CONFINDUSTRIA Lombardia

UNTERNEHMERVERBAND SÜDTIROL
ASSOIMPRENDITORI ALTO ADIGE

CONFINDUSTRIA Veneto

CONFINDUSTRIA Piemonte

CONFINDUSTRIA TRENTO

CONFINDUSTRIA Liguria

CONFINDUSTRIA Friuli Venezia Giulia

CONFINDUSTRIA Valle d'Aosta

Manifesto for Competitiveness and Innovation in Alpine Macroregion

SMI SISTEMA MODA ITALIA
FEDERAZIONE TESSILE E MODA

ANFIA Associazione Nazionale Filiera Industria Automobilistica

FEDERCHIMICA CONFINDUSTRIA

INTRODUCTION

Europe represents the dimension where all of us are called to operate: a great political and economic-productive area in competition with other regions of the world.

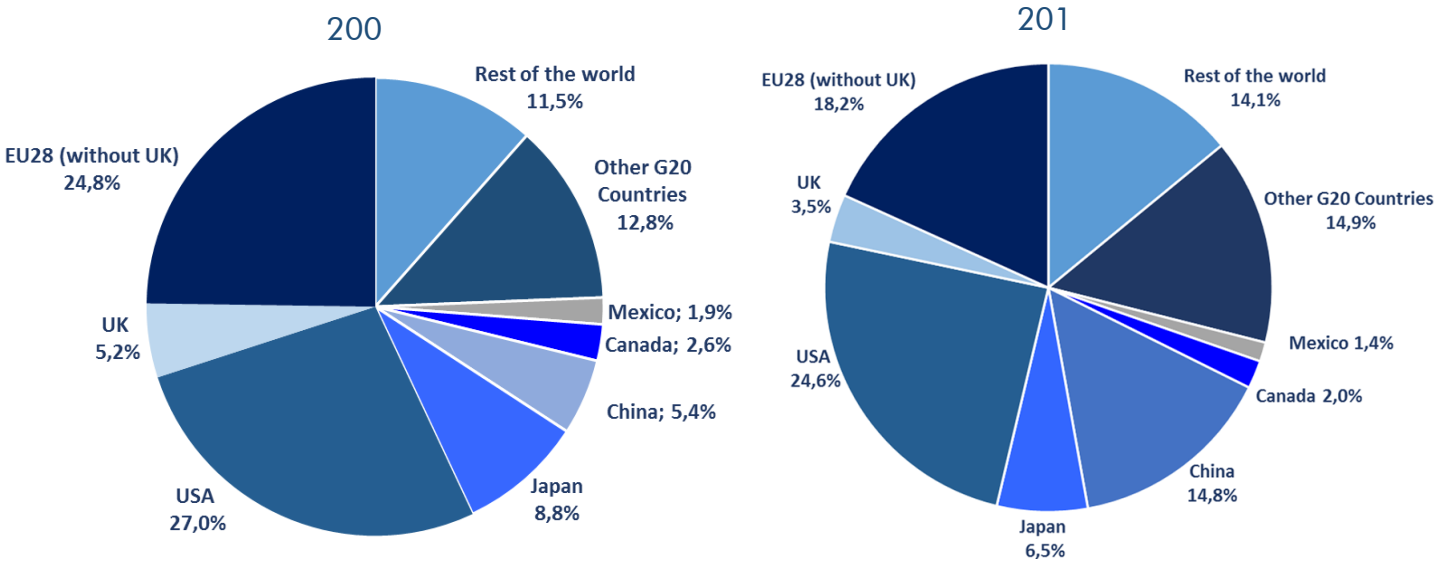
The macro-regional dimension is therefore the ideal level to relaunch the development of manufacturing production chains in the current global competition.

In this context, the **Regional Representations of Confindustria System involved in EUSALP** and the **Associations representing the strategic sectors** identified in the European Strategy for the Alpine Macro Region, have drafted this Manifesto, with the aim of presenting **future scenarios** and **actions for the development of competitiveness and innovation of the industrial sector in the European Strategy for the Alpine Macro-Region.**

SCENARIO

In the current global scenario, the actors compete on **large regional areas** (Figure 1), **mega urban agglomerations** that must foster **closer integration and collaboration between territories and production systems** and synergies between the various production and value chains.

Figure 1 **GDP evolution % in main global areas**



Source: World Bank

The large geographical area which includes Piedmont, Valle d'Aosta, Liguria, Lombardy, Veneto, Trentino-Alto Adige and Friuli-Venezia Giulia – and which, in the wider context of the Alpine Macroregion (EUSALP), includes **three of the "Four Motors for Europe" is facing a global challenge: becoming a major economic and innovative hub capable of driving regional and national economies in the global context.**

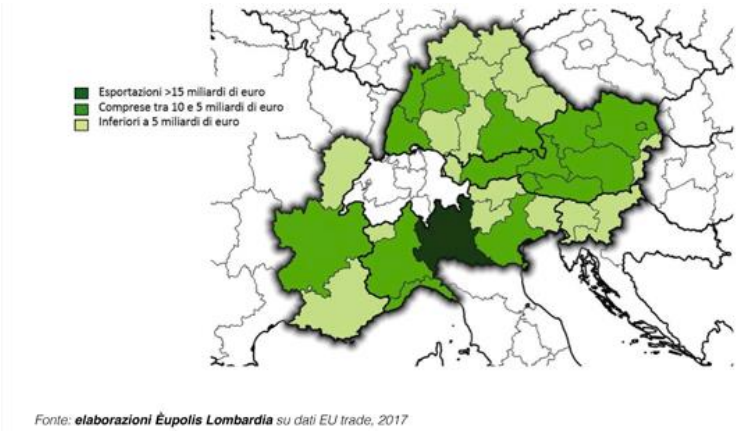
In this new context, regions alone cannot compete in the global markets. The macro-regional dimension, recognized by the European Union through the definition of five macroregional strategies, is therefore the ideal setting for positioning in the global competition.

The Alpine Macroregion will therefore be a space that can **attract intelligence and innovation: ideas, capital, people to generate development.** It is necessary to allow that information, goods and people can move in a competitive way, in terms of time and money saving.

This prerogative is even more stringent in the context of a territory that represents "*the largest economic and productive hub in Europe*" *whose "metropolitan areas and cities are key places for world competition"*[1], with a **GDP amounting to € 2.990.004 million**, a quarter of European R & D expenses (**€ 84.261 million**) and around **35.954.000 employees (1/5 UE)**[2].

Figure 2 **Export in EUSALP**

Absolute Values, 2017



Fonte: ***elaborazioni Èupolis Lombardia*** *su dati EU trade, 2017*

The success of the Macro-Region will be the result of the link between businesses and territories.

The competitiveness of businesses, in fact, cannot be separated from the development and competitiveness of the territories and society in which companies operate and thus from sustainable development.

In this context, the enterprise represents a social asset built around people, who are embedded in specific socio-economic and cultural contexts. This is particularly evident from the **increased sense of social responsibility.**

[1] Action Plan of the European Union Strategy for the Alpine Region, COM(2015) 366 final

[2] Source: Eupolis

The regions will indeed be successful in extending and investing in their competitive advantage.

Defending manufacturing means defending the economic well-being of nations.
The equation is simple: more manufacturing companies is equivalent to greater technological innovation, meant as introducing new products or using new technologies that, in the long term, are the real driving force for productivity growth.

A **clear and flexible multilevel governance** will be necessary to ensure effective inter-territorial coordination and to define the design, financial and regulatory aspects involving all public and private actors, taking inspiration from the best practices of actions already experienced in other macro-regions.

This activity will also have to go through the **enhancement of synergies between funds and public resources at the different institutional levels**, i.e. Structural Funds, European direct funds (e.g. Horizon 2020) and other regional / national / European instruments.

The objective will be to **pursue the region's social, environmental and cultural growth through the prosperity generated by its businesses**, which will benefit all the stakeholders.

In this way, EUSALP may have the ambition to become a **space for attracting intelligence and innovation and generating development and well-being**.

1. INDUSTRY 4.0

We can summarize the concept of **Industry 4.0** in the integrated set of human beings, machines, objects and systems that create a **digital and interconnected network between businesses, involving the entire production chain, capable of self-organizing and optimizing in real time**: all this in order to create greater value through increased competitiveness.

This evolution will be an **inclusive and cultural transformation** because, **in addition to the manufacturing sector, it will cover many sectors, from craftmanship to services and will generate skilled employment, increasing employability.** Only starting from the centrality of manufacturing the entire EUSALP production system will be able to tackle the transition to **Industry 4.0.**

The great potential of Industry 4.0 is not only the **integration of innovative services and IT technologies in industrial production**, but, above all, the creation of a true eco-system of innovation that is driving the whole economy of the territory. The new era of manufacturing will be characterized by agile and interconnected businesses that cleverly use and analyze information, employing talent and machinery to deliver products and services in a diversified global marketplace.

Speed, flexibility and automation will be the keywords of the new industrial revolution, which will increase the added value for businesses and - upstream - for the entire production chain, following customers and their needs, with the possibility to engage them more in the design of the product or service.

Revolution 4.0 will therefore work through transversal drivers, enhancing cross-sectoral chains. From a technological point of view, this also means promoting complementarity among different enabling technologies, capable of modernizing traditional value chains, such the mechatronics sector.

Digital technologies certainly represent the revolutionary element of the production system, however, Industry 4.0 cannot be limited to the application of new technologies by businesses, but it must be a **new approach to business** with a **real cultural, organizational and managerial change**.

Digital manufacturing will not only change the production process and the product but also, above all, the business models and the entire organizational sphere: a **true digital culture** is needed, a new vision by the company starting from the top management, completely new skills and a new approach in the interpretation and use of the large amount of data available.

The transition to the new technologies of the fourth industrial revolution is in fact the peak moment of a process that has been going on for some time, where physical objects will interact with each other, creating a **complex and globally interconnected industrial system**.

The Alpine Macro-Region, by promoting **greater technological and productive integration,** must evolve into a large functional area in order to build a true **intelligent, thinking and interconnected industry.**

Industry 4.0 represents a vital challenge for the growth and competitiveness of EUSALP, a fertile environment for developing cutting-edge manufacturing and to help large, medium-sized small businesses facing in a competitive way the transition to Industry 4.0.

Conditio sine qua non is the definition of a **shared long-term vision** by promoting synergies and complementarities between existing initiatives with particular reference to the **Digitising European Industry** strategy, **Digital Innovation Hubs** and **the instruments introduced at regional and national level** (e.g. National Industry Plan 4.0.) from EUSALP States and Regions.

Proposals

1) Define an **Action Plan at Macro-regional level** to promote digital transformation of the production chains, the dissemination of digital technologies, such as mechatronics, and foster the development of specialized skills in businesses;

2) Building a **network of Digital Innovation Hubs and Competence Centers** in the EUSALP area, promoting functional synergies to support the transition of value chains to an industry 4.0;

3) Enhance the **World Manufacturing Forum,** which will permanently be held in Lombardy from 2018 as a chance to give more visibility to EUSALP.

2. INNOVATION

The competitiveness of a territory rely on the ability of its enterprises to continuously innovate and improve.

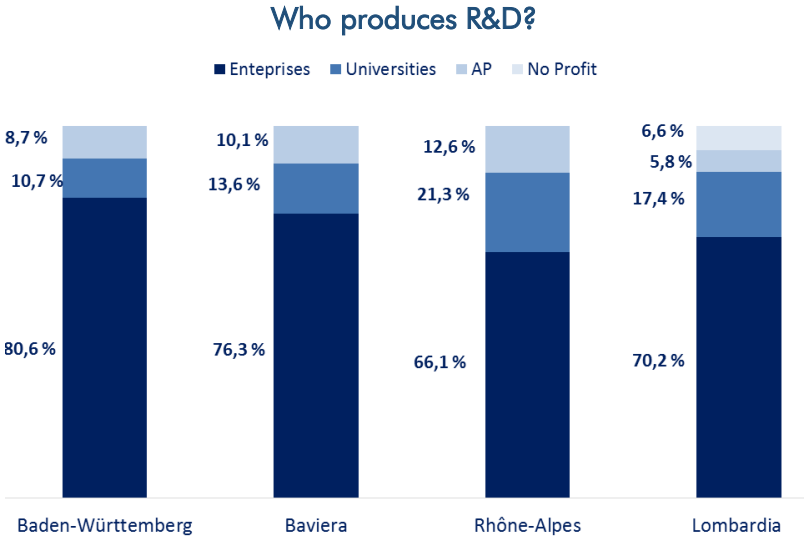
In advanced economic systems pinpointing the **competitiveness and productivity challenge** means exploiting introductory lever to innovation: **creation and enhancement of human capital, attraction of innovative companies and individuals, internationalization and cluster development.**
Working on business **environment quality and sophistication of enterprises activities**, Macroregional challenges will be translated into concrete results.

Enhancing **innovation** based on the **"ability to better combine production factors"** and progression improvements **"in a long path made of attempts and errors"**, the capacity that supports development and competitiveness of mature value chain, then considered less relevant. This innovative ability doesn't need extraordinary talents, it fosters **"cumulative knowledge, that is experience"**.

Such specificities are crucial in our enterprises where competition depends on the ability to develop **market pull incremental innovation**. Every organization areas typically generates continuous innovation, **this processes and products' progressive improvement, creating value, causes capabilities rooted in the territory that cannot be duplicated.**

Data (Figure 3) confirm the **centrality of industrial sector and in particular Medium Tech as propulsive elements of innovation within Macroregion**. Medium Tech enterprises represent more than 60% of employees and more than 40% of local units of manufacturing industry in Baden-Württemberg, Bavaria, Rhône-Alpes and Lombardy.

Figure 3



Source: *Centro Studi* Assolombarda Confindustria Milano, Monza e Brianza

Further Medium Tech success factor is the connection between **territories and enterprises. Geographical areas where there are several inter connected value chains (such as cluster model) represent a potential competitive advantage**: that is because the competitiveness of a territory relies on its capacity to use and best combines human capital, financial and natural resources.

Industry, in particular Medium Tech, is the main engine of innovation growth in EUSALP Regions

Medium tech enterprises have a better function of social balance, need good and long term human capital, push for continuous updated skills, promote merit and quality, positively root in the territory, pushing for quality supply chain and improving widespread social capital.

There are some critical points related to collaboration between SMEs and research.

The Macroregion will have to develop a real **ecosystem that supports technology transfer and innovation**, promoting a close **integration between enterprises and research world as well as a market oriented technological innovation**, in order to generate a strong impact on EUSALP competitiveness.

Cluster represent the right tool to face this challenge, favouring synergies among main value chain stakeholder in EUSALP. These aggregative models have extensively proved its efficacy that is creation

of **"competitive advantage deriving from the existence of external local economies and joint actions"** higher compared to enterprises of the same sector but not belonging to cluster.
Clusters ease the development of new patents, promote economic growth and the creation of new job places. **There is a positive correlation between cluster strength and the growth of existing regional industries.**

Through the collaboration among small, medium and big enterprises and research centres, Universities, business organization, public administration and financial institutions, **clusters make industries more international, digital and interconnected.**

As mentioned above, starting from European Strategy implemented within regions of the whole Macroregion, **EUSALP must focus on supporting actions and long term strategy addressing cluster model making it one of the main elements of the Pillar of the Strategy.**

One of the elements characterizing EUSALP productive systems is the **growing importance of global value chain**: network of enterprises, suppliers and customers, competence centre, University and productive cluster allowing enterprises to stay competitive on international markets.

The aim is to produce highly excellent goods, enhancing everything around it, building on specialized workers in time with new technologies, favouring investments and R&D funds, entering **Global Value Chains**.

Considering the position of Alpine Macroregion in worldwide market, we consider fundamental to enable contamination among companies and other stakeholder within EUSALP value chains, **enabling evolution from supply chain to value chain within the global competition.**

The above mentioned principles must be translated into concrete projects *within Action Group 1 "Development of an effective R&D system", led by Lombardy, and Action Group 2 "Increase the economic potential of strategic sectors", led by Baden-Wϋrttemberg and Auvergne-Rhône-Alpes* within the **1st Pillar of the Strategy "Economic Growth and Innovation".**

Both groups will have to work in close synergy to promote innovation and development policies, wide value chain projects aiming at increasing competitiveness within the Macroregion.

In particular Action Group 2 has identified some strategic value chains relevant for Macroregion competitiveness: **Bioeconomy, Wood, Health and Tourism**. However, EUSALP will have to enhance also traditional value chains with high impact on Macroregional competitiveness.

EUSALP global competitiveness will be improved enhancing strategic value chains indicated within the Strategy as well as the **modernization of traditional manufacturing value chain, such as Automotive and Textile**.

The relaunch of such value chain will be translated into **industrial projects** that will promote its innovation and positioning in **global value chain competition.**

Proposals

1) Defining **macroregional industrial value chain projects**, acknowledging the central role of industry for innovation and development in EUSALP area, enabling modernization of value chain and increasing competitiveness and welfare of territories;

2) Promoting **functional synergies among Smart Specialisation Strategies of EUSALP regions**, enhancing **industrial thematic platform models**, defining and integrated framework of policies and tools to create **concrete opportunities for the development of EUSALP competitiveness**;

3) Promoting interregional collaboration through policies and sovraregional financing schemes, **enabling synergies among EUSALP funds and programmes**;

4) Enhancing **Clusters** as tools to enable **collaboration and integration of EUSALP value chains**, stimulating wide industrial investment projects and global competition of EUSALP value chain;

Actions

1) **Bioeconomy**
   - Enhancing **industrial application of biopolymers enabling cross fertilization in strategic value chains,** such as Textile, Automotive, Pharma and chemical industry;
   - Increasing **competitiveness of biobased products**, promoting production processes economically and environmentally sustainable;
   - Optimizing and maximizing **efficiency of processes within biorefineries** through Research and Development activities and the building of demonstrators and pilots to decrease time to market of new and innovative bioproducts;

2) **Wood**
   - Enhancing **Design ecosystem**, stimulating the use of wood together with other materials within other creative industries value chains;
   - Promoting **Building value chain**, aiming at developing integrated buildings with low environmental and energetic impact;

3) **Health/Tourism**
   - Promoting an adequate health and welfare system to favour **active ageing and well being of people and society within EUSALP**;
   - Enhancing the opportunity to have the **European Medicine Agency** in Lombardy to relaunch of health value chain in EUSALP;
   - Promoting an **integrated system of services, assistance – also through telemedicine, enhancing excellences and innovation within life science value chain** to attract users in EUSALP area;

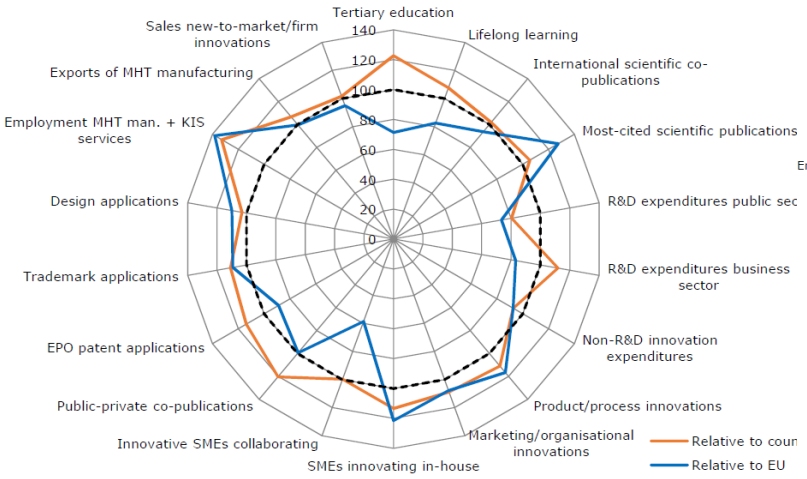
4) **Manufacturing Value Chains**
   - Enhancing innovation in Automotive value chain favouring products and processes **environmental sustainability** and promoting digitalization, **connection and lighting of vehicles, security and business development for the value chain**;

- Promoting modernization of textile value chain, enabling **processes sustainability, design driven innovation, digitalization of new business model and development of technical textile**;

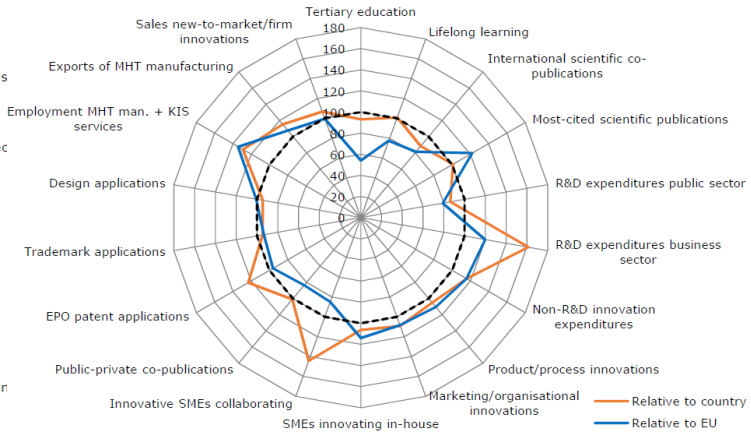
Attachment 1 – Innovation in Italian EUSALP Region

Regional Innovation Scoreboard 2017 – European Commission

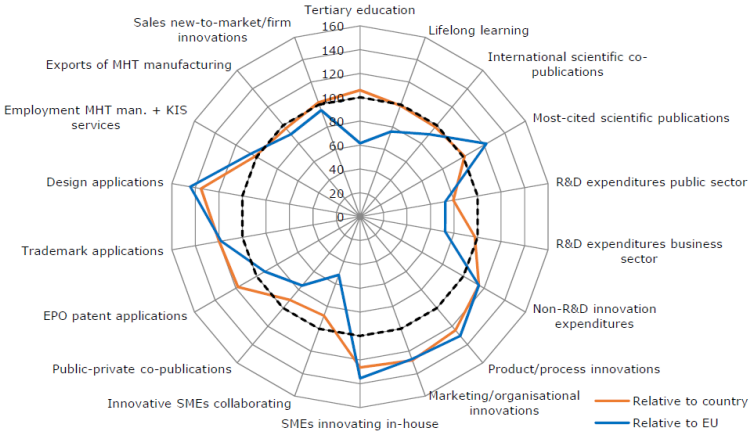
Lombardy



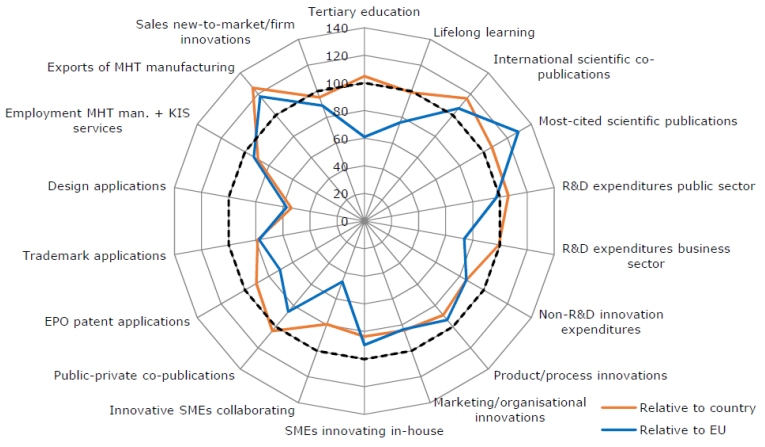
Piedmont



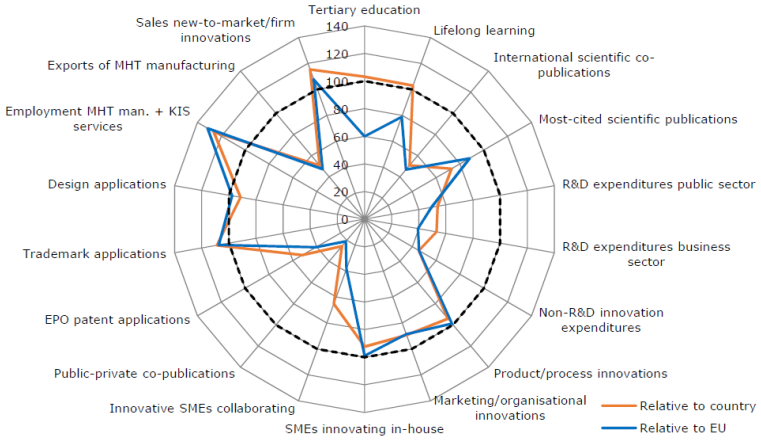
Veneto



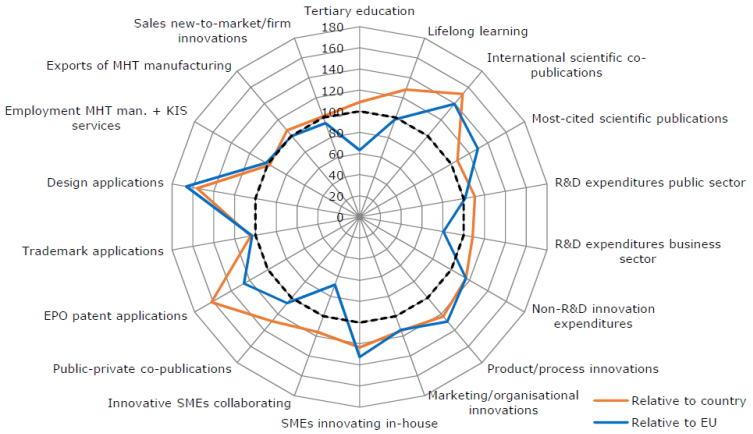
Liguria



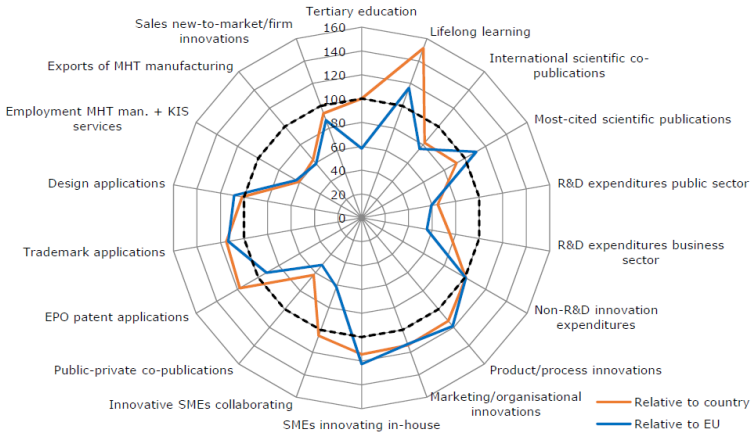
Valle D'Aosta



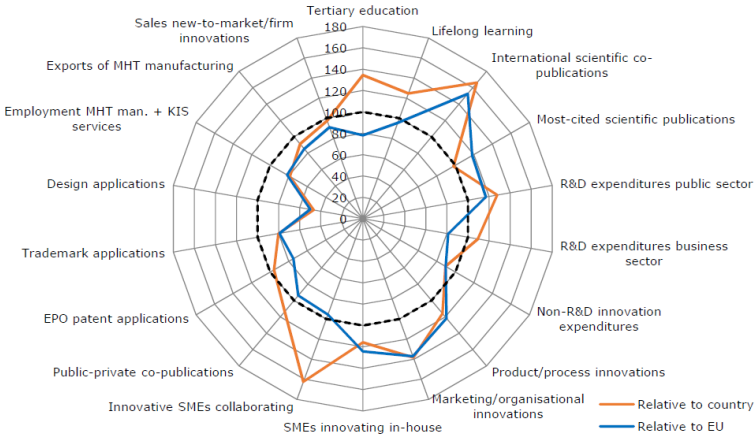
Friuli Venezia Giulia



Province of Bolzano



Province of Trento



Attachment 2 **Actions for the development of strategic value chains**

BIOECONOMY

Context [3]

The turnover of Italian bioeconomy value chain is equal to 420 billion €, 26% of Italian GDP, counting 8 macro value chains composing it.

First, it is fundamental **to estimate – with a shared methodology – the contribution of bioeconomy to the creation of EUSALP social and economic prosperity**, so that legislators and Managing Authorities have a clear evaluation of the impact of the level of growth they want to achieve.

The consequences of the decisions made by the institutions are important for the sustainable development of the 8 macro value chain composing bioeconomy **(Agriculture, Forestry, Fishing, Food, Textile, Chemistry, Pharmaceutics, Renewable Energy)** and the **integration of science, industry, finance and management, necessary for to the growth of youth employment**.

Action

Proposal	Action	Expected Results
Definition of a quantitative study on Bioeconomy within EUSALP Regions with a shared methodology	• Definition of the Methodology • Elaboration of the Economic Analysis with social consequences on bioeconomy; • First applications of LCA to some Bioeconomy macro value chain	• Analysis of 120 pages and 40 Analytics tables; • Availability of calculating software to evaluate alternatives
Promotion of industrial application of biopolymers enabling cross fertilization in strategic value chain (Textile, Automotive and Pharma, Chemistry)	• Inter sectoral feasibility study • Organization of B2B events • Organization of seminars	• **Action plan** for the use of biopolymers in industrial fields • Policy roadmap • Definition of **sovraregional policies and financing schemes** enabling the application of biopolymer

[3] Federchimica Data

Optimization and maximitation of the **efficiency of processes of biorefineries**	• Interregional R&D projects • Development of pilots and demonstrator projects	• **Time to Market reduction** • **Reconversion of non-competitive industrial sites** to build biorefineries integrated in the territories for the **production of bioplastics and bioproducts from renewable sources;**
Increasing **competitiveness of biobased products** promoting sustainable process production	• Organization of B2B • Interregional R&D projects to make productive processes more efficient • Organization of company mission	• **Increase of competitiveness of biobased products**

TEXTILE

Context[4]

Textile – clothing value chain represents a fundamental asset of the European industry, with a turnover equal to 171,1 bln euro in 2016 (+1,1% compared with the previous year). In this regard, Italy has an important role representing 1/3 of employees and of the whole turnover at European level.

Textile – clothing represents a strategic value chain for global EUSALP competitiveness: Italian Regions alone employ 165.000 workers generating a turnover of 28 billion euro and around 13 billion euro of added value (57% of Italian turnover and added value).

The sector has a high level of internationalization: between 2008 and 2016 only Italian EUSALP Regions has exported 140.665 mln euro with a growth rate of 38,7% . Among the main trade partners in 2016 there are USA, France, Germany, Spain, Japan and United Kingdom. These data highlight the **strategic centrality of textile and clothing as tool to relaunch competitiveness of EUSALP.**

The development of this value chain is characterized **by innovation processes regarding product, processes with high added value** so generating an horizontal leverage effect in several application sector.

Investing in textile value chain in EUSALP means then relaunching the growth and welfare of Macroregion on a global level.

Action

Proposals	Actions	Results
Sustainability of processes	• Development of **eco efficient innovative processes** to decrease the consumption of raw materials, water, energy, chemistry auxiliary through their recycle and/or rationalization of its consumption • Circular processes and business model for the enablement of fibers and recycled substrates to increase quality and performance, enhance the use of recycled materials and easing the recycled and final life cycle	• Increase of **environmental and economic sustainability of textile processes;** • **Enhancement and use of recyclable materials and waste pre and post consumption**

[4] Dati Sistema Moda Italia

Design driven innovation	• Integrated design methodologies for **social and environmental sustainability** • Development and **integration of approaches connected to several technical fields in process design and product development** in order to ease a wide and inter sectoral use;	• Better **efficiency in management of value chain management**; • **Cross fertilization among processes and products in Design value chain ;**
Digital business model	• **Services design and user experience methodologies and** related digital and e-business representation • Integrated processes of **design, digital fabrication and enabling platform services**;	• Bigger **integration and communication among designer, producers and final customers**; • Improvement of **integrated knowledge management system**;
Smart and Innovative Textile	• **Innovative, functional and smart materials** and substrates; • Innovative processes for **advanced and Smart functionalization**	• Production and use of **innovative and flexible materials and substrates** • Development of processes and technical solution to **integrate electronics and sensors**

AUTOMOTIVE

Context[5]

Automotive value chain represents a strategic asset for EUSALP competitiveness. **In 2016 the global demand for motor vehicle was equal to 94 million units resulting in a +4,8% growth compared with 2015: sales were mainly driven by the Chinese market (+14%), EU/EFTA area (+7%) and Mexico (+19%). In 2018 the demand for moto vehicle is expected to grow by 4%.**

In this sector, the competition is more and more on macroregional areas and large countries: in 2014, **Asia represented about 44% of global automotive demand, the NAFTA area and South America 28%, and Europe 21%.**

Economic and demographic growth will determine a growth of motorization in emerging Countries and in consolidated economies such as China and Brazil: just Chinese vehicle park will grow of +22% within 2020. Moreover from 2007 to 2016 global demand of vehicle, grown of more than 30%, has modified enormously: industrialized and "motorized" Countries, historically production sites (EU15, USA/Canada, Japan) has seen decreasing the weight of their markets of 13 points, while BRIC Countries, whose demand has grown of 118% since 2017, has reached 37% of its global sales.

In this scenario, 23% of motor vehicles production is Made in Europe, 54% in Asia and 19% in NAFTA Area. In Europe in 2014 there were present 26 contractors, 292 firms; in 2016 direct and indirect workers of this value chain were 20,4 million.

[5] Source: data from ANFIA and Observatory Lombardy Mobility Cluster, 2015

The automotive sector is one of the most attentive to technological evolution and industry 4.0: in 2016, the value chain recorded about € 50 billion investments in R&I. Issues such as factory digitization of firms and machine interaction are applied in this industrial field before others.

EUSALP Regions must present themselves as innovation driving force in the field of mobility with reference to OEMs (vehicle manufacturers) and, in particular, to components. These companies, which supply components all over the world (as well as in Europe), account for about 80% of the vehicle's value and enable the innovation set up by the manufacturers.

Action

Proposal	Action	Results
Vehicle lightening	• **Design Testing and concept design** • Develop new **vehicle architectures and subsystems** • **R&I on Conventional materials** (alloy composition, alloy casting process) **and innovative materials** • **Analysis of Hybrid structure** (polymer / metal junction)	• Development of **components prototypes of lighter vehicles**; • Increase of **processes environmental and economic sustainability**
Alternative Traction	• Development of **natural gas** technology • Promotion of **electric mobility** in cities and market niches Improvement of existing vehicles (cars + trucks) by enhancing Dual Fuel technology (50% diesel / 50% fuel)	• Development of **alternative traction prototype with Dual Fuel technology** • Increase **of sustainability and efficiency of automotive value chain**
Sensors and connected vehicles	• Development of **sensor technologies** (embedded systems, data fusion	• Development of **integrated and inter connected vehicles prototypes**;

	algorithms, artificial vision ...) for the interconnection of internal parts of the vehicle • Development of communication systems between vehicle/infrastructure, infrastructure/vehicle and vehicle/vehicle Development of self-driving vehicles (Platooning)	• Development of a **sustainable, safe and efficient mobility**; • Increase **of vehicle comfort and security**
Internationalization	• **Revision of NACE code classification** for supply chains with the objective of: - networking on meaningful data -share research and innovation guidelines • Development of **business opportunities with EUSALP regions** **Improvement of the Relationships among Automotive Clusters in EUSALP**	• Increase **EUSALP automotive value chain competition in global Areas (America, Asia)** • Increase the **integration of value chain in EUSALP area**;