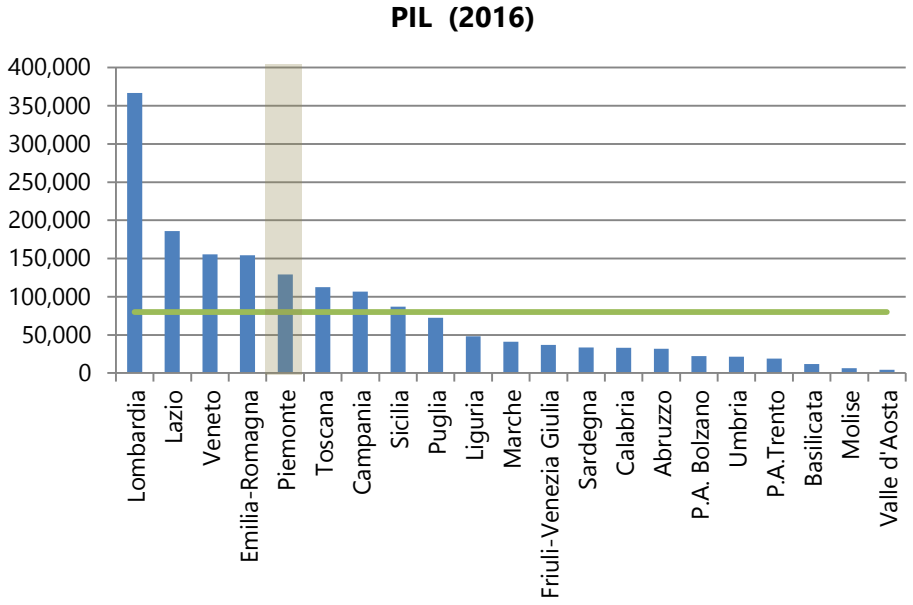
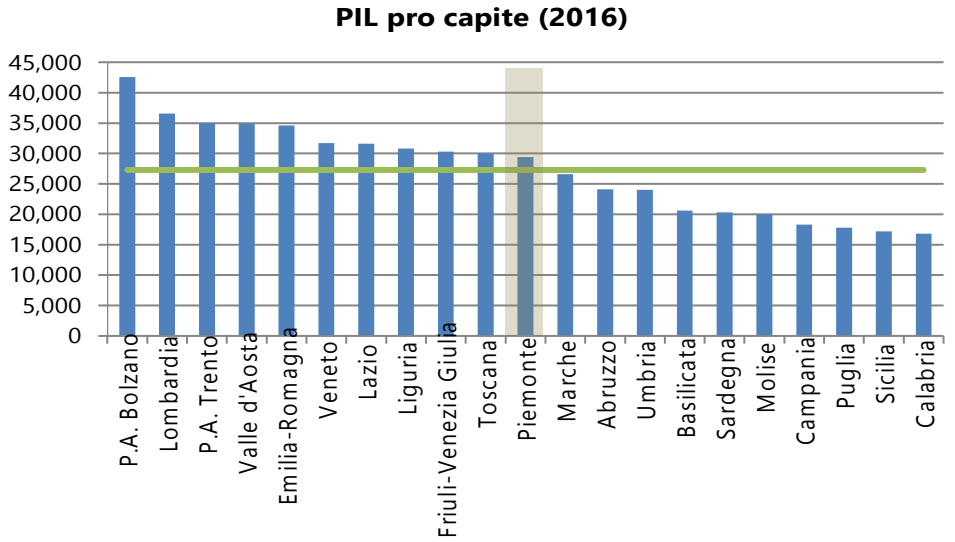
INFO-DAY RIS3 AND CLUSTER POLICIES

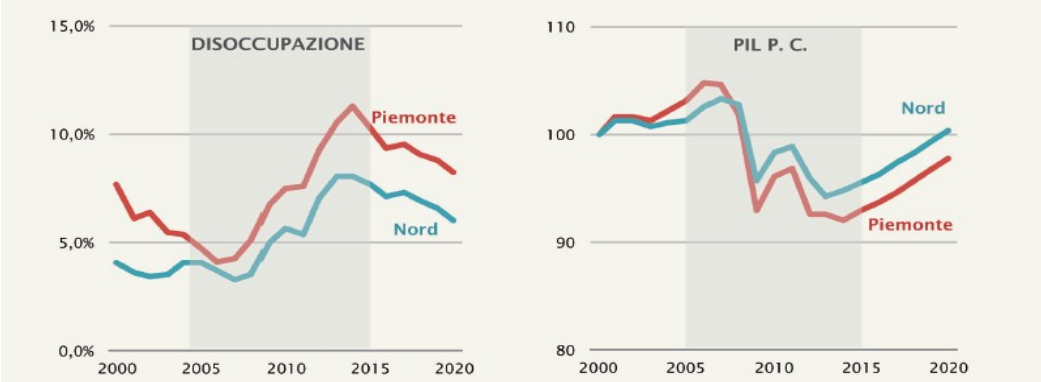
INNOVATION AND CLUSTER POLICIES IN PIEDMONT REGION

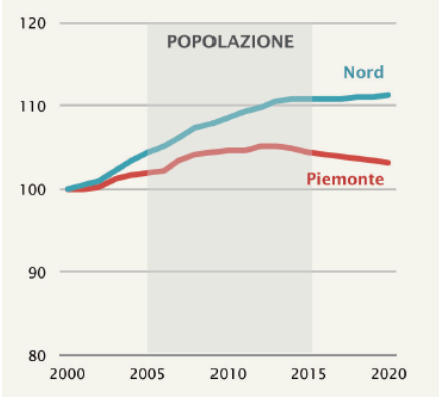
THE SOCIO-ECONOMIC CONTEXT





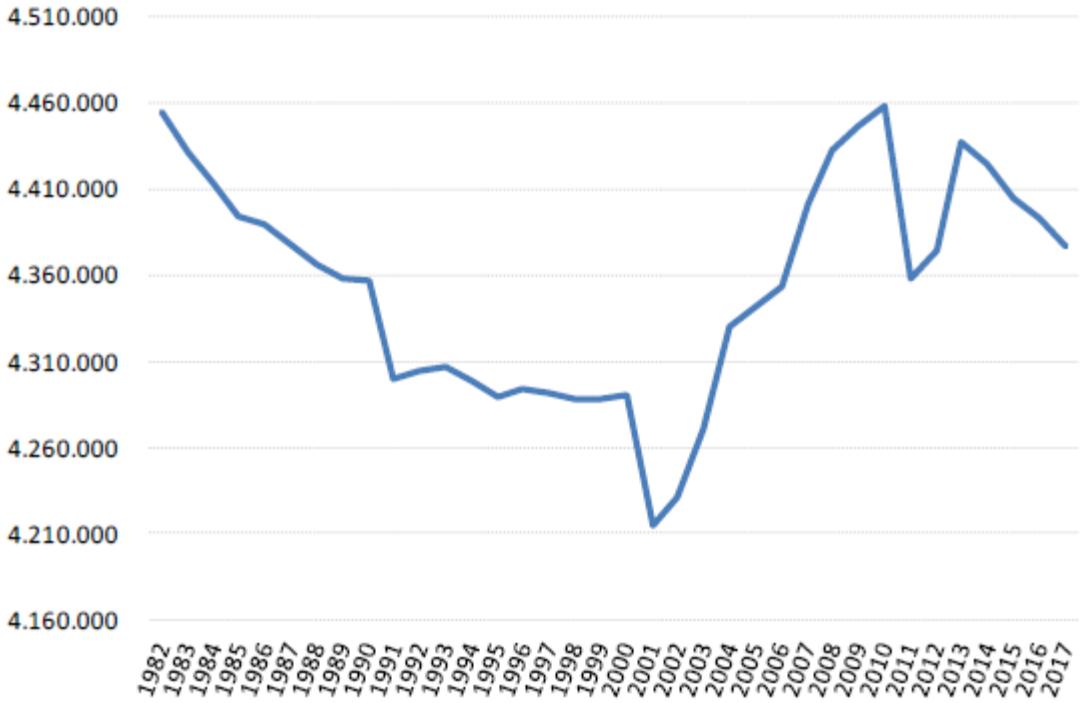
Fonte: Eurostat





Fonte: IRES 2017

PIEDMONT POPULATION TRENDS



For the fourth year Piedmont population keep **decreasing**

Natural Decrease (-23 thousands residents)

In relation to the past**, weak migration flows**

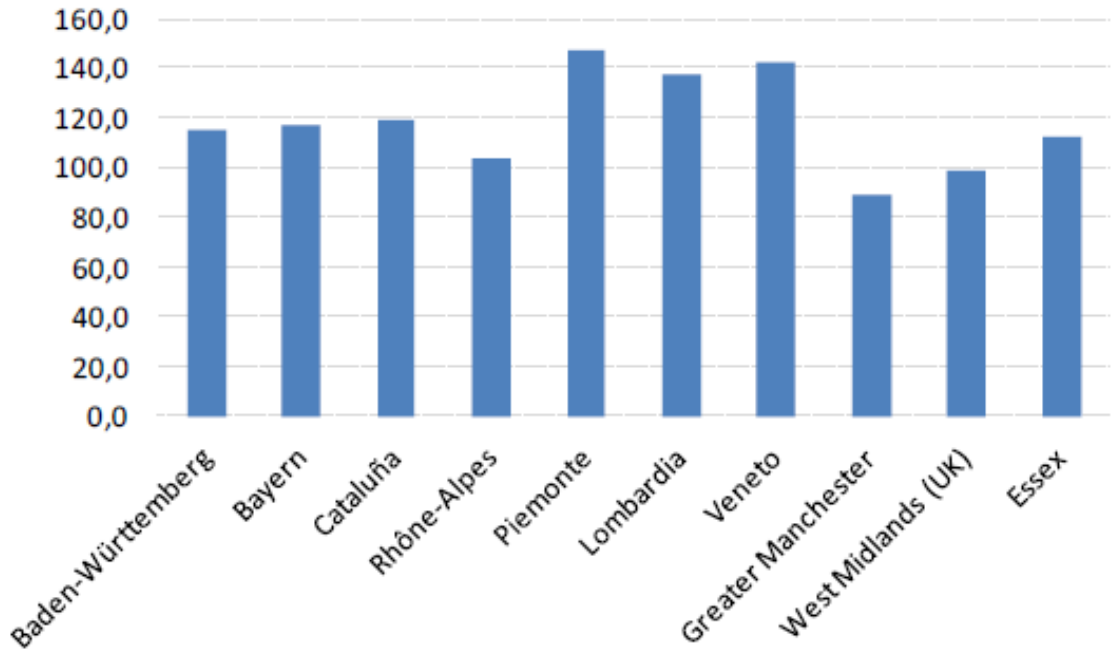
In the new century growth of migration towards foreign countries (two third of Italian origin)

Demographic decline especially in the Centre- north regions of Italy

AGEING: TOWARDS A PREVAILING GREY HAIR POPULATION

Changing Factors:

- Alternate phases of birth rate: (baby boom followed by drop in birth rate)
- Migration flows
- Increase in life expectancy

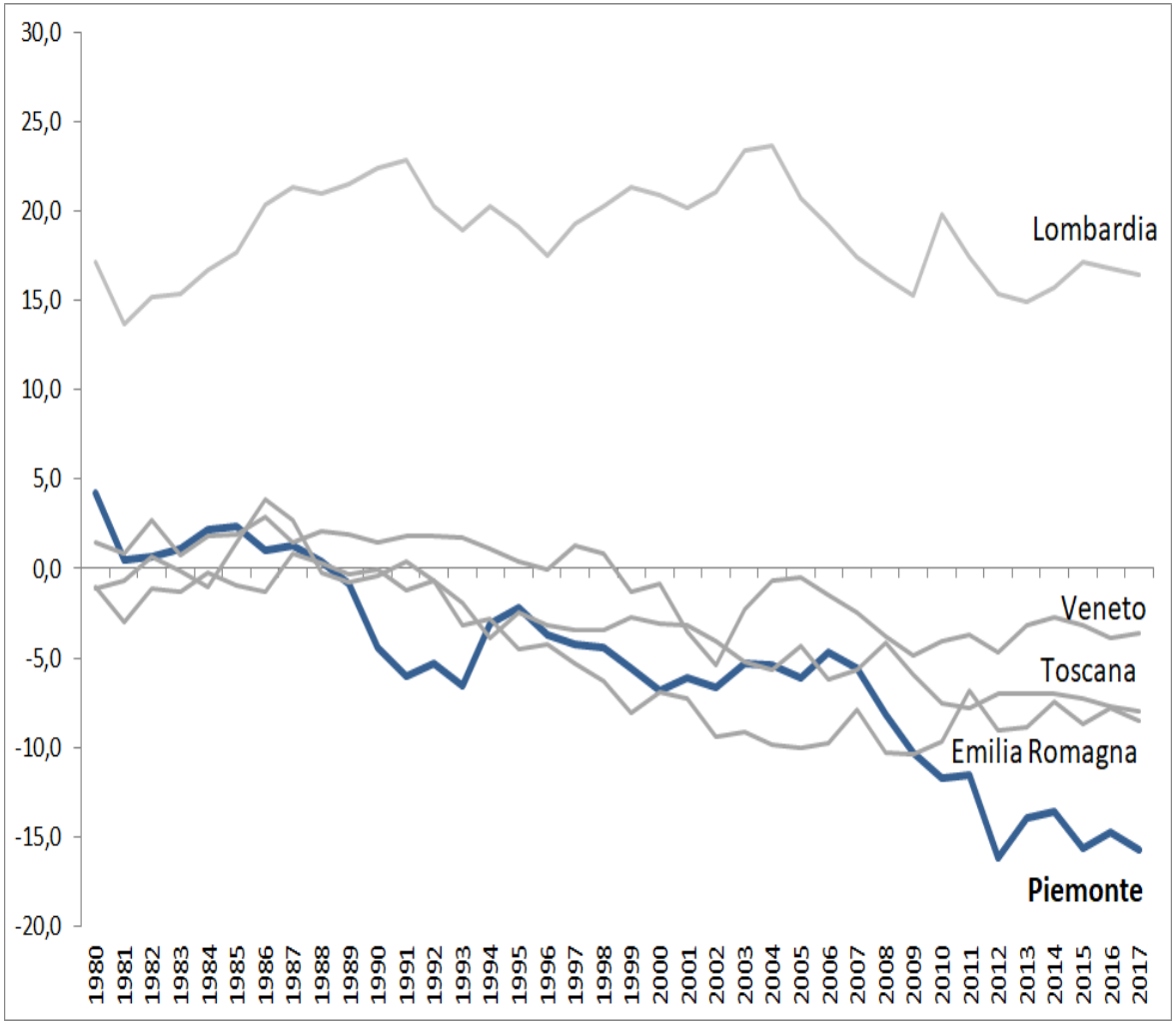


Changes in the working age population:

2007: **120** p. in mature class (40-64 years old) vs **100** young workers (15-39)

2016: **149,3** p. in mature class vs **100** in young class

AFTER THE OUTBREAK OF THE ECONOMIC CRISIS…
THE WEAKENING OF THE ECONOMY



Worsening of Piedmont external balance

Possible explanation:

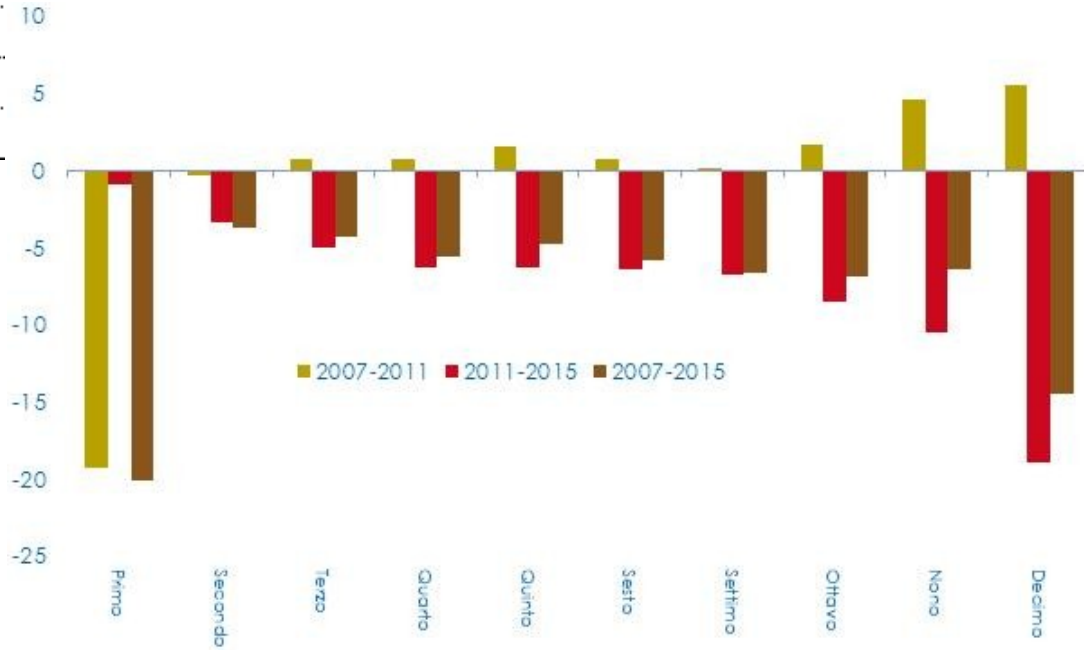
- Resizing of big players
- Pivotal role of the Lombardy area
- Loose of pre-existing connections
- Dynamic firms releasing from the region

INEQUALITY AND POVERTY INCREASE

Absolute poverty in Piemonte and Northern Italy

	Piemonte		
	2007	2011	2015
% FAMILIES	2,9	4,1	5,6
a.v. individuals (000)	142	183	284
	Nord		
% FAMILIES	3,6	4,0	4,6
a.v. individuals (000)	1.033	1.378	1.684

Family disposable income by decile 2007-2015

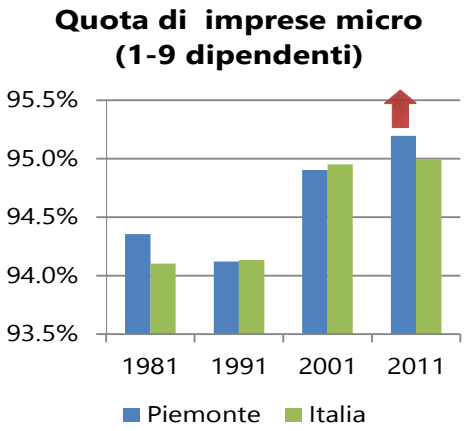


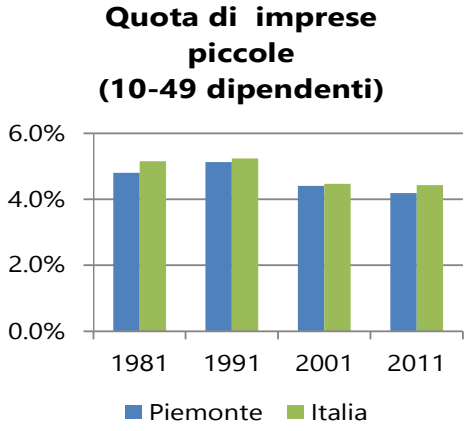
Source: Ires calculations on EU SILC (Statistics on Income and Living Conditions)

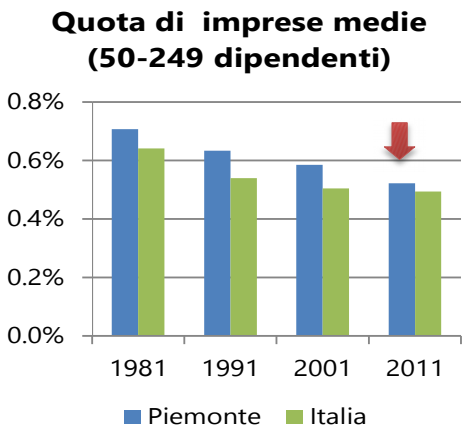
HOW PERSONAL EXPENDITURE COULD CONTRIBUTE TO CHANGE?

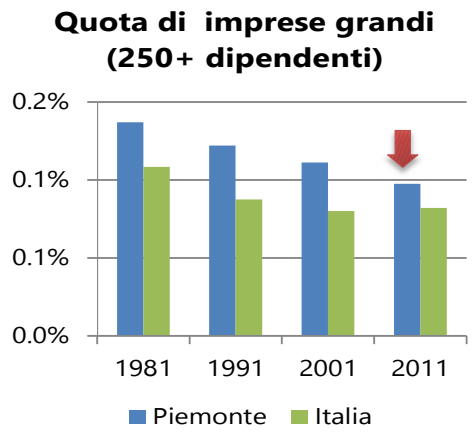
INDUSTRIAL STRUCTURE : size of enterprises

- The Piedmont productive system nowadays is more populated with SMEs than big companies









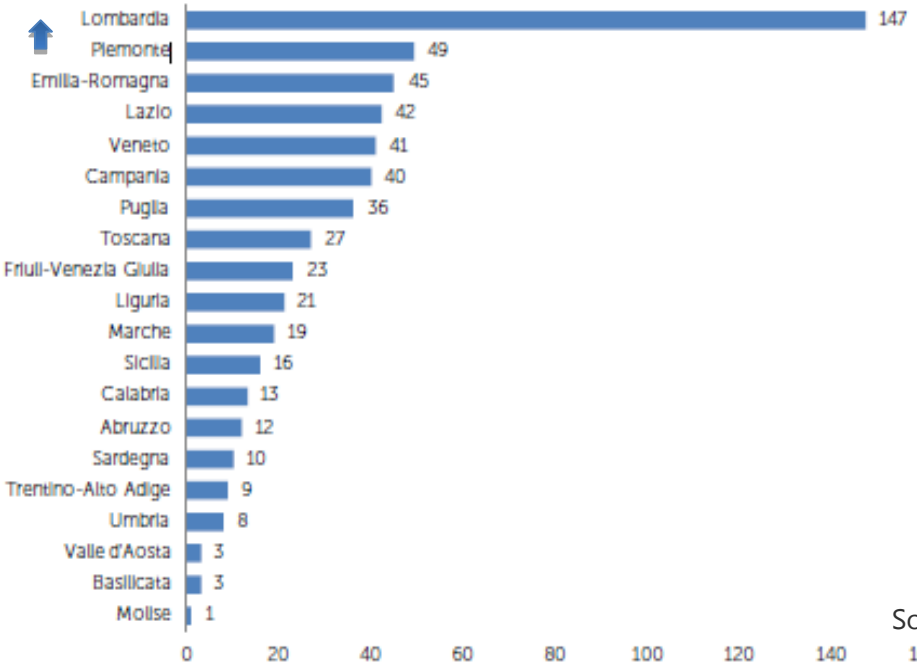
Source: ISTAT data

INDUSTRIAL STRUCTURE: size of enterprises

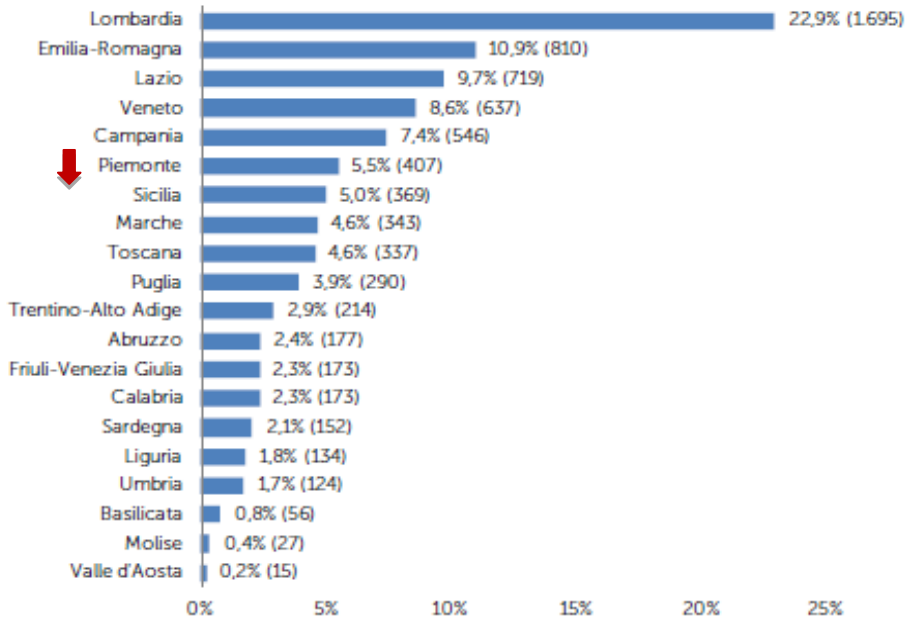
- The Piedmont productive system nowadays is more populated with SMEs than big companies
- Important role of SME

- However the Piedmont entrepreneurial system could be more dynamic

Innovative SMEs in Italy (2017)



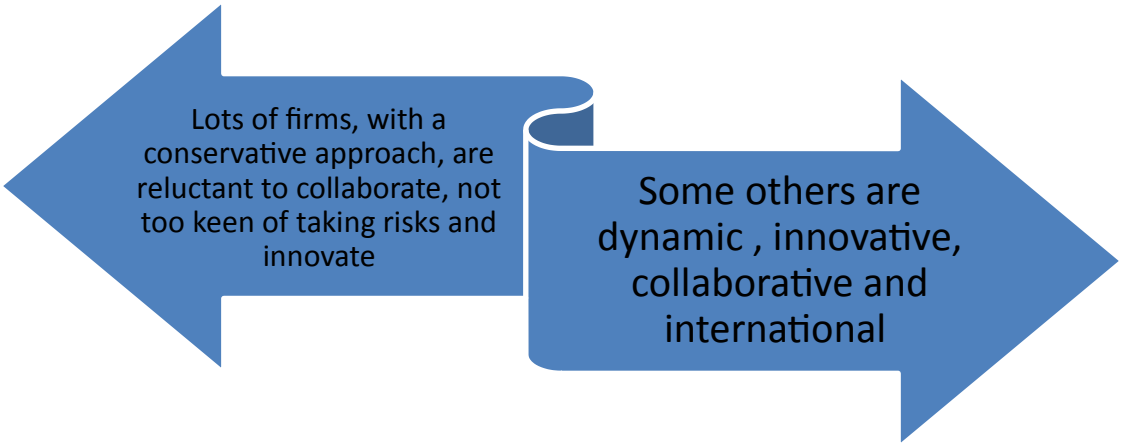
Percentage of Innovative start-up (2017)



Source: Infocamere, 2017

In a nutshell….

- The industrial base of Piedmont is traditionally organized in clusters
- Other than the cluster depending heavily on the manifacturing sector, **more cross-sectoral clusters are emerging**
- The process of **industrial transformation** is on going however it is held up by some peculiarity of the Piedmont socio-economic environment: skill mismatch, weak entrepreneurial attitude, strong dualism of the industrial base of the region



Which role could have the regional policy of clustar to facilitate the industrial process of transformation?

The 10 selected pilot regions in industrial transition

- Test new approaches to industrial transition through clusters
- A set of actions to foster industrial modernisation
- Funding opportunities
- Collaborations and partnerships

JOINT CHALLENGES OF INDUSTRIAL MODERNIZATION

	KNOWLEDGE	TRANSFER	NETWORKS	MANAGEMENT	HUMAN CAPITAL
	Lack of access, opportunities and awareness of research& innovation infrastracture hampers SME participation	Insufficent collaboration and cooperation between different actors in the regional ecosystem	Need to improve productivity by moving to higher added value networks and value chains	Need to increase cluster managment capabilities and capacities	Need to reinvigorate the entrepreneurial dynamic)e.g. financing, entrepreneurial discovery, skill gaps
WHERE?	East&North Finland – North Middle Sweden – Wallonia – Centre Val de La loire – Hauts de France	Piemonte – Cantabria – Wallonia – Saxony – Lithuania -	East & North Finland, Slovenia, Lithuania	Piemonte – Cantabria – Slovenia – Lithuania – North Middle Sweden	Piemonte – East&North Finland - Wallonia – Centre-Val de Loire

Piedmont Region has been the first Italian region to have formally established from 2009 on its territory Innovation Clusters

Since 2014 the region's policy innovation are supported within the Smart Specialization Strategy framework

OUTCOMES (1)

- The «Poli di Innovazione» have activated collaboration mechanism in an environment where collaborative dynamic are not in the DNA of enterprises, especially where there are lots of SMEs with an individualistic attitude.
- Membership in increasing although there is still room for improving

Polo	Membri attuali	Potenziale (stima)	Copertura (%)
MESAP	254	7000	3,6
ICT	237	2400	9,8
Agrifood	127	3000	4,2
Textile	86	100	86
BioPmed	88	350	25

Fonte: dati dei Poli di Innovazione

- The “Poli di Innovazione” are participating in Eruropean projects with 31 collaborations
- All the Poli have reached agreements with Regional High Technology Schools

Outcomes (2)

- **Positive** are the effects of the financing of the innovation: positive for the public financing whereas negligible are the effects of private capital

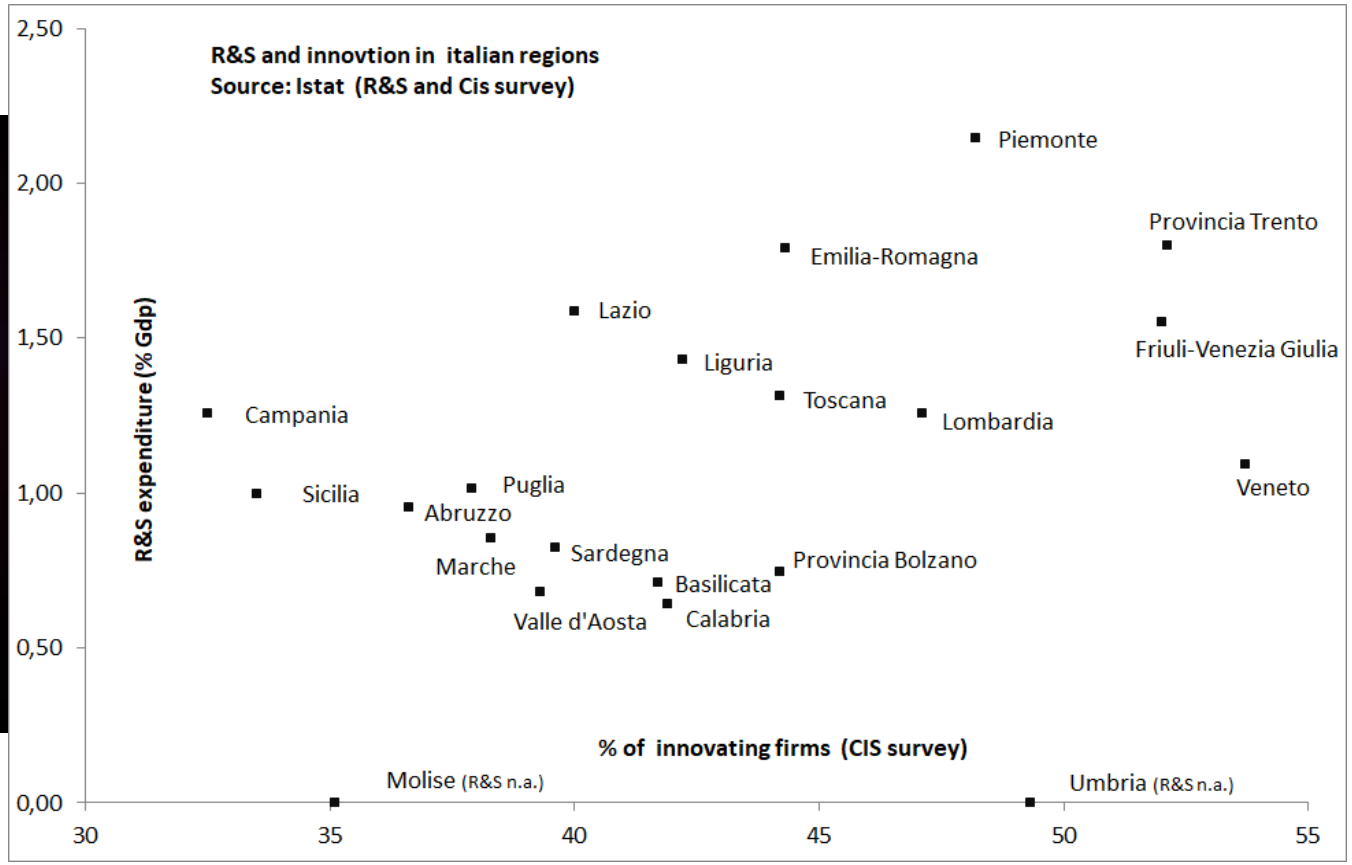
- Regarding the output the Regional policy has been particularly **effective** in helping the **incrementa**l **innovation.**

- The impact of **radical innovation** is still modest

- Appreciation for the services offered by the Poli di innovazione. Especially **internationalization, promotion of partnerships with foreign companies, partecipation to conferences and seminars**

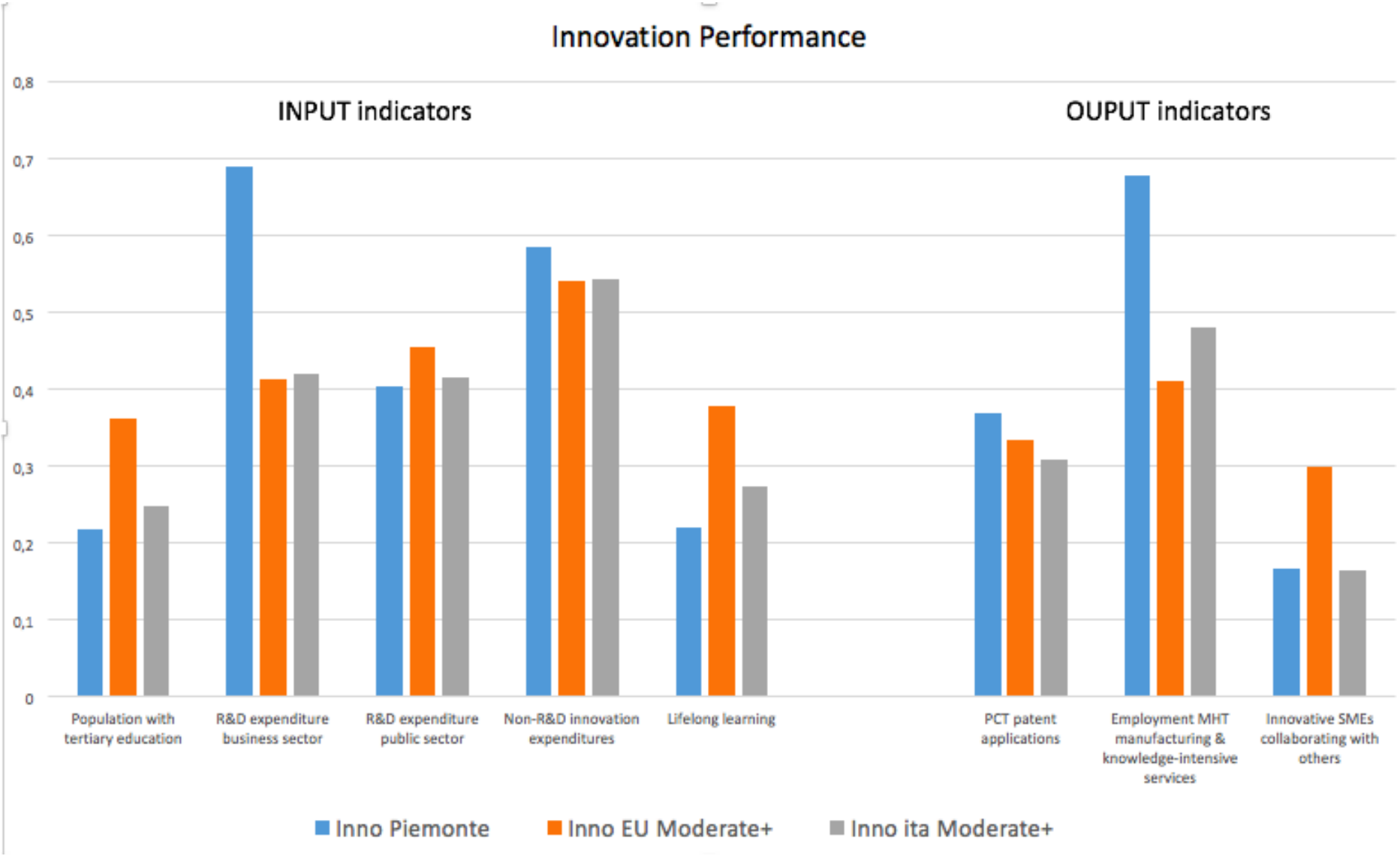
- The recent countefactual analysis undertaken by Ires in 2018 shows a **positive statistically significant effect on turnover (6%) and Added Value (+4%)**

THE GAP BETWEEN R&D AND INNOVATION



Good performance on the R&D indicators do not result in a more effective innovation activity

MIND THE GAP….


Innovation Performance
INPUT indicators
OUPUT indicators
0,8
0,7
0,6
0,5
0,4
0,3
0,2
0,1
0
Population with tertiary education
R&D expenditure business sector
R&D expenditure public sector
Non-R&D innovation expenditures
Lifelong learning
PCT patent applications
Employment MHT manufacturing & knowledge-intensive services
Innovative SMEs collaborating with others
Inno Piemonte
Inno EU Moderate+
Inno ita Moderate+

MIND THE GAP: POLICY MIX

- Enhance R&D in the phase close to the market
- Promote collaboration among companies and research institutions
- Support internationalization
- Strength: continuity of regional policies

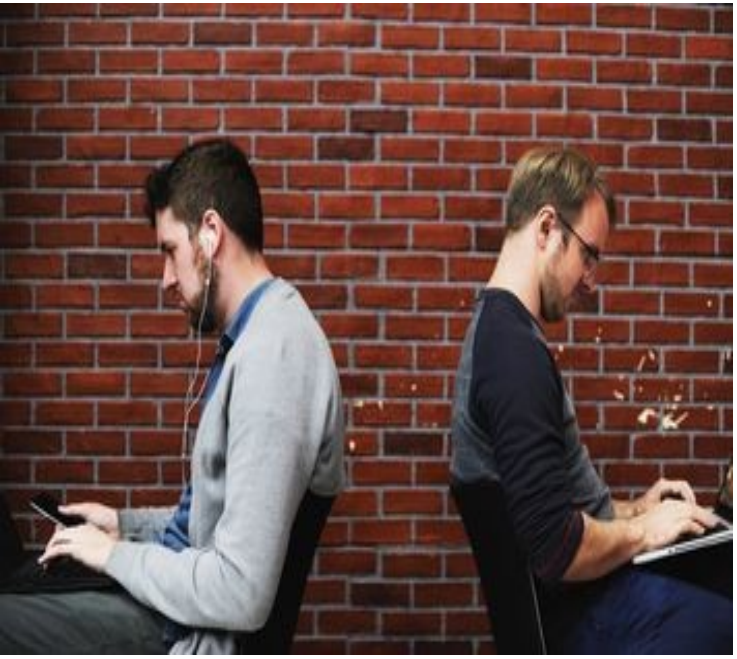
Type of failures that «Poli di Innovazione» address

- **INFORMATION FAILURES:** economic actors lack information about sources of external knowledge and opportunities
- **MANAGERIAL FAILURES:** economic actors are unable to exploit knowledge and opportunities due to lack of adequate competence skills
- **NETWORKING/COGNITIVE FAILURES:** economic actors lack connection between them, and are unable to interact to cognitive distance

Tackling the network effects

- Policy interventions targeted at individual firms, are increasingly supporting the formation of innovation networks.
- **Evaluation logic**: from capturing input/output additionality (i.e. counterfactual analysis) to behavioral and systemic effects by considering the benefits in the form of “network or cooperation additionality”
- Another aspect is the role of Intermediaries within the transition to the 4th Industrial revolution: according to some scholars (Caloffi et all, 2016) a system-based framework of performance indicators to assess the

REGIONAL INTERVENTION IN THE TRANSITION ECONOMY: TOWARDS DIFFUSIVE POLICIES



Reduction of the «density» of regional economic relationships

Unsufficient relationship between manufacturing and services

Disruption of consolidated production chains

Policies have to be **diffusive** and **connective:**

- Increase relationships among subjects
- Rebuild production chain links
- Promote internationalization
- Encourage R&D close to the market
- Seize the new potential clusters

FROM THE REINFORCEMENT OF ENTERPRISES TO THE PRODUCTION OF COLLECTIVE COMPETITIVE GOODS

- Support to Innovation Clusters managing body for a development programme for regional clusters **Poli di Innovazione** 5 Meuro;

- Support to project promoting R&D within the system of Regional Innovation Clusters and technological transfer, helping collaboration between SMEs and research centres on TRL 4-7 projects 100Meuro;

- Promote collaborative projects for SMEs, big companies and research centres through innovative Tecnological Platforms (**Piattaforme Tecnologiche)** on TRL 4-6 promoting demonstartive tecnologies for specific poduction chain 100 Meuro;

- Projects for industrialization of research (**Strumento IR²**). The aim is to promote industrial investment in order to overcome the so called «death valley» preventing the promising reserach outocomes to be commercially exploited from TRL (5-8) - 88 Meuro;

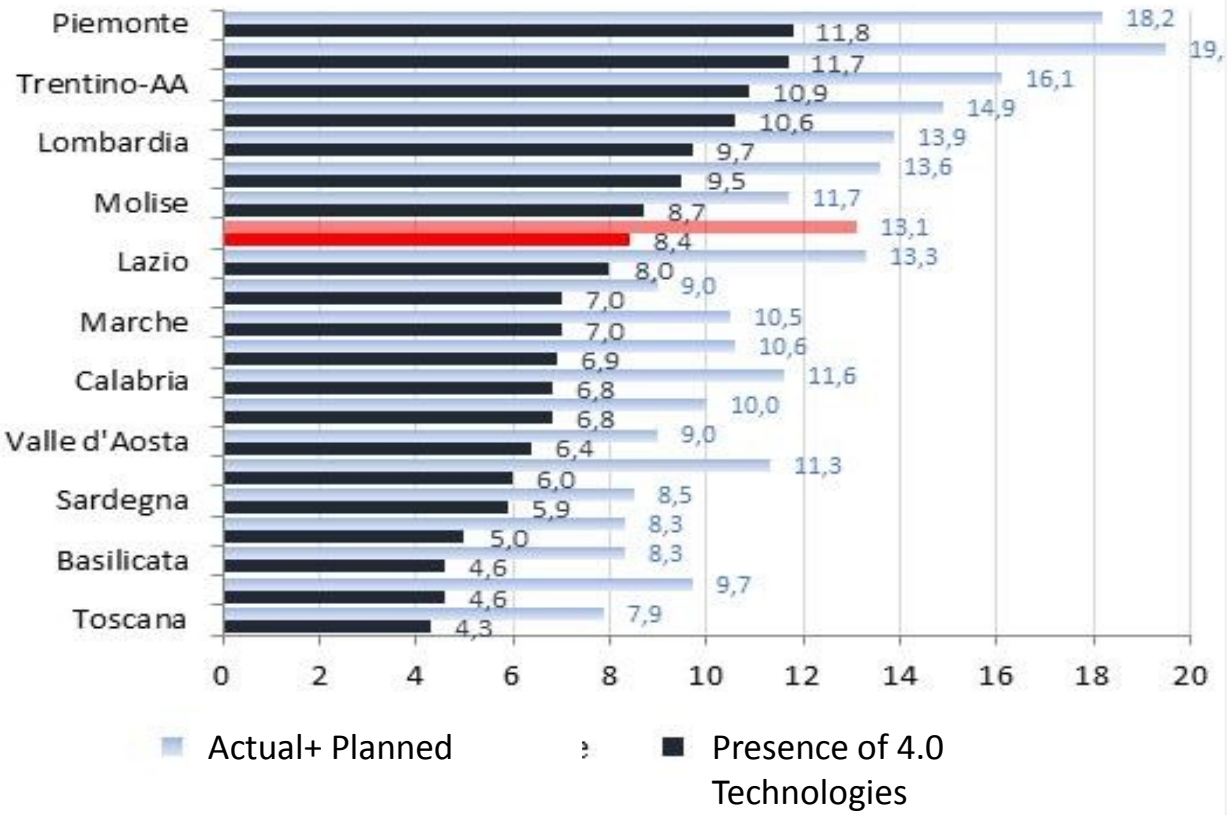
- Enhance the public **infrastructure of research** for a wider use of labs and R&D by SMEs 19,5 Meuro;

- Incentive for **innovative investments for SMEs** to promote investment for environment sustainability, safety and innovation of productive process

- Promotion of i**nternational and interegional collaboration** on R&S (Eranet, Cluster tecnologici nazionali) of the Piedmont production system.

A SYNERGETIC APPROACH TO NATIONAL AND REGIONAL POLICIES

DIGITATIZATION AND 4.0 INDUSTRY IN PIEMONTE



New materials (0,6%) Cyber Security (2,8%)
Simulation test (1,5%)
Augmented reality (0,2%)
Collaborative robot (2%

Source: MET

Additive manufacturing 3,6% *(national average 2,0%) second region after* Lazio

Orizontal integration of information 3,4% *(2,7%)* third region

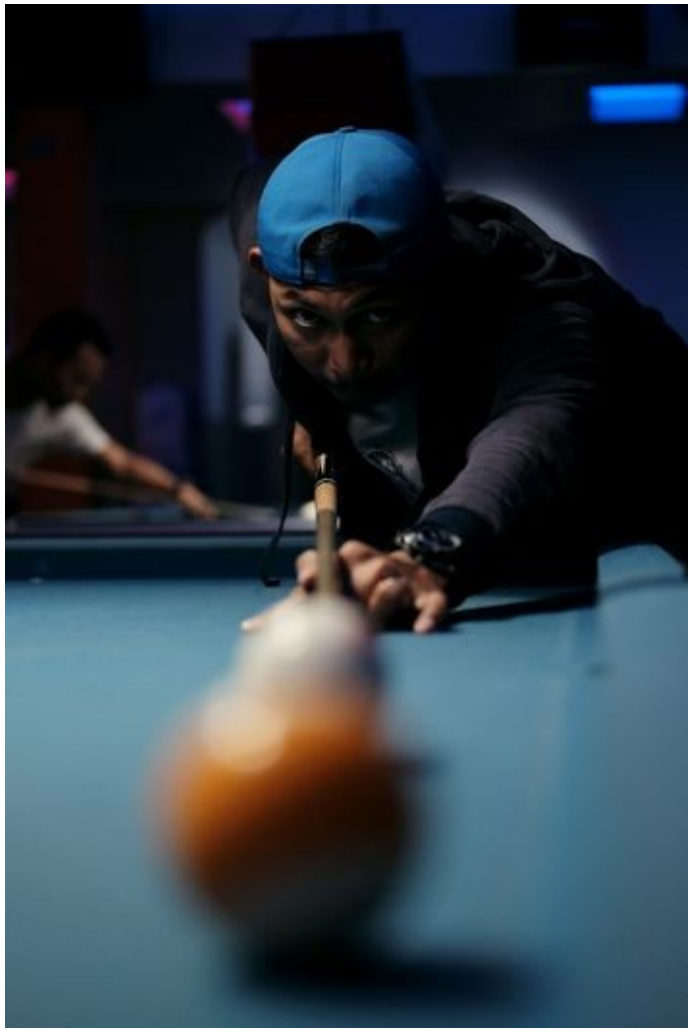
Vertical integration of informationt 2,7% *(1,9%)* third region

Industrial IOT 4,5% *(3,6%)* third region after Veneto and Emilia

Cloud data management 3,5%, *(2,5%)* second region after Lombardia

Big Data Analytics 2,6% *(1,4%)* first region

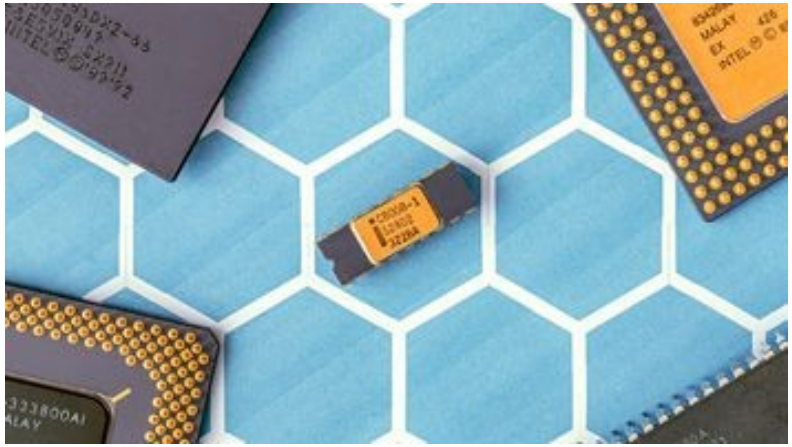
HIT THE SPOT



- Synergetic and complementary approach regarding national policies (Miur, Mise, Piano I4.0)
- Assist the innovaton ecosystem (accellerate, consolidate and give continuity to innovation projects)
- Guide the innovation close to the market (new products and services, not just processes)
- Entrepreneurial discovery (open approach, not only sectorial but cross- sector orientation)
- Rooting and consolidating multinational companies presence (reinforcing local production unit)

COHERENCE BETWEEN STRATEGY AND CONTEXT

- Priority support to investment in innovation in order to overcome the gap between inputs and outcomes (endowments and functionings)
- Re-positioning of the most advanced part of manufacturing
- Not just large companies (Assel: 55 GI, 68 MI, 173 PI, 68 Micro)
- Not just manifacturing (but also qualified services)



The role of strategy in recomposing the dualisms in the production system is more difficult

THE ECONOMY OF VARIETY: THE EMERGING OF CROSS-SECTORAL COMPONENTS IN SPECIALIZATION

Specialization areas: mostly mechatronic and automotives

Hybridization: multidisciplinary knowledge, smart and resource efficient components (health and wellness act as a magnet)

Digital tranformation(new products and services with servitization)

The turning point towards sutainability (from resource saving to circular economy)

Wellness and health : attention to people and collectivity (quality of life and social impat of innovation)

Capabilities of people and professional skills

SKILLS AND INDUSTRIAL TRANSITION: NOT JUST ADAPTATION TO NEW TECHNOLOGIES BUT MAKE THE CHANGE POSSIBLE BY EXISTING RESOURCES

Impact of new technologies on employment: jobs at risk

Re-skilling: bet on current know how of employed

Strengthen education system: not just professional profiles but also attitudes

THANK YOU FOR YOUR ATTENTION