



Applied Innovation and Research in  
Vocational Education and Training

## DIGEST 2

# APPLIED RESEARCH IN VOCATIONAL EDUCATION AND TRAINING (VET): UNDERSTANDING AND MAPPING

This exploration delves into the multifaceted landscape of Vocational Education and Training (VET) and the complexities of applied research within this domain. The discussion begins by addressing the contentious nature of applied research in VET, emphasizing the need to avoid biased approaches when identifying and defining such research. The adoption of the OECD's definition of applied research sets the foundation for mapping applied research activities within VET.

The concept of VET is elucidated, showcasing it as a mode of education rather than a specific level, encompassing diverse institutions and training modalities. Various factors influencing the analysis of Research and Innovation (R&I) activities within VET, such as different names, duration, training modalities, and management systems, are highlighted. Additionally, the integration of VET into higher education areas and the evolution of multifunctional VET centers emerge as significant trends, presenting opportunities for exploring applied research activities.

The discussion navigates through the historical perspective of applied research, tracing its origins from the science push model to demand-pull and systemic views of innovation. The impact of different models on policies and the shift towards systemic approaches, particularly within Smart Specialisation Strategies

(S3), frames the context for exploring VET's role in innovation ecosystems.

The distinction between "research about VET" and "VET carrying out research" is articulated, emphasizing the interest in non-teaching and learning activities within VET that contribute to innovation ecosystems, particularly focusing on external innovations. The mapping aims to identify applied research activities within VET institutions, aligning with Smart Specialisation Strategies and extending beyond conventional teaching and learning activities.

This investigation aims to discern applied research activities within VET centers that contribute to local, regional, or national innovation systems. By focusing on non-teaching and learning activities with potential impacts on Smart Specialisation Strategies, the study seeks to illuminate the nuanced relationship between VET, applied research, and innovation.

### **Analysis of Applied Research Activities in VET Providers**

This analysis focuses on the qualitative research design adopted to investigate vocational education provider organizations' involvement in applied research activities, particularly in collaboration with companies. The study methodology follows a systematic approach termed "LOOK - IDENTIFY - COMPARE."

## Research Approach for Mapping

The qualitative research approach employed a case study design involving desk research and interviews. The study aimed to understand how VET institutions approach applied research in terms of activities, collaborations, methodologies, outcomes, resources, and technology adoption. It categorized VET activities into six main categories, focusing notably on Category 5 - Services for companies.

The study further detailed nine dimensions to explore different facets of these activities, leading to the development of the AIRINVET Business Canvas Model.

## Target Audience

Initially centered on VET providers, the study expanded its focus to include organizations collaborating with VET providers in applied research activities. Interviews were conducted with a mix of providers and countries to gather comprehensive data.

## Findings from the Interviews on Applied Research Activities in VET Providers

The survey conducted by AIRINVET partners between April 2023 and October 2023. The research engaged 79 organizations across 20 countries, conducting 52 semi-structured interviews. The majority were European, covering various education provider types and EQF levels. Interviews revealed differing levels of understanding and engagement in applied research activities across different organizations and countries.

Majority (81%) of respondents identified themselves as education providers, offering various education levels from VET centers, community colleges, universities of applied science to companies providing education (EQF 1 to EQF 8).

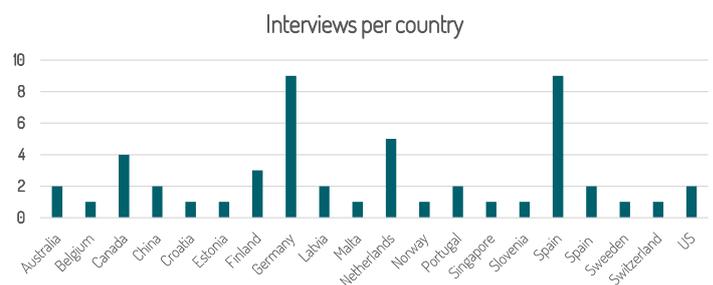
Higher education organizations in Europe, Canada, and Australia systematically organize applied research, whereas many VET organizations in Europe lack a clear understanding and systematic approach to applied research.

The findings emphasized varying degrees of systematic approaches to applied research among higher education

institutions compared to non-higher education organizations, particularly within the European context. The outcomes often focused on educational development, occasionally extending to collaborations serving SMEs, research centers, or specific industry sectors.

Applied research in SMEs often serves educational purposes, with exceptions in collaborations with research centers or public-private partnerships.

Active participants in applied research projects include teachers and students, primarily leading to educational outcomes such as courses, learning materials, prototypes, and reports.



## Findings from case studies

The case studies provided insights into various collaborative projects between VET providers and companies, showcasing a wide spectrum of sectors, technologies, and geographical scopes. They highlighted the educational nature of most applied research outcomes, occasionally emphasizing innovation objectives and direct service provision to companies.

Case studies from Canada, Australia, Basque Country, and Germany highlighted direct services offered by VET providers to companies, focusing on learning paths, materials, and methodologies for vocational training education.

Other case studies highlighted partnerships and European-funded projects across various sectors (e.g., agribusiness, healthcare, technology) and topics (e.g., sustainability, cybersecurity), making it challenging to define a specific sector's dominance.

