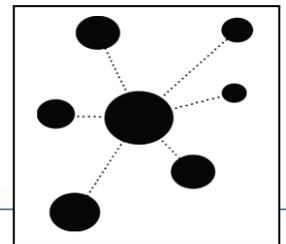




ACTION GROUP N. 5

To connect people electronically and promote accessibility to public services



FINANCIAL REPORT

Connectivity in the Alps and delivery of services of general interest – a financial study

Action Group 5 Lead Team

80 million people, 7 countries, 48 regions,
mountains and plains addressing together
common challenges and opportunities



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Executive Summary

The overall goal of this EUSALP study is to improve the accessibility to services of general interest in an integrated, territorial approach. Within the frame of the Alpine Space Project “AlpGov” – “Implementing Alpine Governance Mechanisms of the European Strategy for the Alpine Region”, the Action Group Leaders will conduct financial studies.

This document will provide an overview of available funding instruments related to specific themes of Action Group 5 of the European Strategy for the Alpine Region (EUSALP) structured as indicated in the study “Guideline for coordinated acquisition of financial studies for the EUSALP AGs”¹. In the first part, there will be a general introduction on macro-regional strategies and on EUSALP’s objectives. Secondly, key guiding questions will be assessed in order to create a list of topics that are relevant for the institution in terms of funding potential. Thirdly, types of financial support will be analyzed by prioritizing different contextual dimensions of each topic previously identified. Finally, there will be a matching analysis between the topics of AG5 and the suitable funding programs so as to build the basis for a strategic roadmap. An Excel-based matrix is elaborated in order to create a picture of this match.

This report focuses on the funding sources of public services regarding the accessibility topic in the remote areas of six different country which are Austria, Switzerland, France, Italy, Slovenia and Germany. Analysing seven regions on 48 covering the EUSALP area, the study is not exhaustive but is sufficient to describe the mechanism of finding at every level (supranational, national, regional and local).

The funding of seven services of general interest has been described. These public services are the following: regional development (1), basic goods (2), transport (3), telecommunication (4), health care (5), social care (6) and education (7).

¹ The study was produced by the Bavarian State Ministry of the Environment and Consumer Protection in February 2018; The project is co-financed by the European Regional Development through the Interreg Alpine Space Programme.

1. Introduction

1.1. Overview on macro-regional strategies

Macro-regional strategies address common challenges and opportunities of a defined geographical area and, in this sense, they represent a new opportunity for the comprehensive development of a larger region. The first macro regional strategy arose in the Baltic Sea region in 2009 as a wish to provide an effective and collective response to issues better handled together than separately. This approach has now been extended to four European macro-regional strategies:

- EU Strategy for the Baltic Sea Region (EUSBSR: 2009)
- EU Strategy for the Danube Region (EUSDR; 2010)
- EU Strategy for the Adriatic and Ionian Region (EUSAIR; 2014)
- EU Strategy for the Alpine Region (EUSALP: 2016)

All adopted macro-regional strategies are accompanied by a rolling action plan to be regularly updated in light of new, emerging needs and changing contexts. Regulatory framework for European Structural and Investment Funds (ESIF) for 2014-2020 places macro-regional strategies into the legal framework of the EU and provides a comprehensive definition of it. According to Common Provisions Regulation for 2014-2020² a 'macro-regional strategy' is an integrated framework endorsed by the European Council, which may be supported by the ESIF among others, to address common challenges faced by a defined geographical area which thereby benefit from a strengthened cooperation contributing to achievement of economic, social and territorial cohesion. The approach is based on the '3 no/yes' rule: no new EU funds, no additional EU formal structures and no new EU legislation, i.e. strategies rely on a coordinated approach and synergy effects: optimal use of existing financial sources, better implementation of existing legislation, and better use of existing institutions. Building on the lessons learnt and experience from the other previous three macro-regional strategies, the Commission has prepared a Communication and an Action Plan on the EU Strategy for the Alpine Region (EUSALP), which has been adopted by the Commission in July 2015. On 27 November 2015 the Strategy was endorsed

² Regulation (EU) No 1303/2013 of the European Parliament and of the Council of 17 December 2013 laying down common provisions on (the European Structural and Investment Funds) (OJ L 347, 20.12.2013, p.320); point 31 of Article 2.

by Council of the European Union³ and by the European Council on 28 June 2016. The EUSALP covers seven different countries:

- 5 EU Member States: Austria, France, Germany, Italy and Slovenia
- 2 non EU Member States: Liechtenstein and Switzerland

of which 48 regions are involved in the process⁴ and is home for more than 80 million people.

The Alpine region is a unique territory, which has an important potential for dynamism, but is facing major challenges, such as:

- economic globalization that requires the territory to distinguish itself as competitive and innovative by developing the knowledge and information society;
- demographic trends, characterized particularly by the combined effects of ageing and new migration models;
- climate change and its foreseeable effects on the environment, biodiversity and on the living conditions of its inhabitants;
- the energy challenge at the European and worldwide scales, which consists of managing and meeting demand sustainability, securely and affordably;
- its specific geographical position in Europe, as a transit region but also as an area with unique geographical and natural features which set the frame for all future developments;

1.2. Objectives

As its main objective, the EU Strategy for the Alpine Region aims to ensure that this region remains one of the most attractive areas in Europe, taking better advantage of its assets and seizing its opportunities for sustainable and innovative development in a European context. Following the recommendations from the report on the added value of macro-regional strategies (new macro-regional strategies should concentrate on a limited number of well-defined objectives, matching particular needs for improved and high-level cooperation), and taking into account the outcomes of the

³ Council Conclusions on the EU Strategy for the Alpine Region, 27 November 2015 and the European Council, 28 June 2016.

⁴ Austria (Burgenland, Kärnten, Niederösterreich, Oberösterreich, Salzburg, Steiermark, Tirol, Vorarlberg, Wien), France (Auvergne-Rhône-Alpes, Bourgogne-Franche-Comté, Provence-Alpes-Côte d'Azur), Germany (Baden-Württemberg, Bayern), Italy (Friuli Venezia Giulia, Liguria, Lombardia, Piemonte, Provincia Autonoma di Bolzano, Provincia Autonoma di Trento, Valle d'Aosta, Veneto), Switzerland (Aargau, Appenzell Ausserrhoden, Appenzell Innerrhoden, Basel-Landschaft, Basel-Stadt, Bern, Freiburg, Genf, Glarus, Graubünden, Jura, Luzern, Neuenburg, Nidwalden, Obwalden, Schaffhausen, Schwyz, Solothurn, St. Gallen, Tessin, Thurgau, Uri, Waadt, Wallis, Zug, Zürich).

previous works in the Region oriented towards EUSALP and the consultation process, the Commission has identified the following objectives which aim to offer:

1. 1st Thematic Policy Area: Economic Growth and Innovation - Fair access to job opportunities by building on the high competitiveness of the Region;
2. 2nd Thematic Policy Area: Mobility and Connectivity - Sustainable internal and external accessibility
3. 3rd Thematic Policy Area: Environment and Energy - A more inclusive environmental framework and renewable and reliable energy solutions for the future.

In addition, there is also a cross-cutting objective aiming to build:

4. Governance, including institutional capacity - A sound macro-regional governance model for the Region (to improve cooperation and the coordination of action).

These policy areas and relevant thematic objectives are concretized and implemented by nine actions. All actions should be carried out in close coordination with other relevant developments (in particular new regulations), including at EU level, to ensure coherence and efficiency.

1.3. Action 5: To connect people electronically and promote accessibility to public services

The focus of this action is twofold. On the one hand to draw up a comprehensive strategy for guiding and shaping the ongoing process of digitization in the Alpine Region and on the other hand the accessibility to services which are provided by public authorities to people living within a certain area. This can be achieved by making the best use of new available technologies, such as satellite broadband connections in the most remote areas as well as developing take-up of e-services. The EU aims at ensuring 100% coverage by the next-generation broadband network (min. 30 Mb/s download) by 2020. This agenda includes both the digital infrastructures and its use for the purpose of providing e-services. The greater the use of e-services, the faster the innovation in this area, therefore the development of the infrastructure is both a condition and a consequence of the use of e-services. The Digital Agenda and the Digital Single Market of the EU are particularly relevant for the area covered by EUSALP, since the way of achieving the goals of 100% coverage of high-speed broadband and 50% household take-up by 2020 are greatly affected by the particularities of the Region. One of the main characteristics of the Alpine Region, and in particular of the mountainous part of this Region, is the presence of sparsely populated communities, in a territory where land connections such as wires and glass fibers are a real challenge. In the absence of a public intervention on connectivity, there is the risk of a detrimental effect on the e-services and innovative applications

offered by public and private providers, which leads to the further depopulation of remote areas. The overall goal of AG5 is to improve the accessibility to services of general interest in an integrated, territorial approach and thus envisages to:

1. Propose a strategic approach to promote ultra-broadband connectivity among Alpine regions and to foster digitalization of Public administration (i.e. open data, e-government, etc.) Propose a strategic approach to promote the accessibility to services of general interest and propose technical solutions with a clear focus on ICT.
2. Install a permanent alpine think tank on the accessibility to services of general interest.
3. Encourage the exchange of experiences in the EUSALP-perimeter through amongst others the cooperation with various alpine-space-program projects and cross-border cooperation projects.
4. Coordinate its work with the other Action Groups of EUSALP and offer technological solutions based on ICT for these action groups.

At the actual state (July 2018) AG5 foresees to develop three strategic initiatives, one lighthouse project and four quick wins. The lighthouse project and the quick wins can be realized within the period 2016-2019 of AlpGov. The three strategic initiatives go beyond this timeframe. The three strategic initiatives concern: (1) Smart villages, (2) Cross border accessibility and (3) a feasibility study for an alpine fiber-optics backbone. The lighthouse project intends to develop a 3D landscape model of the alpine area which can be a supportive tool for all other Action Groups of EUSALP. The AG is split into 2 subgroups. Subgroup 1 deals with all aspects concerning strategies about technological infrastructures (i.e. public ultra-broadband initiatives in market failure context) and general opportunities/issues of digitalization (i.e. e-government). In other terms, the aim of this subgroup is to focus on technical elements that can support subgroup 2 strategies development. This subgroup is led by Regione Valle d'Aosta. Subgroup 2 deals with integrated strategies for services of general interest. This subgroup is led by SAB and will be based on the work of Intesi. In practical terms, the partners of Intesi discuss in every partner meeting the relevance of their work for EUSALP.

2. Assessing guiding questions

This section will assess both the relevant topics in AG5 and the key questions that may guide policy makers and possible stakeholders to appropriate funding sources. This first step of creating a list of topics that are relevant for the institutions involved in the AG proves to be of vital importance since it is pertinent to start with a priority list that is not driven by the funding programme, but by intrinsic factors of the institution itself. This generates ownership and furthermore, makes it easier to generate own contribution of the budget.

2.1. Listing of relevant topics

On the basis of the AG5's work plan first established in March 2017 and updated in April 2018 this is the list of relevant topics:

- implementation of the Smart villages approach in the Alpine region
- analysis of cross border passengers' flows in the whole Alpine region
- alpine cross-border backbone
- setting up of an alpine think tank on SGI
- mapping of SGI in the Alpine Area and creation of a database on existing strategies for SGI
- free Wi-Fi accessibility in the alpine area
- common tool for digitization of the alpine area

The relevant topics, and more significantly the third ("alpine cross-border backbone") is further developed in sub-topics because potential players are different and so are the level of required cooperation and support. Under this light, two approaches are envisaged: infrastructure and service oriented. As a matter of fact, stakeholders with different views are able of suggesting subtopics and indicate further possible thematic priorities generating a circular and integrated process.

Sub-topics for the infrastructure oriented approach:

1. extended connection for TLC operators (international/national and local players);
2. extended connection for other infrastructural owners (auto route, electricity distributors etc.);
3. extended connection for government and other public institutions networks.

Subtopics for the service oriented approach:

1. research centers
2. e-learning
3. transnational services of general interest (SGIs)
4. monitoring networks (environment, natural disasters, energy etc.)

2.2. Key questions that guide to appropriate funding resources

Guiding questions with regards to the nature of the AGs Thematic Setup:

1. Can the AG's theme be considered as thematically focused or is it a mix of heterogeneous topics under one thematic umbrella?

The evolution of online services and IT-applications has increased the demand for quality and speed of the EU's telecommunication networks. Download speed, upload speed and latency⁵ have been flagged by relevant stakeholders in a 2015 public consultation as the top connectivity features today and for 2025⁶. Improvements in all three aspects are required so that EU citizens can benefit from innovative services and applications, such as smart electrical grids; real-time cloud computing services and e-health services⁷. From this point of view, AG's theme may be considered both as thematically focused and as a mix of different topics under one thematic umbrella. As a matter of fact, broadband deployment is more a thematic policy area and therefore must be considered from different points of view. In this sense, it is possible that for what concerns AG5, members have to handle a wide variety of funding options.

2. Does it afford transdisciplinary work to succeed?

Physical transport (of passengers and goods) is not the only relevant dimension in a society increasingly more dependent on virtual connections. Remote and mountainous areas are often lagging behind in terms of e-connection possibilities. At the same time, e-connectivity raises new opportunities for the provision of services (for example e-government, e-health, e-learning) as well as for the uptake of technologies. In this sense, the alpine cross-border backbone requires a very high degree of cooperation and transdisciplinary work in order to succeed. This is the

⁵ Latency is the delay with which data is transmitted from one end of the connection to the other. Users perceive low latencies as very fast responses.

⁶ Commission's 2015 Public consultation on needs for Internet speed and quality beyond 2020.

⁷ Commission Communication "European Broadband: investing in digitally driven growth", COM (2010)472.

reason why a rather integrated program such as Interreg might be more suitable than more focused programs such as LIFE.

3. How much is the knowledge in the thematic fields developed? Where is a need for developing new knowledge?

In 2010, the Commission adopted the Europe 2020 strategy aiming at smart, sustainable and inclusive growth and containing seven flagship initiatives⁸. One of these was “A Digital Agenda for Europe” setting out targets for fast and ultra-fast internet to maximize the social and economic potential of Information and Communication Technologies (ICT), most notably the internet, for EU citizens and businesses. This Digital Agenda was updated in 2012⁹. It sets out three objectives with regard to broadband:

- By 2013, to bring basic broadband to all Europeans (> 144 Kbps and ≤ 30 Mbps). This objective was achieved in 2016 mainly due to satellite coverage;
- By 2020, to ensure coverage of all Europeans with fast broadband (i.e. > 30 and ≤ 100 Mbps);
- By 2020, to ensure take-up of 50% or more of European households to ultra-fast broadband (i.e. > 100 Mbps).

According to the Digital Economy and Society Index (DESI)¹⁰ indicator the development of e-connectivity and e-services still poses a challenge for the Alpine Region, as the level of digitization of the aggregate Region lies below the EU median. The DESI, however, only measures the digitization of EU Member States, and data for Switzerland and Liechtenstein are thus not included in this average score. Two countries of the Alpine Region, Austria and Germany, exhibit good levels of digitization. The I-DESI ranks Switzerland for 2015 right in the middle of the EU's median digitized and the EU's most digitized country, putting it as a top performer. France, Slovenia and Italy in particular must be categorized as 'bottom performers' when it comes to the countries' individual digitization levels. Accordingly, over a third of the Alpine Region's countries exhibit comparatively low levels of digitization – including connectivity and digital public services – which signals a need for intervention in this area.

⁸ Commission Communication “EU 2020, A strategy for smart, sustainable and inclusive growth”, COM (2010) 2020, 3.3.2010

⁹ Commission Communication “A Digital Agenda for Europe”, COM (2010) 245 final/2, 26.08.2010; Commission Communication “The Digital Agenda for Europe – Driving European growth digitally”, COM (2012)785, 18.12.2012.

¹⁰ DESI overall index, calculated as the weighted average of the five main DESI dimensions with the weights selected by the user: 1 Connectivity, 2 Human Capital, 3 Use of Internet, 4 Integration of Digital Technology and 5 Digital Public Services.

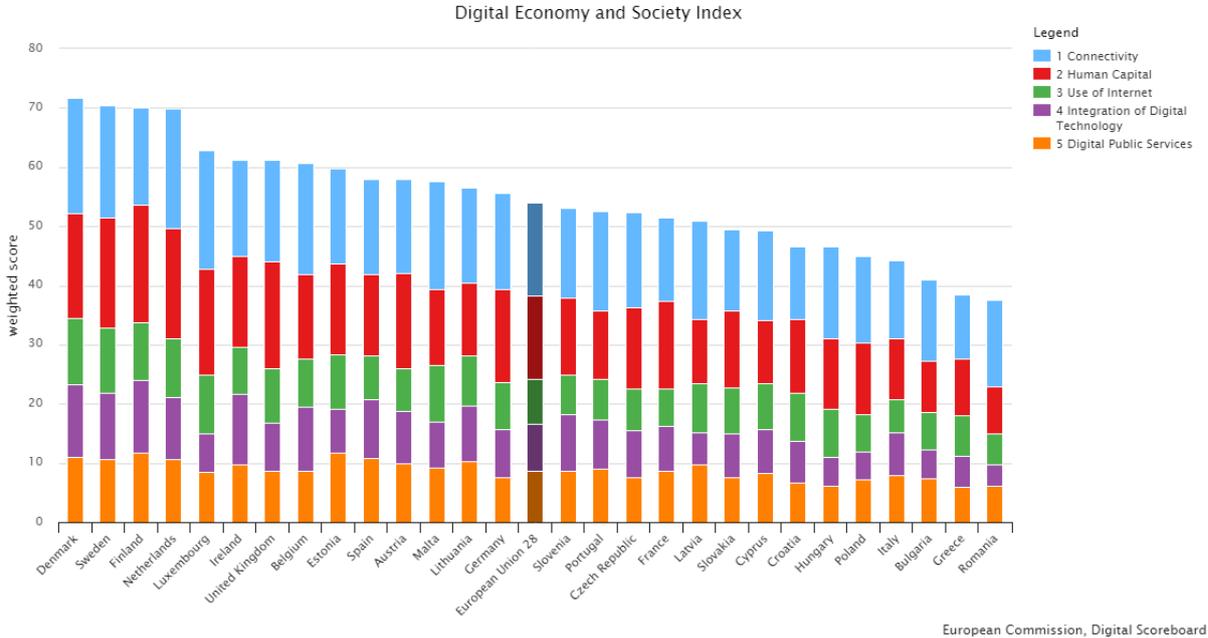


Figure 1: Digital Economy and Society Index 2018

The Alpine Region's aggregate as well as several of the concerned countries' individual performance on the EU Digitization Index reveals a challenge in this area, which substantiates the aims of Action 5 of the Region's strategy to enhance the level of access to fast broadband network as well as to other important digital solutions and services. A need for intervention working towards increased levels of digitization is thus clearly present.

Guiding questions with regards to the nature of the AGs potential players

1. Which players need to be included to push forward the AG5 roadmap? Knowledge institutes, authorities, private enterprises, educational system, political decision makers, general public, civilians, others?

There are many stakeholders involved in a broadband project. A broadband plan that creates the right conditions and incentives for all the relevant stakeholders to participate in the project will be able to better leverage on the resources, competence and assets present in the region and ultimately will have higher chances to be a success. Important stakeholders can be found in the **private sector**: other companies owning infrastructures, operators and service providers interested in selling services over the network, network providers interested in placing active equipment in all the nodes and to deliver those services, other telecom companies willing to lease the dark fiber and finally non-telecom companies wishing to lease

dark fiber for their own needs. There are then important stakeholders requiring access to end-users to deliver social benefit through advanced social ICT services such as hospitals, schools, elderly and social housing companies, research centers and public administration authorities and offices. The **public sector** should also be included in some cases and thus act as an “anchor tenant” and to reduce the demand risks in the short/medium term while waiting for demand to pick up over the medium/long term. Finally, **institutional stakeholders** at local, regional, national and European level might play an important role in terms of regulation and support. Once the broadband plan has been established, different group of players will be targeted. Mapping interests and need of stakeholders in the Alpine region should be a fundamental step in defining the right players for building the alpine cross-border backbone.

Guiding questions with regards to the required cooperation intensity

1. Is transnational policy progress required to implementing the AGs objectives?

For the broadband investment to be successful, it is essential to develop a plan which is in line with the overall European, national and local digital development policy.

2. Does transnational cooperation support success?
3. Do individual regional or local activities help, also if they are carried out individually?

In the context of implementing an alpine cross-border backbone, regional and local activities could be fundamental in ensuring the investment actually responds to real needs of the citizens. Local support is also necessary to ensure the take-up, i.e. that the infrastructures and the services that are provided through it are indeed used and that the NGN network is economically sustainable. On the other side, transnational cooperation is required by the intrinsic nature of the objective. If levels of e-connectivity and e-services are too low in a certain area, this may indicate a weakness. A lagging development of digital infrastructure and services is likely to put the affected area and its inhabitants at a disadvantage – not only in terms of convenience, but also for example concerning access to vital services or employment opportunities, which in turn may affect the attractiveness and ultimately the competitiveness of the area. In order to concretize a common perspective for the Alpine area in terms of connectivity and access to digital services it is critical to ensure a high degree of cooperation and collaboration between potential players at a cross-border level. Funding programs with a focus on transboundary, transnational or trans regional cooperation should be prioritized in this case.

Guiding questions with regards to the required support

1. Is progress in this field connected to large-scale investments?

Fiber-optic cable networks are usually built along existing infrastructure networks such as roads, railways, pipelines, or electricity transmission lines. Generally, most of the cost of constructing fiber-optic cable networks along these alternative infrastructure networks lies in the civil works. These costs represent a major fixed and sunk investment, increasing the risks faced by the networks operators. By lowering the cost of access to these infrastructure networks and reducing the risk associated with it, governments and public authorities can significantly increase incentives for private investment into backbone networks.

2. Can activities be carried out through activation of unused human resources?
3. Can an economic cycle be constructed?

Research indicates that investments in broadband infrastructure and the availability of broadband access contributes positively to employment and economic growth, despite involving considerable costs upfront. In 2012, the Commission estimated that a 10% increase in broadband connections could raise labor productivity by 1.5% over five years¹¹. Similarly to other types of infrastructure (like roads, power lines, water distribution pipes, etc.) broadband passive infrastructure is typically characterized by high capital expenditure, low operational expenditure, low economies of scale, stable returns from low rates over a long period and is highly local, hard to duplicate because often it constitutes a natural monopoly. On the other hand, technology (active equipment) is characterized by high operational expenditure, economies of scale and is subject to limited regulation. Passive infrastructure represents today the most critical bottleneck in the process of upgrading and deploying a next generation networks.

3. Assessing types of financial support

3.1. European Union instruments

The telecommunication private sector is the major investor in broadband infrastructures. For the segments of the markets where private investment is too risky

¹¹ Commission Communication “The Digital Agenda for Europe – Driving European growth digitally”, COM (2012)785, 18.12.2012.

or is not viable economically, the national/regional/municipal public sector can provide additional funding, and often is the major investor. Financing through EU funding sources is a third, but generally minor, investment stream to fund areas subject to market failures.

The funding provided from the EU budget has increased from under 3 billion € for the 2007 – 2013 programme period to over 14 billion € for the 2014 – 2020 programme period. For 2014 – 2020, broadband projects can be financed through five main mechanisms:

1. European Structural and Investment Funds (ESI Funds)

ESI funds are the biggest EU public funding source supporting broadband investments. The purpose of the funding is to invest in job creation and a sustainable and healthy European economy environment. ESI funds include five different funds:

- a. The European Regional Development Fund (ERDF)
- b. The European Social Fund (ESF)
- c. The Cohesion Fund (CF)
- d. The European Agricultural Fund for Rural Development (EAFRD)
- e. The European Maritime and Fisheries Fund (EMFF) throughout 2014 – 2020

Two funds provide dedicated budgets for broadband rollout: the European Regional Development Fund (ERDF) and the European Agricultural Fund for Rural Development (EAFRD).

ERDF

In the Information and Communications Technology area, ERDF can support extension of broadband deployment and the rollout of high-speed networks, as well as the adoption of emerging technologies and networks for digital economy. The majority of European Structural Investment Funds dedicated to broadband deployment are supported by ERDF. ERDF investments in the Member States have the form of **non-refundable grants** and support projects at national/regional level. Overall, there are 5.2 billion € allocated for broadband across Member States through ERDF and they can support investments from Municipalities, national schemes, Telcos, or associations.

The structural funds are translated at national and regional level into Operational Programmes are prepared by each Member State (NOP) or region (ROP), and financed under ERDF or the Cohesion Fund. The table and graph below represent the amount per each EUSALP State, excluding Switzerland and Liechtenstein.

Name	TOTAL PROGRAMME BUDGET	Total ESIF Research & Innovation per capita per year
AUSTRIA - ERDF NOP	€ 515.411.478,00	€ 45.648,24
SLOVENIA – COHESION POLICY OP (2014-2020)	€ 1.373.230.389,17	€ 54.863,79
ROP ERDF PROVINCIA AUTONOMA DI BOLZANO	€ 65.578.176,00	€ 5.184,44
ROP ERDF PROVINCIA AUTONOMA DI TRENTO	€ 52.160.685,00	€ 11.083,84
ROP ERDF FRIULI VENEZIA GIULIA	€ 110.793.989,00	€ 9.637,72
ROP ERDF REGIONE LIGURIA	€ 188.500.000,00	€ 6.419,32
ROP ERDF REGIONE LOMBARDIA	€ 468.800.000,00	€ 3.497,34
ROP ERDF REGIONE PIEMONTE	€ 463.605.475,00	€ 6.708,56
ROP ERDF REGIONE VALLE D'AOSTA	€ 30.895.475,00	€ 11.288,92
ROP ERDF REGIONE VENETO	€ 288.149.144,00	€ 4.249,13
ITALY ROP AMOUNT	€ 1.668.482.944,00	€ 58.069,28
ROP ERDF- ESF FRANCE – PACA	€ 284.316.236,00	€ 3.423,19
ROP ERDF- ESF FRANCE - RHÔNE ALPES	€ 353.069.269,00	€ 3.895,63
ROP ERDF- ESF FRANCE - FRANCHE COMTÉ ET JURA	€ 145.698.377,00	€ 10.051,10
FRANCE ROP AMOUNT	€ 783.083.882,00	€ 17.369,92
ROP ERDF GERMANY - BADEN WÜRTTEMBERG	€ 234.085.038,00	€ 2.804,27
ROP ERDF GERMANY - BAYERN	€ 484.821.142,00	€ 2.424,98
GERMANY ROP AMOUNT	€ 718.906.180,00	€ 5.229,25
TOTAL AMOUNT	€ 5.059.114.873,17	€ 181.180,48

Figure 2: Structural funds by country

European territorial Cooperation (Interreg)¹²

Interreg is a EU initiative funded by the ERDF for the cooperation between European Union regions. The EC entrusts the management of the Program to a specific Managing International Authority that coordinates all the Regions located inside the cooperation area, and presents to the Commission an Operative Program about the common developing strategy for the interested areas. In addition, it defines the Axis, or topics, to which it will direct the available resources.

There are three different Interreg Type:

Interreg A (European Cross-Border cooperation) insisting on EUSALP region are 16, for a total budget of EUR 1.456.270.352,00. This kind of Interreg supports the cooperation between NUTS III regions from at least two different adjacent Member States. It aims to face common challenges identified jointly in the border regions and to exploit the untapped growth potential in border areas, while improving the cooperation process for the purposes of the overall harmonious development of the Union.

¹² This chapter is based on material provided by AG1 of EUSALP.

Name	Total Program Budget
INTERREG V-A France - Germany - Switzerland (Rhin supérieur-Oberrhein)	€ 103.122.668,00
INTERREG V-A France - Italy (ALCOTRA)	€ 186.943.708,00
INTERREG V-A France-Switzerland*	€ 61.937.075,00*
INTERREG V-A Austria - Hungary	€ 74.117.008,00
INTERREG V-A Austria - Germany / Bavaria (Bayern - Österreich)	€ 51.209.381,00
INTERREG V-A ABH - Alpenrhein - Bodensee - Hochrhein	€ 36.817.240,00
INTERREG V-A - Austria - Czech Republic	€ 91.946.038,00
INTERREG V-A Austria - Slovakia	€ 71.339.121,00
INTERREG V-A Germany / Bavaria - Czech Republic	€ 97.172.640,00
INTERREG V-A Italy - Slovenia	€ 73.254.157,00
INTERREG V-A Italia - Austria	€ 77.304.535,00
INTERREG V-A Italy - Croatia	€ 189.275.787,00
INTERREG V-A Italy - France (Maritime)	€ 159.520.267,00
INTERREG V-A Italy - Switzerland	€ 94.208.179,00
INTERREG V-A Slovenia - Austria	€ 44.988.355,00
INTERREG V-A Slovenia - Croazia	€ 43.114.193,00
Total Interreg V-A Budget in EUSALP Region	€ 1.456.270.352,00

*excluded CHF funds

Figure 3: Interreg V-A budget in Eusalp region

Interreg B (Transnational cooperation) insisting on EUSALP region are 6, with EUR 1.234.020.852,00 total budget available. Interreg B involves regions from several countries of the EU forming bigger areas. It promotes cooperation and regional development in the Union by a joint approach to solve common issues. It supports different kind of project investment related to innovation, environment, accessibility, telecommunications, urban development etc. The transnational programs add an important extra European dimension, in order to get financial support, projects must demonstrate a relationship with the priorities set by the program in question.

Name	Total Program Budget
INTERREG VB North West Europe	€ 372.366.282,00
INTERREG VB Danube	€ 208.298.873,00
INTERREG VB Central Europe	€ 231.786.426,00
INTERREG VB Alpine Space	€ 109.637.339,00
INTERREG VB Adriatic - Ionian	€ 92.648.553,00
INTERREG VB Mediterranean	€ 219.283.379,00
Total Interreg V-B Budget in EUSALP Region	€ 1.234.020.852,00

Figure 4: Interreg V-B budget in Eusalp region

Interreg C (Interregional cooperation), covers all EU Member States. It builds networks to develop good practice and facilitate the exchange and transfer of experience by successful regions. In this subgroup we find only INTERREG EUROPE. It promotes the exchange of experience and the transfer of good practices between actors at all levels in Europe. Involved countries are 28 EU Member States, Norway and Switzerland. The total program budget is 337.766.741,00.

EAFRD

The EU's rural policy funded through EAFRD aims to support sustainable development of rural areas. Under the Rural development Priority number 6, EAFRD can finance basic service infrastructure and village renewal in rural areas. Member States have included in their programs actions aimed to mainly support creation, improvement and expansion of broadband infrastructure, passive broadband infrastructure and provision of access to broadband and public e-government solutions. There are more than 900 million € dedicated to ICT related projects that can be proposed by a broad kind of public, semi-public and private beneficiaries operating in rural areas. Municipalities, Telco operators or interested in EAFRD support can submit their projects in the context of calls opened by the Managing Authorities in charge of national/regional Rural Development Programs. Calls not only relate to infrastructure, but can also refer to “soft” complementary actions like training, advisory services, cooperation etc. In total, 47 EAFRD funded programs include broadband related investments in Member States.

Operational Programs are prepared by each Member State (NOP) or region (ROP), and financed under ERDF or the Cohesion Fund. Operational programs are detailed plans in which the Member States set out how money from the European Structural and Investment Funds will be spent during the programming period. They can be drawn up for a specific region or a country-wide thematic goal (e.g. Environment). For the European Territorial Cooperation goal, cross-border or interregional operational programs are drawn up.

Member States submit their operational programs on the basis of their Partnership Agreements. Each operational programme specifies which of the 11 thematic objectives that guide cohesion policy in the 2014-20 programming period will be addressed through the funding available under the operational programs.

The table below represents the planned ICT investments in the Alpine Arc under ESIF funds. The total amount is dedicated to the Thematic Objective 2: “Enhancing access to, and use and quality of, ICT” per each EUSALP State, in this case Switzerland and Liechtenstein are outside of EU funding policies.

Table 1: ICT monitoring - planned ICT investments under ESIF

Country	Region	Operational programme	Form of \$	Amount
France	Auvergne	2014FR16M0OP002	01 - Non-repayable grant	21 M
France	Franche-Comté	2014FR16M2OP005	01 - Non-repayable grant	10 M
France	Franche-Comté	2014FR16M2OP007	01 - Non-repayable grant	9 M

France	Provence-Alpes-Côte D'azur	2014FR16M0OP013	01 - Non-repayable grant	39 M
France	Provence-Alpes-Côte D'azur	2014FR16M0OP013	03 - Support through financial instruments: venture and equity capital or equivalent	2 M
France	Provence-Alpes-Côte D'azur	2014FR16M0OP013	04 - Support through financial instruments: loan or equivalent	1.5 M
France	Provence-Alpes-Côte D'azur	2014FR16M0OP013	05 - Support through financial instruments: guarantee or equivalent	1.5 M
France	Provence-Alpes-Côte D'azur	2014FR16M0OP013	06 - Support through financial instruments: interest rate subsidy, guarantee fee subsidy, technical support or equivalent	1.5 M
Italy	Bolzano	2014IT05M2OP002	01 - Non-repayable grant	0.5 M
Italy	Bolzano	2014IT05M2OP002	01 - Non-repayable grant	0.5 M
Italy	Bolzano	2014IT05M2OP002	01 - Non-repayable grant	1 M
Italy	Bolzano	2014IT16RFOP005	01 - Non-repayable grant	16 M
Italy	Friuli-Venezia Giulia	2014IT05M2OP002	01 - Non-repayable grant	0.5 M
Italy	Friuli-Venezia Giulia	2014IT05M2OP002	01 - Non-repayable grant	0.5 M
Italy	Friuli-Venezia Giulia	2014IT05M2OP002	01 - Non-repayable grant	1.5 M
Italy	Liguria	2014IT05M2OP002	01 - Non-repayable grant	0.5 M
Italy	Liguria	2014IT05M2OP002	01 - Non-repayable grant	0.5 M
Italy	Liguria	2014IT05M2OP002	01 - Non-repayable grant	2 M
Italy	Liguria	2014IT16M2OP004	01 - Non-repayable	0.5 M

			grant	
Italy	Liguria	2014IT16M2OP004	01 - Non-repayable grant	1 M
Italy	Liguria	2014IT16M2OP004	01 - Non-repayable grant	2 M
Italy	Liguria	2014IT16RFOP011	01 - Non-repayable grant	18 M
Italy	Lombardia	2014IT05M2OP002	01 - Non-repayable grant	0.5 M
Italy	Lombardia	2014IT05M2OP002	01 - Non-repayable grant	1 M
Italy	Lombardia	2014IT05M2OP002	01 - Non-repayable grant	10 M
Italy	Lombardia	2014IT16M2OP004	01 - Non-repayable grant	1 M
Italy	Lombardia	2014IT16M2OP004	01 - Non-repayable grant	6 M
Italy	Lombardia	2014IT16M2OP004	01 - Non-repayable grant	14 M
Italy	Lombardia	2014IT16RFOP012	05 - Support through financial instruments: guarantee or equivalent	10 M
Italy	Piemonte	2014IT05M2OP002	01 - Non-repayable grant	0.5 M
Italy	Piemonte	2014IT05M2OP002	01 - Non-repayable grant	0.5 M
Italy	Piemonte	2014IT05M2OP002	01 - Non-repayable grant	4 M
Italy	Piemonte	2014IT16M2OP004	01 - Non-repayable grant	0.5 M
Italy	Piemonte	2014IT16M2OP004	01 - Non-repayable grant	3 M
Italy	Piemonte	2014IT16M2OP004	01 - Non-repayable grant	6 M
Italy	Piemonte	2014IT16RFOP014	01 - Non-repayable grant	33 M
Italy	Piemonte	2014IT16RFOP014	02 - Repayable grant	7 M
Italy	Piemonte	2014IT16RFOP014	05 - Support through financial instruments: guarantee or equivalent	4 M
Italy	Trento	2014IT05M2OP002	01 - Non-repayable	0.5 M

			grant	
Italy	Trento	2014IT05M2OP002	01 - Non-repayable grant	0.5 M
Italy	Trento	2014IT05M2OP002	01 - Non-repayable grant	1 M
Italy	Valle d'Aosta	2014IT05M2OP002	01 - Non-repayable grant	0.5 M
Italy	Valle d'Aosta	2014IT05M2OP002	01 - Non-repayable grant	0.5 M
Italy	Valle d'Aosta	2014IT05M2OP002	01 - Non-repayable grant	0.5 M
Italy	Valle d'Aosta	2014IT16RFOP020	01 - Non-repayable grant	7 M
Italy	Veneto	2014IT05M2OP002	01 - Non-repayable grant	0.5 M
Italy	Veneto	2014IT05M2OP002	01 - Non-repayable grant	0.5 M
Italy	Veneto	2014IT05M2OP002	01 - Non-repayable grant	5 M
Italy	Veneto	2014IT16M2OP004	01 - Non-repayable grant	0.5 M
Italy	Veneto	2014IT16M2OP004	01 - Non-repayable grant	3 M
Italy	Veneto	2014IT16M2OP004	01 - Non-repayable grant	7 M
Italy	Veneto	2014IT16RFOP021	01 - Non-repayable grant	39 M
Slovenia	Slovenija	2014SI16MAOP001	01 - Non-repayable grant	29 M
Slovenia	Slovenija	2014SI16MAOP001	01 - Non-repayable grant	40 M

Data was elaborated from the Smart Specialization Platform official website (http://s3platform.jrc.ec.europa.eu/ict-monitoring/-/tool/search?p_auth=sXYPA0D8)

2. European Fund for Strategic Investments (EFSI)

This is a joint initiative launched by the EIB Group – European Investment Bank (EIB), the European Investment Fund (EIF) and the European Commission to help overcome the current investment gap in the EU by mobilizing private financing for strategic investments. Most of these funds are disbursed in the forms of loans or equity. One of the eligible investment sectors is dedicated to development and deployment of information and communication technologies, notably telecommunications infrastructures of high speed broadband networks. Eligible operations are:

- a. Projects economically and technically sound (including projects with a higher risk profile than ordinary EIB activity)
- b. Operations contributing to EU objectives
- c. Operations mature and bankable
- d. Projects priced in a manner commensurate with the risk taking
- e. Operations located everywhere in the EU, including cross-border projects

Out of 21 billion € risk-capital initiative, about 1 billion € has been approved under the EFSI triggering around 3.2 billion € of total EFSI related investments for broadband related projects by April 2017. The funds are disbursed through two windows:

- Infrastructure and innovation window: 15.5 billion € deployed by EIB
- Small and Medium Enterprises window: 5.5 billion € deployed by EIF

List of possible beneficiaries of EFSI:

- Private sector entities

Large corporates, special purpose vehicles or Midcap companies (up to 3.000 employees) can apply for project loans. Midcap companies or SMEs (less than 250 employees) can apply for: growth finance, intermediate lending from partner financial institutions, EIF's intermediate equity or guarantee products.

- Public sector entities

Local authorities, public sector companies or other government-related entities can apply for project loans or smaller projects that can be financed through intermediate lending.

- Banks, national promotional banks and other financial institutions

EIB provides loans to financial institutions acting as financial intermediaries to support small investments of SMEs and midcaps or for local authorities. Financial intermediaries can also apply for EIB portfolio guarantee instruments and EIF products.

- Funds and other forms of collective investment vehicles

Investments in equity, hybrid or debt funds with a focused investment strategy in eligible sectors, including infrastructure and environment support through the EIF, in funds focusing on SMEs.

- Investment platforms

EIB may co-invest or provide co-financing to eligible projects alongside third parties.

3. Connecting Europe Facility (CEF)

The Connecting Europe facility (CEF) is an instrument to promote the development of high-performing and environmentally sustainable interconnected transport, energy and communications networks across Europe. The main objective is to extend the reach of private investment in areas of market imperfection to stimulate the deployment and modernization of broadband networks and to reduce the need for direct (grant based) public intervention in areas of market failure.

With a proposed budget of 50 billion € between 2014 and 2020, the CEF is a key instrument to promote growth, jobs and competitiveness through targeted infrastructure investment at European level. It supports the development of high-performing, sustainable and efficiently interconnected trans-European networks in the field of transport, energy and digital services. The 50 billion € create significant leverage and attract additional public and private funding through the use of innovative financial instruments, notably **EU project bonds**. In the digital sector, the 9.2 billion € available, together with the regulatory and permitting solutions proposed in parallel, should leverage at least 50 billion € of additional investment into high-speed broadband, the backbone of the digital single market.

The CEF is designed to attract private sector investment to infrastructure through a number of financial risk-sharing instruments, including special lending, guarantees and equity investments. These instruments aim to give credibility to infrastructure projects and to lower their risk projects. The goal is to offer an alternative to traditional grant funding and to plug financial gaps for strategic infrastructure investments.

CEF Digital is anchored to the Europe 2020 Strategy for smart, sustainable and inclusive growth, which puts digital infrastructures at the forefront with the “Digital Agenda for Europe” initiative. In particular, CEF digital will intervene in the so-called “grey areas” using financial instruments to help mitigate the risks, and thereby making these high-speed broadband projects commercially viable. It has a budget of 1.14 billion € out of which 170 million € is for Broadband activities and 970 million € is dedicated to Digital Services Infrastructures. The figure below has been elaborated from the official website of CEF (<https://ec.europa.eu/digital-single-market/en/connecting-europe-facility>) and represent an example of the functioning of EU project bonds in the case of a broadband network deployment.

EU project bonds: example

A broadband project, such as a passive infrastructure, is planned by a group of companies (sponsors) and tendered by public authorities. The sponsors create a project company to raise the financing, construct and operate the broadband network for a period agreed with the public authorities. The sponsors provide own funds to the project company in the form of equity and shareholder loans. The remaining financing is obtained by the project company in the form of debt, traditionally a bank loan. This constitutes a so-called “senior debit”. With the assistance of the Project Bond initiative, instead of using traditional bank lending, the project company could raise the senior debt by issuing project bonds.

Capital market investors would buy the bonds if an investment grade credit rating, preferably at least A-, could be achieved. In order to support the project company to achieve such an attractive credit rating, the EIB will provide in the framework of the Project Bond initiative, a loan or guarantee (the “Project Bond” instrument) to the project company. The Project Bond instrument could cover all project-related risks affecting the cash flow generation from the start of the operating period, as well as any funding shortfall during the construction period. This will raise the likelihood of timely repayment of principal and interest to bond holders and, in turn, help reduce the risk of such bonds and increase correspondingly their credit rating.

Once drawn upon, the Project Bond instrument will take the form of subordinated debt – i.e. it will rank after the senior debt tranche in terms of order or repayment, but before equity capital. As such, it will be reimbursed by the project company over time from the cash resources available after senior debt service, but prior to payments to equity and related financing shareholder loans and other subordinated loans.

Funding from the EU budget (and in this particular case, from the CEF budget) will intervene by providing capital contributions to the EIB, in order to cover a portion of the risk the EIB is taking when it finances the eligible projects. This is already the case with other existing instruments, such as the Loan Guarantee Instrument for TEN-transport (LGTT). In other words, the EU budget will provide some risk cushion for the EIB to finance the underlying projects, while the EIB would have to cover the remaining risk. Through the EIB support of up to a maximum of 20% of project debt, a multiplier of around 15 to 20 can be achieved.

Figure 5: EU project bonds: example

Who benefits?

- Projects with targets of the Digital Agenda for Europe
- Operations with sufficiently mature project development and preparation stages
- Operations with effective implementation mechanisms
- Operations to address market failures or sub-optimal investment situations
- No market distortion or crowding out of private investment
- Operations with most suitable technology for the geographic area in question and technological neutrality
- Operations with technology best suited for the specific project
- Projects with best balance between state of the art technologies
- Projects

Moreover, the European Commission gives particular care in ensuring complementarities with interventions supported by other EU programs, while avoiding potential overlaps. In particular, coordination will be pursued in the implementation of the CEF with the Horizon 2020 research and innovation programme and the Cohesion and Structural Funds, where the Commission has proposed that important parts of the budget for 2014-2020 be dedicated to projects related to ICT, energy and transport infrastructure.

Coherence between CEF and the Horizon 2020 Programme will guarantee that the research and innovation chain leading to deployment in infrastructure is not interrupted. This coherence is particularly critical at a time when significant technological advances in transport, energy and ICT will be needed to help the EU meet its ambitious Europe 2020 Strategy's objective.

4. Connecting Europe Broadband Fund (CEBF)

This is the first investment platform to support broadband infrastructure under the EFSI, set up by the European Commission and the European Investment Bank. Its main objective is to bridge the market gaps so that the underserved, less populated or rural European areas develop their broadband network infrastructure. A main objective of the fund is to unlock also additional investment between 1 billion € and 1.7 billion €. Anchor investors of the fund are: KfW Bankengruppe (DE), Cassa di Risparmio di Padova e Rovigo (IT), Caisse des dépôts et consignations (FR).

Main characteristics:

- The CEBF plans to invest in equity and quasi-equity, including mezzanine and subordinated debt, in some 7-12 broadband projects each year from 2017-2021

- Investments size of 1 million € to 30 million € for projects representing total costs of maximum 150 million €
- The funding will be provided also to smaller scale and higher risk broadband projects
- Management of the fund: Cube Infrastructure Managers SA

Cube Infrastructure Managers S.A. has been selected as the approved applicant to manage the fund through a public procurement process carried out by the EIB. The fund manager would identify broadband projects and make investments according to the investment guidelines of the Fund during the whole five-year investment period of the fund.

5. Horizon 2020

The European Commission and the Member States are mandated by the regulations that lay down the rules for the European Structural and Investment Funds, Horizon 2020 and other EU programs directly managed by the Commission in the areas of **research, innovation and competitiveness** – in particular COSME, Erasmus +, Creative Europe, European Union Programme for Employment and Social Innovation and the digital services part of the Connecting Europe Facility – to ensure coordination, synergies and complementarities¹³. It is fundamental to ensure optimal synergies between the funds to face the ever increasing competitive pressure from global markets and maximize impact and efficiency of public funding. To achieve this, it is crucial to align strategies and implementation modalities and complement existing and future roadmaps. However, translating this new reality is a learning process, given that ESIF implementation is under Member States' shared management rules while Horizon 2020, COSME, Erasmus +. etc. Support is allocated at EU level (directly or indirectly by the Commission).

Basic principles and concepts for synergies:

- NO substitution of national/regional or private co-funding to EU projects/programs under direct Commission management by ESIF money (and vice versa).
- NO double financing: in no circumstances shall the same costs be financed twice by any budget.
- **Synergies among programs:** Synergies mean joint or coordinated efforts to achieve greater impact and efficiency, not only combining ESIF and Horizon 2020 money in the same project!
- Synergies can be achieved through:

¹³ Regulation 1303/2013 laying down common provisions of the ERDF, ESF, Cohesion Fund, EAFRD and EMFF; Regulation 1299/2013 on specific provisions for the support from the ERDF; Regulation 1300/2013 on the Cohesion Fund; regulation 1304/2013 on the ESF and Regulation 1302/2013 on a European grouping of territorial cooperation (EGTC).

- Bringing together Horizon 2020 and ESIF money in the **same project** (that could be a single action or a group of coordinated actions/operations, but always provided that there is no double funding of the same expenditure item) in view of achieving greater impact and efficiency¹⁴;
- **Successive projects** that build on each other or;
- **Parallel projects** that complement each other.
- ESIF programs could also be designed and implemented to take up high quality project proposals from Horizon 2020 or other centrally managed programs, for which there is not enough budget available in the respective programs.

Table 2: Differences between H2020 and ESIF

Horizon 2020	ESIF – European Structural and Investment Funds
DIFFERENCES	
Non-territorial , mainly transnational approach based on excellence and impact; H2020 does not take into account geographic specificities in allocating funding	Place-based approach supporting economic and social cohesion.; cofunding rates vary according to the region and programme
Individual (R&I) Projects tackling the whole cycle of innovation, taking into account strategic approaches at EU level, e.g. through European Innovation Partnerships and the Strategic Energy Technology plan; Co-Fund actions: focus on co-funding specific R&I Calls or programs PCP/PPI, PPP, P2P, ERA-NETs, etc.)	Largely focused on improving the R&I capacities and R&I eco-systems with the objective of regional growth and place-based economic transformation towards higher added value and more knowledge-intensive activities (RIS3). There is also an increase of support to R&I activities as such, e.g. business university cooperation and closer to the market activities (prototyping, pilot lines, early product validation actions, advanced manufacturing capabilities and first production).
Directly managed (European Commission/executive agency) and awarded directly to final beneficiaries or managed by a Union body or multi-country entity; in case of Programme Co-Funding, with Dedicated Implementation Structure (indirect management)	Shared management with national and regional public intermediaries (managing authorities, implementing agencies and intermediate bodies) which define the implementation details and allocate the funding to final beneficiaries

¹⁴ This is only possible for Horizon 2020 and not other EU programmes

Not counted for EU State Aid purposes	Counted for EU State Aid purposes
<p>Competitive calls for proposals addressed to multi-country consortia (participation beyond the EU is possible) without geographic pre-allocation. (European Research Council and Marie Skłodowska-Curie Actions also address individuals; SME instrument also address single SME)</p>	<p>Policy-related prioritization based on cohesion considerations and RIS3 priorities to individual firms/bodies and consortia within the territory covered by the operational programme (and only within the EU). Use of competitive attribution through calls and aid schemes based on project selection criteria are also increasingly used (depending on MS)</p>
OPPORTUNITIES	
<p>Horizon 2020 will focus on: industrial leadership and tackling major societal challenges, maximizing the competitiveness impact of research and innovation and raising and spreading levels of excellence in R&I. Horizon 2020 includes actions to close the research and innovation divide: ERA Chairs, EIT Regional Innovation Scheme, teaming and twinning, research infrastructure development, etc. Horizon2020 has the objective of spreading excellence and widening participation compared to FP7 It is foreseen that for certain types of actions (including the SME instrument) proposals that fulfil excellence criteria but cannot be supported from Horizon2020 are awarded a ‘Seal of excellence’. This seal might be taken up by national / regional programs to facilitate access to project funding</p>	<p>Besides improving the innovation ecosystems, Cohesion policy will partly increase the capacity of regions and Member States to participate in Horizon 2020 ("Stairway to Excellence") and partly fund R&D&I activities in a MS/region that can build on FP7 and Horizon2020 projects. ESIF programs can take up good practices and project formats that were tested under Horizon 2020, e.g. public procurement of innovative solutions, precommercial public procurement, stage gating for projects (like in the SME instrument), knowledge-triangle settings like in the EIT-KICs, “proof-of-concept” type of actions like under the ERC, social and public sector innovation approaches, etc. Horizon 2020 can provide support for the policy development at national and regional levels.</p>
<p>Similar cost options that may facilitate combining funds: lump sums, flat rates, unit costs etc. (Art 67 and 68 CPR & H2020 Rules for Participation)</p>	

Using financing from Horizon 2020 and ESIF for the same project requires adequate accounting practices at beneficiary level so that they are able to separate and appropriately record the respective cost items from the very beginning of the action. The different steps could be visualized as follows for the case of an industrial project:

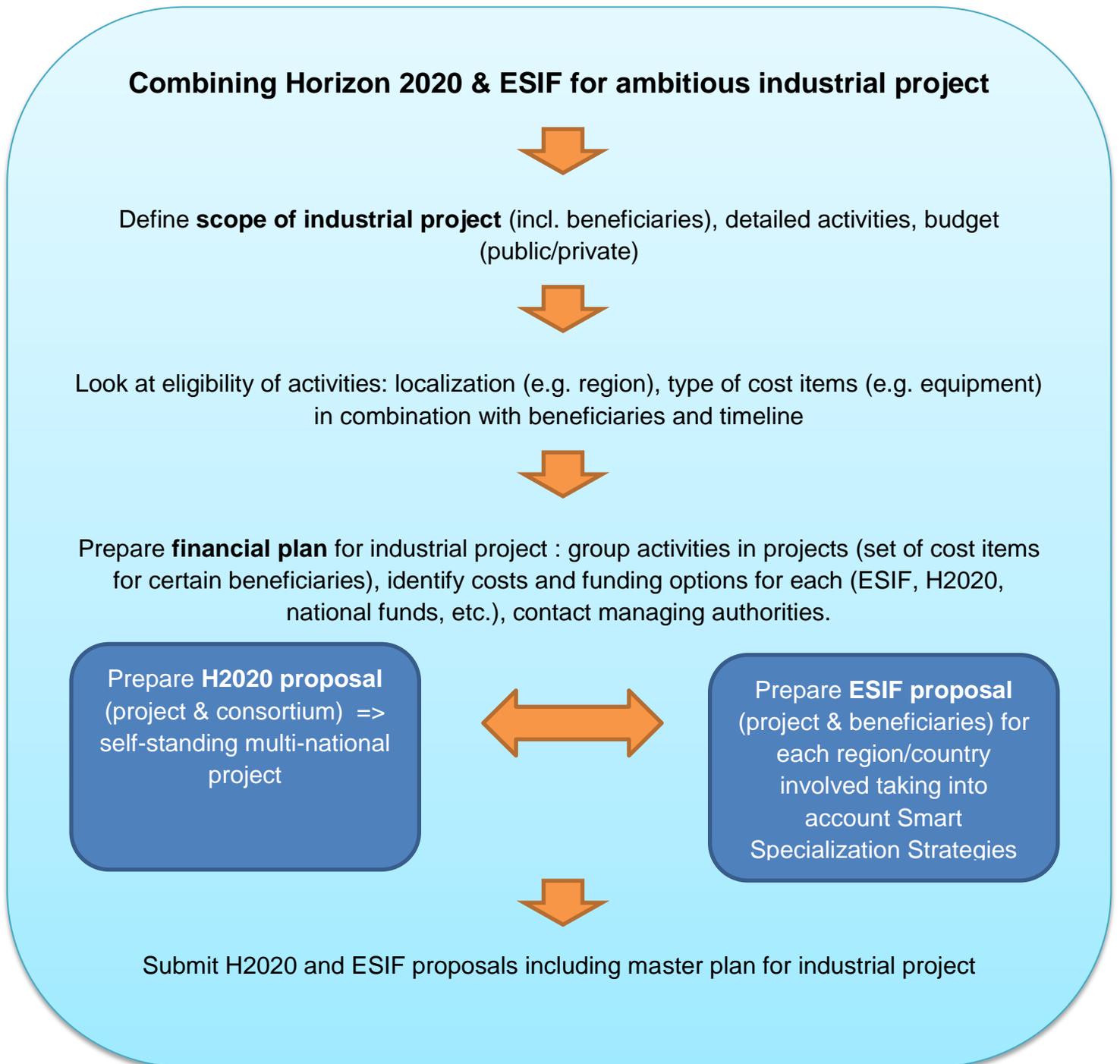


Figure 6: Horizon2020 & ESIF

6. JASPERS

JASPERS (Joint Assistance to Support Projects in European Regions) is a partnership between the European Commission (DG Regional Policy), the European Investment Bank (EIB) and the European Bank for Reconstruction and Development (EBRD). The German Kreditanstalt für Wiederaufbau (KfW, "Reconstruction Credit Institute") also supported JASPERS from 2008 to 2013. JASPERS is active in all transport-related sectors, solid waste and energy, water and wastewater, and smart development. The latter includes RDI, ICT (notably implementation of broadband in rural areas and different types of public e-Services), and education, health, smart specialisation, smart cities and other similar contexts.

JASPERS' assistance may cover project preparation support, from identification to submission of the request for EU grant finance, independent quality review of projects, horizontal assignments, strategic support, capacity building (including a Knowledge and Learning Centre) and implementation support. The aim is to help improve the quality of the major projects to be submitted for grant financing from the EU Structural and Cohesion Funds.

Current JASPERS beneficiary Member States are those that joined the EU after 2004, Greece and three Candidate Countries (Former Yugoslav Republic of Macedonia, Montenegro and Serbia). Although extending JASPERS advisory function beyond the current beneficiary states is not excluded in the current programming period, so far JASPERS activity in relation to the EUSALP-Region has taken place in Slovenia.

The main sectors of JASPERS' activity in Slovenia are Water and Wastewater, including Flood Protection (18 actions) and Transport, including Roads, Rail and Airports (17 actions).

The remaining actions are in the Solid Waste sector (4 actions), Smart Development (1 action in favour of the University of Ljubljana) and 1 multi-sector horizontal action (training on project applications). The total estimated cost of the major projects supported by JASPERS and submitted to the Commission for approval is about EUR 1.6 billion.

3.2 National and regional funding

Besides EU funding instruments, there are also national and regional opportunities for funding projects and initiative in the field of research and innovation (R&I)¹⁵. The table below shows the number of national programs for the EUSALP area.

Table 3: National programs for each EUSALP member

EUSALP Member	Number of national programs
Austria	11
France	9
Germany	7
Italy	6
Liechtenstein	4
Slovenia	2
Switzerland	6

Most European Union Member States have gradually adopted national broadband plans (NBPs) since the adoption of the ‘Digital Agenda for Europe’ (DAE) 2020 targets — i.e. coverage of 30 Mb/s download for all Europeans and take-up of 100 Mb/s subscriptions by at least 50 % of European households. The plans are devised to integrate all relevant aspects of an effective broadband policy and resources, enabling policy makers and public authorities to properly plan any necessary public action in the telecommunications sector. Some NBPs are integrated within broader strategic approaches, while others are documents specifically dedicated to broadband deployment. In some countries, there are multiple official documents drafted by different national authorities, specifying aspects related to such broadband developments. In a number of cases, Member States decided ERDF and EAFRD programmed funds on broadband (2014-2020) — total EUR 6 071 million € to make extensive use of the European Investment and Structural Funds (ESIFs) for a total programmed amount of over EUR 6 billion € by 2020.

The roll-out of broadband projects remains challenging in many Member States and in specific regions, partly due to the lack of appropriate administrative capacity (e.g.

¹⁵ A collection of financial instruments related to R&I available at national level is available on the official website of EUSALP at the following link: <https://www.alpine-region.eu/funding-reports/state-art%E2%80%9D-funding-instruments-national-level>.

for state aid notification, technological choices and business models). The Commission is working closely with Member States that envisage reallocating substantial parts of their initial programming from broadband measures to other sectors. To prevent reprogramming of this kind, in particular in rural areas, and to help improve technical assistance, the Commission has asked Member States to set up technically competent broadband competence offices and has put in place a broadband rural action plan. In addition, financial instruments including the ESIFs and the forthcoming Connecting Europe Broadband Fund are intended to maximise the leverage of public funding dedicated to the roll-out of the next generation of broadband networks.

Other funding sources

Other funding resources may be explored according to the type of infrastructure the project may choose to implement. Generally, a broadband network consists of a passive infrastructure (ducts, cables, masts, premises) and active equipment component implementing the technology (transponders, routers and switches). On top of that, services are delivered. A cross-border backbone network would consist of a ring of fiber optic cable (one cable contains several, even hundreds of optical fibers) connecting different areas in the Alpine region. The fiber connection (FTTH/FTTB) is reputed to be the ultimate long-term solution but its realization highly depends on the level of ambition of the territories involved and the type of service required by the territory. In order to implement a NGN broadband infrastructure there are important choices that have to be made over 4 different dimensions: the investment model, the infrastructure type, the business model and the financing model.

4 investment models:

- Publicly run municipal network – direct investment; in this case the public authority builds a broadband network and the deployment is run and directly controlled by the public authority; the public authority keeps ownership of the network and runs operation and maintenance => the network is then generally made available to all market actors under fair and no-discriminatory conditions;
- Privately run municipal network model – in this model the public authority procures the building and operation of a broadband network from a private actor; the private firm builds an open and operator-neutral network; the public authority keeps ownership of the passive infrastructure but the operation contract with the external firm is typically in the form of indefeasible right of use (e.g. 20 years). The contracted firm commits the investment and takes all the revenues as well as business risks for the whole contract period.

- Community broadband => in this model, the broadband investment is done through a bottom-up approach as a private initiative by the local residents; the role of public authority in this case is that of providing support where needed
- Operator subsidy model => the public authority acts like a market actor to upgrade its own infrastructure; in this model the public authority funds the gap between what is commercially viable and the aimed coverage;

The table below describes in detail four different types of investment models:

Table 4: Type of investment models

	Degree of neutrality between wholesaler and retailer	Transfer of financial risk to market actors	Revenue generation for network expansion	Control over project	Availability of an infrastructure for society
Public-run Mun. net	High	Low	Potentially high	High	High
Private-run Mun. net	Medium	Low	Medium	Medium	Medium
Community broadband	Medium	Low	Medium	Low	medium
Operator subsidy	Low	High	Low	Low	low

Besides public funds, such as EU instruments examined previously, a public authority can finance a broadband project in many different ways:

1. Revenue-based financing: self-financing through the re-investment of revenues from network connection fees. In this case, if the public authority chooses a public-run municipal network investment model, it generally receives revenue from wholesale dark fibre lease and/or transmission services. This source of financing only materializes once the core of the infrastructure is in place and services are being offered over the network.
2. Private capital and financial markets: project financiers such as banks, investment funds and private equity investors may be interested in providing early-stage financing.
3. Government-backed bank loan and bonds: soft or commercial-terms bank loans are sustainable once a valid business plan is presented. In this case it is important to check state aid regulation in order to verify its compatibility.

4. Bottom-up community financing: for instance in isolated rural communities, people can raise finance to support the development of infrastructure in their areas.

3.2.1. Austria

Whereas financing and production can be offered by the government, the market and/or the society, the crucial question of the spatial dimension arises, when it comes to the delivery of services. The economic situation of a region also constitutes an important framework for the development of the SGI.

Due to the lower population density and the topographical conditions in the alpine regions, the (mostly) market-bound SGEI services are poorly developed in such areas. This is particularly true for the largely liberalised field of technical communications and for the transport system. (Tyrol)

Regional development

Type of tools	Funding sources	Recipient	Goals
Development concept of Carinthia (STRALE!K)	National or international subsidies	Regional office	With the "Spatial Strategy for the Development of the State of Carinthia - STRALE!K", the considerations to make Carinthia a unique, liveable, competitive and attractive region in Europe were bundled into a spatial overall strategy. The aim was to use the technical support provided by the ÖIR to visualize the foreseeable spatial, regional economic and demographic development trends for Carinthia and to clarify where the chances of future development stand.

Basic goods

As Basic goods are regulated and delivered exclusively by the market, no regular subsidise are foreseen for this domain. Nevertheless, innovative approaches can be supported e.g. through Interreg-programs, rural development funds etc.

Type of tools	Funding sources	Recipient	Goals
-	-	-	-

Transport

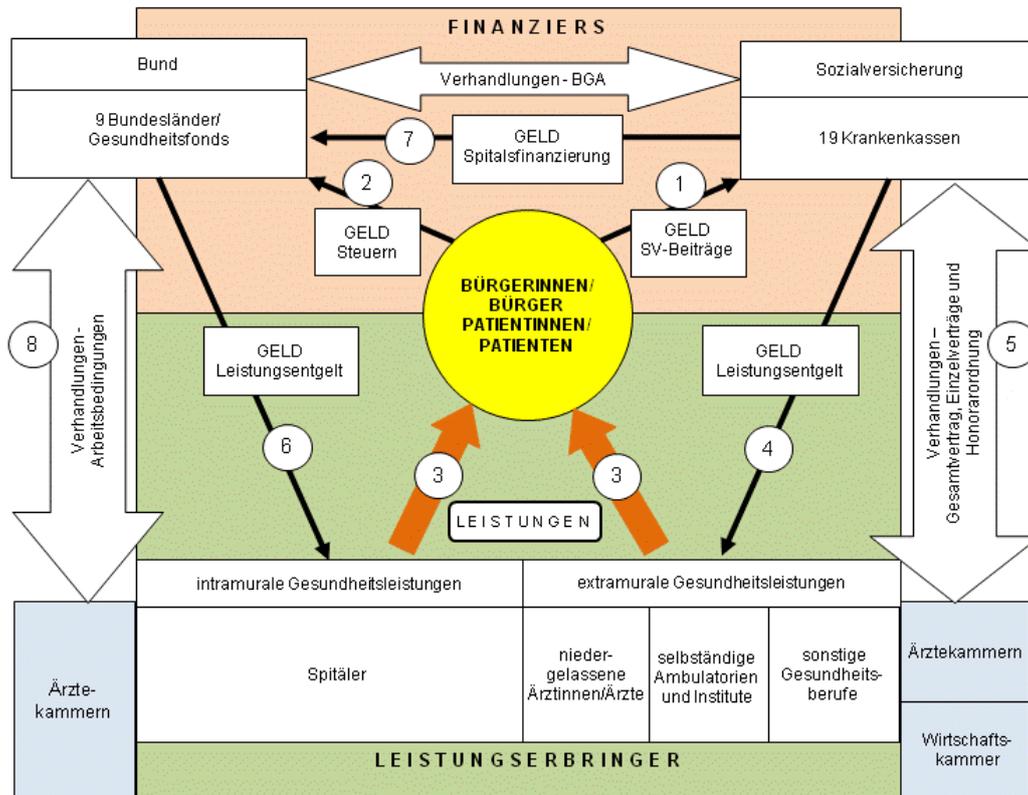
Type of tools	Funding sources	Recipient	Goals
/			

Telecommunication

Type of tools	Funding sources	Recipient	Goals
Special grant programme	State	Broadcasts	<p>The Austrian Federal Government provides additional funds in a special grant program "Empty Conduit Promotion"</p> <p>Funds are raised by using own resources of the communities and public funding of the federal state, that means entirely by public funds.</p>
Private rent	Private operator	State	<p>Funds are raised by using own resources of the communities and public funding of the federal state, that means entirely by public funds. The (private) operator of the local network determined by tender after the network expansion pays a sales-based rent for the use of the local broadband network.</p>
Broadband master Plan Tirol			<p>The measures:</p> <ul style="list-style-type: none"> - Actively inform and raise awareness - Ongoing survey of network infrastructures and service areas - Establishment of a steering group - Set priorities - Introduce state subsidies - Adaptation of existing funding guidelines of the country - Participation in federal and EU funding programs - Creation of legal framework in state legislation - Compensation of local disadvantages - Construction of fiber optic infrastructure within the area of influence of the country

Health Care

The roles of the different actors and financial mechanisms in the Austrian health care sector can be illustrated as follows:



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Figure 7: Health care in Austria

Type of tools	Funding sources	Recipient	Goals
LKF-System	State	Institutions	22 compulsory insurance institutions and the contributions of patients raise the money for the operation of the hospitals altogether.
			An essential goal of this "structure plan care 2012 - 2022" is to ensure the Financing of the necessary care and nursing services by the province of Tyrol and The municipalities. This requires a corresponding, especially in financial terms Predictability, so that the financing partners in the respective annual required provision. The long-term financing security set out in this "Structure Plan for Nursing 2012 - 2022" also ensures the provision of the necessary support for this planning horizon. and care benefits for people in need of care and

			<p>assistance, including the existing quality standards in Tyrol.</p> <p>For the period 2012 to and including 2022 are for the additionally provided new construction from approx. 120 home care places per year and a further total of 98 priority care places basis of the price basis provided by housing promotion (€ 120,000 per home ground, without basic costs and without furniture, calculated with a compounding factor of 2.5% P.A. in subsequent years) investment funds totaling € 201.6 million are required. In addition, about 15% of the existing home places (about 860 places) will be used during the planning period.</p> <p>be subjected to a general renovation, for which investment costs amounting to approx. € 56.5 million are to be made available.</p> <p>For the 150 short-term / temporary care places are further investment costs in the amount of a total of around € 19.7 million is required. The planned expansion of the day care offer by 275 places requires investment costs of approx. 18.6 Mio. (https://www.tirol.gv.at/fileadmin/themen/gesellschaft-soziales/soziales/Publikationen/StrukturplanPflege_2012-2022.pdf)</p>
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Social Care

Type of tools	Funding sources	Recipient	Goals
/			

Education

Type of tools	Funding sources	Recipient	Goals
/			

3.2.2. Switzerland

Regional development

Type of tools	Funding sources	Recipient	Goals
New regional policy	Cantons, State (SECO)	Regional secretaries, regional actors, private (through taxation facilities)	The aim of the NPR is to strengthen the competitiveness of the regions and increase their creation added value, maintain workplaces in the regions and create new ones, obtain decentralized housing and help to eliminate regional imbalances (disparities).

			In this context, it is particularly important to support initiatives, projects and programmes in mountain regions, rural areas in general and rural areas. http://www.regiosuisse.ch/npr
Pilot programme Territory of action Economy	State (SECO)	Actors groups in a territory of action	The PHR Economy supports concrete projects oriented towards the economy and in network with other sectoral policies in the territories of action according to the Swiss Territory Project. PHR Economie supports territories of action to extend and deepen interdependencies between the city and the countryside. The PHR Economy is financed with the means of the NPR and implemented in close collaboration with the AER.
URBACT III	State (SECO, ARE)	Every municipalities (and research institute)	The goal of URBACT is to contribute to sustainable urban development through the dissemination and exchange of knowledge and experience between policy makers and other people involved in urban development. URBACT III is a programme of cohesion of the European Union. Swiss participation is in the framework of the NPR. (grant contribution)
Innotour	State (SECO)	Common projects hold by several firms/organisations	Innotour is an instrument to improve the structure and the quality of the tourist offer Swiss. Promotion should focus on where the most important weaknesses of tourism offer and where real competitive advantages could be generated via innovation and collaboration. Innotour now focuses the encouragement national. With the introduction of the new model project instrument, Innotour also continues promote regional and local projects that are exemplary all of Switzerland.
Model projects for a sustainable territorial development	State (ARE, OFEV, SECO, OFAG, OFL, OFROU, OFSP, OFSPO)	Responsible private and public bodies in rural area	The model projects of the Confederation encourage new approaches and new methods. Local, regional and cantonal actresses and actors are offered an incentive to develop and experiment on the spot innovative solutions in priorities defined by the Confederation. The results and lessons provided by the model projects are disseminated so that they can serve as a red thread for other projects. Model projects should also provide guidance for adaptation and development Confederation policies on territorial organization. For the third generation of model projects for sustainable territorial development, intersectoral collaboration is strengthened at

			the level of the Confederation. Not less than eight federal offices participate in the programme and support 31 projects grouped together five thematic axes (https://www.are.admin.ch/are/fr)
Agglomeration project	State (ARE)	Different according to cantons and communes	The Agglomeration Project is a planning instrument for the development of transport and urbanization in the area concerned. This project is supposed to improve transport systems of agglomerations at the transcommunal level, as well as, in part, at the transcantonal and cross-border level. It must also make it possible to coordinate development transport and urbanization. Agglomerations define their vision their development and develop strategies and ad hoc measures. The measures concerning the different means of transport and the development of urbanization must be prioritized in the programme schedule of the agglomeration (Lists A, B and C). If, according to the Confederation's assessment, the submitted agglomeration projects allow to have a sufficient impact on the whole programme, it will participate in the infrastructure transport co-financed by 30 to 50%.
Incentive programme for sustainable development	State (ARE)	Cantons, regions and communes	The Sustainable Development Incentive Programme was created to encourage representatives of the cantons, towns, municipalities, regions and projects contribute to the implementation of sustainable development in Switzerland. Processes and projects must make an explicit contribution to the implementation of the 2030 Agenda for sustainable development and address its three dimensions, namely: society, the economy and the environment. Projects in this area will be prioritized. do not get no support in this context the already completed projects as well as the pure projects infrastructures (solar installations, bridges, footpaths, etc.), publications and general events, websites or research projects or studies. Similarly, are not supported recurrent operating costs as well as contributions to pursue an existing project.
Regional development projects	State (OFAG)	Responsible bodies collectively organized	(Article 93 (1) (c), Ordinance on the improvement of structures, SR 913.1). Projects on regional development and the promotion of indigenous and regional products can be supported by contributions,

			provided that agriculture participates in predominantly. The goal is to develop agricultural potential and natural resources rural areas. Are encouraged in this context: • projects that include value-added measures in the economy agricultural; • projects that strengthen cross-sectoral collaboration between the agricultural economy and related sectors (crafts, tourism, forestry and wood economy); • projects that contain measures aimed at public interest at the environmental level, social or cultural. Financial aid is granted with funds lost, aid financed by the Confederation and the canton, which is to support the project up to 80% of the contribution Federal. The condition for obtaining financial aid is to go through the process "Regional Development Projects" (https://www.blw.admin.ch/blw/fr)
Collective initiative projects	State (OFAG)	Collective project in agriculture field	(Art 136 (3a) LAgr) The purpose of collective project initiatives is to promote positive developments in rural areas. Existing measures and new measures provided for by the Law on Agriculture and Water Protection should be the subject of the better coordination in this context. Is granted: Support of an accompaniment coaching in order to clarify resp. to study the feasibility of a collective project. Contribution OFAG max.: CHF 20'000.-
Programme for sustainable use of natural resources	State (OFAG)	Projects operating a regional approach or specific to a branch	The programme according to art. 77a and 77b of sustainable use of natural resources in regional or sectoral level aims at a more sustainable use of natural resources necessary for agriculture, optimization of the use of auxiliary materials and a better protection of biodiversity in agriculture. The goal is fulfilled when this programme supports measures that encourage the rapid introduction of innovations organizational, technical or structural aspects in agricultural practice. Projects of use resources are pilot projects that, apart from their goal of efficiency must meet a learning goal
Contribution to landscape quality	State (OFAG)	Farmers	Thanks to contributions to landscape quality, regionalized measures to promote the diversity of the cultivated landscape can be supported with federal direct payments. The regions have thus been provided with an instrument by which they can both maintain their traditional cultivated landscape and develop modern rural landscapes. This is an important contribution to the promotion of landscape diversity in Switzerland.
Swiss Aid to Highlanders	Private	Private projects in agriculture, tourism, commerce, energy	The goal of Swiss Aid to Highlanders is for the inhabitants of these regions to live in a secure economic, natural and social environment in the long term. It is why the

		of wood businesses	foundation supports people and companies that do, in the regions of mountain, proof of initiative by launching investment projects that allow to create jobs. This is a help based on the principle of "assistance to autonomy". Those are therefore the inhabitants of these regions who launch initiatives and who assume the entrepreneurial responsibility. The Swiss Aid to Montagnards grants, with contributions to lost funds, support in the alternative, namely after the exhaustion of own funds and external funds, as well as public subsidies.
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Basic goods

Type of tools	Funding sources	Recipient	Goals
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Transport

Type of tools	Funding sources	Recipient	Goals
Office of coordination for sustainable mobility (COMO)	State (ARE, OFROU, OFEV, OFSP, OFT, OFEN)	Cantons, regions and communes	COMO promotes the development and implementation of new ideas for modern forms and mobility offers. There are two deadlines per year (April 30 and October 31) for submitting project applications promising in the field of future-oriented mobility. Some CHF 1,000,000.- are made available each year for contributions to selected projects. COMO takes over the tasks of the former DETEC Service Center for mobility innovative and sustainable. COMO also acts as a contact and co-ordinating body as well as knowledge sharing platform.
Financial support for the conservation of historical communication means	State (OFROU, DETEC)	Cantons, communes	In order to fulfill its protection mission, the Confederation may, by virtue of its Article 13 of the Nature Protection Act of 1 July 1966 (LPN), support the protection of historical communication routes. To this end, it may grant aid financial; these are allocated to the cantons within the limits of the appropriations voted for the conservation, acquisition and maintenance, exploration and documentation of historical communication. Projects are studied on a case by case basis and financial aid allocated if the measures are carried out economically and professionally. The amount financial assistance is based on the importance of the objects to be protected and the effectiveness of the measures. Given the limited financial means, FEDRO can prioritize

			Financial aid and, if necessary, spread the contributions over several years guarantees. The period during which financial assistance will be granted is defined in the corresponding order.
Public tendering and ordering of transport services	State, Cantons, Commune	Service providers	<p>The Confederation pays 50% of the public part (Swiss medium, quota varies from canton to canton), the cantons and municipalities the other part and the rest comes from the passengers.</p> <p>In the domain of public transport for example the increase in passengers and also ticket prices have permitted the improvement of the offer. However, the coming years will get financially difficult in the public transport sector. The statements made above are also true for new structure plans in other Swiss cantons such as Graubünden and Wallis.</p> <p>In the TA, the special point is the organisational structure built on an association where the municipalities pay an adhesion fee in relation to their size and the bus frequency. Private sponsors and the canton complete the financial needs.</p>

Telecommunication

Type of tools	Funding sources	Recipient	Goals
Subsidies	State	Private	The Swisscom is the holder of the universal services concession and must fulfil these prescriptions. The universal service provider has theoretically the right to appeal for federal subsidies for these services if it can prove, that they are not economically viable. Swisscom has refused to request such subsidies so far. The concession is given for seven years, the next period will start in 2018. Swisscom is owned by at least 50% by the federal government (quota fixed by law).

Health Care

The extreme complexity of financing in the Swiss health sector can be shown by the following graph:

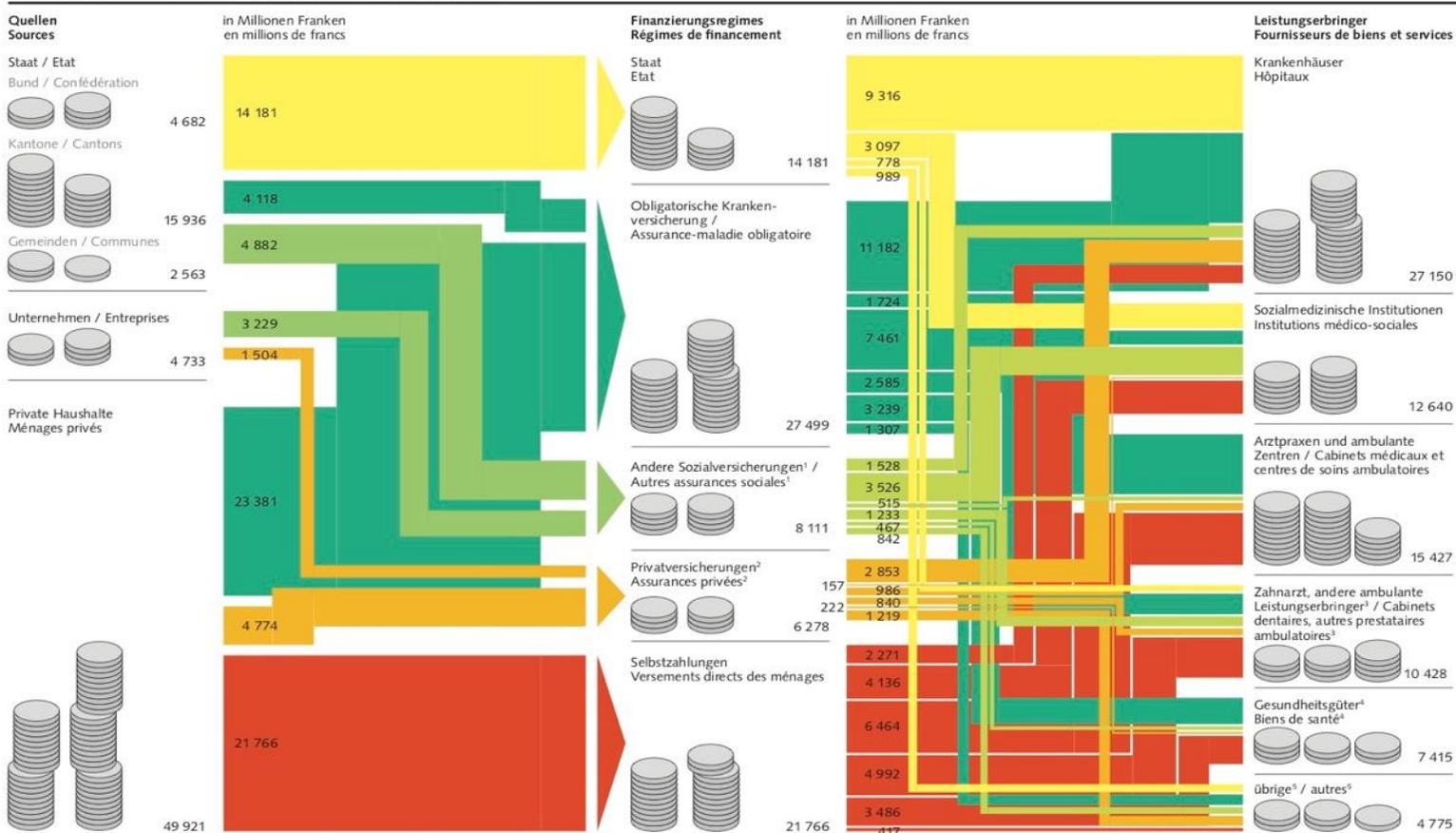
Connectivity in the Alps and delivery of services of general interest – a financial study



Schweizerische Eidgenossenschaft
Confédération suisse
Confederazione Svizzera
Confederaziun svizra

Eidgenössisches Departement des Innern EDI
Département fédéral de l'intérieur DFI
Bundesamt für Statistik BFS
Office fédéral de la statistique OFS

Kosten und Finanzierung des Gesundheitswesens 2015 (provisorisch) Coût et financement du système de santé en 2015 (provisoire)



1 inkl. andere öffentliche Finanzierung / y c. autre financement public 2 inkl. andere private Finanzierung / y c. autre financement privé 3 z. B. Psycho-, Physiotherapeuten, Spitzex, Labors, Transportdienste / p. ex. psycho-, physiothérapie, Spitez, analyses médicales, transport 4 inkl. Importe / y c. importations 5 Staat, Versicherer und Gesundheitsorganisationen, gemeinnützig / Etat, Assureurs et Organisations de santé, sans but lucratif

Quelle: BFS – Statistik der Kosten und der Finanzierung des Gesundheitswesens / Source: OFS – Statistique du coût et du financement du système de santé

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14 Gesundheit / Santé – Dokument-ID / ID du document: gi-b-14.05_2015

Figure 8: Healthcare in Switzerland

Type of tools	Funding sources	Recipient	Goals
Cantonal and municipal subsidise	Public	Semi public	Financing of hospitals and other health care institutions.

Social Care

Type of tools	Funding sources	Recipient	Goals
Cohesion in neighbourhoods Programme	State (ARE)	Cities, Agglomerations communes	The neighbourhood cohesion programme must take up the objectives of the development territorial integration policy, the encouragement of housing construction and fight against discrimination and ensure their effective and sustainable implementation in agglomerations and their strategic sectors. Based on the knowledge acquired and experiences, it supports neighbourhood development projects in sensitive places. Concretely, must be supported sustainable development projects neighbourhoods in areas facing social challenges (e.g. social cohesion in decline, misunderstandings and conflicts due to a composition of the population that exchange, few recreational facilities, etc.) and which are based on experiences and knowledge gained from already completed projects. The Confederation examines currently if and how the programme is to be implemented.
Cantonal programmes for integration	State (ODM) and cantons	Regions, cities and communes, private and public responsible bodies	The Confederation and the cantons wish to improve the integration of foreigners and even more targeted in all areas of life. In this perspective, each canton has developed a Cantonal Integration Programme (CIP) for the period 2014-2017. Agreements concluded between the Confederation and the cantons binding integration objectives and define indicators for the consideration of the effectiveness of programmes

<p>Periurban - Cohabitation in a rural area</p>	<p>State (CFM)</p>	<p>Cooperation of several communes</p>	<p>Through the Periurban program the Federal Commission for Migration Issues supports the promotion of integration in regions that have so far had little or no worked for social cohesion and specifically for the integration of migrant women with the direct support of the Confederation. The CFM encourages the development of the practice integration, and it lays a foundation for the propagation of good examples of promoting integration.</p> <p>The CFM supports regional developments with financial contributions and accompanies the piloting. Regular exchanges of experiences take place between the regions, exchanges that are organized at the project level.</p> <p>The programme started in 2016 with nine regions in the last phase Programmatic. It is no longer possible to submit a new application.</p> <p>The programme website provides all relevant information on projects and regions who participate in it. Interested parties can register for the proposed news through the website and subscribe to the periodic newsletter.</p> <p>(www.periurban.ch)</p>
<p>Coop Sponsorship for the mountain regions</p>	<p>Private</p>	<p>Farmer families</p>	<p>The Coop Sponsorship for Mountain Regions aims to support the population of mountain - in the sense of helping to take care of oneself - so that it improves his working and living conditions. Are granted: contributions with funds lost or loans of home renovations, farm rationalization and investment infrastructure.</p>
<p>Swiss sponsorship for mountain municipalities</p>	<p>Private</p>	<p>Communes, cooperatives</p>	<p>Swiss sponsorship for mountain municipalities aims to reduce disparities between Switzerland's regions and to provide targeted support for projects which have as their aim to keep the mountain regions habitable and economically viable. Are supported projects in the following areas:</p> <ul style="list-style-type: none"> • infrastructure (eg water and wastewater facilities, power supply); • landscape maintenance and conservation measures (eg mountain buildings, improvements); • protection devices against natural hazards; • clearing and restoration work after natural disasters; • training of younger generations (eg kindergartens, schools).

Education

In the year 2014, public expenditure on education amounted to some CHF 36 billion. Most of the public expenditure on education, around CHF 29.3 billion, comes from

the cantons and their municipalities, while the Confederation provides CHF 6.1 billion.¹⁶

Compulsory education (CHF 17.8 billion): Just under half of public expenditure on education is in the sector of compulsory education (including pre-school and special classes and special schools). The cantons and their municipalities provide the financing.

Baccalaureate schools and upper-secondary specialised schools (CHF 2.3 billion): The cantons and their municipalities are responsible for financing general upper secondary level schools.

Vocational and professional education and training (vocational education and training, VET: CHF 3.5 billion; tertiary level professional education: CHF 370 million) The cantons cover most of the public expenditure on vocational and professional education and training. On the basis of the Federal Act on Vocational and Professional Education and Training, the Confederation funds one quarter of total public VPET expenditure. Alongside the public funding, professional organizations also contribute to the financing of vocational and professional education and training. To a considerable extent, the Federal Diploma of Higher Education Examinations and Advanced Federal Diploma of Higher Education Examinations, as well as job-related CET, are funded by the students and their employers. From 2018 anyone completing a course to prepare for the Federal Diploma of Higher Education or the Advanced Federal Diploma of Higher Education Examinations will receive financial support from the Confederation.

Higher education institutions and research (CHF 11.4 billion): The cantons cover most of the public expenditure of the cantonal universities and the universities of applied sciences, while the Confederation also makes financial contributions. The universities of teacher education are financed by the cantons. The two federal institutes of technology are financed by the Confederation. The Confederation also supports the higher education institutions via so-called second-party resources, which are allocated for research projects on the basis of competitions. In addition to the public funding on the part of the cantons and the Confederation, private bodies are also involved in the financing of higher education institutions (e.g. via study fees, research mandates, revenue from CET, and foundations).

Type of tools	Funding sources	Recipient	Goals
Common innovation projects developed by	State (Innosuisse)	Companies and institutes	Innosuisse is the agency for the promotion of innovation of the Confederation. She is responsible for encouraging knowledge-based innovations in Switzerland, through financial

¹⁶ Source: <https://swisseducation.educa.ch/en/penditure-education>

companies and research institutes			means, advice and professional networks. In 2016, the amount aid granted amounted to almost CHF 226 million. The main instrument at provision of Innosuisse is the encouragement of innovation projects carried out by especially SMEs, in collaboration with research institutions. Promotional activities of Innosuisse concern all scientific disciplines; the main criteria applied in the examination of applications are the potential for innovation and the viability in the market. Companies participating in the project must assume at least half of the costs, Innosuisse taking over the remaining part. The funds are paid directly to the research institutions concerned.
Start-up and entrepreneurship promotion	State (Innosuisse)	Research institutes	Innosuisse promotes entrepreneurship in a targeted way and supports business ideas innovative. Innosuisse programmes and networks convey the baggage and method necessary to create a successful business from a business idea. One of the instruments is the in-service training of new entrepreneurs and potential entrepreneurs. In addition, Innosuisse offers the start-up a solid coaching in the form coaching by an experienced business coach. This kind of coaching lasts between six months and three years; currently some 200 young companies benefit from coaching programme set up by Innosuisse.
Knowledge and technology transfer	State (Innosuisse)	Companies and research institutes	TST refers to the transfer of knowledge and technology between the economy and research. The mission is to connect businesses, in particular SMEs, with research, which cannot be done without external support. The goal is to build cooperations that act as engines of innovation for Switzerland. At the heart of TST activities are Innovation Advisors (ICs) and networks. national themes (RTN). Innovative SMEs can benefit from advice and support for innovation advisors, free of charge. CIs have several years of experience in the fields of economics and research and have excellent networks of SMEs and research institutions in their region.
Applied research	State, Cantons and municipalities	Companies and research institutes	The federal government directly finances the two federal technical universities. The cantons are competent for the cantonal universities and universities of applied sciences. The cantons also regulate the primary and secondary education and pay for them together with the municipalities. Cantons usually define a minimum number of pupils to keep a class / school running.

3.2.3. France

General presentation

The countries strongly seize the transportation theme, digital, social and access to basic products to develop a territorial animation (see following parts) partially funded by the Region, particularly through Sustainable Development Contracts Rhône Alpes (for Alpes South Isère and Maurienne) and Regional Balance Territorial Contracts (Country A3V).

Regional development

Type of tools	Funding sources	Recipient	Goals
Sustainable Development Contracts Rhône Alpes	Region	Inter-communalities	<p>Under the responsibility of local elected representatives (Community and municipal councilors), the objectives of the Rhône-Alpes Sustainable Development Contracts (CDDRA) are:</p> <ul style="list-style-type: none"> • to associate the active forces present on a territory, within the framework of a broad intercommunality, to build projects, • to multiply initiatives representative of the dynamism of the different sectors, • to adapt to local particularities. <p>By strengthening participatory democracy, this approach, inspired by the successful experience of the CGDs (Global Development Contracts), aims to develop the notion of sharing responsibilities by focusing on the key areas of regional action: training and development. activities.¹⁷</p>
Regional Balance Territorial Contracts	Region	Inter-communalities	<p>The Provence-Alpes-Côte d'Azur Region promotes a balanced development and development and solidarity of its territory closer to the expectations of its inhabitants. It has thus supported the metropolitan territories as rural through contractual arrangements concluded with the agglomerations, the intercommunalities, the Regional Natural Parks or even the Countries. The Region has created by deliberations in February 2015 the Regional Contract of Territorial Equilibrium. The fight against social and territorial inequalities, by a solidarity reaffirmed between the territories, especially towards the most fragile, are thus at the heart of the new contractual policy.</p> <p>This new contractualization also integrates and reflects the major regional priorities defined in the Regional Development and Sustainable Development Plan of the Territory (SRADDT) that the Region is adopting today, as well as those of existing schemes.</p>

¹⁷ http://territoires.rhonealpes.fr/rubrique.php3?id_rubrique=9

Liaison entre actions de développement de l'économie rurale (LEADER)	UE	Local	On territorial development, in different sectors, other types of policies and funding overlap: valley areas related to the interregional agreement of the Alps, especially around tourist themes, European LEADER programmes on various themes (economy, transport, services of general interest ...)
Digital equipment of peripheral areas (CIMA Interregional Convention for Alpine Massif)	UE-State	Mountain territories	<p>CIMA offers a first degree of integration with the financing of inter-regional projects. Local support units named 'countries' [Pays] work in a cross-sectorial way and relay sectorial policies in their contractual charters and documents through a global and integrated territory project.</p> <p>The main objective of this contract is to allow the best possible valuation of the assets of mountain territories. This interregional agreement is not intended to deal with all the problems encountered in the mountain territory, but those whose consideration at the interregional scale brings an added value compared to treatment at regional or local territorial scales. This requirement grounds the legitimacy of this new generation of convention and confers a particular efficiency on the public policies financed within this framework.</p> <p>CIMA 2015-2020 is the subject of a strategic environmental assessment. It is a legal obligation, resulting from a European directive and transcribed in French law. This directive lays down the principle that all plans and programmes likely to have significant effects on the environment must be the subject of a Strategic Environmental Assessment (ESA) prior to their adoption.</p>

Basic goods

Type of tools	Funding sources	Recipient	Goals
Subsides - intervention fund for services, crafts and trade (FISAC)	State	Private	Very few public policies are specifically dedicated to the supply of basic goods in rural areas. The law for the development of rural areas supports specific tax provisions. The intervention fund for services, crafts and trade (FISAC) notably allows support to professionals in difficulty.
Contrat de plan Etat-Région (CPER)	State-Region	Region	<p>Five principles of intervention:</p> <ul style="list-style-type: none"> • The selection of operations of regional interest with regard to their sustainable and job-creating nature; • The prioritization of operations according to their maturity and the commitment of partners alongside the State of the Region; • A logic of balanced planning and solidarity of the regional territory; • Coherence and complementarity with the European funds, the Interregional

			<p>Convention of the Alps Massif, the Rhône Plan, the Investments for the Future Programme;</p> <p>Consistency and continuity with the previous CPER especially with the continuing support for structures of regional interest.</p>
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Transport

Type of tools	Funding sources	Recipient	Goals
Public subsidies for regional and local transport	Public	Service providers	Delivery of transport services.

Telecommunication

Type of tools	Funding sources	Recipient	Goals
Regional Coherence Strategy for Digital Development (SCORAN)	Région	Municipalities	<p>Funding is distributed between different levels: state funds, regions, and departments especially on aspects of territorial or social solidarity.</p> <p>FTTH coverage announced by operators by 2020 in Provence-Alpes-Côte d'Azur is important on a regional scale, but it masks a strong disparity between the coastal zone and the highland, which will accentuate the digital divide. Operators have already started, on a dozen municipalities in Provence-Alpes-Côte d'Azur, their FTTH deployments. As part of the Call for Expressions of Interest (AMII), they transmitted to the Commissariat General for Investment on 31 January 2011 their deployment intentions. These concern the coverage of around 250 municipalities in the Provence-Alpes-Côte d'Azur region, following a start before the end of 2015 and a completion later by 2020, which represents about 77% of all lines² of the region but concentrate that half of the total gross investment needed to deploy FTTH on any the territory. However, it should be noted that deployments initiated before the end of 2014 will represent only 34 of the 250 municipalities mentioned above, ie 55% of the lines of the region. While the impact of private initiative in 2020 is relatively large across the region, mask important disparities between the different territories.</p>

Crowdfunding	Civil society	Specific projects	Crowd sourcing and crowd funding initiate promising approaches to change paradigms in which they are no longer decision-making centers and large organizations that are sources of wealth creation but the numbers of citizens who can supply the knowledge, data, services and financing. This movement is only in its beginning but promises to grow rapidly with the spread of broadband and the withdrawal of some public services.
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Health Care

Type of tools	Funding sources	Recipient	Goals
	Private foundations, State and Regions	Specific projects	In the digital field, many innovative projects are appearing focusing on the E-Health, production / prototyping with fab labs, data with the movement of Open Data, Infolabs... and they are supported by different calls for proposals, from both national and regional authorities, as well as call of projects financed by private foundations.

Social Care

Type of tools	Funding sources	Recipient	Goals
Fund of support to local investment	State	Intercommunalities	The rurality contracts, being set up, will be signed between the State and intercommunal structures. They are expected to coordinate and provide funding for all projects meaning to enhance accessibility of services and care, develop the attractiveness of town centers, mobility, ecological transition or even social cohesion. They will also benefit from the Fund of Support to Local Investment for a national annual amount of 216 million euros.

Education

Type of tools	Funding sources	Recipient	Goals
Taxation - Organisme Paritaire Collecteur Agréé (OPCA)	Private	National, sometimes regional, departmental or local	In France, a parity collector approved by the State, often abbreviated as OPCA, is a joint-management associative structure that collects the financial contributions of companies falling within its scope in the context of the financing of training. professional staff of private law firms.

3.2.4. Italy

The Constitutional and later budgetary reforms changed the South Tyrolean financial autonomy. Today the province's 85% of running costs are covered by a fixed quota of resources such as 9/10 of the revenue from direct state taxes (tax on electricity consumption, register and stamp duties, taxes for state licenses, and road and tobacco taxes), local income tax of the province (not including mortgage taxes, which are raised by the region) and it also benefits from 7/10 of VAT on local goods and a percentage of VAT on imported goods. The other 15% are covered by the variable quota (state taxes) are negotiated between the President of South Tyrol and the Italian Government. Besides these resources, the province also receives funds from the State's sectoral expenditure as well as funds for expenditure in sectors, in which the province has competences. The province decides how it spends these resources (Alcock 2001).

Regional development

Type of tools	Funding sources	Recipient	Goals
PISL (Programmes of Integrated local development)	Region	Mountain communities	When the national funds for Mountain Communities were discontinued, the Region of Lombardy provided a dedicated fund (9,3 M€ per year for 2011-2013), to be allocated by means of a negotiated planning tool called "PISL (Programmes of Integrated Local Development) for the Mountains". The 23 PISL were approved in 2012, but they have been defunded and are presently not financed.
European Agricultural Fund for Rural Development (EAFRD)	UE and State	Rural areas	This Regulation lays down the general rules governing Community support for rural development, financed by the EAFRD. It also defines the aims of rural development and the framework governing it. The Fund contributes to improving: <ul style="list-style-type: none"> • the competitiveness of agriculture and forestry; • the environment and the countryside; • the quality of life and the management of economic activity in rural areas. The Fund complements national, regional and local actions, which contribute to Community priorities. The Commission and the Member States are also to ensure that the Fund is consistent and compatible with other Community support measures.
European Regional Development Fund (ERDF)	UE and State	Regions	The ERDF ROP promotes a smart, sustainable and inclusive growth model in line with the objectives identified in the "Europe 2020" strategy and with the regional government's development policies promoting the productivity and competitiveness of its businesses and the entire economy of the Region.

			Acknowledging the importance of the tourism industry as a guiding force of sustainable local development, Priority axis VI - Tourism Strategy for Inner Areas of the ERDF 2014-2020 Lombardy's ROP (funds allocated: 19M€, 1.96% of total ROP resources) will provide Lombardy's Inner Areas with the tools for redefining their tourist offer, both in terms of infrastructure and in terms of organizational measures (promotional services, etc.). Another 19M€ of additional funding will contribute to this strategy, from reserves on Priority axes I, III and IV and from the ESF ROP (15M€ of funds allocated) (<i>ERDF ROP, 2015</i>).
National Strategy for Inner Areas	State	Regions	The strategy aims at reversing the depopulation and marginalisation trends in such areas, focusing on two key economic policy assets: improving personal services (which are seen as "pre-conditions for development") and triggering local development projects. This will be done by both ordinary and EU funds.
Regional Law 11/2004 - Regional funds to support Lombardy small municipalities	UE and State	Region	With the bigger operational programme approved, Lombardy Region has a budget of 970.4 million euro. The funds, along with interventions for technological innovation and the competitiveness of SMEs, will be used to renovate housing in urban areas. Among the objectives of the Operational Programme, the reduction of energy consumption in public buildings

Basic goods

Type of tools	Funding sources	Recipient	Goals
/			

Transport

Type of tools	Funding sources	Recipient	Goals
EFRE-Programme	UE, State and Province	Municipalities	In the coming years 16,3 Mio. Euro will be invested for the future mobility projects. Half of this financial support is EU money from the EFRE fund, 35% is granted by the State and 15% by the Province. The two main projects are the expansion of the mobility centres Bressanone and Brunico as nodal points for transport (12,2 Mio. Euro) as well as the intelligent transport system (4,1 Mio. Euro), were different data sources will be merged for a full information delivery for

			users (Schwarz 2016).
Subsidies (Geld für Schülerbeförderung“ 2016)	Province	Municipalities	In the area of student transport service the Province has allocated additional funds, 209.000 Euro, for 2016, as there has been a higher request especially for scholars with special needs and complementary extra school education such as music lessons, sport activities and the like. Thus the collaboration between the two provincial departments for promotion of education and the mobility department underline the integrated approach between the two sector transport and education („Geld für Schülerbeförderung“ 2016).

Telecommunication

Type of tools	Funding sources	Recipient	Goals
European Regional Development Fund (ERDF ROP)	EU and State	White areas	Priority axis II (Enhancing access, use and quality of ICT) of the ERDF 2014-2020 Lombardy's ROP (allocated funds: 20M€, 2.06% of total ROP resources) will provide incentives for the development of superfast broadband networks, in business districts, industrial areas, rural areas and inner areas, located in the so-called "white areas" or "market failure areas" from an ICT-point of view, respecting the principle of Technological Neutrality wherever EU regulations permit (ERDF ROP, 2015). The Objective 7 (Essential services for rural areas) of the Rural Development Programme 2014-2020 funds new or improved ICT services/infrastructures for rural population (RDP, 2015).
Subsidies		Province	For the distribution of 21 radio programmes and 18 televisions (RAS 2015) On the 31 December 2014 RAS received 10 Mio. Euro from the rotation fund for the expansion of the broadband network in South Tyrol. More than 150 projects have been financed by this subsidy. In 2013, for the first time, the RAS received 3 Mio. Euro financial means from the South Tyrolean Finance AG for the infrastructure of broadband (RAS 2015).
EFRE-program	UE, State and Province		The money is part of the EFRE-programme under the measure "Digital environment" for the reduction of digital divide in territories and the expansion of broadband and ultra-band networks. Included in this goal is to connect businesses to ultra-band network with minimum

			of 100 Mbps/second especially in peripheral industrial areas („7 Millionen Euro für Breitband in peripheren Gewerbegebieten“ 2016).
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The Italian strategy for next generation access network aims at developing a high-speed access network to maximise the take-up of an infrastructure able to guarantee services above 100 Mb/s and to ensure the availability of services above 30 Mbps for all by 2020. Italy adopted a national state aid scheme to support ultra-broadband in areas where market failure is present.

Italy’s national ultra-broadband plan, the Strategy for next generation access network (Strategia Nazionale per la Banda Ultra-Larga, SNBUL), was approved by the Council of Ministers in March 2015. It aims at developing a high speed access network. In line with the SNBUL Italy adopted a national state aid scheme, approved by the European Commission in June 2016, to support ultra-broadband in market failure areas. Within this state aid scheme, two tenders were published in 2016. The first tender was assigned in March 2017 covering the Abruzzo, Molise, Emilia Romagna, Lombardia, Toscana and Veneto regions.

There is also a concept for boosting fibre optic roll-out and implementing fixed and mobile broadband. A 5G trial was launched in March 2017 to implement infrastructures and services in 5 cities: the metropolitan area of Milan, Prato, L’Aquila, Bari and Matera. In order to bridge the digital divide, there has been an auction for spectrum resources in the 800 MHz band that supports the deployment of Long Term Evolution Technologies (LTE) in remote areas. In September 2017, assignments of the permission to use the 100 Mhz in the portion of spectrum between 3.6-3.8 Ghz to experience 5G in 5 Italian cities have been authorized.

Main aims for broadband development

The 2015 Italian strategy for next generation access network (SNBUL) has the general objective of developing a future-proof telecommunications infrastructure through the country. The plan intends to:

- bring connectivity with a minimum of 100 Mbps for up to 85% of the Italian population
- guarantee coverage of at least 30 Mbps to all citizens
- coverage of at least 100 Mbps for offices and public buildings
- bring high speed broadband in the industrial areas.

The tools implemented within the SNBUL strategy are:

- administrative simplification and reduction of burdens
- creation of tax exemption tools for infrastructures operations
- stimuli for triggering demand
- direct public sector execution of works in market failure areas

- land registry creation (SINFI) to locate all the infrastructures above and below the ground.

One of the main measure for broadband development is the State aid measure (SA41647(2016/N)). A planned total budget of EUR 4 billion composing of national and regional funds has been made available to build a passive public infrastructure managed with a wholesale-only model and opened to all the operators in areas where a market failure is present. Further measures are under study to match the desired targets in grey and black areas too. For what concerns other national and regional broadband financial instruments we can mention:

- 5 billion € of national funds for actions including white, grey and black areas
- 1.6 billion € from 18 ERDF Operational Programmes (POR) and 21 EAFRD Development Rural Programs (PSR)
- 233 million € from a National Operating Programme including funding of ultra-broadband investments to set up 100 Mbps connections of business companies and enterprises in industrial areas.

Health Care

Type of tools	Funding sources	Recipient	Goals
	State (BMVI)	Province	The province of Bolzano is entitled to a specific share of state funds regarding health service to reach/maintain the minimum standards (Alcock 2001). Even if the principle health services are free, the health care service is financed partly by public financial means (taxes). The other part of financing is allocated by employer contributions and private co-payments (BMVI 2015).

Social Care

Type of tools	Funding sources	Recipient	Goals
European Social Fund (ESF)	UE and State	Municipalities	Italy is using ESF funding to increase employment possibilities (in particular for young people), help disadvantaged groups, improve workforce skills, boost the national education and training system and improve the administrative capacity. (http://ec.europa.eu/esf/main.jsp?catId=386)

Education

Type of tools	Funding sources	Recipient	Goals
	Province	Municipalities	Autonomous divisions are funded and thus

			<p>controlled by the Autonomous Province of Bolzano. For the reason to maintain the culture and languages of these three groups, the province has installed three different departments to organize the education individually:</p> <ul style="list-style-type: none"> • The German school-department • The Italian school-department • The department for school and culture of Ladins.
Subsidies	Province	Municipalities	<p>A further integrative approach lies within the financing of educational facilities in South Tyrol, where the Province mainly provides subsidies for municipalities regarding school canteens, transportation and pays for the teachers' income. Municipalities cover all other remaining costs.</p>
Subsidies ("Schulverbund Pustertal" (BMVI 2015).)	Province	Municipalities	<p>There is an administrative integrative approach as the Province and the municipalities strongly collaborate as the province guarantees subsidies for schools to ensure education also in peripheral remote municipalities. Besides, collaboration between the schools and local entities, the Autonomy Statue allows schools to organise themselves into a network (Schulverbund) such as in the case of the "Schulverbund Pustertal" (BMVI 2015).</p>

3.2.5. Slovenia

General presentation

The municipalities are in principle funded from its own sources. However, according to the law, the state can to some extent transfer its liabilities to the municipalities (e.g. education, nurseries, health care, etc.) and these need to be financed by the state. As far as the INTESI sectors are concerned, in the general sector mostly administrative services are included (administrative units, state branch offices-tax, environment, spatial planning, and institutes). These are mainly within the competence of the state, which is eligible for their funding.

Regional development

Type of tools	Funding sources	Recipient	Goals
Regional Development Plan of the North Primorska	UE and State	Regions	The regional development documents also regulate and present the basis (e.g. specify priority measures) for the use of the funds (national, and EU) intended for the development of rural areas.

Basic goods

Type of tools	Funding sources	Recipient	Goals
/			

Transport

Type of tools	Funding sources	Recipient	Goals
Slovenian Transport Development Strategy, 2015	State (and UE)	Regions	Despite the needs for the infrastructure development, the country by itself is unable to provide enough funding to support the transport development. Hence, the strategy suggests, in addition to the national budget funds interested partners should be included in the implementation and management of important projects, and EU funds should be utilised (Slovenian Transport Development Strategy, 2015).

Telecommunication

Type of tools	Funding sources	Recipient	Goals
Next Generation Broadband Development Plan, 2016	State	“White Areas”	The allocation of public funds for the broadband construction in the so called white areas (“areas which lack the required quality of broadband infrastructure and which also lack commercial interest in the deployment thereof”) is essential.
The Digital Slovenia 2020 Strategy (2016)	State	“White Areas”	As the national budget funds are expected to be limited, The Digital Slovenia 2020 Strategy (2016) suggest the resources from the European Structural funds should be assured for the financing of the strategy’s measures (e.g. identification and elimination of the white spots, broadband access provision to all the households- 96% with a speed of 100Mb/s and the rest 30Mb/s).

Health Care

Type of tools	Funding sources	Recipient	Goals
Health Insurance institute of Slovenia	Taxation	State	The Slovenian health care system is mainly financed by the compulsory Health Insurance Scheme (Health Insurance Institute of Slovenia - HIIS) which covers the whole population, either on the basis of employment and self-employment, or residence (insured persons and

			<p>their family members). However, the compulsory insurance does not ensure the coverage of all costs that arise in a treatment. Thus, it is supplemented by the voluntary health insurance, known as Complementary (or supplementary) Health Insurance, and it is as such an out-of-pocket expenditure. The majority of the population is included in this supplementary health insurance that acts as a private prepayment system which allows all insured persons to avoid a large part of direct payments from the pocket. A breakdown of the health care funding in 2014 shows that approximately 71% came from the public sources, including 68% from social security (i.e. HII) and 3% from national budget, 15% from supplementary health insurance, and 13% as direct payments from the pocket (Thomas et al., 2015 cited by SURS 2000-2013).</p>
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Social Care

Type of tools	Funding sources	Recipient	Goals
/			

Education

Type of tools	Funding sources	Recipient	Goals
/			

3.2.6. Germany

Regional development

Type of tools	Funding sources	Recipient	Goals

Basic goods

Type of tools	Funding sources	Recipient	Goals
/			

Transport

Different hierarchical levels are cofinancing public transports. This leads to a very complex system, which is illustrated in the following graph.

Type of tools	Funding sources	Recipient	Goals
			.
Public tendering and ordering of transport services	Bundesländer, Municipalities	Service providers	

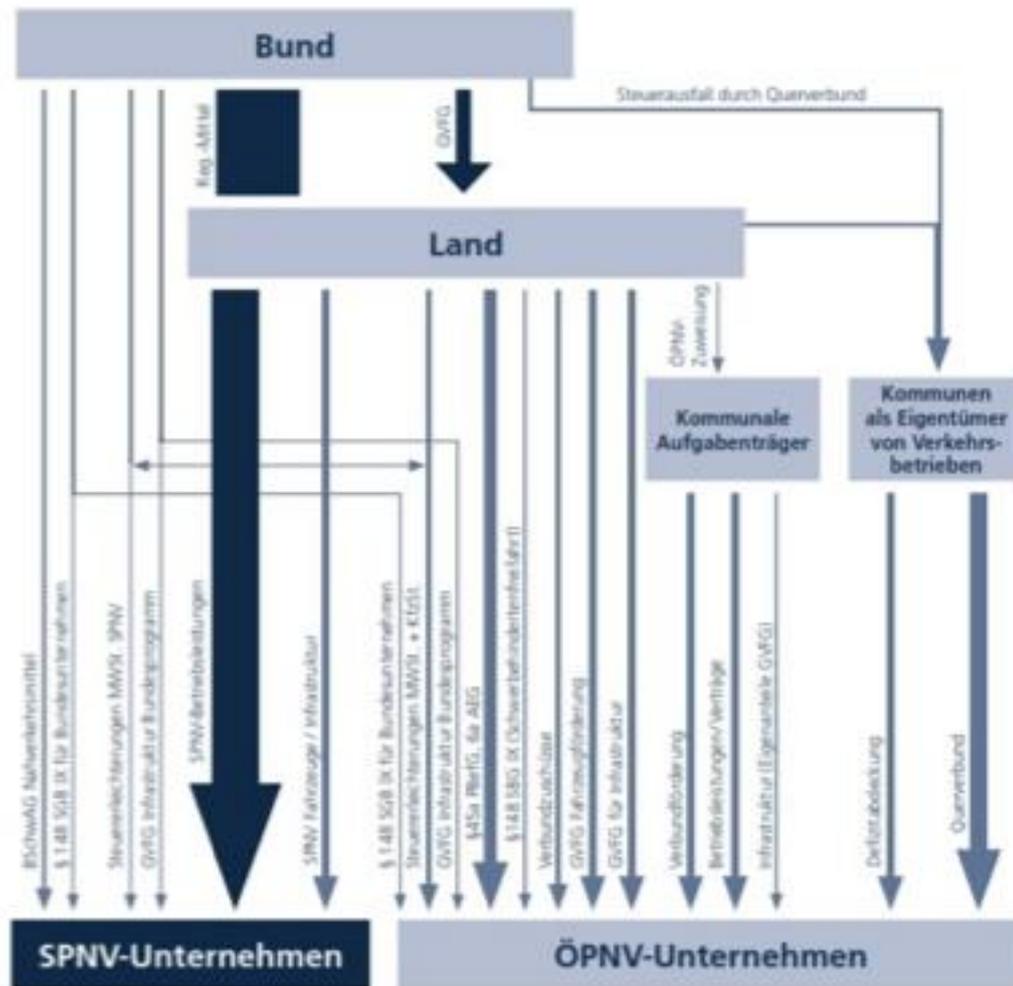


Figure 9: Transport in Germany

Telecommunication

The rollout of the telecom-infrastructure is market driven in areas, where the market functions. In the “grey” and “white spots”, the Bundesländer and the municipalities subsidize the rollout with public money according to the EU-rules on state aids in SGI.

Type of tools	Funding sources	Recipient	Goals
Subsidies	State	Private	Cover the grey and white spots.

Health Care

The extreme complexity of financing in the German health sector can be shown by the following graph:

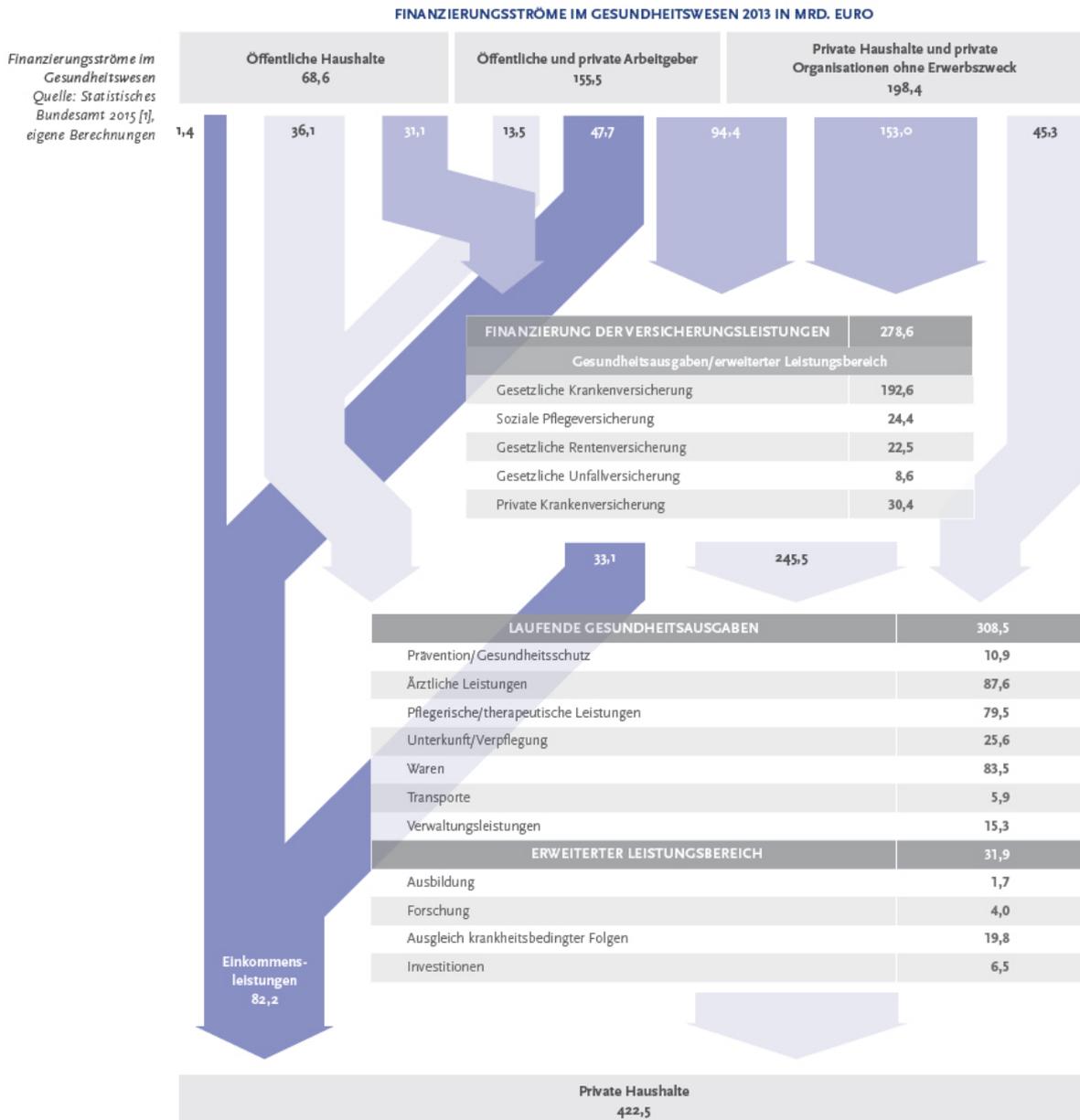


Figure 10: Healthcare system in Germany

Type of tools	Funding sources	Recipient	Goals
Public subsidise	Public	Semi public	Financing of hospitals and other health care institutions.

Social Care

Type of tools	Funding sources	Recipient	Goals

Education

The German education system is partly financed by public spending from the federal, Bundesländer- and local level. The other part comes from private spending especially households, enterprises and non profit organisations. The shares of the different sources vary largely according to the educational level as shown in the following graph.

Type of tools	Funding sources	Recipient	Goals
Public subsidies	Public	Semi public	
Private support	Private	Semi public or private	

■ Wer finanziert das Bildungswesen?

Zusammensetzung der Bildungsausgaben in Mrd. Euro, nach Bildungsbereich (2011)

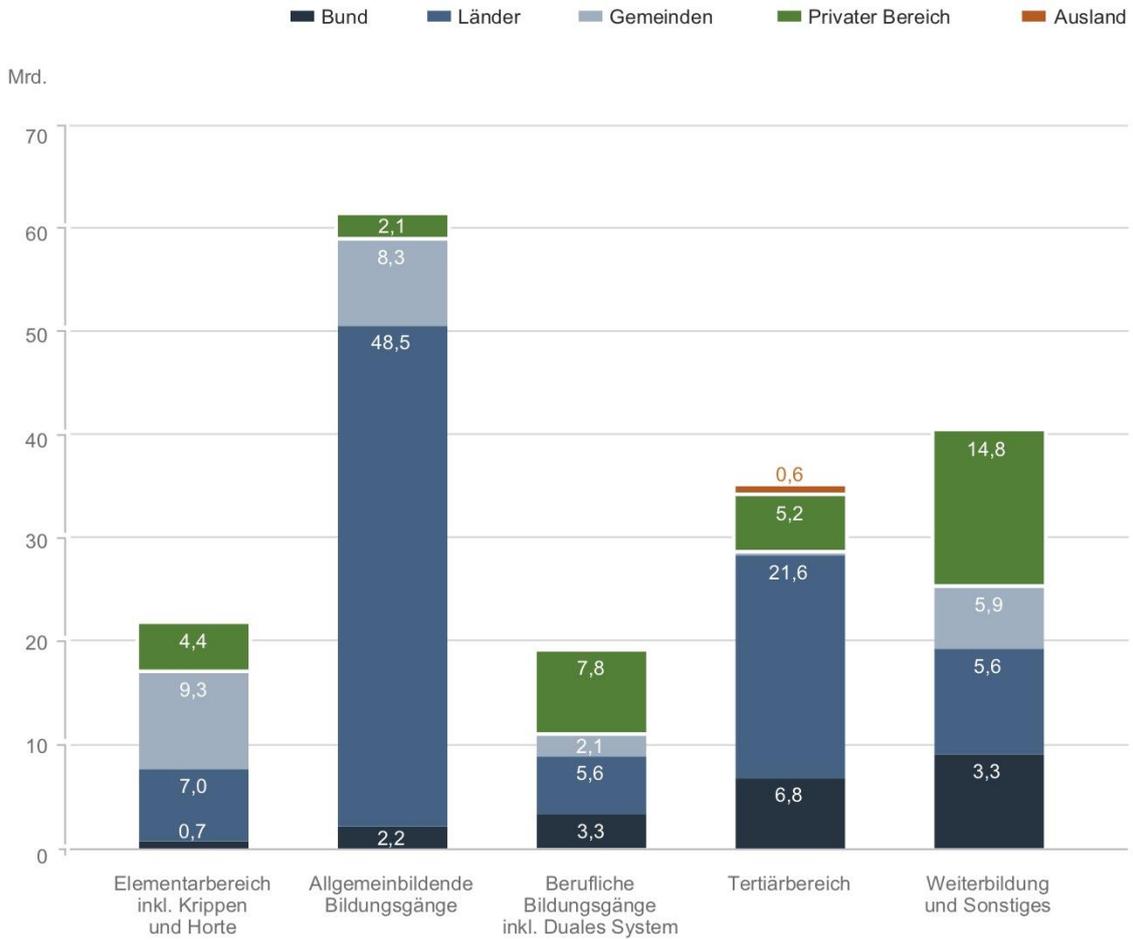


Figure 11: Education system in Germany

Quelle: Arbeitsgruppe Bildungsberichterstattung (2014): Bildung in Deutschland 2014, Tabelle B5-1A
 Lizenz: Creative Commons by-nc-nd/3.0/de
 Bundeszentrale für politische Bildung, 2015, www.bpb.de



4. Matching analysis

The matrix below provides a matching analysis that shows the compliance between the topics envisaged by AG5 and available funding at different levels.

In order to choose the appropriate funding instrument, it will be fundamental to develop a broadband plan which responds to actual needs of the population and is well defined in terms of infrastructure type, investment and business model. As we can observe from the table, EU financial instruments together with sources of national funding can be mainly used for infrastructure investments whereas for the service oriented approach it could be more useful to check for availability in Horizon2020 program or other sources. Moreover, it is also fundamental to ensure that certain measures are not considered as State aid. The following measures are not considered state aid if:

- You are rolling-out an NGN broadband network for non-commercial purposes (i.e. only to satisfy your own needs), under certain circumstances; under this arrangement, however, it becomes very tricky to use the network to connect your citizens (consult your national State aid contact point for further advice):
- You are placing capital, directly or indirectly, at the disposal of an undertaking and such support corresponds to “normal” market conditions (the so-called “Market Economy Investor Principle”; in this case you must provide a self-assessment (which raises your risk of a legal challenge in case of a complaint) that your equity participation or capital injection presents sufficient prospects of profitability, even in the long term;

Furthermore, there are also other situations when financing the project might constitute state aid but doesn't require notification if:

- The project fits into a state aid scheme which is already approved;
- The total amount of grants (cash and in-kind) for the same eligible costs over any period of three fiscal years does not exceed € 200,000, or if the total amount of loans is up to € 1 million, depending on collateral and duration of the loan (“de minimis” rule)

Moreover, it is worth pointing out that, in order to accelerate NGN broadband deployment, a further exemption has been recently introduced:

- The revised General Block Exemption (GBER) exempts from State aid notification aid for broadband infrastructures up to € 70 million per project (passive broadband infrastructure, broadband-related civil engineering works, deployment of basic broadband networks and deployment of NGA networks) as long as the investment takes place in white areas, the aid is allocated on the basis of a competitive selection process and the network operator offers the widest possible active and passive wholesale access, including physical

unbundling for NGA networks. This also covers risk capital investment in an SME active in broadband deployment.

Matching analysis for other actual topics of AG5

Financial Instruments	Smart Villages	Crossborder mobility	Think Tank on SGI
Supranational (EU) level	Interreg EAFRD	ARPAF Interreg CEF	Interreg (via the ongoing INTESI-project)
National level	National Co-funding of structural funds Regional policy in CH	Various	Current staff costs of public authorities for participation in meetings
Regional level	Co-funding e.g. through cantonal budget for regional policy in CH	Various	Current staff costs of public authorities for participation in meetings

		Topics									
Financial instruments	1. Alpine cross-border backbone							2. Free WiFi accessibility in the Alpine area	3. Common tool for digitization of the Alpine area		
	1a. Infrastructure oriented approach				1b. Service oriented approach						
		extended connection for TLC operators (international/national and local players);	extended connection for other infrastructural owners (auto route, electricity distributors etc.);	extended connection for government and other public institutions networks.	research-centres	e-learning	transnational services of general interest (SGIs)	monitoring networks (environment, natural disasters, energy etc.)			
EU financial instruments	ESI Funds (ERDF +EAFRD)	X	X	X			X		X	X	
	EFSI	X	X	X					X	X	
	CEF Digital	X	X	X					X	X	
	CEBF	X	X	X					X	X	
	Horizon2020				X	X	X	X			
National Funding	SNBUL in Italy	X	X	X						X	
Other sources	Revenue-based financing										
	Private capital and finance markets	X	X	X	X	X	X	X			
	Government-backed bank loans and bonds	X	X	X	X	X	X	X			
	Bottom-up community funding	X	X	X							

Figure 12: Matching Analysis

5. Conclusions

Services of general interest such as public transport, education, health care, care of the elderly, goods for daily needs, postal services, telecommunications etc. are in the competence of authorities from different levels (in his context, competence does not mean that the authorities have to deliver the services by themselves, the delivery can be entrusted to a service provider). Due to the shared competencies, there's a need for vertical coordination. Furthermore, up to now, authorities and even more the service providers themselves tend to have a strictly sectorial approach to the respective services. The authority in charge of postal services will look at the delivery of postal services, but not at the delivery of broad-band-access or at education. This sectorial approach will lead to isolated solutions, not taking benefit of potential synergies. There's a lack of integrated strategies. A better horizontal and vertical coordination of those services must be an aim.

Services of general interest have a clear territorial dimension. The intrinsic aim of services of general interest is to provide equal opportunities for inhabitants and enterprises all over the territory. A lack of access to such services will be felt directly by each individual person and enterprise. The public authorities closest to individuals are the municipalities. Therefore, the municipalities are very often confronted with concrete requests to improve services of general interest. But as already mentioned, not all services rely within the competency of the municipality. Furthermore, an integrated territorial approach should strive to search for the potential of new solutions on an intermunicipal level. Not every service may make sense in every municipality, if it can be better delivered in the next municipality.

An integrated territorial strategy will have to lead to a multilevel-stakeholder governance model. The core of this model should be at an intermunicipal level. In some countries, there are already some regional strategies, although mainly based on a sectorial approach (e.g. broadband-initiative) and not necessarily focussed on specific types of territories. At regional (supra-municipal level) there are also some strategies.

The development of territorial, integrated strategies for SGI will automatically lead to more synergies between the services. Furthermore, the dialogue between public authorities, service providers and consumers will completely change. Consumers must be the starting point for the reflections. Their needs are at the forefront. An integrated territorial strategy will propose new solutions. The actors from the territory will not any more re-act to decisions taken by higher political levels or by service providers, but they will propose solutions. Thus, the dialogue between public authorities, service providers and consumers gets a completely new orientation.

Such an integrated territorial strategy at regional (intermunicipal) level would lead to a bundling of financial resources. The public intervention can be steered from the bottom. Unfortunately, actual regulations and sectorial approaches hamper such a development.

The domain of SGI is strongly regulated by international and national law. Financial mechanisms mainly follow a sectorial logic. This means, that e.g. subsidises for public transport are strictly linked to the public transport mandate. There's hardly any

regulatory openness for cross sectorial financings. The EU- state aid rules restrict the possibilities for innovative approaches further. A special case is the article on experimentation in public transport in Germany (Experimentierartikel). In this respect, financial tools which allow the testing and introduction of new services are mainly provided by the cohesion policy or regional policy.

SGI are a necessary precondition for households and enterprises. Without performant SGI, people will leave the area and no new enterprises will settle down. This simple fact explains, why also cohesion policy has a big interest in SGI. The EU-rural development policy has realized this fact since long time ago and is therefore amongst others investing in broad band connexions in rural areas. Also the operational programs of most countries / regions have identified broad band access as one of the major topics of financial intervention. The situation is different in Switzerland, where the federal government refuses to provide public money for broad band infrastructures. From a national perspective, the rollout should be purely market driven. To bridge the gaps, some cantons but mainly municipalities have invested money in cooperation models with the service providers to speed up the rollout.

Broad band connections are actually in the focus of the public debate. But it should not be forgotten, that the other Services are also very relevant. Here, the cohesion policy could put a stronger accent. The case of Switzerland is extreme, as the federal regional policy excludes SGI from the field of intervention. This hampers the development and testing of new, innovative approaches. We therefore strongly recommend to

1. Integrate the testing and development of new approaches of SGI-Delivery as a field of intervention into the EU-Cohesion policy and the Swiss regional policy.
2. To foresee in the sectoral regulations an openness for cross-sectoral interventions.
3. To review the EU state aid rules in order to allow new approaches, especially as it comes to public-private partnerships and cross-sectoral interventions.

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List of abbreviations

ADSL	Asymmetric Digital Subscriber Line, a first mile technology operating over copper phone lines
AG	Action Group
AN	Access Node
CEF	Connecting Europe Facility
DAE	Digital Agenda for Europe
DOCSIS	Data Over Cable System Interface Specification – a cable TV network solution
EAFRD	European Agricultural Fund for Rural Development
EIB	European Investment Bank
ERDF	European Regional Development Fund
ESIF	European Structural and Investment Funds
EC	European Commission
EU	European Union
EUSALP	European Strategy for the Alpine Region
FTTH	Fibre-to-the-home, a first-mile infrastructure
FTTB	Fibre-to-the-building, a first-mile infrastructure
H2020	Horizon 2020
ICT	Information and Communication Technologies
NGN	Next generation network
NP	Network provider, operates the active equipment and delivers SP's services to the end users
PA	Public authority
PON	Passive optical network, a shared-access technology for FTTH/FTTB
PSTN	Public Switched Telephone Network
SAB	Swiss Centre for mountain regions
SP	Service provider, sells services (e.g. Internet, TV, telephony, etc.) to the end user

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Annex

Basic versus next-generation broadband

A broadband connection is the channel over which digital data services such as Internet, digital TV, security and e-health etc.) can be delivered. Broadband connections can be classified as follows (ordered in increasing quality):

- **Dial-up connections:** this type of connection was introduced on the mass market in the 1990's. It involved accessing the regular PSTN phone line and a modem whenever one wants to connect to the Internet (during which time the phone line is busy); connection speeds are typically up to 128 kb/s.
- **First generation always-on broadband connections:** the ones most common in Europe today. They can be achieved using telephone lines, coax cables for TV distribution, satellite dishes, or wireless connections (see below). These connections (mostly ADSL) are typically asymmetric: the download speed is typically a few Mb/s while the upload speed is below 1 Mb/s.
- **Next generation network (NGN) broadband connections:** these are connections becoming common in the many parts of Europe. Like basic broadband, they can be achieved on most transmission media, but their speed typically ranges between 30 Mb/s and 100 Mb/s. They are most often asymmetric and special conditions need to be satisfied for them to work on traditional infrastructure (typically distance of the user from the first aggregation node, number of users sharing the line, and the installation of advanced equipment in the first aggregation node). The DAE targets 100% fast broadband coverage (>30 Mb/s) over the whole EU by 2020.
- **High speed NGN broadband connections:** these are connections with speeds above 100 Mb/s, often 1Gb/s is taken as typically speed. They require dedicated fibre connections to the home or the building (FTTH/FTTB).

Services	e-health, elderly care, (connected) TV, Internet, phone, video-conferencing, entertainment, teleworking, e-gov, e-education, e-commerce, smart monitoring. Internet of things, cloud computing etc.		
Active equipment	Switches/routers, data centres	Switches/routers, p2p microwave equipment	Switches, DOCSIS, radio base stations
Passive infrastructure	Fibre	Fibre, antenna sites	Fibre, copper, antenna sites

White, grey and black areas

Areas are classified according to its existing or expected future NGN broadband infrastructure deployment status, thereby defining the market situation both for basic and for NGN broadband networks. Areas may therefore be:

- A **white area** if no NGN broadband network is currently present or planned to be operational within the coming three years; in this case state aid may be allowed.
- A **grey area** if there is only one NGN broadband network being operational (or planned to be so within the coming three years); in this case, your area could be eligible for state aid but a more detailed analysis will be necessary.
- A **black area** if there are or there will be at least two NGN broadband networks in the next three years; in this case, in the absence of a clearly demonstrated market failure state intervention is not allowed.