



Open Social Innovation policies driven by co-creative Regional Innovation eco-systems



Provincia autonoma di Trento

*Enabling the Meeting Between
Supply and Demand of Data*

Action Plan 2019-2020



PROVINCIA AUTONOMA DI TRENTO

General information

Project: OSIRIS
Partner organisation: AUTONOMOUS PROVINCE OF TRENTO
Other partner organisations involved: Trentino Sviluppo spa
Country: ITALY

NUTS2 region: ITH2 PROVINCIA AUTONOMA DI TRENTO
Contact person: Francesca Gleria
email address: Francesca.gleria@provincia.tn.it
phone number: +39 0461 494436

This "Autonomous Province of Trento OSIRIS Action Plan" is the result of the experience and commitment of PAT on digitalisation and open data; of the knowledge shared and the lesson learnt within/by the group of OSIRIS partners; and the co-creative initiatives carried on together with the local stakeholders.

Thanks for dedicated time, support and contributions made by the territorial stakeholders: SMEs, Trentino Sviluppo, HIT Hub Innovazione Trentino - Smart Crowds, Clab UniTN, FBK, Trentino School of Management, Trentino Digitale.

Tables of Contents

1. Interreg Europe Programme “Sharing solutions for better regional policies”	3
1.1. Programme structure	3
1.2. OSIRIS project - Open Social Innovation policies driven by Regional Innovation eco-systems	4
1.3. The OSIRIS Project in Trentino “Data Driven Innovation”	6
2. Local Context	7
2.1. Socio Economic Profile	7
2.2. Research, development & Innovation	8
2.3. Latest Regional Innovation Scoreboard Results	9
2.4. Governance	9
2.5. Policy	10
3. Lesson Learnt	12
3.1. Lesson Learnt specific to enhance data quality, access and use	14
3.2. Lesson Learnt specific to actions	16
Action Plan	17
4. Contingency Issues	18
5. Detail of the Actions Envisages	18
5.1. The Hackabot	19
5.2. The Workshops	20
5.3. Data Market Monitoring Tool	21
6. Action 1. Increase the awareness of data value	22
7. Action 2. Open the data and use the data in the Public Administration	24
8. Action 3. Monitor the performance of the data-based economy	26
9. General	
9.1. Timeframe	28
9.2. Costs	28
9.3. Funding Sources	29

1. Interreg Europe Programme “Sharing solutions for better regional policies”

Launched in 2015, the Interreg Europe programme is a cohesion policy tool with the goal of reducing disparities in the levels of development, growth and quality of life in European regions. It promotes actions designed to make the European territory **more innovative, more sustainable, and more inclusive**.



This is the basis of the EU policy agenda, called the Europe 2020 Strategy. Although the large majority of funds designated to reduce these disparities are managed nationally, the EU and Member States believe that **regional development can be improved through cooperation across borders**. The Interreg Europe programme, financed by the European Regional Development Fund (ERDF), was designed to **support policy-learning among the relevant policy organisations with a view to improving the performance of regional development policies and programmes**. It allows regional and local public authorities and other players of regional relevance across Europe **to exchange practices and ideas on the way public policies work**, and thereby **find solutions to**

improve their strategies for their own citizens.

1.1. Programme structure

To ensure a more effective use of regional development funds, the program required a strong focus on objectives, monitoring the impact of experience exchange between territories, and a tight planning of a set of quite different activities. This is realized in two phases:









Phase 1 – ‘interregional learning’ Phase 1 - 5 semesters - is solely dedicated to the exchange of experience among project partners and to preparing the implementation of the lessons learnt from the cooperation. In order to optimise the chance that the findings from interregional policy learning are transformed into actions, an action plan must be prepared at the end of Phase 1 for each policy instrument indicated in the application form.

Action plan (AP) produced by each region is a document providing details on how the lessons learnt from the cooperation will be implemented in order to improve the policy instrument addressed within their region.

Phase 2 – two years - implementation of the AP and its monitoring in order to better assess the results of interregional cooperation on the policy instrument.

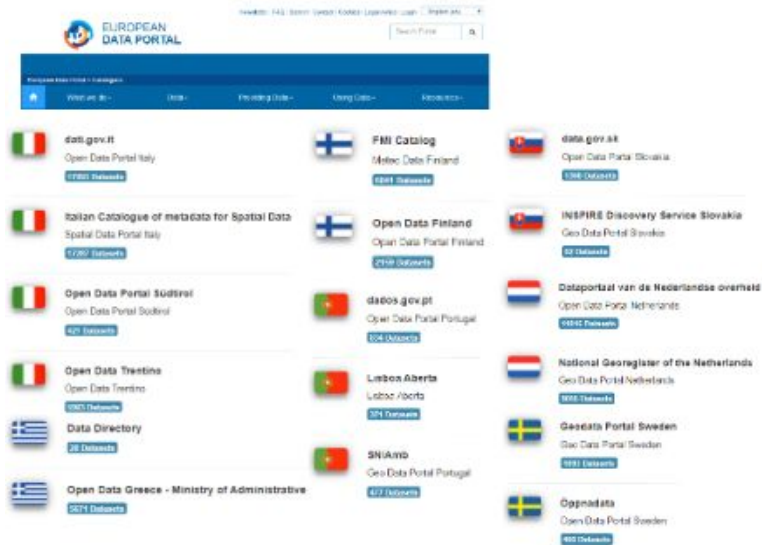
1.2. OSIRIS project - Open Social Innovation policies driven by Regional Innovation eco-systems



<p>Objectives</p>	<p>OSIRIS aims at improving design, rapid delivery and implementation of open and social innovation policies and action plans through co-creative regional ecosystems for innovation, adopting the penta-helix model (government - research - business - citizens - society). Identify actions able to influence EU regional policy planning and instruments using co-creative and co-participative design methodology.</p>
<p>Partners</p>	<p style="text-align: right;">Project Partners</p> <p style="text-align: right;"> Computer Technology Institute and Press Diophantus (EL)  Åbo Akademi University (FI)  Regional Council of Ostrobothnia (FI)  Autonomous Province of Trento (IT)  Province of Drenthe (NL)  Municipality of Fundão (PT)  Region Vasterbotten (SE)  Regional development agency of the Prešov selfgoverning region (SK)  </p>

<p>Partners by Territorial Area</p> <p>Population density 2016</p>	<table border="1"> <thead> <tr> <th>Region</th> <th>sq. KM</th> <th>Inhabitants per km²</th> </tr> </thead> <tbody> <tr> <td>Drenthe (NL)</td> <td>2.68</td> <td>185.4</td> </tr> <tr> <td>Presovský kraj (SK)</td> <td>8.97</td> <td>91.4</td> </tr> <tr> <td>Autonomous Province of Trento (IT)</td> <td>6.20</td> <td>86.6</td> </tr> <tr> <td>Centro (PT)</td> <td>28.19</td> <td>80.2</td> </tr> <tr> <td>Dytiki Ellada (GR)</td> <td>11.32</td> <td>59.2</td> </tr> <tr> <td>Pohjanmaa (FI)</td> <td>6.20</td> <td>23.4</td> </tr> <tr> <td>Västerbottens län (SE)</td> <td>58.87</td> <td>4.8</td> </tr> </tbody> </table>	Region	sq. KM	Inhabitants per km ²	Drenthe (NL)	2.68	185.4	Presovský kraj (SK)	8.97	91.4	Autonomous Province of Trento (IT)	6.20	86.6	Centro (PT)	28.19	80.2	Dytiki Ellada (GR)	11.32	59.2	Pohjanmaa (FI)	6.20	23.4	Västerbottens län (SE)	58.87	4.8
Region	sq. KM	Inhabitants per km ²																							
Drenthe (NL)	2.68	185.4																							
Presovský kraj (SK)	8.97	91.4																							
Autonomous Province of Trento (IT)	6.20	86.6																							
Centro (PT)	28.19	80.2																							
Dytiki Ellada (GR)	11.32	59.2																							
Pohjanmaa (FI)	6.20	23.4																							
Västerbottens län (SE)	58.87	4.8																							
<p>Total Intramural R&D expenditure 2013</p> <p>€ per inhabitant</p>	 <table border="1"> <thead> <tr> <th>Region</th> <th>€ per inhabitant</th> </tr> </thead> <tbody> <tr> <td>Länsi-Suomi</td> <td>1092.4</td> </tr> <tr> <td>Norra Sverige</td> <td>633.9</td> </tr> <tr> <td>PAT</td> <td>633.2</td> </tr> <tr> <td>Drenthe</td> <td>200.7</td> </tr> <tr> <td>Centro (PT)</td> <td>171.4</td> </tr> <tr> <td>Dytiki Ellada</td> <td>116.8</td> </tr> <tr> <td>Východné Slovensko</td> <td>54.8</td> </tr> </tbody> </table>	Region	€ per inhabitant	Länsi-Suomi	1092.4	Norra Sverige	633.9	PAT	633.2	Drenthe	200.7	Centro (PT)	171.4	Dytiki Ellada	116.8	Východné Slovensko	54.8								
Region	€ per inhabitant																								
Länsi-Suomi	1092.4																								
Norra Sverige	633.9																								
PAT	633.2																								
Drenthe	200.7																								
Centro (PT)	171.4																								
Dytiki Ellada	116.8																								
Východné Slovensko	54.8																								
<p>Percentage of GDP invest in R&D in 2013</p>	 <table border="1"> <thead> <tr> <th>Region</th> <th>Percentage of GDP invest in R&D</th> </tr> </thead> <tbody> <tr> <td>Länsi-Suomi</td> <td>3.25%</td> </tr> <tr> <td>PAT</td> <td>1.84%</td> </tr> <tr> <td>Norra Sverige</td> <td>1.61%</td> </tr> <tr> <td>Centro (PT)</td> <td>1.28%</td> </tr> <tr> <td>Dytiki Ellada</td> <td>0.96%</td> </tr> <tr> <td>Drenthe</td> <td>0.72%</td> </tr> <tr> <td>Východné Slovensko</td> <td>0.59%</td> </tr> </tbody> </table>	Region	Percentage of GDP invest in R&D	Länsi-Suomi	3.25%	PAT	1.84%	Norra Sverige	1.61%	Centro (PT)	1.28%	Dytiki Ellada	0.96%	Drenthe	0.72%	Východné Slovensko	0.59%								
Region	Percentage of GDP invest in R&D																								
Länsi-Suomi	3.25%																								
PAT	1.84%																								
Norra Sverige	1.61%																								
Centro (PT)	1.28%																								
Dytiki Ellada	0.96%																								
Drenthe	0.72%																								
Východné Slovensko	0.59%																								
<p>Budget</p>																									

Partners
National
Level and
Open
Government
Data
process



1.3. The OSIRIS Project in Trentino “Data Driven Innovation”

In Trentino, the focus of the project has been set on the European regional development funds (ERDF) within the general planning framework given by the RIS3.

Two objectives of the PO 2014 - 2020 will be affected by the project



1. “Strengthen research, development technology and innovation” where the intervention priority is set on promoting business investment on R&I, **developing synergies between companies, research centers and SME development, involving the higher education sector.** The PI supports investments in **product development and services, technology transfer, social innovation and eco-innovation, smart applications in public services, networks, open innovation clusters, through the smart specialization implementation.**

2. “Promoting the **competitiveness of small and medium enterprises**”, promoting entrepreneurship, **facilitating the exploitation of new ideas and the creation of new firms**, through business incubators and supporting the expansion of capacity for the development of **advanced products and services.** The PI can be improved during its development through the support of new



projects which **strengthen the regional ecosystem and the open innovation process through new themes and topics inserted and funded within the PI itself**. Moreover the establishment of an **ecosystem for co-creative open innovation network could improve the involvement of key actors and citizens in the innovation process, boosting the capacity to transfer the results of investment in research to the market with new products/services**, supporting technological and applied research, pilots project and early products validation actions, especially in some KET.

The idea is to exchange the experience gained so far in a concrete benefit for the territorial social and economic system, exploiting the positive influence that ICT and data (as Key Enabling Technology) may have on the use of ERDF. The OSIRIS project represents an opportunity to systematise, to widen and to spread the long-term commitment and experience on open data in the regional development fund framework.

2. Local Context

Introduction

Trento is an autonomous province of north-eastern Italy. It is one of the two provinces that belong to Trentino-Alto Adige/Südtirol region. Its capital is the town of Trento. The province has an area of 6,208 km² (2396.54 sq. miles) and a total population of 538,604 (Eurostat 2018). The region is renowned for the Dolomites, which are part of the Alps. The regional innovation system is well developed and interconnected. It is characterised by strong public components (universities, research institutes and foundations), while business R&D investments are still relatively low compared to other sources of funding (i.e. government).

2.1. Socio-Economic Profile

Trento is a relatively wealthy autonomous province, both in comparison with other Italian regions, and with the EU28 average: **the GDP per capita PPS was €35,600 in 2016, corresponding to 122% of the EU28 average** and to 126% of the national average. The GDP per capita PPS growth was low but positive during the previous decade, well above the Italian performance.

The employment rate is in line with the European average, higher than the Italian average and it has been quite stable over time.

In 2017, in fact, the employment rate was equal to 67.6%, far above the Italian average (58%) and equals to the one for EU (67.6%).

The unemployment rate in turn, which was less than half of the EU27 rate before the crisis, increased in recent years: from 3.3% in 2008 to 5.8% in 2017 (Eurostat, 2018). However, during the last two years, the unemployment rate decreased by 1.1%.

In 2017, province of Trento was one of the regions with lowest unemployment rate level, below the Italian and European average (11.4% and 7.8% respectively).

The share of services (financial intermediation and real estate, public administration, community services and activities of households) in total gross value added is in line with the Italian average. In 2015, services account for 73.5% of the gross value added, followed by industry (22.9%) and agriculture (3.6%). **Tourism is vital**, and mostly related

to the exploitation of natural amenities, ski resorts etc. Also important is **agri-food**. The share of agriculture is also higher than average, while the importance of **industry** is lower than in the rest of Italy. The most important manufacturing sectors include **textiles, materials for construction, mechanics, food processing, paper and wood making**. The fragmentation of the productive fabric and the prevalence of **micro-enterprises** in all sectors is a key feature of the economy (as well as of most Italian regions) which implies a **lack of critical mass for carrying out innovation activities**, and is the factor with the most negative impact on the general innovation performance.

2.3. Research, Development & Innovation

The Trentino **innovation system is well developed and interconnected**. During the last decade or so, Trento has specialised **increasingly in ICT as well as related pervasive applications**, which has become a very important competitive advantage and prompted the development of lead markets in the region (e.g. eHealth and sustainable construction). More recently, and on the way of the new **programming period 2014-2020**, Trento has also pushed forward the specialisation in a number of manufacturing sectors related to **advanced manufacturing and Industry 4.0**. The province can count on the strong research capacity of the public and semi-public research institutions (e.g. **University of Trento, Bruno Kessler and Edmund Mach Foundations**) as well as on the capacity of **local SMEs to innovate**. In fact, despite the small size of companies in Trentino that has been presented as a disadvantage for innovation, in 2014 Trento was one of the regions with the highest share of innovative micro-enterprises in Italy (51% of the total vs the Italian average of 45%).

The presence of multinational companies in Trentino is mostly strategic due to the vicinity to the Austrian and Swiss borders, and the **skilled human capital that companies can find**. The majority of these **multinationals belong to the manufacturing sector (e.g. pharmaceutical, mechanics, non-metallic minerals)**. The growing number of **spin-off from research** comes in support of the attractiveness of Trentino's research system.

In 2015, the total R&D expenditure (€334.8m) was 1.8% of the regional GDP (Eurostat, 2018), far above the Italian average (1.34%) and more or less in line with the one for EU (2.04%).

There was a slight increase since 2008, when it was equal to app. 1.55%.

The government expenditure in R&D as a share of the total GERD in 2015 was higher than the European average (almost the double). In 2015, there was a decrease of the allocated resources to the research and universities by the government of the Province (€84.6m in 2015; -7.6% compared to 2013). In the same year, the business sector expenditure as a share of the total GERD was lower than the European average (47% versus European average of 64%).

The share of **human resources employed in high-technology sector in 2017 was 3.2%, below the Italian and the European average (3.4% and 4% respectively)**.

The number of EPO patent applications per million inhabitants display some variation during the period 2008-2012. **In 2012, Trento patents applications amount to 49% of the EU average for the same indicator.**

The share of population with **tertiary education** (age 30-34) has constantly increased since 2008, **reaching 33.6% in 2017**. Nevertheless, this share is lower compared to the European average (39.1% in 2017), Autonomous Province of Trento (PaT) is one of the region with the highest share of population with tertiary education.

The **relatively low level of private R&D investments** represents the main weakness of the

system. The new specialisations in sectors such as mechatronics and smart systems, led also by private research centres of multinationals established in Trentino, could partly offset this tendency in the future.

2.3. Latest Regional Innovation Scoreboard Results

According to the Regional Innovation Scoreboard 2017, Trento is ranked as a moderate innovator.

Moderate innovators are those regions with performance between 50% and 90% of the EU average. Trento is categorised as a leading absorber of EU Funds in the Regional Innovation Scoreboard (2014), together with Lazio. The latter regions showed a good performance with regards to the regional innovation, in which the structural funds seem to play a complementary role.

The innovation performance did not change significantly in the recent years, but the Regional Innovation Index (RII) registered an increase by 1.3 points with respect to 2011. The main weaknesses relate to business R&D (29% below the European average), EPO patent applications (4% below the Italian average; 15% below the European average) and employment in medium-high/high-tech manufacturing and knowledge-intensive services (21% below the Italian average; 18% below the European average).

The province, instead, is relatively strong in the international scientific co-publications (66% above the Italian average; 53% above the European average), product/process innovations and SMEs innovating in-house.

2.4. Governance

The constitutional reform that has been endorsed in 2001 gave full autonomy to the Italian regions when it comes to RTDI policy, as well as in other policy areas. As a result of this reform and the Lisbon Strategy, RTDI gained a central role in the regional policy. The main operational instruments to ensure vertical coordination between regional and national authorities are Framework Programme Agreements signed between the Regional Administration, the Ministry of Economy and Finance and the Ministry of University and Research to identify the regional priorities. The Conference of Regions and Autonomous Provinces¹ is instead the main interregional coordination mechanism. It aims to improve dialogue between local authorities and the central government (within the State-Regions Conference). The Province has full autonomy in RTDI policy. The Department of Economic development, research and job (Dipartimento Sviluppo Economico, Ricerca e Lavoro) and the "European Unit" (Servizio Europa) are the main technical units designing and implementing RTDI initiatives. They are responsible for supporting entrepreneurship and business innovation; and planning and managing research and university policy. Other important actors which help to implement RTDI policy are the Provincial Agency for the promotion of economic activities (APIAE), Trentino Sviluppo Spa, the Bruno Kessler (FBK) and the Edmund Mach (FEM) Foundations, the University of Trento, HIT (Trentino Innovation Hub) and more.

In 2005, the Province has initiated a structural reform of the research and innovation system (concluded in 2011), in order to better link the world of education, research and enterprise.

¹ The Autonomous Province of Trento has a special autonomy and is equivalent to a Region

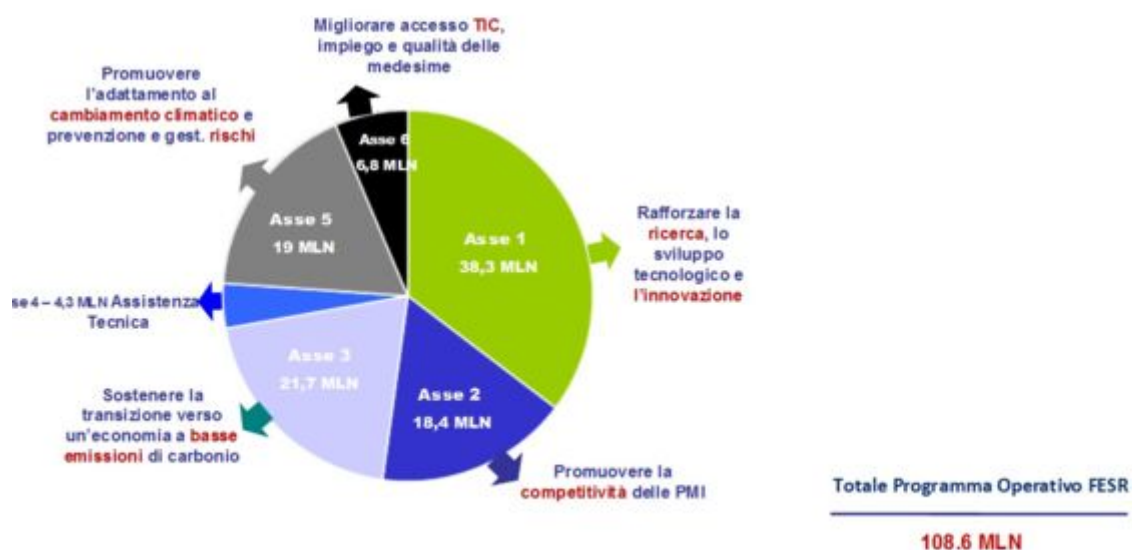
The **Smart Specialization Strategy (S3)**, which is the most important innovation policy document, has three levels of governance:

- The first level is the strategic one and is carried out by the regional government.
- The second one consists in implementing the strategies of the regional government and it is carried out by the regional departments involved in the innovation policies.
- The last one is the support level and focuses at reporting the effects of the implementation. These activities are carried out by regional agencies and the innovation regional stakeholders.

2.5. Policy

The **innovation policy mix** includes a relatively broad spectrum of initiatives ranging from RTDI support, to the improvement of governance and diffusion of innovation culture. In terms of the more general policy framework for **R&D and extra-local instruments**, Trento has defined a limited number of objectives as investment priorities for the ERDF funding period 2014-2020.

Programma Operativo FESR 2014/2020										
Asse 1 Rafforzare la ricerca, lo sviluppo tecnologico e l'innovazione			Asse 2 Promuovere la competitività delle PMI		Asse 3 Sostenere la transizione verso un'economia a basse emissioni		Asse 5 Promuovere l'adattam. al cambiamento climatico...		Asse 6 Accesso TIC	
Ricerca	Innovazione	Infrastrutture di ricerca	Nuova imprenditorialità	Competitività	Efficientamento Edifici	Imprese	Adaptam. sistemico viabilità	Disasto idro-geologico	TOTAL	
5.500.000	1.500.000	31.301.322	10.000.000	8.410.000	11.400.000	10.334.048	10.000.000	9.000.000	6.876.000	



The total allocated resources for “**strengthening the research, technological development and innovation**” cover the largest part of the resources to be allocated (35.25%) and focuses on the improvement of the infrastructural system for research, as well as on

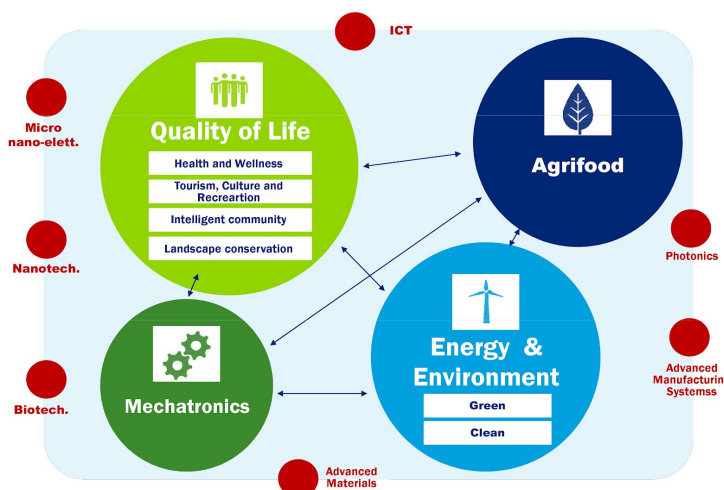
technology transfer between the world of research and companies. Allocated funds for “improving SMEs competitiveness” are 16.94%, while “transition to a low-carbon economy” takes 20.0% of the resources. Trento actively participated to FP7 programs since 2009 (until 2013). The total budget for Trentino amounted to €13.0 million, a considerable investment, evidencing that the Province is highly interested in fostering researcher mobility and internationalizing its research system.

In Trento, RTDI policy experienced several important developments during the last decade. With regard to research and technologies, R&D organisations are supported through measures that involve the excellence and management of research in universities (provincial law 191/09) and several infrastructure initiatives (such as the Technology Poles). Science and industry linkages are developed through knowledge transfer measures and R&D cooperation. Direct and indirect support to business R&D is provided through the provincial law 6/99. This law promotes sectorial innovation in manufacturing, organisational innovation and technology transfer between firms. Moreover, through the provincial agency Trentino Sviluppo, innovative start-ups and risk capital are financed.

The most important active innovative policy document is the Smart Specialisation Strategy (RIS3) that has identified, through a bottom-up approach, a need for working together with researchers in the field of research and innovation and on the basis of local vocations.

The strategy also refers to the investments made in recent years and the results obtained in terms of participation in national and international networks, territorial areas and future development trajectories from a productive and economic point of view.

In particular, four macro-areas have been identified: Quality Of Life, Mechatronics, Energy And Environment, Agri-food.



RIS3 and data-driven grow

1 Development of a strategic vision

[...] the Province of Trento has in recent years operated through actions aimed at supporting innovation by funding public research and higher education, providing enterprises with the instruments to support industrial research and to encourage the development of new business ventures, investing in the digitalisation of the territory (infrastructure, services and data) (p.6).

3.2 Cross-cutting elements of the Smart Specialisation Strategy

Digital growth and ICT From a public administration perspective, the digital growth of the PAT also requires the public body to play a new role within local innovation processes, allowing to combine its institutional mission of providing public services with the possibility to become an "open and transparent" proactive partner for businesses, citizens and local communities, fostering open government tools (p.35).

Given these general preconditions, the instruments allowing to aim at a digital growth of the territory starting from its high-specialisation areas are to be found in the development and spread of ICT and digitalisation in Trentino, meant as a cross-cutting element underlying the provincial planning to reinforce the horizontal coordination of different thematic goals. These range from the introduction and development of digital skills - aimed at promoting social inclusion, implementing the actions of the public administration and improving the quality of the services offered by enterprises - to the development of integrated initiatives within smart communities, recognised as a strategic driver to stimulate the birth of new industries.

RIS3 and Data

The provincial approach to the matter, with particular regard to smart growth and balanced development of all the different components, will therefore focus on the key issues described below, also identified at the basis of the digital check-up path undertaken in this area, aligned to the Italian and European Digital Agenda and to the direction indicated by the national cohesion policy in terms of expected results and actions aimed at:

- **fostering open data, open services and the development of applications and services by companies, individuals and civil society**, through actions aimed at opening up relevant quality data coming from the vast information asset of the public administrations and at the efficient re-use of such data;
- **fully developing a culture of data**, i.e. of their value for collective re-use meant to ensure a cross-cutting impact on all sectorial policies. In knowledge economy, data represent the raw material for the development of goods and services meeting the demand for social innovation. In these areas, Trentino has developed a series of actions thanks to which, over the past two years, the whole territory has been in the higher positions in regional rankings for quantity and variety of open public data. An example is to be found in the project at the basis of the portal www.dati.trentino.it, which, from its beginning, involves different levels of government - the Province, the Municipalities and the Comunità di Valle - with particular attention to the participation of local companies in the development of new business models related to these markets (p.35);

Quality of Life area

A further strategic goal to be covered will be the promotion of viable business actions with high added value and success prospects being coherent with the general vision.

With regards to the role of the public administration, a crucial element is the willingness of the Public body to promote activities fostering Open Government, which is often connected to two other ideas, i.e. the issues of the management of **Big Data and Open Data**. These instruments can not only have a strong positive impact on the everyday life of citizens, but also a huge economic value and potential in terms of innovative growth. **Opening up public data means to create new opportunities for the territory**, starting from their creative re-use, by conceiving and indicating new solutions to common issues, which the public administration struggles to deal with (p.41).

3. Lesson Learnt

In recent years, the aim of improving the quality of data in the public sector has been already launched with some concrete actions by PaT. The objective of stimulating the ability to extract value from the generation and the use of governmental data related to all PA activities, has been focused already during the recent years of commitment on open data within the “Open Data in Trentino” Project of the Province². A local effort on “open government data” is not enough as the Open Data Maturity Report 2018³ points out, following the Open Data policy set up by the EU and more recently the Digital Europe 2021 - 2027. A too narrow focus on an Open Data local perspective might make Trentino lose the opportunity to connect with the establishment of a European Digital Single Market, the right frame to support local business innovation for global market competition.

This is why, when trying to participate and choosing to build the OSIRIS Interreg consortium, PaT proposed as a key actor for the local section of OSIRIS Public policies and actions for accompanying and reinforcing the role of data in growth and development.

² The Open Data in Trentino Project is a small but relevant contributor to the European Data Portal. In particular for the effort of improving the data quality, Trentino PA is at the highest score statistics in EDP for machine readable data. The Trentino public sector system (Province and Consortium of Municipalities together) contributes for 1/3 of all Italian open data published in the national catalogue dati.gov.it.

³ https://www.europeandataportal.eu/sites/default/files/edp_landscaping_insight_report_n4_2018.pdf

As clearly claimed in various passages in the PaT RIS3, ICT - technologies for creating, sharing, reusing data - is labeled as one of the Key Enabling Technologies (KET) (see above).

Working with the OSIRIS partners and within the OSIRIS 'trucks' helped PaT to enriched local experience and practice, and to concentrate the effort on:

- co-design practice methodologies
- identifying the problems sharing experience in a EU regional context
- listing the goals facing a European challenge not only a local one
- naming the difficulties and the barriers
- describing development directions
- switching on the attention and accelerating readiness to cooperation.

Additionally, the explicit link of the project with a specific policy instrument (PO 2014 - 2020 and the ERDF calls - in the frame of the RIS3 - provided a solid frame for the objectives to be reached.

Trentino is committed in opening data not just with a "bureaucratic commitment" derived from the European Directive for the valorization of the Public Sector Information: all the

DIGITAL SINGLE MARKET - Policy Open Data

In the EU, the public sector is one of the most data-intensive sectors. Thus it holds vast amounts of data, known as public sector information (PSI). 'Open' public data are PSI that can be readily and widely accessible and re-used, sometimes under non-restrictive conditions.



Public sector information, sometimes also referred to as government data, refers to all the information that public bodies produce, collect or pay for.

Examples are geographical information, statistics, weather data, data from publicly funded research projects and digitised books from libraries. The European Commission's policies focus on generating value for the economy and society through the re-use of this type of data.

The EU open data market is a key building block of the overall EU data economy. According to the study supporting the impact assessment carried out to provide input to the review of the PSI Directive, the total direct economic value of PSI is expected to increase from a baseline of EUR 52 billion in 2018 for the EU28, to EUR 194 billion in 2030.

Open data policy is linked with open research and data policy since both address publicly funded data or their data results from public funding. Therefore, in principle, the data should be openly accessible and re-usable.

Allowing public sector data to be re-used for other purposes, including commercial ones, can: stimulate economic growth and spur innovation; public data has significant potential for re-use in new products and services;

- help address societal challenges with the development of innovative solutions such as in healthcare or in transport;
- enhance evidence-based policymaking and increase efficiency in public administration;
- become a critical asset for the development of new technologies, such as artificial intelligence (AI), which requires the processing of vast amounts of high-quality data;
- foster the participation of citizens in political and social life and increase the transparency of government.

regions are forced to open their data in order to produce raw material - and possibly of good quality - for social open innovation reusing knowledge nested in data.

The exchange of views and experiences with the OSIRIS Partners put PaT in contact with useful methodological tools - the participative bottom up consultation and cooperation approach, **the innovation loop**, a co-creative working approach - and gave the PaT OSIRIS team enriched instruments to generate a participative process for defining the Action plan. The participative practices **represent a relevant methodological contribution from the OSIRIS project which in Trentino had not been experimented yet by the Open Data in Trentino team**. Widening the list of stakeholders, building concrete opportunities for attracting them, for collecting their needs and expectations, reciprocally opening minds and generating cooperation plans, all these participative practices allowed PaT to better understand with the stakeholders **which actions could be better rooted and implemented in the Trentino territory**.



During the study visits, these approaches were experimented directly with the partners. The methodological tools were then applied in the interaction with the local stakeholders and **generated some thematic working groups related to correspondent actions**.

One group has the goal of setting a more coordinated relationships within the public system, namely the Service responsible for organising the opening of data, which is the PaT OSIRIS team; the Department responsible for managing the ERDF calls and economic development calls, and Servizio Europa - Autorità di gestione del PO 2014-2020 (OP 2014-2020 Managing authority) partner of the PaT OSIRIS team; Trentino School of Management (TSM) the training agency of PaT involved in the enhancement of PA staff and manager skills on data use and value creation. Thanks to the OSIRIS project, Open Data in Trentino enlarged its action field outside the Open Government Data domain and started to interact with SMEs and all the topics connected with how to open data in a good way in order to help enterprise to introduce “knowledge driven by data” in their product.

Thanks to the relationships developed within this group, the OP 2014-2020 Managing authority is sensitised about the need for a systematic coordination between provision of data as raw material for innovative firms and these same companies interested in participating to the ERDF calls.

Another group is catalysed around the hackabot⁴, key participative form chosen for generating co-creative work of a multidisciplinary and cross-cutting set of people coming from PA service, companies, schools and trainees, and users.

3.1. Lesson Learnt specific to enhance data quality, access and use

What the Trentino OSIRIS team means with 'culture of data' or 'data culture' includes an upgraded and diffused knowledge and awareness of the **economic value of every data we produce** as citizens, as entrepreneurs, as public servants; this became naturally a specific action and knowledge to share for enriched data quality in order to use data in the PA, in the economy and in the territory which can help in:

- guiding the research and innovation calls and the firms presenting proposals to these calls with a clearer and closer idea of the digital innovation sphere,
- providing high quality data useful for PA and for the economy and society
- keeping a high commitment in the training in data creation/use/valorisation from the school to the university, from research to business, to administrative and policy activities
- monitoring data quality, data use and diffusion, data creation, data value creation, activities based on data creation/use/provision
- increasing the interest and awareness for the digital innovation.

Along these lines, **the participative practice experienced within the OSIRIS project allowed to better understand which actions to launch**; the direct focus with the policy instrument brought to identify how to launch actions, how to increase awareness about the potential role of data.

Data are the "ring of the data market value chain" supported by the Digital Single Market strategy, one pillar for the smart growth in Europe 2020 Strategy. Data literacy and the competences required to take advantage from this digital revolution are not yet sufficiently mature. Study visits showed us how the connection between enterprises and research can produce big changes, and this is also connected with the rise of knowledge about how to produce, how to match, how to process the enormous amount of European/global knowledge nested into data.

A key aspect of this lesson learnt during the study visits and from partners' approach in facing innovation challenge **is the blended/combined technology + human way** of approaching local development, chosen more and more **by most Partner Regions**. More in detail:

- The bottom up participation – based on group and project management capabilities which are definitely human (see PT, SE, FI, NL, SK) – makes citizens the key actors/makers of change.
- Technological research (FI, SE) **is centred on knowledge** which more and more requires the ability to access, understand and process an enormous amount of data.

⁴A merge of two words: Hackathon and Chatbot, a definition is provided below.

- Local companies, together with large, local and international, ICT players (PT, FI, SE, NL, SK) **add market 'solidity' to the envisaged solutions** to overcome the risk of self-referentiality in research.
- Relevant for an actor like PaT - which is responsible for defining and guiding public policies - is the need to **create eco-systems coordinated and addressing development goals harmonised/well rooted in the digital revolution** in which we all are immersed.

3.2. Lesson Learnt specific to actions

The participatory approach contributed to go in depth into all the three actions as it was applied in the action building for each of them.

Step by step, this was done following a co-creative approach with firms in May and June 2017, with the OSIRIS European partners during the Trentino meeting days, in the hackathon days in January and May 2018, and with PaT managers and with Trentino firms in June 2018.

All these events and meeting and working groups were organised involving both Servizio Europa and Trentino Sviluppo which are directly managing the ERDF. Together with them and with all the participants to the listed meetings, the Trentino OSIRIS team conducted the work of identifying and selecting the needs then channelled in the actions of the Action plan.

Lesson learnt in short

How to design policies in a participatory way. Try the **innovation loop** method and effectiveness, thanks to the experience of the **Swedish partner** and the experimentation of the **co-design approach**, adapted to the Trentino territory in using data for social innovation;

How can we improve our data actions in order to have a stronger impact on the territorial growth ?

the **feedback** from other regions, coming from **different experiences**, collected during the **four days meeting organized in Trento (September 2017)** on "Data Driven Innovation and Territorial Growth", when the general approach and a draft AP were first illustrated, and during the training section held for the partner on data use, reinforce the idea that "better data are need for better public services" ;

What the other regions had done and we still have to work on ?

Commitment, coordination and synergies in ecosystem of innovation, which **was reinforced by the activities carried out** in the other regions (following the **Portugal, Finland and Greece** examples).

Milestone of the process

May 2017

Stakeholder SMEs meeting "Data, Use of ERDF and market opportunities: a shared action plan".

Sept 2017

"Data Driven Innovation and Territorial Growth"- **Trento - Fifth OSIRIS project Co-creative meeting**".

January 2018

"Chatbot, opportunities for companies and PA" OSIRIS project workshp **with local stakeholder**.

March 2018

Hackabot 24 hours of **work together with the Four-helics data driven innovation ecosystem**.

June 2018

Sharing the Action Plan Activities with the stakeholder group.

During Phase 1 of the OSIRIS project, both the work method proposed and the interaction and sharing of views and practices, **brought stimuli** and examples which represented food for thoughts within the Trentino project team and onward within other areas/departments of the Trento Autonomous Province institutions.

These elements resulted to be interestingly intertwined with the concrete **activities and experiences put in place in Trentino** during phase 1 of

the OSIRIS project: the experience of co-working and co-designing with companies active in the territory; the “coordination table” established within the Trento Autonomous Province departments concerning the “data value chain” from creation to reuse; the data market analysis set up as a first step of the monitoring activities described below. Moreover, the **events involving stakeholders** have enriched the scenario (see frame above).

Action Plan

These learning experiences, together with the lessons learnt, declined so far, led to the formulation of each of the three actions of the present plan and are relevant for the implementation of all of them.

The plan is built on three key points of attention emerged during the Phase 1. Specifically, it seems prior to work on:

starting a **monitoring of Data Market in Trentino** within the global market, aiming at having, thanks to greater knowledge a **higher impact on the active policies of financing** and at **influencing data-driven innovation**;

enforcing and stabilize coordination among the different actors of the territorial **innovation ecosystem and further develop the “data as a resource” concept**;

a more **“data-driven public sector”** overcoming the current situation in which areas with a very advanced **awareness of “data value”** and **“data processing competence”** **coexist** with other areas where the awareness of the centrality of data, to respond to challenges for nowadays public sector, **has not yet been developed**.

These issues have been summarized in the following 3 actions:

1. **Increase the awareness of data value**
2. **Open the data and use the data in the Public Administration**
3. **Monitor the performance of the data-based economy**

With this in mind, the PaT OSIRIS Action Plan acts to create a **list of specific and related activities which include the involvement of various stakeholders in cooperating for the achievement of common objectives, starting from the needs and specificities of their working field, that are:**

- to **stimulate data-driven development and innovation** in Trentino;
- to **align and harmonise the public institutions towards a data-based development**, both with policies, open data and **improving the use of data** within all the functions and activities of the public sector;
- to contribute to the definition of **effective ways of monitoring the data economy**, with structured and sustainable tools, relying on web sources which allow for a frequent updating.

All these activities rely on the key point of **enhancing “data culture”**, more specifically:

- data quality, data sharing, data use, **data value awareness**;
- data **as a key factor to enable innovative growth**;
- data **as raw material for creation of new enterprises**, new job opportunities, new areas of specialized skills and competences;
- data as key to access and participation of the regional territories to the **digital revolution underway**;
- data as an incisive element **to the transformation of companies, jobs and professional profiles**.

4. Contingent issues

On October, 21st 2018 Trentino had its Election Day and on November, 13th 2018 the elected government took office⁵. So Phase 2 of the OSIRIS project opens in coincidence with new course in Trentino Governance System that is deeply reorganizing itself following a political trend of marked discontinuity with respect to the previous decades⁶.

In order to adapt the activities to the current scenario and to be ready for future development, we are proposing activities with a scalar model:

- **Minimum goals** achievable with the **resources available today within the Open Data Project** in Trentino (2 resources and technical support of the service of the ICT in-house company)
- **Medium-scale objectives** involving human resources made available by stakeholders on the basis **of shared operational planning** (therefore without additional resources but possibly reallocating existing resources on these objectives)
- **Objectives of a higher scale** based on the interest of the new governance to adopt this AP and to identify additional resources.

5. Details of the actions envisaged

The actions envisaged in the present AP are rooted around three important experiences developed in the first phase of the OSIRIS project: a. the workshops organised within the innovation Academy together with Trentino Sviluppo, b. the Hackabot, c. the first data market analysis for Trentino. The actions planned for the next two years flow along these three lines.

⁵ See <http://www.giunta.provincia.tn.it>

⁶ In these days the PaT OSIRIS Team has been presenting the new top management key opportunities and options related with the AP coherent with PO 2024 - 2020 and RIS3, but right now, is early for a detail estimate of the political commitment beyond the medium scale proposed above.

5.1. The HackaBot

One of the most important initiative of our project has been the organization of the **Open Data Hackabot**, an event where more than 50 young **students passionate** about



What is a Hackathon ?



*A **hackathon** (also known as a **hack day**, **hackfest** or **codefest**) is a design sprint-like event in which computer programmers and others involved in software development, including graphic designers, interface designers, project managers, and others, often including subject-matter-experts, collaborate intensively on software projects.*

The goal of a hackathon is to create usable software or hardware with the goal of creating a functioning product by the end of the event. Hackathons tend to have a specific focus, which can include the programming language used, the operating system, an application, an API, or the subject and the demographic group of the programmers. In other cases, there is no restriction on the type of software being created.

technology participated in a 48 hours hackathon aimed at **developing and testing solutions to facilitate dialogue between public administration, private enterprises and citizens through chatbots**, using **open data**. **Tutors and experts** involved in developing the methodology of this event guided the students throughout the 48 hours marathon and in the end validated the solutions proposed by three teams that won the contest.

The event was developed **together with the stakeholders of the territory**: companies (DataBoom, Dedagroup, Dimension, GPI, Hi-Logic, U-Hopper), research institutions and public administration (Consorzio dei Comuni Trentini, Trentino Sviluppo, HIT - Hub Innovazione Trentino, Smart Crowds, CLab Trento, Informatica

Trentina).

Thanks to the OSIRIS project, the Trentino team was able to create **this particular collaborative moment of growth and awareness on the central role of the data resource**, both as raw material for the creation of innovative business solutions, **and as a resource at the centre of many research developments of today**. Thanks to the data, we can **make decisions, communicate choices, personalize the**

What Chatbots are ?

A technology that allows to simulate a conversation between robot and a human being. The robot reads and links data from sources that can be very different as personalized data entered by the user, contextual IoT data (eg. sensors), and dialogue with the user by simulating a conversation. The chatbot works as if there was a person on the other side of the screen as if this person answered the personalized questions placed by those who access the bot. This technology introduce a change in the interaction between service providers and service users. It is of great interest for a public administration that wants to put the "citizen at the center" of his actions, creating immediate and everywhere communication channels between citizens, companies, institutions, etc.



From the point of view of the dissemination of data culture, the versatility, the ease of initial approach and the many platforms available today, can make a "killer technology" to spread awareness on the economic value of data

interactions between public administration and citizens.

The Hackabot experience was relevant for the following reasons:

- Working together to organize a 48-hour event around the production of chatbots, in the form of POC, meant a **number of concrete operational meetings between companies, public administrators and researchers**, including [a public event open to businesses](#)
- The work **side by side has an important cognitive potential**; the exchange of views around the theme of centrality of data for the activities of the PA is important: university researchers, students, businesses and public administrations

So what is a Hackabot ?



This ! <https://www.odhb2018.net/>

52 young students and researcher, 6 SMEs as mentors, 10 technology ambassadors, 6 Public sectors entities that launch 12 challenge, 12 users tester 48 hours to produces 12 PoC of chatbot dealing with AI, Good (interoperable) Data.

Open Data + Conversational Interface

*A really rich Learn-by-Doing Environment
A playground for co-creative open social innovation!*

were brought together to test ideas and develop concrete projects

- Finding new solutions for the business sector is challenging and **this collaborative modality of putting together all actors has a lot of potential**

- The Hackabot event has produced rough chatbots, but solutions developed by teams are entirely exploitable by companies, all possible with very limited costs implied by organizing such an event

- The Hackabot event allowed companies, public administration and solvers to actually **see the potential of data reuse.**

- PA **learned through**

the process about what are the needs of the business sector and **what PA has to offer and improve in terms of effective open data**

- Businesses and companies were **enabled to present their work and challenges and better understand the needs of the PA**
- The open innovation dimension was completed by the involvement **of potential users as testers**

5.2. The Workshops

As preparatory steps for the Hackabot, a set of workshops illustrating the Chatbot



technologies were organised for both companies and developers. These workshops - organised together with trentino Sviluppo, HiT and a group of companies for other

companies, technologists, researchers, students, public officers and managers - represent rich opportunities for learning by doing, for building trust relationships between the territorial eco-system components, for enabling the development of activities centred on a high quality interaction among the quadruple helix actors.

5.3. Data Market monitoring tool

The AP indicates growth opportunities provided by the large amount of PA data and products, relevant for enabling innovative firm development in the territory. To assess the action effectiveness for creating a lively eco-system, it is necessary to have or to generate a knowledge base on how the territory is facing the digital revolution challenges to the business models. With the purpose of creating this knowledge base, PaT OSIRIS team launched - in cooperation with Spazio Dati srl⁷ and with the Open data 200 project (FBK)⁸, - an exploratory survey on the positioning of the Trentino firms in the classification created by the European data market study⁹. Up to now the Trentino system had not monitored in a systematic way the local company propensity of using data and of providing data-based services. The data market as sectoral or product code is not yet defined, though some companies show interesting growth trends.

Thanks to the interaction process with the project partners and with the local stakeholders, the actions and activities described below were defined all with a converging priority. The common goal is to influence positively on the operating context of the local firms, in order to generate in a participative way the data as raw material on which to produce valuable services and product, to valorise knowledge extracted from the large quantity of data available.

⁷ Spazio Dati srl, a company founded in 2012 and based in Trento, provides enterprise data solutions. By leveraging Big Data, Machine Learning & Semantic Web tech, the company is building a high-quality knowledge-graph derived from hundreds of sources. From text to actionable data, it extracts meaning from unstructured text and put it in context with a simple application programming interface (API). The company supports a wide range of use cases like: enriching existing databases, building smart search engines and recommender systems on document collections, adding location knowledge to web apps, automatically tagging products on e-commerce sites, using data to create infographics and marketing research.

⁸ Open Data 200 Italy is a joint project designed and implemented by the [GovLab](#) in partnership with [Fondazione Bruno Kessler](#) (FBK), an international research institute located in Trento, to conduct the first comprehensive, internationally comparable study of Italian companies that are using open data to generate business, develop products and services, and create social value.

⁹ The [European Data Market study](#) aims to **define, assess and measure the European data economy**, supporting the achievement of the Data Value Chain policy of the European Commission. This strategy is focused on developing a vibrant and innovative data ecosystem of stakeholders driving the growth of this innovative market in Europe. The main results of this study will feed into the annual reviews of the Digital Agenda Scoreboard providing valuable data and information.

<p>Action 1</p> <p>Increase the awareness of data value</p>	<p>The action aims at increasing data culture and the awareness of the intrinsic data value by defining a coordinated and harmonized mode of operation shared by all the actors of the innovation ecosystem in the territory. This will happen creating opportunities of experience exchange between data producers and data consumers.</p>
<p>Background</p>	<p>During the meetings with companies and development agencies, held starting from May 25th 2017, and based on collaborative processes and co-working sessions, strong shortcomings have emerged in terms of knowledge awareness and of the available data: ways of integrating data from different sources, to value data opened by the PA, and methods to extract valuable information, for data knowledge, data integration, data valorisation, to base economic activities on data.</p>
<p>Activities</p>	<p>To implement the action the following activities are envisaged:</p> <p>1.1 Organize targeted workshops to increase the knowledge on the development and articulation of the data market, with the presentation of successful cases and new technologies, gradually available, to value the data and/or to identify market spaces, in which new subjects, even local ones, can find opportunities for settlement and activity.</p> <p>1.2 Supporting and enabling opportunities for contact and interaction between demand and supply of data/services based on data to generate opportunities for economic growth and improvement of service quality. With particular attention to generating opportunities for companies that provide data and services based on data and companies that can potentially benefit / benefit from the use of data / services.</p> <p>1.3 Organize opportunities for experimental cooperation between PAs, students, young developers, companies-tutor assistants, in the form of hackabot¹⁰, creating opportunity for sharing experiences and knowledge, and ad-hoc scenarios to better define tender specifications and calls of public funding awarding.</p> <p>1.4 Supporting education and training activities - from school to the labour market, to businesses up to the PA - to provide tools and expertise for data collection and processing; platforms and tools to increase quality; tools for analysis with big data methods, in collaboration with the relevant structures and institutions. Facilitate the dialogue between the different stakeholders in order to define</p>

	shared and complementary study plans and training programs and to implement them in their respective working environments, in order to have professional profiles suitable for producing, using and exploiting data.
Players involved	Local agency of development, Research center, University of Trento, School
Timeframe	Some activities are continuous, carried out within the usual interaction between Public sector as data provider and SMEs as data users. Workshop
Costs	See below
Fundings	Internal Open Data Project resources PaT, in kind through Programme Agreement with Trentino Sviluppo, HiT
Effects on PI	This will influence the use of the ERDF by creating a community of practices between SMEs interested in using data and Public Administration as the holder of those data. Thanks to this it will be easier to identify the innovation potential driven by data lowering barriers for experimenting new entrepreneur ideas by SMEs/ start-up

Action 1 - Extraction of value from data	Actors involved - Stakeholders	with Open Data support (funds and in kind)	with in kind involvement of the Trentino system	estimated cost/effort	2019	2020	KPI
1.1 Workshop with/for SMEs on new business model for data market	Trentino Sviluppo, SMEs, Associations of interest, Trentino Public System (Public Service institutions and bodies), Trentino Digitale, Trentino Open data project, Consortium of the Trentino Municipalities	involvement in the Innovation Academy of Trentino sviluppo	Support required to identify/select testimonial and best practice, organizational support	in kind with Trentino sviluppo Innovation Academy 1,5 gg X 3 people each event	-2-	-2-	No. of workshops aimed at companies and young solvers facing the labour market
1.2 Enabling demand/supply of data to enhance the growth of data quality and value	SMEs, Public Service institutions and bodies	info@dati.trentino.it	A front office together with Trentino Sviluppo	2 day/month in kind PaT for a continuous activity	3-2-1 -	-3-2-1 -	No. of public service datasets opened as a result of applications by companies; No. of meeting between supply and demand for data/services; N. companies involved and interested in opening their data on the data.trentino.it platform
1.3 Hackabot	University of Trento (UniTN), Trentino Sviluppo, SMEs, Smart crowd (HiT), Trentino Digitale, TSM	hackabot ISA ² Spring 2019	hackabot ISA ² Spring 2019	6000 € each	-1-	-1-	No. of hackabot for experimental cooperation

1.4 A multi-organizational group for new profile competence needs	High Schools, UniTN, Trentino Sviluppo, SMEs, PaT Human Resource Service, TSM	Internship - UniTN and High Schools	Alignment of the working groups already launched on these themes	1000 € fee (network UNITN data science master degree)	1 network	1 network	N. of internships activated in schools and universities N. of moments of participatory training/learning by doing with citizens on the topics of data literacy
--	---	-------------------------------------	--	---	-----------	-----------	---

Action 2 Open the data and use the data in the Public Administration	The action is composed of primary two dimensions : to spread a culture of data quality and usefulness of data-based services ; to increase and spread the awareness and the ability/competence to use data the Public Administration.
Background	The Trentino OSIRIS team - which largely coincides with the team committed in promoting the open data practice in the Trentino Public Administration which is strongly connected with national and the European specialised team working on ontology, rules, problem solving concerning open data - identified some of the current needs emerged in the PA as priorities for supporting the evolution of data opening and use.
Activities	<p>To implement the action, the following activities are envisaged</p> <p>2.1 Increase the commitment of the Public Administration to open public data making it accessible and reusable, carrying on the development and promotion/support of the catalogue dati.trentino.it, aligned with the national node dati.gov.it and with the European node European Data Portal (EDP), and creating a data/services desk managed in a shared way with the stakeholders to facilitate the use of data and to respond to the requests of companies.</p> <p>2.2 Disseminate and transmit to the local policy makers (public sector managers) the achievements of analysis of the evolution of the data market and the success stories of companies actively working with data (services and tools).</p> <p>2.3 Set up shared training cycles for PA staff and in-house companies, Trentino Digitale, and the other co-interested and co-responsible actors in the production and use of data.</p> <p>2.4 To introduce a function of data editor and analyst in each provincial department, identifying a suitably qualified person,</p>

	<p>who will work in coordination with homologous figures introduced in other areas of the Province and in related and complementary institutions, in-house companies, research institutes and the other stakeholders in the business world and civil society.</p> <p>2.5 Organize hackabots as experiences of testing services prototypes directly involving the offices of the public administration - together with companies, young solvers and users - to increase the knowledge of data, the awareness of the value that can be unlocked from it, the quality and the skills necessary to deal with and to exploit data, having in mind the concept of "learning by doing".</p>
Player involves	Provincia's departments, Trentino digitale, Trentino School of Managements, SMI, Unitn.
Timeframe	Some activities are continuous, carried out by the Open data in Trentino project, for detail see below
Costs	See below
Fundings	Internal Open Data Project resources PaT, in kind through Agreement with Trentino School of Management, UniTn
Effects on PI	A "data-driven public administration - i.e. aware of the value which can be extracted from data, and familiar with the use of a shared platform of data for policy planning, will influence the ERDF governance by making it more accountable and enable monitoring of programme for targeted and quantifiable purposes. As well as it will generate the needs for new competences, new services, new professionals.

Action 2 - Open and use the data in the Public Administration	Actors involved - Stakeholders	with Open Data support (funds and in kind)	with in kind involvement of the Trentino system	estimated cost/effort	2019	2020	KPI
2.1 Open Government data. Create a demand-supply point of contact	Trentino Public System (Public bodies and Agencies/companies), Trentino Sviluppo, Trentino Digitale	Basic activities of the Open Data project	Internal involvement of Trentino digitale	in kind activity PaT	5	10	N. of datasets opened in the public administration and/or updated in line with the international standards

2.2 Workshop/training section to vehiculate best practices	Trentino Open data project, Consortium of the Trentino Municipalities, TSM, Trentino Digitale, SMEs	Training of the top managers during the data opening phases	Ad hoc courses organised by TSM	3 day/month	10	10	N. of meetings with public policy makers on Data Market
2.3 Training on data literacy, data analysis PaT + in-house	Trentino Open data project, Consortium of the Trentino Municipalities, TSM, Trentino Digitale, PaT Depts and Agencies	In progress activities for the involvement enhance of the Departments also to accomplish the National and European Digital Agenda targets/objectives	Ongoing courses by TSM	in kind activity PaT and TSM	200	20-	N. of people involved in training courses N. of public and private bodies involved in training
2.4 Data contact person/analyst for each PaT functional department	PaT General Direction, PaT Human resources Dept., Trentino sviluppo, TSM	A Data contact person for each PaT Department and Service is identified/assigned	Agreement with Personnel Service for defining a professional profile, skills and corresponding training requirements	In kind activity PaT	5	10	N. of provincial structures that have a function of data curator and analyst (at least 5)
2.5 Hackabot involving in-house digital society, Trentino Sviluppo, Serv. Europa	Trentino Open data project, Consortium of the Trentino Municipalities, SMEs, Trentino Sviluppo, UniTN, Smart crowd, Trentino digitale	Digital Single Gateway Hackabot already planned	Hackabots could be systematically organised with Trentino Sviluppo/Servizi o Europa/Trentino digitale	6000 € each	1	1	N. of hackabots devoted to services for the PA (1 at least) N. employees of PaT and other related actors actively participating in the hackabot (18-20) N. of datasets re-modelled and opened in the occasion of the hackabot (18-20) N. Proof of Concept (PoC), Mockup, new services prototype

Action 3 Monitor the performance of the data-based economy	The action aims at monitoring the characteristic activities of the economy based on data and good practices; the collaboration between public bodies institutions with a competence on data, the companies and agencies, other bodies with expertise on the topic.
Background	The Trentino OSIRIS team, in continuity with action 1 and action 2, found it critical to know more about the activities concerning data, and the economic actors involved in generating data and in unlocking value from data, either for their business or to offer

	<p>services based on data. This in depth knowledge appeared to be critical for comparing the territorial economy with the more advanced areas of Europe, for planning future policy actions, and for monitoring and evaluating them.</p> <p>This need of knowledge goes from which data are accessible and of which quality, to who is able to extract additional value from the accessible data, who is using this intrinsic value for improving its business, who is building a new business based on providing a service based data, who is additionally generating the new data, etc.</p> <p>The monitoring tool is based on the analytical framework used by IDC-Lisbon Council and proposed in the Report on the European Data Market¹¹ in both the 2017 and the 2018 study.</p>
Activities	<p>To implement the action, the following activities are envisaged:</p> <p>3.1 integrating/designing and maintaining a monitoring tool/dashboard to collect the data and set up the updating and the analysis of the data relevant for the Trentino RIS3 objectives, and for the same actions planned in the OSIRIS project in synergy with projects already active in Trentino as Open Data 200 (FBK).</p> <p>3.2 Identify functions together with the public body responsible for data collection to be integrated into existing policy actions and to better monitor the development of the data market in Trentino: availability of tools for data processing and analysis; analysis of the contents of training courses/events linked to activities based on the use of data; feedback from companies that have obtained public funding for research and innovation; accesses, requests for clarification and use of open data.</p>
Player involves	Progetto Open data in Trentino, Trentino Sviluppo, S. Europa, FBK, SMIs
Timeframe	See below
Costs	See below
Fundings	Internal Open Data Project resources PaT, in kind through Programme Agreement with FBK and Trentino Sviluppo.
Effects on PI	This tool will allow to assess the policy actions which aim at stimulating the data market. The tool will also increase the

¹¹ See [The European Data Market Study: Final Report](#)

awareness of firms/business, start-ups about the data market growth opportunities, acting in parallel with the OP 2014-2020 objectives.

Action 3 - Monitor the evolution of the data-based economy	Actors involved - Stakeholders	with Open Data support (funds and in kind)	with in kind involvement of the Trentino system	estimated cost/effort	2019	2020	KPI
3.1 A monitoring tool/dashboard	Trentino Open data project, Consortium of the Trentino Municipalities, FBK, Trentino Sviluppo, Spazio Dati, Servizio Europa, PaT Economic Development Dept.	The Digital Agenda requires both internal and external (to PA) data reuse analysis digitale. The use of the PaT Portal is foreseen	Agreement between/with Spazio dati and FBK on data analysis and use of the Open data 200 portal as dashboard, Working group with Servizio Europa, Dept. Sviluppo	30 days for launch phase, 3 day/month	web site	web site	With the public stakeholders. implementation of the dashboard, test and systematise
3.2 Data market survey form and periodical data collection	Trentino Open data project, Consortium of the Trentino Municipalities, TSM, Trentino Sviluppo, PaT Human Resource/Personnel Service	To launch data survey on Trentino companies with the help of internship trainees/appointee, using the questionnaire already defined with PaT Development Dept. (Dipartimento sviluppo)	Monitoring of the 'relationship' - value awareness, access, use, generation, data service provision, business opportunities, etc. - of Trentino companies with data, introducing a couple of questions on the ERDF/fund call forms	in kind PaT resources and internships	1 survey	1 survey	N. Annual Report on Data Market (2 by 2020) N. interactions generated through the monitoring activity for identifying good practice for data re-use

9. General

9.1. Timeframe

The timeframe here defined focuses on the “minimum goals” defined above. A **higher commitment** will affect **the scale and quality of the output**.

		2019												2020								
		6			7						8			9								
Action		1	2	3	4	5	6	7	8	9	10	11	12	1	2	3	4	5	6	7	8	9
1	Extraction of value from data																					
1.a	Workshop with/for SMEs on new business model for data market																					
1.b	Enabling demand/supply of data to enhance the growth of data quality and value																					
1.c	Hackabot																					
1.d	A multi-organization group for new profile competence needs																					
		2019												2020								
Action		1	2	3	4	5	6	7	8	9	10	11	12	1	2	3	4	5	6	7	8	9
2	Open and use the data in the Public Administration																					
2.a	Open Government data. Create a demand-supply point of contact																					
2.b	Workshop/training session to vehiculate best practices																					
2.c	Training on data literacy, data analysis PaT + in-house																					
2.d	Data referent/analyst for each PaT functional department																					
2.e	Hackabot involving in-house digital society, Trentino Sviluppo, Serv. Europa																					
		2019												2020								
Action		1	2	3	4	5	6	7	8	9	10	11	12	1	2	3	4	5	6	7	8	9
3	Monitor the evolution of the data-based economy																					
3.a	A monitoring tool/dashboard																					
3.b	Data market survey form and periodical data collection																					

9.2. Costs

The activities will be included within the framework of the PaT 'Open Data Trentino Project' at no extra costs.

If dedicated investments will be allocated and/or other actors of the Trentino innovation eco-system will be involved - in kind - to support the action, medium/high level objectives will be addressed.

9.3. Funding sources

Internal resources and, potentially, additional dedicated resources from ad hoc and European collaboration.

Date: 21st December 2018

Signature Cristiana Pretto Director "Servizio supporto alla direzione generale e ICT"
Provincia autonoma di Trento

Stamp of the organisation (if available): _____