- Are you or your institution involved in Erasmus+ or other international programmes? If yes, how?
- What benefits or challenges have you observed from internationalisation efforts (e.g., student/staff mobility, curriculum innovation)?
- Do you think VET students are adequately prepared for participating in international programmes?

5. Policy and Institutional Support

Purpose: Identify enabling or limiting policy frameworks

- Are current national/regional policies supportive of VET internationalisation?

- What institutional support (e.g., funding, training, partnerships) is available to promote international engagement?
- What policy changes or institutional reforms would make the biggest difference?

6. Perceptions and Public Image

Purpose: Assess the societal view of VET

- How do students and families perceive VET compared to academic education?
- What strategies could improve the image and attractiveness of vocational education?

7. Smart Specialisation and Future Skills

Purpose: Explore links between VET and regional innovation strategies

- Are you aware of how VET supports Bucharest-Ilfov's Smart Specialisation Strategy?
- Which skills (technical, green, digital, transversal) are most in demand now and in the future?

8. Final Reflections

Purpose: Capture overarching insights and recommendations

- What do you think is the most urgent issue facing the VET system today?
- If you could change one thing about how VET works in Romania, what would it be?
- Do you have any recommendations for how to strengthen the international dimension of VET?

Annex 2: Implementation Matrix: VET Internationalisation in Bucharest-Ilfov (2025–2030)

Strategic Pillar	Key Actions	Lead Actors	Timeline	Expected Outcomes	Indicators
1. Strengthen Institutional Capacity and Inclusiveness	<ul style="list-style-type: none"> - Support fund for schools - Erasmus+ coordinator training - Incentivise inclusion 	Inspectorates, CNDIPT, Erasmus+ NA	2025–2026, ongoing	More equitable access to mobility	% of schools supported; % of disadvantaged learners

2. Expand and Diversify International Partnerships	<ul style="list-style-type: none"> - S3-linked partnerships - Join EU networks - Annual Int'l VET Week 	VET Schools, HEIs, Clusters	2025–2030	Broader, deeper cooperation	# of MoUs; S3-aligned projects
3. Embed Internationalisation in Curriculum	<ul style="list-style-type: none"> - Use Europass/ECVET - Add green/digital content - Develop joint curricula 	MoE, CNDIPT, Sector Committees	2026–2028	International experience embedded	# of curricula updated; % Europass use
4. Foster Industry-Education Triangles	<ul style="list-style-type: none"> - Involve multinationals - Scale Go Electric, InoVerde - Pilot dual int'l paths 	Employers, Clusters, POLITEHNICA	2025–2027	Better transition to work	# of industry partners; # dual pathways
5. Build Governance & Monitoring Structures	<ul style="list-style-type: none"> - VET Int'l Observatory - Integrate RIS3 governance - Link ministries 	RDA, Ministries, CCSI	2025–2026	Policy coherence, alignment	Observatory operational; data-driven decisions

6. Innovate in Digital & Green Mobility	<ul style="list-style-type: none"> - Virtual/hybrid mobility - Green travel models - Teacher training 	Erasmus+ NA, VET schools	2025–2030	Sustainable, inclusive mobility	# green/hybrid mobilities; teacher CPD
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