



PIEMONTE CUORE D'EUROPA

UNITARY STRATEGIC DOCUMENT
of the Regione Piemonte for the programming
of 2021-2027 funds

The Unitary Strategy Document (USD) is a multi-year programming tool for the REGIONE PIEMONTE. It was drawn up with the involvement of all the Directorates of the Regione Piemonte and with the contribution of the institutional, economic and social partnerships.

The design and drafting of the USD were carried out by the working group coordinated by the European Policy and Funds Coordination Directorate – Tourism and Sport and composed of:

- Regional System Competitiveness Directorate
- Education, Training and Labour Directorate
- Environment, Energy and Territory Directorate

The analysis of the economic and social scenario of Piemonte was carried out by IRES Piemonte

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INTRODUCTION

The guidelines outlined in this Unitary Strategic Document (USD) define the priority interventions for Piedmont's development over the next decade. They establish the strategic framework within which we can optimize the utilization of European programming resources for the period 2021-2027.

The USD serves as an exceptional blueprint and preparatory instrument to effectively integrate all key objectives of regional programming for territorial, economic, and social development within our regional community. It acts as a cohesive framework, ensuring synergy among various instruments such as the Economic and Financial Programming Document, the Regional Strategy for Sustainable Development, the Strategy for Smart Specialization, the Sustainable Mobility Plan, as well as operational programs focusing on industrial development, training, social inclusion, and labor policies.

A real guide to redefine our future at a crucial historical and economic moment, in which we have the duty to accept the challenge of restarting after the dramatic stop imposed by the pandemic and, at the same time, the privilege of being able to draw new boundaries in which Piemonte can once again be an engine of national development, leaving no one behind.

The Unitary Strategic Document takes shape in an extraordinary period and, although it is mainly focused on the European Structural Funds, it also takes into account the equally extraordinary instruments that are being prepared to relaunch Europe following the ongoing health emergency.

It goes without saying that this document, in progress until the final approval by the Regional Council, derives from the macro directives of global and European programs, such as the 2030 Agenda, the European Green Deal, the EUSALP and follows the national declinations and the constraints of these strategies, in full consistency with their spirit and with their global development objectives, but focusing on what we can really do for a new "Piemonte +": smarter and more competitive, greener and more sustainable, more connected, more inclusive and social, closer to citizens.

The current period is complex and some important elements for a complete definition of the framework of interventions and available resources are still under international negotiation, although we know that Piemonte will benefit from an increase in resources compared to previous Community programming. The evolution of the scenario in which the country and Piemonte are immersed is also far from obvious, largely depending on the course of the pandemic which – at least according to available forecasts – should end no earlier than autumn 2021.

Focusing on the future, however, the mission that we deliver to this Document is permeated by a very strong sense of responsibility and an unwavering positive spirit that leads us towards the objectives of: healing the economic criticalities and the growing social inequalities that the pandemic has magnified, designing a new future in which to raise our children with dignity, tracing the path to make Piemonte the outpost of innovation, specialized training, technological knowledge, social security and well-being, individual and collective. The concentration of resources on strategic, environmental, social and economic priorities, the cornerstone of sustainable development, should allow us to get out of the stagnation that the pandemic has not introduced, but amplified within a decade-long crisis.

We can do this starting from a series of certainties and excellences that at the same time the pandemic has made evident: within the production system, the selective mechanisms initiated by the crisis have brought out more competitive companies and supply chains thanks to innovation and internationalization, as well as has accelerated the action of the major drivers of

change, underlining the urgency of adequate responses. Think, for example, of how digital technologies have made possible the immense and sudden adaptation effort required by teaching and remote work.

The new 2021-2027 programming therefore starts within a challenging and complex framework. At the same time, the pandemic, or rather the lessons that have resulted from it, the imposing response effort underway at all levels of government, the new intervention tools introduced can spur a turning point in the relaunch action, facing with greater resources and determination the open challenges, old and new.

Overall, Piemonte is facing the need, and the opportunity, of a paradigm shift in its development path: we must give space to concepts such as smart initiatives, interconnected networks, educational institutions, social innovation, generational renewal, system qualification, environmental stewardship, energy transition, strategic programming, and robust planning. It is imperative to bolster territorial economies by prioritizing the green and circular economy, fostering growth in tourism, and synergizing cultural and gastronomic offerings. Attracting investments, generating employment opportunities, addressing social and territorial disparities, and meeting the evolving health and well-being needs of our populace are critical imperatives. Additionally, investing in our youth is paramount, as it enables us to fully harness our potential and fortify our unique identity.

The programming of participation, as a tool for local development, will constitute, before being a method, a real objective of the Unitary Strategic Document, which aims to elevate arranged programming into a system.

The Region, in addition to sharing its investment strategy with the reference stakeholders of the regional socio-economic partnership, intends to carry out the partnership discussion on a territorial basis through multiple meetings in the Piedmontese provinces. This method, strongly decentralised and inclusive of all the local realities of Piedmont, will be followed by new methods also with regard to the programming of the measures most susceptible to direct territorial repercussions, according to place-based methods and with the maximum involvement of the actors of the territories. This multi-level territorial dialogue, which is expected to start from pilot territorial areas with the preparation of specific "area strategies", has the ambition to be extended to the entire regional territory and to potentially cover all the policy objectives that will be the subject of programming by the Regional Programmes.

The development of multi-year strategies to achieve these expected results is described in the following pages and will be subject to different levels of negotiation with the economic and social representatives, consultation with the main stakeholders of the territory and enriched by the active sharing of many citizens, who will be provided with digital participation tools, so that it will be the result of teamwork.

1. THE OVERALL STRATEGIC FRAMEWORK AND TOOLS

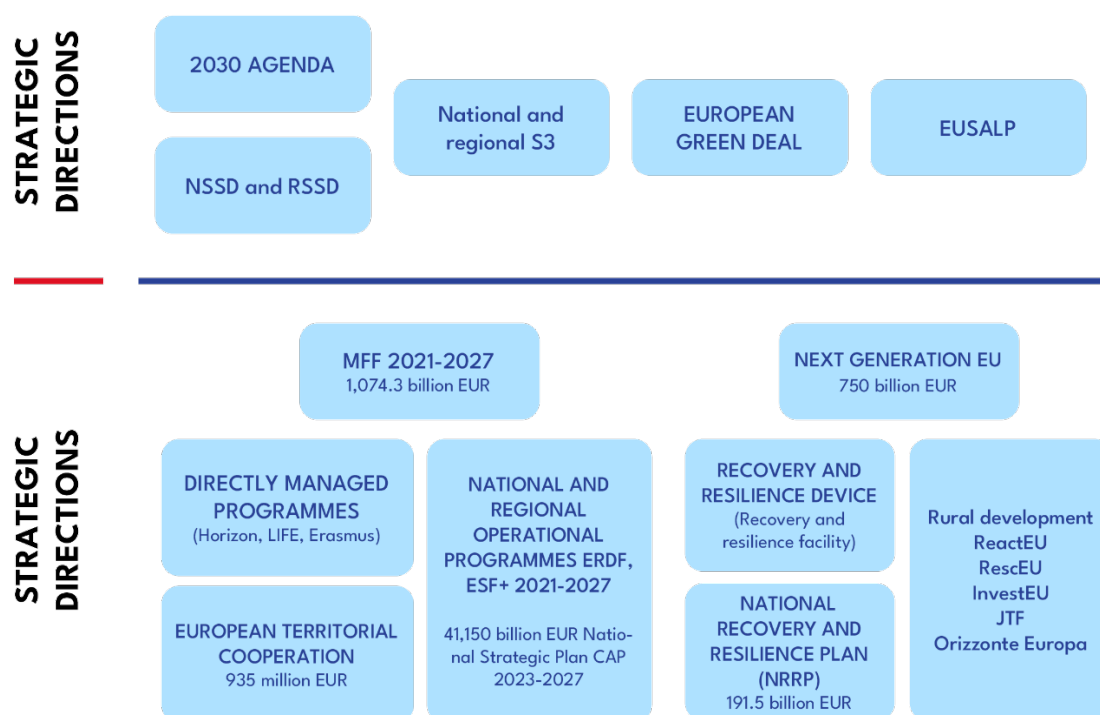
The first part of the Unitary Strategic Document (USD) presents the framework of strategies and intervention tools available to the Region to set up and manage the upcoming programming cycle at the time of drafting this document.

Overall, the document portrays a multifaceted landscape that is still in the process of being partially defined at the time of drafting.

If the USD focuses first and foremost on the European Structural Funds, it is important that the operational programmes that will result are consistent with the entire strategic architecture to which they refer and that their action is able to distribute resources and foster synergies to

generate the maximum impacts on the economic, social and environmental system of the region.

Figure 1. The strategic architecture and tools for programming 2021-2027



The main inspiration for this strategic framework is the UN 2030 Agenda. Launched on 25 September 2015 by the United Nations General Assembly, the Agenda is based on 17 Sustainable Development Goals - SDGs that refer to the three pillars (environmental, social and economic) of sustainable development. The 17 sustainable development goals are divided into 169 specific objectives. Since its approval by 193 countries, including Italy, these objectives have been integrated into their economic, social, and environmental planning commitments.

The European Union drew inspiration from the 2030 Agenda to define the system of objectives of the Structural Funds for the 2021-2027 cycle and, subsequently, for the Green Deal, a strategic agenda that reinforces its ambition and objectives. Also in relation to the 2030 Agenda, at the national level the Ministry of the Environment and the Protection of the Territory and the Sea has defined the National Strategy for Sustainable Development (NSSD) and prepared a path to support regional and local processes (metropolitan cities) for the implementation of the national strategy and the achievement of sustainability objectives.

Piemonte participates in the European Strategy for the Alpine Region – EUSALP, launched in 2015 on the basis of a decision of the European Council of 19-20 December 2013. The Strategy is based on three thematic pillars: economic growth and innovation; mobility and connectivity; environment and energy. The 7 Alpine States and the 48 regions participating in the Strategy have identified, within the aforementioned areas, 7 strategic priorities on which to embed EUSALP in programmes, regional and national, co-funded by European resources:

1. Policies related to hydrogen
2. Circular economy
3. Smart cities/smart land
4. Natural hazards
5. Sustainable tourism
6. Sustainable mobility
7. Innovation hubs

The programmes, both mainstream and European Territorial Cooperation, will be called upon to give concrete implementation to measures pertaining to the aforementioned priorities in differentiated and flexible ways (thematic contribution, shared design, common design).

Table 1. Consistency scheme between the objectives of the 2030 Agenda, those of the 2021-2027 cohesion policy and of the CAP 2023-2027

UN AGENDA 2030 Sustainable development goals (SDGs)	Policy Objectives Cohesion Funds 2021-2027					General Objectives CAP 2023-2027			
	PO1 Smarter Europe	PO2 Greener Europe	PO3 More Connected Europe	PO4 More Social Europe	PO5 Closer to citizens Europe	GO1 – Agricultural income and resilience, competitiveness, supply chain, food safety	GO2 – Climate, energy, natural resources, habitat	GO3 – Development of rural areas	Cross-cutting Innovation
1. Eradicating poverty									
2. Eradicating hunger									
3. Health and wellness									
4. Quality education									
5. Gender equality									
6. Clean water and sanitation									
7. Clean and accessible energy									
8. Fair work and economic growth									
9. Businesses, innovation and infrastructures									
10. Reduce inequalities									
11. Sustainable cities and communities									
12. Responsible consumption and production									
13. Fight against climate change									
14. Life under water									
15. Life on earth									
16. Peace, justice and solid institutions									
17. Goal-oriented partnerships									

1.1. THE EUROPEAN LEVEL

GREEN DEAL, NEXT GENERATION EU AND MULTI-ANNUAL FINANCIAL FRAMEWORK (MFF)

On 28 November 2019, the European Parliament adopted a resolution emphasizing the impact of climate and environmental changes and expressing hope that Europe would provide a concrete response to transform the EU into a just and prosperous society. This transformation would involve equipping Europe with a modern, resource-efficient, and competitive economy by 2050, one that does not generate net greenhouse gas emissions and where economic growth is decoupled from resource use.

In a subsequent resolution, the European Union was urged to submit its strategy for achieving "climate neutrality" to the United Nations Convention on Climate Change, to be implemented no later than 2050. These resolutions prompted the Commission to publish, on 11 December 2019, the **Communication on the European Green Deal** (COM (2019)640), initiating a public debate on the strategy to make Europe the first climate-neutral continent by 2050.

The Green Deal strategy also aims to protect, conserve, and enhance the EU's natural capital, as well as safeguard the health and well-being of citizens from environmental risks and their consequences. Moreover, it underscores the importance of leading the transition to this new paradigm in a fair and inclusive manner, ensuring that the most vulnerable citizens and territories are not neglected.

The Green Deal is structured around 10 overarching objectives, each supported by approximately 50 key policy actions and other related initiatives targeting specific areas. These objectives include:

1. Climate ambition
2. Clean, economical and safe energy
3. Sustainable and smart mobility
4. A greener CAP: Strategy from producer to consumer - Farm to Fork
5. Safeguarding and protecting biodiversity: EU Biodiversity Strategy 2030 - Bringing nature back into our lives
6. Zero pollution: for an environment free of toxic substances
7. Integrate sustainability into all EU policies
8. The EU as a world leader
9. Working together: a European climate pact
10. Industrial strategy for a clean and circular economy

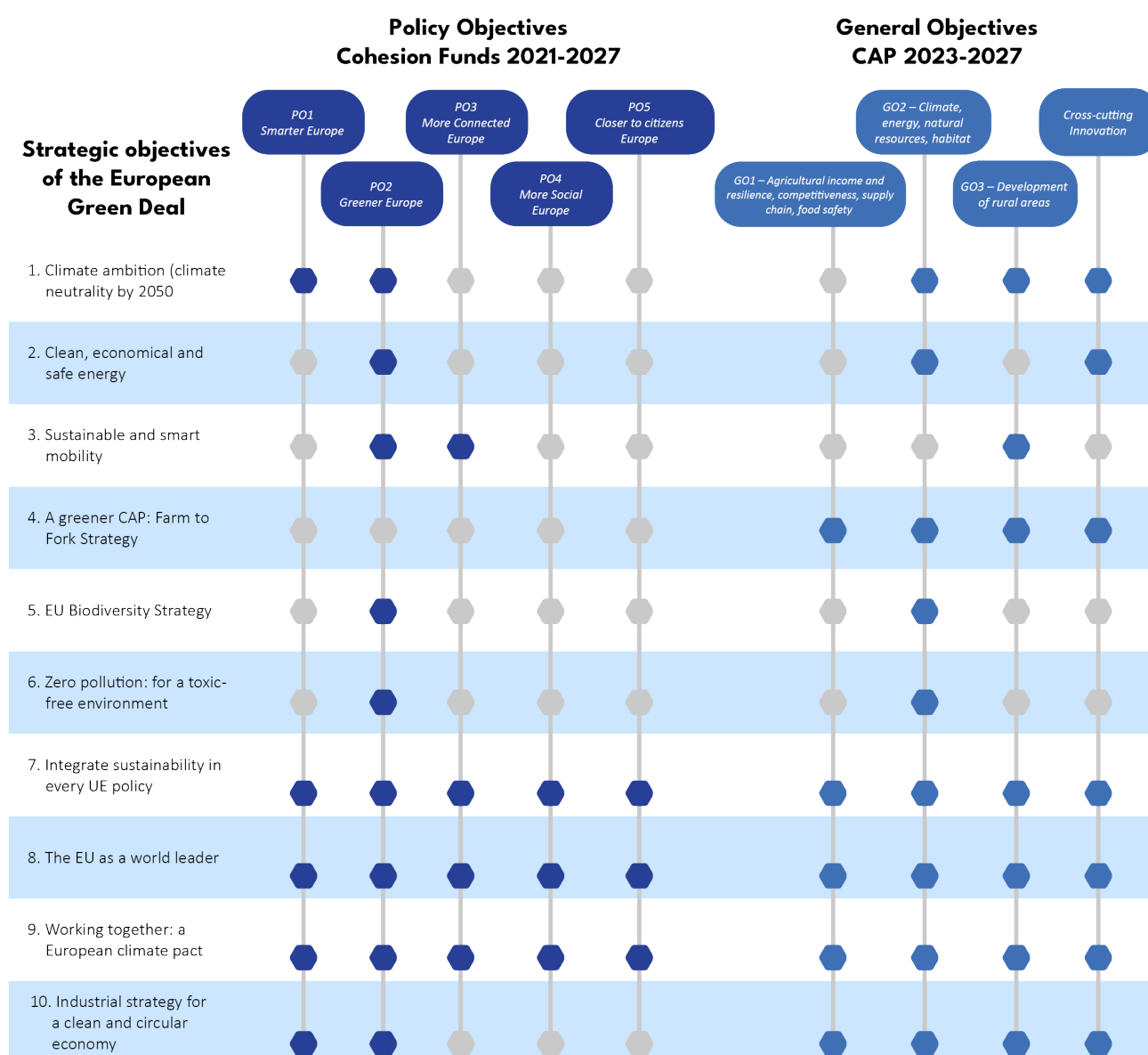
The European Green Deal therefore presents itself as a macro-strategy from which a long-term political agenda takes shape that reinforces the sustainability guidelines of Agenda 2030; it will help shape the 2021-2027 programming because the operational programs that will be prepared will have to show consistency with its objectives and support the strategies that derive from it. In addition, the close connection between the Green Deal and the National Strategy for Sustainable Development is evident, which in turn is being implemented by the Region through the RSSD.

Communication COM (2020)102 of 10 March 2020 outlines the industrial strategy for Europe, to achieve the dual transition towards climate neutrality (consistent with the Green Deal) and towards digital leadership and maintain Europe's leading role in the challenge of global

competition. Transition that will require investment, innovation, new technologies, products, services, markets and business models.

Subsequently, in response to the emergency caused by the Coronavirus pandemic, the European Union launched in May 2020 **Next Generation EU - NGEU**, a comprehensive extraordinary plan of interventions. NGEU's greatest resources will be concentrated in the Recovery and Resilience Device; from it the Member States will draw to prepare the **National Recovery and Resilience Plans - NRRP**. Within the MFF are the resources that will finance the cohesion policy (in Piemonte substantially referred to the ERDF and ESF+ Funds) and the Common Agricultural Policy – CAP.

Table 2. Scheme of coherence between the objectives of the European Green Deal, those of the 2021-2027 cohesion policy and of the 2023-2027 CAP.



Finally, with Communication COM (2021) 118 "2030 Digital Compass: the European Way for the Digital Decade" of 9 March 2021, the European Commission updated the **digital strategy** promoted in February 2020, outlining a vision for the full digitisation of Europe, to be achieved

by the end of this decade. The strategy defines not only ambitious goals, but also a robust governance mechanism, clear key milestones and practical tools to facilitate their implementation. The vision is based on four cardinal points: digital skills, digital infrastructures, digitization of public services and digital transformation of companies. The compass will serve as the basis for a digital policy programme in the form of a legislative act, to be launched by the third quarter of 2021, which will make digital targets binding. The Union will support the investments necessary for the digital transition through different budgetary instruments, including the cohesion programmes, the technical support instrument and the Digital Europe programme; moreover, at least 20% of the resources of the National Recovery and Resilience Plans foreseen by each Member State must be allocated to the digital transition.

THE EUROPEAN STRUCTURAL FUNDS 2021-2027

The main core of the regional strategy for the period 2021-2027 will necessarily be the operational programmes of the European Structural Funds. With regard to the regulatory framework, reference can be made to the proposal presented by the Commission in mid-2018. This proposal has not yet been formalised in definitive regulations due to the 2019 European elections and the consequent resumption of political confrontation, further slowed down by the need to develop urgent measures in response to the pandemic.

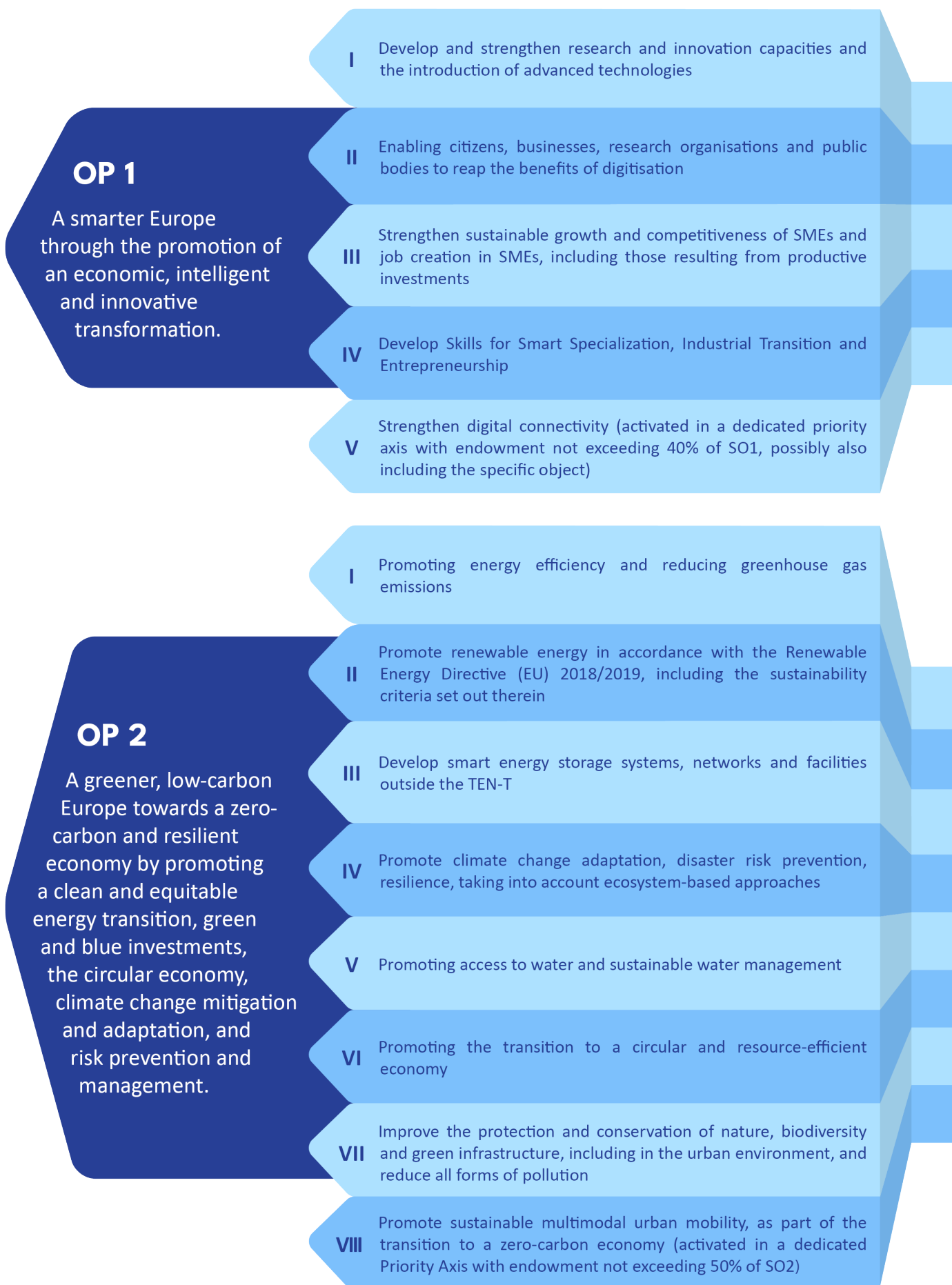
Starting from the **Cohesion Policy Funds**, in general terms the Commission's proposal provides for a rationalisation of the priority objectives, which will be reduced from the 11 thematic objectives of 2014-2020 to five strategic objectives, also defined as **Policy Objectives - PO**:

1. A smarter Europe (innovation, digitisation of economic activity and public administrations, transformation of the economy, support for small and medium-sized enterprises);
2. A greener, carbon-free Europe through the implementation of the Paris Climate Agreement;
3. A more connected Europe, equipped with strategic transport and digital networks;
4. A more social Europe, implementing the European Pillar of Social Rights, supporting employment, social inclusion and equal access to health;
5. A Europe closer to citizens, supporting locally managed development strategies and sustainable development of urban, rural and coastal areas.

ERDF and ESF+ are the two Funds on which the 2021-2027 cohesion policy in Italy and Piemonte will essentially be based. The proposals for post-2020 regulations relating to the ERDF and ESF+ are based on the 5 POs further articulated in Specific Objectives (SO) linked to the scope of operation of the two funds. In particular, the ERDF plans to implement all 5 policy objectives through 21 specific objectives, while the ESF+ will mainly deal with PO4 - More Social Europe, articulated in 11 specific objectives.

The European Social Fund Plus - ESF+ will have to take into account the implementation of the European Pillar of Social Rights which aims to create new and more effective rights for citizens. It is based on 20 key principles structured around 3 categories: equal opportunities and access to the labour market; fair working conditions; social protection and inclusion. It will bring together existing Funds and Programmes to respond in an integrated way to social and labour market challenges: the Employment and Social Innovation Programme; the Youth Employment Initiative - YEI; the European Social Fund - ESF; the Fund for European Aid to the Most Deprived - FEAD.

Table 3. Policy Objectives and Specific Objectives of Cohesion Policy 2021-2027



OP 3

A more connected Europe through the strengthening of mobility and regional connectivity to ICTs.

- I Develop a secure, smart, climate-resilient and sustainable intermodal TEN-T network
- II Develop local, regional and national mobility that is smart, intermodal, resilient to climate change and sustainable, improving access to the TEN-T network

OP 4

A more social and inclusive Europe through the implementation of the European Pillar of Social Rights.

See also the SOs provided for by the draft ESF+ regulations (table below).

- I Strengthen the effectiveness and inclusiveness of labour markets and access to quality employment, through the development of social infrastructures and the promotion of the social economy
- II Improve equitable access to quality inclusive services and in the field of education, training and lifelong learning through the development of accessible infrastructure, including by promoting the resilience of online and distance education and training
- III Promote socio-economic inclusion of marginalised communities, low-income families and disadvantaged groups including people with special needs, through integrated actions including housing and social services.
- III bis Promote socio-economic integration of third-country nationals, including migrants through integrated actions, including housing and social services
- IV Ensure equal access to health care and promote the resilience of health systems, including primary care and promoting the transition from institutional to family- and community-based care
- V Strengthening the role of culture and sustainable tourism in economic development, social inclusion and social innovation

OP 5

UA Europe closer to citizens through the promotion of sustainable and integrated development of all types of territory and local

- I Promote integrated and inclusive social, economic and environmental development, cultural and natural heritage, sustainable tourism and safety in urban areas
- II Promote integrated and inclusive social, economic and environmental development integrated at the local level, cultural and natural heritage, safety in areas outside urban areas

Table 4. Specific Objectives of the ESF+ 2021-2027



THE TIME LAG OF THE COMMON AGRICULTURAL POLICY – CAP

With regard to the **Common Agricultural Policy** and its EAGF and EAFRD Funds, there is a time lag with the programming of the 2021-2027 funds; it should be noted that, due to the delays resulting from the pandemic, Regulation (EU) 2020/2220 was adopted, which provides for a two-year postponement of the start of the programming period of the new CAP, which will therefore take place on the 1st of January 2023. In the two-year period 2021-2022 there will be an extension of the CAP instruments, including support for rural development, with the consequent allocation of the two years on existing instruments (including RDPs), to which additional resources from the NGEU package will be added for rural development.

The proposal for a regulation on CAP strategic plans identifies 3 general objectives for the period 2023-2027:

1. to promote a smart, resilient and diversified agricultural sector that guarantees food security;
2. to strengthen environmental protection and climate action and contribute to the achievement of the Union's environmental and climate objectives;
3. to strengthen the socio-economic fabric of rural areas, also enhancing the impact in terms of quality on the territory.

The three general objectives are, in turn, divided into nine specific objectives, complemented by a transversal objective dedicated to innovation.

The strategic programming of the European Agricultural Fund for Rural Development (EAFRD) and the European Agricultural Guarantee Fund (EAGF) must take into account the two separate decisions adopted by the European Commission that outline the strategy in the path of sustainable economic recovery outlined by the Green Deal: the "European Strategy for Biodiversity to 2030" and the "From Producer to Consumer" strategy (A Farm to Fork strategy - F2F). These are two strategies that reinforce each other by uniting nature, farmers, businesses and consumers in the goal of promoting a more sustainable and competitive future.

Pending an official table prepared by the EU linking strategic objectives of cohesion policy and specific objectives of the CAP, a coherence scheme is proposed (Table 5).

The thematic concentration foresees that at least 30% of resources are reserved for interventions related to climate-environmental objectives, and at least 5% of the EAFRD is reserved for the LEADER initiative (participatory local development in rural areas).

With regard to the action of the CAP, the 2021-2027 programming must take into account the contribution of guidelines and tools offered by Regional Law 1/2019 "Reorganisation of the rules on agriculture and rural development", which is configured as a reference framework law for the agri-food sector and the rural territories of Piedmont.

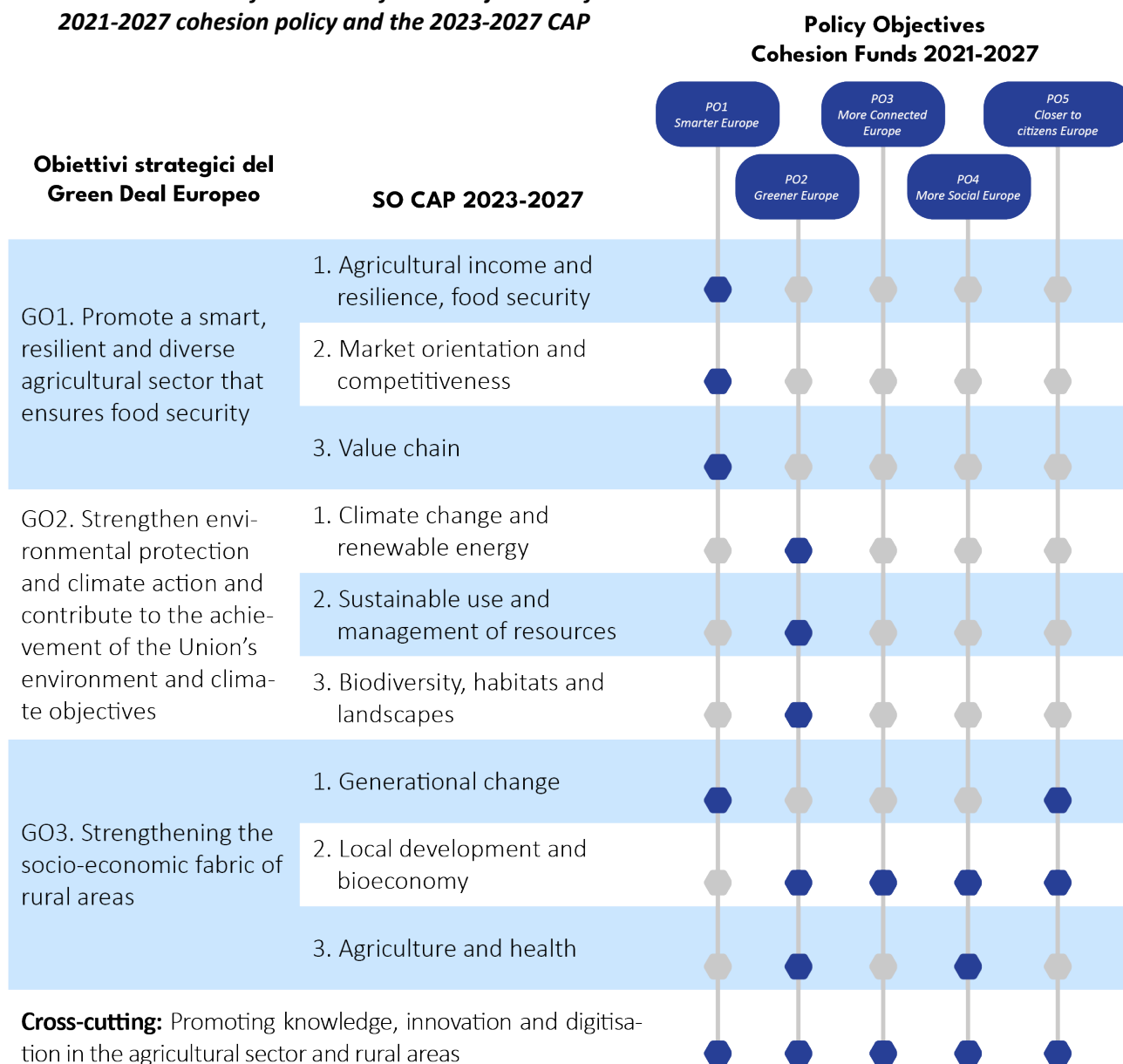
MAIN EUROPEAN INSTRUMENTS IN FAVOUR OF THE REGIONS

With regard to the relationship between the main **European instruments available to the Regions**, the 2021-2027 programming cycle presents some substantial innovations. The general programming approach for the Structural Funds (ERDF and ESF+) does not change substantially compared to the 2014-2020 cycle and provides for a national Partnership Agreement, to which the Operational Programmes assigned to Management Authorities, including regional ones, must make reference. On the other hand, with regard to the agricultural sector and rural territory, for the 2023-2027 cycle a single CAP Strategic Plan is expected to be drawn up for each Member State. The examination of the mandates of the European Parliament and the Council in view of the trilogue between the European institutions does not allow at the moment to

outline the role that the Regions will play in the implementation phase of the strategic plan, just as it is not clear whether there will be a single Managing Authority of the strategic plan at the national level or if some of its functions will be exercised at the regional level. In addition, the link with the Partnership Agreement will probably be softer than that of the ERDF and ESF and limited to aspects of local development and infrastructure strengthening.

All these differences make it more difficult to link the CAP Strategic Plan with the other Investment Programmes, although they do not prevent the drawing up of a coordinated strategic framework, at least in general terms, taking into account the strong coherence of its objectives and the complementarity of action. However, the programming paths of the three Funds are proceeding at very different times and in very different ways. In the case of the CAP Strategic Plan, the path reached the definition of the context analysis in March 2020 but was subsequently "frozen" following the COVID-19 emergency. The steps taken will probably need to be reviewed in the light of the European Green Deal which will require the strengthening of sustainability targets. With regard to the ERDF and ESF+, thematic tables have been activated at the national level, involving the Regions in the definition of a first draft of the Partnership Agreement.

Table 5. Scheme of coherence for the objectives of the 2021-2027 cohesion policy and the 2023-2027 CAP



EUROPEAN TERRITORIAL COOPERATION – ETC

European Territorial Cooperation - ETC, financed by the ERDF, contributes to the achievement of European strategic objectives by supporting joint actions between actors from different States, in order to address challenges that transcend national/regional borders and require the adoption of joint cooperation actions at an appropriate territorial level. For the 2021-2027 programming period, the ETC focuses, in addition to the action of the mainstream programmes, on some specific issues such as the **labour market, skills, the improvement of health systems and access to care, social inclusion**, with respect to which it is possible to activate targeted synergies with the Operational Programmes - OPs.

The peculiarity of the ETC in terms of programming provides that the strategy and priorities of intervention of programs that by their nature cover areas of supranational level are identified through a concertative process between the Regions and the Countries involved.

Piemonte participates in two cross-border Cooperation programs: Interreg V Italy-France ALCOTRA, limited to the Province of Cuneo and the Metropolitan City of Turin and Interreg V Italy-Switzerland, which involves the provinces of Novara, Biella, Vercelli and Verbano Cusio Ossola, three Interregional programs: ESPON, Interreg Europe and Urbact and three Transnational programs, Alpine Space, Central Europe and Med. Each of these programs is being prepared and the progress is variable. In general, it can already be said that all ETC programs will be broadly consistent with the strategic guidelines of the Green Deal.

1.2. THE NATIONAL LEVEL

THE PARTNERSHIP AGREEMENT AND RECOMMENDATIONS FOR ITALY

The national reference term for the programming of the European Cohesion Policy Funds is the Partnership Agreement - PA, that is, the strategic document shared between the State and the European Commission that outlines the national strategic options and is articulated on the basis of the priority and specific objectives of the Funds. The PA serves as a framework for future regional operational programmes and, therefore, subsequent parts of the USD will be set up reflecting its basic structure. Among the elements that the PA must also take into account, in addition to the regulatory indications on the concentration of spending, the recommendations that the European Commission addresses to the various Member States in the annual Country Reports stand out. In particular, the Commission in the **2019 Country Report for Italy** has identified the following investment priorities in view of the new programming:

1. Promote the diffusion of advanced technologies and digitalization to promote productivity growth and business competitiveness.
2. Promote energy efficiency, sustainable water and waste management and the transition to the circular economy.
3. Improve digital connectivity through ultra-high-capacity broadband networks and the rail transport network with investments in regional sections and completing the trans-European network.
4. Improve social and economic inclusion, health care capacity and women's participation in the labour market.
5. Improve the capacity of labour market institutions and services and fight undeclared work.

6. Implement territorial strategies in synergy with other policy objectives to promote the economic and social development of peripheral and/or poorer areas. Promote cultural heritage and support businesses in the cultural and creative sector.

Recommendation no. 5 is taken from the Partnership Agreement as an important indication to provide for an action to strengthen administrative capacity at the state and local administration level.

THE NATIONAL RECOVERY AND RESILIENCE PLAN - NRRP

The National Recovery and Resilience Plan – NRRP, presented on 25 April 2021 by the Government to the Parliament and transmitted to the European Commission on 29 April, identifies **six Missions**:

- Digitisation, innovation, competitiveness, culture and tourism
- Green revolution and ecological transition
- Infrastructures for sustainable mobility
- Education and research
- Inclusion and cohesion
- Health

The **3 transversal priorities** identified in the NRRP are Women, Youth and the South and the **3 strategic axes** are Digitisation and innovation, Ecological transition and cohesion.

The thematic focus of the NRRP is similar to that of the five Priority Objectives identified by the EU for the 2021-2027 cohesion policy, with respect to which the NRRP could act in complementarity by addressing projects and issues not supported by the European Structural Funds or that cannot find space in the budget of the Regional Operational Programmes, taking into account, however, the caveats indicated in the paragraph dedicated to resources and constraints.

THE NATIONAL STRATEGY FOR SUSTAINABLE DEVELOPMENT – NSSD

The NSSD originates from the UN 2030 Agenda and is structured in **5 areas: People** (combating poverty and social exclusion and promoting health and well-being to guarantee the conditions for the development of human capital); **Planet** (ensuring sustainable management of natural resources, combating the loss of biodiversity and protecting environmental and cultural assets); **Prosperity** (affirming sustainable models of production and consumption, guaranteeing quality employment and training); **Peace** (promoting a non-violent and inclusive society, without forms of discrimination, combating illegality); **Partnership** (intervening in the various areas in an integrated manner). The NSSD also identifies a system of sustainability vectors, defined as cross-cutting areas of action and key levers to initiate, guide, manage and monitor the integration of sustainability into national policies, plans and projects.

THE INTEGRATED NATIONAL ENERGY AND CLIMATE PLAN – INECP

The INECP is an important piece of national policy promoted by the Ministry for Economic Development, the Ministry of the Environment and the Protection of the Territory and the Sea and the Ministry of Infrastructure and Transport. The document sets national targets for 2030 on energy efficiency, renewable sources and the reduction of CO2 emissions, as well as targets

on energy security, interconnections, the single energy market and competitiveness, development and sustainable mobility. For each of these objectives, the measures that must be implemented to ensure their achievement are identified.

The document incorporates the novelties for the achievement of the objectives envisaged by the Green New Deal. The objective of decarbonisation is to accelerate the transition from traditional fuels to renewable sources, with a view to achieving the 2050 goal of climate neutrality.

The INECP is divided into five areas of intervention that are developed in an integrated manner:

1. Decarbonization;
2. Efficiency;
3. Energy security;
4. Development of the internal energy market;
5. Research, innovation and competitiveness

The main targets set for 2030 for Italy are the achievement of the share of energy from Renewable Energy Sources - RES compared to gross final consumption of 30% (22% for transport), the reduction in primary energy consumption of 43% compared to the PRIMES trend scenario (2007) and the 33% reduction in greenhouse gas emissions compared to 2005.

ACTION PLAN FOR THE IMPROVEMENT OF AIR QUALITY

The Memorandum of Understanding signed on the 4th of June 2019 at the Clean Air Dialogue in the presence of the European Commission that establishes the Action Plan for the improvement of national air quality also through the request of the Coordination Unit established at the Presidency of the Council of Ministers is an important piece of national policy that identifies the activities to be implemented for the implementation of short and medium term measures to combat air pollution in Italy.

The Plan is divided into 5 areas of intervention, of which one consists of transversal actions and 4 thematic areas in turn developed into operational actions:

- Agriculture and biomass combustion
- Mobility
- Civil heating
- Exit from coal

The definition of the areas of intervention and actions moves from the awareness that the factors affecting air quality are multiple and require a transversal and rational activity aimed at understanding and identifying the problems and their solution, through specific interventions that, directly or indirectly, can ensure a healthier air for citizens by reducing polluting air emissions. The agreement also establishes a fund for the financing of the National Air Pollution Control Programme which was established by Laws 58/2019, 8/2020 and 77/2020. In the case of the Regione Piemonte, this fund is worth 106 million euros until 2027.

THE DEVELOPMENT AND COHESION FUND – DCF

An important national instrument, whose action is complementary to that of the European Structural Funds, is the Development and Cohesion Fund - DCF; in the 2014-2020 programming cycle the Fund was set up on the basis of 7 national thematic areas:

- Infrastructures
- Environment
- Productive economic development and agriculture
- Tourism, culture and enhancement of natural resources
- Employment, social inclusion and the fight against poverty, education and training
- Strengthening of the PA
- Non-themed Reserve Fund

The DCF programming is divided into National Operational Plans approved by the Interministerial Committee for Economic Programming and Sustainable Development - ICEPSD, Transitional Plans and other ICEPSD allocations, legal allocations to individual projects and initiatives of national interest and Development Agreements stipulated by the Government with Regions and Metropolitan Cities. The National Operational Plans are managed at the national level directly by the competent Ministries and concern the entire territory. Each of them has a thematic aspect of particular relevance for the country. The Regional Programs, on the other hand, are owned by the Regional Administration.

Recently, it has been envisaged that all the resources allocated to regional management by the Development and Cohesion Fund for the 2000-2006, 2007-2013, 2014-2020 programmes, including the additional resources allocated by ICEPSD resolution no. 41 of 28 July 2020, will flow into the Development and Cohesion Plan (DCP 2000-2020), replacing the plurality of documents of the different programming cycles. This program must be aligned, in terms of procedures, with the ERDF Funds and therefore must be equipped with a Monitoring Committee, a management and control system, effectively modifying the simplified management of DCF programs and tightening the system.

There is currently a deadline of 31 December 2022 for the acquisition of legally binding obligations in relation to the funded projects, with the exception of COVID reschedulings, which is scheduled to expire on the 31st of December 2025.

The investments for the Piedmontese territory, supported by the 2014-2020 Development and Cohesion Fund in the previous programmes, amount to over 1 billion euros and are contained in the sectoral Operational Plans and in the ICEPSD provisions. The thematic areas in which Piedmontese investments are concentrated are: transport infrastructure, research and innovation infrastructure, environment, tourism and culture, economic development.

In 2020, the Regions concluded reprogramming agreements with the Ministry for the South and Territorial Cohesion, transferring important resources from the 2014-2020 Cohesion Policy Funds to finance the interventions necessary to address the pandemic (thanks to the regulatory changes specially prepared by the EU) and repositioning the projects within the DCF. In the case of the Regione Piemonte, this reprogramming operation is worth 345 million euros.

On the other hand, with regard to the DCF 2021-2027 programming, Law 178/2020 – 2021 and 2021-2023 multiannual forecast budget - has allocated a total first endowment of about 50 billion euros for the 2021-2027 programming, of which 14 billion allocated for the 2021-2023 period (about half of which has already been programmed for Prompt Implementation Measures for the South). In particular, for the Regione Piemonte, the allocation and destination of these resources in the three-year period considered are being defined on the basis of a first Transitional Plan shared with the Ministry for the South and Territorial Cohesion. In the distribution of funds, as in the past, the subdivision will remain valid with 20% of the total allocated to the Centre-North Regions and 80% to the Southern Regions.

A part of these resources will be managed by the Region to financially advance the ESF and ERDF measures that are necessary for 2021, but which cannot yet be covered in the new programming

of the Structural Funds 2021 – 2027, since the programming is delayed by at least one year and will produce its operational effects no earlier than 2022. An DCF 2021-2027 Transitional Plan worth 133.5 million euros has been formulated, whose interventions are currently the subject of a comparison with the DPCOE and the Cohesion Agency for the purposes of eligibility.

THE 2026 DIGITAL ITALY PLAN

The Plan defined by the Minister for Technological Innovation and Digital Transition outlines objectives and initiatives for digital in the National Recovery and Resilience Plan, identified mainly as part of the M1 mission "Digitalization, innovation, competitiveness, culture and tourism", for which 27% of the total resources of the NRRP are allocated. The plan is closely connected with the objectives defined by the Digital Compass 2030.

The plan is developed along two axes and 5 objectives: the first axis is focused on digital infrastructures and ultra-wideband connectivity (expected 6.71 billion euros of investment in fast networks), the second concerns all interventions aimed at transforming the PA (public administration) into a digital key (6.74 billion euros).

The objectives are:

- **widespread of digital identity** (use by 70% of the population) and improvement of digital services through the strengthening of platforms (payments to the PA and single point of access for digital public services) and the development of new services such as the single digital notification platform.
- **reducing the digital skills gap** (70% of the digitally skilled population), through various actions aimed at ensuring digital literacy;
- **cloud diffusion** (75% of PAs use cloud services). The objective is, first of all, to finalise the data centre rationalisation process, started in recent years, converging the central PAs towards the National Strategic Hub (new "private" or "hybrid" infrastructure) or on the public cloud of one of the operators that over time have been appropriately certified. Subsequently, the "cloud first" principle is implemented, aimed at migrating the data and IT applications of individual administrations to the cloud environment;
- **essential public services provided online (reaching the 80% threshold)**. The objective is pursued primarily through the desiloing of PA databases, which are made interoperable in order to allow the creation of a single digital profile of the citizen. The national data platform will be accessible to all PAs and will allow the "once only" population by the citizen. The platform will allow Italy to participate in the European Single Digital Gateway initiative. Secondly, the Plan provides for several interventions aimed at the digitisation of central administrations
- **reaching, in collaboration with MISE, 100% of households and businesses with ultra-broadband networks**. The goal is to advance to 2026 the achievement of the European target defined by the Digital Compass strategy, which provides 1Gbps connectivity for all and full 5G coverage of populated areas. At the same time, important measures are planned to strengthen cyber defenses, strengthening front line safeguards for the management of alerts of events at risk intercepted towards the PA and enhancing the technical capabilities of analysis and continuous audit.

THE CAP NATIONAL STRATEGIC PLAN

The Partnership Table for the construction of the NSP, established on 19 April 2021, is working on the construction of a programming document involving the agricultural, food and forestry sector and rural areas using in an integrated and complementary way all available financial resources (CAP, NRRP, Cohesion Policy, Development and Cohesion Fund and other national and regional policies).

Starting from the analyses of the 11 Policy Briefs, the SWOT analyses and the first reflections with the Regions and Autonomous Provinces on the intervention needs, the first document prepared "Towards the national strategy for a sustainable and inclusive agricultural, food, forestry system" proposes 6 thematic lines of action that, integrated with each other, are capable of interpreting the main areas of support that the agri-food and forestry system needs to carry out the transition request in an innovative, ecological and inclusive way.

The thematic lines of action are:

1. enhancing the competitiveness of the system from a sustainable perspective, favouring the organisation of the supply chains and strengthening the connections between producers and consumers, investing in the protection of the incomes of agricultural and forestry entrepreneurs and on the integration of the sectors towards a truly circular economy, also expanding the operational perimeter of the supply chains to new economic areas;
2. improving the climatic and environmental performance of production systems, assisting operators in the sector towards a sustainable management of natural capital, recovering or safeguarding agricultural landscapes according to an ecological balance and protecting natural habitats and agroecosystems;
3. strengthening the resilience and vitality of rural territories, generating opportunities for new entrepreneurship based on the consolidation of natural and social heritage, creating the conditions to improve the attractiveness and inclusiveness of marginal areas;
4. promoting quality agricultural and forestry work and job security in order to guarantee the protection of workers' rights, also providing the tools that ensure equity in contracts and conditions for the emergence and regularization of workers;
5. strengthen the capacity to activate exchanges of knowledge and innovations, increasing collective and institutional awareness of the implications related to the sustainability of agri-food systems and promoting the active participation of operators and citizens;
6. streamline the governance system, strengthen administrative management structures at national and regional levels, build a simple regulatory framework adapted to new challenges and new needs.

The Strategy also intends to contribute decisively to the fight against food loss and waste by focusing on the optimization and rationalization of supply chains, with an approach to the issue that integrates with the objectives of the circular economy and the bioeconomy, providing for the use of renewable biological resources produced and waste streams in added value (food, feed, biobased products and biofuels).

1.3. THE REGIONAL LEVEL

THE REGIONAL STRATEGY FOR SUSTAINABLE DEVELOPMENT - RSSD

A fundamental element for the setting of the unitary strategy of Piemonte for the period 2021-2027 is the Strategy for Sustainable Development. The Regione Piemonte started work on the construction of its RSSD in 2018¹. Regional Strategies are required to introduce new ways to build, guide and define the policies and actions of the Regions in order to ensure the decoupling between economic growth and its impact on the environment, respect for conditions of ecological stability, the protection of biodiversity and the satisfaction of social requirements related to the development of individual potential as necessary prerequisites for the growth of competitiveness and employment.

The Strategy must define the instrumentation, priorities and actions to be taken, ensuring the unity of the planning activity. In the programming path of the Structural Funds 2021-2027, it can be understood as a reference framework to give coherence to strategic choices and interventions with the various programmes and instruments. This role is facilitated by the fact that the strategic and regulatory indications of the European Union for the period 2021-2027 are strongly consistent with the 2030 Agenda, the same source from which the RSSD originated. The shared path of definition of the RSSD of Piemonte has identified a series of **strategic macro-areas**.

Table 6. Strategic macroareas of the RSSD of Piedmont

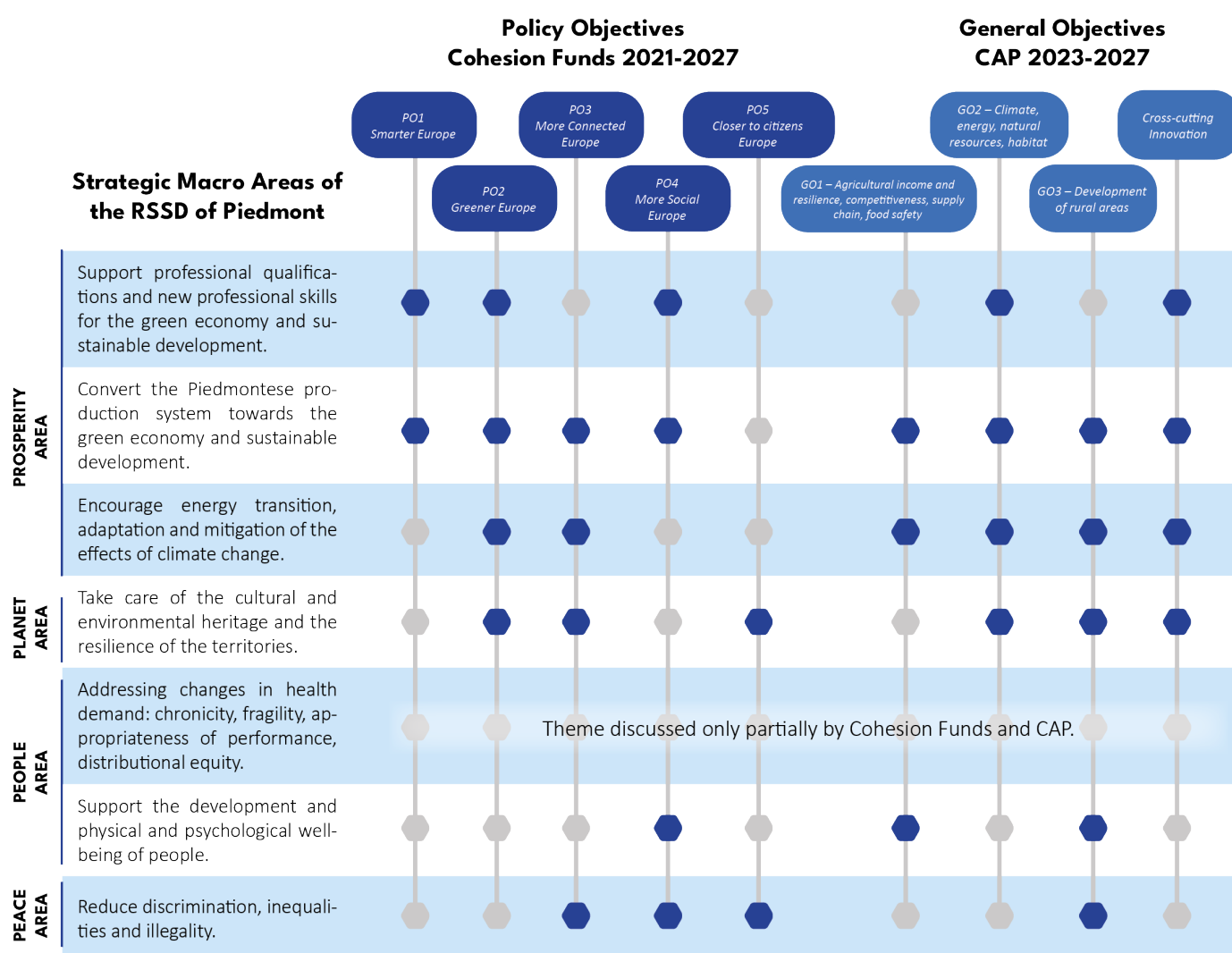
AREA	STRATEGIC MACRO-AREA
PROSPERITY AREA	Support professional qualifications and new professional skills for the green economy and sustainable development.
	Accompany the transition of the Piedmontese production system towards a model capable of combining competitiveness and sustainability.
	Encourage energy transition, adaptation and mitigation of the effects of climate change.
PLANET AREA	Take care of the cultural and environmental heritage and the resilience of the territories.
PEOPLE AREA	Addressing changes in health demand: chronicity, fragility, appropriateness of performance, distributional equity.
	Support the development and physical and psychological well-being of people.
PEACE AREA	Reduce discrimination, inequalities and illegality.

¹ The Regione Piemonte signed the Agreement with the Ministry of the Environment in December 2018, thus officially starting the construction process of the RSSD. In May 2019, the Piedmont RSSD Technical Setting Document and first guidelines were approved. It is a technical document of "vision" and direction in the construction path of the Piedmont RSSD that must be approved by the first months of 2021.

The implementation of the Strategy requires, as an essential prerequisite, the strengthening of the institutional capacity of the Regione Piemonte and the verification of the consistency of the Operational Programmes with these programming guidelines in order to guarantee, in a perspective of real integration, the conformity of the choices concretely made in the various sectors of intervention with the general objectives of environmental, economic and social sustainability.

Below are the elements of coherence of the RSSD with respect to the objectives of the 2021-2027 Cohesion Policy and the objectives of the 2023-2027 CAP.

Table 7. Scheme of coherence between the strategic macro-areas from the RSSD with respect to the objectives of the 2021-2027 cohesion policy and the 2023-2027 CAP



THE REGIONAL SMART SPECIALISATION STRATEGY – S3

The main strategic reference for defining the lines of intervention of the Structural Funds in relation to actions aimed at research and innovation is the Smart Specialisation Strategy - S3, which has the task of defining the priorities and areas of specialisation on which to focus

investments based on the characteristics and competitive advantages peculiar to each region, helping to promote a vision of the future based on excellence.

The S3 of Piemonte currently underway identifies six areas of innovation: Aerospace, Automotive, Green Chemistry/Cleantech, Mechatronics, Health and Wellness, Made in (agri-food, textile and clothing). It has also adopted two transversal "trajectories" of innovation: smart (based on the widespread introduction of enabling technologies in production systems) and resource efficiency (dissemination of innovations aimed at efficiency in the use of energy and natural resources).

S3 was confirmed as an enabling condition in the 2021- 27 programming for Policy Objective PO1 - A smarter Europe through the promotion of smart and innovative economic transformation, with particular reference to the following Specific Objectives - SOs:

- i) strengthening research and innovation capacities and the introduction of advanced technologies;
- ii) developing skills for smart specialisation, industrial transition and entrepreneurship.

At the same time, S3 must also be confirmed as a reference tool for the programming of regional research and innovation policies, as well as a tool for comparison and dialogue with other European regions and with the European Commission to catalyse initiatives, partnerships and resources in support of research and innovation.

The update and revision of S3 is currently underway, in order to take into account the evolution of the regional economy and industrial and technological trends at regional, national and European levels.

RESOURCES AND CONSTRAINTS

Overall, the package of resources available to the Country and the Regions for the coming years is very substantial, given that in addition to those available for investment funds (increased by the national and regional co-financing mechanism) are added the extraordinary Next Generation EU, to be used through the NRRP.

On 17 December 2020, the European Council approved the Multi-annual Financial Framework – MFF of 1,074.3 billion euros for the financing of the Structural Funds and Next Generation EU of 750 billion euros, for a total allocation of 1,824.3 billion euros.

For the cohesion policy, the new **European resources** that should be available at national level from the 2021-2027 budget and the NGEU instrument, amount to over 43 billion euros in current prices, of which:

- 41.15 billion for cohesion in the strict sense (in the main objective for all the categories of region);
- 1 billion and 30 million for the JTF;
- 935 million for European Territorial Cooperation – ETC

Overall, this is an increase of 19% compared to the 2014-2020 programming cycle.

The share of structural funds allocated to Piemonte is €2,812 million, of which €1,125 million from EU resources and the remaining part from national and regional resources. In the sizing of the Regional Operational Programmes - ROP it will also be necessary to take into account the share of resources that, although ascribed to our territory, will be absorbed by the National Operational Programmes (the proposal currently under discussion at national level amounts to about 21%) and the fact that, as already mentioned, the previous YEI fund for youth employment is also absorbed within the ESF+.

With regard to the resource allocation constraints of the **Structural Funds**, for the ERDF, the EU Regulation confirms the principle of thematic concentration of investments in favour of growth, research and innovation and employment, providing that resources are dedicated (in the case of the most developed regions) at least 85% to the two Policy Objectives PO1 - Smarter Europe and PO2 - Greener and low-carbon Europe.

A further constraint of thematic concentration refers to sustainable urban development to which at least 8% of ERDF resources available at regional level must be allocated, in the form of participatory local development and integrated territorial investments.

The **thematic concentration** defined for **ERDF and ESF+** effectively gives special emphasis to priority objectives 1, 2 and 4.

In particular, for the ERDF:

- 85% on PO1 and PO2 (of which at least 30% on PO2)
- 8% on urban development

For ESF+:

- 25% on social inclusion
- 12.5% to bring the incidence of NEETs within physiological limits through actions aimed at structural reforms for youth employment, education and vocational training, in particular apprenticeships, the transition from school to work, paths that allow the resumption of education or training and second opportunity education courses;
- 5% for the fight against child poverty (Child Guarantee)
- 3% on material deprivation

In the meantime, as already mentioned, an agreement was reached between the European institutions regarding the postponement of the current **CAP** until 2022, ensuring the financing of the two additional years with the new resources of the MFF, to which about 8 billion (at European level) of the NGEU package destined for rural development will have to be added. The new programming of the aforementioned CAP will only start in 2023 with the approval of the National Strategic Plans. The European Green Deal provides for an important strengthening of the objectives assigned to the new CAP in terms of a 50% reduction in the use of pesticides, antimicrobials and fertilizers; it also provides for an increase of up to 25% of the area cultivated with the organic method, 100% of broadband internet coverage of rural areas and 10% of agricultural areas with characteristics of high landscape differentiation. As a whole, these targets will require a great effort of innovation, to be supported above all with the new "green architecture" of the CAP, that is, the set of intervention tools for environmental purposes.

The system of **enabling conditions** for access to funds has been renewed and aggravated compared to the previous programming. Each Member State must demonstrate that it complies with the requirements set out at the time of approval of the Programmes and will not be granted a period of time to comply and will be obliged to maintain compliance with all the enabling conditions in the chorus of the entire programming period.

Failure to comply even in a single regional territory inhibits the country from reimbursing certified expenses.

The enabling conditions are a total of 20, including 4 horizontal conditions that must be respected as general prerequisites and that affect all the expenditure made in implementation of the Programmes and 16 thematic conditions whose compliance is required as a prerequisite for activating expenditure in specific areas.

Horizontal enabling conditions		
Conditions	Responsible administration	Implementation status
1. Effective control mechanisms of the public procurement market	PCM-DPCOE, ANAC	Satisfied
2. Tools and skills for effective enforcement of State aid rules	MISE, PCM-DPE, ACT	Satisfied
3. Effective application and implementation of the Charter of Fundamental Rights	ACT, ANPAL, MEF-Igrue	Satisfied
4. Implementation and Enforcement of the United Nations Convention on the Rights of Persons with Disabilities	PCM – Office for policies of people with disabilities	Satisfied

Thematic Enabling Conditions		
Condition	Responsible administration	Implementation status
PO1. Good governance of the smart or regional specialisation strategy	MITD, MISE, MUR, Regions	The self-assessment report for the national S3 is being sent. Pending feedback from the Commission on the Regions' self-assessment reports.
PO1. A national or regional plan for broadband	MISE, Minister for Technological Innovation and Digitisation	The self-assessment report is being sent, accompanied by the new Ultra Broadband strategy.
PO2. Strategic policy framework to support the renovation of residential and non-residential buildings for efficiency	MISE	Ongoing dialogue between the Government and the Commission.
PO2. Governance of the energy sector	MISE	Satisfied
PO2. Effective promotion of renewable energy use in all sectors and across the EU	MISE	Satisfied
PO2. Framework for effective disaster risk management	PCM, Department of Civil Protection	Satisfied

PO2. Updated planning of the necessary investments in the water sector and in the wastewater sector	MiTE, Regions	Adjustment in progress for some Regions. Deadline 31/12/2021
PO2. Updated waste management planning	MiTE, Regions	Adjustment in progress for some Regions. Deadline 31/12/2021
PO2. Framework of priority actions for the necessary conservation measures, involving co-financing from the Union	MiTE, Regions	Ongoing dialogue between the Government and the Commission. The Regione Piemonte has approved the Framework of priority actions for the Natura 2000 Network
PO3. Complete transport planning at the appropriate level	MIMS, Regions	Adjustment in progress for some Regions
PO4. Strategic policy framework for active labour market policies	ANPAL, MLPS	Satisfied
PO4. Strategic Policy Framework for Gender Equality	ANPAL, PCM, Department of Equal Opportunities	Ongoing dialogue between the Government and the Commission.
PO4. Strategic policy framework for the education and training system at all levels	ANPAL, Ministry of Education	Satisfied
PO4. National Strategic Policy Framework for Social Inclusion and Poverty Reduction	ANPAL, MLPS	Ongoing dialogue between the Government and the Commission.
PO4. National Strategy for gipsies' inclusion	ANPAL, PCM, Department of Equal Opportunities, UNAR	Ongoing dialogue between the Government and the Commission.
PO4. Strategic policy framework for health	Ministry of Health, Regions	Regions that must comply with the conditions have been recalled

The resources for Italy provided for in the National Recovery and Resilience Plan - NRRP presented by the Government on 25 April 2021 amount to 235.12 billion euros, of which 191.5 billion from the RRF - Recovery and Resilience Facility, 13 billion euros from the ReactEU fund and 30.62 billion from a national complementary fund.

The total resources allocated to the 6 missions are divided as follows:

- MISSION 1: DIGITALIZATION, INNOVATION, COMPETITIVENESS, CULTURE AND TOURISM – 49.86 B
- MISSION 2: GREEN REVOLUTION AND ECOLOGICAL TRANSITION – 69.94 B
- MISSION 3: INFRASTRUCTURE FOR SUSTAINABLE MOBILITY – 31.46 B
- MISSION 4: EDUCATION AND RESEARCH – 33.81 B
- MISSION 5: COHESION AND INCLUSION – 29.83 B
- MISSION 6: HEALTH – 20.23 B

With regard to the time-scanning of commitments and expenses, a share of 70% of the grants under the Recovery and Resilience Plan must be committed in the two-year period 2021-2022, while the remaining resources must be committed by 2023. The amounts committed must be paid by 2026 at the latest.

The National Plans were submitted by the 30th of April 2021 and the criteria for choosing the projects dictated by the guidelines are strongly oriented, in addition to consistency with European recommendations, to achieve rapid implementation and produce measurable effects on GDP and employment.

Table 8. NRRP proposal of 25 April 2021, allocation of resources.

Missions and components	Billions of euros	%
DIGITISATION, INNOVATION, COMPETITIVENESS, CULTURE AND TOURISM	58,95	19,0
Digitalization, innovation and security in the PA	13,06	4,2
Digitisation, innovation and competence of the production system	37,59	12,1
Tourism and culture 4.0	8,3	2,7
GREEN REVOLUTION AND ECOLOGICAL TRANSITION	78,79	25,4
Sustainable agriculture and the circular economy	6,3	2,0
Energy transition and sustainable mobility	20,52	6,6
Energy efficiency and redevelopment of buildings	35,95	11,6
Protection of the territory and the water resources	16,03	5,2
INFRASTRUCTURE FOR SUSTAINABLE MOBILITY	33,14	10,7
High-speed rail network/capacity and safe roads	29,46	9,5
Intermodality and integrated logistics	3,68	1,2
EDUCATION AND RESEARCH	34,04	11,0
Strengthening the supply of education services	20,95	6,7
From research to enterprise	13,09	4,2
INCLUSION AND COHESION	84,95	27,4
Employment Policies	38,91	12,5
Social infrastructures, families, communities and the Third Sector	41,86	13,5
Special interventions for territorial cohesion	4,18	1,3
HEALTH	20,73	6,7
Proximity networks and telemedicine	7,9	2,5
Innovation, research and digitisation of the NHS	12,83	4,1
TOTAL	310,6	100,0

2. THE CONTEXT OF PIEMONTE AND THE GUIDELINES

The second part of the Unitary Strategic Document contains the analysis of the situation in Piemonte and the challenges that our region faces and, subsequently, the guidelines of the Regione Piemonte for the next programming cycle. In order to make the connection between the context, the intervention tools and the guidelines easier, this part is articulated on the basis of the five Policy Objectives of the European Union for the 2021-2027 programming cycle.

The part dedicated to analysis and strategies is preceded by a reference to the current economic framework and medium-term forecasts strongly characterised by the impact of the pandemic: its effects must necessarily be taken into account in the definition of interventions.

In addition, given the role of general guidance played by the objectives of the UN 2030 Agenda and, consequently, the cross-cutting coordination tasks that the Regione Piemonte attributes to the Regional Strategy for Sustainable Development, the chapter opens with a paragraph dedicated to the positioning of Piemonte with respect to the sustainable goals of the Agenda.

In this regard, it should be recalled that the implementation tools of the guidelines of the UN 2030 Agenda and the Regional Strategy for Sustainable Development are the regional plans developed in the specific themes: among those the Regional Air Quality Plan - RAQP, the Regional Strategic Plan for Mobility and Transport - RPMT, the Regional Energy and Environmental Plan - REEP and the Regional Territorial Plan - RTP as an instrument that defines the general and sectoral planning guidelines of the Region's territory also for the coordination of regional sector plans, programmes and projects.

The guidelines are placed at a dual level, strategic and political, and together outline a response scenario that looks beyond the emergency with a medium-long term relaunch vision, although it will necessarily have to take into account the still not all foreseeable outcomes of the crisis caused by the pandemic. In this perspective, it will be essential to consider the leading role of two cross-cutting strategies: the Smart Specialisation Strategy and the Regional Strategy for Sustainable Development.

At the strategic level, in line with S3, RSSD and with the objectives of European policies, the lines of Piemonte focus on a strong transversal attention to innovation in the field of digital as a driver for the industrial transition on circular economy and sustainable energy, protection of natural resources and enhancement of heritage, contrast and adaptation to climate change, social inclusion and protection of the environment and health, accompanying it with paths dedicated to the adaptation of the skills of the various categories of citizens.

In this sense, the intent is to affirm the vision of a systemic intervention capable of promoting the convergence of the processes of redevelopment and reconversion of production towards a new balance between industrial activities and the protection of health and the environment.

The ongoing evolution involving new products and new processes requires to equip with tools capable of accompanying the regional production transition towards new green solutions and towards a reorientation of processes and products on high-productivity sectors: the aim is to prevent the current contraction in production capacity from turning into a situation of new economic recession and full-blown crisis. Fundamental is also avoiding further negative consequences in terms of productive opportunities and employment, within a social fabric already put to the test by the effects of the economic crisis.

In this general framework, the 2021-2027 programming will look closely at the territories and the different needs they express, enhancing the varied system of niche supply chains, districts and specialisations and aiming at greater integration between leading companies and the network of SMEs connected to them, including the artisan sector. In a region with strong

territorial gaps, special attention will also be paid to the needs and opportunities of rural and mountainous areas.

The centrality of supply chains as a programming focus is also strongly recalled by the recommendations expressed by the European Commission and the OECD within the framework of the Pilot Action Industrial Transition Regions and consistent with the logic of the S3 Industrial Modernisation Platform: in this perspective the urge is to support the most promising supply chains and value chains with respect to the challenges of industrial transformation or more capable of entering wider supply chains and value chains in Europe and internationally.

The 2021-2027 programming also constitutes an important opportunity to settle the programming component connected to the territorialization of resources with the reading of the territorial, environmental and social capital contained in the structural and programmatic framework of the Regional Territorial Plan - RTP. The Plan can therefore represent the connecting tool between the different indications deriving from the regional programming system. The territorial reading defined by the RTP divides the regional territory into 33 Territorial Integration Areas – TIA, local systems based on functional relationships, of intermediate size between the municipal and the provincial, which represent the optimal reference units for the definition of territorialized development measures, therefore appropriate to the places, as well as the nodes of a network of connections on which the organisation and territorial cohesion of the Region are based. While taking into account the fact that it will be necessary to proceed with a verification of the territorial reading of the 33 TIAs that can be implemented as part of the updating and revision process of the RTP, currently underway, the map of the characterizations, vocations and territorial needs drawn up by the RTP can therefore constitute an important reference for the correct specification, design and programming of the different intervention instruments applicable under the new regulation of the European Funds.

In addition, the important juncture constituted by the contextual start of the reform of the regional law for territorial governance should not be overlooked, which can contribute to making the 2021-2027 programming guidelines more territorial, also integrating the Regional Strategy for Sustainable Development.

Even in a programmatic framework still in motion and with margins of uncertainty, it will be necessary to pay the utmost attention to the complementarity between the action of the European Funds with respect to the other instruments and resources that will be available. In particular, it will be possible to improve the infrastructure endowment and intervene on health facilities and services by drawing on the resources dedicated from the funds activated by Next Generation EU, the NRRP and on national resources, for example, from the Development and Cohesion Fund. It will also be important to ensure synergy with European Territorial Cooperation, considering the strategic position of Piemonte in the Alpine Space.

In this perspective, it will also be useful to further develop relations at the territorial level with the system of banking foundations, with particular reference to initiatives with similar purposes to those implemented by the Region with European resources.

In terms of the political vision, which integrates and harmonises the strategic and programming guidelines mentioned above, the document prefigures – within a framework of reasonable realism – an industrial resurgence of our region, capable of opposing the vision of a territory as a mere provider of services and solely dedicated to the tertiary sector. And we imagine it in the name of a sustainable development of the Piedmontese industrial chain.

On one hand the outsourcing of the Piedmontese economy has implied the introduction and dissemination of more agile integrated services to citizens; although, on the other hand it has been superimposed on a set of territorial realities that tell a different story, dotted with a significant number of micro, small and medium industrial, agricultural and artisan enterprises

that for decades have been protagonists of economic growth, job creation, and a strong link with the territories.

The Piedmontese business system has contributed to forging the cultural, historical, economic and social identity of the territory, in its diversity and specificity, and will continue to do so, to the extent that the Region will be able to speed up the relaunch of its excellence.

Industry, of course, but an industry capable of developing and modernising in harmony with the reasons and the protection of the environment and territorial biodiversity that characterise Piedmont. A production fabric that is capable of building a system aimed at product development, at the creation of a new product, able to get out of purely quantitative and price logic, rewarding quality and innovation. The desired resurgence falls within a process, concerted on several levels, in which industry and environment, human activities and ecosystems, anthropic landscape and natural landscape, cease to be considered as opposing and antagonistic realities, but are regarded as realities capable of harmonising on the level of sustainability.

It is necessary to identify the link that allows a coherent synthesis to be achieved between economic reasons, defence of regional industrial heritage, protection of the environment and its resources, quality of life, new employment and sustainable development. This link is represented by the green and digital transition, according to the principles that inspire the circular economy and the bioeconomy.

An approach of this kind can boast the following credits:

- it is consistent with respect to the cultural identity of Piedmont;
- it holds tradition and innovation together in a balanced relationship;
- it allows Piedmont, in the future, to recover ground compared to the Italian regions usually taken as a reference in benchmark models in terms of results and performance;
- it is in line with the provisions of the so-called European Green Deal (which presupposes economic growth dissociated from the use of resources), especially in terms of industrial strategy for a clean and circular economy;
- it is consistent with the national and regional strategy for sustainable development, already referred to in the first part of this document, which incorporates the Sustainable Development Goals (SDGs) set out in the 2030 Agenda for Sustainable Development prepared by the United Nations General Assembly: in the specific case of Piedmont, support professional qualification, the conversion of the production system towards the green economy and sustainable development, as provided for in the strategic macro-area on prosperity;
- hopes for the achievement of committed to energy self-sufficiency (the possible relaunch of the hydroelectric sector, especially in the areas with the greatest vocation, goes in this direction);
- it presupposes an integrated approach between different programmes, funds and innovative financing and investment instruments on the territories and for the territories;
- it is finally animated by an organic vision, capable of dictating the lines for an efficient integration between different but complementary policies and implementation measures: a greater integration between policies under the ERDF and those under the ESF where foreseen and permitted, as well as, in the specific case of the new ESF+ 2021-2027, a more decisive and planned interconnection between measures for employment, education, training, guidance and social inclusion with a view to achieving common and shared objectives and not disconnected and independent from each other. Likewise, the policies under the Programmes guarantee close synergy with the regional planning

instruments (the Regional Air Quality Plan, the Regional Strategic Plan for Mobility and Transport, the Regional Energy and Environmental Plan), representing the instrument for achieving the objectives established by them.

The industrial resurgence of Piedmont, as a figure of political action characterising the new European programming cycle, intends to cultivate the ambition dictated by an inclusive logic: it includes the large and medium-sized companies, as well as the smallest realities, avoiding any limitation of the ATECO codes and guaranteeing to all of them access to and participation in future regional calls and measures activated by the Region. According to an approach capable of harmonising economic growth and environmental sustainability, support for the productive transformation is facilitated by the new professions attributable to the vectors of digital transformation, the circular economy, technological and organisational requalification of historical and traditional sectors.

An action of this kind, of course, cannot be separated from a coherent and strategic vision of the active policies that implement regional action on the issues of work, training and guidance, levers for a unitary plan for the economic revival of Piemonte that preserves and strengthens social cohesion.

Specific attention in this area must be given to young people, women, people with disabilities: the categories of recipients currently underrepresented in terms of effective participation in the labour market.

With regard to young people, the main guideline concerns the expansion of opportunities for early contact with the labour market with the aim of attacking the traditional gap between the status of student and that of worker, through the strengthening of alternation in its different forms and preferring apprenticeship as a tool capable of enhancing learning in an active professional situation.

On the other hand, support for people with disabilities translates into a set of interventions that are able to connect the employability requirements of employment services with those of assistance that distinguish the taking charge of individuals who do not have the autonomy necessary for insertion and permanence in the labour market, in a perspective of equal opportunities, also using examples of good practices concretely experimented on the territory thanks to successful European projects co-financed in Italy and other EU Member States.

In the specific case of support for female employment, an important role will be to strengthen services to families, for example by acting to expand supply and/or support demand. The benefit of women's work would be twofold, being expressed, on the one hand, through the use of enhanced services and, on the other, as workers directly employed in professional fields with a female character.

Further specific measures will then have to be structured to support the processes of female empowerment, also addressing phenomena that the social, economic and employment crisis triggered by the Covid-19 pandemic has dramatically exposed, for example the difficulties encountered by self-employed workers and freelancers and, to a greater extent, by the female component: women and working mothers in possession of a regular VAT number, employed in self-employed activities and/or in the liberal professions relegating to an area of disadvantage.

It will therefore be necessary to trigger a virtuous circle that provides for an extension of maternity protection regimes to this specific category, including protection to cover periods of illness, making the Regione Piemonte an example of good practice and attention to each component of society.

The aforementioned measures constitute examples of a regional birth support plan, which may provide for the activation of further initiatives and incentives, also of a fiscal and contributory

nature, which would allow, on the one hand, to encourage maternity for working women, and on the other, the reduction of the burdens borne by employers.

The plan may also include forms of social card dedicated to self-employed women, as well as the ambitious proposal to make Piemonte the leading region in the introduction of "childhood income", through the recognition of an economic contribution for each new child born and for the first years of life.

As a corollary of the above and as a cross-cutting component with respect to the different categories of population covered by regional policies, the Region feels the need and urgency to invest - through a solid public-private partnership – in the structuring of a renewed permanent training system, which favours an unprecedented and innovative action of mass retraining of the workforce, through upskilling and reskilling programs for employed and non-employed workers (young and adult), which assumes as guidelines the digital skills 4.0, STEM, green and, in general, all those enabling through new training models in line with emerging trends that provide for the participation of the business world in the design of corporate training courses.

The main tool for the realisation and implementation of this policy on the territory will be the networking of Academies specialised in training related to areas or supply chains considered strategic and with a high rate of technological, social and organisational innovation, deeply rooted in the territories in which these supply chains are prevalent, and organised throughout the regional territory according to a district-type logic.

The Academies will be responsible in the first place for the provision of upskilling and reskilling activities for employed workers and for the training of unemployed people with a view to their reintegration into employment in companies in the supply chain.

Investments in continuous training are intended to guarantee a target group made up of workers who have already joined the company or who intend to start an entrepreneurial path, but they do not exclude high-profile training targeted at entrepreneurs, managers, and executives of small and medium-sized enterprises aimed at their on-the-job retraining in the fields of digital innovation, the internationalisation of production chains, trade, the creation of networks and partnerships, and the dimensional growth of small companies in the same sector. For the artisan sector, specialised training is needed both for those who intend to start an entrepreneurial path and for operators and workers already included in the company, with regard to the various areas and professionalism of reference.

The establishment of the Academies will ultimately result in the implementation of measures aimed at reducing the endemic misalignment between supply and demand, by:

1. strengthening the policies of orientation towards the paths of secondary and tertiary education as well as vocational training, with particular attention to the set of STEM skills;
2. the development of dual training with a strong involvement of companies with training capacity and the activation of the preferential channel represented by the new forms of apprenticeship;
3. the orientation of vocational paths of different levels towards the needs of medium-term structural skills of the different production chains and services represented in the Academies, reserving the adaptation of skills and immediate needs from the labour market to short courses.

This is a set of opportunities that must be disclosed by the operators of the Public Employment Centres and by the operators of accredited labour services, so that it becomes a common heritage and an important component of active labour policies.

The evolutionary scenario outlined here cannot ignore the **fundamental and enabling role of the Public Administration**, as a facilitator and driver of innovation, which must increasingly be

characterised as a system of services and a producer of social value. To this end, the PA, in Piemonte as in the rest of the country, must become the protagonist of a **radical transformation action**, which is based on the paradigm of the centrality of the citizen and service, and which invests in an integrated way in the three directions of cultural growth, organisation and digitization. In terms of **culture**, it is necessary to increase the service and result orientation, the willingness to innovate, the enhancement of not only managerial/administrative skills, but above all process and technological ones. This change is enabling the construction of a new fabric dedicated to **organisational innovation**, which allows a true transformation of the PA, capitalising on the experience gained during the pandemic to develop new forms of work (smart, agile, decentralised, mobile) and new related models (disintermediation, horizontality, empowerment by objectives). The challenge of the **digital transition of the PA** will be achieved through the simplification and rationalisation of processes, the reduction of administrative times and obligations, greater efficiency and proximity of services. This will be made possible on the one hand by digital **infrastructure** (transition to the cloud paradigm, new modes of service delivery, interoperability and exchange of information between PPAAAs, increase in cyber security), on the other hand by a necessary growth of not only digital **skills**, but also of specialised and operational, which enable the PA to effectively dialogue with the private sector and citizens. In this context, the Regione Piemonte, in full agreement with the objectives of European and national programming, will act both on a new organisational approach, and in the direction of evolving its **information systems** and keeping them up to date with the transformation underway, both to increase the **services available to citizens and businesses** (with particular attention to the tools for **enhancing the public information heritage**), and finally to **support the PAs of the regional territory** in digital growth, making available infrastructures and transversal services, according to a hub and spoke model that allows a widespread dissemination and full convergence towards national objectives, as necessary as ever in the presence of a highly fragmented institutional context such as that of Piedmont.

2.1 THE ECONOMIC SCENARIO: THE CURRENT SITUATION

Before proceeding with the part dedicated to the positioning of Piemonte and the guidelines for the period 2021-2027, it is advisable to introduce a brief overview of the current economic situation.

The evolution of the **international scenario** in 2021 is still dominated by the effects of the pandemic that involve generalised containment measures with negative repercussions on economic growth.

Globally, the rebound of the Chinese economy in 2021 (GDP +8.8%) can partially act as a driver for the global recovery, which is however weighed down by the difficulties of Europe and the United States. The recovery framework for emerging countries is very varied, positive for the Asian area and critical for Africa and South America.

On a **Eurozone** scale, according to the autumn 2020 economic forecasts, the economy will contract by 7.8% in 2020, followed by growth of 4.2% in 2021 and 3% in 2022. In any case, both eurozone and EU output are not expected to return to pre-pandemic levels in 2022. The unemployment rate in the euro area will rise from 7.5% in 2019 to 8.3% in 2020 and 9.4% in 2021, before falling to 8.9% in 2022. The pandemic has had very different economic impacts in EU countries, and the prospects for recovery also diverge considerably; a more complete and rapid recovery will take place in Germany, slower and more partial for Italy and Spain.

In **Italy**, according to the most recent forecasts issued by Prometeia, in 2020 GDP will fall by 9.1%. In addition, the estimate for 2021 has been revised down to +4.8% (from +6.2% expected

in September), due to the resurgence of the spread of the virus and the difficulties of immediate implementation of the Next Generation EU. The recovery of 2019 levels for the main economic variables should not take place before 2023.

All components of aggregate demand are in contraction; public consumption may be an exception. Household consumption fell in line with GDP dynamics, while gross fixed investment would suffer a much more pronounced reduction. Exports are expected to decrease by almost 13%, on top of the drop suffered by imports, with a negative contribution from abroad to the growth of the national economy.

To extend the look into the future, it is possible to use additional Prometeia source data relating to the period 2021-2025, further extended to 2026-2027 through a scenario based on the macroeconomic framework annexed to the National Recovery and Resilience Plan published in May 2021. On a prudential basis, it is assumed that the effects of the vaccination campaign and the control of the pandemic are those expected, and no further health shocks are considered, which could profoundly modify the simulated dynamic profile.

According to this scenario, the contribution of the NRRP would lead to a significant drop in the unemployment rate at the national level, which would fall to 7.5% in 2026, due solely to the effect of the increased investments of the NRRP, reaching 7.1% by 2027.

The investment cycle would increase the potential growth rate of the Italian economy by 0.5 percentage points due to higher spending and about 0.3 points thanks to the full implementation of the type of reforms planned. Before the crisis, the economy's potential growth rate was estimated at 0.6%. Within the same scenario presented by the government, a prudential estimate indicates how the implementation of the Plan would bring the potential growth rate in the final year of the program (2026) to 1.4%.

These forecasts do not take into account the assumption that the positive shock to total factor productivity linked to the impetus of reforms and investment could stimulate a stronger-than-expected response on real output dynamics. The estimates, therefore, should be considered as a minimum threshold.

The contraction of economic activity and the measures adopted to contain the pandemic have had significant negative repercussions on the labour market, only partially mitigated by measures aimed at preserving employment levels; paradoxically, the significant increase in people leaving the labour market towards inactive conditions cushions the effects in terms of the unemployment rate. The recovery path appears difficult and long: there will be a progressive increase in unemployment and a reduction in the number of employed and inactive people, highlighting the scars produced by the crisis and consequently increasing social inequalities.

The Covid-19 emergency seriously affected **Piedmont**. In addition to the implications for the health of the Piedmontese and the extraordinary effort required of our care facilities, the health system and Civil Protection, this emergency has also had an immediate impact on the economic and production system and will leave lasting traces in all economic and social sectors.

In Piedmont, the dynamics of the economy seem destined to suffer, in the current year, a more negative trend than the national average, as a result of the health crisis: it is estimated that GDP could fall by around 10.1% in 2020. In fact, a significant contraction of the product is expected in the manufacturing industry and in the construction sector, the sectors most affected as a result of the production blockade and the reduction in demand, especially in the foreign component (a contraction of regional exports in real terms of about 20% is estimated) and a decrease, less intense but still significant, in the services sector, which are compared to a fall in household consumption of about 12%.

The employment effects, in terms of work units - which reflect the actual reduction in the volume of work net of temporary employment support measures - are very substantial,

especially in construction and manufacturing, while in services the fall in the acute phase of the emergency seems to have given some signs of attenuation. The unemployment rate stands at 8.3%. Forecasts indicate no less than three years to recover the lost ground.

Table 9. The economy of Piedmont, forecasts and comparison with the past

	2000- 2007	2008- 2014	2015- 2017	2018	2019	2020	2021- 2023
GDP	1,0	-1,8	1,8	1,4	0,5	-10,1	3,9
Household consumption	0,9	-0,9	1,8	0,7	0,1	-11,6	3,6
Collective consumption	1,9	-0,7	0,5	0,6	-0,5	-0,6	0,6
Gross fixed investments	0,3	-3,2	4,1	2,1	2,8	-13,7	8,6
Exports	1,6	0,8	3,7	-1,4	-4,0	-18,7	7,7
<i>Added value</i>							
Agriculture	-0,5	1,6	-1,3	2,3	-1,3	-2,7	2,0
Industry in its narrow sense	0,0	-2,7	4,1	2,2	-0,9	-14,7	6,2
Construction industry	2,3	-6,0	0,2	4,2	2,3	-12,4	7,2
Services	1,5	-1,0	1,2	1,1	0,6	-8,7	2,9
Total	1,1	-1,6	1,8	1,5	0,2	-10,2	3,9
<i>Labour units</i>							
Agriculture	1,4	-0,9	0,6	0,8	-2,9	-5,2	-1,2
Industry in its narrow sense	-1,4	-3,2	0,4	1,6	-1,1	-12,7	3,2
Construction industry	1,7	-1,9	-0,8	2,3	-1,8	-15,7	1,7
Services	1,8	-0,2	0,8	0,0	-0,6	-9,4	2,9
Total	1,0	-1,0	0,6	0,5	-0,9	-10,3	2,7
Unemployment rate*	5,5	8,3	9,6	8,2	7,6	8,3	8,3
*period average							

Even on a regional scale, it is possible to attempt a projection of the estimates up to 2027 with regard to GDP: this, after the "rebound" expected in 2021, would gradually settle on a growth of 2.7% in the period 2022-24 and 1.4% in the three-year period 2015-27.

Not all sectors are damaged in the same way. Due to the continuation of the pandemic, consumption for recreation and culture, tourism and accommodation, catering and various goods and services are among the most affected (about a third of the total). Among these many

consumptions, as in the case of catering and accommodation, they are not recoverable in the recovery phase. Following: clothing and footwear, transport (about a fifth of the total): the case of transport services replicates the situation of the previous group, with non-recoverable turnover losses. Furniture, appliances and home maintenance, for the part of durable goods, are added for a further 6% of the total. The fall in durable goods was significant in the lockdown phase, while a rebound effect on the recovery is uncertain, due to the weaker dynamics of disposable income and the presumed increase in precautionary savings by households in a situation of uncertainty. It can therefore be calculated that well over half of consumption spending is strongly affected by a compression in the emergency phase and with difficult prospects of recovery in the medium term.

Within the manufacturing industry, for which a recovery is initially expected to be more intense when the pandemic conditions are mitigated, and modest in the following years, the agri-food sector has had a better endurance; the construction sector presents a similar but more constant dynamic in the three-year period, however benefiting from a moderately expansive phase; in the whole of the composite services sector (also particularly affected in the period of the emergency), a very contained growth in added value is expected, on which the medium-term unknowns of the sectors most affected by the crisis weigh: transport, administration and tourism.

Looking ahead, the injection of resources on the national territory of the NGEU and subsequently the start of the 2021-2027 programming of the European Structural Funds could support a recovery also in the regional territory of gross fixed investments and a sustained activation of the production of instrumental goods, production that sees our region in a good position, with positive effects on production and domestic demand.

The joint action of these resources will also be an opportunity to close the gap in public investment that has characterised Piemonte in the last decade compared to the most competitive European regions². In the period 2008-2018, the overall investment rate in our region fluctuated around 21% of GDP, a figure close to the continent's average, although in the southern regions of Germany this indicator rises to almost 28%. However, compared to investments in the manufacturing sector in line with competing areas, in Piemonte those attributable to the Enlarged Public Sector stopped in 2018 at 2.7% with respect to GDP, compared to a national average of 3.7% and a European average of 4.5%.

² Processing by Confindustria Piemonte on Eurostat and ISTAT data (Piedmont Business Plan, 12/02/2021)

2.2 SUSTAINABLE DEVELOPMENT: THE POSITIONING OF PIEMONTE WITH RESPECT TO THE 2030 AGENDA

Compared to the 17 objectives (Goals) defined by the UN with Agenda 2030, the positioning of Piemonte is generally positive, ranking fifth among Italian regions, preceded by Trentino-Alto Adige, Valle d'Aosta, Lombardy and Emilia-Romagna.

Compared to the national average and in comparison with other Italian regions, Piemonte performs well for several objectives in the social field - less absolute poverty, material deprivation and obesity of children, some components of education and training -, in the economic field - higher employment rates, including youth and women, although it should be noted that national rates are lower than in the best European countries, lower income inequality, more innovative companies and researchers - and for some environmental aspects - greater use of renewable energy, urban green and waste sorting, less soil waterproofing.

Specifically, Piemonte occupies a high position in the regional ranking in the following fields:

- innovation (Goal 9) – third place;
- peaceful societies (Goal 16) – third place;
- water (Goal 6) – fourth place;
- nutrition and sustainable agriculture (Goal 2) – fourth place (although with a low percentage of organic farming);
- sustainable cities (Goal 11) – fifth place.

With regard to the training of people, the data on the rate of graduates and other tertiary degrees emerges: in particular, if in 2010 the share of graduates in Piemonte followed the general Italian trend, between 2015 and 2017 it fell below the average while in 2018 there was a rise of about 4 percentage points in Piemonte compared to the overall trend of the nation, and then decreased in 2019 by 3 points, aligning with the national average.

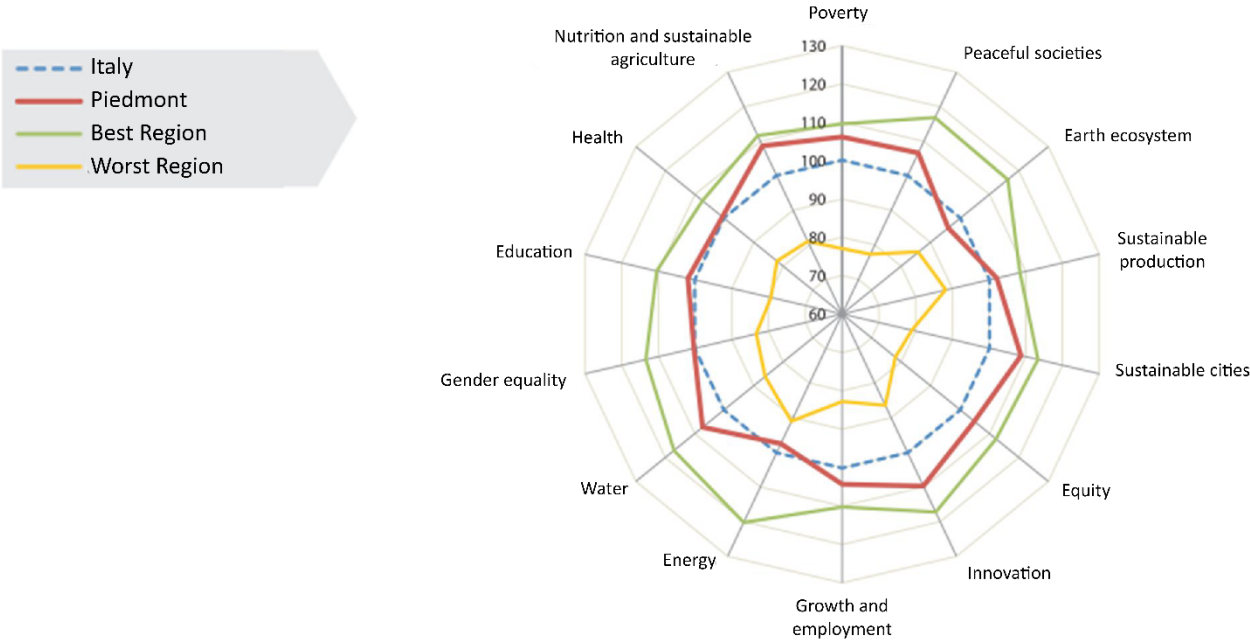
The main weaknesses to be highlighted are the following:

- the decrease in the annual growth rate of real GDP per inhabitant - a figure in which Piemonte had always exceeded the national average in previous years - which can be linked to a competitiveness deficit, a theme addressed in the following paragraph dedicated to PO1;
- a not brilliant position with regard to energy impact (Goal 7) and for the terrestrial ecosystem (Goal 15) in both cases in thirteenth place, although with a similar location to other regions with high industrialization such as Lombardy, Veneto and Emilia-Romagna;
- the permanence below average of the share of women elected to the Regional Councils - out of the total number of elected members;
- organic crops that still have ample room for growth, in particular taking into account the increase envisaged by the Green Deal and the strategies that derive from it.

Another negative phenomenon is pollution: despite the efforts made, punctually monitored by ARPA Piemonte over time, the Piedmontese socio-economic structure - which must be thought of as integrated into the regions that form the large Po Valley production basin - has not yet made the technological and innovative leap required to achieve a reduction in emissions harmful

to health. Looking at the ultrafine particulate values (PM2.5 - concentration weighted with respect to the potentially exposed population), the municipalities of the Piedmontese capital all have percentages above the national average (2018). In general, although from 2010 to 2018 PM2.5 values improved in all Piedmontese capitals, the improvement is not comparable to what happened in the rest of Italy. In this context, the capitals of Cuneo, Biella and Verbania are better off, at the sub-regional level, than the other provincial poles.

Figure 2. The positioning of Piemonte with respect to the goals of the 2030 Agenda



Source: IRES Piemonte elaborations

2.3 PO1 - SMARTER PIEDMONT: COMPETITIVENESS AND INNOVATION

PO1 - SMARTER PIEDMONT	I. Develop and strengthen research and innovation skills and the introduction of advanced technologies
	II. Enabling citizens, businesses and public administrations to reap the benefits of digitisation
	III. Enhance the growth and competitiveness of businesses
	IV. Developing skills for smart specialisation, industrial transition and entrepreneurship
	V. Strengthening digital connectivity

THE ANALYSIS

The aim of Policy Objective 1 of the European Cohesion Funds is to promote an intelligent economic transformation, through support for research and innovation, digitisation and the competitiveness of regional systems in general.

Piedmont, despite having some important strengths, shows a **lack of competitiveness** compared to the best Italian and European regions. A comparison in general terms of the competitiveness of the regional system is offered by the European Regional Competitiveness Index (RCI)³ based on 11 analytical dimensions: in the ranking referring to 2019, Piemonte ranks 167th out of 268 European regions, preceded in Italy by Lombardy (145), Emilia-Romagna (162) and Lazio (163) but above all very far behind some leading European regions such as, for example, Oberbayern (8), Stuttgart (18) and neighbouring and comparable areas such as Rhone-Alp (87), PACA (121).

With reference to aspects of economic competitiveness, starting from the beginning of the new millennium, our region shows a slower growth in total and per capita added value compared to Lombardy, Veneto and Emilia-Romagna, causally linked to lower productivity. We also recall the reduced propensity for investment in the enlarged public sector, previously reported, which is also reflected in the field of research and development.

The distance between Piemonte and the other regions of the North remained almost constant until the outsourcing was accompanied by a flourishing state of health of manufacturing, but it widened when the first phenomenon accelerated while industrial production had to deal with the long cycle of crisis that began in 2008. It was, therefore, the result of a slow "**unfinished restructuring**", determined by the strong volatility in the comparative advantages historically acquired, especially in manufacturing, without these having been offset by an adequate outsourcing. It also weighed on the unfavourable demographic component compared to other areas of the country.

In this context, however, the **selection made by the crisis** revealed a substantial core of companies, especially in the industrial sector, well positioned in terms of indicators of innovation, economic performance and internationalisation. Very often these companies give rise to district economies and supply chains rooted in the territory, however internationalised.

³ https://ec.europa.eu/regional_policy/en/information/maps/regional_competitiveness/

Speaking of innovation, according to the Regional Innovation Scoreboard of the European Union⁴, Piedmont, although placed among the "moderate innovator" regions - mainly due to its reduced positioning on indicators such as public spending on R&D, collaboration between SMEs and tertiary education level - remains among the best performing Italian regions for business-related indicators, sharing with Emilia-Romagna the highest level of private sector R&D spending in relation to GDP. In addition, it is the reference region for the share of SMEs that carry out innovations internally, for the incidence of employees in the high-tech sectors of manufacturing and knowledge intensive services, for the sale of innovative products. The penetration of enabling technologies associated with the concept of enterprise 4.0, according to the MISE-MIET survey of 2018⁵, sees Piemonte companies in first place in Italy (11.8%). A recent survey carried out by IRES Piemonte in agreement with the managing authority of the ERDF ROP of the Regione Piemonte⁶, showed that in many cases the innovation introduced by the companies analysed was not only incremental, but took the form of a leap in quality, also with the support of universities and public research centres, public policies and structures put in place with European funding (for example the Innovation Poles, the IR2 initiative for the industrialisation of research results and other ERDF ROP measures or investments in the agri-food sector through the RDP). A company's ability to register patents and be innovative is also directly linked to the quality of the organisational environment and the company's internal management capacity.

The same evaluation survey provides a set of useful elements to define the strengths and weaknesses of companies in Piedmont, highlighting:

- the presence of a robust "minority" capable of engaging new technological and market trends;
- the crystallisation of the differences between the core of the most competitive companies and the majority of SMEs;
- the higher performance of the companies benefiting from the ERDF ROP compared to the average;
- the growing distance between highly internationalised companies and those that operate mainly on the local market: 35% operate only in Piedmont;
- a strong propensity for innovation: 66% modified products, 60% processes, 72% had new investments in innovation planned;
- a growth in digital investments, even if only 15% is technologically advanced;
- the growing dialogue of companies with universities, as well as the relevance, for innovation activities, of external sources and cooperative exchanges with other economic operators and with suppliers of advanced technology and services for innovation;
- the knowledge networks of Piedmontese companies are mainly local and the introduction of innovation takes place on an incremental, combinatorial and cumulative basis;
- the need to improve the effectiveness of the training action, in line with the demand for skills imposed by the processes of economic transformation and technological evolution

⁴ <http://www.eurada.org/european-innovation-scoreboard-2020-assessing-the-performance-of-the-eu-countries/>

⁵ Ministry of Economic Development, MIET, *La diffusione delle imprese 4.0 e le politiche (The spread of businesses 4.0 and the policies, 2018)*

⁶ IRES Piemonte, Survey on innovation strategies of companies in Piedmont (2019)

underway, strengthening in particular the collaboration between companies and the training system.

It should also be noted:

- the historical manufacturing vocation in transition and evolution both towards a greater service market and towards the servitization of the same manufacturing activities, a process that needs to be accompanied because it is critical and delicate;
- the need to promote a greater detachment of the industrial strategies of SMEs from those of large local companies or their greater ability to integrate into the multinational logic of the latter;
- the need to further promote and accompany the birth, development and growth of innovative SMEs and start-ups and their integration into the industrial and innovation system, including through initiatives and support measures, for example aimed at the capitalisation of companies with the aim of strengthening;
- a strong vocation in the development of products related to mobility - cars, airplanes, trains, yachts - with a marked specialisation on propulsion systems, which must be accompanied to capture the evolutions towards propulsion at low, or zero, overall emissions. A vocation that clashes with the progressive sharp reduction in the production of vehicles, which also puts at risk the activity of engineering, research and production of components;
- a high capacity in the field of training by the Politecnico di Torino in the fields of engineering and architecture, the University of Turin and the University of Eastern Piemonte in the fields of medicine and natural sciences, but also in the human, social and legal sciences, which play an increasingly important role in industrial and economic developments, linked to new technologies. Faced with this, however, there is a growing spillover of young talent to other more attractive territories able to offer better opportunities, especially because they are better connected to the rest of Europe and the world.

During the 2014-2020 period, a system of tools was developed for the promotion of research, innovation and technology transfer that aims to support companies at all stages of the development cycle and the degree of technological maturity, in view of the market entry of the solutions/products/processes to be implemented. This system, which constitutes a valuable legacy and an important base to be further developed and on which the new generation of policies can be based, can count on measures aimed at:

- strengthen the offer of research and technology transfer infrastructures at the service of SMEs;
- accelerate the growth of high-potential innovative start-ups;
- promote research and technology transfer processes in SMEs;
- consolidate the role of the Innovation Hubs within the innovation system;
- encourage broadly collaborative research on strategic issues of significant interest (with reference to the Smart Factory, Health and Wellbeing, Bioeconomy technology platforms);
- accompany the emergence and consolidation of new skills and specialisations, through contamination between sectors and the promotion of integrated ERDF and ESF measures;

- support the industrialization of research results, helping to accelerate the arrival of innovations on the market.

The aforementioned surveys therefore reveal a dual framework in which, despite the difficulties of numerous **sectors and companies of traditional specialisation**, there is no lack of signs of reactivity, in particular by companies more rooted in foreign markets and operating in **innovative or countercyclical sectors**. Among the sectors that best withstand crises, we can mention agri-food, aerospace, production systems and, in general, green and so-called enabling technologies - for example ICT, nanotechnology, plasturgy, biotechnology - which on the one hand, in collaboration with research, create new innovative clusters and on the other allow, through technology transfer to other companies operating in traditional sectors, to make leaps in innovation, to conceive new products and services and to reposition themselves in the competitive scenario.

It is important to emphasise that the Piedmontese territory and system are able to offer a specific wealth and solidity in terms of innovation and specialisation, not only thanks to the organic system of tools to support R&D illustrated above, but also thanks to tangible and intangible assets that constitute a rich innovation ecosystem whose greater integration assumes a great prospective value:

- the network of Innovation Hubs, whose role as intermediaries of innovation has grown over time and whose skills must be appropriately enhanced;
- Competence Industry Manufacturing 4.0 (CIM 4.0) which involves a consortium of the Polytechnic of Turin, the University of Turin and 23 companies (including some big players) in the automotive and aerospace sectors;
- the extensive and articulated set of Poles of competence of the universities already planned at the service of territorial development, among which are some of the most important ones to which the Region has contributed (Manufacturing Technology Center, Energy Center, City of aerospace, Scientific Center of Grugliasco, City of Health of Turin) and which are one of the strategic architraves of the planning of the Turin application dossier of Complex Crisis Area;
- the qualified applications that were submitted from Turin as part of the recent European initiative on Digital Innovation Hubs;
- the National Automotive Centre (ex art. 49 Relaunch Decree) and the announced Centre for Artificial Intelligence that will land in Turin in the near future.

At the sectoral level, particular attention is required by the complex challenge involving the **automotive sector and the production of means of transport** in general, with the large subcontracting clusters connected to them. The automotive supply chain in Piemonte is worth almost 20 billion euros and generates an export flow of 7.5 billion. The electric transition - which also includes the development of new supply chains and technological solutions, for example those based on hydrogen or battery recycling - combined with the digital one (autonomous driving) requires large investments and production reconversions, new alliances within the supply chains and consolidation between groups of companies. The merger between FCA and PSA in Stellantis is a case of particular importance for Piedmont, with strong elements of uncertainty about the role played by Piemonte both in terms of local production including the satellite activities and with regard to managerial and innovation activities.

Another sector of excellence and specialisation is **aerospace**⁷, which in Piemonte has 5 large companies that lead a supply chain of 280 SMEs, 14,800 employees, almost 4 billion in turnover and 735 million euros in exports. In 2020, due to the sudden collapse of air traffic, the delivery of aircraft in the world fell by 60%, although a recovery is expected when the pandemic restrictions will cease, and travel will be easy again.

In terms of research and innovation for companies, the NRRP allocates a total of 12.92 billion euros. *NRRP Italy tomorrow, 25 April 2021, Mission 4. Education and research*

It is also necessary to mention, as will be taken up in the next chapter dedicated to PO2, the important evolution taking place in the region regarding the use of **hydrogen**, an area in which Piemonte can count on industrial supply chains in relevant sectors - from the automotive to the railway sector, from energy to public utility services up to aerospace -, with industrial leaders as well as SMEs able to play a role, not only locally, at a time when hydrogen technologies will significantly assert themselves with excellent scientific skills in the field of Piedmontese universities and significant assets for the technological transfer and animation of the system. The introduction of the hydrogen carrier in the energy, industrial and transport system can therefore be an opportunity to improve the competitiveness of the territory, consolidating the leadership that the regional eco-system has been able to build on this issue and qualifying Piemonte as an area of excellence for the development of technologies identified as strategic in national and community planning.

For investments in the hydrogen supply chain, the NRRP provides for European resources of 3.19 billion euros. *NRRP Italy tomorrow, 25 April 2021, Mission 2. Green revolution and ecological transition*

The **agri-food sector**, with over 100,000 employees, is made up of a dense fabric of agricultural and processing companies that generates an export flow of 5.5 billion euros.

The **agri-food sector**, thanks to its anti-cyclical nature and the qualification process of the offer in place for some time, which has manifested itself with the high presence of certified products and the growing projection on foreign markets, has been an important element of the regional economy in recent years; in the period of the lockdown it managed to guarantee the supply of essential goods - showing the importance of food safety as a strategic element for the country - but some supply chains - those most linked to the tourism and export catering channels - have suffered considerable damage, first of all the wine sector and meat farming. There is also a significant contraction in the demand for mineral waters.

Also affected are the floriculture farms, initially excluded from the essential activities that could operate in the lockdown and those that focus on hospitality (agritourisms, educational farms).

According to S3, this sector was also identified as an area of specialization, with areas of application such as product traceability, quality, food chain safety, optimization of the use of resources, mechanization and precision agriculture. The synergies activated with the Green Chemistry/Clean Tech field, thanks in particular to the Bioeconomy Technology Platform, have also helped to bring out the potential of the circular bioeconomy model.

Finally, among the sectors of specialization of Piedmont, **textiles** stand out; the cluster that includes the production of fabrics, fashion and accessories, tanning and machinery production is based on a network of 4,100 companies, which employ 36,000 workers and generate exports for 3.6 billion euros per year. The pandemic has also reduced consumption in this sector, causing

⁷ Data extracted from Confindustria Piemonte - Piedmont Industrial Plan, (12/02/2021)

a contraction in turnover estimated at -20% on an annual basis (Confindustria Piemonte). However, this sector is also invested in profound drives for innovation, which include the circular economy, biotechnology, the production of smart fabrics and the focus on markets such as sports, health and defence, to which are added the potential offered by the inclusion of the City of Biella among the UNESCO Creative Cities (Crafts and folk art sector), precisely for excellence in the field of textiles.

Among the elements of positive news that have emerged in recent years, it is worth mentioning the growth of **tourism**, which represents 7.4% of GDP in Piemonte and will be discussed in the paragraph dedicated to PO4. With regard to PO1, however, it is appropriate to recall the importance of integration between the tourist offer and the agri-food and cultural heritage of the Region, as demonstrated by the model that emerged with the tourist success of the "wine hills" recognized as UNESCO heritage. This model must be spread and strengthened, but according to an approach of environmental, economic and social sustainability, which has as its primary reference the well-being and quality of life of local communities in balance with the natural environment.

Given the importance of the mountain tourism sector, special attention will be paid to the efficiency and modernization of the ski lifts that represent the fundamental towing for the mountain economy.

Despite these positive aspects and the signs of change, there remains a fabric of companies with low innovation, modest size and mainly oriented to the domestic market. For example, in Piemonte the share of employed in microenterprises and SMEs⁸ is respectively 42.4% and 30.6%, higher than that of Lombardy, Veneto and Emilia-Romagna; among the consequences emerge the difficulty of dialogue and cooperation that facilitates the spread and exchange of innovative practices, in addition to the modest presence of leading companies capable of acting as market aggregators and engines of innovation in their respective supply chains. This part of the production system, which also has greater difficulties in accessing structured and complex intervention measures such as those of the ERDF ROP, risks being stuck, together with its current and future employees, in the so-called **low skill trap**, or productive and employment downgrading.

It therefore seems useful to promote and encourage, with specific actions, aggregation processes and greater interaction between companies, between the same clusters and, where possible, between districts and supply chains, aiming at new models of virtuous cooperation capable of generating and transferring value throughout the production chain; the purpose is to promote a greater capacity of SMEs to develop their own development strategies and their greater ability to integrate into international value chains. To increase the competitiveness of the Piedmontese production system, it is necessary to limit distrust among companies so that they "cooperate to compete", without compromising their autonomy.

The analyses indicate that above all the **tertiary** sector, although expanded as in all advanced economies, has shown on the whole - and with the distinctions necessary for such a varied sector - a constant erosion of productivity even in the years of recovery from the crisis. It should be noted that the field of advanced services to industry still shows a certain weakness, an element that distinguishes Piemonte from other reference regions such as Lombardy and Emilia-Romagna. On the trade side, moreover, a profound change is underway, triggered by the spread of e-commerce, which with the lockdown has had a further boost. The pandemic has also particularly penalised public establishments and, in general, all types of businesses related to tourist accommodation and incoming.

⁸ ISTAT (2017)

In order to respond adequately and quickly to the structural changes in the distribution network and to the demands coming from the territories, the Region has introduced the **Commerce Districts**, innovative models for the development of the commercial sector aimed at supporting and relaunching trade with synergistic economic development strategies.

The objective is to involve not only municipalities and trade associations, but all the economic forces present in a defined territorial area in the creation of an instrument, the Commerce District, which allows the development of common policies, strategies and programs that can help overcome difficult situations such as the current Covid-19 emergency and lay the foundations for a relaunch of the commercial distribution sector.

The district model identified by the Regione Piemonte provides for wide discretion on the part of the promoters in the choices of policies and strategies to be implemented: the program of interventions to be implemented must in fact be born from the economic, productive and social peculiarity of the territories. Based on the analyses, studies and evaluations that each proposing entity will carry out, different solutions and strategies can be identified. The Commerce Districts in Piedmont, once established, will be supported by the Regional Administration for the enhancement of trade in all its forms, from specific measures for micro and small commercial enterprises and their association forms to support the redevelopment of the district area, to the arrangement of market areas. It is, therefore, a complex and articulated program that involves several actors, public and private, and that provides for the use of resources from different sources, regional, municipal and private, to be used to preserve and develop commerce, especially in proximity, and to enhance places of commerce that, due to their characteristics, have their own economic, cultural and social identity.

(The Specific Objective "Strengthening digital connectivity" was integrated into Strategic Objective 1 following the provisional political agreement reached during the dialogue in October and December 2020.)

Among the enabling factors for competitiveness, **digital connectivity**⁹ is crucial in a society where innovation and technology play a key role. The coverage of **ultra-broadband** service in Piedmont, as AGCOM notes, is not uniform between intensely urbanized areas and areas with low population density; in the latter (market failure white areas), investment in network infrastructures does not guarantee commercial operators a sufficient economic return, so they remain stuck to inadequate technologies to support advanced services. The white areas in Piemonte that suffer from digital divide are basically rural mountain and hill areas, although there is no lack of criticality in peri-urban areas. These critical issues were accentuated during the pandemic period, making it difficult and sometimes impossible in white areas to use videoconferencing and remote teaching services. From this point of view, the need for a deep and wide-ranging intervention emerges, also, in the context of the European scoreboard on regional competitiveness, from the modest level of the Technology Readiness indicator (focused on the diffusion and use of the internet by people and businesses) which places Piemonte only 212th out of 267 European regions and 11th among Italian regions.

To address this issue, the Plan for Ultra Broadband (UBB Plan) was launched in 2015 within the Digital Agenda, with the co-financing of national resources and European Funds. It aims to bring high-speed internet access - through a fiber optic network - to white areas. However, the UBB Plan proved to be a very complex operation from a design and implementation point of view and this complexity has not yet allowed its conclusion, unlike the expected timelines.

⁹ The Specific Objective "Strengthening digital connectivity" was integrated into Strategic Objective 1 following the provisional political agreement reached during the dialogue in October and December 2020

The NRRP allocates European resources of 6.71 billion of euros to ultra-fast networks (UWB and 5G). *NRRP Italy tomorrow, 25 April 2021, Mission 1, Digitalization, innovation, competitiveness, culture and tourism.*

In this irregular scenario, new generation networks (5G) and the so-called Internet of Things (IOT) are emerging and promising new steps forward from the point of view of services and interactions between networks, the surrounding environment and users. Given the implementation times of the ultra-broadband service coverage, it is necessary to strengthen the digital connection systems in the territory, especially in mountain territories, with less invasive solutions, to the benefit of protecting the territory and faster implementation, also through tools to stimulate the demand for services and therefore connectivity.

Moreover, it should be noted that in the rural territories of Piemonte the digital divide also concerns mobile telephony, which in recent years is seeing a contraction of service in less populated areas, and also terrestrial digital TV reception, for which a new technological switch is also planned for next year.

The digital challenge does not only require having technological networks and tools, but it will be essential to promote the development of a system of service providers capable of exploiting their opportunities and, above all, disseminate digital services and culture among citizens, businesses and public administration, with adequate training. Equally relevant and decisive will be the challenge of skills, which must be played both at the level of private actors and at the level of the public machine: a workforce informed and trained on the issues of innovation and digitalization, through actions of size and impact orders of magnitude greater than those implemented so far, is the only possible condition to guarantee a real development and an adequate recovery of competitiveness of the production sector in Piedmont.

A particularly important role can be played by the **Italian Institute for Artificial Intelligence I3A**, expected at the same time as the birth of the future Unified Patent Court that will be based in Milan, with a view to synergy between the two cities. The institute will benefit from the collaboration of Piedmontese research centres and universities and will involve the sectors of manufacturing and robotics, health, mobility, agrifood and energy, public administration, culture and digital humanities, aerospace.

It could be recognized as a great opportunity to relaunch Piedmontese and national research on a central theme for the new economy, even more so in the European vision of a "technology close to people and human-centred", as well as to strengthen the transfer of technology and knowledge to the industrial system in order to enhance the effects in terms of innovation and competitiveness of companies.

In terms of health research, Piemonte appears to be seriously lagging behind in the development of a network of Scientific Hospitalisation and Care Institutes capable of enhancing the heritage of scientific knowledge of Piedmontese health, creating professional paths and attracting private investment in research, countering the risk of the Low Skill Trap for the area of excellence in health. It will therefore be necessary to proceed with a planning, consistent with the health needs of our territory able to recover the accumulated delay.

Table 10. SWOT PO 1 analysis of Piedmont

STRENGTHS	WEAKNESSES
<ul style="list-style-type: none"> ✓ Robust core of companies with the ability to penetrate enabling technologies and well inserted in foreign markets: Piemonte in first place in Italy (11.8%) ✓ A structured and consolidated innovation ecosystem also thanks to public policies (Universities, research centres, Poles and Platforms) with positive evaluation results ✓ Presence of countercyclical sectors and consolidated traditional sectors: agri-food, aerospace, automotive, systems to produce green technologies and so-called enabling ones ✓ Diversified supply chains and local districts with strong specialisation, a wealth of artisanal knowledge ✓ Growth of tourist flows with an important foreign component ✓ Good diffusion of ultra-broadband internet in urbanized areas 	<ul style="list-style-type: none"> ✗ Overall competitiveness and innovation deficit compared to the best European regions (ranking of the RCI index at the 167th place out of 268 regions) and modest level of public investment ✗ Piedmont's low position in the European Technology Readiness index (212th out of 267 regions) ✗ Reduced and declining productivity compared to benchmark regions ✗ Fragmentation of the production system (% employed in microenterprises and SMEs of 42.4% and 30.6% respectively) ✗ Difficulty in spreading innovations, especially for SMEs ✗ Dualism: presence of companies with a modest level of innovation and linked to local markets ✗ Crafts and trade: difficulties in accessing very structured measures of the European Programmes ✗ Digital divide into rural and inland areas, with negative effects on people, businesses and institutions
OPPORTUNITIES	THREATS
<ul style="list-style-type: none"> ✓ Strengthening of territorial supply chains also in terms of connection with international ones ✓ Strengthening the innovation ecosystem and the involvement of SMEs in the creation and transfer processes ✓ Transformation and innovation of the automotive and related supply chains in relation to the electrical and digital transition and fusion processes ✓ Driving role of the strongest companies as aggregators of the supply chain and diffusers of innovation ✓ Creation and strengthening of infrastructure assets for R&I and technology transfer ✓ Development of hydrogen applications in heavy and rail transport ✓ Completion of the UBB Plan and growing diffusion of accessibility and digital solutions for people, companies and territories ✓ Development of 5G applications and the Internet of Things (IoT) ✓ Establishment of the Italian Institute for Artificial Intelligence (I3A) 	<ul style="list-style-type: none"> ✗ Stagnation or further loss of competitiveness of the regional production system as a whole with negative effects also on the labour market (Low Skill Trap) ✗ Accentuation of the dualism between qualified and growing companies and less competitive companies, mainly linked to the local market ✗ Specific criticalities of the tertiary sector (trade, cultural activities) accentuated by the limitations imposed by the pandemic ✗ Delay in digital and green transition ✗ Loss of centrality of Piemonte in the automotive supply chain in the event of a passive response to changes ✗ Delay in the implementation of the UBB Plan for white areas ✗ Accentuation and consolidation of the digital territorial divide in rural and inland areas with consequent loss of development opportunities

THE GUIDELINES

PO1 is divided into five specific objectives that correspond to as many lines of action, closely linked to each other, aimed at developing innovation and the competitiveness of the production system, including the necessary skills and with attention to SMEs, and disseminating the benefits of digitisation to citizens, businesses and public administrations. Here a substantial part of the effort must be concentrated to overcome the gap that separates Piemonte from the regions with which it intends to deal. Moreover, the available surveys show that Piedmontese companies are very open to the introduction of technological innovation, while the drive towards interaction and greater company size is more problematic, and therefore to be promoted.

The push for digitalization, innovation and sustainability must also involve areas and economic actors that have so far been little targeted by the interventions co-financed by EU funds, such as small subjects related to the world of crafts, trade and tourism, which constitute an important portion of the Piedmontese economic system. It will therefore be necessary to provide suitable and effective access methods, in support of innovative projects, also through the involvement of the competent institutional subjects (e.g. Chambers of Commerce) that allow a wide usability of the measures.

Another central aspect from the point of view of the strategy is to consolidate the lines of action that have given positive results and that have allowed over time to build infrastructures and networks for the benefit of the business system. During the last two programmes, the Regione Piemonte has helped to articulate and strengthen the **innovation** ecosystem, through its system of initiatives and measures described above, which it intends to confirm and strengthen in the light of the challenges identified for the 2021-2027 period, giving continuity to those tools that have shown to be better able to respond to the needs of the territory, with particular regard to technology transfer.

In view of its institutional tasks of a public nature, the skills accumulated, the databases at its disposal and the proximity to the entire local system of companies, the Piedmontese Chamber of Commerce system could contribute to the creation of a specific technical assistance task force for the use of regional calls by SMEs.

The level of complexity that we are preparing to face requires an even more massive effort to support research and innovation programs that are capable of intercepting a larger number of companies, especially SMEs and micro-enterprises, including artisans, which stimulate the development of a greater number of projects and initiatives in collaboration between different areas of specialisation. The aforementioned Innovation Hubs can constitute, where they are directed towards a further broadening of the base of participation by SMEs, virtuous ecosystems, capable of constituting that arena of trust in which companies find greater value in collaboration with other companies and research organisations. Innovation Hubs can further develop the function, very useful in research and innovation processes, of places where they can concretely and effectively promote and disseminate strategies and operational lines of innovation, including virtuous processes of collaboration and animation capable of integrating the world of knowledge production and the world of SMEs.

Collaboration between companies and cross-fertilization, which plays a key role in the field of innovation and research, also finds strength and innovative drive-in participation in wide-ranging European projects that aim to create a federated infrastructure of European countries based on synergistic collaboration between data infrastructures and service providers, thus representing a great enabling and facilitating factor in support of SME innovation.

A further fundamental objective is the consolidation of the system of innovation-oriented actors and services and their ability to act in a coordinated manner in order to also ensure greater involvement of the multiple companies and supply chains that dot the local production

specialisations. The connection between ROP ERDF and ROP ESF+ remains essential to ensure the development of adequate professional figures (also through specific academies and the strengthening of the ITS training offer, for whose characteristics and evolution we refer to the discussion relating to PO4, given the need to strengthen tertiary education with a high technical content) and to support youth and female employment, also reducing the so-called "brain drain".

The consolidation of the ecosystem also pursues the objective of creating an environment favourable to the development of innovative entrepreneurship, from the early stages of development of the idea to the acceleration of the growth path of the companies with the highest potential, favouring the convergence of initiatives, the attraction of investors and the meeting with the local industrial system with a view to open innovation.

The guide for the choices made in the 2014-2020 period is given by the **Smart Specialisation Strategy**, which selectively operates on some relevant sectors/domains and is currently being updated, with the opportunity to redefine its strategic scope of action in order to respond to the challenges of the industrial and technological transition and society. In this sense, it will be appropriate to strengthen the orientation of S3 towards the circular economy paradigm, the cross-sectoral approach, the strengthening of regional supply chains and their attachment to European and global value chains, the hybridization of knowledge and technologies, the enhancement of the inherent specificities in the field of life sciences, the consideration of areas and technologies with high potential for development and innovation. With respect to the green transition, the S3 will also be able to strengthen the orientation towards the circular economy and bioeconomy model, starting from the enhancement of the specialisations already identified by the S3 2014-2020 (green chemistry, clean technologies, agri-food), from the experience of the Bioeconomy Technology Platform and from the value projects expressed by regional companies associated with the Innovation Hubs.

Particular attention must be paid to the challenge of sustainable mobility, taking into account both the direction of electrification and that of the development of supply chains based on new energy carriers, in particular **hydrogen**, and the profound impact that this energy transition - combined with the digital one - will have on the automotive sector on a European, national and regional scale. It is appropriate here to recall the scientific and technological assets constituted and constituting, from CIM 4.0 to the Manufacturing Technology Center, to the Citadel of Aerospace, as well as the subjects, such as the Innovation Hubs, able to aggregate companies both at the regional and national level on research and innovation initiatives characterised by supply chain approaches.

The Rural Development Programme - RDP has registered some difficulties in the implementation of training, advisory and cooperation measures for innovation; however, the extension of programming offers the opportunity to recover ground. The European guidelines for the next cycle attribute a fundamental role to innovation, defining a cross-cutting objective for the CAP for all other priorities. The experience of the Bioeconomy Platform can be exploited to promote dialogue between the ERDF and the RDP in the common aim of supporting innovation in the agri-food sector, increasing its sustainability and its active role in facing changes (promoting "carbon sink" processes to reintegrate organic carbon into the soil).

To promote the **digitization** of Piedmont, a crucial aspect concerns interventions on the network to allow adequate access to the internet for all Piedmontese citizens. Regarding **digital connectivity**, it is first necessary to proceed with the completion of the **National Plan for Ultra Broadband - UBB Plan**, launched in 2015 and supported in the 2014-2020 programming by the participation of European ERDF, EAFRD (the CAP fund that finances the Rural Development Programme) and national resources of the CSF. Although it was launched in a relatively timely manner, the Plan is facing a serious delay, to be attributed above all to the great operational difficulties deriving from a very fragmented territory and local administrative system. On this

plan, the Regione Piemonte will intensify its efforts to facilitate and integrate the action of Infratel and Open Fiber, respectively the entity and the company in charge, as a concessionaire, of implementing the UBB Plan.

The complete implementation of the Plan is essential above all to make available an adequate digital connection structure in the interior areas of the region with low population density, where commercial network operators do not find it convenient to invest privately in the development of an expensive fibre optic network. However, it is important to note that the 2021-2027 Partnership Agreement indicates as a territorial priority the so-called grey areas, i.e. covered by UBB, but with only one operator present, thus implicitly assuming the next completion of the Plan for white areas. The availability of an adequate network will not be sufficient to ensure the connectivity of all Piedmontese citizens, but must be accompanied by demand stimulation interventions, actions to strengthen digital skills and the development of useful and accessible services for the PA, citizens and businesses, in conjunction with the interventions provided by the ERDF, ESF+ and rural development in relation to Objectives 1 and 4 of the Cohesion Policy.

In addition, as indicated in the context analysis, in the inland areas of Piemonte (essentially mountains and high hills) the limitations of digital connectivity also concern the mobile telephone network and the reception of digital terrestrial television. The set of connection deficiencies is such as to create a **territorial digital divide** that acts as a powerful brake on the development of these territories and that has shown all its gravity in the difficult phases of lockdown, requiring public action to overcome it. The effective reduction of the digital divide can therefore be fully achieved through complementary and synergistic interventions at the national level, continuing the strengthening of the regional infrastructure. In addition to infrastructure action, the essential objective of regional action will be to introduce digital innovations to develop smarter, easier and safer services in the interaction between the PA, citizens and businesses. This objective is necessarily based on an important path of Digital Transformation of the Public Administration itself, through reengineering and innovation of processes, the use of new and renewed information systems and platforms, as well as the development and enhancement of skills.

As for the **digitization of transport companies**¹⁰, both of the TPL system (MaaS-enabling interventions) and of logistics, the needs and expectations that are emerging from the dialogues with stakeholders are really strong. In addition, the technologies developed in the field of telematics for transport lead to a strong use of **innovative technologies for the resilience of transport systems**.

In order to promote the resilience of mobility infrastructures and finally of even broader critical infrastructures (of which the works of art-bridges, galleries, viaducts- are part), it is appropriate

¹⁰ In particular, it is necessary to complete the process of digitization of information on the offer of the public transport service (already started with the BIP regional electronic ticketing system) and the convergence of data at the BIP Regional Service Center (in Italian Centro di Servizi Regionale BIP CSR-BIP). The objective is to achieve the completion of real-time data on reliable and accurate transit times for the entire LPT system in order to provide users with up-to-date information, possibly also showing the degree of filling of the incoming vehicle, if the vehicle is able to transmit the information to the system in real time.

Once the digitization of the entire regional local public transport system has been completed, the other transport services will be integrated, constituting a real digital ecosystem of regional mobility.

The ecosystem will therefore constitute an important enabling factor for the introduction of MaaS platforms in favour of Piedmontese citizens, for the definition and implementation of sustainable mobility policies through incentive tools that favour sustainable mobility choices, bringing social and environmental benefits.

to evaluate the support for investments that use the most innovative technologies (including for example sensors, IOT and edge computing, data analysis and artificial intelligence systems), up to the creation of innovative platforms for static and dynamic monitoring in a totally digital way. Moreover, this is an issue also referred to in the NRRP.

The development of **digital services** must refer to the Italian Digital Agenda and the AGID Guidelines, summarised in the PA's three-year computerisation plans, bearing in mind the five pillars on which Digital Europe is based, the special programme launched by the EU as a component of the relaunch plan:

- High-performance computing
- Artificial intelligence
- Cybersecurity and trust
- Advanced digital skills
- Implementation, optimal use of digital capacity and interoperability
- data culture

The strategy provides for the development and evolution of advanced digital platforms, created or modernised according to the cloud-native paradigm, also through substantial revision interventions ("rearchitect and replatforming") of the entity's information systems in line with the new national paradigms, which feed the implementation of services, with a view to creating digital ecosystems of the sector (for example, health, businesses, territory, environment, culture, tourism, labour, taxation, etc.) and to intelligently and easily combine and manage all the information that refers to the individual user, today scattered across multiple systems and archives. The platforms will be able to provide services for the automation of administrative procedures, interaction with users through a virtual assistant, allow interoperability and greater openness of access to data or better to information for their enhancement and use even combined for decision-making purposes and verification of policies implemented, implement cybersecurity (also with the use of blockchain), manage sensor systems that can be distributed throughout the territory, support the dematerialization of the PA. These platforms must guarantee the **protection of public data** so that they always remain available to the PA of Piedmont. In compliance with national guidelines, the availability of data and services must also be guaranteed through an efficient, economical, secure technological infrastructure that exceeds the local fragmentation of data centres. For some time the Region, also through the use of ROP ERDF funds, has invested in a **regional cloud** infrastructure capable of responding to this need and of representing a reliable solution also for the Piedmontese public administration, starting from local authorities; this infrastructure will represent the cornerstone of the evolution and delivery of new digital services (Software as a Service), promoting the participation of an increasing number of authorities. Since **security** is a priority both nationally and regionally, the Regional Cloud will be supported and supplemented by the implementation of a regional CSIRT (Computer Security Incident Response Team), adapted to the model defined by AGID and able to perform an awareness-raising function, monitoring of the main threats, dynamic risk analysis, identification and intervention in the event of an incident, in support of the entire local PA.

Blockchain will have several uses in the near future such as traceability of the production chain, efficiency of the logistics system, transparency in the management of Public Administration data, fully digital public certification, timestamping of digital files, transparent digital identity, decentralised electronic voting systems, intellectual property certifications, traceability of digitised properties and royalties, transparent payment transactions without intermediaries and related anti-money laundering systems.

It is appropriate here to underline the importance of the availability of an **updated and shared geographical data**, a point of reference and correlation for the different digital administrative

procedures not only in the territorial area. In this sense, the development and consolidation of the Regional Geographical Infrastructure plays an important role, especially at the service of territorial planning and emergency management (hydrogeological risk management, integrated management of civil protection plans, which, suitably drawn up in digital mode, allow mosaicking and wide area planning actions) but in general of all the procedures and activities that need to be positioned on specific parts of the territory in a unique way.

An important contribution to the spread of advanced digital technologies may come from the Italian **Institute for Artificial Intelligence (I3A)**, which is in the process of being established and which will operate as a research and technology transfer facility. The institute will be able to operate effectively within the framework of an overall regional strategy on artificial intelligence aimed at both research and the advancement of specific knowledge and technological transfer to companies.

AI will also find wide application within the public administration, in the field of contact/relationship systems with the citizen (Citizen Relation Manager-CRM) and assistance (Help Desk), as well as in data processing and analytics, for the creation of services to support planning and decisions based on shared data thanks to regional data enhancement platforms. Alongside the use of AI technologies, new tools, such as RPA (Robotic Process Automation) and BPR (Business Process Reengineering), will also make it possible to speed up and streamline the operation of the administrative machine, allowing the automation and standardisation of processes to dedicate professional resources to activities with real added value.

In the field of **services**, a crucial role belongs to those aimed at the health sector, including the electronic health file and those aimed at sustainable economic development including the files for urban planning and construction (USC, MUDE...) and for the environment (ARADA). In particular, unique access to these services for citizens, professionals and businesses will be promoted. Continuing the path already undertaken by the Region through the Piemonte Tu portal, a single point of access to the services of the Region and local authorities integrated with the Io Italia national platform, the Citizen Relationship Management paradigm will be adopted, aimed at the unification of the contact points (touchpoints) of the PA, with a view to omnichannel, in order to bring public administration closer to citizens/businesses with a proactive and inclusive approach that truly puts the user at the centre. The use of digital services will be encouraged, designed according to new logics based on the paradigm of "user centred design" and "mobile first" and conversational graphical interfaces (based on Artificial Intelligence and Natural Processing Language techniques) will be introduced for the provision of proactive and inclusive support services to citizens and businesses.

Information applications may be supported for the promotion of commerce and catering or access to other services of general interest.

The technological development action will be accompanied by actions aimed at strengthening digital skills (scope of action of the ESF+) and a concrete affirmation of smart working also through the implementation of innovative solutions, such as the Officer/Applicant Desk. To make the offer of digital services pervasive and widespread in line with national guidelines, the Region will continue to support Local Authorities, strengthening its role as a territorial aggregator, both through the sharing of infrastructures and platforms, integrated with the national level, and through the creation of new initiatives to meet the needs that emerge from the territory.

The affirmation of smart working will also have influences on **bleisure tourism**, a new mode of travel halfway between work and pleasure on which Piemonte is starting an experiment with the Holiday working project. Bleisure tourism, a term that derives from the combination of the words business and leisure, needs adequate accommodation services and can attract new tourists to the region by extending their stay.

In terms of measures to support the **competitiveness of SMEs**, Piedmontese companies, according to IRES research, focus mainly on the adaptation of technological means (with a strong propensity for 4.0 technologies) and on green investments in energy and clean technologies. The need to make critical mass in the supply chains must also be addressed, for example to improve market positioning and be more open to internationalisation, given that for most Piedmontese companies the domestic market is still the dominant one. Dimensional growth is also an important objective, as the evaluation shows that the introduction of innovation and the improvement of economic and employment performance are more intense for larger companies. These perspectives must be complemented by an important program to support the development of transversal innovation enabled by the digitization of processes and products, accompanied by a congruent skills development plan and continuous upskilling and reskilling actions of the existing workforce.

The ERDF ROP will be able to respond to these needs by drawing on the experience of the 2014-2020 cycle both for supporting investments and implementing measures for internationalisation. In line with the RSSD, companies will be directed in the direction of the circular economy, the regenerative bioeconomy and the green economy, also in synergy with PO2 regarding the energy transition and the lower consumption of resources. With regard to international opening, it is possible to draw on the experience of interventions such as, for example, the Integrated Supply Chain Plans (Piani Integrati di Filiera - PIF) that have supported 600 SMEs in 8 chains of excellence. In this context, it is also possible to draw on the expertise of the CEIP. In general, to facilitate access to the benefits of the ERDF ROP by smaller artisanal companies, it will be possible to set up the programme with measures and calls calibrated to their needs.

Financing measures that have proved effective over the years will be re-proposed, such as support for companies to obtain certifications that attest to their quality and promote their competitiveness, and revolving funds that have proved particularly useful to support investments by SMEs.

From the ongoing debate, further requests also emerge such as promoting the establishment and consolidation of companies through territorial marketing actions, also strengthening the system of services for innovation, supporting generational renewal, also from a gender perspective, and the regeneration of companies, to allow fertilisation between product sectors and technological chains.

All this applies not only to the most important macro-sectors in Piedmontese manufacturing, but also to highly specialised sectors and districts, based on crafts and SMEs, also favouring the cross-contamination of skills.

Cross-cutting many production chains are Piedmontese SMEs that design and produce industrial machinery and that need specific investments.

With regard to international openness, the crisis due to the pandemic, even in a context of generalised suffering, has further highlighted the weaknesses and already known strengths of the regional system, however, strongly highlighting new key sectors and new dynamics that must be taken into account when designing policies and measures to support companies that are fully responsive to the post-Covid scenario, always paying attention to the different degree of internationalisation of individual companies even within the same sector, consequently calibrating the intervention tools and prioritising integration actions that can target and accompany SMEs in particular.

While maintaining as a reference the main regional chains of excellence, already the subject of intervention in the past ERDF ROP programming (Aerospace, Automotive & Transportation, Mechatronics, Health and Wellness, Cleantech & Green building, Agri-food, Textiles, High range), it seems appropriate to increasingly promote greater transversality of action in the

coming years, encouraging Piedmontese companies to diversify their target sectors and to present themselves on the international market in a synergistic way so as to integrate all the different skills required by the market, overcome dimensional criticalities and offer more complex solutions capable of responding to new business models.

Piemonte is home to some important design houses and is recognized for industrial design both in design and prototyping; this feature can be a useful element to attract companies to the territory by enhancing design as part of the industrial production chain.

The traditional Piedmontese manufacturing chains, starting from the automotive and aerospace sectors, now require an immediate integration between different technologies and specialisations such as to make it difficult for individual companies, often small ones, such as those that characterise the regional economic fabric, to respond. In these sectors, the ability to start collaborations outside the traditional value chains, with actors from the ICT and digital sectors, and with new subjects, to jointly support some development processes already in place concerning sustainable mobility (enhancing Sharing Mobility), electrification, the use of renewable energies, the circular economy in materials, digitalization, the development of advanced and innovative manufacturing will be crucial.

It will also be essential to seek an increasingly organic approach with measures and subjects aimed at supporting innovation and green and clean technologies, now key factors to be able to present and compete themselves on international markets. For example, it is necessary to invest in the training and use of innovation managers capable of effectively linking institutions, innovation hubs, research centres and companies. In this perspective, and in line with the RSSD, we must aim to spread an entrepreneurial culture that puts sustainability and circular economy issues at the base of its business strategies, to be understood as elements of competitiveness to attract a foreign clientele that is increasingly looking for a sustainable supply chain, in line with the objectives of the Green Deal and PO2. The circular economy paradigm is based on the concept of supply chain and on the integration between research and industrial production: an example is the hemp supply chain, whose production affects the food, textile and environmental industrial sectors.

In the perspective of greater synergy between different areas, some sectors, in particular those of consumer goods characterised by "made in" (agri-food, high-end, etc.) can be further and effectively enhanced also through closer collaboration with the tourism and cultural field, implementing digitization, the use of big data and artificial intelligence, interoperability which are technologies with high added value.

In addition, across the entire regional economic fabric, it is expected to accompany companies in their digitisation journey, considering the increasing importance that this channel has assumed as a basic infrastructural need (5G), but also as a lever to make all companies more competitive, thanks to a better performance of business processes, but also to the possibility of acquiring and managing fundamental data for their business, to a greater connection and knowledge of customers, a greater ability to incorporate intelligence into products and a greater ability to access new and wider markets, including through tools such as e-commerce.

This objective will also be pursued through the instruments and measures provided for by other ERDF POs and the ESF+.

To accompany the digitisation process, which was already underway and has been greatly accelerated by the pandemic, it will be necessary to manage the transition from old to new production processes and tools by investing in Research & Development and promoting the growth of digital skills to qualify workers, also through collaboration with the Piedmontese university system.

To enable the territory to encourage the attraction and establishment of new companies and new investments, also in light of the ongoing reorganisation of global value chains, territorial

marketing actions are planned, in synergy with international business promotion activities as well as specific dedicated tools, always in the ROP-FESR field.

Finally, a significant role can be reserved for the key players of the different supply chains, both as catalysts of international opportunities that can involve local SMEs, strengthening their growth and competitiveness (SO3), and as subjects capable of stimulating, directly and indirectly, new investments in a territory made more attractive by a growing system of services for innovation and a qualified supply chain. The enhancement of the **film production and post-production chain**, for example, is strategic since the skills of Piedmontese companies in this sector are also highly appreciated abroad and can attract new productions in the territory and new investments.

Still with a view to strengthening the processes of growth and competitiveness of SMEs, it is appropriate to recall in this document the project for the establishment and management of a fund to make financial instruments available to the regional territory for operations aimed at the implementation of business recovery or relaunch plans.

The measure, promoted by Finpiemonte as part of the indications received from the Regione Piemonte, will have as its general objective the strengthening of companies' capital, especially in relation to the Covid-19 crisis that has pushed many companies into massive debt to buffer the liquidity needs generated by the slowdown in the economy and the need to face non-referable costs. The fund will therefore have to support the financial needs of companies necessary to ensure their competitiveness, especially for investments aimed at the digital transition, redevelopment of supply, environmental sustainability, productivity and internationalisation, without further burdening debt.

The fund must have broad operational flexibility, with an extended and diversified investment mandate in relation to the needs of the companies invested (bond, hybrid and/or equity instruments, mainly with minority shares).

The fund will also have to be included in broader initiatives, also from a multi-regional perspective, in order to ensure a better definition of investment strategies and a more effective diversification of risk.

Specifically, the fund will have to operate in two areas:

- relaunch through the establishment of new companies and the detection of assets of companies that have already started bankruptcy proceedings or that have completed debt restructuring agreements or shared recovery plans; or that present strong prospects for relaunch, taking into account the fundamentals expressed in terms of product quality, market share and brand awareness;
- development of local excellence through the support of companies in consolidating their financial structure to ensure growth and expansion into new markets.

In any case, the reference target of the initiative is identified in companies that:

- have excellent industrial backgrounds, but have made excessive investments compared to the current economic situation and/or do not have adequate management and/or struggle to perfect the so-called generational transition;
- have little capital endowment and resort massively to forms of short-term financing, also to cope with long-term investments;
- operate in interesting markets and with solid business models, but they are in difficulty because they are no longer strategic within the Group to which they belong or are affected by the crisis of the Group itself.

Specific attention may be given to the support and generational and entrepreneurial turnover of companies also through MBO/MBI (Management Buy Out/Buy In) operations.

The establishment and subsequent management of the fund must in any case be entrusted to a specialised operator with proven experience in the management of structured finance instruments for companies, also with the use of public resources. Interventions and measures of the kind described above must be contextualised in the more general framework of the defence and protection of trademarks historically rooted in the territory of our region, in order to effectively combat the desertification of the economic-social fabric due also to the predatory acts carried out by speculative funds against the local industrial and corporate heritage, as well as due to the actions initiated by unscrupulous multinationals.

Similarly, measures to protect Piedmontese companies are designed with a view to putting a stop to attempts to infiltrate the mafia into the local business fabric, especially in the current economic crisis due to the pandemic, which could push companies in crisis towards the networks of organised crime. It is appropriate to recall, in relation to this aspect, what was reported by the Financial Intelligence Unit for Italy during the hearing before the parliamentary committee of inquiry on mafias and other criminal associations at the end of the first half of 2020, in the phase of the first lockdown: as many as 663 reports of suspicious transactions linked in various ways to the Covid-19 emergency, mostly sent by banking and financial intermediaries, detected by anti-money laundering safeguards. The report of the Information Unit explicitly speaks of a mafia welfare based on a substitute liquidity of the legal capital market, of the danger of expropriation of the legitimate owners of those companies that become *de facto* mafia, of the use of usurious loans by more vulnerable families and entrepreneurs. Especially in the early stages of the pandemic, the illicit activities focused on the supply of medical material, to then turn to aid and financing for families and the production system in difficulty. In this context, it is useful to recall the role of the banking system for access to credit for companies as well as, especially for smaller companies, supervised confidence.

Finally, with a view to the re-appropriation of an authentic social elevator and social law in the field of corporate relations for the benefit of the workforce, there is the proposal to introduce the principle of worker participation in corporate profits as a tool for the defence, protection and enhancement of all human resources employed within a company: a measure that will be supported by adequate training and support tools.

The CAP will ensure support to the agri-food sector both through the economic support guaranteed by the First Pillar (direct payments to farmers, to stabilise their income) and with rural development measures aimed at competitiveness and the supply chain that should substantially proceed in continuity with the current ones; these measures support investments in agricultural and agro-industrial companies, the adoption of quality certification systems and the reduction of environmental impacts, with particular reference to the adoption of sustainable and efficient logistics, as well as the protection of the soil from pollution and desertification phenomena. Therefore, on PO1 2021-2027 the specific objectives 1, 2 and 3 of the future CAP and the operational programmes of the producer organisations will converge.

2.4 PO2 - GREENER PIEDMONT: CLIMATE AND ENERGY, NATURAL RESOURCES AND CIRCULAR ECONOMY

PO2 - Greener, low-carbon Europe	I. Promoting energy efficiency measures
	II. Promoting renewable energy
	III. Develop smart energy storage systems, networks and facilities locally
	IV. Promoting climate change adaptation, risk prevention and disaster resilience
	V. Promoting sustainable water management
	VI. Promoting the transition to a circular economy
	VII. Strengthen biodiversity, green infrastructure in the urban environment and reduce pollution
	VIII. Promoting sustainable multimodal urban mobility.

THE ANALYSIS

The priority objective PO2 of European cohesion policy aims at the transition to a low-carbon economy in response to climate change and, in general, towards greater sustainability and care for the environment. The decarbonisation objective set by the European Green Deal is very challenging, in particular through the enhancement of renewable sources and energy efficiency, aimed at achieving a CO₂ neutral balance by 2050. Given that the decoupling of economic growth from energy consumption is still marginal, this objective indicates the need to accelerate the promotion of energy efficiency interventions of renewable technologies and sources and the circular economy.

The main reason that stimulates the definition of decarbonisation strategies is the containment of **climate change**. The climate crisis is intrinsically linked to the biodiversity crisis. Climate change, through droughts, floods and forest fires, accelerates the destruction of the natural environment, which in turn, together with the unsustainable use of nature, is one of the factors behind climate change. In fact, the fight against climate change finds a vital ally in nature. As the Climate Decree of the Ministry of the Environment points out, the extensive application of **green infrastructure makes it possible to mitigate climate change**. Green infrastructure and solutions in harmony with nature - nature based solutions - are crucial for reducing emissions, increasing CO₂ absorption, reducing temperatures in the city, mitigating the effects of natural disasters and adapting to climate change.

ARPA Piemonte has clearly documented, as reported in detail in its Reports on the State of the Environment, that in our region there is a significant increase in average temperatures of about 1.5 °C while 2019 has closed the warmest decade since the 1960s. In addition, 2020 was the hottest year in Europe since precise measurements are available. Due to warming, heat waves become more frequent and intense, periods of drought extend, and weather events tend to be more violent and damaging. The Alpine area as a whole shows a warming trend above the global average.

Piemonte ranks thirteenth among Italian regions in terms of Energy Impact (Goal 7 of Agenda 2030), a position similar to that of other highly industrialised areas such as Lombardy, Emilia-Romagna and Veneto. In our region, **total greenhouse gas emissions** are equal to about 35 million tons of CO₂ equivalent, contributing 8% of national emissions and occupying the sixth place in the ranking of Italian regions. Piedmont's emissions decreased by 36% from 2005 (the year in which the highest value was recorded according to ISPRA) to 2018, also as a result of lower energy consumption linked to the contraction of industrial production, while in Italy the reduction was 20%. The reduction trend in Piemonte is encouraging, in view of the 2030 Agenda goal and, later in time, the 2050 climate neutrality goal. Emissions derive essentially from industry (48%) road transport (22%), heating (19%) and agriculture (9%) and are largely related to energy consumption.

Gross domestic energy consumption in Piemonte decreased by 23% between 2005 - considered as a pre-crisis base year - and 2018, mainly due to the strong production contraction following the crisis that sharply reduced industrial final consumption, which went from first to third place. In the last five years, however, **gross final consumption** has been essentially stationary with values equal to about 10.5 Mtoe. The civil sector - the sum of domestic and tertiary - continues to account for approximately half of total consumption, while the remaining part is divided between transport (27.3%) and industry (22.5%).

The decrease in consumption has been reflected in an equally significant decrease in the use of traditional energy sources such as natural gas and petroleum products, while there is an **increase in renewable energy sources (RES)** whose contribution to final consumption is greater than 18% and must aim at 27.6% envisaged by the REEP proposal by 2030.

Thermal renewable sources - heat production - recorded an increase in production of about 12% in the period 2011-2018, registering in the last year of detection a contraction in growth that had led the data to exceed the Mtoe in the two-year period 2016 - 2017. On the other hand, RES destined for the production of electricity grew by about 16% with an evident stagnation in the last three years, in the face of a contraction in biomass generation, an increase in hydroelectric production and a substantial stationarity of solar photovoltaic production. Comparing the data on electricity production from RES with the gross final consumption of electricity recorded on a regional basis by the GSE, there is a significant trend of increase in the ratio, which goes from 36% in 2012 to 43% in 2015 (+20.4%), before stabilizing in subsequent years, with a final figure in 2018 of 42%.

Finally, it should be noted that **Piemonte** plays an important role as a **hinge of energy transport** to other Italian regions. Important flows of imported electricity from abroad flow into the regional high or very high voltage electricity grid, in particular from France and Switzerland, which only partially meet domestic demand, balancing regional electricity needs, while the largest share of energy is exported to neighbouring regions, especially Lombardy.

With regard to **water**, Piemonte is positively ranked fourth among Italian regions with respect to Goal 6 of Agenda 2030; the pollution condition mainly concerns the groundwater, due to the pressures generated by intensive and industrial agricultural activities. The state of surface water, on the other hand, is generally good and close to the standards of the 2030 Agenda, although its correct management in situations of scarcity is an increasingly important matter, in relation to the change in the rainfall regime caused by climate change.

The **air quality** of Piemonte has made significant progress in recent decades, but there are still vast criticalities in urban areas for nitrogen oxides and in the entire Piedmontese plain and hill territory for micro powders, ammonia and ozone, pollutants harmful to human health. The Po Basin, moreover, is one of the European areas in which the greatest difficulties are encountered in reaching and maintaining the legal limits. These difficulties derive from weather and climate conditions adverse to the dispersion of pollutants. Therefore, Piemonte remains very far from the target of Goal 17 of the 2030 Agenda, which plans to contain the exceedance of the limit for

fine dust (PM10) to 3 days a year, given that the exceedance currently occurs for a few tens of days a year, although with some variability linked to seasonal weather trends. The aforementioned situation was stigmatized by the Court of Justice with a judgment on the 10th of November 2020, adopted pursuant to Article 258 of the TFEU¹¹, which verified that the Italian State has failed to comply with the obligations imposed:

- by article 13 and Annex XI of Directive 2008/50/EC for having exceeded, in the areas affected by the appeal, in a systematic and continuous manner, from 2008 to 2017, the daily and annual limit values set for PM10, an exceedance that is still ongoing;
- by Article 23 and Annex XV of Directive 2008/50/EC for not having taken appropriate measures to ensure compliance with these limit values.

The total areas affected by the Community infringement procedure are 27 and are divided, by severity, depending on whether in these areas the daily limit value has been exceeded, as well as the annual limit value.

The zones exceeding the value that concern our region are 3 of the 4 in which the territory has been divided for air quality purposes: the Agglomerate of Turin (Zone IT0118, which includes Turin and 32 surrounding municipalities), the Plain Zone (IT0119, with 268 municipalities) and the Hill Zone (Zone IT0120, with 646 municipalities); for a total of 947 municipalities out of 1,181 of the entire regional territory. Only the Mountain Area (IT0121, with 234 municipalities), which corresponds approximately to municipalities located above 600 meters above sea level, was found compliant.

The sentence of conviction determines the obligation to adopt the necessary measures to implement it (see Article 260, paragraph 1, TFEU) which consist, in summary, in measures that lead to compliance with the daily limit value of PM10 provided for by the Directive and provides us, within the next year, with a consequent procedure that could be the prerequisite for the payment of an onerous pecuniary sanction - estimated between one and two billion euros in total to be borne by the Italian State, assuming a return by the end of 2030 - and provides for a close monitoring of the actions that will be carried out.

The sanction, in accordance with the provisions of the right of recourse referred to in Article 43 of Law no. 234 of 2012, would take the form of cuts to the resources of the European Agricultural Fund for Rural Development - EAFRD, the European Regional Development Fund - ERDF and the other regional funds with structural purposes. Any disbursements suffered by the administrations involved for the payment of penalties, also in terms of non-transfers by the State, would then result in the activation of a procedure for tax liability before the Court of Auditors.

In view of the above, the principle that the resources of the European Agricultural Fund for Rural Development and the European Regional Development Fund represent the instrument for achieving the objectives of the Regional Air Quality Plan is even more valid.

Among the opportunities for improving air quality in urban centres is the transition from fossil to electric sources for vehicle power, also in relation to the prospects of using hydrogen as a fuel, used for the transport of goods and people, also as a public service, and to the different forms of personal and active mobility. On the entire territory, in addition to the efficiency of medium and long-haul transport logistics, there are **measures** that act on domestic **heating, agricultural/livestock activities** - in particular the spread of livestock manure and fertilisers with a high nitrogen content - and on the burning of plant residues outdoors.

¹¹ TFEU – Treaty on the Functioning of the European Union

Land consumption in Piemonte (equal to 6.8% of the territorial area) is showing a slowdown in recent years, after the strong growth of previous decades, especially in the peri-urban area of Turin, often subtracting important spaces from agriculture and generating unsustainable pressure on a non-renewable environmental resource. An important criticality, linked to the peculiar conformation of the Piedmontese territory - with a high incidence of declining areas - concerns the hydrogeological risk; in Piemonte 73% of the territorial area falls into municipalities classified as hills and mountains, in which 38% of the population resides. This structure, whose criticality is accentuated by the change in the rainfall regime associated with climate change, requires a strengthening of prevention and infrastructure adaptation activities, as well as restoration of damage. These interventions include, in addition to the implementation of structural measures with interventions for the hydraulic arrangement and maintenance of the territory, defence works, sediments and vegetation, also non-structural measures such as the reduction of vulnerability (including relocations), basin plans for hydrogeological planning, rolling plans, civil protection plans, hydrological and topographic monitoring, improving knowledge of hazards.

In Piedmont, 18% of the territorial area is under protection, with positive effects on **biodiversity** and opportunities for tourism. Although this percentage still shows a gap with respect to the 2030 Agenda target for Goal 15 (30%), placing Piemonte in thirteenth place among Italian regions also outside the protected areas, the presence in Piemonte of three biogeographical zones (alpine, continental and Mediterranean) determines a good level of biodiversity on the territory, making it one of the Italian regions with the greatest variety of animal and plant species. This natural heritage, however, is subject to several pressure factors, due to the widespread anthropization of the territory and the difficulty of reconciling productive activities with the conservation of species and habitats. At the regional level, it is also necessary to complete the identification of the ecological network and the adoption of the Regional Nature Charter as required by current legislation, including all those natural and semi-natural areas important for biodiversity and that still guarantee ecological connectivity in a highly anthropized territory with widespread urbanization. The sites and functions of the Natura 2000 network constitute the backbone of green infrastructures, which are a proven tool for achieving ecological, economic and social benefits - as indicated by the EU strategy - COM (2013) 249 final - and, if strategically planned with other environmental elements, provide a wide spectrum of Ecosystem Services, which are the basis of human well-being and quality of life.

Waste sent for disposal is constantly decreasing: in fact, in recent years, waste sorting has registered a further increase, reaching 63.4% of the total municipal waste produced in 2019, thus approaching the achievement of the national target (and the Regional Plan) of 65%. With the improvement of differentiation and reuse techniques, it is possible to obtain a greater enhancement of this resource for the purposes of the circular economy.

A critical issue in the transition of companies towards the circular economy and sustainability is represented by the fact that individual companies in different production sectors often have to deal individually with complex, articulated and onerous issues and manage by themselves phases of green design and sustainable management of post-consumption common to entire supply chains.

Agriculture is the most widespread activity at the regional level, about 50% of the extra-urban territory is shaped by this economic activity; this percentage rises to 80% if forest areas are also considered. Agriculture and forests are assigned functions of supervision of the territory, conservation of primary resources and environmental protection, enhancing their multifunctionality also through specific lines of support from the European Union. In particular, in mountain areas there are widespread situations of abandonment that arise, in addition to natural disadvantages, also from the difficult local socio-economic context and the relative lack of rural infrastructure. On these aspects, the current Common Agricultural Policy-CAP provides many intervention tools, which will be strengthened in the next programming cycle. Piemonte

ranks among the Italian regions in a good position (fourth place) with respect to Goal 2 of Agenda 2030, nutrition and sustainable agriculture. However, the same Agenda plans to reduce the amount of fertilizers by 20% by 2030 - but the Green Deal poses a much more challenging reduction of 50% at the national level - and to increase the share of organically cultivated agricultural land to 25%. Compared to the first target, the evaluation of the RDP 2014-2020 indicates a positive trend of reduction even if the achievement of the target will require significant efforts with innovations on the agronomic front (for example precision agriculture); in addition, organic crops in Piemonte occupy approximately 8% of the UAA and therefore will have to grow considerably. In our region, GHG¹² emissions in the agricultural and livestock sector amount to 3,654 thousand tons of CO₂ equivalent¹³; Piemonte ranks second among Italian regions after Lombardy with an incidence of 11.6% of the total due to the high spread of intensive farming and the wide extension of rice fields (over 100 thousand hectares); this level of emissions, although reduced over time, requires further efforts for its containment.

Forests occupy more than 1/3 of the regional territory, with an area of 874,660 ha, are mainly widespread in the mountains (about 72% of the total) and only secondarily in the hills (about 18%) and plains (about 10%). The functions recognized to forests by international agreements and national and regional forestry regulations are multiple and exceed the purely productive and protective aspects, once the only ones considered. Forests are complex ecosystems that perform a series of functions thanks to their very existence and proper functioning. Proper planning and sustainable forestry management make it possible to safeguard natural capital through the promotion of effective and efficient interventions capable of combining environmental protection with economic development, thus obtaining not only economic, but also ecological and social benefits. Together with forests, **urban and peri-urban green infrastructures** (urban forests, wooded parks, green roofs and walls) play a strategic role, generating benefits for the environment, health and society. With a view to mitigating climate change, forests, together with **urban and peri-urban green infrastructures**, lawns and permanent pastures, play an important role in carbon storage, which can be encouraged with appropriate policies such as those related to correct agro-forestry management and the remuneration of carbon credits.

¹² GHG: Green House Gas. In addition to CO₂, methane and nitrous oxide emissions are relevant to the agricultural sector, which are more harmful in terms of the greenhouse effect.

¹³ ISPRA (2017)

Table 11. SWOT PO2 analysis of Piedmont

STRENGTHS	WEAKNESSES
✓ Favourable trend of reduction in greenhouse gas emissions (36% between 2005 and 2018 compared to the national average of -20%) although partly due to deindustrialisation; trend of reduction in gross energy consumption (-19% between 2005 and 2014)	✗ Placement of Piemonte in the Alpine area, a territorial hotspot where climate warming is proceeding in a particularly intense way
✓ Renewable energy production is increasing, currently equal to 20% of final consumption (REEP target 27.6%)	✗ High energy impact of production activities and transport (thirteenth place ranking among Italian regions compared to Goal 7 of Agenda 2030)
✓ Piemonte hinge of energy transport networks on an interregional scale	✗ High greenhouse gas emissions (sixth place among Italian regions in terms of GHG emissions)
✓ Good surface water quality, fourth position among Italian regions compared to Goal 6 of Agenda 2030	✗ Poor air quality in areas with greater urbanization, concentration of micropowders and ozone much higher than the targets set by the 2030 Agenda, difficult dispersion
✓ Wide diffusion of extensive agriculture and agri-environmental practices that place Piemonte in fourth place with respect to Goal 2 of Agenda 2030 (nutrition and sustainable agriculture).	✗ Critical groundwater quality in some areas of high agricultural and industrial intensity
✓ Good level of biodiversity of the territory as a whole thanks to the variety of environments	✗ Increasing episodes of water scarcity linked to the change in the precipitation cycle
✓ High endowment of natural and semi-natural areas that determine the provision of Ecosystem Services for the community and in particular for climate regulation	✗ High fragility of the territory also due to its predominant conformation of slopes (73% of municipalities are located on hills or mountains, equal to 38% of the population)
✓ High endowment of heritage and landscape values, in terms of extension, variety and distribution on the regional territory	✗ Reduced incidence of organic farming (8% of cultivated area)
✓ High percentage of waste subject to waste sorting, reaching 63.4% of total municipal waste in 2019	✗ Reduced percentage (18%) of protected areas and lack of connecting elements of the ecological network, thirteenth place for Goal 15 of Agenda 2030 on biodiversity.
✓ Large area of forests, equal to about 1/3 of the territorial area, 72% located in the mountains	✗ Large area of forests, equal to about 1/3 of the territorial area, 72% located in the mountains
OPPORTUNITIES	THREATS
✓ Strengthening of territorial supply chains also in Energy efficiency, increased production of RES, creation of smart networks and storage systems	✗ High exposure of Piemonte to climate change and its negative effects, with possible increase in damage to people, territory and production activities
✓ Sustainable management of agroforestry resources to promote carbon accumulation, connected to the development of the carbon credit system	✗ Failure to comply with regulations on air quality in urban centres and related critical issues regarding mobility, health risk; ongoing infringement procedures and risk of sanctions
✓ Enhancement of ecosystem functions ensured by forests and other natural and semi-natural ecosystems	✗ Failure to engage with the green transition and worsening of the overall environmental framework in the absence of adequate responses
✓ Increasing organic farming and precision farming to reduce chemical inputs and water consumption	✗ Waste of material and energy resources in the event of insufficient development of the circular economy

- ✓ Intensification of the ecological network and enhancement of protected areas with high biodiversity
- ✓ Extensive application of the European Blue and Green Infrastructures Strategy (2013) to ensure a rebalancing of ecosystems and improve Ecosystem Services of collective interest and in particular of regulation
- ✓ Protection, recovery and enhancement of landscape heritage, due to its specificity and non-reproducibility and as a resource of territorial capital
- ✓ Development of sustainable mobility also through electricity conversion and the use of hydrogen also with transport efficiency criteria
- ✓ Development of the circular economy with a positive effect also in terms of innovation and economic opportunities, also improving the waste treatment cycle
- ✓ Renewal and enhancement of domestic heating
- ✓ Development of innovative techniques for the spread of livestock manure and high nitrogen fertilisers aimed at minimising ammonia emissions

THE GUIDELINES

If the RSSD is proposed as one of the fundamental guidelines for 2021-2027 programming as a whole, its guidelines are particularly important within PO2 of the Cohesion Policy Funds, in association with the guideline on clean technologies and the circular economy adopted by the S3 of Piedmont.

These are complemented by the specific objectives set by the CAP reform, in particular Objectives 4 (climate change and energy), 5 (sustainable use of natural resources) and 6 (protection of biodiversity and the landscape). For both instruments (ERDF and reformed CAP), the European Commission's proposals provide for a 30% concentration of resources.

Although rapidly changing as a result of the European Green Deal, the **Clean Energy Package** currently remains the reference for continent-wide policies aimed at making the European Union more competitive in the energy transition and redesigning the profile of the European electricity market in implementation of the 2030 climate and energy framework established by the European Council. The following are the pillars of the document:

- the **mandatory reduction of 40% of carbon dioxide by 2030** compared to 1990 (an obligation that will be shared among the different EU countries in binding national targets) and that in 2021 will be reviewed, as agreed in the European Green Deal, so that the 2030 target is raised to 55%);
- the achievement by 2030 of **32% of energy consumption from renewables** (binding target);
- the **32.5% increase** in energy efficiency by 2030 (indicative target);
- the return to the daily and annual limit values set for PM10 by Directive 2008/50/EC as soon as possible.

The proposal for the new **Regional Environmental Energy Planning** - REEP, summarised by the Board with Regional Decree no. 18-478 of the 8th of November 2019, together with the Regional Plan for Air Quality - RPAQ, approved in 2019, pursues targets that are in line with, or exceed, those indicated at national or EU level:

- 30% reduction in energy consumption by 2030, achievable with a series of interventions involving all sectors of activity and in particular the most energy-intensive, i.e. civil and transport;
- increase to 27.6% of the share of final consumption satisfied with the use of sustainable renewable energy sources.

To achieve these strategic goals, the new Plan chooses to:

- facilitate the growth trend of renewable sources not characterised by combustion processes, verifying their sustainability: the hydroelectric and wind sectors, for example, may replace part of the production input of solid biomass;
- strengthen the qualification process of the local forest resource used, enhancing the short supply chain for supply;
- support a model based on electricity generation characterised by the presence of small producers distributed throughout the region, helping to increase production from renewable sources and reduce the gap between production and consumption;
- identify specific innovative green economy actions for the production and saving of energy, implementing virtuous experimental processes and increasing the professional qualification of people working in the renewable energy sectors;
- develop sustainable mobility also through electrical conversion and the use of hydrogen, also with transport efficiency criteria;
- Implement funds for research, aimed at the efficiency of production, transformation and logistics processes;
- Investing in the training of sustainability managers, a key figure in the identification of corporate investment strategies.

Starting from the Specific Objectives related to the theme of energy (efficiency, renewable energies, smart grids), regional action through the ERDF – in line with the Partnership Agreement, with the REEP proposal and in continuity with the 2014-2020 programming as the results are clearly in line with future European targets - will support investments in **energy efficiency of the public building stock, the development of networks, structures and energy storage facilities**, modulating the contribution of the ERDF, in the case of private structures, with any other forms of incentive, such as tax deductions. The CAP, through rural development measures, will contribute to investments in agricultural and agri-food companies, both in terms of logic and techniques and infrastructures useful for minimising emissions into the atmosphere.

The NRRP provides for overall investments for energy efficiency and the redevelopment of buildings for 22.24 billion euros.

NRRP Italy tomorrow, 25 April 2021, Mission 2. Green revolution and ecological transition

Support for the production of **renewable energy** will favour systems based on self-consumption and the creation of **energy communities** that express local authorities (municipalities and their forms of association) and private individuals, also in association with each other. Rural development can contribute both by promoting the construction of sustainable and local energy

chains, based on waste, wastewater and biomass, and by supporting forest production and the creation of energy communities also with participatory methods and with investments in farms.

The production of renewable energy and the optimization of consumption require interventions on networks and storage systems making them intelligent and flexible, for example with smartgrid and gridedge solutions, with attention also to increasing their resilience to climate change, which accentuates the frequency and intensity of harmful atmospheric phenomena. In addition, attention will be paid to the development of innovative energy chains, such as that of **hydrogen used as an energy carrier for mobility**.

It should be noted that the discussion with the EC on the Partnership Agreement for the actions of PO2 is still open on important issues that could also be decisive for Piedmont. The main negotiating points concern interventions on public lighting that in the 2014-2020 programming proved to be an interesting opportunity also from the emission point of view. A certain openness has been demonstrated regarding possible interventions on the energy transmission networks, the undergrounding of the networks, the possibility of carrying out demolitions and reconstructions. The innovations envisaged in the energy field will require greater synergies between the actors involved and specific support and accompaniment actions, especially towards public bodies.

The areas of intervention of the ERDF can be extended to large companies that support energy efficiency and renewable energy measures and to SMEs.

The specific objective of promoting **climate change adaptation**, risk prevention and disaster resilience is particularly relevant for a region such as Piedmont, located in the Alpine area (one of the places where change is proceeding fastest) and characterized by the prevalence of declining territories and subject to hydrogeological risk. The two aspects are closely connected and require widespread action to mitigate hydrogeological risk.

In actions related to adaptation to climate change, the governance of territorial transformations, the task of territorial and urban planning, assumes a strategic function, it is no coincidence that the National Plan for Adaptation to Climate Change - NPACC - states that "local territorial planning bodies will therefore have to assess the coherence, compatibility and complementarity between the local adaptation plan and other regional plans in order to include the necessary provisions both in the local adaptation plan and in other active or ongoing planning".

In this perspective, the Regional Territorial Plan can constitute the synthesis and guidance tool for the local government of the territory, providing an optimal territorial reading and strategy for the implementation of the objectives of the regional strategy for mitigation and adaptation to climate change. Likewise, in the process of reviewing the general urban planning law, it is appropriate to integrate the regional norm, useful to promote these objectives.

These considerations relate to the more general theme of territorial and urban planning, instruments of territorial governance that together cover all scales of intervention and constitute a powerful unifying element between the different administrative levels that regulate territorial transformations. Precisely the fact of determining, as a result of the administrative structure, overlapping regulatory levels and at the same time rules of transformation in certain "parallel" ways (separated by administrative boundaries that by their nature ignore the real boundaries of territorial phenomena), make it crucial to pursue a more integrated management of planning, to be considered as a set of possible evolutionary scenarios of the territory, within which any intervention moves.

The consequences of climate change also affect the rich and heterogeneous cultural heritage, particularly vulnerable to natural phenomena and subject to deterioration and structural damage; to preserve and maintain it adequately, it is necessary to guarantee the definition and assumption of preventive conservation plans and planned maintenance and risk management by the managing bodies.

It is accompanied by the action of the RDP which supports measures aimed at restoring damage from catastrophic events and disseminating preventive defence systems; adequate selection criteria in investment measures can finally counteract land consumption, as highlighted by the interim evaluation of the Programme. More generally, the current and upcoming RDP can contribute to the reduction of climate-altering gases, especially those emitted by livestock activities, with actions aimed at reducing greenhouse gas emissions and promoting carbon storage by supporting the conversion of arable land into permanent grassland or tree plants, also contributing to better protection of the soil from erosion. Finally, an important aspect, in relation to resilience to climate change, concerns the development of financial risk management instruments, provided for by the CAP reform, but so far not enough used in the Piedmontese agricultural way. **Sustainable forest management** plays a key role in increasing the resilience of forest ecosystems to climate change and extreme weather events and in enhancing carbon storage actions. Stimulation and economic enhancement may come from an adequate development of forest certifications and the carbon credit market and from the recognition of the ecosystem functions ensured by forest ecosystems.

The direction will be towards the establishment of a regional network of green infrastructures capable of connecting the system of mountain, hilly and river protected areas in a regional network of green infrastructures, functionally interconnected and usable in continuity.

The **sustainable management of water resources** will be addressed on the basis of the Regional Water Protection Plan, which in turn is focused on achieving the objectives of the Water Framework Directive 2000/60/EC. Protection must be pursued both in qualitative (pollution) and quantitative (consumption) terms, with a view to an integrated cycle that supports multi-purpose uses. In terms of consumption, the objective is closely linked to adaptation to climate change, given that in Piedmont, over time, the frequency and intensity of dry periods increases and the contribution of snowfall contracts, with negative effects on the availability of water for civil and irrigation use and on the mountain tourism sector.

The action of the RDP on water resources is very relevant, both for the **reduction of pollutants** (pesticides, fertilizers and wastewater) and with the spread of highly efficient irrigation systems; on the first front, the evaluation of the RDP in progress has highlighted positive effects with the opportunity for a more precise territorial focus of agri-environmental measures, on the second, the need to disseminate tools for measuring consumption and to refine the selection criteria for investment measures to increase their attractiveness for beneficiaries emerges. In addition, the CAP strategic plan as a whole, in particular through the so-called green architecture, that is, the set of intervention tools for environmental purposes, will support agricultural practices aimed at protecting ecosystems and resources (water, soil, biodiversity) and adapting/mitigating climate change.

Sustainability must become a fundamental requirement of intensive agriculture, a key strategy to develop more resilient agricultural systems: farming systems in which agricultural ecosystems and landscapes are managed in a sustainable way, that is, protecting soil biodiversity and productivity and safeguarding freshwater resources, will be more resilient to shocks and changing conditions and therefore more productive in the long term.

More generally, also given the changed climatic framework that particularly affects the Piedmontese territory, it is necessary to provide for **adaptation actions with respect to water scarcity** by creating water supplies through the establishment of new rules and methods of sustainable multiple use of water for existing reservoirs, as in the cases provided for by the recent regional law 26/2020 for hydroelectric use, or, where possible in relation to the planning on the matter (art. 36 of the PTA, revision 2018), creating new reservoirs capable of fulfilling different functions: hydropotable, renewable energy production, industrial, irrigation and supply of artificial snowmaking systems according to seasonal and local needs.

The NRRP plans to finance the protection of the territory and water resources with 15.37 billion euros. NRRP Italy tomorrow, 25 April 2021, Mission 2. green revolution and ecological transition.

The **transition towards a circular economy** is above all the result of the synergistic action of measures linked to the different specific objectives linked to PO1 and PO4 (innovation and transfer of research, supply chain cooperation, investments in companies and enhancement of Third Sector entities, development of adequate skills), in line with the two Guiding Strategies, the RSSD and the S3, which present a marked convergence on this issue.

A functional platform for the transition to the circular economy could be a **regional structure transversal to the various industrial sectors** that plays a role of reference, direction and support for the **diffusion of the Circular Economy and environmental sustainability**, with the aim of undertaking a virtuous path towards the ecological transition, which in participation with the technical, operational and scientific experiences present in the territory, could:

- Guide choices towards ESG (Environment, Sustainability, Governance) models by pooling knowledge experiences and innovations in the sector
- Support and facilitate the change from the current linear model towards that of Circular Economy and environmental sustainability
- Supporting eco-innovation, supporting eco-innovative projects
- Favour the outlet markets for green materials developed at the end of the supply chain
- Encourage the use of green materials possibly "made green in Piedmont"

The action of the ERDF will take place both through the promotion of measures to support R&I processes and projects and through a modulation of calls for measures aimed directly at companies; rural development will be able to relaunch the action of the cooperation measure for innovation and investments in agricultural, agro-industrial and forestry companies during the two-year extension of the programming, after which the National Plan will outline the indications and measures that will strengthen these guidelines. A crucial role is played by training actions, which will be taken over by the ESF+ ROP and rural development.

The NRRP allocates 2.1 billion euros of European resources to the Fund dedicated to circular economy objectives to be developed in line with the Circular Economy Action Plan. NRRP Italy tomorrow, 25 April 2021, Mission 2. Green revolution and ecological transition

The strengthening of **biodiversity**, in a region well-endowed from the point of view of the areas under protection - however not yet sufficient to achieve the targets set by the European Biodiversity Strategy - but at the same time with a fragmented territory and large areas with intensive and urbanized agriculture, must be oriented as a priority, as provided for by regional legislation, both to **make the ecological connection network denser**, improving the level of connection between the areas and the elements important for biodiversity, and to protect the most sensitive habitats and species (rare, endemic species, of naturalistic interest) from the main factors of anthropic pressure. It is also a priority to invest in strengthening the capacity for governance, management and enhancement of the territory of the Management Bodies of the Protected Areas and the managers of the Natura 2000 Network sites. It will be essential to take into account the PAF - Prioritized Action Framework 2021-2027, a reference document for the integration of the priorities of the European Natura 2000 Network with the European programming 2021-2027 in line with the objectives of the EU Biodiversity Strategy 2030 -

Bringing nature back into our lives. Anchored to the Biodiversity Strategy are Green Infrastructures, but they are more than just a biodiversity conservation tool as an ecological and spatial concept for the promotion of ecosystem health and resilience, which contributes to biodiversity conservation and benefits humans by promoting the provision of **ecosystem services** such as climate change mitigation, the provision of essential habitats for biota and habitat connectivity. In this direction, support will come first of all from the current RDP and the green architecture of the future CAP, which will however require a greater implementation effort given that, as the evaluation showed, the outcome so far has been modest, but also from the programmes co-financed by the ERDF. More generally, the spread of low impact agronomic techniques - in particular organic farming, but also precision farming techniques -, the replenishment of organic matter in the soil (in particular that from the treatment of organic waste) to combat the phenomenon of desertification, the conversion of arable land into permanent grassland, the sustainable management of pastures, combined with the increase in environmental conditionality that will be required by the next CAP for direct payments, will ensure progress in this regard.

As regards the protection of the **landscape**, it is considered an essential resource, both in terms of its potential for tourism development in Piedmont, starting with the territories recognised as UNESCO World Heritage Sites, and in terms of the affirmation of new interdisciplinary models in landscape planning and local development, as highlighted by the Piemonte Ecomuseum Network. In line with recent evaluations of the RDP, it is necessary to ensure greater convergence between the actions financed by the European Funds, in particular by the RDP, and the regional strategic indications of the Regional Landscape Plan and other planning instruments.

More generally, strengthening actions aimed at combating abandonment and relaunching the inland and mountain areas of the region, including with reference to PO 5, could have a positive effect on the restoration of agricultural, pastoral and forestry activities, the proper management of which largely depends on maintaining the landscape balance built up over centuries of human activity; on this front, rural development contributes with local development actions, the provision of economic compensation for farmers operating in mountain areas and areas burdened by the requirements of the Natura 2000 directives and the water framework, as well as with a modulation of investment measures that favours access to potential beneficiaries of the most fragile areas.

The extended application of the European strategy on **green infrastructure** in the urban and peri-urban environment (urban forests, parks, trees, green walls and roofs) can provide, as mentioned above, multiple functions and advantages that can be **environmental** (conservation of biodiversity, improvement of the general ecological quality of the territory, mitigation of the impacts of atmospheric and climatic natural hazards), **social** (provision of water drainage, green spaces with recreational and tourist functions) and **economic** (offer of jobs, increase in property prices). Green infrastructure contributes to maintaining the health of ecosystems, which in this way can continue to provide valuable services to society such as clean air and fresh water. In addition, they promote the creation of new connections between urban, peri-urban and rural areas.

In addition, they can help strengthen deficient ecological connections, create wider spaces of biodiversity and, by connecting protected areas and cultural heritage, offer paths suitable for public and tourist use. In this context, the ERDF (for which the regulatory proposals foresee dedicating 6% of the budget for sustainable urban development) will be able to act, referring to the experience of the Urban Agenda and the NOP Metro, which, however, have recorded a still limited progress of the achievements. A reference model, which also lends particular relevance to cycling routes, is the Corona Verde project in constant development in the Turin metropolitan area.

With regard to **pollution**, the theme has already been partially introduced with regard to water quality; with regard to the other components, the objective requires interventions both in the field of **soil protection** (reclamation of polluted sites and agri-environmental measures for the reduction of chemical inputs, including the organic method and the adoption of sustainable agricultural practices based on the use of products derived from circular bioeconomy), and above all an intense action aimed at **improving air quality**, which in urban centres is closely linked to energy consumption for heating (on which some of the previous Specific Objectives mentioned above act) and mobility.

Studies conducted with the PREPAIR project have shown that to bring pollutant concentration values below limits in the Po Basin, emissions of nitrogen oxides, fine particulate matter (PM10) and ammonia must be reduced by up to half; this effort would require a radical transformation to address the underlying causes.

As anticipated in the analysis part of PO2, the importance of the air quality issue is central: Italy has two ongoing infringement procedures, initiated by the European Commission for non-compliance with Directive 2008/50/EC on air quality, relating to PM10 and nitrogen dioxide. The Court of Justice, with the judgement of 10 November 2020 adopted pursuant to Article 258 of the TFEU, found that the Italian State has failed to comply with the obligations imposed, both for having systematically and continuously exceeded, in the areas concerned, the daily and annual limit values set for PM10, an exceedance that is still ongoing, and for not having taken appropriate measures to ensure compliance with these limit values. These procedures could also lead to financial penalties resulting in a significant reduction of resources on EU financing funds.

The reference and guideline framework is the Regional Air Quality Plan, approved by the Regional Council in 2019, which has a time horizon of 2030. The RAQP, cross-cutting agricultural, energy, industrial, transport and urban redevelopment policies, through the implementation of the planned measures, outlines a policy of integrated interventions between the various sectors with a long-term strategy and the implementation of short-term measures.

Within this framework, **sustainable urban mobility** is one of the essential keys not only to guarantee freedom and safety of movement for citizens, but also to respond to the need to improve air quality, addressing the node of urban transport infrastructures, the updating of the circulating park, also used for local public transport, and its progressive electrification or fueling with low-impact fuels. In addition, in the event of the persistence of the limitations linked to the pandemic, urban transport requires extraordinary support measures to ensure safety and distancing on vehicles. A partial response, aimed above all at covering the so-called last mile, will also be provided by a greater offer of **micro mobility**, through the spread of shared electric vehicles (bicycles, scooters, mopeds, microcars) and by the development of urban and peri-urban cycling networks.

With regard to mobility, it will be important not only to support the spread of less polluting transport systems, but also to support the orientation of mobility demand towards collective, shared and generally less environmentally impactful solutions, leveraging the use of technologies for the acquisition and dissemination of data and information, decision support and in general digital, capable of enabling innovative paradigms such as the so-called "MAAS – mobility as service" (mobility services for people and freight transport, based on ICT-enabling technologies, efficient, adaptive and "use-centric") and improving the management of mobility and transport flows of goods and people with a view to reducing traffic and travel times.

Sustainable mobility includes the **theme of cycling**: policies to encourage this mode of transport require, in addition to infrastructural adjustments, also interventions in the field of services,

urban furniture, intermodality (bike/LPT)¹⁴. In addition, the issue of the **green renewal of the rolling stock fleet** operating in the regional territory - today not compatible with environmental and energy criteria for both road and iron services - must be considered as a complementary option to other programmes, also taking into account the many experiences in this regard in other Regions. In particular, it is appropriate to find space, in dedicated financial lines, for the most challenging innovations such as pure electric motorisation and hydrogen, also according to Community indications.

On the logistics front, sustainability is addressed in the **Ferrobonus**¹⁵, which encourages the use of intermodal transport in the region.

A role also belongs to the RDP which, through interventions aimed at reducing the dispersion of ammonia from livestock wastewater - a precursor of fine dust - can contribute positively to air quality. The role of education and training of citizens and companies in environmental sustainability is also essential, which would revalue and make regional and national policies more effective.

In general, compared to all the phenomena described above, if **monitoring** is important for anthropogenic phenomena (e.g. soil consumption, or transport itself) it is even essential for natural phenomena when these can be a source of risk. In these cases, the need to integrate data and disciplines appears in all its evidence. Territory planning, and the resulting transformations, are a determining factor for the consequences of a natural event, which can become catastrophic or irrelevant in relation to the territory in which it occurs.

To unite all the previous considerations regarding the natural environment as well as the anthropic one, from whatever point of view it is observed (hydrogeological, forestry, fauna, soils, air etc.), is the growing importance of a capillary (in space) and updated (over time) knowledge of its evolution. The tools available are always better, usable and widespread, but the number of data risks becoming a penalising factor: we are increasingly able to read and store them but less and less able to understand their meaning. Especially considering that the meaning, when it concerns complex phenomena (e.g. management of abandoned areas), is given by the intersection of different data, therefore even more difficult to understand and use. It is therefore a question of facilitating integrated access (i.e. not compartmentalized to the individual data or to the individual theme) to these data and above all of developing methods, techniques and tools to make the best use of them, based on the tools already available (Yucca smart data platform, Geo portal, etc.).

¹⁴ The objective is to create a network of high-flow cycling corridors for commuting integrated with the LPT and with a network of cycling routes of a tourist nature to enhance the historical-cultural and natural heritage of the territory. To achieve these objectives, the integration of infrastructural components (cycle paths, parking for bicycles, bike friendly buses), behavioural and managerial components (intangible training actions, services and info mobility) is necessary.

¹⁵ The purpose is to move freight traffic from the road network to the rail network through an incentive for the use of intermodal transport and transhipped transport to and from logistics nodes and regional interports, through an incentive aimed at companies that purchase railway services and multimodal railway operators. The incentive is intended for companies that use intermodal and/or transhipped rail transport services and combined transport operators (MTOs) that commission complete trains from railway companies and that undertake to maintain traffic volumes in terms of trains*km and to increase them during the incentive period.

2.5 PO3 - MORE CONNECTED PIEDMONT: NETWORKS, TRANSPORT AND LOGISTICS

PO3 - More connected Europe

- I. Develop a secure, smart, climate-resilient and sustainable intermodal TEN-T network
- II. Develop local, regional and national mobility that is smart, intermodal, climate-resilient and sustainable, improving access to the TEN-T network and cross-border mobility

THE ANALYSIS

Policy Objective 3 of the Cohesion Fund indicates, among the priorities of the next programming cycle, the development of smart, sustainable and intermodal mobility.

The **logistics** sector has shown all its strategic relevance by guaranteeing supplies of essential goods. The flows of goods leaving and arriving in the region have decreased over time, mainly due to the reduction in manufacturing production; however, transit flows are growing, therefore the region can take advantage of its favourable location for the crossing of two European corridors of the TEN-T network (Rhine-Alps Corridor and Mediterranean Corridor). The privileged position of Piemonte in the European transport networks is confirmed in the "infrastructure" component of the European scoreboard of regional competitiveness, in which our region ranks 54th in the order of the 267 European regions, second in Italy immediately after Lazio (50th place).

This location offers substantial opportunities both in relation to the development of Ligurian ports and to the crossing of the alpine barrier, increasing the intermodality and use of transport by rail compared to that by road (which has grown over time). The nodes of Alessandria, Novarese (CIM) and Turin (SITO) are especially interested in this. The use of digital technologies to optimise flows is one of the keys to accompany the recovery and increase the sustainability of the supply chain. However, the region suffers from the slowdown in the construction of the Italian section - including the Third Pass of Giovi and the Turin-Lyon high-speed line - due to the difficult composition of the interests of the local communities and the territories concerned and other important road infrastructure.

In our region, a large part of the **systematic mobility** of residents is entrusted to private vehicles, still largely powered by traditional fuels. According to the latest IRES survey on the opinions of Piedmontese citizens - carried out in 2020 before the lockdown - local public transport is among the least appreciated public services; respondents above all want an increase in public transport runs and improved connections with railway stations, while showing a modest interest in alternative mobility offers - car and bike sharing, shared routes with the support of dedicated platforms.

The use of fossil fuels is linked to the problem of air quality in urban centres, which is dealt with in the paragraph dedicated to environmental aspects, and with the aim of decarbonising transport. Moreover, the circulating vehicles, both public and private, tend to be old and therefore not up to date with the latest environmental standards. The pandemic has also posed additional challenges: the changes dictated by agile work and micromobility. The first - which will become a permanent aspect, although to a lesser extent than the acute phase of the pandemic - could greatly reduce urban and interurban travel for work. However, the critical issues of **Local Public Transport - LPT** are pre-existing and essentially linked to two issues: the

difficulty of ensuring a widespread service in a region characterized by a large portion of territory with low population density, on the one hand, and the need to reduce the use of cars in cities, on the other. Thus, forms of flexible local transport for rural areas and strengthening public transport integrated with micromobility, especially in urban areas are decisive; scooters and pedal-assisted bikes were already growing before the pandemic and are expected to play an increasing role in urban mobility over short distances, especially if favoured by adequate **intermodality**.

Table 12. SWOT PO2 analysis of Piedmont

STRENGTHS	WEAKNESSES
✓ Strategic location of Piemonte with respect to the major European TEN-T corridors (Rhine-Alps Corridor and Mediterranean Corridor) and with respect to the Ligurian port system	✗ Some relevant transport infrastructures undergoing incomplete construction
✓ Good placement of Piemonte among European regions (54th place out of 267) for the infrastructure component of the European regional competitiveness scoreboard, 2nd in Italy immediately after Lazio (50th place).	✗ Difficulty mediating between interests in the construction of high-impact infrastructures
✓ Increased flow of goods in transit	✗ Reduction of outgoing flows of goods (due to the contraction of industrial production)
✓ Logistics system strengthening: nodes of Alessandria, Novarese (CIM) and Turin (SITO)	✗ Criticality of LPT both in areas with low population density (rural and inland areas) and in urban centres (in the second case also in relation to air quality)
OPPORTUNITIES	THREATS
✓ Infrastructure development linked to the growth of logistics as a strategic sector	✗ Slow implementation of highly relevant infrastructures
✓ Development of innovative and sustainable mobility, also in response to the need for decarbonisation and improvement of air quality	✗ Marginalization with respect to the main guidelines in a very competitive international context (in the event of excessive delay or lack of implementation of strategic infrastructures)
✓ Development of cycling networks also in relation to the change in the tourist offer and the enhancement of local heritage	✗ Worsening marginalization of rural and inland areas due to accessibility and LPT deficiencies
✓ Improvement of the road network in rural and inland areas	
✓ Development of intermodality	

THE GUIDELINES

PO3 addresses the strengthening of connection networks and recalls the importance of logistics as a service for the production system, as an area of specialization to be developed in Piemonte and as an opportunity to recover abandoned industrial or commercial areas.

The reference framework is provided by the **Regional Mobility and Transport Plan - RMTP**, approved in 2018, which has the task of providing the public administration with the appropriate tools to face, in a logic of anticipation and not emergency, the new needs of citizens and businesses. It is set on a long-term time horizon and sets the guidelines for the development of the sector and the objectives to be achieved. The RMTP applies to the Region (for regional calls and programmes) and local authorities (for sector planning).

In this context, it is therefore necessary to seize the opportunity to improve the interaction between the different levels of government (municipalities, metropolitan city, region, government) through protocols of understanding and joint and intersectoral regulatory actions (transport, territory/urban planning and environment) to facilitate the implementation of projects at the local level relating in particular to cycling and pedestrian mobility, road safety, accessibility for the disabled, traffic limitation policies in urban areas (pedestrian areas, Zones 30 and ZTL), corporate, school and area mobility management. In addition, it is necessary to improve the interaction between urban development and transport development, through projects for the use of public spaces aimed at limiting travel and improving the quality of life (tactical urban planning - 15 minutes on foot or by bike), decongesting road arteries and courses of flow through innovative projects that expand the level of LPT. Fundamental and parallel will be the strengthening of the skills of PA representatives, through training courses on the use of tools, data and geographical and non-geographic indicators.

Parallel to the RMTP, the Regional Air Quality Plan acts as a guidance tool that stigmatizes the impact of the transport sector on air pollution by identifying addresses and corrective measures.

With regard to **physical connections** and the **mobility of people and goods**, we are entering an area of intervention that generally does not pass through the Regional Operational Plan, but rather draws on specific funds when referring to the completion of the TEN-T network

For the **major national and international routes** that are part of the TEN-T network, the strategic choice is to upgrade and modernise rail transport systems and to develop intermodality, also with a view to enhancing the position of Piemonte – between the Mediterranean and the Alps and at the intersection of important European transport corridors - in the field of logistics. In this context, priority is given to the completion of the Turin-Lyon HST, the Third Pass - functional to the role of Genoa backport played by the Alexandrian area - and the Asti-Cuneo motorway.

A territory with good internal connections - of lower rank in the transport sense - in a network logic, can amplify the economic impact of the two priority axes. In addition, the relaunch of the Ligurian port system and in particular the operation of the new Vado Ligure Container Terminal open new prospects for southern Piemonte and Cuneo.

It is also essential for the **local transport network** to develop intermodality, to promote the integration between vehicles and services and the connection between peripheral areas through city mobility. In addition, it is necessary to ensure the quality and safety of the railway network (including level crossings) and the circulating vehicles. Priority must be given to the implementation of the metro lines, with the extension of the existing line and the construction of the second line.

In the internal areas, it is appropriate to stimulate the experimentation and dissemination of on-demand transport services, also using digital mobility platforms to accompany traditional scheduled services, thanks to the improvement, also in terms of safety, of a widespread road network, in need of maintenance.

The INECP sets the share of renewables in transport at 22% by 2030, requiring an acceleration in the renewal of fleets and the use of sustainable fuels as an alternative to traditional fossil fuels, for which it becomes necessary to upgrade and make dedicated infrastructure more usable.

The new mobility demand trends require a new choice of design of public transport services according to specific mobility needs, through an update of the public service, which must be capable of intercepting the complexity and articulation of phenomena in urban, suburban and out-of-town areas. It is necessary to plan complementary and more flexible forms of public transport to be integrated with traditional ones through the massive use of technology: this is the new paradigm of Mobility as a Service - MaaS. MaaS will only be able to offer maximum flexibility if it is based on the complete digitisation of the local regional public transport system

- both in terms of service and sales - which can be achieved through suitable IT platforms starting from the BIP ticketing system.

The recovery of some suspended railway lines, such as light metro lines to connect territories with high tourist potential, will be one of the elements of accessibility and attractiveness for these areas.

The **development of cycling networks** is a relevant objective, not only for urban mobility, but also for tourism development, in response to a growing demand from the North European public and now also widespread among tourists of national origin. The availability of electric bicycles is greatly expanding the possibilities of use, allowing a wide audience of users access to more articulated and demanding routes.

Finally, the theme of transport and mobility recalls two important links. The first concerns, as already mentioned, the development of the logistics vocation of the Piedmontese territory; the sector is among those that show a greater increase in hiring in relative terms and is in full evolution. Consider, for example, the growing role of e-commerce and its supporting logistics platforms, accelerated by the pandemic emergency. The new trends indicate the need for new large warehouses for goods storage or the expansion of existing warehouses, even small ones located on the doorstep of urban centres. The advantage is to be able to settle in existing areas through the reuse of now abandoned factories, located in potentially strategic sites for logistics, in particular for that of the last mile.

The pandemic has also highlighted the importance of pharmaceutical logistics with regard to the storage of medicines and the maintenance of the cold supply chain. Currently, pharmaceutical distribution logistics is composed of a few players, about 300 authorized companies that have many warehouses. The most critical aspects are the storage conditions, the batch record, the management of returns, the characteristics of the products to be transported, road transport, the guarantee of batch traceability, inventory management and the large number of points of sale to be reached. The flow of medicines through wholesalers involves 80% of the volume handled, so for each region it would be important to have a large storage depot from which to then supply the smaller depots or directly hospitals and pharmacies. In addition, the development of logistics 4.0 pushes companies in the sector towards a profound digital transformation through a process of integration of new digital technologies in areas such as storage, order management or transport. The increase in data, connected to increasingly rapid changes in demand, also requires the use of digital tools for supply chain planning, enhanced by artificial intelligence and machine learning.

On this profile, connections are evident with ERDF action aimed at the competitiveness of companies and supply chains, and with the ESF+ for skills training. The second relates to the relationship between the development of sustainable networks and means of transport and the Piedmontese innovation system, also in relation to ERDF support through measures aimed at the Hubs and Platforms. Among the opportunities of improvement for the transport of goods and people, including as a public service and different forms of mobility, the prospect of using hydrogen as a fuel is mentioned.

With regard to the mobility of people, it is important to highlight that the local public transport system shares with private transport the iron and rubber infrastructure network but, beyond benefiting from the structural improvements of the two networks, it is an industrial sector that provides market services and that in the framework of the push for modernization is developed by participating in the policies of digitization, green conversion of the vehicle park, involvement by protagonists in the organization of smart cities, alignment with the territorial policies of residential, commercial, industrial, large services (health, education, etc.) and tourism development of the entire Piedmontese territory.

LPT companies, and in some cases also other players in the sector (local authorities, MPAs, service companies), must therefore be able to directly or indirectly access the resources allocated to the aforementioned innovation policies.

The issue of freight logistics, as a real industrial sector characterized by a positive trend of growth and employment, also requires an industrial policy in itself that goes beyond the transport and infrastructure aspects. It is essential to distinguish between the logistics services useful to better manage the demand and supply of freight transport generated by Piedmontese production and consumption, also including the aspects of supply and distribution of the production and agricultural system, and the logistics services that can be provided with respect to the flow of goods crossing our territory on the large TEN-T corridors - especially in the now concrete perspective of completing the Third Pass and the HST -. These aspects can be a guide for programming and can - by placing the infrastructural needs on the most appropriate and dedicated funds - constitute an optimal reference to ensure the participation of transport actors in the resources useful for industrial, digital development, etc., designing appropriate policies or participating in more general actions together with the other actors of the regional productive fabric.

If the geographical positioning of Piemonte with respect to the large European corridors and Ligurian ports offers the opportunity to develop value-added logistics (storage, sorting and processing) that creates wealth in the territory with respect to the large crossing traffics that will develop, this option is not obvious, however, and to seize it it is necessary to create the conditions with a specific industrial policy that accompanies infrastructure investments on iron and rubber networks. Another area is that of urban logistics, which concerns microenterprises for which it is proposed to dedicate specific measures, imagining that these may concern support for innovation and efficiency of companies in the new distribution sectors.

It is important to highlight that, from the point of view of the resources to be drawn upon to respond to the needs of transport and logistics, the role played by the Cohesion Funds is complementary; most of the resources for infrastructure and vehicles will be sought within the financing lines dedicated by Europe and the State, flanked by the important opportunities offered by the National Recovery and Resilience Plan - NRRP.

The NRRP allocates a total of 31.46 billion to infrastructure and transport, of which 27.97 for high-speed rail and 3.49 billion for intermodality and integrated logistics. NRRP Italy tomorrow, 25 April 2021, Mission 3. Infrastructure for sustainable mobility.

2.6 PO4 - MORE SOCIAL PIEDMONT: EMPLOYMENT, SKILLS AND INCLUSION

PO4 - A more social and inclusive Europe	I. Strengthen the effectiveness of labour markets and access to quality employment, through the development of innovation and social infrastructures
	II. Improve access to quality and inclusive services in education, training and lifelong learning, through the development of infrastructure
	III. Increase socio-economic integration of marginalised communities, migrants and disadvantaged groups
	IV. Ensure equal access to health care through infrastructure development, including basic health care
	V. Strengthening the role of culture and sustainable tourism in economic development, social inclusion and social innovation

THE ANALYSIS

EU Policy Goal 4 aims to ensure people's full participation in social life, so it targets employment, education, equal opportunities and social protection. For Italy and Piedmont, responding to this objective essentially means increasing the participation of women and young people in the labour market, completing education paths - also improving the connection with the needs of the productive world and digital and energy transitions - and strengthening skills throughout life to preserve employability and cohesion. The persistence of the economic crisis and the worsening of the working and income conditions caused by the pandemic have widened inequalities and put the welfare system under great pressure; in addition, the pandemic has further highlighted the issue of the adaptation of the public health service.

In the period between 2013 and 2019 there was a gradual increase in **employment**¹⁶ in Piedmont, which went from a share of 62.2% of the working-age population employed to 66%. Among the provinces of Piedmont, Novara and Asti show the most significant increases. Overall, at the end of 2019, Piemonte presented a consolidation of the main employment indicators; however, this holding appears to be connected more to the ageing and contraction of the population than to the strengthening of the production base. Moreover, in terms of Piedmont's position compared to other regions, the labour market efficiency indicator of the European regional competitiveness scoreboard, which summarises the employment picture, places our region only at 192nd position out of 267, highlighting the presence of significant critical issues. A more in-depth analysis indicates in fact growing divergences between generations (to the detriment of young people) and the expansion of the area of underemployment, with fragmented work paths and shorter working hours - just think of the spread of involuntary part-time, passed in a decade from 40 to 63% of part-time work.

The **unemployment** rate of the Piedmontese population (7.6% in 2019) is higher than that of the other regions of Northern Italy, except Liguria (9.6%). Among the provinces, Alessandria and Turin report the most negative performance, while in the province of Cuneo unemployment

¹⁶ The data relating to the social structure of Piedmont presented in this paragraph are from ISTAT and are processed and extracted from the SISREG system of IRES Piemonte.

remains much lower (4.8%). The **gap between men and women** is quite pronounced: women are the most at risk of unemployment, despite an average higher level of education. **Youth unemployment** in Piemonte (26.8% in 2019) is also higher than that of the other large regions of the North; among young people, it is especially women who show the greatest critical issues. Finally, **long-term unemployment**, an indicator that indicates the difficulty of obtaining a new job in an average period of time (12 months), accounts for 53.7% in 2019, enlarging according to a trend that can be seen at the national level.

The overall picture of the regional labour market suggests that Piemonte is exposed to the risk of the so-called **Low Skill Trap**, a balance between the demand and supply of skills aimed at dequalification which, while keeping the unemployment rate relatively low, shifts employment and, consequently, also wages towards the lower segments. In this trend, the youngest and most qualified part of the workforce, finding no space to fit in, is led to turn to other markets, ending up also accentuating the demographic decline. In this context, the crisis induced by the pandemic emergency seems to penalize, in addition to the areas directly affected by the lockdown, sectors already in fibrillation (textiles, metalworking and, in particular, automotive) and has highlighted a distance that is still too significant from the innovation and digitalization processes of MSMEs, in particular from sectors such as trade and crafts, while some areas that have long been considered strategic for the economy of Piemonte (pharmaceutical chemistry, health services, logistics, agri-food) appear to be spared for now.

The pandemic has given a forced boost to **remote work**. The phenomenon was not widespread in Italy before the health emergency, but it was already growing: 570,000 workers practiced this method at the end of 2019 and only 2% of large companies at the time had activated it, while 8% stated that they wanted to do so in the following 12 months. In SMEs only 12% had structured agile work initiatives, but 18% practiced it informally. It was also practiced in over 20% of PA entities (16% in structured projects and 7% informally). However, all these subjects expected a strong growth of the phenomenon. In many cases, companies and labor organizations did not have tools and infrastructures, nor had they built training and accompaniment courses for workers.

It is necessary to stabilize and integrate the infrastructure solutions created during the pandemic and promote the consolidation and evolution of tools and solutions for remote working and co-working, both within the PA and in the private sector.

On this point, it should be noted that the Regional Air Quality Plan also provided, as early as 2019, for the remote work tool as a measure to limit emissions into the atmosphere, which therefore must also be regulated and monitored in its environmental effectiveness.

In terms of **skills**, in addition to reiterating the presence of mismatch between training supply and labour demand, it should be noted that the growing spread of automation, digital technologies and artificial intelligence will produce further and rapid changes in the needs of companies, which must be adequately addressed by the training world. A significant contribution in this regard may come from the vocational training system, which boasts a consolidated tradition of interfacing with companies to guarantee the tendential correspondence between their needs and the skills trained and which makes extensive use of the paradigm of experiential learning. Long focused on the first and second levels, this system has equipped itself to act as a protagonist in non-academic tertiary training, namely ITS (Higher Technical Institutes), which the Regione Piemonte started in 2011 through courses carried out by the three Foundations operating in the fields of aerospace-mechatronics, fashion clothing textiles and ICT. With the 2013/2015 Multiannual Plan for Higher Technical Education and the subsequent calls for public notices, four additional ITS Foundations were identified in the fields of agri-food, energy efficiency and bio-sustainable construction, biotechnology and tourism and culture.

In the Regione Piemonte, over a decade, there has been a progressive increase in both the number of ITS Foundations (from 3 to 7) and the number of courses (from the initial 4 to the current 26) with a total number of students involved that has gone from about 120 (in 2011) to about 1,300 (in 2020).

The regional resources referred to in the ESF ROP and those made available annually by the Higher Technical Training Fund of the Ministry of Education contribute permanently to the financing of the regional programming of ITS courses. A part of these ministerial resources, the so-called reward quota, is allocated - for interventions to enhance the international profile, the instrumental endowment and for the development of research activities - to ITS Foundations that have achieved, through the individual courses, at the national level and in application of specific criteria - among which the employment outcome 12 months after obtaining the degree is of particular importance -, the best qualitative-quantitative performances.

The ITS Foundations of the Regione Piemonte, with a continuously growing trend, obtained overall, during 2020, the premium share with 10 courses (out of 14 monitored), with a regional collective performance of just over 71% (highest percentage in the regional benchmark).

Monitoring 2015-2020

Regione Piemonte	No. 4 paths ended in 2013 and monitored in 2015		No. 5 paths ended in 2014 and monitored in 2016		No. 5 paths ended in 2015 and monitored in 2017		No. 6 paths ended in 2016 and monitored in 2018		No. 10 paths ended in 2017 and monitored in 2019		No. 14 paths ended in 2018 and monitored in 2020		Average percentage
No. Enrolled	102		133		138		151		261		389		
No. Graduate	73	72%	87	65%	97	70%	117	77%	210	80%	305	78%	74%
No. Employed	61	84%	65	75%	87	90%	103	88%	177	84%	248	81%	84%

Source: National Data Bank ITS

The table above (historical series of routes concluded from 2013 to 2018) shows, finally, the first quantitative monitoring data relating to some of the main indicators referred to in the Unified Conference Agreement of 17 December 2015 (elaborations obtained from the ITS National Database) from which, with reference to the Piedmont Region:

- an **average percentage** of about **74%** of those who, enrolled and attending the two-year ITS courses, **obtain the Diploma of Higher Technical Specialization**;
- an even higher **employment percentage**, equal to about **84%** on average, which indicates that more than 4 out of 5 graduates find work, in the sector of reference, **within 12 months of obtaining the degree**.

From the analyses carried out for the RSSD, the more general need for skills adapted to changes in context and the definition of new forms of innovative economy also emerges, including the transversal skills that make people able to adapt to changes, to be proactive in determining changes, aspects often neglected by the training system.

It should also be noted that the levels of **education** in Piedmontese society have definitely increased, although the distance that separates us from other European countries has not yet been filled; the European scoreboard indicator defined as Higher education and lifelong learning, which photographs the regional situation from the point of view of high skills and their updating, in fact sees Piemonte in 226th place; even the other comparable Italian regions are in

similar positions, although slightly higher. In Piedmont, participation in studies is high, but with significant differences between Italians and foreigners. Explicit dropout (school dropout) is decreasing and attested to 10.8%, a good performance also at the national level thanks to public policies, primarily those co-financed by the ESF in the last twenty years; the implicit dropout - that is, the lack of basic skills that should be associated with the different levels of study - reveals worrying socio-economic gaps. Also in terms of the percentage of graduates on the population (27.5% of young people in Piemonte have a tertiary degree), our region appears to be lagging behind the European targets (40%), more due to the narrowness of the professional chains than to the limits of the strictly academic ones - also by virtue of the fact that the activation of professional degrees is subject to the limits imposed by the state legislator as well as to the initial accreditation requirements that have represented serious organizational obstacles.

Furthermore, as documented by the studies of the European Commission, among the key measures to expand access to tertiary training, the reduction of financial obstacles has been identified: this is evidenced by the fact that the introduction of the no tax area in favour of students with lower incomes and the reduction of university fees in favour of students with incomes up to 30,000 euros would seem to be the basis of the general increase in enrolments for the 2020/2021 academic year.

However, the Piedmontese tertiary training system has been the protagonist of a growth higher than that of almost all other Italian regions and has increased its ability to attract students residing in other Italian regions and abroad. This determines a significant economic impact on the regional territory and, on the other hand, implies the need to expand interventions in favour of students (scholarships, housing and catering services) on which the choice of university location is increasingly played.

A key role in the transition phases between systems (especially between Education and Work) is played by the **regional guidance system** which, with a view to a full declination of the concept of permanent guidance, diversifies the offer of actions according to the needs of the beneficiaries. The forecast model on employment needs created for the Regione Piemonte (2019-2023) estimates that over 150,000 graduates (on average 30,000 per year) and 120,000 graduates of Piedmontese universities (on average, almost 25,000 per year) will leave Piedmontese high schools during the period considered. This is the target towards which the orientation actions are proposed as a central tool in the medium-term school-work connection. In addition, the possibility of adapting guidance interventions at the local level is aimed at producing policies aimed at the needs of the territories in terms of developing the skills required by labour demand.

As for **learning throughout the working life**, in 2019 only 8.3% of the adult population in Piemonte participated in training activities. Although the long-term trend shows an increasing trend, these values are lower than those expressed by workers in the European regions of comparison and other regions of Northern Italy.

Regarding the **demographic challenge**, Piemonte shows one of the highest levels of population ageing in Italy and Europe - the incidence of over sixty-five on the working-age population rose by 2.5 percentage points in the last five years, reaching 41.6% in 2020 compared to 36% nationwide -, with the related reduced birth rate, to 6.4% since the last survey, in progressive decline, more accentuated than the other large regions of the North Centre. The responses to the ageing society should have focused, on the one hand, on the fight against low birth rates (for example with policies for families), on the other, on adaptation to ageing. The first strand of policies has produced some discontinuous intervention and few results: in Piemonte births have fallen by about 20% in ten years. The second strand, that of adaptation, has moved mainly on the care front, with the use of caregivers by families with policies of qualification and emergence of care work and with targeted care policies by the NHS. There remains room to improve social accessibility for older people and to enhance their ability to work, social

participation and consumption. Technology and social innovation can help policies of adaptation and transition towards a society in which it is possible to live with a good level of well-being despite the presence of a higher proportion of older people, but so far they have not been fully exploited.

Foreign citizens in Piemonte represent 9.9% of the resident population, a percentage slightly lower than that of the other large Italian regions of the North (Lombardy 11.9%, Veneto 10.3%, Emilia-Romagna 12.5%, Tuscany 11.3%). Since 2013 there has been a halt in the growth of the foreign population determined by several factors, among which the main one should perhaps be sought in the reduced economic and employment attractiveness of the country. The entry of relatively younger immigrants has had no lasting effects on population decline and ageing, given the increasingly rapid adaptation of foreign couples to Italian fertility parameters, and immigrants arriving here as young people will be elderly well before the demographic transition is complete. In addition, in Italy (and in Piedmont) they were mainly included in low-skilled professions, such as agricultural labourers, farmhands and family carers, while among emigrants the incidence of those with high levels of education is high. Immigrants did not predominantly occupy the positions left free by aging Italians without substitutes due to demographic decline, which would have guaranteed a partial rejuvenation across sectors. On the other hand, employment has been concentrated in places once occupied by young Italians and now less interesting for them, also due to increased schooling. Data on the first impact of the pandemic crisis in Piemonte confirm the prevalence of low-skilled trades in foreign employment, however, accompanied by an increase in hiring in social and health trades of the foreign component of the population, rewarded by the demand for additional work, providing a significant contribution in the management of the health emergency.

During the 2014 - 2020 programming, to support the social inclusion of foreigners regularly staying, the Regione Piemonte used the Asylum, Migration and Integration Fund - AMIF which, also operating in 2021 – 2027, finances experimental projects to be carried out in the system in the actions of the ESF+ and the other funds.

With regard to **health**, in positive terms, Piedmont's good position among the regions of the European Union stands out (60th out of 267) with regard to the European scoreboard indicator relating to health and the health system, despite the critical issues highlighted by the enormous stress imposed on the health system by the pandemic.

In terms of perspective, the growth in life expectancy leads to an increase in **demand for health care**. Chronic diseases, whose dynamics are linked to ageing, in fact absorb a large share of NHS resources in developed countries. The strategy in place for some time in health systems is to avoid hospitalization as much as possible: partly by helping to spread lifestyles useful for reducing chronicity and partly by proactively intercepting people when chronic diseases are not yet established, in their places of life. This is possible by increasing and financing proximity structures such as groups and networks of family doctors, Health Houses, nursing teams for the home care of patients, also through the use, on an experimental basis, of cohesion policy resources: an integrated set of measures and actions that certainly takes into account the new needs that emerged during the health crisis, but which has the ambition to accompany regional policies on health and welfare beyond the emergency logic by strengthening territorial communities.

This objective can also be pursued through the innovation of care models, exploiting the potential of new digital doctor-patient contact systems and telemedicine and tele-monitoring applications of vital parameters, capable of reconciling the needs of health care and the location of the patient outside the facilities. These paradigms also allow, through teleconferencing and digital consultation systems, to achieve effective remote clinical collaboration between health professionals and, more broadly, pave the way for a "Circular Health" model, which enhances

the integration of health information assets with other related information (environment, agri-food and animal health) useful for risk prevention.

With regard to the issue of **social vulnerability**, population groups generally not considered at risk of poverty, such as groups with incomes from independent and para-subordinate work, are today in conditions of economic precariousness and increasing vulnerability.

In fact, it can reasonably be assumed that in Piemonte about 72,000 new households will need help, in addition to the approximately 53,000 already identified as poor by the social protection system activated with the *reddito di cittadinanza* (minimum income guaranteed by the state). From this point of view, the INPS data updated on 9 December 2020 showed an alarming scenario, especially when compared with data from other regions of the Centre-North: 81,138 families benefited from these forms of aid and poverty alleviation (of these, 55,374 families benefited from *reddito di cittadinanza* and 25,764 from emergency income), while the individuals who requested it were a total of 175,740 (of which 119,870 received *reddito di cittadinanza* and 55,870 received emergency income). Together they represent 6.4% calculated on the total of the regional nuclei, only in Liguria and Umbria the use of these forms of support has been greater.

However, we must be aware that alongside these welfare instruments, further measures will most likely have to be developed to cope with a state of the art that the socio-economic crisis generated by the pandemic has certainly made more problematic.

The Region will be called upon to play its part, first of all by recovering that centrality and that role of direction that, while respecting territorial peculiarities, guarantees citizens a homogeneity of treatment and support.

Compared to the other regions of the North, Piemonte is the region with the highest percentage of poor working families, often single-income and with low salaries, situations to be put in relation to the incidence, higher than the areas of comparison, of families with low work intensity, or the condition, shared by many workers, who are in a weak position on the market or operating in sectors exposed to the crisis and of foreign origin. For these families, public interventions must be able to promptly address the conditions of temporary or recurrent poverty before they lead to persistent poverty that affects children and their development. Extreme events must be prevented for a family: eviction or loss of home, not treating a disease, leaving a job to support care burdens.

The specific objective dedicated to **culture and sustainable tourism** within PO4 aims to enhance its role for economic development, inclusion and social innovation.

Among the new elements that have emerged in recent years, it is worth mentioning the growth of tourism, which has over 46 thousand companies (equal to 10% of the regional total) and about 153 thousand employees (11% of the total): a sector up to the pre-Covid period in constant growth and which represents an induced value of 7.5 billion euros, equal to 7.4% of regional GDP¹⁷. Although Piemonte is not one of the Italian and European regions with the largest flows of visitors (it has about 15 million annual visitors between 2017 and 2019, ranking 12th in the Italian regional ranking), in addition to its traditional destinations (the winter mountains, the lakes) the offer and presence in the capital and in the areas of food and wine tourism have greatly increased, creating especially in the Langhe, Roero and Monferrato area an agro-tertiary economy particularly articulated and oriented to the enhancement of the agri-food, landscape and historical-cultural heritage capable of attracting a large foreign clientele (about 60% of arrivals compared to a regional average of a little less than 50%). A qualifying element of

¹⁷ Regional Tourism Observatory (2020), Annual programming of promotion, reception and tourist information activities.

Piedmont, in this aspect, is the presence of UNESCO awards such as to identify the Piedmontese District in its variety of types and which includes World Heritage sites, intangible heritage elements, creative cities, Biosphere Reserves, Geoparks, chairs and UNESCO clubs, as well as the Piemonte Ecomuseums Network, established by the Regione Piemonte with Law 13/1995 and subject to regulatory revision with Regional Law 13/2018. It is essential to point out the operation of the Piemonte Ecomuseums, which play an important role in the processes of revitalization and repopulation of peripheral and marginal territories (mountain contexts and depressed areas), also through the involvement of the "new inhabitants", subjects who often combine sustainable lifestyles, professional skills, innovation and strong sensitivity to the cultural expressions of local tradition. At the same time, the role of UNESCO awards should be highlighted and promoted, as promoters of sustainability models, experimental laboratories of local models and innovative solutions in response to global problems, from which to start with the dissemination of good practices.

Tourism is one of the sectors most affected by the pandemic, even if it has a strong potential for recovery also from an employment point of view; among the elements to be taken into account for the development of the sector, we should mention the digitisation of incoming and supply management and the closer integration of cultural heritage within networks and routes. The qualification of the tourist offer, from accommodation facilities to ski lifts, from the training of operators to actions for the development of tourism for all, will be the necessary driver for the recovery of the sector.

Another sector very affected by the consequences of Covid-19 is that of culture, given the strong restrictions that have affected museum activities, exhibitions and shows, cinema and libraries. In this regard, the Cultural Observatory of Piedmont¹⁸ highlighted that the entertainment sector, even in our region, was already affected before the pandemic by a progressive change in consumption that tends to move towards the growing supply of digital platforms. The sector mainly includes micro-enterprises and individual activities, and the presence of associative subjects and the Third Sector is also relevant, with a non-negligible technical input, and has long been looking for new forms of economic sustainability in a context of reduction of public resources, as well as forms of training support and tutoring for the strengthening of the managerial skills of the company and the cultural system.

¹⁸ Cultural Observatory of Piedmont (2020). *La cultura in Piemonte. Il 2019 e le sfide del COVID nel 2020.* (Culture in Piedmont. 2019 and the challenges of COVID in 2020.)

Table 13. SWOT PO4 analysis of Piedmont

STRENGTHS	WEAKNESSES
<ul style="list-style-type: none"> ✓ Consolidation of the overall employment framework: increase in participation in work (66% in 2019) and reduction in the unemployment rate (7.5% in 2019) ✓ Reduction in explicit school dropout (to 10.8% in 2019), although greater for young foreigners ✓ Consolidated system of secondary vocational training of a technical nature ✓ Positive experiences of vocational tertiary training and high-level apprenticeships ✓ Structured system for detecting skills needs ✓ Good general level of health services compared to the European average; Piemonte ranks at 60th out of 267 as regards the European Scoreboard indicator relating to health and the health system ✓ Growth of the agro-tertiary economy based on integration between agri-food, tourism and landscape, historical and cultural resources of the territory ✓ Growing tourist flows (currently in thirteenth place among Italian regions by number of tourist attendance), foreigners on average 50% ✓ Great variety of landscapes and, consequently, of experiences that can be practiced (mountains, hills, lakes, rivers with particular attention to the Po River, plains, outdoor in many variations, cities of art, spiritual paths...) ✓ A tourist destination off the beaten track that allows you to experience in uncrowded environments and in line with the new sensitivities of sustainable, slow and sporty tourism 	<ul style="list-style-type: none"> ✗ Demographics: low birth rate, ageing population ✗ Labour market criticalities highlighted by the 192nd position of Piemonte out of 267 European regions for the Labour market efficiency indicator of the European scoreboard on regional competitiveness ✗ Labour supply-demand mismatch ✗ Youth unemployment rate at 26% (2019) higher than that of the other large regions of Northern Italy ✗ Lower participation of women in the labour market and higher gender unemployment ✗ High incidence of long-term unemployment (53% of total unemployed) ✗ Ranking 226th out of 267 European regions for the Higher education and Lifelong Learning indicator; only 8% of Piedmontese workers are included in lifelong learning/updating courses ✗ Reduced incidence (27.5%) of young graduates compared to the European target (40%) due to the reduced offer of the vocational technical tertiary ✗ Unsatisfactory level of skills, formal and real, held by the adult population ✗ Reduced culture of tourist reception (especially in inland areas and less famous mountain areas) ✗ Limited professional knowledge of digital communication ✗ Limited ability to operate in a network between several parties in the supply chain for more effective and competitive integrated proposals compared to other territories ✗ Poor and uneven tourist mobility system, such as to affect the internal movements of visitors arriving in Turin to other cities, the mountains or to other Piedmontese tourist attractions
OPPORTUNITIES	THREATS
<ul style="list-style-type: none"> ✓ Strengthening and adapting training courses at all levels, also taking into account the digital and green transition, in conjunction with measures for innovation, competitiveness and intelligent specialisation and the specificities of supply chains and territories, and enhancing learning in companies ✓ Strengthening STEM skills (science, technology, engineering, mathematics) at all school levels, from primary school 	<ul style="list-style-type: none"> ✗ Low skill trap: progressive shift towards a de-skilled production system and labour market, generates high youth unemployment and emigration of qualified young people ✗ Critical impact of demographic trends on the development and demand for health and social care services ✗ Accentuation of socio-economic gaps, with particular relevance at the level of generation, gender and for some social categories, widening of population groups at risk of poverty

✓ Adaptation and strengthening of structures to support the labour market	✗ Labour concentration of foreigners in low-skilled professions
✓ Development of remote work also in order to improve air quality and reduce the male-female work gap	✗ Territorial health deficiencies highlighted by the difficulties of managing the COVID-19 pandemic
✓ Development of vocational tertiary training experiences and the dual system, enhancement of formulas with internships and apprenticeships	✗ Significant and lasting damage to the cultural system and the tourism and sports sector caused by the restrictions imposed by the pandemic with a negative impact on employment and GDP generated by the two sectors
✓ Strengthening the territorial networks of social services and health	
✓ Enhancing the professional and entrepreneurial skills of foreigners	
✓ Growth in demand for experiential tourism, slow tourism, sports tourism and off-the-beaten-path discoveries	
✓ Development of the tourist offer in synergy with the action of enhancing the natural, landscape, cultural and food and wine heritage	
✓ Use of digital technologies and new technologies (AI, Big Data, IoT) for the development of new forms of tourism and cultural offer	
✓ Development of the production of cultural content	
✓ Development of new micro-enterprise creation opportunities in inland and mountain areas to accommodate growing forms of sustainable and slow tourism	
✓ Activation of corporate vouchers for employee services as a corporate welfare tool	

THE GUIDELINES

The proposals for regulations for the 2021-2027 cohesion policy focus the action of the ESF+ on OP4, articulating it in rather detailed Specific Objectives grouped on some areas of intervention that, briefly, can be defined as the labour market and employment, education and training, social inclusion, social protection.

The guidelines of the Regione Piemonte start from the assumption that the construction of services and networks functional to meet social needs is a path that requires time, energy and substantial resources. In the light of the evaluation evidence referred to below, the first strategic direction is therefore the consolidation of the services and intervention tools initiated and developed in the previous ESF programming cycles, introducing, however, changes that allow to better face the challenges outlined in the paragraph dedicated to the analysis, starting from the already reported strategic need to strengthen the forms of individualized accompaniment in access to policies and services, which must be coordinated, especially when addressed to the most vulnerable people, starting from the further enhancement of the regional guidance system.

A second strategic guideline operates on a procedural level and concerns the planning of programming acts, with the aim of making transparent, as far as possible on a multi-year basis and in any case year by year, the timetable with which the resources will be made available to

beneficiaries and recipients so as to favour the design and execution of interventions related to actual needs.

A first policy area for which the evaluation activities of the ESF ROP 2014-2020 have shown positive results are the more **structured vocational training** (VET) courses whose beneficiaries have more employment opportunities than comparable subjects who do not benefit from them, especially if associated with certain socio-professional characteristics and with particularly good results for the fields of mechanics and plant engineering, as well as for the so-called cross-sector functions such as administrative, marketing, etc.

In the field of vocational training, in the transition from the 2014-2020 programming period to the new 2021-2027 period, a different organisation of the management methods of the service is envisaged, in order to favour employment conditions to support the competitiveness of the regional system and the protection of the social fabric, put to the test by the epidemiological emergency, also taking into account a more systematic, and necessary, consideration of the relative needs.

In this regard, the main lines of action pursued will include:

- initial training aimed at young people, aimed at fulfilling the obligation of education and preventing early school leaving;
- training for apprentices in its different articulations, which includes both an offer aimed at achieving all the qualifications of the national system and a training offer aimed at a contractual qualification in professional apprenticeship;
- training for unemployed workers, young people and adults without basic qualifications or diplomas, unemployed people looking for their first job to obtain professional qualifications and specialisations, as well as skills or upgrading of skills;
- training for the disadvantaged groups through dedicated actions in initial training courses (personalised support and integration for people with disabilities and/or special educational needs) and training courses aimed at involving disadvantaged and more vulnerable people (disabled people, young people at risk, foreigners, prisoners);
- training to strengthen employability through short and flexible courses aimed at the unemployed and workers involved in situations of corporate crisis in response to the training needs expressed by the territorial economic system in order to facilitate the meeting of supply and demand;
- permanent training aimed at workers who, on their own initiative, intend to update, qualify or retrain, participating in training and skills updating courses;
- transnational and interregional training in terms of geographical mobility;
- continuous training on the initiative of companies and aimed at employees, collaborators and owners, as well as freelancers and self-employed workers;
- finally, the interventions aimed at responding to the training needs of companies in order to enhance the sustainable and innovative development of the production and strategic chains.

As already highlighted, positive employment results are also observable for Higher Technical Institutes, whose areas of operation are largely consistent with the areas of specialization of the S3 and with the domains in which regional policies for research and innovation operate; the close collaboration initiated in the 2014-2020 period between these policies and ESF measures in favour of the qualification of medium/high profile skills is a positive experience that is considered appropriate to re-propose and strengthen also in the 2021-2027 programming.

With this in mind, adequate attention will be paid to identifying useful connecting conditions in the field of non-academic and academic tertiary education.

The interaction between the two Funds is in fact believed to contribute, through the strengthening of medium-high profile skills, to favouring the transition of the production system towards competitive modes more focused on innovation and therefore less exposed to low-cost competition.

An important strategic lever in this area is represented by **advanced apprenticeship training**, aimed at the inclusion of qualified young people in companies that focus on technological innovation, which has also achieved excellent employment results, as well as flattering judgments. The opinions on apprenticeship training courses, aimed at the inclusion of qualified young people in companies that focus on technological innovation, are also positive; this line of intervention, which has been enhanced by the collaboration between the ERDF ROP - through the measure aimed at technological platforms and other measures related to innovation - and the ESF ROP, has shown excellent employment results; the collaboration model between the two Funds could be extended to other professional profiles, more or less "high", expanding the potential pool of users and therefore the impact on the labour market. Particular attention will be paid to supporting post-university higher education in connection with the labour market.

In light of the evidence referred to here, with regard to the **qualification of skills** – which underlies the main set of tools and interventions taken over by the ESF – the consolidation of the training segments that have proven to work well and, more generally, the action of the training and strengthening courses will be focused on two fundamental trajectories: **digitalization and sustainability**, consistent with the challenges of the industrial transition process that the Piedmontese system is going through.

The current historical moment burdened by the effects of the pandemic and by a chronic delay on the front of digitization in our country and Piedmont, also due to the inadequacy of the human capital involved, will require an incisive action on skills, with particular attention to SMEs in general, to the sectors of commerce and crafts, which, in addition to being deeply affected by the crisis, face a high delay in the use of innovation and digitization as a lever for competitiveness. In addition to the tools already provided under the ERDF ROP (and for PO1), it is therefore necessary to identify tools, simple and accessible, which simultaneously meet two mirror objectives: i) facilitate the ecosystem of Piedmontese SMEs, in particular those that are not very proactive and not autonomous in identifying their needs (even unexpressed) for digitization; ii) promote the dissemination of "digital skills" - avoiding the risk of exclusion from the world of work and society - to partially fill the gap even with short courses, in line with the demand of the SME market, in order to facilitate their integration into the world of work. Equally important will be the possibility of creating a network and programmatic integration between the many existing initiatives and the actors and administrative sectors that oversee them, in order to support and make them more incisive.

With regard to sustainability, it will be possible to draw on the analysis paths dedicated to green education developed by IRES Piemonte in collaboration with other partners within the RSSD. In this context, support may also be provided for the adaptation of teaching at different levels. Among the partners we can mention the Ecomuseums of Piemonte that are proving to be able to constitute effective laboratories for didactic-educational activities, around the themes of sustainability, landscape and cultural heritage, at the service of the world of school, but also of society, proposing themselves as tools for "continuous learning" and intergenerational mediation.

From this point of view, provision should be made for a plan for reviewing and updating the training offered by the higher education system, taking into account the potential offered by digital education at multiple levels (basic, intermediate and advanced digital skills) and by so-called green jobs through the creation of interdisciplinary courses of study.

The training offer will maintain a strong focus on young people and will devote a reinforced attention to adults, whose skills must be maintained to adapt them to the new economic and productive paradigms, also introducing greater training verticalisation and openness towards territorial productive vocations, in response to the guidelines of a more careful planning to the **needs of the territories and supply chains**, operating in the region with a greater openness to professions related to services to people and all those sectors that will not be invested by automation and will express a relatively high demand for labour. The traditional structuring of the courses will be accompanied by more flexible and faster formulas to support the redevelopment needs expressed by small businesses. In addition, distance learning will be enhanced, both in response to the emergency situation, and with a view to disseminating innovative training tools. All these changes will also require an action to update the trainers' skills.

The ESF+ may also contribute to the dissemination of tertiary education through the strengthening of the professionalizing component, according to forms connected with the academic one, as well as the contribution to support the exercise of the right to university study, including through the financing of scholarships.

The connection between quality vocational training and employment in the sectors considered strategic for the future of Piemonte is to be considered central and will become the pivot around which to turn all regional policies on employment (in particular young people) and work in the new programming cycle. With respect to this intention, the already enunciated project for the constitution of the **Academies** with a territorial vocation evidently plays a leading role.

The NRRP proposes to allocate a total of 20.89 billion euros to improve education and training services.

NRRP Italy tomorrow, 25 April 2021, Mission 4. Education and research

The evaluation evidence relating to the plan for **school guidance** also points out the opportunity to give further continuation and extension to the actions financed, strengthening the system functions in support of conscious choices and consistent with the needs of the local business community, as well as, of course, with individual aspirations, acting at the same time to improve the training of the operators involved and promoting access to individual counters.

Among the **interventions for job placement**, the evaluation of the Job Services Voucher measured a good net effect from the point of view of employment outcomes, with an effectiveness differential of 26% for those who have completed an internship; more generally, the paths that involve internships or forms of apprenticeship offer better results from the point of view of job placement.

In this context, the considerable investments made in the **regional system of employment services** should be adequately valued, reaffirming the centrality of the Employment Offices in their function as a territorial hub for the realization of effective paths of job insertion and reintegration, as a result of an effective profiling action that preludes the direction of the citizen towards active policies, including vocational training, whose provision will be ensured within a cooperative model open to the contributions of the different subjects who operate in compliance with regional standards and who are accredited. Relevant for this purpose will continue to be the analysis of the labour market, which may benefit from the development of an econometric forecasting model, primarily for the use of CPIs, as well as the results of the surveys of the professional needs demanded, so as to further accentuate the orientation to labour demand of the supply of qualifications and skills, whether they are aimed at incoming young people or adults. Relevant in this regard will be the interactions and collaboration

between the training system, the productive and professional world, in the awareness, now consolidated, that the definition of skills and their training take place in the workplace as well as in laboratories and classrooms.

The evaluation evidence relating to measures to **support entrepreneurship, self-employment and business creation** shows a significantly higher survival rate for those who have benefited from the accompanying services and financial instruments supported by the ESF, whose experience should therefore be adequately capitalised, even more so in a period in which conventional work is destined to non-marginal backlash caused by the pandemic. Particular attention will be paid to supporting youth and female entrepreneurship.

In the relationship between vocational training and business, the need to transfer to future generations the managerial skills and knowledge acquired by entrepreneurs also arises within family businesses; to put compulsory school and companies in contact, specific training courses to "do business" would be desirable.

In this regard, it is also useful to develop company mentoring experiences to help young people train within companies in all areas of competence.

The ESF action in favor of the **social and labor inclusion of disadvantaged subjects** does not yet have a consolidated evaluation apparatus regarding the results produced by the interesting and diverse projects developed during the 2014-2020 programming. Where the most vulnerable subjects have access to services available to the general population, albeit with operational variations intended to take into account their specific needs, there has been, on the one hand, a dynamic similar to that observable in general (e.g. the good services that produce better employment results when it incorporates internships or other forms of contact with the labour market, training for the unemployed more performing for attractive profiles, etc.), on the other hand a competition that has tended to exclude them.

The evaluation of special active inclusion projects, for example, to combat **serious exploitation and trafficking**, highlighted, in particular, the need to: guarantee more flexible access and participation rules to vocational training and training catalogues that are more customisable and suitable for different cultural backgrounds; build professional qualification paths in collaboration with companies; review disadvantage categories, taking into account the coexistence and interaction of different vulnerability factors.

This indication can be taken as an example of the need for dedicated routes for the disadvantaged or, in any case, calibrated according to their particular needs.

The networks activated within the framework of the WeCare project will also deserve an additional evaluation, as well as, on a smaller scale, that dedicated to family caregivers, who have urged the territories to challenge themselves on the theme of **social innovation**, whose topicality and necessity can only be amplified by the scope of the transformations underway.

Action with respect to the complex world of **health services**, which is essentially outside the scope of the ESF+ if not for the strengthening of welfare networks between local authorities and the third sector, will above all require careful management and synergistic implementation of the various instruments and funds, ordinary and extraordinary, national and European, which are and will be available, with four fundamental objectives: the development of the hitherto deficient territorial network, the renewal of health and socio-health facilities, the strengthening of personnel and the creation of an integrated health and social information system. These actions are even more necessary after the strong impact of the COVID-19 pandemic, which has highlighted the shortcomings in these areas and which is not showing itself to be close to exhaustion, but will probably still characterize the health and social scenario on a global and local scale for a long time, although with different forms and outcomes.

The implementation of health and social intervention plans will inevitably take into account the need to consolidate offers from managers belonging to the Third Sector by developing an integrated network logic at the territorial level.

To the actions dedicated to the Health mission, the NRRP dedicates a total of 20.23 billion euros. NRRP Italy tomorrow, 25 April 2021, Mission 6. Health

Actions aimed at the various social targets of beneficiaries are accompanied by interventions to consolidate employment centres, social services, solidarity networks and the regional vocational training system, to be integrated with national measures and on the basis of management by territorial areas. It will be necessary to strengthen the information systems, to adapt the skills of the operators, to introduce the indications taken from the systems that detect needs and studies and analyses into the paths of taking charge, as well as to improve, also through coordination between services and integration between policies, the ability to take charge of the requests of the people (and companies) that access them, with a view to personalising the relevant responses.

This also includes the continuation, evaluation and consolidation of programmes to support innovation and social creativity, on the basis of the promising signs so far detected. These programs will be developed paying particular attention to the "object" ("new ideas of products, services, models") and the "process" (creation of "new social relationships and forms of collaboration") in a circular path that sees the individual territories as protagonists of projects capable of strongly affecting the pool of beneficiaries.

Starting from the needs of consolidation and updating of the lines of intervention, taking into account the suggestions offered by the evaluation and research, in the light of the strategic indications outlined, the **action of the ESF+ will be aimed at promoting greater and fairer participation in the labour market of the citizens of Piedmont**, so as to favour a competitive repositioning of its productive fabric that is based on the skills of people, and strengthen the social ties that characterize the territorial communities. To this end, the Regione Piemonte will act to:

- improve **access to employment**, with a focus on young people, NEETs and the long-term unemployed;
- support balanced **gender participation** in the labour market, including through the application of the principle of equal opportunities and the development of more specific actions for equality, work-family reconciliation, women's rights, the fight against violence in all its forms, respect for equal pay for men and women under Regional Law no. 11 of 19 May 2021 containing provisions for the promotion of gender equality and support for stable and quality female employment (which provides for a tax discount and an incentive for the recruitment of female staff);
- aim to increase the **effectiveness of education and training systems** in a perspective of orientation to the needs of the labour market and validation of the skills acquired, to support **informed training and professional** choices and to support the **transition** processes that lead from **education to work**;
- promote **equal access to education systems** in order to combat the dropout of young people from school and their integration into the labour market in order to promote their entry into the labour market and employability;
- support the processes of building educational communities with particular attention to S.E.N. (special educational needs) which are also carried by foreign or socially disadvantaged students;

- expand **lifelong learning opportunities for adults** to facilitate their stay in the labour market, including through the acquisition of qualifications that can enhance the skills acquired on the job; update the skills of workers throughout their working lives with continuous training actions linked to the needs of upskilling or reskilling;
- reduce the risks of social exclusion of the **most vulnerable population groups** (foreign citizens, migrants, minorities at risk of marginalization, gypsies), intervening through specific projects or adapting "generalist" measures in order to respond to the needs of the recipients of the interventions; also for this target, the intervention approach must see the individual as the carrier of specific needs around which to detail the individual interventions. With respect to the complexity of the measures to be adopted, the Region will use funds deriving from the 2021 – 2027 operational programming in close complementarity with funds under ministerial ownership of the F.A.M program;
- **combat all forms of poverty** (relative and absolute), including the educational poverty of minors (in line with Child Guarantee Programme): with regard to this area of action, the Region will promote measures to combat material deprivation, mainly through support for the network of persons involved in the distribution of food products and basic material assistance to the destitute, with accompanying measures, in particular, for homeless persons; with regard to educational poverty, educational activities aimed at minors in charge of social services will be supported and regulated;
- define measures to **combat low birth rates** (new services for mothers, bonuses for families, conciliation tools, corporate welfare...) adopting a transversal approach with respect to the different programmes; to be effective with respect to the purpose, regional action must take place in a logic of a) ease of access to the measures; b) certainty and stability in such a way as to generate a virtuous process of increasing the "social trust" necessary for conscious birth choices;
- promote **equal access to territorial welfare services**, including through the use of social innovation, strengthening their social welfare and third sector networks, both in terms of measures and new services for the fragile community, in order to eliminate the social and health deficiencies of the system;
- support the **right to housing** of citizens, considering that traditional social housing measures cover a structural deficit of availability that cannot be filled with respect to the overall needs; in this perspective, regional planning will stimulate the activation of different formulas of social housing in implementation of the "housing first" principle and in conjunction with the national measures already activated or in the process of activation, as well as with the investments destined for this area by the NRRP;
- increase the offer of proximity and home care services aimed at the elderly in order to promote a path aimed at keeping them as long as possible in their social and territorial context;
- promote the recovery of a sense of belonging and enhance degraded neighbourhoods of cities through projects of social value such as the "social gatekeeper", the "neighbourhood antennas" and the shared management of "common goods".

In the specific case of the prevention of early school leaving, the **regional network that supports children**, families and teachers will be strengthened through counters scattered throughout the territory, through online orientation guides, group actions provided at school institutions, individual in-depth interviews and seminars dedicated to parents.

In addition to these "preventive" actions, the activities of **copied with failures and reorientation** activated not only in response to the requests of the individual child or family (individual tutoring actions) will also be enhanced, but also on the basis of a now consolidated and active reporting

procedure in the local network thanks to the collaboration with Schools, Training Agencies, Social Services, Employment Offices, Informagiovani and other territorial structures.

Of particular importance is the connection with the Vocational Training system which is undoubtedly one of the main tools that the Region introduces to offer courses of study aimed at qualification and support for entry into the labour market.

The Regione Piemonte will also ensure particular attention to the phenomenon of dispersion also as a result of the consequences generated by the pandemic situation through surveys, analyses and consequent intervention measures developed in close connection with USR and IRES Piemonte within the specific table already active.

In the implementation of the strategic lines outlined, it will also be necessary to:

- promote a strategy where the participation and empowerment of the recipients of social interventions is aimed at the activation of concrete measures spread throughout the regional territory of "**social restitution**";
- define supplementary tools and specialized figures of support and connection to individual projects of school inclusion and social integration of **children with disabilities** leaving school with accompanying actions to adult life and as independent as possible. Tools that, starting from a co-design of the life project with all the actors of the network, including the family, define individualized paths of job placement, building a bridge between health services dedicated to minors and services for adults; between school and the world of work: from student with disabilities to worker with disabilities;
- strengthen the measures already in place for the design of sustainable life paths in favour of **adults with disabilities** with the structured definition of paths for the "after us";
- define a strategic line for ageing (active ageing) with services and care for the elderly with vulnerabilities; implement services for the promotion of healthy lifestyles of the elderly with chronicity;
- foster a strong territorial connection between all institutional actors in order to share and make accessible all the information and opportunities available and useful to promote the activation, orientation, learning and inclusion of people. This linking operation must take place in compliance with the roles and skills of the subjects of the Third Sector with respect to which the main instrument of interaction by the Region must be that of "co-design".

In any case, all interventions relating to the area of social inclusion must tend to make the offer of essential levels of services effective and homogeneous throughout the regional territory (Article 22 of Law 328/2000), guaranteeing uniformity and equal access to services, also facilitating the establishment of Territorial Areas in which there is geographical coincidence between social, health and employment services.

Still in the context of complementarity, rural development, through the **RDP** currently in force, contributes to the social objective with different lines of intervention. In terms of skills, it provides a **specific training offer** aimed at agricultural and forestry operators; in this regard, the evaluation indicated the need to make the offer of courses more complete, taking into greater account the issues of sustainability, climate change, the reduction of pesticides in agriculture, business management and the relationship with the market. In addition, there is a measure aimed at favouring the **establishment of young farmers**, which has shown over time (the measure has been active since 2000) a substantial net effect favouring generational change in a very senile sector. The CAP reform path that will result in the next Strategic Plan provides for the maintenance of these objectives; in addition, it adds one dedicated to **food safety** and the protection of consumer health, within which the fight against antibiotic resistance will play a

crucial role, also caused by the excessive use of antibiotics in livestock, which generates heavy risks for human health and requires interventions to adapt processes throughout the livestock supply chain. Finally, the CAP will be able to contribute to social inclusion, supporting **social agriculture** and the **reduction of food waste**, with interventions in favour of the most deprived.

As a final point, it should be noted that the 2021-2027 system of cohesion policy objectives no longer provides for an objective dedicated to **strengthening administrative capacity**, an issue that will also be recalled in relation to PO5. However, it is believed that the needs to strengthen capacity, skills and personnel, as well as the training needs of local police forces, are well present in local administrations, subject, like companies, to the challenges of innovation, digital transition and adaptation to an ever-changing bureaucratic system. In this context, a reference to simplification is appropriate, also understood as stream-lining the procedures used for the management of the Funds, accompanied by the introduction of innovative technologies that accelerate times and processes also in a perspective of accessibility and reduction of the incidence of related costs.

With regard to the specific objective dedicated to **tourism and culture**, it should be noted that the cultural services sector will have to be subject to special care and support as a result of the profound damage suffered by the pandemic restrictions, which have effectively eliminated the possibilities of use by users. Within the framework of the structural policies of the Investment Funds, with a view to relaunching it is important to focus on the enhancement of cultural heritage, on the optimization of specific and sectoral skills, on the governance and digitalization of incoming, on the increase in value of tourist proposals (e.g. outdoor, sporting events, small events with high attractiveness for specific targets) as elements of attraction not only for tourists, but above all as a generator of value for the Piedmontese territories.

The potential inherent in the consolidation of **film and television production** in the regional territory must also be highlighted, both in terms of the development of qualified employment and a multiplier of expenditure on the induced sectors and, finally, in terms of the promotion and tourist enhancement of the territory.

It should also be noted that the publishing companies and independent bookstores of Piemonte represent, within the companies of the Piedmontese cultural sector, fundamental cultural safeguards, expressly regulated by regional law no. 11/2018: the book supply chain in Piemonte consists of economic operators, professionals and companies, which in addition to playing a cultural role of primary importance, operate in the free market.

Promoting the development of independent publishing entrepreneurship and companies that contribute to the dissemination of the book (bookstores) to increase its competitiveness, growth and development at the regional, national and international levels is therefore an important objective in terms of economic and cultural development.

The **development of tourism** in Piedmont, moreover, has been one of the most positive elements that emerged from the long economic crisis; its growth has been intelligently linked to the enhancement of the local heritage and the food and wine, cultural, sports and craft offer of the territories, in response to an increasingly segmented and qualified demand. Although the pandemic is hitting the sector hard, it remains an area on which to bet for the future of Piemonte and the enhancement of its territorial wealth. From this point of view, certain guidelines are particularly relevant.

The first concerns the coordination of action between interventions aimed at accommodation facilities, the offer of services compared to those dedicated to infrastructures and the enhancement of tangible and intangible assets; careful management of the action of the different financial instruments and sources that converge on these objectives must be implemented. A second important aspect is the relaunch of airport sites that can become an important tool to promote international tourism.

In addition, also in relation to the changed national and international scenarios of tourism markets, particular attention should be paid to training support for the updating of operators in the sector.

Functional for the achievement of the aforementioned lines is the creation of a special Destination Management System for the promotion of Piedmont, to support the integrated management of tourist destinations, useful for the various institutional functions and to support the offer.

The essential condition for tourism development is the accessibility of the territory. It therefore becomes increasingly important to improve mobility and connection infrastructures to and from the destination, by integrating infrastructure and service investments for the resident population with a project to develop tourist mobility (e.g. strategic nodal interconnections in the various capitals, even short-distance rail transport, connections with airports and ports, road and motorway system, LPT, navigation on the Po...).

Another relevant aspect refers to the **cultural and landscape heritage** to be enhanced in relation to the Three-Year Culture Programme and also to the themes promoted by the Regional Landscape Plan - RLP for the implementation of strategic local development programmes and projects that involve local communities and local associations through participatory pathways - such as in particular the recognition and promotion of identity landscapes, the implementation of the landscape connection network with specific reference to cultural and fruitive networks, the qualification of urban and peri-urban systems, the active safeguarding of historical agricultural landscapes - also through the definition and management of specific RDP measures aimed at enhancing the typical elements of the landscape and the architectural and rural museum heritage.

In order to adequately respond to the need to face emergency situations and to guarantee an adequate action for the maintenance and conservation of the tourist and cultural heritage, it is important to ensure the necessary resources, skills, competences and knowledge, also supporting with greater incisiveness the planning activity, through the definition and assumption of conservation plans and planned and preventive maintenance of natural and cultural resources, as well as the adoption of risk management plans by the managing bodies.

In relation to cultural and landscape heritage, Piemonte boasts a considerable heritage spread throughout the territory, which also gives rise to thematic and local networks - for example the system of Piedmontese fortifications - as well as the numerous UNESCO awards (Piedmontese UNESCO District) and the System of Ecomuseums recognized by the Regione Piemonte which, as demonstrated, can represent an important element of attraction and growth of the territories and local communities. In this regard, the positive experience of the measure aimed at enhancing the Piedmontese UNESCO district – tangible and intangible heritage, biosphere reserves, geo parks, creative cities that could be replicated - is highlighted.

The rich and varied UNESCO heritage in Piemonte ranges from large systems and monumental complexes, to areas of important landscape, naturalistic and urbanistic value, strongly interrelated with the rich intangible heritage of traditions, practices, arts and local knowledge; a strand with high potential for development is linked to their integrated and transversal enhancement, also through the study of new ways of use through forms of slow mobility, according to a perspective of sustainability aimed at combining and enhancing the various elements of peculiarity of the territories.

For the creation of a widespread culture of hospitality and to promote an effective use of digital communication, adequate and modern digital tools are necessary and it is necessary to activate training actions aimed at operators in the tourism, sports and cultural sectors, as well as it is important to stimulate the creation of business networks or other forms of association between very small subjects that only through group work can succeed in building an effective cultural

and tourist offer, not forgetting the wider involvement of local communities, according to a perspective of participation and empowerment that increasingly qualifies them as a "community of heritage".

In the context of the integration between tourism, production and quality of life, it is appropriate to mention the regional Ecomuseums, which have produced the maximum effort, consolidating collaboration relationships with agricultural districts and emerging forms of fair trade, to relaunch local production systems linked to the qualification of products and activities, the result of the recovery of the local cultural heritage, in concrete and tangible actions to transform the consumer culture of food. Ecomuseums operate aiming at new forms of local economy with which to experiment with short and sustainable supply chain projects that are transversal to the agricultural, environmental, tourist, cultural, social (welfare) aspects. The ecomuseums of Piemonte are active centers of socio-cultural animation, promoting concrete actions towards a more conscious quality of life. Each ecomuseum is the bearer of a particular identity heritage, a series of projects and relationships that are expressed in creativity, on the themes of sustainability, the enhancement of the landscape and cultural heritage.

Among the opportunities emerges that of continuing the path of enhancement of the **Royal Residences**, due to its relevance and the wide positive impact it can generate on the territory and on a wide range of operators; in the wake of the great operation of recovery and relaunch of the Venaria Reale, emerges the opportunity to enhance the area of Stupinigi: in particular it is appropriate to intervene with conservation and enhancement actions within the building and the so-called concentric of Stupinigi and the real estate complexes and agricultural tenements insistent in the territory of the Royal Parks, promoting its sustainable tourism development within a broader program of enhancement of the system of the Royal Savoy Residences.

The purposes must be sought in the creation of accommodation and reception activities and in the establishment of new activities to enhance local products and peasant culture, responding to the circular economy system and strengthening the identity and knowledge of local craftsmanship. The intervention aims to promote the territory on an international scale and may lead to the creation of new jobs in the cultural, tourism and productive sectors.

In analogy, "lighthouse" cultural assets can be identified in the regional territory to which the activity of protection and enhancement can be directed with the aim of tourism development and promotion of the identity realities of the Piedmontese territory.

Due to its structural and functional characteristics - a transversal relevance both as a valuable architectural asset located in an urban area and as the home of important scientific and naturalistic collections that make it a point of reference for study, research, education and scientific dissemination activities - the need for an organic and comprehensive intervention on the building that houses the **Regional Museum of Natural Sciences** is emphasized, which would allow to overcome the logic of the succession of individual and limited lots that, due to lack of resources, has characterized the interventions of past years. An overall operation would allow the return to the community of an asset of absolute importance.

Among the traditional specializations of the tourist offer of Piedmont, the one aimed at **winter tourism** and skiing is among the most relevant and, at the same time, in need of a reorientation action. The effects of climate change are particularly evident in the Alpine area and are manifested with the increasing frequency of mild winters and scarce and irregular snowfall, with predictions of worsening of these phenomena in the near future. This climate situation hinders the development and maintenance of a snow cover suitable for winter sports. The answer to this criticality must be differentiated: for the stations located at the highest altitudes, where winter temperatures are still sufficiently rigid, it is appropriate to implement artificial snowmaking systems also by creating multifunctional supply basins, with a view to the integrated enhancement of the water resource; for the stations located at lower altitudes, for which it is more difficult to find the conditions for good snowmaking both natural and artificial,

diversification paths must be considered, focusing on proposals based on the use of the natural and landscape heritage and on the practice of other outdoor activities, even with different seasonality. In this sense, the cross-border PITEM project, aimed at developing the offer of outdoor tourism with neighbouring territories by integrating sports itineraries with cultural, food and wine and spiritual experiences, has outlined a path on which to proceed.

To be noted is a growing success of the summer mountain that is registering a growing trend in recent years and has allowed, in summer 2020, to record tourist movements in greater volume than the prospects drawn during the spring lockdown.

The **summer tourism** offer has constant growth elements that must be valued from the point of view of communicative life and supported in development, in order to generate greater sustainability of the economic activities of the inland areas, in particular mountain areas and make them less subject to seasonal fluctuations. Functional in this context could also be the contribution of artisan companies to the development and/or enhancement of specific services and products to support the enhancement of local heritage.

One segment of tourist demand that shows a strong increase is that of **bicycle tourism**; the spread of pedal-assisted bicycles has greatly expanded the opportunities for use in a region like ours, with a lot of declivous territory. The starting point is the Network of cycling routes of regional interest, approved by the Regione Piemonte in 2015, which outlines a wide mesh network of continuous and safe cycle paths throughout the regional territory, connected to similar infrastructures of neighbouring States and regions. These basic guidelines will connect local routes structured in such a way as to articulate a cycling offer on all territories, also in response to the needs of reconversion of the offer mentioned above. In addition to the tourist cycle path called VENTO (wind) that will connect Turin to Venice along the banks of the Po, importance will be given to routes capable of developing substantial tourist flows, such as the Lake Maggiore cycle path.

In general, it is necessary to take into account the important tourist value of sports practice at all levels in the Piedmontese territories which, in recent years, base part of their economic activity on sport practiced in the natural environment for tourism purposes, or on sports events of regional, national and international importance and major sporting events from which important repercussions derive in the territory from an economic, cultural and tourist point of view.

The NRRP devotes 6.68 billion euros to tourism and culture, of which 2.40 billion to tourism and 4.28 billion to the culture of European funds.

NRRP Italy tomorrow, 25 April 2021, Mission 1. Digitisation, innovation, competitiveness, culture and tourism.

The Regione Piemonte recognizes **sport**, in addition to the fundamental value for psycho-physical well-being and health protection, as a tool for equal opportunities, integration and social inclusion, prevention and combating phenomena of discomfort, marginalization and school dropout, also in relation to the accessibility and usability of sports venues, for the public and for athletes.

In the same way, the Regione Piemonte intends to promote interventions and initiatives aimed at promoting: the spread of sports and motor sports also as a tool to combat the phenomena of dispersion and school and university dropout - a phenomenon that risks involving, in the short and medium term, sensitive quotas of students who, under the mandatory regime of distance learning in the current phase of management of the Covid-19 pandemic, have experienced a

prolonged distance from normal teaching in the presence and physical participation in the places responsible for training and learning; the integration of sports policies with those of education, tourism-cultural, mountain, education, social, environmental and health; the protection and enhancement of traditional sports and historical sports clubs; the integration of school sports construction in the sports system of the territory to which they belong.

The great plant and tourist-receptive heritage present in Piemonte must be regenerated and adapted to the needs of sports and attractive development as represented above (e.g. sport, cycling tourism), and regional investments must also allow the application, to as many plants as possible, of energy efficiency technologies, in full respect of the environment and the territory also in order to make the management of the same plants more economically advantageous.

The sports industry assumes significant dimensions, for interested companies and for job opportunities. Technology is becoming indispensable for the analysis of sports performance. This applies equally to professional and amateur athletes and to those who enjoy sport as spectators. Digital services and wearable electronics are revolutionizing the world of performance analysis by flooding insiders and beyond (coaches, professional athletes, physiotherapists, etc.) with data. There are also materials for clothing and equipment; also in this sector, research and innovation support the athlete in achieving the best performance, thanks to smart materials that adapt on the basis of external stimuli or composite materials that combine lightness and resistance.

All these opportunities call for adequate investments also in training, investing in adequate professional figures, in synergy with the sustained training action of the ESF+.

The link between the protection and enhancement of sports and motor activities practiced and widespread in the region and the training taken as a whole is all the more important as it also shows its impact on the world of school and education of young people. The European Commission's Eurydice Report on Physical Education and Sport in Schools in Europe reiterated that physical education is not limited to exercising physical skills or fulfilling only a recreational function. Participation in many physical activities in fact allows you to know and fully understand principles and concepts such as the "rules of the game", fair play and respect, tactical and body awareness and to develop social awareness linked to personal interaction and team commitment characteristic of many sports.

On the level of personal development, physical education helps young people to develop willpower, sense of responsibility, patience and courage, and to be realistic about their abilities and in their decisions and actions.

The spread of Integrated Digital Teaching – IDT among large sections of the student population and the inability to participate in group physical activities has contributed to an increase in a trend, linked to the spread of sedentary lifestyles, often related to incorrect eating habits. The decrease in physical activity among young people requires special attention to be paid to the possibility of the onset of physical and mental health problems, having a direct and indirect impact not only on sports policies, but also on policies focused on education and training, on combating new inequalities and on combating the risk of social exclusion of young people. Pressing challenges that will need to be prepared and to which an adequate training offer plan can respond that points to the enhancement of sport and the integration of tools capable of supporting cultural policies on the territories and for the territories.

The NRRP allocates 700 million euros of European funds for sport as a tool for social inclusion. NRRP Italy tomorrow, 25 April 2021, Mission 5. Inclusion and Cohesion

2.7 PO5 - PIEMONTE CLOSER TO THE CITIZENS: TERRITORIAL DEVELOPMENT AND ADMINISTRATIVE CAPACITY

PO5 - Piemonte closer to citizens

- I. Promote integrated social, economic and environmental development, cultural heritage and security in urban areas
- II. Promote locally integrated social, economic and environmental development, cultural heritage and security, including for rural and coastal areas, including through participatory local development initiatives

THE ANALYSIS

The essential purpose of PO5 of the European Cohesion Policy 2021-2027 is to involve local governments more in territorial strategies, to give them effectiveness and to finalise them to results that are in line with both community guidelines and local needs. The objective should stimulate the project and governance action of the metropolitan city, some important intermediate cities, inland areas and other inter-communal realities. From this point of view, Piemonte will be able to use and strengthen the experience acquired in previous programming cycles. Interesting is the first two-year implementation of the WeCare programme, focused on social innovation and territorial governance of social policies. Among the results, there is a greater coverage of services in the territories, a strengthening of the design capacity between public bodies and private social bodies.

Among the characteristics of Piemonte related to this objective, the very high administrative fragmentation stands out: the region, in fact, although hosting 7.5% of the national population, has 1,181 municipalities out of a total of about 8,000 (15%), most of them of small demographic size and located in areas with low population density (mountains and high hills). This structure of local government, while ensuring widespread administrative supervision and being partially supported by the system of Unions of Municipalities, often emerges as a critical factor in the implementation of local development strategies and in the provision of services to citizens.

In the 2014-2020 cycle, the Regione Piemonte joined the implementation of the Urban Agenda, the national strategy aimed at strengthening the service functions of urban centres, promoting digital inclusion, energy efficiency, consumption reduction and the enhancement of the historical-cultural heritage of cities, areas of intervention that will also be recalled in the next programming cycle. In particular, as part of the ROP ERDF 2014-2020, the Region has **promoted integrated actions for the sustainable urban development** of the 7 provincial capitals (the Municipality of Turin is excluded as it benefits from the NOP Metro) in order to make them innovative, efficient and competitive places. The support with the structural funds was mainly aimed at improving the offer of digital services, energy saving interventions on public buildings and the enhancement of cultural centres that can represent a driving force for the promotion of tourism in the territory.

The Operational Plan of the NOP **metro Turin** was focused on two macro-stances:

- shape the Smart City, promoting the reduction of energy consumption and CO2 emissions through integrated interventions in terms of energy efficiency on heritage and sustainable mobility, improve the PA system and the services provided by it to citizens and businesses through a wider use of ICT technologies;
- improve accessibility and social inclusion with action strategies aimed, on the one hand, at intervening in areas of high marginality and, on the other, at responding in an innovative way to new social and territorial challenges, also through interventions

aimed at supporting the birth and development of companies that can generate positive territorial impacts from a social, cultural, environmental and employment point of view in urban areas with high problems.

In addition, the Metropolitan City is starting to build its own Agenda for Sustainable Development, a tool to support the implementation of the Regional Strategy and which will have to influence the entity's own planning. The City of Cuneo is also developing a Strategic Plan consistent with the objectives of the 2030 Agenda, and it seems appropriate to coordinate these actions with the Regional Strategy.

The **National Strategy for Inland Areas of the Country - NSIA** is an ambitious project of place-based policy and in the period 2014-2020 has developed new multilevel local governance methods aimed at addressing, through the adoption of an integrated approach aimed at promoting local development, demographic challenges and responding to the needs of fragile territories, distant from the main centres of supply of essential services, characterized by significant geographical or demographic disadvantages. It represents the combination of actions for local development and strengthening of essential citizenship services (health, transport and education), aimed at relaunching those areas of the country that are essential and in demographic decline, but rich in important environmental and cultural resources. These areas in Piemonte basically coincide with the rural areas of mountains and high hills, which have suffered from a centuries-long path of abandonment, but to which we look with renewed interest, also in light of the new needs that emerged with the pandemic. The NSIA was implemented both through state resources and through resources co-financed by the 2014-2020 programming through the ESF and ERDF ROPs, CSP and RDP with regard to local development interventions. The NSIA route involved the identification of pilot areas: the Regione Piemonte identified the Maira and Grana Valleys, the Ossola Valley, the Bormida Valley and the Lanzo Valleys with DRG no. 21-1251 of 30 March 2015. Each area has developed its own strategy according to a path that provides for a dense dialogue with the territory under the coordination and verification action of the Regione Piemonte and the Department for Cohesion Policies of the Presidency of the Council of Ministers that coordinates the activities of the Internal Areas Technical Committee - IATC. The Regione Piemonte has signed with the Agency for Territorial Cohesion, the Ministry of Education, University and Research, the Ministry of Infrastructure and Transport, the National Agency for Active Labour Policies, the Ministry of Agricultural, Food and Forestry Policies, the Ministry of Health and the Montana Valli Maira and Grana Union the Framework Programme Agreement for the implementation of the planned investments of the Integrated Program of the Valli Maira and Grana internal area. The similar implementation tools for integrated investments proposed by the Ossola Valleys, the Bormida Valley and the Lanzo Valleys are being defined and signed, whose Area Strategy has already been approved by both the national and regional levels.

To facilitate the implementation of the planned investments, the Regione Piemonte has established an interdirectional technical working group with functions of regulation and support to the heads of the areas in the specific issues of intervention. Specifically, it is about promoting the use of homogeneous information and management systems already known by the Local Authorities in the use of additional funds for regional development, providing training and operational support for the monitoring of interventions and the timely transmission of data at the national level for the disbursement of funds for progress to the implementing entities, extending the operations of the Task Forces to the enhancement of essential services, strengthening the management and coordination functions assigned to the regional and local Heads of the Framework Programme Agreements.

Policy Objective 5 identifies innovative mobility services, an integral part of all programming in the four areas identified within NSIA, to be extended to other areas of Piemonte (mountainous,

hilly, peripheral areas outside NSIA characterized by a weak demand for transport)¹⁹ through the dissemination of good NSIA practices and the capitalization of European ETC projects. In addition, transport actions concerning the smart city theme are potentially allocated, including some road safety actions (e.g. traffic monitoring, infomobility, etc.).

Also within the context of participatory local development processes, it is worth recalling the **Leader** measure within the Rural Development Programme - RDP 2014-2020, which provides for the establishment of Local Action Groups - LAGS which, with the bottom-up approach defined by the CLLD method, have drawn up Local Development Plans, now in an advanced stage of implementation, which provide for interventions dedicated to the development of the local economy and services to citizens. In Piemonte there are currently 14 LAGS that cover substantially the entire mountain and high hill area.

With regard to the involvement of local communities in territorial strategies, the experience of the **River and Lake Contracts**, active in the regional territory since 2007 and nationally recognised since 2015, with the inclusion of Article 68 bis within the so-called Environmental Code, Legislative Decree 152/2006, is relevant. The River and Lake Contracts are voluntary instruments of strategic, negotiated and participatory planning born for the integration of policies and different planning of large area at the local level and which have as a central element the waterways and lakes. Their purpose is to promote multilevel participatory decision-making processes for the protection, the correct management of water resources, the enhancement of river territories, the protection from hydraulic risk and sustainable development of the areas involved. In Piedmont, 17 Contract processes are active with the involvement of about 500 Municipalities, distributed in the Metropolitan City and in all Provinces. As part of the NOP Governance and Institutional Capacity 2014-2020, a specific line of action was financed, lasting five years, on negotiated water programming through the River Contracts, as part of the CREIAMO PA Project (e.g. Turin City Tourist District).

In addition to the design paths dedicated to the different territorial realities, a challenge to be addressed concerns the **implementation capacity** of the various levels of government, which is not always adequate, as evidenced by the severe delays in the implementation of infrastructures or major strategies such as the NSIA and the UBB Plan. This is a critical issue that does not specifically concern Piedmont, but the country as a whole and all its central and local administrative structures, the latter very weakened in recent years by reforms only partially

¹⁹ The specific problems of areas with low transport demand are those addressed in the NSIA areas and involve: defining sustainable mobility plans for the Area (interior, valley, periphery...); coordination and sharing of the LPT offer with neighbouring municipalities; adaptation of access nodes to essential health services, school, but also work; development of infomobility systems (creation of software systems capable of providing users through the web, smartphones, monitors on vehicles, infoterminals and other communication tools with the schedules of the various public transport services, possible connections, line routes, any warnings, presence of additional services, such as car sharing, etc.); fleet renewal; adjustment of service stops on rubber, "rubber-rubber" and "rubber-iron" exchange car parks; equipped parking spaces, also guarded, for bicycles (simple - racks, supports, or structures that support a bicycle while keeping it standing - or storage - bike garages, cycle stations, or protected spaces for bicycle shelters; improvement of connection services with national entry points (rail, port) and improvement of the accessibility of the tourist attractions of the territory (favouring the opportunities for a "sustainable use" of environmental and cultural resources with the development of cycling networks and routes); development of equipped paths and trails; redevelopment of disused railway branches for hiking; acquisition of means of transport with low environmental impact and for the transport of the disabled in relation to the actual demand, both current and potential, and in relation to the characteristics of the roads and parking areas of the Inland Area; creation of digital platforms for tourist information; removal of architectural barriers (in transport and road systems); carpooling projects; flexible or on-call LPT services dedicated to tourism demand.

implemented and by cuts in financial resources. In fact, the OECD²⁰ reports that in our country, after an intense phase of reduction, now only 14% of employees work in public administration, compared to an OECD average of 18% and percentages close to 25% for the Nordic countries. Furthermore, the reduction in the workforce is accompanied by difficulties in generational change, the transmission of skills and an increase in precarious work.

In addition to the contraction of the PA's human resources, several factors slow down the process: the long gestation in strategic elaboration, the multiplication of administrative steps between local subjects and financiers, the long times of technical design of the works, the lack of adequate technical personnel in many local administrations, the administrative costs related to community design rules. For all these factors, the European Union highlights the need to strengthen administrative capacity in the Recommendations for Italy.

Table 14. SWOT PO5 analysis of Piedmont

STRENGTHS	WEAKNESSES
<ul style="list-style-type: none"> ✓ Concerted design experiences for urban areas ✓ Ongoing social innovation processes aimed at building collaborative networks, including with European funding ✓ Experience of strategic design and implementation of bottom-up development programs in rural areas (LEADER) and inland areas, with thematic and financial integration, at the territorial level of national sectoral policies (transport, education and health) and local development initiatives designed with a path of involvement of the public-private partnership present in the areas and in the framework of intercommunal service associations, as a precondition for the implementation of public investments ✓ Experience of the River and Lake Contracts as voluntary strategic planning tools, negotiated and participated in 	<ul style="list-style-type: none"> ✗ High administrative fragmentation (small and very small municipalities), especially in rural and mountainous areas; in Piemonte 15% of all Italian municipalities are found ✗ Low number of employees in public administration (European average 18%, Italian average 14%) ✗ Difficulty in generational change and transfer of skills in the PA
OPPORTUNITIES	THREATS
<ul style="list-style-type: none"> ✓ Strengthening administrative capacity and accelerating generational change in the PA ✓ Strengthening of participatory and integrated territorial planning and planning mechanisms ✓ Initiatives to relaunch internal areas inspired by the concept of smart villages, relaunch of the National Strategy for Internal Areas and the role of inter-municipal associations ✓ Consolidation of inter-municipal policies and associations launched with NSIA in 2014. ✓ Strategy for strengthening administrative capacity 	<ul style="list-style-type: none"> ✗ Difficulties in implementing policies related to the weakening of administrative capacity ✗ Difference between administrative action and the need / potential of the territory due to the slowness and complexity of implementing important strategies (NSIA, UBB Plan...) ✗ Failure to enhance local heritage and marginalisation of inland areas due to lack of adequate, or too slow, responses ✗ Territorial digital divide as a slowing down element to the local development of the peripheral areas

²⁰ OECD (2019) Government at a glance.

THE GUIDELINES

The PO5 of the 2021-2027 European programming is particularly important for Piemonte as it connects to the needs of enhancing the territories and responding to local instances through the development of territorial strategies. It is divided, based on its two Specific Objectives, into two lines of intervention oriented to urban and rural areas, which in Italy are also defined as Internal Areas. In this perspective, the polycentric interpretation of Piemonte proposed by regional territorial planning can constitute a reference for the territorial articulation and implementation of the objective.

PO5 offers a space for intervention both to the two cohesion policy funds ERDF and ESF+ and to other Community and national sources such as the EAFRD (rural development), the CSF and other resources allocated by the State. It also has a strong connection with the RSSD and with the cross-cutting initiatives promoted by EUSALP.

In an objective that is particularly attentive to local requests and resources and taking into account the convergences mentioned above, the USD of Piemonte also introduces some guidelines aimed at tourism and the enhancement of cultural heritage and considerations related to local governance and administrative capacity.

The city has always maintained its role as a social, economic and cultural reference. Urban life is vibrant and creative. Cities are places of economic dynamism and innovation. But we need to make urban life more pleasant, agile, healthy and flexible. To do this, the Regione Piemonte intends to ensure that all those who live in the centre and those who live in the suburbs have access to all essential services nearby. The Covid-19 emergency, with its progressive limitations and lockdown, has forced people to change the use of the urban fabric and therefore to rethink the city. The "15-minute city"²¹ model outlines a scenario in which, within the urban fabric, everyone can have all the services they need at a **maximum distance of 15 minutes** on foot or by bike. A city of this type revalues the concept of neighbourhood, which becomes a complete cell of urban life, aims to optimise spaces by conveying a reflection on the resources available and their use, promotes the presence of green areas that favour refreshment in summer and replace busy roads. In this way, the city becomes an organism capable of growing in a sustainable way, without, however, the idea of sustainability and the rhythms of the city remaining on two parallel tracks, but rather, starting from a reflection on why these rhythms must necessarily be so swirling, it guarantees citizens the proximity of schools, supermarkets, workplaces, etc.

A city, therefore, that has as its reason for existence the well-being of its citizens, and that for this reason follows four fundamental principles underlying its structuring: "Firstly, **ecology**: for a green and sustainable city. Secondly, **proximity**: living at a reduced distance from other activities. Third, **solidarity**: to create links between people. Finally, **participation** should actively involve citizens in the transformation of their neighbourhood."

Declining the idea in the direction of green transition and digital transition, the Region intends to promote the shared care of **common goods** for the relaunch of the suburbs, with a social impact and also potentially innovative, the use of natural resources for the creation of new skills and employment in the territory, the use of digital tools for civic participation and urban marketing, the regeneration of squares and roads with cycle paths to improve the efficiency of transport and the sense of security perceived by citizens. Among the actions able to intervene on aspects of living and on space-time dynamics, urban regeneration is envisaged, on a local and/or district scale, to make public spaces more usable - experimental actions and pilot actions that redevelop spaces through forms of tactical urbanism and paths of active participation of

²¹ The concept of "15-minute city" was theorized as part of the ten-year studies on "Smart Cities" by Carlos Moreno, Scientific Director of the "Entrepreneurship, Territory, Innovation" course at the Sorbonne.

citizens or that make public greenery more usable by reducing the gap between urban and rural dimensions -, actions to accompany local trade and emerging cultural and creative companies, which will go hand in hand with large infrastructural interventions.

In order to have a solid executive capacity, the Region promotes and encourages the capacity of the areas to integrate the resources made available by the institutions (European, national and regional) with a new relationship with companies and foundations in a perspective of shared social responsibility. The guidelines for urban areas are closely linked to the national guidelines, which propose an action in continuity with the Urban Agenda for the period 2014-2020, articulating the action on two fronts: metropolitan areas and medium-sized cities. In this regard, it should be noted that the proposals for regulations for the 2021-2027 ERDF provide that at least 8% of resources at the regional level are allocated to forms of participatory local development and integrated territorial investments.

For **metropolitan areas**, therefore, for the 2021-2027 programming cycle, the NOP Metro has been confirmed, which adopts a broad urban area perspective (at the level of Metropolitan City) and which in Piemonte addresses the Turin territory. The action will continue along the two lines of intervention already initiated. In continuity with the previous programming, the first director refers to the concept of smart cities and the second line of action addresses social issues and focuses on improving accessibility and social inclusion.

With regard to **medium-sized cities**, drawing on the experience of the Regione Piemonte, which in the 2014-2020 cycle adhered to the Urban Agenda by promoting integrated actions for sustainable urban development in the 7 provincial capitals, the national guidelines are to continue supporting urban regeneration processes and innovation of settlement and housing policies through the redevelopment of public heritage, public spaces and the reuse of abandoned areas. Medium-sized cities will also be able to define coalitions and projects that go beyond their municipal perimeter, to embrace the surrounding territorial system, according to the different structure, density and size of the urbanized territories.

In Piedmont, the rural areas are very extensive and differentiated from each other, including mountain and high hill territories with evident signs of abandonment, mountain tourist areas, large hilly territories with a strong food and wine vocation. In the rural areas of Piemonte there are very varied local production vocations, in the form of districts, territorial supply chains and niche productions. The tourism sector is also significantly differentiated in terms of supply characteristics and intervention needs. Therefore, an action aimed at rural territories must necessarily be differentiated and articulated, using all available instruments, in line with the regional regulatory framework recently updated with the launch of a new mountain law in 2019 and the national law on small municipalities in 2017.

The national guidelines continue to propose as a fundamental line of action the **National Strategy for Inland Areas - NSIA**, further accompanying the transition from the testing phase to the structuring of a real national policy, with its own equipment and operating rules. NSIA works jointly on the issues of work and economic growth according to territorial vocations and opportunities, and essential services for people and communities; it also promotes permanent municipal associations in the areas involved. As mentioned above, however, NSIA has so far shown considerable critical issues throughout the national territory, manifested in the serious implementation delay: launched in 2013, NSIA saw the identification of pilot areas in March 2015 but only recently was it possible to reach Framework Programme Agreements; the implementation phase is ongoing. The reasons, as emerged from various evaluations, are due to the too complex and cluttered governance and the slow response of national structures with respect to the advancement of local projects. As of December 10, 2020, 70 internal areas have closed the process of approving their strategy. The total value of the approved strategies amounts to 1.142 billion euros. The financial framework of the state of implementation of NSIA - and of the 70 approved area strategies - provides for the contribution of approximately:

- €261 million from stability laws
- €693 million from the ERDF, ESF, EAFRD and EMFF Regional Programmes
- €189 million from other public and private resources

There are 41 FPAs signed and underwritten, 7 FPAs in preliminary sharing, 16 FPAs in preliminary investigation. The financial dimension is equal to 668 million euros, the ERDF fund is the financial source that contributes the most resources, equal to 45% of the total. The resources of the revolving fund are important, equal to 20% of the resources. From a sectoral point of view, most of the resources concern interventions related to essential services (school 11%, health 10% and mobility 20%).

For the period 2021-2027, the Regione Piemonte considers internal areas as one of the key territorial dimensions of cohesion policy in view of the fact that in Piemonte there is a spatial organization based on smaller centres, often small in size, significantly distant from the main centres of supply of essential services (education, health and mobility) and that in many cases are able to guarantee residents limited accessibility to services, with repercussions on the demographic trend both in terms of residents and composition by age and birth rate. The primary need of the so-called "fragile territories" is to be able to still reside there, or to be able to return to it. In addition to the public investment made both nationally and in the networks and communities of local practices that characterized the 2014-2020 period, the consolidation of regional intervention in 2021-2027 in favor of these areas - characterized by limited access to basic services and the presence of indices of socio-economic disadvantage and depopulation - is linked to their potential economic development that can be represented by a territorial capital, often unused, consisting of important environmental resources (water resources, agricultural systems, forests, natural and human landscapes) and cultural resources (archaeological assets, historical settlements, abbeys, small museums, trade centers). In addition to the above considerations, it should also be remembered that most of the regional territory is governed by small administrations with reduced planning and investment capacity. The result is an opportunity for the community to support these administrations both on the material level, sharing initiatives of local relevance supported centrally by the Region (as are many procedures for territorial governance and related IT support tools), and on the level of territorial enhancement, thus mitigating the disadvantages of marginality and enhancing its advantages.

Therefore, within the framework of the guidelines defined by the NSIA, the Regione Piemonte intends to give substance to a policy of structural intervention, but also to make use, if it is proposed again, of the right to adapt the mapping proposed by the national level in order to make it respond to local specificities.

The NRRP provides European resources for the National Strategy for the Inland Areas the amount of €830 million.

NRRP Italy tomorrow, 25 April 2021, Mission 5. Inclusion and Cohesion

At the national level, the interest in the consolidation and expansion of the River and Lake Contracts is also highlighted as multilevel participatory decision-making processes aimed at strengthening the role of local communities in the enhancement of river territories as an element for the sustainable development of the areas involved. In this regard, funded by the NOP Governance 2014-2020, a National Observatory on River Contracts is being created in order to homogenize the participatory approach to river policies at the Italian level and train PA

technicians capable of conducting negotiation processes on the national territory. Piemonte will be an active part of this programme in the coming years.

Some important levers come from both cohesion policy and the RDP (mainly through LEADER and measures that support agro-silvopastoral infrastructure investments, basic services and villages, as well as from the specific type of operation in support of NSIA) and, in perspective, from the rural development component of the next CAP. In addition, national funds will be available for infrastructure and maintenance of the territory, to which will be added the resources that will derive from the mechanisms for the enhancement of natural resources, starting with water. Taken together, these tools and resources make it possible to define an agenda for the mountain and rural areas of Piedmont.

It is strategic to strengthen integrated approaches to the development of agricultural and forestry enterprises and rural areas capable of interpreting the main support needs that this transition requires in an innovative, sustainable and inclusive way, and to strengthen local partnerships (LAGs, Parks and Protected Areas, Biodistricts, Basin Authorities and reclamation consortia, forest consortia, other public-proven partnerships, etc.), which favour the coordination and management of integrated local development instruments and the participation of rural actors.

The EU guidelines for local development actions in rural areas focus on the concept of a **smart village**, that is, a community revitalised by digitalisation, the development of services tailored to the needs of the population and the enhancement of endogenous resources (natural and cultural heritage, energy resources, local production). Another paradigm of reference is that of **energy communities**, in which the production and exchange of energy from renewable sources contributes to the response to climate change and the enhancement of local resources. This area may include social innovation actions and testing of services developed for a population scattered throughout the territory, also with the introduction of digital technologies, such as telemedicine, but also in the form of organization of the services themselves, focusing above all on health prevention.

The outbreak of the pandemic has made it possible to highlight, on the one hand, the important advantages in terms of safety offered by the most internal areas of the region, also reporting interesting phenomena of settlement of people oriented to remote work or the start of agricultural and artisanal production activities; however, in many areas the lack of adequate digital connections has also manifested itself in all its seriousness. The **overcoming of the digital divide** is therefore a fundamental priority for these territories; it is necessary to accelerate the conclusion of the UBB Plan and stimulate the offer of network operators able to independently offer internet access at an adequate standard. In addition, the contribution of the ERDF and ESF+ to the development of digital services and the adaptation of skills will be important. The provision of connectivity and the evolution towards 5G technology is an enabling element for the introduction of a line of services based on the Internet of Things (IoT) to monitor the supply, development and control of local systems, in support of local government, security, the green economy, mobility and infrastructure: in fact, the full implementation of smart cities and smart lands, which realise all the potential of "going local".

Still on the subject of services, rural areas require attention to the maintenance and adaptation of the LPT to ensure the movement of people and tourists. Moreover, in general terms, action by Posts, banks and mobile operators is necessary to slow down the reduction of services in areas with lower population density. An important contribution to the development of rural areas will be ensured, also in the next programming cycle, by **rural development** which includes numerous measures aimed at mountain territories, such as the compensatory allowance for farmers operating in conditions of natural limitations, interventions aimed at recovering and enhancing the heritage of the villages, the development of the hiking network and related services, the development of forestry activities and the enhancement of specific services and

products to support the enhancement of local heritage, as well as support for land associations for the recovery of agricultural land. In addition, the investment and generational replacement measures in agriculture, although designed for the entire regional territory, lend themselves to being modulated with selection criteria and implementation methods that facilitate the impact on mountain areas.

In the field of rural development, the contribution of **LEADER** is relevant, the measure based on the participatory approach that will continue to ensure the support of the LAGs and the implementation of their development plans, which as emerges from the ongoing evaluation of the RDP 2014-2020 are able to operate in synergy with the other measures of the RDP and to create collaborative networks between local operators. A further contribution to the development of these territories will be offered by a calibration of ERDF and ESF+ measures able to respond to the needs for innovation, investment and skills expressed by SMEs and craft enterprises. In addition, mountain areas lend themselves to being involved in ETC cross-border projects, and in the cross-cutting initiatives proposed by the EUSALP strategy on relevant issues such as the circular economy, the reduction of climate-altering emissions, smart villages and alpine space planning.

With regard to a Piemonte closer to the citizens, the evaluation paths carried out in recent years reveal important critical issues in the implementation of some strategies and projects relevant to the region, such as the already mentioned NSIA and UBB Plan; the implementation of programmes financed by the European Funds must also be confronted with complex administrative paths. This is a critical issue that does not specifically concern Piedmont, but the country as a whole and all its central and local administrative structures, the latter very weakened in recent years by reforms only partially implemented and by cuts in financial resources, weakening or eliminating above all intermediate bodies (Provinces, Mountain Communities) and increasing the "distance" between the regional body and small municipalities, in an extremely fragmented municipal context. The ability to find new subsidiary forms of interaction and integration between the different levels of the centre and the periphery is essential to improve and speed up decision-making processes. In this regard, even if in the next programming of the Cohesion Policy Funds there is no longer an objective linked to administrative capacity, a strengthening action is more necessary than ever at all levels of government, also given the staff shortages of the entities and the need to adapt their skills in a constantly changing administrative and socio-economic context.

This aspect is the responsibility of the 2021-2027 Partnership Agreement, taking into account the explicit recall contained in the Recommendations for Italy of the European Union and the need to ensure an adequate management capacity of the Funds and projects provided for by the NRRP. Moreover, it is precisely in the Next Generation EU extraordinary funds that it will be possible to identify the resources that will be able to address the shortcomings highlighted. The national strategy must provide for structural interventions dedicated to the strengthening of human resources, simplification, organisational reforms of the PA, enabling digital platforms. On the subject of administrative capacity, support for the areas included in the National Strategy for the Inland Areas will be ensured by national-level programming.

The regional guidelines move along two lines: the strengthening of the leading role of the regional body in defining forms of association and coordination on the territory (for example Unions of Municipalities) and a greater attention to the needs related to human resources in relation to the coverage of staff shortages, generational change and the transfer of experience, the updating of skills.

This is documented and explained in detail in the reflections on the relevant dimensions to be observed, already produced with the contribution of the Region and available at: https://www.regione.piemonte.it/web/sites/default/files/media/documenti/2019-03/report_capacita_soggetti_attuatori-.pdf

The Regione Piemonte, precisely to overcome the aforementioned difficulties of the instruments used previously, to make the different interventions synergistic also from a multi-fund perspective, to better adapt policies and measures to specific local realities, intends to proceed with a **Regional Plan for Local Development** and enhancement of the territory by creating and coordinating a broad consultation for homogeneous areas to develop integrated area projects aimed at increasing the competitiveness and sustainability of the territories from a socio-economic point of view. The integrated area design consists of a complex of interventions, pertaining to one or more economic sectors, which are characterized by a close coherence, by a functional and synergistic connection, which converge towards a common objective of development of the territory through the concentration of investments on one or more potential of the area. Moving from local needs and potentialities, highlighted and shared during consultations between public and private actors, objectives are identified consistent with the regional guidelines that, with the available resources, can be pursued and a strategy is developed constituting the framework within which a series of actions and interventions functional to it are placed, integrated with each other and achievable in time consistent with the programming. The homogeneity of the area makes it possible to optimize the use of resources, as it concentrates interventions on one or a few selected potentials in the chosen territory, allows reaching a critical mass essential to produce the expected effects, activates synergies and avoids unproductive dispersion on too many objectives.

In order to optimize the results that each territory will be able to achieve based on its own potential and tools, the consultation activity will be accompanied by a task force with the task of transferring skills and optimizing the use of available resources in a multi-fund and integrated design perspective. The aim is to use the traditional tools of local development to transfer to the territories an increasing and more effective capacity to transform ideas into projects and the latter into actions that benefit local communities, encouraging sustainable and intelligent growth of economic development.

2.8 THE CONTRIBUTION OF THE PIEDMONTESE PARTNERSHIP TO THE UNITARY STRATEGIC DOCUMENT

The indications of the European Union establish that the Member States and the Regions share with as many stakeholders as possible the strategic lines they intend to adopt for the programming of the Structural Funds, by virtue of the principle of maximum participation of citizens in public life, which governs all European action.

As in the previous programming cycles, the Regione Piemonte has submitted to public consultation its proposal for a Unitary Strategic Document, containing the main guidelines that the administration intends to pursue through the European Structural Funds, in order to guarantee, through a broad program of involvement and listening to the stakeholders representing the territory, the participation of civil society.

In order to make the consultation as broad as possible and functional to the objective of sharing the administration's strategies, a programme of meetings was organised with the institutional, economic, social and cultural partnership comprising public institutions, city authorities and other public authorities, economic partners and social partners, relevant bodies representing civil society, professional bodies, environmental partners and bodies responsible for promoting social inclusion, fundamental rights, the rights of persons with disabilities, gender equality and non-discrimination.

On 19 February 2021, the Board launched the partnership consultation process.

The roadshow "Piemonte heart of Europe – Let's shape the future", from 25 February to 31 March, involved over 2,500 stakeholders in 11 territorial meetings in Novara, Vercelli, Verbania, Biella, Alessandria, Asti, Cuneo, Turin and Alba.

During the meetings, the most representative subjects of widespread interests and most accustomed to complex projects brought their testimonies, such as the capital and the Metropolitan City of Turin, the provinces and major cities, local authorities, the entire chamber system, the regional and territorial components of employers' associations, trade unions, foundations of banking origin, universities and the Polytechnic, training and research institutions, tourism and the third sector.

A particular focus was also dedicated to the consultation of young people between 18 and 35 years of age. For them and with them was organized the event "Piemonte 2027. NextGen for the future", Saturday 20 March, a digital brainstorming marathon that saw the participation of 400 young people resident or domiciled in Piedmont.

The consultation continued until 30 April 2021 on the regional website www.piemonte2021-2027.eu, through which the approximately 40 contributions to the DSU received in written form were collected.

Part of the indications collected can be summarised in general priorities that the subjects consulted wish to be included in a strategic perimeter that integrates the USD at a higher level, intertwined with the measures of the National Recovery and Resilience Plan. In fact, in the first half of 2021 there is a coincidence between the programming of the European Structural Funds and that of the resources of the Next Generation EU extraordinary fund destined for post-pandemic recovery, which will have to converge and integrate to better achieve the common objectives.

Other contributions are of a project nature and have been considered as general indications of priorities of the proposers.

The testimonies collected during the roadshow "Piemonte heart of Europe" and the written contributions received from the partnership have in common the following general considerations:

- the concern for the situation in Piemonte post-pandemic that will have to be addressed with adequate policies to revive exports, businesses and work and to support all territories, including through investments in physical and technological infrastructure;
- the vision of a Region that, through a forward-looking and coordinated programming of European and national funds that are coming to the territories, can imagine new sustainable economic and social scenarios for Piemonte in line with European policy strategies;
- the need for integrated policies among policy makers both in the definition of priorities and in the consequent planning of tools and resources;
- the request to involve the territories in the governance and programming of the next decade and to involve micro and small businesses in commerce, tourism, crafts and the third sector in the measures of the structural funds to allow them to innovate;
- the need to simplify the relationship of businesses and citizens with the public administration, to facilitate access for all to the tools and resources available;
- the importance of strong coordination in the technological transition that impacts all areas of programming and all segments of the population and requires, first of all, adequate skills.

Other contributions, almost entirely already present in the preparatory work for the identification of regional strategic meta-directions, are included within the individual Policy Objectives (PO), in relation to which they are aggregated below.

2.8.1 CONSULTATION OF THE PARTNERSHIP

PO1 – SMARTER PIEDMONT

The partners, in particular those of the entrepreneurial system, requested the Regione Piemonte to focus efforts on the main sectors for **industrial recovery** such as automotive, sustainable mobility, agrifood, aerospace/robotics, textiles/bio-textiles and smart-textiles, technologies 4.0/artificial intelligence, green building/redevelopment of disused industrial sites and to direct the resources and tools of public support to research and innovation in particular in the sectors of the Intelligent Specialization Strategy (S3) which includes the main sectors of territorial specialization.

Another development lever that the partners identify as strategic to support the competitiveness of Piedmontese companies is to focus on enabling technologies to support the production chains, for example in the field of 3D construction or, for the automotive sector, in technological research for autonomous driving and innovative data management.

In terms of **business regeneration** policies, they must address the critical issue of generational interchange in micro and small enterprises and support entrepreneurship for new generations, including in the manufacturing, agricultural and craft sectors. To facilitate the transfer of companies, investments could be useful to promote the acquisition of existing companies or the takeover of new entrepreneurs who maintain skills and resources on the territory, avoiding the dispersion of know-how and, at the same time, innovating business models.

The importance of relaunching exports and supporting **internationalisation** by strengthening the role of CEIP and Integrated Supply Chain Projects (PIF – Progetti Integrati di Filiera) is then considered extremely important so that the markets and products with the highest growth are identified and cross-cutting activities to strengthen all supply chains are developed.

Greater attention was requested to **attract investments** to relaunch the competitiveness of the Piedmontese territory through territorial marketing actions and tools such as Settlement Contracts. According to stakeholders, Piemonte can focus on the added value given by lifestyle, the beauty of the territory, the presence of prestigious universities and can promote actions to retain and attract talent through the creation of even more competitive living and working conditions.

Alongside the measures affecting industry and development drivers throughout the Piemonte business world, there are some **production chains** composed of micro, small and medium-sized enterprises that have asked the Region to be the subject of greater attention for future planning. The fashion supply chain, for example, calls for investments in internationalization, digitalization, research, innovation, and design in favour of the system of artisans, micro, small and medium-sized enterprises, especially in the first line, which support large companies.

Another very important supply chain for Piemonte that requires support is the internal agricultural production system to react to an increasingly globalized market, guaranteeing quality and sustainability. The "farm to fork" production chain needs to increase the number and potential of companies in the entire supply chain. The Region is asked to coordinate ERDF and RDP funds by investing in infrastructures, services and logistics structures necessary for the

agri-food and agro-industrial supply chains and to strengthen collaboration between the Administration, Universities, Chambers of Commerce and trade associations to develop agritech innovation and internationalization, with the identification of new markets.

Finally, targeted public policies are requested to promote a strengthening and organisational evolution of micro and small enterprises of which trade, tourism, sport and the third sector are composed, which on the one hand helps them to absorb the effects of the pandemic and on the other to carry out a process of technological and ecological transition.

Other innovative production sectors such as design, blue and green economy could be further enhanced with ad hoc investments and strategies.

In general, the contributions to the Policy Objective 1 are very focused on the theme of **innovation**: it is noted that, to make the sector more competitive and support the digital transition of Piedmontese companies, it is appropriate to continue to give centrality to innovation programs for SMEs that can activate new international and innovative supply chains (e.g. Polo Well living, ICO Valley). At the same time, investments must continue on major strategic projects such as the Italian Institute of Artificial Intelligence in Turin I3A, the European Digital Innovation Hub, the CIM 4.0 and MTCC Competence Centres and support for public and private partnerships for innovation and hi-tech, also with vocational education and training programmes dedicated to digital.

Stakeholders have a positive opinion of the experience of the **Innovation Hubs**, which could further benefit from forms of coordination such as regional innovation agencies already experimented in other Italian regions and could interest a greater number of small and medium-sized companies.

At the same time, it is important to enhance the **patents** developed by universities and research institutions, spin-off companies of Piedmontese universities and start-ups, also with specific tutoring programs.

The sectors characterized by the presence of many micro and small businesses need to invest in R&I through business aggregations, not having the business size to do it individually: among these there are the aforementioned tourism, trade, agriculture and creative and cultural companies.

To strengthen the competitiveness of SMEs and digital connectivity, which are two specific objectives of PO1, stakeholders stressed the importance of the use of **digital technologies** both for the industrial and logistics sectors and for other economic sectors such as trade, tourism, sports, culture, telemedicine, agriculture, mobility and transport, communication and information.

To achieve these objectives, the Region could support the adoption of technologies that act as enabling levers (open data, IOT, cyber security, cloud...) and transformative technologies (blockchain, artificial intelligence AI, drones, virtual reality and augmented reality).

The digitization of **databases** is a topic of interest for many entities, for the business world as well as for that of services. Investment in technologies must continue to further strengthen coordination between databases of different parties for the exchange of information and to limit duplication and dispersion of data.

Among the subjects with which the Regione Piemonte can interact to share open data, universities, training and research centres, technology hubs, the Territorial Agency for Housing as well as the territorial Chambers of Commerce that take into account the specificities of local production activities are indicated, and can contribute by making their databases, Digital Enterprise Points and the European Enterprise Network available.

In order to complete the digital transition, it is necessary to continue public investments in **satellite technologies** and in the spread of the 5G network, as well as for the completion of the

UBB in white areas and grey areas. This is a fundamental element to strengthen the competitiveness of companies and to facilitate remote working and residential development, including in mountain areas and small municipalities.

Digitalization has also been identified as a fundamental tool for the **bureaucratic simplification** of public administrations, an aspect that is indicated as essential both for the development of the Piedmontese entrepreneurial fabric and to encourage the establishment of new foreign companies. To put the PA in a position to carry out a simplification process, investments are needed on the professional training of internal resources, on the instrumentation and procedures, as well as on coordination with the timing and delivery methods of the other main lenders.

Some subjects stressed the need for integrated policies between policy makers and between them and trade representatives, business associations and intermediate bodies to define common objectives on which to build future programming. Other entities have requested to open access to the Structural Funds to micro and small enterprises, with calls adapted to the size of the company and reducing the minimum thresholds for access to calls. The Chambers of Commerce proposed to contribute to the management of some measures through a task force of experts aimed at one-to-one accompaniment for SMEs.

On the subject of financial instruments and credit to companies, small and medium-sized enterprises would need to improve **access to non-bank credit** and strengthen the system of guarantees (Confidi, public guarantee funds, market financial instruments) with alternative financing instruments (such as social impact bonds, crowdfunding) and in synergy with other lenders or public and private investors. The issue of restart also involves self-employed workers from different sectors, harshly hit by the economic crisis, for whom it has been asked to extend welfare measures and access to credit.

PO2 – GREENER PIEDMONT

The ecological transition is one of the objectives common to the European agendas and programmes and is also present among the objectives of the Structural Funds. The contributions of the partnership have given a lot of space to this objective by emphasizing some priorities.

On the subject of **energy**, stakeholders called for a regional investment plan for the energy efficiency of public buildings (in particular schools, affiliated and public residential buildings, sports facilities) also using Public-Private Partnerships and an asbestos reclamation plan for public buildings. To strengthen these interventions, support has been proposed to companies that activate energy efficiency and renewable energy use interventions, for example for mountain and sports facilities (swimming pools, outdoor facilities...) or for accommodation facilities.

Among the proposals to strengthen sustainable development, support is required for the use of new technologies to produce energy (biomethane, hydrogen, photovoltaic, biomass...), also in agriculture and in mountain areas, as well as the activation of energy communities and the development of plants for the production of renewable energy sources to lower energy costs.

In terms of energy, another element emerged is the need to promote electric mobility and the spread of storage and refuelling systems for electric vehicles.

A further element for the green transition is that of **waste** management, on which the partnership has asked to support waste to energy programmes and to take advantage of digital technologies to further enhance the separate collection and tracking of waste. In addition, some production sectors can support the green transition by favouring the reuse of eco-friendly materials for both products and packaging, as well as implementing nearshoring supply chains.

A topic of great relevance and interest was that of the **circular economy**, which needs strategies that stimulate new production chains and the creation of companies to integrate existing chains through targeted investments in research and development (for example, rubber, hemp, etc.) and also needs support for companies that use production residues for other production chains. In this sense, collaborations between companies and the creation of upcycling and restyling start-ups can be encouraged. To promote this production paradigm, it is strategic to provide specific training that creates specialists in the sector and increases companies' awareness of the subject and its potential and a common language.

To support this path of production innovation, it was proposed to introduce a system of certifications of the most sustainable companies, also for the benefit of consumers, and to direct resources for companies in R&I projects and technological investments for the reuse of waste.

With regard to **climate and pollution**, the contributions received concerned the need to promote awareness-raising actions aimed at local authorities and citizens on the issue of climate change and towards pollution prevention and containment interventions and behaviours. Some interventions have been reported that, among others, can favour the reduction of pollution such as the replacement of domestic heating systems and the reduction of the use of chemistry in agriculture with the parallel strengthening of organic agriculture and with an innovation of the logistics network of the entire supply chain. Tourism can also be a key promoting, in general, the concept of sustainability and, in particular, respectful behaviours towards the environment and landscape.

Finally, attention was paid to the use of **natural resources** and emphasis was placed on the recovery of water for snowmaking, grazing and agriculture through the construction of reservoirs, on the need to reduce water consumption for sports facilities and on the correct management of forest assets and green areas.

In terms of soil protection, attention was paid to the important contribution that new technologies can make in the prevention and management of emergencies, in particular in the prevention of hydrogeological risks.

PO3 – PIEMONTE MORE CONNECTED

PO3 focuses on the theme of physical connections: the partnership expressed some positions on the optimisation of link management, the potential offered for this sector by technologies and the need for strategic programming for the benefit of businesses and citizens.

It was reiterated that technology represents an opportunity for **infrastructure and transport management** by imagining a dashboard common to public administrations that facilitates the monitoring of infrastructure maintenance interventions and the management of traffic data, as well as the possibility of creating an IT archive for public works to pool data from different administrations.

Infrastructure is also essential to restart the post-pandemic export of Piedmontese companies, therefore a careful analysis of the priorities for infrastructure intervention to be financed with European funds is necessary, also in relation to the Regional Mobility and Transport Plan. Among the supply chains that need adequate infrastructure there is the tourist one that requires greater connections with the nearest airports and ports to encourage foreign tourism and infrastructures suitable for managing tourist flows, especially outside large centres. A particular need has been manifested by some production activities, such as the stone sector, which are not located along the main infrastructure connections, but are developed in internal areas or in places that are barely reachable.

The theme of infrastructures involves balancing their implementation with minimizing land consumption, especially in transportation.

Another issue that emerged from the contributions is that of the potential of **rail transport**, which constitutes an alternative to road transport for both goods and people and is, according to some, to be further developed. The Iron bonus and electrified trains are two of the interventions proposed to support rail traffic. The investments requested from the Region should also concern the diffusion of networks beyond those used for high speed and the restoration of abandoned railways and historic railways.

People's mobility is changing: awareness is spreading that the daily mobility choices made by individual citizens have economic and environmental repercussions. The contributions received show the need to support interventions and policies to encourage **multi-modality** with a view to sustainability, for example by implementing electric public and private transport, car and bike sharing, cycle paths both for tourist use and for daily trips on short journeys. The spread of multi-modality and sharing is supported by technologies that allow the sharing of data and the coordination of the different transport networks for people. **Sharing mobility**, in order to spread outside the metropolitan area, however, still needs support from public administrations in order to stimulate players in the sector to invest in other areas as well. Outside urban centres, there is also a greater need for non-automotive connections, especially for young people, the elderly and commuters.

Investing in multi-modality also means supporting and strengthening artisan MSMEs linked to the mobility sector.

In terms of sustainable mobility, particular attention is paid to **cycling tourism** and **cyclability**: wide-ranging interventions such as VENTO (wind), with the cycle paths connected to it and the new projects that are spreading in Piemonte are able to support a segment of the tourist offer that feeds productive activities and creates jobs. Urban cycle paths, on the other hand, need networks of routes with lighting and paving that make them safe and suitable for everyday travel.

PO4- PIEMONTE MORE SOCIAL

The main objective of the programming of the Structural Funds is to create employment, an aspect that is linked to the competitiveness of companies and on which the investments made with both the ERDF and ESF must converge. The theme of employment and vocational training was at the centre of most of the contributions collected both during the "Piemonte heart of Europe" consultation roadshow and through the collection of suggestions on the regional site.

Speaking of **employment**, the need to identify precise strategies to reduce the mismatch between supply and demand and to coordinate a workforce retraining program at all levels (upskilling, reskilling) emerges as a priority. The importance of strengthening partnerships with and between companies, associations, schools and training bodies, non-profit organisations to develop quality employment and vocational training by connecting demand and supply also thanks to the use of technological infrastructures was stressed: an example are the forecasting systems on the trend of the labour market and on the professional and training needs of companies used by the chamber system.

Specific strategies and interventions must be introduced to promote the **employment of the weaker sections** of the population, including NEETs, which are also a priority target for the EU. Good work service and internships have been identified by the partnership as useful tools to combat the phenomenon of NEETs and long-term unemployment. Equally important is to continue with support for active policies for unemployed adults and young people - also in collaboration with employers' parties - and for people with mental or physical fragility or disabilities and with the interconnection between welfare and health policies and those of

employment. The Employment Centres could be relaunched by strengthening collaboration with the employer sector and evaluating the effectiveness of the tools adopted.

Women need specific support tools and policies that allow them to reconcile working life with family needs such as assistance and support services for participation in the labour market, incentives for forms of work flexibility, allowances for dependent children and recruitment bonuses.

Support for **business creation** is considered particularly important in some areas: among these, tourism, which can count on a training system specialised in food and wine, can lead to the creation of new businesses and the activation of new jobs in the area. Similarly, the non-profit sector (cooperatives and social enterprises) can be enhanced with adequate support for capitalisation and organisational strengthening to make Turin a centre of specialisation in social innovation.

Young people and women can be supported in starting social enterprises within paths already started by public bodies that support projects and activities with a social impact on the territory.

With regard to the other specific objective of PO4, **vocational training** aimed at the inclusion, improvement and retraining of workers, was highlighted, on the one hand, the need for highly specialised training courses on the topics of digital innovation, environmental sustainability, green and STEM skills and, on the other, the importance of dual apprenticeship. The first and second level apprenticeship contract has been cited as the optimal legal framework for the meeting of training and work.

Technology is a tool that has changed the world of work and given rise to new professional skills within companies, therefore it is necessary to update and retrain human resources with **upskilling and reskilling** actions of companies, especially related to digitalization and 4.0 technologies, in particular in relation to the areas of specialization of the S3. Training must cover all levels including managers and entrepreneurs to allow them to develop skills in the technological field and in business and management innovation tools.

To further increase the standard of the vocational training system in Piedmont, it was proposed to work on the evaluation of the performance of ITSs and to also involve employers' associations in the design of the Academies.

On the subject of **LLL - lifelong learning**, the effectiveness of vouchers provided directly to the worker was highlighted, especially for those who have little expendable skills, and the importance of maintaining a high level of learning of practical skills through laboratories and the model of the "training company" in the workplace. Training also requires investment in structures and equipment, not only in training courses, in order to be competitive and have professional technical laboratories suitable for Industry 4.0.

According to the contributions received, the craft sector is one of those that most needs **technical training** in line with the needs of companies and training courses for artisan excellence. To support craftsmanship, some tools could be enhanced such as corporate apprenticeships (how to make), training and professionalisation activities with attention to new technologies, STEM subjects and new business models, partnership agreements between companies and universities to promote research and development projects. Fashion, for example, could be included in high-level training courses; small and medium-sized tourism and trade companies and the traditional trades sector, such as stone craftsmen or stonemasons, could be recipients of innovative training and professional development courses; family care workers could be dedicated to specific vocational training courses.

According to some, **young people** must be the object of particular attention because they have suffered the effect of the pandemic more than others and on several fronts: from the work point of view because they often have precarious contracts and do not enjoy protections such as

layoffs and the blocking of dismissals and, if they have been unemployed for more than 12 months, they risk not being able to reintegrate into the world of work; from the education point of view because the suspension of school activities has meant compromising the learning of a study method that is necessary to have throughout life, including work.

According to some institutions, **communication campaigns** conducted at the regional level would be useful to strengthen school guidance, providing young people and their families with an adequate knowledge of possible educational paths and highlighting the alternatives that the world of vocational training in Piemonte offers young people to guide them towards choosing a path with employment opportunities in the long term. Communication must also be able to increase the perception of the value of technical training. It could be useful to train young people in entrepreneurship as early as high school, thus facilitating generational exchange in micro and small businesses and bringing the new generations closer to entrepreneurship, even in the most traditional sectors such as manufacturing, agriculture and crafts.

Technology has changed the delivery of **school education** very quickly, therefore it is necessary to invest to innovate teaching and increase the digital skills of the school world, training teachers in the most effective management of distance learning. Distance learning has also posed a problem of instrumentation within families in economic difficulty and, on this aspect, the support of the public or providers can be decisive especially in order to prevent this difficulty from generating school dropout.

The strategies and **actions** of policy makers **aimed at children** must be coordinated to combat decreased birth-rate and offer educational facilities for children that, on the one hand, support working women and, on the other, promote the fight against educational poverty in the 0-6 age group. Sports activity in schools has also been indicated as an effective element to combat early school leaving.

One of the objectives of the Cohesion Funds is to promote the **social inclusion** of the weakest population groups (young people, women, disadvantaged people), by investing in equal opportunities, social protection and fair working conditions. Job placement is considered a particularly useful element of social inclusion for vulnerable groups: the partnership has identified some useful tools for this purpose such as apprenticeship placement, forms of job placement and free courses.

Equally useful are interventions to make public heritage accessible to people with disabilities by eliminating architectural barriers and continuing to train designers and technicians through collaboration with Professional Associations.

The social inclusion of young people also passes through culture and sport and active participation in associations, in particular in small municipalities and in peripheral or internal areas.

An opportunity for social innovation to reconcile private life and work will be given in the coming years by remote working and remote co-working that could change the lifestyle of many workers.

Of particular interest was the issue of **prevention and health care**. It was asked to enhance the role of health culture and health prevention with awareness campaigns that promote the importance of healthy lifestyles also in natural contexts, food education and sports and cultural activity for all age groups.

At the same time, it will be necessary to develop new models of organization of health services by strengthening home care, favoring public and private specialist clinical networks and reinvesting in a digital plan for telemedicine and in social innovation programs that experiment with community services with the involvement of third sector entities. The use of new

technologies for both research and innovation by companies in the health sector will also be determined in this field.

One of the topics on which various contributions have focused is **tourism**, a cross-cutting subject that interests both companies and trade associations and public bodies. To help the sector react to the effects of the pandemic, the Region was asked to define a governance strategy and direction for the tourism sector. This coordination is asked to draw up a strategic tourism development plan for the Piemonte destination to be relaunched through investments in infrastructure and digital technologies, communication and marketing, training of tourism operators.

Some lines of development considered strategic to promote tourism are outdoor tourism and, in particular, cycle tourism, holiday working or bleisure tourism (business + leisure), which can involve mainly small municipalities, and sports tourism. The leitmotif of these supply methods is sustainability, which should also be included in the training of operators and in the design of structures and infrastructures.

The enhancement of the Piedmontese tourist offer can also be achieved by enhancing the widespread cultural heritage and local typicalities, as well as diversifying and seasonalising the offer to distribute attendance throughout the year.

For the next programming cycle, Europe has identified **culture** as an element of social cohesion; the *Testo Unico della Cultura* (Consolidated Law on Culture) approved by the Regione Piemonte in 2018 also recognized "culture in all its aspects, genres and manifestations, as an essential value and fundamental instrument of human growth, free expression, means of promotion and social education, communication, of irreplaceable social and educational value, in particular for the young generations, and as a factor of economic and social development of the territory and the communities that inhabit it". After a long period of closure of the offices and at a time of particular difficulty, the Region is asked to support the business sector and cultural institutions and to enhance the heritage also with integrated communication campaigns of the assets that characterize Piedmont: UNESCO sites, the system of Royal Residences, the network of fortifications and military roads, the viewpoints and the less widespread heritage, the Museum of Natural Sciences of Turin and the science system. In order to qualify the management of cultural heritage and the tourist offer, it will be necessary, in the coming years, to invest in digitisation, in the training of operators and in overcoming architectural barriers.

PO5 – PIEMONTE CLOSER TO THE CITIZENS

As already specified in the draft USD presented to the partnership, the Region intends to carry out a polycentric reading of Piedmont, such as that proposed by the Regional Territorial Plan, which can constitute a reference for the articulation of homogeneous areas and the implementation of a **governance** that enhances the specificities of the territories and production activities.

In this direction, the requests of some stakeholders underline the opportunity to resort to integrated area planning to build tailored local development policies by strengthening territorial systems with the collaboration of the different administrative levels - Metropolitan City, Provinces, local authorities – and the social economic world - Chambers of Commerce, employers' associations, the third sector and civil society -, also resorting to Public-Private Partnerships and in a multi-funded logic.

The objective of PO5 is to promote integrated social, economic and environmental development for inland areas and the redevelopment of urban areas. On the subject of **internal areas**, the contributions highlighted the importance of promoting innovative solutions for the development of territories that are replicable models: in this regard, the National Strategy for

Inland Areas – NSIA has been identified as a tool to be enhanced as it is effective for local development. Following the pandemic and the new life and work habits that have been created, it seems strategic to support residential living in inland areas through adequate services, enhancing their natural, landscape, cultural and social resources, also with the participation of local communities. To strengthen this instrument, the partnership proposes to allocate part of the resources to stimulate the creation of economic, entrepreneurial and artisanal activities closely related to the specificity of the territories, as well as to favour the establishment of small and medium-sized enterprises with specific facilities, and also by enhancing the role of cooperative credit and rural funds.

For **urban and peri-urban areas**, the proposals concerned the possibility of regenerating them through the redevelopment of historic centres and a regional plan for the reclamation and reuse of disused buildings to be used for activities with a strong social impact, such as cultural and youth centres or sports centres. Needs common to both types of areas are the strengthening of social welfare services through the use of digital technologies, support for pilot projects of social innovation and the importance of actively involving citizens to map the needs of services in the territories and support residency.

2.8.2 THE YOUTH CONSULTATION

The proposals of the group of Piedmontese citizens aged between 18 and 35 are the result of the event "Piemonte 2027. Nextgen for the future", a 5-hour brainstorming session that involved 400 people.

The sample of young people who took part in the event is composed in equal measure of males and females who live in Piemonte and, for 36%, are aged between 22 and 25 years, for 55% are students and for 40% are workers.

The contributions collected at the tables were processed using an artificial intelligence system and summarised in the publication "Let's start from new ideas. Yours." downloadable from the website of the Regione Piemonte. Below are summarized the main emerging requests organized according to the 5 thematic sessions of the event: Smart Piemonte more digital, Environment Piemonte more sustainable, Inclusion Piemonte more social, Nextgen_Piemonte more innovative, Wellness Piemonte more livable.

SESSION 1. SMART PIEMONTE MORE DIGITAL

One of the issues that young people have given priority to is that of digitisation, which represents an important challenge that no one should leave behind. Digital transition means, for companies as well as for public administrations, a change of mentality and "digital thinking" in the design of services and goods, which must be born digital.

The Regione Piemonte is asked to play a leading role towards the transition to digital to ensure that citizens develop a **digital mindset** and to innovate tools and procedures, first of all by rejuvenating internal skills. In addition, the public administration could invest, through pilot projects, to enhance the use of **artificial intelligence** for the management of the services it provides, with attention to the user-friendly component, to promote the widespread dissemination of SPID (Public System of Digital Identity) and to centralize as many services as possible in a **single app**.

Public services are one of the areas that can most benefit from the use of digital, but the transition needs to be accompanied by specific **communication campaigns** to promote understanding of the potential of new technologies and overcome distrust of digital, especially by the elderly for whom it is useful to introduce support tools. In addition, citizens must be helped to understand the privacy policy and be made aware of what it means to transfer their data, how it is used and how to protect it.

Digital skills are an urgent issue for the world of education, both for students who need to study subjects such as computer science and coding, and for teachers who must learn new ways of delivering teaching by alternating offline and online learning, in particular for high schools and universities. The proposal of a **computer science license** for young students could serve to experiment with teaching in inverted classes, in which students who are in possession of it teach computer science to their teachers.

Lifelong learning on digital is the other element on which it is necessary to invest to provide and update the skills of workers and make them suitable to use the potential of new technologies: the Region could identify an entity that is a reference for digital training and interacts with the school system.

Given the rapid spread of remote working, **co-working and co-living** with a strong digital component could be developed to increase networking and hybridization opportunities, promoting creativity and innovation; for this purpose, buildings to be redeveloped and looking for destinations of use with social impact could be used.

Administrations could dedicate to young job seekers a service that exploits the potential of technologies, a **social network dedicated to job search** that communicates or supports the LinkedIn platform and facilitates the match between supply and demand.

For technologies to spread, it is necessary to strengthen **digital infrastructures** in non-central areas to overcome the digital territorial divide in favour of Turin. Talking about infrastructure also means talking about hardware and software: in order to make a real digital transition, it is useful for both public and private structures to constantly look for the most innovative solutions on the market.

The connection must not only be understood in a physical sense and linked to infrastructures, but also as an opportunity for the exchange and circulation of ideas. The connection between public and private is useful, for example, to develop the innovative potential of companies: the Region can promote **open innovation** through scouting actions of the most deserving and innovative realities, which could benefit from a counter for simplified bureaucracy innovation, as well as periodic **calls for ideas** dedicated to innovation to bring out the best digital minds in the area. With a view to being an "innovative region", an **internal regional acceleration service** could be created within the PA for start-ups, also favouring mentorship programmes.

To live up to the role that young people imagine entrusting them, the PA must have skills, for example by equipping itself with an **Agile Method Center**, which can simplify, innovate and digitize internal processes and which have the right mindset to digitize priority services - such as health or transport – overcoming the inefficiencies of analogue services.

Big data is the other major issue on which young people ask the Region to play a coordinating role; to exploit its potential, they propose to create a central database useful on the one hand to streamline the management of public services (e.g. lighting, transport...), on the other to share data that leads to the realization of innovative ideas in favour of companies and start-ups.

SESSION 2. ENVIRONMENT PIEMONTE MORE SUSTAINABLE

Sustainability is a cross-cutting theme in many public policies and in different areas of daily life and is an issue that, in all its meanings, requires a path of education and awareness aimed at institutions, businesses and citizens.

One of the elements to carry out this path of inclusion of sustainability in public policies is to build a regulatory perimeter that favours the dissemination of the culture of sustainability. To achieve this, **worktables** similar to those built for the programming of the 2021-2027 Structural Funds could be organized so that citizens, institutions and companies can define sustainable products and services methods. A regional **Nature Charter** would also be useful to define the state of the environment or invest in **2.0 Natural Parks** that also deal with the protection of Sites of Community Importance, Special Conservation Areas, and Special Protection Areas.

Industry regulations can also help, for example, **small producers** in the agricultural sector who produce sustainably, and a **green tax** could be introduced for companies that are sustainable or that are part of a **circular economy** supply chain. In order to promote the circular economy, it would be useful to create a public database that allows companies to identify and use the waste of other companies.

In terms of sustainability, it is useful to implement the use of **bulk products** through a network of public distributors in the territory at moderate prices with the advantage of being cheaper and reducing packaging and waste production.

Agri-tech and food science are sectors in which the Region can promote innovation, for example, with calls for ideas dedicated to start-ups and the modernisation of the production chain. **Blockchain** technology can also be useful to enhance quality production chains, such as that related to food, because it allows consumers to control the origin of food and certify its sustainability.

When it comes to sustainability and the environment, it is inevitable to talk about **smart mobility**, a topic that, from the youth consultation, has proved to be particularly important and on which specific investments are requested. Electric transport, sharing, local public transport and rail transport are services on which young people aim and, to work at their best, they must be managed in an integrated way through a single **digital platform**. Also in this case, we need **professionals trained *ad hoc***, with technical and digital skills, but also an approach that integrates disciplines and meets different needs.

Communicating sustainability is the first step in creating a sustainability-oriented mentality so that it is a shared value and not a slogan; to do so, the PA should focus on communication campaigns and include it in school education.

Finally, speaking of green, the consultation resulted in the request to facilitate benefit and certified **B corp** companies for tax purposes and to help young people's professional orientation towards job and business choices also in the green field. Fiscal or economic levers can be useful to spread the use of technologies that limit the waste of both citizens and production activities (e.g. app for the leftovers of restaurants, markets, etc.) and facilitate the circulation of ideas between companies and research or university centres.

SESSION 3. INCLUSION PIEMONTE MORE SOCIAL

As with all other work sessions, the theme of inclusion also has different variations: including can mean enhancing identities, connecting people and territories, offering quality services to all citizens.

When we talk about inclusion, therefore, we talk about accessibility of services and territories and mobility is one of the elements to work on in order to put citizens in a position to choose in which part of the regional territory to reside. Mobility is one of the areas on which people are rapidly changing their approach and habits, also in relation to the use of technologies and a sustainability-oriented mindset. A general request, which underlies the other more specific ones, concerns the need to think of people's mobility as an intermodal **capillary network** that must connect the entire Piedmontese territory.

The **train** is a sustainable mean that could become the preferred choice for small daily trips if it was more economically accessible, if the passages were more frequent, especially in the sections that do not connect to large cities. Equally widespread and used by young people is the **bicycle**, a full-fledged way of transport that can be used daily for short trips both in urban and extra-urban areas. However, it is necessary to encourage the purchase of bicycles with programs and facilitations coordinated between the State and the Region, to rethink the urban planning of cities with bicycles as a means of wide dissemination and to build cycle paths as extra-urban connection routes. The spread of cycling is also linked to the use of it in tourism and sports: **cycling is a tourist activity** with an economic impact, but it is also an element to promote a sustainable mentality. The demand that emerges is to strengthen **integrated mobility** that presupposes reasoning, strategies and ad hoc actions. What is required are modular routes for travel by car and bike or by train and bike, support for **shared mobility**, the creation of integrated routes and services to spread multimodal transport also thanks to the use of digital technologies and also outside large cities.

The Region is asked to close a gap in terms of territorial inclusion between cities and city centres on the one hand and suburbs and small municipalities on the other; the latter are penalized by the lack of connections and essential "15 minutes away" services. The Administration can intervene, for example, with **incentives for decentralization** through tax breaks for those who choose to reside outside the cities, incentives for companies that use **remote working**, accessibility of **decentralised services** and use of digital technologies and support for **cultural and social associations** that stimulate the participation of young people in public life throughout the regional territory.

Spaces and services must be inclusive, especially public ones: according to the participants in the consultation, **public administrations** must be easily "**accessible**", for example by giving the opportunity to vote even for those who live outside their municipality or region of residence, making their services accessible and free of physical and communication barriers, organizing **multilingual counters**, training their staff to interact with a multi-ethnic community, **enhancing** the inclusion of unemployed and unemployed **young people** by employing them in socially useful projects.

The concept of the museum as a physical place is also in the making: **cultural heritage** must be able to be enjoyed even outside the museum premises and by everyone, art can be used to enhance entire neighbourhoods with works of **street art** and culture must establish itself as an element that contributes to the well-being of citizens.

Tourism is perceived as a local development tool for Piedmont; to create equity in the territory by giving the possibility of economic growth to villages and mountains, cities and rural areas, it is possible to focus on the relocation of tourist flows, favouring their greater diffusion. Tourism is able to create opportunities to build commercial chains and enhance local products, but in order to do so it needs ad hoc services and professionals in the sector.

Slow tourism activities such as cycling and walking are particularly sustainable, and it is the responsibility of the Region to **communicate tourism** as a resource and enhance its dissemination.

SESSION 4. NEXTGEN_Piemonte more innovative

Parallel to the policy objectives of the programming of European funds for 2021-2027, for young people too, the issue of training is one of the cornerstones of an innovation path that will cover the next ten years and of which it is necessary to trace the path until now.

A need very much felt by the participants is the **match between work and training**, expanding the curricula with the **subjects of tomorrow**: digital subjects, which should appear in the

curricula already from compulsory school, computer science, foreign languages, but also civic education. This means working on soft skills and technical and specialist skills at the same time. Young people need greater **confront with the world** of work already in the course of their studies, with internships, compulsory school-work alternation for all levels, greater connection between training institutions or universities and companies to define the professions and skills useful to the world of work.

Beyond the walls of the school, **extracurricular aggregation centres** are fundamental places to give young people the opportunity to acquire soft skills and can be useful to relocate NEETs and young people looking for employment. NEETs could be intercepted more easily using tools similar to social media and then try to remove them thanks to the intervention of psychologists and social workers.

Another proposal related to the training of young people and the need to acquire skills aligned with international standards and realities, is to enhance **international fixed-term work experiences** for young people and support **language centres**. The Region plays an important role because it can promote these innovation processes by supporting training programs abroad and international exchanges, promoting the acquisition of skills through extracurricular aggregation centres and connecting the world of education and vocational training with that of work.

Entrepreneurship and the entrance into the world of work of **young people** also need to be facilitated with specific measures: to this end, the public administration can **simplify** its **bureaucracy** or assist those who want to start a new company or a start-up, promote employment contracts dedicated to the **inclusion of young people** and can stimulate the meeting between young entrepreneurs and companies with **mentoring** programs and make **continuous training** for low-income groups economically sustainable. **Start-ups** with a social impact could have further recognition by the Region and a non-repayable support plan.

SESSION 5. WELLNESS PIEMONTE MORE LIVEABLE

Wellness is an open concept that is generated thanks to many factors and requires integrated policies ranging from health to sport, from social life to the environment and culture. Culture in particular is seen as an element of well-being for society, which collaborates in making the environment in which we live healthy, and therefore must be encouraged in terms of fruition, creation and circulation.

Museums are places of **living and open culture** that must work to increase their accessibility on the web by developing a **digital "twin"** that is capable of providing a quality and integrative experience with respect to the physical one; they must be places open to citizenship, becoming real cultural centres where the exchange of ideas and experiences is possible.

In order to remain alive, culture must circulate and be constantly communicated and valued by public bodies: the use by young people can also be stimulated by **favourable price policies** (e.g. subscriptions, discounts and dedicated offers) that are intended not only for students, but for young people in general and calibrated on their real spending possibilities. To encourage the creation of culture, the exchange of ideas and opportunities for artistic creation, **youth cultural centres** that could arise in public buildings to be redeveloped are useful.

The other sense of well-being that has been the subject of debate has been health: the management of physical health can benefit from the digitalization of services, for example by imagining an **application** that connects the **general practitioner and the patient**. **Psycho-physical health**, on the other hand, is perceived as **multifactorial**: some elements that can promote it are, in addition to the quality of the surrounding environment, the spread of the culture of psychological support and the reduction of work stress by experiencing the four-day work week.

3. COMPLEMENTARITY BETWEEN THE ACTION OF THE EUROPEAN FUNDS AND OTHER INSTRUMENTS

The 2021-2027 programming of the European Cohesion Funds is part of an extraordinary phase not only for the difficulties caused by the pandemic, but also for the opportunities offered by the response instruments that are taking shape, first and foremost the National Recovery and Resilience Plan supported by the NGEU funds. Always straddling European and national action, a relevant complementary role will be played by rural development, both through the extension phase for the two-year period 2021-22 of the current RDP, and with the subsequent National Strategic Plan of the CAP and its regional articulations, which will cover the period 2023-2027. Another important element is the Development and Cohesion Fund, whose action will be integrated with that of the NGEU Funds and has already been used in the reprogramming action of the ROPs 2014-2020, allowing Piemonte to "secure" 345 million euros. Other important elements of complementarity concern the level of regional government, both through the adaptation of the regulatory and planning framework, and with its own measures aimed at supporting the economic and social system of the region.

All these instruments require particular attention to their coordination in order to maximise their potential, identifying on which line of intervention it is most appropriate to allocate the individual strategic choices; however, at the time of drafting this document some aspects of crucial importance have not yet been defined and in particular the path of defining the NRRP is underway, as well as a wide range of aspects of the future CAP and rural development remain to be defined. Only during 2021, with the definition of the Partnership Agreement, the definition of the NRRP and the start of the drafting of the Operational Programmes will it be possible to complete the framework of complementarities and synergies.

ITALY 'S NATIONAL RECOVERY AND RESILIENCE PLAN - NRRP

As introduced in the first part of the document, the NRRP proposal for Italy presented by the Government on 25 April 2021 amounts to a total of 235.12 billion euros, of which 191.50 billion from the Next Generation EU fund, increased with React EU resources for 13 billion euros and a national complementary fund of 30.62 billion. These are extremely significant resources whose allocation will define the strategic centre of gravity of most policies in the coming years, including those supported by the European Cohesion Funds.

Through its 6 main lines of intervention and the numerous components, the NRRP is presented as a complementary tool over the entire spectrum of action of the Policy Objectives of the Cohesion Funds, therefore in the development phase of the NRRP itself and the design of the ROPs it will be possible to take allocation decisions.

The lengthening of the times in the approval of the implementing regulations for the NRRP opens spaces for the preparation of a structured regional contribution, but it is unlikely that the NRRP will have a negotiable financial allocation, or areas of intervention entrusted a priori to the Regions. It seems likely that the direction in the preparation of the NRRP is and will remain the exclusive competence of the government, advising consequently to work identifying territorial repercussions and strategic initiatives to be included in the priorities of the Government.

Maximum attention must be paid to the temporal aspect of the initiatives to be supported, since the interventions financed in the NRRP must be completed by 2025 (commitments 2021- 2023; payments by 2026).

The Regione Piemonte, in view of the drafting phase of the implementation measures of the objectives set by the NRRP Italy with the Ministries, proceeded to the census of the design

priorities of the territory through a consultation of its stakeholders that took place between February and March 2021 entitled "Piemonte heart of Europe". The consultation involved 2,500 subjects in 11 territorial meetings in Novara, Vercelli, Verbania, Biella, Alessandria, Asti, Cuneo, Turin and Alba. The result of this work was the document "Next generation Piemonte – census of local projects", a dossier composed of 2,964 project proposals, for a total value of over 34.6 billion euros, characterized by very different levels of maturity and strategy.

The first phase of the project census work ended with the approval of the document by the Regional Council on the 6th of May 2021; the second phase of this work involves the evaluation of the coherence of the projects with the National Recovery and Resilience Plan, according to the indications that will be received from the competent Ministries, through a control panel composed of the Directorates of the Regione Piemonte competent for the different subjects and coordinated by the European Policies and Funds Coordination Directorate, the Metropolitan City, the Provinces and Unioncamere Piemonte which will have to identify the most strategic projects for the regional territory.

It is therefore essential to plan the 2021-2027 seven-year period in a unified manner with respect to the interventions that will be included in the NRRP in order to benefit from accelerating effects on GDP: trying to finance the operations with the longest range to the programming of the EU Funds to reserve the fastest ones for financing with the Recovery funds. The DCF fund can be used both as a bridge and as a flexible financial instrument for ineligible operations with respect to NRRP and EU Funds.

RURAL DEVELOPMENT

As mentioned in the first part of the document, in the 2021-2027 programming cycle there will be a partial time lag between the Rural Development Programme - RDP and the other operational programmes of the Funds, given that the first will be extended by two years (becoming RDP 2014-2022) while the new programming, with important governance innovations and a partial widening of the spectrum of action, will only be activated from 2023. The complementary action of the current RDP and future programming is dealt with precisely in the guidelines dedicated to the various Policy Objectives. In summary, current rural development already contributes to most of the 2021-2027 Specific Objectives, with a particularly relevant action regarding the competitiveness of the agri-food system, the reduction of emissions and adaptation to climate, the protection of natural resources and biodiversity and the development of rural communities.

With the start of the next CAP programming, the commitment to climate and the environment will also be strengthened - with the new "green architecture" of the CAP in line with the ambitious targets defined by the European Green Deal - and lines of intervention will be introduced aimed at safeguarding public health, with particular attention to reducing the use of antibiotics. Another element that can contribute to rural development and, with it, to the more general development of the region is the National Strategy for Inland Areas which, after the difficult start-up phase, should deploy its potential in the coming years.

THE REGIONAL ACTION

The framework of the instruments already in place or to be implemented by the Regione Piemonte with effects of complementarity and synergy with respect to the 2021-2027 programming of the Cohesion Funds is broad and varied; it includes interventions of a legislative, planning and financial nature.

With regard to the **strategic framework**, a prominent role belongs to the set of guiding actions that will constitute the perimeter in which to place the actions planned by the Funds: firstly, the Strategy for Intelligent Specialization - S3 and the Regional Strategy for Sustainable Development - RSSD, already mentioned in the previous parts.

These are accompanied by **planning tools**, such as the Regional Energy Plan, the Water Protection Plan and the Waste Management Plan, essential above all for the coordination of the interventions that belong to PO1, PO2 and PO4. The Regional Mobility and Transport Plan and the drafting of implementation plans (PrMoP - mobility of people and PrLog - logistics of goods) should also be considered as guidance tools for interventions to strengthen connections to PO3, but also for the components of industrial policy and improvement of public transport services to PO1 and PO4 (innovation and skills of transport and logistics companies) and sustainable mobility to PO2.

Among the **legislative initiatives** in progress, we can mention the relaunch of the Commercial Districts, the new *Testo unico sull'edilizia* (Consolidated Law on Construction), the revision of the regional legislation and regulation of Commerce, the creation of the Sport Commission for the attraction of investments in sports events, in addition to the ongoing implementation of Law 1/2019 (Framework Law on Agriculture) and Law 14/2019 on Mountains, the entry into force of the new Sports Law at the national and regional levels.

During 2020, the Regione Piemonte activated numerous **intervention measures** in response to the pandemic emergency (Piemonte Bonus, Holiday vouchers, Childhood services bonus, Labor solidarity fund, Rental emergency, zero urbanization charges, Culture solidarity fund, support to municipalities, support to local publishing houses, just to name the main ones).

An important role is played by **regulatory simplification actions**; these interventions, although of a short-term nature, are playing an important role in containing the negative impacts of Covid-19 to make the recovery path less arduous. These include the creation of the Tourist District of the City of Turin for which the Region, City of Turin, Prefecture and trade associations have committed to collaborate in order to redevelop and relaunch the tourist offer at a national and international level, to increase the development of the territory, to improve efficiency in the organization and production of services, to ensure guarantees and legal certainties to the companies that operate there with particular reference to investment opportunities, access to credit, simplification and speed in relations with the public administration. The establishment of the district will entail the consequent identification of a 'zero bureaucracy zone', where the territory and companies will be able to enjoy an advantageous procedural regime, thanks to simplified administrative procedures and reduced terms in the adoption of the related final measures.

To support the relaunch and the exiting from the pandemic, a prominent role is played by interventions aimed at health, which will move in two directions: the strengthening of local medicine - with respect to which a legislative measure is being discussed - and a new planning of health construction. A boost in terms of **innovation and business development in the health sector** will come from two important initiatives funded by the Region: support for industrial research projects for the **Parco della Salute** - strengthening of the health system, cooperation and synergies between companies and research facilities, technology transfer and training actions - and the expansion of the **Biotechnology and Translational Medicine Research Centre**, in collaboration with the University of Turin.

Regional resources will be used in a complementary and synergistic way with the Structural Funds in order to optimise interventions.

Remaining in the field of structures for the promotion of innovation and skills, the role of projects and structures already active or in the process of design/definition, as well as the synergies and collaboration between them, will be fundamental. Reference is made here to the **Competence Industry Manufacturing 4.0 - CIM4.0** of Turin, focused on intelligent advanced manufacturing, automotive and aerospace (in line with the regional S3) which sees the participation of public and private entities including some big players in the Piedmontese industry; the **Manufacturing Technology Competence Centre - MTCC**, intended to host research infrastructures, collaborative research activities between companies and research centres,

technological demonstrators, professional and continuous training and other related initiatives; the **Citadel of Aerospace**, intended to host similar activities and initiatives aimed at companies, in particular small and medium-sized enterprises, in the aerospace sector; the **National Automotive Centre** referred to in art. 49 of the Relaunch Decree; the strategic project of the University of Turin **City of Sciences**; the setting up of the **Italian Institute for Artificial Intelligence - I3A** which will operate in the fields of 5G networks, Internet of Things, robotics, cybersecurity, health, robotics, energy, PA, mobility - with evident synergies with respect to the initiatives mentioned above and PO1 of the cohesion funds.

Synergies will also be sought with regard to the opportunities deriving from directly managed European programmes, including, by way of example, the network of **European Digital Innovation Hubs**, which is being set up as part of the European Digital Europe programme.

ACRONYMS

Partnership Agreement	AdP	Accordo di Partenariato
Authority for Communications Guarantees	AGCOM	Autorità per le Garanzie nelle Comunicazioni
Agency for Digital Italy	AGID	Agenzia per l'Italia digitale
National Agency for Active Labour Market Policies	ANPAL	Agenzia Nazionale Politiche Attive del Lavoro
Economic Activities	ATECO	Attività Economiche
Fair and sustainable well-being indicators	BES	Indicatori di benessere equo e sostenibile
UBB – Ultrabroad band	BUL	Banda Ultra Larga
Inter-Ministerial Committee for Economic Planning and Sustainable Development	CIPESS	Comitato Interministeriale per la Programmazione Economica e lo Sviluppo Sostenibile
	CIM 4.0	Competence Industry Manufacturing 4.0
	CLLD	Community-Led Local Development
Technical Committee for Internal Areas	CTAI	Comitato Tecnico Aree Interne
ETC – European Territorial Cooperation	CTE	Cooperazione Territoriale Europea
DCP – Department for Cohesion Policies	DipCoe	Dipartimento per le Politiche Di Coesione
Department of Legal and Legislative Affairs	DAGL	Dipartimento per gli affari giuridici e legislativi
IDT – Integrated Digital Teaching	DDI	Didattica Digitale Integrata
DEP – Department for European Policies	DPE	Dipartimento Politiche Europee
USD – Unitary Strategy Document	DSU	Documento Strategico Unitario
European Programme for Employment and Social Innovation	EaSI	Programma Europeo per l'occupazione e l'innovazione sociale
	ESPON	European Spatial Planning Observation Network
	EUSALP	European Strategy for the Alpine Region
Asylum, Migration and Integration Fund	FAMI	Fondo Asilo Migrazione e Integrazione

FEAD – Fund for European Aid to the Most Deprived	FEAD	Fondo di aiuti europei agli indigenti
EAGF – European Agricultural Guarantee Fund	FEAGA	Fondo Europeo Agricolo di Garanzia
European Fund for Maritime Affairs & Fishing	FEAMP	Fondo Europeo per gli Affari Marittimi e la Pesca
EAFRD – European Agricultural Fund for Rural Development	FEASR	Fondo Europeo Agricolo per lo Sviluppo Rurale
ERDF – European Regional Development Fund	FESR	Fondo Europeo di Sviluppo Regionale
Professional Training	FP	Formazione Professionale
FSC – Fund for Development and Cohesion	FSC	Fondo per lo Sviluppo e la Coesione
ESF – European Social Fund	FSE	Fondo Sociale Europeo
LAG – Local Action Group	GAL	Gruppo di Azione Locale
I3A – Italian Institute for Artificial Intelligence	I3A	Istituto Italiano per l’Intelligenza Artificiale
	ICT	Information Communication Technologies
Institute of Statistics	ISTAT	Istituto di Statistica
Higher Technical Institutes	ITS	Istituti Tecnici Superiori
	JTF	Just Transition Fund
	LEADER	Liaison entre actions de développement de l'économie rurale
Ministry of Foreign Affairs and International Cooperation	MAECI	Ministero Affari Esteri e Cooperazione Internazionale
	MaaS	Mobility as a Service
Ministry of Ecological Transition	MiTE	Ministero della Transizione Ecologica
Ministry of Economy and Finance	MEF	Ministero Economia e Finanze
Ministry of Economic Development	MISE	Ministero dello Sviluppo Economico
B – Billion	MLD	Miliardi
M – Million	MLN	Milioni
MSME – Micro Small Medium Enterprises	MPMI	Micro Piccole Medie Imprese
	NGEU	Next Generation EU
	NEET	Not Employment Education Training
UN – United Nations	ONU	Organizzazione delle Nazioni Unite

OECD – Organisation for Economic Co-operation and Development	OCSE	Organizzazione per la Cooperazione e lo Sviluppo Economico
PO – Policy Objective	OP	Obiettivo di Policy
SO – Specific Objective	OS	Obiettivo Specifico
PA – Public Administration	PA	Pubblica Amministrazione
CAP – Common Agricultural Policy	PAC	Politica Agricola Comune
Provence Alpes Cote d'Azur	PACA	Provenza Alpi Costa Azzurra
PCM – Presidency of the Council of Ministers	PCM	Presidenza del Consiglio dei ministri
REEP – Regional Environmental Energy Plan	PEAR	Piano Energetico Ambientale Regionale
Integrated Thematic Plan	PITEM	Piano Integrato Tematico
SME – Small-Medium Enterprises	PMI	Piccole Medie Imprese
NIECP – National Integrated Energy and Climate Plan	PNIEC	Piano Nazionale Integrato per l'Energia e il Clima
NRRP – National Recovery and Resilience Plan	PNRR	Piano Nazionale di Ripresa e Resilienza
National Reform Plan	PNR	Piano Nazionale di Riforma
NOP – National Operational Plan	PON	Piano Operativo Nazionale
ROP – Regional Operational Plan	POR	Piano Operativo Regionale
Regional Logistics Plan	PrLog	Piano Regionale della Logistica
Regional Plan for the Mobility of People	PrMoP	Piano Regionale per la Mobilità delle Persone
Regional Mobility and Transport Plan	PRMT	Piano Regionale della Mobilità e dei Trasporti
RAQP – Regional Air Quality Plan	PRQA	Piano Regionale di Qualità dell'Aria
DCP – Development and Cohesion Plan	PSC	Piano di Sviluppo e Coesione
RTP – Regional Territorial Plan	PTR	Piano Territoriale Regionale
MFF – Multiannual Financial Framework	QFP	Quadro Finanziario Pluriennale
S3 – Smart Specialization Strategy	S3	Smart Specialization Strategy
R&I – Research and Innovation	R&I	Ricerca e Innovazione
R&D – Research and Development	R&S	Ricerca e Sviluppo
	RRF	Recovery and Resilience Facility
	SDGs	Sustainable Development Goals

NSIA – National Strategy for Inland Areas	SNAI	Strategia Nazionale per le Aree Interne
NSSD – National Strategy for Sustainable Development	SNSvS	Strategia Nazionale per lo Sviluppo Sostenibile
RSSD – Regional Strategy for Sustainable Development	SRSvS	Strategia Regionale per lo Sviluppo Sostenibile
	STEM	Science, Technology, Engineering and Mathematics
	SWOT	Strengths – Weaknesses – Opportunities – Threats
	TEN-T	Trans-European Transport Network
LPT – Local Public Transport	TPL	Trasporto Pubblico Locale
	UNESCO	United Nations Educational, Scientific and Cultural Organization
	YEI	Youth Employment Initiative