



How training can support the transformation of industries and organizations?

Insights from the ERAMSUS+ CoDEMO Project

Nathalie Douard, Nadine Dubruc, Elisette Ngoma, Jonathan Villot, Sébastien Saunier and Xavier Boucher



CoDEMO Academic Partner

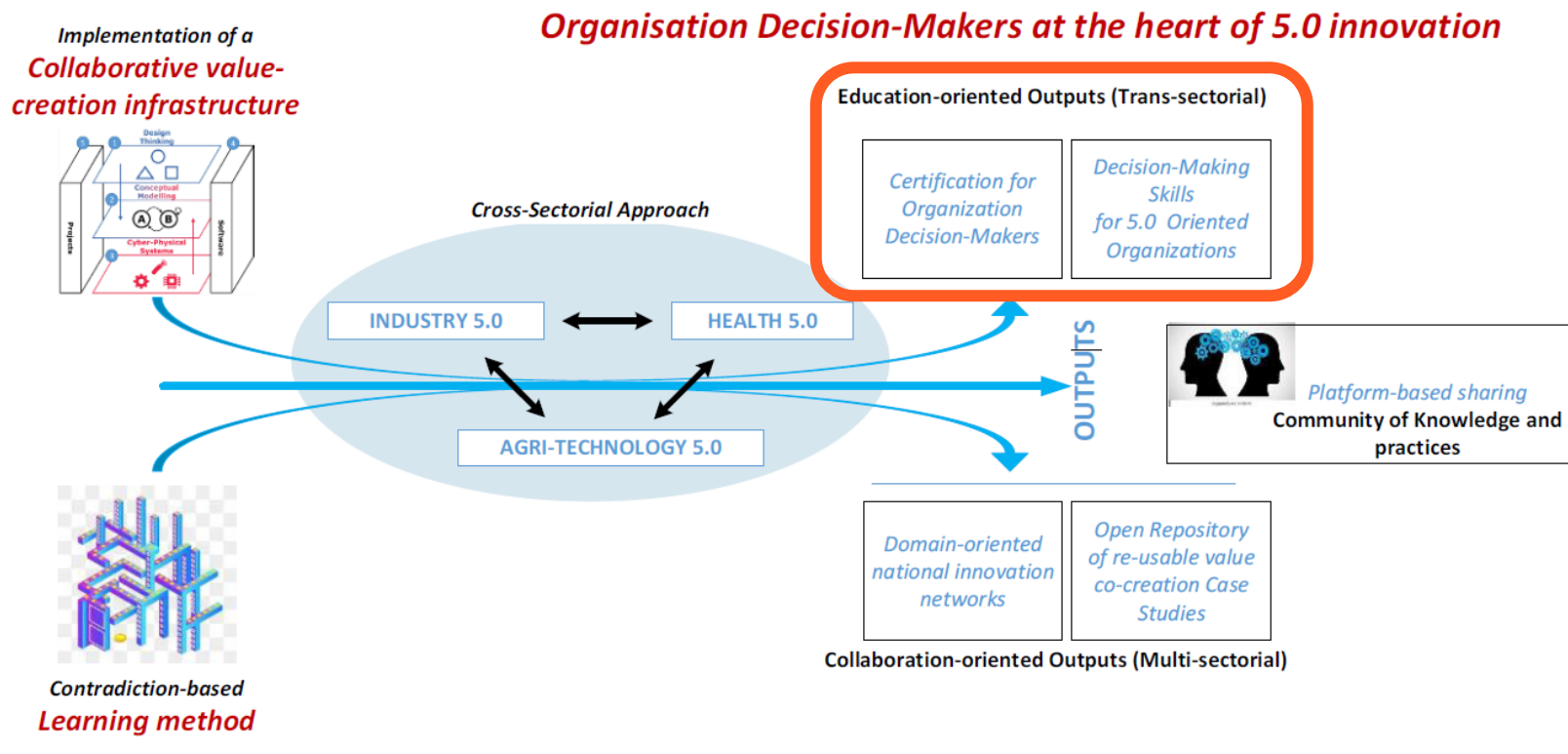


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CoDEMO Project.

Coordinated by Prof. Xavier Boucher, Mines Saint-Etienne, France



Academic certification deployment

- ❑ 11 Academic certification path deployed in 6 University
- ❑ 300 trained academic student
- ❑ 30 new teaching modules
- ❑ 1 International Prize based on national awards

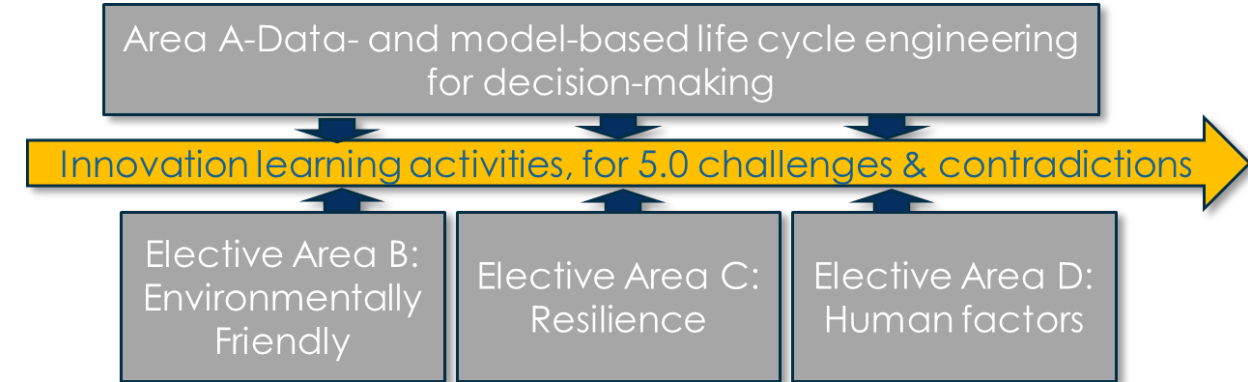
Focus on the Certification Path Deployment at Mines Saint-Étienne



Method.

Internal meeting at MSE over the past year with a core of 5 people and 1 intern

1. **Overview** of the actual program & identification of needs and gap to fulfill the project requirements
2. **Round table** on some specific topic
3. **Alignment** of the program with CoDEMO expectations:
 - *Conceptualization of new modules*
 - *Experimentation of a national Prize*
4. **Presentation** to the EU consortium to gather feedback and inspiration



SID 2024

Sibiu Innovation Days

24-25 October, Sibiu - RO



Overview of the actual program.

Extract of the **KSC targeted at Mines Saint-Etienne** a generalist engineer program

- [...]
- He/she integrates organizational, economic, societal, **environmental**, and **human** dimensions into his/her role as an engineer working within **complex systems**. His/her skills are developed through various learning experiences such as individual presentations, group work, projects, internships, international mobility, and dual-degree programs.
- His/her ability to break down barriers and apply cross-disciplinary models prepares him/her to work autonomously across diverse specialties, fostering communication, negotiation, and collaboration. **He/she considers planetary limits in all decision-making processes.**
- He/she designs and implements **advanced digital tools, models complex systems, and applies artificial intelligence methods for solving scientific, societal, and decision-making problems**—key elements of his certified profile.
- By engaging with different cultures and ways of thinking, **he/she ensures the successful management of intercultural organizations** and promotes the acceptance of scientific, technical, and digital solutions for a wide range of global audiences.
- [...]



Round table on the topic of Resilience.

With experts from Human and Material Sciences to challenge ideas and benefit from different perspectives

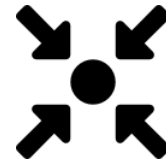
Disruption arising from...

*socio-economic,
ecological,
technological*

...environment



Anticipation,
Pro-activity, Reactivity,
Flexibility, Change
management...
in a systemic approach



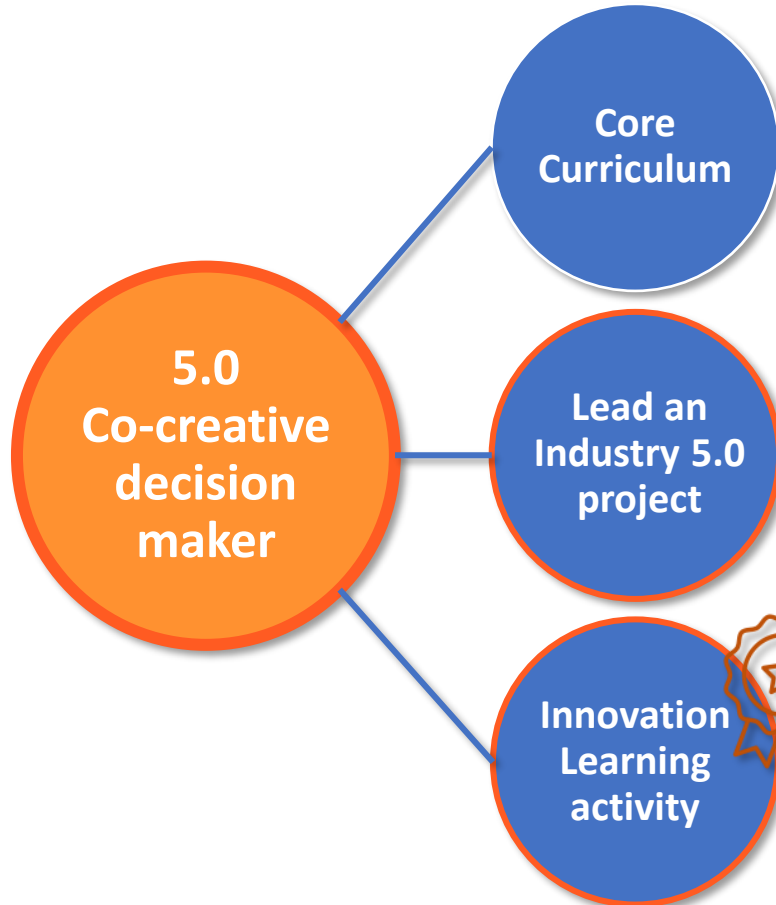
Key areas impacted

- Decision-Making Capabilities
- Human Resources management
- Technical Resources management
- Collaborative capabilities
- Digital utilization and mobilization
- ...



Alignment of the program with CoDEMO expectations.

Educate students with a systemic approach to Industry 5.0.



To gain the fundamental knowledge of the key dimensions of Industry 5.0: Digital, Green, Resilience and Human-centric
Lectures

Introductory module on 5.0 concept and tools, with hands-on experience (21h)

- Principle & concept illustrated with industrial example; **Lectures, seminar**
- Design-Thinking approach; **Workshop**
- Application to CoDEMO innovation case studies; **Learning by doing**

Immersive experience on real case coming from industry enabling students to apply the 5.0 approach; Support for the national prize
Project



Alignment of the program with CoDEMO expectations.

Organization of a challenge at the end of the Innovation Learning Activity



Key aspects of the activity

- 5 months of **collaborative student work on industrial issues** guided by local partners
- Objective: develop a product or service meeting technological and market needs while considering environmental, economic, and human factors.
- They all do presentations; the best ones are selected to participate at the challenge with a 3' pitch incorporating elements on organization 5.0



Mines Saint-Etienne awarded the first
European CoDEMO Student Innovation Prize in
May 2024.

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Conclusions & Perspectives.

- Alignment of an engineering program to develop student competencies that support the industry's transformation to 5.0 :
 - Module designed to provide the intrinsic systemic vision of 5.0 concept
 - Learning by doing project based on innovative case studies
 - Stimulating and engaging experience through student participation in a challenge
- Creation of an **international award** based on national ones that recognize the contributions of students from the six EU partners in the field of 5.0
- Integration of 3 badges levels of certification : Beginner, Explorer, Decision-Maker
- Sharing pedagogical content and practices from the six EU partners on e-platform