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Opportunities and Risks for Traditional Manufacturing SMEs: Regional Policies' Challenges and Chances

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The future of manufacturing sector



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Looking at new manufacturing the emphasis is on the system-based nature of the industry:

- ① Modern manufacturing systems are constructed around supply chains [they interact in highly complex ways].**
- ② Traditional sector boundaries are blurring.**
- ③ Complex interdependencies are emerging between manufacturing systems and national innovation systems [and even RIS].**
- ④ We are shifting towards highly complex products which are the final point in a range of industry.**

The future of manufacturing sector



European Union has to maintain a strong industrial base and a competitive position:

- ① **EU export consists mainly of manufactured products** [more than 80% of all EU exports].
- ② **SMEs are the backbone of the manufacturing industry in the EU** [45% of industry's total value added and 51% of manufacturing employment].
- ③ **Industry is a powerful engine of R&D investments and innovation process** [a consequence is that regions lacking the infrastructure necessary for advances in processes, engineering, and manufacturing will lose their ability to innovate].

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IM: New chances for SMEs



Gaining efficiency
& quality

Engaging with large firms
Impinging into value chains

Meeting market
Searching for new clients

Digital innovation may help SMEs in:

- ① **Gaining efficiency and stabilizing quality.**
- ② **Gaining some degree of freedom in managing creativity.**
- ③ **Being strongly interconnected with main clients, allowing also remote control.**
- ④ **Impinging much more strongly into value chains.**
- ⑤ **Opening to new markets via recombination with other SMEs (functional networks) to serve new clients.**

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SMEs facing digital innovation/1



Human capital
problems

Relational/market
problems

Technological
constraints

SMEs progressing in digital innovation have to face some major challenges:

Digital innovation asks to people to work with new machines and softwares with the ‘side effect’ to save time. The challenge becomes:

- ① How to use the ‘freed time’?
- ② How to transform this time in new creative tasks?
- ③ How to help people to become creative?

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SMEs facing digital innovation/2



Human capital
problems

Relational/market
problems

Technological
constraints

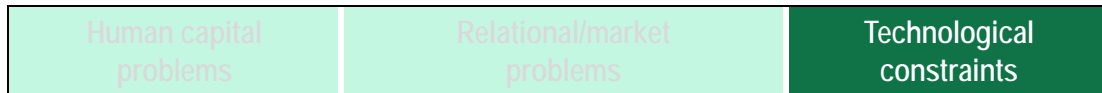
Digital innovation offers the opportunities to work for a larger number of clients. The challenge becomes:

- ① How to overcome the possessive attitude of the main client?
- ② How to break the exclusiveness of the relations between subcontractors and main clients?

Positive outcomes are: diversification of the risk and faster learning experience, new networks able to meet a new potential (or effective) market demand.

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SMEs facing digital innovation/3

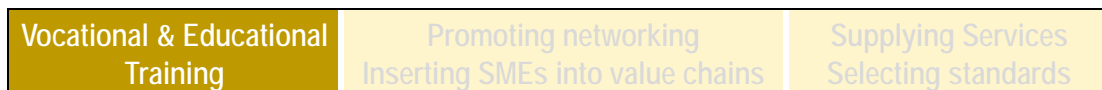


A further problematic issue is related to technological standards. The challenge becomes:

- ① Who is selecting the digital standard SMEs have to adopt to interface with main clients?
- ② Is it a technological proprietary standard?
- ③ Is it possible to have an ‘open source’ technological standard shared by all the firms of the sector?
- ④ Is it possible to guarantee interoperability among the different standards adopted within a specific sectoral market?

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The role of regional/local policies/1



How can regional policies help SMEs towards Industrial Modernisation through digital innovation?

- ① Offering vocational and educational training: SMEs operating in “traditional sectors” need fresh, young skills, built up with dedicated technical secondary education like the Italian model of ITS [Higher Colleges of Technology].
- ② Supporting entrepreneurial education and re-skilling, up-skilling for employees.

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The role of regional/local policies/2



Vocational & Educational
Training

Promoting networking
Inserting SMEs into value chains

Supplying Services
Selecting standards

How can regional policies help SMEs towards Industrial Modernisation through digital innovation?

① Promoting **networking** among SMEs:

We have to foster linkages between SMEs and medium-large firms. Enabling SMEs to get in contact with **new clients**.

② Helping territorial SMEs to steadily and permanently **fit in value chains**.

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The role of regional/local policies/3



Vocational & Educational
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How can regional policies help SMEs towards Industrial Modernisation through digital innovation?

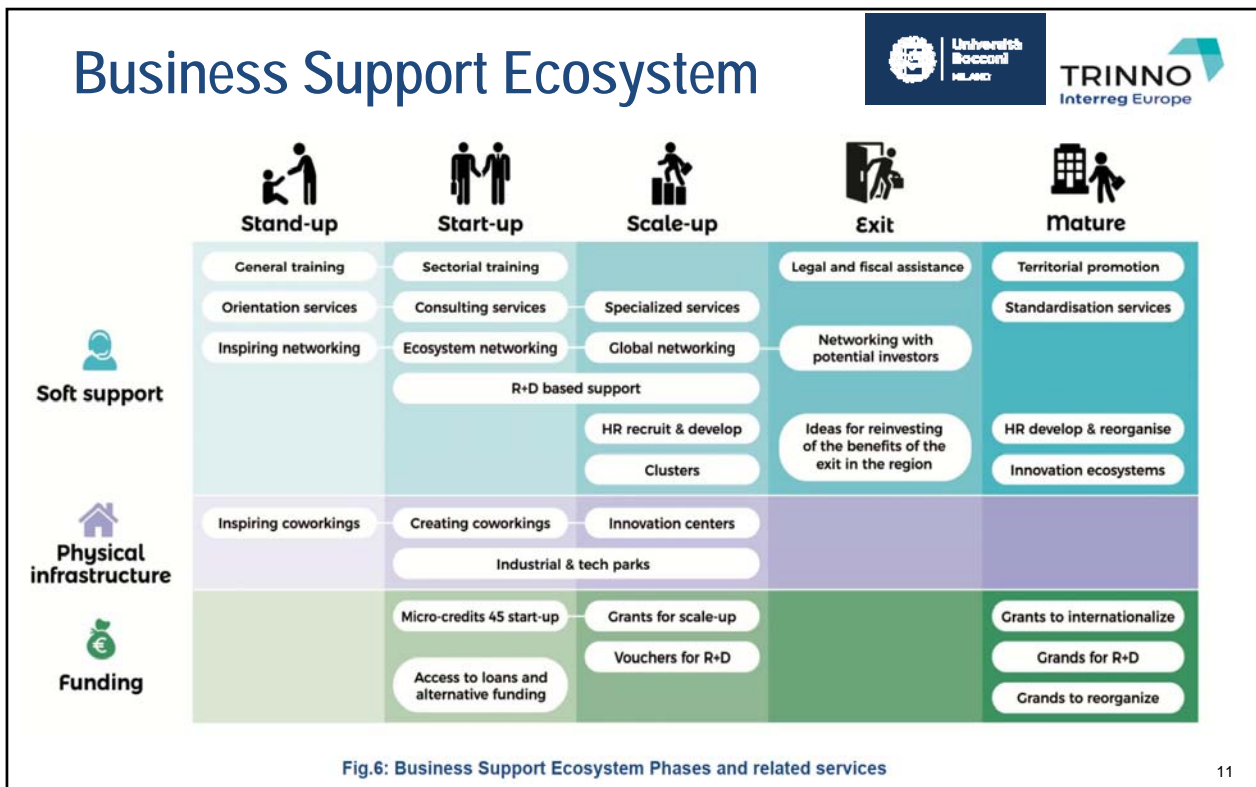
① Contributing to the construction of a **sound business ecosystem**.

② Providing SMEs with accompanying services in the different phases of the 'up' cycle:



Stand-up, Start-up, Scale-up and, finally, exit phase.

③ Help territorial sector to **choose the right technological standard**.

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3 Questions for working stations

- ① What do you see as the **OPPORTUNITIES** of industrial modernisation?
- ② What do you see as the **RISKS** of industrial modernisation?
- ③ What can we do **to make the most** of the opportunities / address the risks?
 [think from the perspective of: **a**) the Regional Authority; **b**) a company; **c**) a development agency]