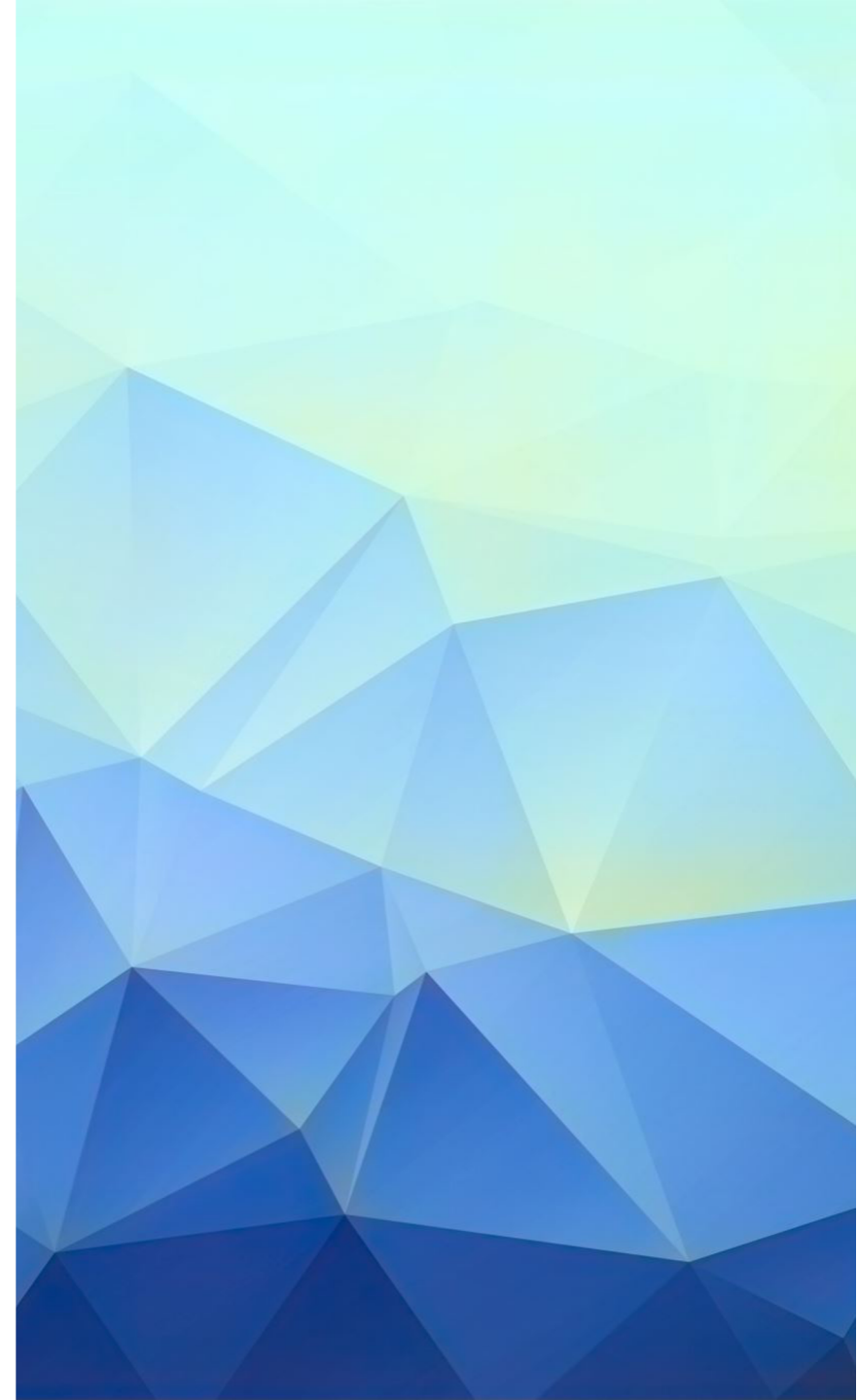


Education and training for innovation

Inspiration from the Centres of Vocational Excellence and
EIT Food

John Edwards

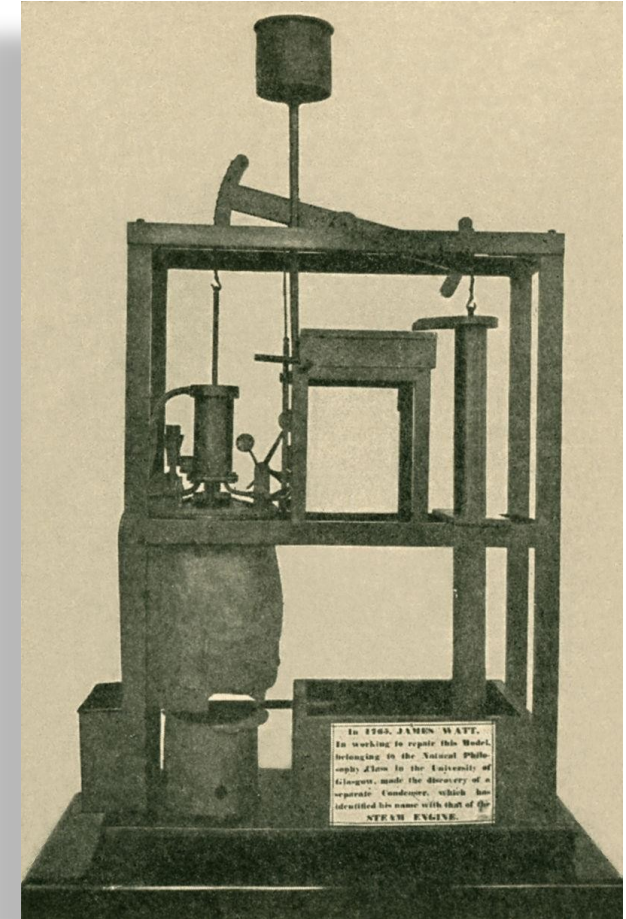
Policy Experimentation and Evaluation Platform (PEEP)



The invention of the Steam Engine

- In the 1760s an instrument maker and repairman at the University of Glasgow was asked to repair a model of the Newcomen Pump.
- **James Watt *the repairman*** - not the university professor or professional researcher – identified the problem, solved it, and set in motion the Industrial Revolution that followed.

Burke, J. (1978), "Connections: An Alternative View of Change", BBC documentary series, <https://archive.org/search.php?query=subject%3A%22connections%22%20creator%3A%22james%20burke%22>



Understanding “Science” based and “Practice” based Innovation

Science-based - Science, technology, innovation

According to the Innovation in Europe survey, **only 4% of innovations are based on academic research.**

Practice-based - Doing, using, interacting

The survey also shows that the most significant sources of innovation are **customer contacts, company networks and the like.** These produce **96% of innovations.**

Innovations usually evolve from a **practical need**, and they are developed in a context that is far removed from the environment where scientific innovations are produced.

Vesa Harmaakorpi

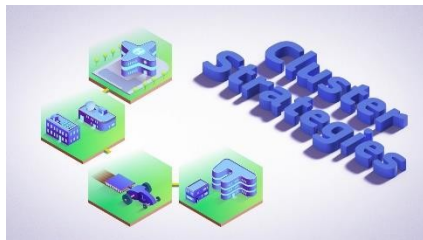
Professor of Innovation Systems at Lappeenranta University of Technology, Lahti Area, Finland



CoVE's fostering local/regional “Skills ecosystems”

CoVEs an integrative part of skills ecosystems, contributing to:

- **Innovation,**
- **Regional development,**
- **Smart specialisation strategies,**
- **Cluster strategies**



Bringing together:

- **VET institutions**
- **Universities of applied science**
- **Research centres**

- **Companies**
- **Chambers**
- **Professional or sector associations**
- **Trade unions**

- **Policy makers**
- **Employment services/agencies**
- **Regional development agencies**
- **Municipalities**

Centres of Vocational Excellence: The initiative

Foster Vocational Excellence at two levels

NATIONAL

Through **Centres of Vocational Excellence (CoVE)**

Operating in a given **local context**, embedding them closely in the local **innovation** and **skills ecosystems**, working with businesses, chambers, tertiary education, research institutions, public authorities, etc.

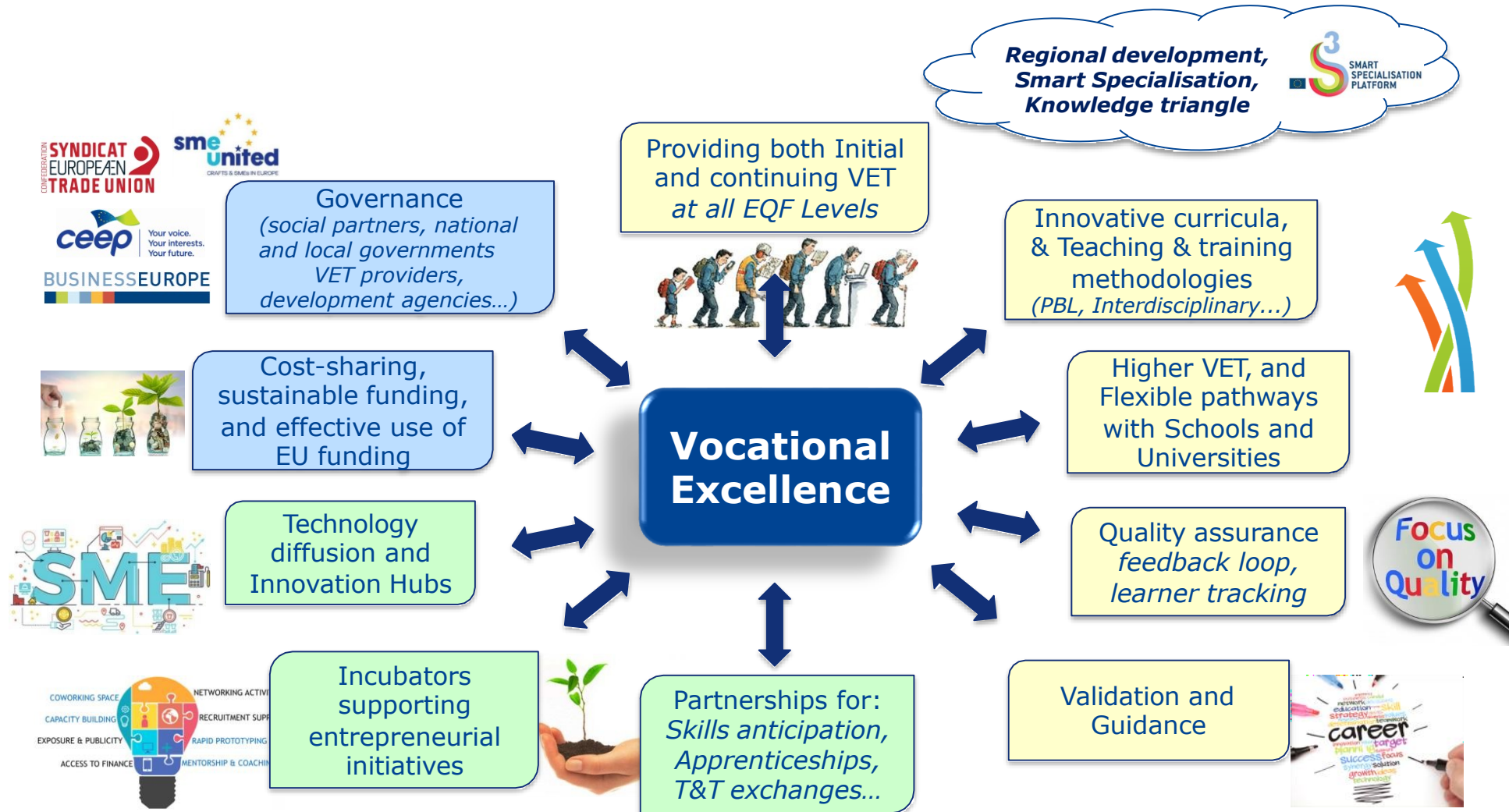
TRANSNATIONAL

Through **Platforms of CoVE's** to establish world-class reference points for VET by bringing together partners that share a common interest in:

- Specific **sectors/trades** - *such as aeronautics, e-mobility, green technologies, healthcare, textiles...*
- **Societal challenges** - *such as integration of migrants, Digitalisation, AI, SDG, upskilling and reskilling...*

Typical activities of CoVEs:

Pro-active partner in local development



Centres of Vocational Excellence

Erasmus+ 2019 Pilot projects



Advanced Manufacturing 4.0
<https://examhub.eu/>



Digital Innovation Hub for Cloud Based Services
<https://dihubcloud.eu/>



Water sector
<https://povewater.eu/>

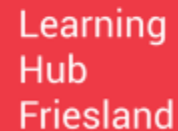


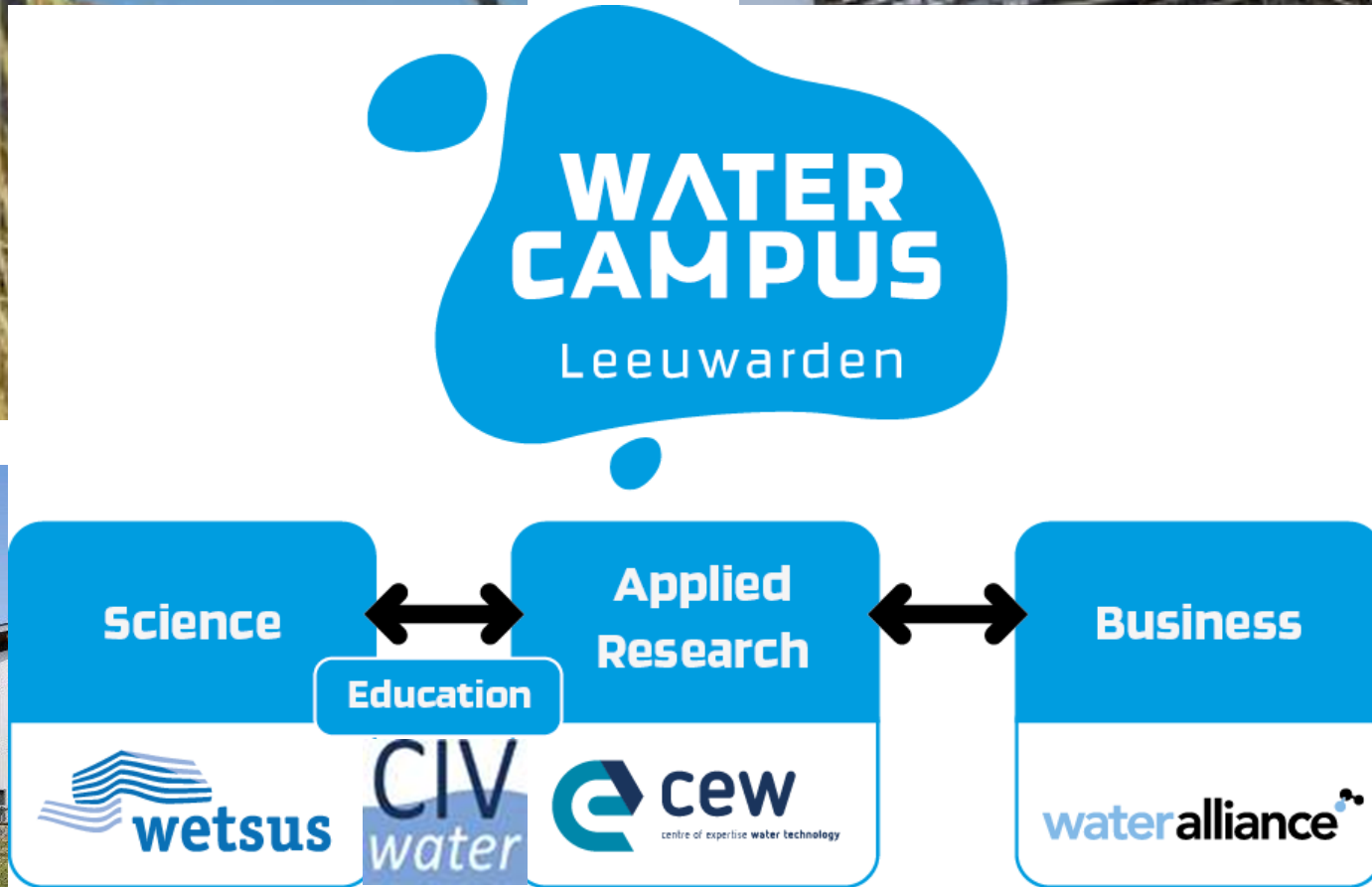
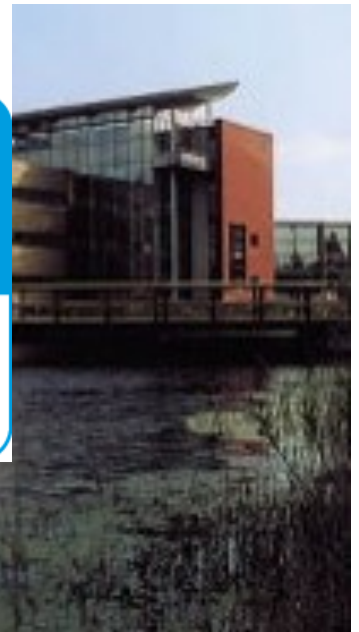
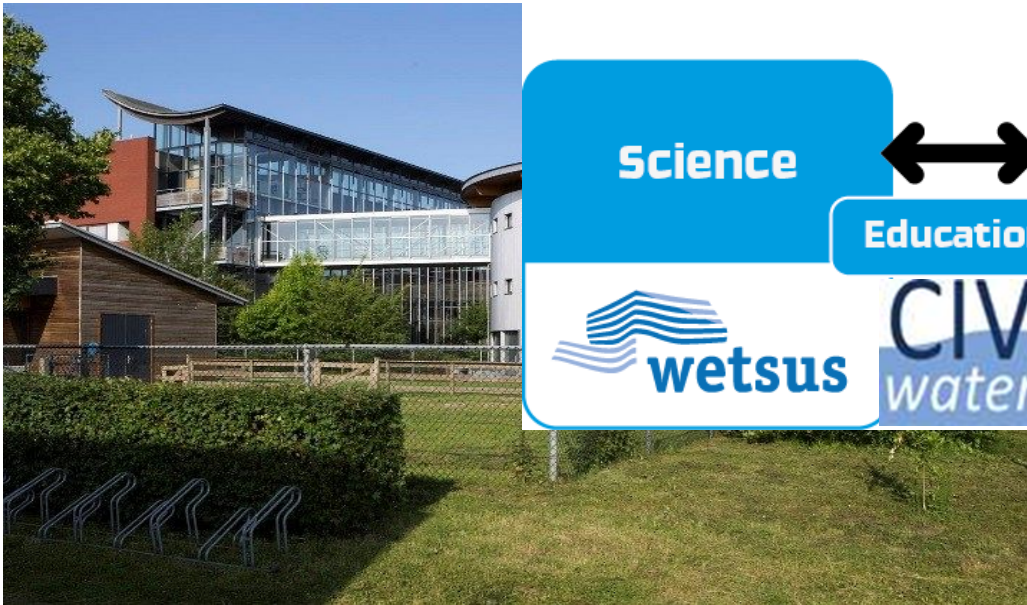
Cultural and creative industries
<http://deuscci.eu/>



IoT in Smart manufacturing
<https://talentjourney.si/>

CoVE Platform on Water Partners





BRIDGES

Blue Region Initiatives for Developing Growth, Employability and Skills in the farming of finfish

The BRIDGES Network of CoVE targets the development of aquaculture VET and Higher VET transnational platform, to provide flexible responses to the training, innovation and entrepreneurship needs of the finfish industry, with a strong emphasis on the modernisation and digitalisation of work-based learning and apprenticeship systems. The project will establish an Aquaculture Skills Foresight Forum (ASFF) to define finfish culture, knowledge and skills and develop a common competence framework (CCF) with learning outcomes to inform VET development and future national qualification revisions.



Project Aims:

- Create an Aquaculture Skills Foresight Forum (ASFF) to lead the harmonisation of north European occupational standards and learning outcomes.
- Formalise a respected north European aquaculture VET provider network and increase the responsiveness of VET providers towards farming industry needs
- Develop mentors, farm-based skills instruction within aquaculture companies to increase their contribution to a quality assured assessment VET delivery.
- Strengthen the aquaculture business skills base and capabilities for innovation, enterprise and entrepreneurship

Main deliverables:

- Development of a common competence framework, clearly describing the practical competences required of finfish husbandry operatives and site managers in Northern Europe
- Establishment of a framework of shared learning outcomes
- Development of an aquaculture work-based learning manual, describing the VET/industry partnership model for work-based delivery of aquaculture VET
- Provision of VET practitioner development guidelines and of aquaculture e-learning resources