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# Innovation: the main driver of ICT Cluster Development & Renewal

*Innovation on Cluster Economy Seminar*

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# Content of the presentation

1. Definitions & Some History
2. Public Policies
3. Success Factors
4. Innovation & Clusters
5. Examples of IT Clusters in Europe
6. Conclusions

# 1. Definition & Some History

“cluster are geographic concentrations of interconnected companies, specialised suppliers, service providers, firms in related industries, and associated institutions (for example universities, standards agencies, and trade associations) in particular fields that compete but also co-operate.” (Porter)

▶ "a cluster consists of industries linked through vertical (buyer/supplier) or horizontal (common customers, technology, channels) relationships." (Porter)

# 1. Definition & Some History

But Industrial Districts are with us since middle ages!

## ▶ Prato Textile District:

- 6000 SMEs, 38000 employees, 6 Beuro (60% export)
- Production phases split among SMEs
- Commercial Entrepreneurs knows markets and SMEs
- Current production: high quality and special fabrics

# 1. Definition & Some History

The district went through a number of cycles (expansion–decline–renewal) but it is still there!

Innovation is crucial for expansion and renewal and for making the district resilient

Innovation is re–enforced by the mix of cooperation and competition

Innovation is performed by entrepreneurs and workers

Mostly (considered) an incremental Innovation

## 2. Public Policies

- ▶ Set up of technology parks, software centres, traffic infrastructure technologies, data highways, etc..
- ▶ Set up of technology transfer centres (in partnership with universities, etc.).
- ▶ Set up of incubators to support of business start-ups.
- ▶ Establish new business associations' aimed at young entrepreneurs.
- ▶ Funding mechanisms to support SMEs technology developments or joint research projects.

# 3. Success Factors

Hard factors:

- ▶ strong innovation base, including R&D
- ▶ presence of large firms
- ▶ physical infrastructure
- ▶ access to markets and venture capital

Soft factors:

- ▶ entrepreneurial culture
- ▶ networking & partnerships
- ▶ Human Capital
- ▶ presence of leadership

## 4. Innovation & Clusters

Innovation maintains the cluster at the forefront of the market whilst a strong R&D base can provide the ideas and products for future development.

Innovation can be incremental, as existing products and processes are gradually built upon, or may be more radical, with the introduction of a wholly new product or approach

## 4. Innovation & Clusters

Reinvention and innovation policy is a critical part of many declining clusters. Support for product and process improvements would appear to be important for established and mature clusters as well as supporting SMEs to prepare for new markets.

# 5. Examples of IT Clusters in Europe

## Cambridge

world class knowledge based economy

- ▶ very strong research and innovation
- ▶ greatest percentage of higher level skills of any UK city
- ▶ growing city

Cambridge continued to grow, despite a recession in the early 1990s and the dot.com bubble in 2000s. As from 2003–4 the cluster is facing a net employment loss of 8 percent, increase of firm exits decrease in start-up creations, etc.

# 5. Examples of IT Clusters in Europe

## Arno Valley (on going process)

- ▶ about 3000 companies active in the ICT sector, some of them listed in the Stock Exchange
  - ▶ strong presence of first class universities and research centres
  - ▶ skilled human resources
  - ▶ number of incubators, tech parks, and technology transfer centres
  - ▶ nice environment able to attract and retaining the best
  - ▶ embryonic regional policies to provide support
- 
- ▶ lacks specialisation (company dealing with different ICT, not reaching a cluster critical mass)
  - ▶ cluster of SMEs on open source software not adequately supported

# 5. Examples of IT Clusters in Europe

## Torino Wireless (on going process)

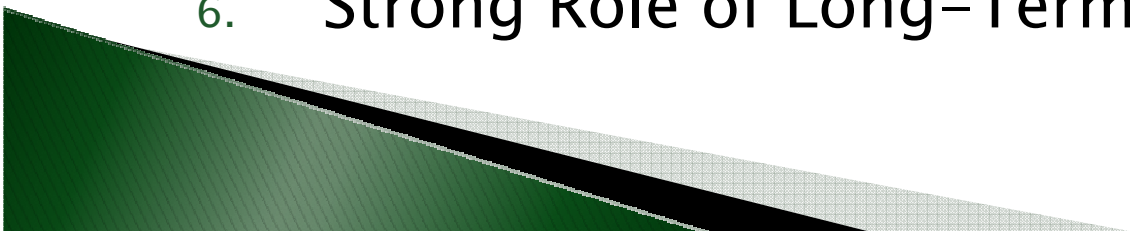
- ▶ world class universities and research centres;
  - ▶ highly skilled human resources;
  - ▶ over 2,000 researchers in ICT (almost 20% of the Italian total), 700 of whom are in the wireless area;
  - ▶ large leading firms (Fiat, Telecom Italia) and their research centres;
  - ▶ more than 8,000 small and medium enterprises (SMEs) active in the same field;
  - ▶ clear focus on wireless and infomobility;
  - ▶ the availability of public and private funding to support both research activities and the creation of new entrepreneurial initiatives (Piemonte invests 2.5% of its GDP in innovation and attracts a quarter of all Italian private investments in research and development);
  - ▶ support by the local government
- 
- ▶ Inadequate level of cooperation with Large Firms
  - ▶ Not invented here syndrome

# 5. Examples of IT Clusters in Europe

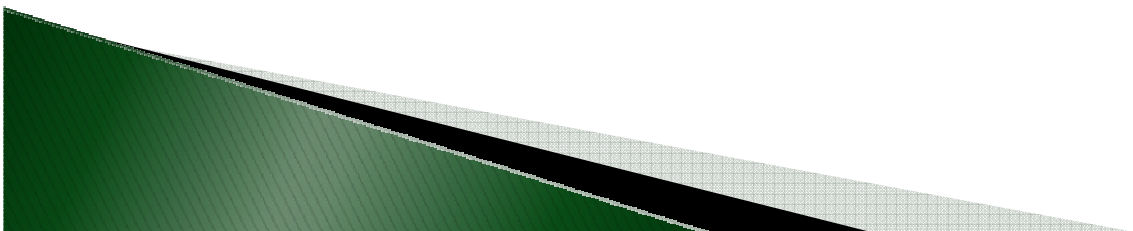
- ▶ Clusters are considered main drivers of Europe's competitiveness and innovation and several EC communications have been issued on this topic.
- ▶ Despite quite a number of success stories we can tell, there is shared opinion that EU clusters do not perform like US ones (even dimensionally) and are not exploiting fully their potential.
- ▶ Europe has difficulties in converting much of its research into commercial applications. In Europe, there has been nothing to compare with the entrepreneurial fortress of Silicon Valley, where technological innovations are rapidly converted into business applications. For example, some ideas were originated in Europe (Semantic Web, Linux) but the main actors are US based.

# Conclusions and Recommendations

1. Cluster Specialisation is crucial
2. “Coopetion” is crucial
3. Need of a broader definition of Innovation
4. Shift in Innovation paradigm
5. Everyone can innovate!
6. Strong Role of Long-Term Public Policies



# Obrigado!





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