

DIGEST 6

APPLIED RESEARCH ENGAGEMENT AND MINDSETS

D3.2 SMEs ENGAGEMENT & AR MINDSETS REPORT discusses the current landscape of research and innovation (R&I) from the perspectives of both Vocational Education and Training (VET) and Small to Medium-sized Enterprises (SMEs). Insights are drawn from desk research, quantitative surveys, and qualitative interviews. Key elements and barriers when engaging in innovation and non-teaching, knowledge generation or diffusion activities are identified and practical tools and training materials are proposed to foster an R&I research mindset.

SMEs' engagement in applied innovation and research activities

SMEs represent 99.8% of the companies in the European Union (EU) and are the lifeblood of the EU economy. They are currently facing major challenges and crises, such as labour shortages, automation and digitalisation, rising costs for raw materials, rising inflation, supply chain disruptions and skills mismatch to name a few. To meet these challenges, SMEs must innovate. Desk research underlines that SMEs investing in research and development benefit from increased growth, value, and sustainability. However, our investigation shows that R&I is not common among SMEs. R&I projects are expensive and require investments in terms of time, personnel, and money. Also, desk research and surveys show that SMEs know little about VET centres and are unaware of the possibilities of collaboration with the vocational education sector. They perceive cultural differences between the two structures as barriers and think it is difficult to find suitable educational institutions.

Our investigation provides insights into SMEs' expectations in terms of R&I projects with VET centres. They are interested in exchanging knowledge, networking, accessing specialised knowledge and expertise, as well as enhancing their reputation and visibility in the industry and among future employees.

A decision tree delineating various collaboration options between VET centres and SMEs was developed from the perspective of SMEs. It considers two main factors: the time and available resources of the SMEs and their motivation to engage in innovation projects. SMEs are advised on the form of collaboration activities to adopt according to their capabilities and can be inspired by concrete examples. The decision tree features 21 different forms of collaboration between VET organisations and SMEs.

VET centres' engagement in applied innovation and research activities

VET systems and policies vary widely from country to country. R&I activities by VET centres have grown in the past years but remain a secondary activity. Out of the 40 VET centres surveyed, only 44,74% provide applied research and development projects to companies. The results of the interviews, the surveys and desk research show that VET centres lack the resources and visibility to engage in R&I activities with companies.

Lack of resources:

- VET centres have difficulty attracting qualified personnel and getting their staff on board with R&I projects. Research is often not fully integrated into VET teachers' curricula, and they lack the time to devote to R&I projects. The heavy administrative burden also requires investment in terms of personnel. Time constraints and heavy workload are considered the main barriers to R&I activities by VET centres surveyed. The insufficient faculty expertise in research and innovation is also rated as an obstacle to their involvement in such projects.
- R&I activities require substantial financial investments that VET centres cannot afford on their own. They lack funding to engage in R&I projects. Most funding schemes are dedicated to higher education institutions, and the grants available to VET centres do not always cover all occurred costs. Funding tends to be ad hoc, whereas R&I projects are a long-term commitment. There is a lack of awareness of the funding options. More than half of the VET centres surveyed perceive the lack of funding and resources as a significant barrier.

Lack of visibility: VET centres are rarely seen as partners by other stakeholders and their value in R&I activities tends to be underestimated. They are overshadowed by higher education institutions that are considered the main research partners.

Difficulties in attracting companies: The lack of visibility for VET centres makes it difficult to attract SMEs. Companies have a different culture from VET centres and tend to be cautious about protecting their data. The financial side generally outweighs the fundamental value of projects. The cultural differences between education institutions and industry are nonetheless considered moderate barriers by VET centres surveyed (rated 3.6 out of 5).

VET centres see many advantages in collaborating with SMEs on R&I projects. For VET centres surveyed, it is above all an opportunity for knowledge exchange and networking (rated 4.44 out of 5). They believe that companies can give them access to specialised knowledge/expertise, funding or grants for collaborative projects (rated 4.25 out of 5) and equipment (rated 4.06 out of 5). The interviewees largely highlighted the benefits of collaboration with SMEs on R&I projects, which are valuable for all.

A training for VET teachers was developed and piloted in Hamburg from 23rd to 25th January 2024 to provide VET teachers and managers with tools to engage with SMEs in R&I projects. 12 VET teachers from various European countries participated in the training. They were invited to map the stakeholders within their innovation systems and to highlight existing collaborations and potential gaps in the network. The participants gained practical insights and skills for fostering successful collaborations between VET centres and SMEs. The training was received positively by the participants, who found great value in observing how R&I is conducted in VET across different countries.

Recommendations & good practices

A series of recommendations and good practices for three main target groups were developed: the management teams at VET centres, the teachers and staff of VET centres and the SME management and staff.

For the management teams at VET centres: Workshops and training sessions, such as the one in Hamburg, should be designed for management teams at VET centres to promote the benefits and good practices in R&I projects. Networking should be fostered through international exchanges and forums. Management teams at VET centres should be supported in the demand and resource identification, as well as in strategic planning. At the methodological level, key performance indicators should be established to assess the impact of the projects.

For teachers and staff of VET centres: A research and innovation culture should be established, involving teachers, staff, and students, and allocating them the necessary time and resources. The teachers and staff of VET centres should be offered professional development opportunities and be part of a research community. They need support in the search for grants and the knowledge transfer to students. They should be recognised and rewarded for their involvement in R&I projects.

For SME management and staff: Workshops and webinars should be developed to promote applied research projects with VET centres to SMEs. They should have access to a database classifying available research grants and funding opportunities and to an online platform listing research guides, case studies, and best practices in R&I.

SMEs and VET centres have overall the same conception of R&I projects and would both benefit from collaboration. They must be made aware of the opportunities for cooperation on such projects. Networking events gathering all R&I stakeholders should be organised to build trust and facilitate collaboration and knowledge sharing. R&I projects should be enhanced as investments with long-term benefits.

Besides the report, six engagement videos directed at VET centres and SMEs and targeted to the regional audiences of the Basque country, the Netherlands and Germany, have been produced. They can be viewed on the project website: www.airinvet.eu/outcomes.

