

Interreg
Alpine Space



EUROPEAN UNION

SMART Villages 

EUROPEAN REGIONAL DEVELOPMENT FUND

A scenic view of an Alpine valley with rolling green hills, a small village with a church, and majestic rocky mountains in the background under a blue sky with wispy clouds. A semi-transparent blue circular graphic is overlaid at the bottom of the image.

Compendium
of the Interreg Alpine Space
SmartVillages project

Table of contents

The SmartVillages project	4
The DEP – A tool for facilitating smart transformation	7
Smart villages in action	9
Policy recommendations	28

The SmartVillages project

Alpine space mountain and rural communities are often deprived of highly sought-after jobs, good provision of services as well as a favourable climate for entrepreneurship and social innovation. This is one of the most important drivers behind out-migration and the brain drain, a phenomenon which again reinforces a circle of decline. Digitalisation is a promising approach to counter this phenomenon. However, the digital divide between rural and urban areas has actually increased in the last few years. **A smart village (SV) approach** for mountain and rural areas is intended to unlock the potential of local players to make their region a more attractive place to live and work.



The Interreg SmartVillages project has aimed to apply an SV approach and has brought together - in so called Regional Stakeholder Groups (RSGs) - policymakers, business, academia and civil society in a quadruple helix approach (4H) to improve the framework for innovation, through new forms of stakeholder involvement facilitated

by Information and Communication Technologies (ICT). After three years of project implementation, we are proud to present to you the main results of the SmartVillages project. The Covid 19 crisis has been both a risk and an opportunity for the project and its goals. However, all the project goals set have been achieved and we have experienced extremely high momentum for our concept during the current health crisis. We have seen that “smart villages” have been performing quite well due to better communication, more agility and stronger resilience thanks to the utilisation of digital technologies, participative methods, and new organisational approaches.

A SmartVillage approach



Builds on existing local strengths and opportunities to engage in a process of sustainable development of their territories.

Relies on a participatory approach to develop and implement strategies to improve economic, social and environmental conditions, in particular by promoting innovation and mobilising solutions offered by digital technologies.

Benefits from cooperation and alliances with other communities and players in rural and urban areas.

Includes ideally all sectors of smartness that are Smart Mobility, Smart Governance, Smart Economy, Smart Environment, Smart Living and Smart People.

These four pillars formed the structure according to which the partnership organised all activities.

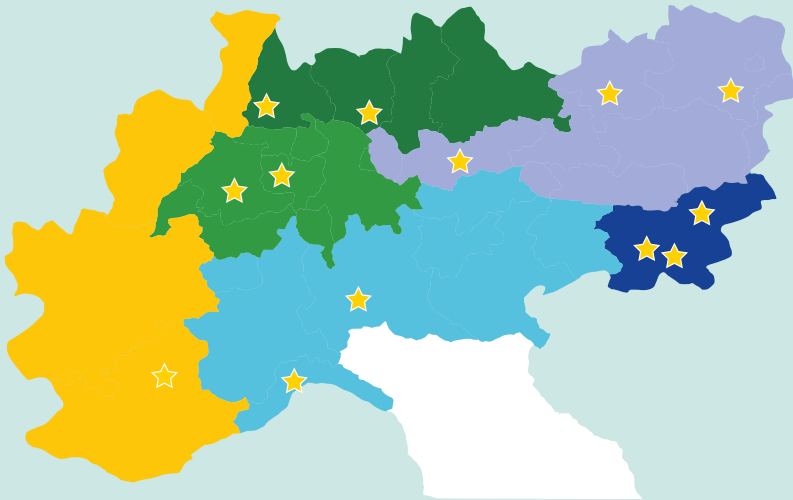


Figure 1 - SmartVillages partners

13 Partners

from 6 countries

9 Regional stakeholder groups

built to support pilot activities

21 Pilot activities

in 11 test areas

1 Digital Exchange Platform

including a smartness assessment, a set of best practices, a toolbox and various opportunities of interactions and exchange between interested stakeholder



Project implementation: April 2018 - October 2021

Total budget: EUR 2.685.381

ERDF contribution: EUR 2.061.999

The DEP a tool for facilitating smart transformation



Figure 2 - The Digital Exchange Platform

The SmartVillages **Digital Exchange Platform (DEP)** contains a smartness assessment tool that provides a user with an evaluation of the strengths and weaknesses of a particular municipality/region in all smartness dimensions such as Smart Mobility, Smart Governance, Smart Economy, Smart Environment, Smart Living and Smart People. In a second step, the user is guided via the toolbox through a project implementation process where tailored best practices and methodologies are proposed in order to develop a project successfully.

The different components of the smartness assessment and the toolbox are interlinked with a matchmaking process. The DEP as well as the embedded best practices and methodologies evolve over time and according to user feedback received.



The Digital Exchange Platform is accessible at:
<https://smart-villages.eu/>



A video tutorial for the digital exchange platform is accessible here:
<https://www.youtube.com/watch?v=Us-xVtEKIGY>

Smart villages in action

The following section provides a selection of project activities developed in the framework of the project partnership and implemented in different smart villages in the Alpine space. The examples are presented in different categories, however they are interconnected with other activities in the same smart village/region.



Coworking spaces / meeting places



**“La Place des Possibles” (Test area Royans-Vercors
France, PP Adrets)**

WHAT IS IT?

La Place des Possibles is the transformation of a former textile factory into a “third place” under collaborative governance. It is still in its experimentation phases, but it already hosts music and crafting workshops, options for further education and is a perfect meeting place for smart villages initiatives!

WHAT ARE ITS SUCCESS FACTORS?

Its success factors are genuine involvement of citizen and local organisations and vibrant support by local authorities.

HOW CAN IT BE REPLICATED?

The initial steps focused on studies and diagnosis both on the needs of the territory and architectural rehabilitation, partly funded by Leader subsidies. 5 organisations were involved from the beginning, other NGOs joined the project afterwards, mainly as users of the place, but also involved in the governance processes. The experimentation phases consisted in integrating activities that allowed testing ideas with little costs.



Figure 3 - Visitors at the former textile factory (SAB)



CONTACT AND FURTHER INFORMATION

https://smart-villages.eu/language/en/good_practice/third-place-la-place-des-possibles/

OTHER INTERCONNECTED ACTIVITIES IN SMART VILLAGE / REGION ROYANS-VERCORS

Car/ridesharing operation zoé Royans-Vercors collaborative platform L'écho des falaises (accessible under good practices <https://smart-villages.eu>)

FURTHER SMART VILLAGES EXAMPLES IN THIS CATEGORY

Coworking spaces Ernen und Saas Fee (PP SAB, Switzerland) (accessible under good practices <https://smart-villages.eu>)

Digital village squares / collaborative platforms



Collaborative platform Crossiety in Saas Fee (Upper Valais, Switzerland, PP SAB)

WHAT IS IT?

The municipality of Saas Fee introduced the collaborative platform “crossiety”. It offers a communication channel between the local authorities and citizens but also among citizens. However, it goes far beyond the functionalities of usual municipality apps. It is a kind of village social medium allowing users to get together around a multitude of specific topics of interest. In this way a group for the co-working space Saas Fee has been established and it is constantly mobilising further “helpers” and users, for example the crowdfunding of the restoration of a historic irrigation system or the management of a co-working space has been assisted.

WHAT ARE ITS SUCCESS FACTORS?

Usually, it is the administration of a municipality that is the forerunner, introducing the platform and uploading the initial content on the system. It is important that the municipality then continues to use this new information channel. A community building is provided by the platform company involving workshops in the municipality on the platform’s potential and how to use it.



Figure 4 - The core group members of the “co-working space Saas Fee” organise their community building work with the collaborative platform “crossiety” (SAB)

HOW CAN IT BE REPLICATED?

The first step is the assessment of needs involving authorities, public administration and interested citizens. Then the system is introduced by different community building workshops with village associations to reach a critical mass. The app is then massively promoted by the municipality.



CONTACT AND FURTHER INFORMATION

https://smart-villages.eu/language/en/good_practice/municipality-apps-in-canton-wallis/

OTHER INTERCONNECTED ACTIVITIES IN SMART VILLAGE / REGION UPPER VALAIS:

Co-working space Saas Fee, municipality apps Upper Wallis, smart metering Fieschertal (accessible under good practices <https://smart-villages.eu>).

FURTHER SMART VILLAGES EXAMPLES IN THIS CATEGORY:

Digital Plattform Löffingen (PP RVSO, Germany), collaborative platform L’echo des falaises (PP ADRETS, France) (accessible under good practices <https://smart-villages.eu>).

Promotion of local products



Digital transformation of compact villages – Šmarje / Padna (PP University Ljubljana, Slovenia)

WHAT IS IT?

At the beginning, the municipality of Šmarje was interested in the internet coverage in the village. Wi-Fi access points were installed at the market square, community centre building, the church and at a service station on the main road to the coast, where many tourists usually stop for a short break. After the installation of the Wi-Fi access points, several farm stays, without internet access due to geographical constraints (located in a valley), were able to communicate by email and to promote their services via their web pages and social media channels regularly. Moreover, they were able to use POS terminals for non-cash payments, which was not possible earlier. In addition, a mobile application was developed to promote local products and services. Whenever users request free Wi-Fi access from the local network, they agree to receive targeted promotions for local products and services, such as olive oil, wine or accommodation at local facilities.

This led to the creation of a new platform Meet the Local Producer, where buyers are able to receive more information not only about the products, but also about the farmers.



Figure 5 - Marketplace of the municipality of Šmarje – Presentation of Wi-Fi access points for the promotion of local products (SAB).

WHAT ARE ITS SUCCESS FACTORS?

Motivated locals (local heroes), who act as coordinators on a local level and are the glue between the community and other stakeholders. An agreement with a telecom provider is very beneficiary for technical and financial support.

HOW CAN IT BE REPLICATED?

Identification/mobilisation of local coordinators - local heroes. Identification and prioritisation of Wi-Fi spots in the village that need internet access. Installation of Wi-Fi access points; Identify digital services that will have high social, economic, and environmental impact for the residents; Look for funding; Design and develop digital products and services; Measure impacts.



CONTACT AND FURTHER INFORMATION

<https://smart-villages.eu/language/en/good-practices-categories/>

OTHER INTERCONNECTED ACTIVITIES IN SMART VILLAGE SMARJE

IoT in vineyards, vine hub divino

FURTHER SMART VILLAGES EXAMPLES IN THIS CATEGORY:

Blockchain-based digital transformation of a short food supply chain (PP University of Maribor, Slovenia), Jemlokalno application for the marketing of regional food products (PP Smartis, Slovenia) (accessible under good practices <https://smart-villages.eu>).

Car/ridesharing



Pitztal Ummadum ridesharing (PP Regionsentwicklung/Standortagentur Tirol, Austria)

WHAT IS IT?

Ummadum ridesharing supports the municipalities in the Pitztal valley to reduce single-occupancy motor vehicle traffic and to promote the local economy. People who share rides receive “points” from passengers. These points can be used to purchase items in local retail shops. The points can be bought on the “Ummadum” platform either by the passengers or via a sponsor (e.g. employers, municipalities, shops).

WHAT ARE ITS SUCCESS FACTORS?

The system needs open-minded people and companies so a pre-analysis should check the willingness of people to share their rides and the readiness of companies to provide incentives to car/ridesharers.

HOW CAN IT BE REPLICATED?

First a pre-analysis of potential users, companies and retail shops is being performed by the company Ummadum. The Ummadum system also depends on a communication/awareness raising campaign of the municipalities involved. Regular monitoring is part of the business. The system is especially interesting for municipalities with more than 10% commuters.



Figure 6 - Ridesharing “Ummadum” (Ummadum)



CONTACT AND FURTHER INFORMATION

<https://smart-villages.eu/language/en/good-practices-categories/>

OTHER INTERCONNECTED ACTIVITIES IN SMART VILLAGE/REGION PITSTAL

Gem2go municipality app, smart tourism strategy and smart government strategy (accessible under good practices <https://smart-villages.eu>).

FURTHER EXAMPLES:

Opération ZOE: a local e-car sharing system (PP ADRETS, France), Citizen Taxi in Municipality of Löffingen (PP RVSO, Germany), Free bus in the Park (PP GAL Genovese, Italy) (accessible under good practices <https://smart-villages.eu>).

Good Governance



E-Government in Tengen (PP Bodensee Standort Marketing, Germany)

WHAT IS IT?

The municipality of Tengen digitised a process of waste management involving rubbish bin ordering, replacement, collection, delivery etc. in a participatory action integrating the needs of a working group involving citizens.

WHAT ARE ITS SUCCESS FACTORS?

Thanks to a participative process, the willingness to use the digital service of Tengen is guaranteed because the citizens receive ownership of the different steps.

HOW CAN IT BE REPLICATED?

In a first step, the existing, analogous processes were surveyed, and the potential of optimisation is identified from an administrative point of view. During the workshop, the citizens developed an ideal process flow for digital rubbish bin management based on various cases (e.g. rubbish bin should be replaced, new rubbish bin ordered). In addition, the previous designs of the later form masks were checked linguistically and visually. Finally, the ideal process flow from a citizen's perspective and that of the administration were compared. The practical technical implementation of this process was then carried out in the SmartVillages project in cooperation with Bodensee Standort Marketing GmbH. Finally, the citizens of the workshop were invited to test the tool as pilot users

and to give their feedback, whereby the process was again adjusted. Thus, the ideal process flow was compared from both a citizen and an administrative perspective.



Figure 7 - The mayor of Tengen – Mr Marian Schreier - initiated the participative waste management process in Tengen (Elmar Veesser).



CONTACT AND FURTHER INFORMATION

https://smart-villages.eu/language/en/good_practice/citizens-workshop-tengen-digital-process/

OTHER INTERCONNECTED ACTIVITIES IN SMART VILLAGE/REGION BODENSEE

Cooperation platform for the economy in the four-country region of Lake Constance (accessible under good practices <https://smart-villages.eu>).

FURTHER EXAMPLES IN THIS CATEGORY:

Smart Governance Strategy Pitztal (PP Regionentwicklung/Standortagentur Tirol, Austria) (accessible under good practices <https://smart-villages.eu>).

Infrastructure and smart integration of infrastructure



Fast broadband Luthern (PP Region Lucerne West, Switzerland)

WHAT IS IT?

The major Swiss telecommunications companies limit fibre optic network expansion to densely populated areas. Therefore, the local council of the municipality of Luthern (1369 inhabitants) has proposed to the population the independent construction of an area-wide fibre optic network in Luthertal inspired by a French project (La Fibre pour tous). The project with the extraordinary credit of 3.6 million Swiss francs and the regulations “Fibre optics for all” was approved by the voters of Luthern with a large majority on May 17, 2020. The project foresees that all buildings in Luthern (1369 inhabitants) will be connected to the optical fibre network (of at least 500 Mbit/s download speed) by the end of 2022. This would be voluntary, and residents and businesses would have to contribute to the initial costs with a one-time connection fee. Subsequently, a monthly connection fee will be charged, as is the case today with most cable connections (TV, telephone, etc.).

WHAT ARE ITS SUCCESS FACTORS?

A funding system that is sustainable and fair containing public money and private contributions. Local/regional strategic partners in the telecommunication and energy provision sector.



Figure 8 - The local fibre optic network of Luthern being installed (RLW)

HOW CAN IT BE REPLICATED?

A feasibility study has been performed evaluating potential users, solutions and costs. The vote was preceded and accompanied by an information campaign within the municipality to explain why a fibre optic network is necessary. A small pilot project has been carried out. The Project has been fine-tuned (Business plan, rules, partners). Start implementation.



CONTACT AND FURTHER INFORMATION

<https://natuerlich-luthertal.ch/aktuelles/glasfasernetz/>



<https://smart-villages.eu/language/en/good-practices-categories/>

OTHER INTERCONNECTED ACTIVITIES IN SMART VILLAGE/REGION LUCERNE WEST

Coworking spaces region Lucerne West; Digital strategy canton Lucerne (accessible under good practices <https://smart-villages.eu>).

FURTHER EXAMPLES IN THIS CATEGORY:

Smart Metering roll out in Fieschertal (PP SAB, Switzerland) (accessible under good practices <https://smart-villages.eu>).

Digital facilitation



Digital Pilot “Digitallotse” in Löffingen (PP Regionalverband Südlicher Oberrhein , Germany)

WHAT IS IT?

In order to support the digitalisation of administrative services in Löffingen, a local administration employee was trained as a Digital Pilot (“Digitallotse”) during a three-day training course. In this process individuals can acquire specific digitalisation skills and thus support smart digital transformation in their communities. Digital Pilots are intended to provide inspiration to initiate necessary measures as well as transformation and change processes and act as motivators for digitisation projects.

WHAT ARE ITS SUCCESS FACTORS?

Municipalities must be open to consider suggestions from Digital Pilots and promote these ideas in the implementation process in the long term. Projects of the Digital Pilot must be tailored to the needs and circumstances of the community.

HOW CAN IT BE REPLICATED?

1) Find a suitable person from the administration who is willing to be trained as a Digital Pilot 2) Choose a suitable training programme and place 3) What has been learnt must be adapted to the conditions and needs of the community 4) Regular evaluation of the previous measures initiated by the Digital Pilot.



Figure 9 - The so called “digital pilots” are being trained to support the administrative services in the field of digitalisation (RVSO)



CONTACT AND FURTHER INFORMATION

https://smart-villages.eu/language/en/good_practice/training-of-a-digital-pilot-for-the-municipality-administration-digitalallotsen/

OTHER INTERCONNECTED ACTIVITIES IN THE SMART VILLAGE OF LÖFFINGEN:

Innovation Lab, Citizen Taxi, Digital Townhall and a comprehensive strategy process in the municipality of Löffingen (incl. final report and action plan) (accessible under good practices <https://smart-villages.eu>).

FURTHER EXAMPLES IN THIS CATEGORY:

Digital support for administrative purpose (PP ADRETS, France) (accessible under good practices <https://smart-villages.eu>).

Territorial marketing



Digital fair “Expo Fontanabuona Tigullio” (PP Development Agency GAL Genovese, Italy)

WHAT IS IT?

Due to the covid-19 emergency it was necessary to face the need to carry out some events of territorial promotion digitally. Therefore, GAL Genovese created, together with the digital services company Isola che non c'è, a digital platform for the promotion of events where artisans and farmers could showcase their activities and sell their products. The Expo Fontanabuona Tigullio digital platform opened for 2 weeks, from 29th of August to 13th of September 2020. Artisans and farmers became “virtual exhibitors” at the on-line Expo. Each exhibitor had a virtual shop available to showcase its own business, both with a description and with a gallery, to make the products known and book them through a simple online registration. In addition to the exhibitors, territorial marketing initiatives were also included, all of these in presence and bookable online.

WHAT ARE ITS SUCCESS FACTORS?

A continuous and collaborative dialogue with stakeholders as well as clarity in objectives and monitoring of results. Due to its success, this model has been replicated in other nearby areas of the Genoa hinterland as a good practice for other local events. Users quickly gained confidence with the tool and the target audience has seen an increase in users within the 20-40 age group, usually less interested in the traditional fair model.

Expo Fontanabuona Tigullio Smart!

CRAFTSMEN FARMERS ENOGASTRONOMY EVENTS

VIRTUAL EXHIBITION BOOKABLE EVENTS IN PRESENCE

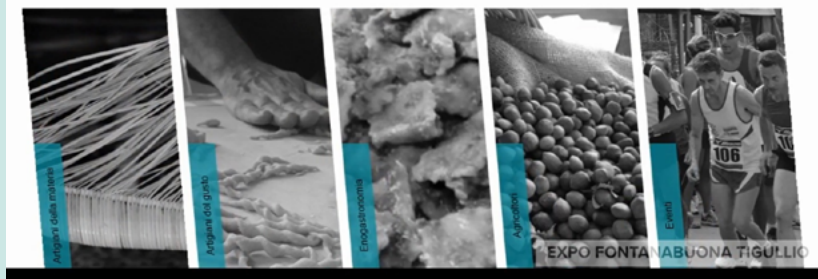


Figure 10 - Digital fair “Expo Fontanabuona Tigullio” on the internet (GAL Genovese)

HOW TO DO IT?

1) Focus on the villages’ needs and objectives and stakeholder involvement 2) Conception and configuration of the digital platform 3) Monitoring of virtual visits, included timing, selected pages and bookings. 4) Analysis of users’ satisfaction and analysis of exhibitors’ satisfaction.



CONTACT AND FURTHER INFORMATION

https://smart-villages.eu/language/en/good_practice/regional-and-local-fairs-digitalization/

OTHER INTERCONNECTED ACTIVITIES IN THE SMART REGION OF GENOVESATO:

Free bus in the park (accessible under good practices <https://smart-villages.eu>)

FURTHER EXAMPLES IN THIS CATEGORY:

Business to Business (B2B) cooperation platform 4 countries region Bodensee (PP BSM, Germany) (accessible under good practices <https://smart-villages.eu>).

Blockchain-based digital transformation



Blockchain-based digital transformation of a short food supply chain (PP University of Maribor, Slovenia)

WHAT IS IT?

The short food supply chain called the “Green Point” uses blockchain technology to help local farmers in food production, connect them in a cooperative, and collect and distribute their products locally. Furthermore, blockchain technology enables traceability and prevents fraud. The dedicated Web application is currently in the pilot phase and is being used by the stakeholders (e.g. farmers, transporters, logistics centres) who add, store and confirm their activity within the supply chain. Upon receiving the product, the customer can easily access all the relevant supply chain information via a QR code.

WHAT ARE ITS SUCCESS FACTORS?

The technical community can manage and facilitate the digital transformation, as well as educate the stakeholders, such as farmers and transporters. Therefore, to successfully implement a short food supply chain using blockchain technology, support from the technical community plays a key role. Furthermore, the stakeholders involved have to adapt their routines and activities and adjust to the digital tools accordingly.

HOW CAN YOU REPLICATE IT?

The first step was to identify the local relevant stakeholders, such as farmers and transporters. At the same time, we found support from ICT professionals. What followed

was the establishment of the new supply chain process, with the focus of linking the real-life activities and the digital trail. The supply chain process was then linked to existing or newly created ICT tools and blockchain ledgers. After the technical aspect was established, the stakeholders were educated on the usage of the ICT tools, and the prototype was tested and adapted if necessary. Lastly, attention was paid to informing and educating the customer.



Figure 11 - The short supply food chain using blockchain technology



CONTACT AND FURTHER INFORMATION

https://smart-villages.eu/language/en/good_practice/blockchain-based-digital-transformation-of-a-short-food-supply-chain/

OTHER INTERCONNECTED ACTIVITIES IN POMURJE SMART VILLAGE/REGION:

KULTNATURA (connecting different regions into one integrated touristic product offer, DIH AGRIFOOD (development, technology transfer and innovative application of smart farming solutions).

Policy recommendations

The Policy Recommendations coming out of this project are a major contribution to the implementation of EUSALP. They will flow into the policy cycle of the Macroregional strategy for the Alpine region EUSALP.



Consider the smart transformation of mountain, rural and peripheral villages as a strategic priority

At EU-level, a strong focus is already put on this topic with amongst others the EU Action plan on Smart Villages, the activities carried out by the ENRD Network on Smart Villages and the new intergroup RUMRA & Smart Villages in the EU Parliament. At macroregional level (EUSALP), Smart Villages is considered as one of the five strategic priority policy areas for the period 2020-22. The creation of a **network of Smart Villages in the Alpine area** is envisaged in 2021.

Embed Smart Villages in existing and future strategies and policies

The Smart Villages concept should, for example, be integrated into Pillar II of the CAP and in the Cohesion policy (including cross-border cooperation) and a certain budget allocated to it. The Rural development programmes for the period 2021-2027 including the LEADER/CLLD-approach should have a strong focus on digitalisation and open/social/technical innovations. As regards the Cohesion policy, the operational programmes at national and regional level should also include special lines on the Smart-villages-approach. From the side of the EU-Regulation, two out of the five Policy Objectives for 2021-2027 offer significant potential for Smart Villages: Priority Objective 3 (A more connected Europe – mobility and regional ICT connectivity) and Priority Objective 5 (Europe closer to citizens – sustainable and integrated development of urban, rural and coastal areas through local initiatives).



Allocate funds to integrative approaches such as Smart Villages

Specific funding schemes should be established at all levels to allow such approaches to be developed and put into practice. Ring-fenced funds and active facilitation by skilled animators would help local stakeholders implement transformations. In the scope of EUSALP, the Alpine Region Preparatory Action Fund ARPAP made available by the European parliament was extremely helpful to develop cross-sectorial thematics. This type of funding scheme should urgently be repeated, which requires an action by the European Parliament and the Commission. An initiative in this sense is to establish a EUSALP Innovation Facility, which could mobilise funding from different sources, including public and private funds.

Allow room for innovation and experimentation

Good examples are, for example, the “Zukunftsraum Tirol” in Austria and the strategy for Inner Areas in Italy. The numerous programmes for innovation like Horizon Europe are also rather helpful to develop the Smart Villages approach. But very often, these innovation policies are “territorially blind”. They lack a territorial perspective. In addition, programmes like Horizon Europe are very difficult to access by “small local players”. This should be corrected in order to encourage place-based approaches such as Smart Villages.

Encourage networking and the exchange of experiences

The networking and exchange of experiences around the Smart Village approach within rural and mountain areas and with urban areas has to be encouraged. In this sense, the ENRD network on Smart Villages is very helpful at EU-level. In EUSALP, the creation of a network of Smart Villages is planned for 2021.



Use the potential of the Smart Villages approach to communicate the innovation potential and attractiveness of mountain and rural areas and to link urban and rural areas

With the smart transformation under way or even accomplished, mountain and rural areas can position themselves as being at the forefront of innovation and attractive for residents and new inhabitants. The Smart-village-approach helps also to strengthen the resilience of rural villages, as highlighted during the Covid-19-crisis. These achievements need to be communicated in a clever way including to newcomers and young families.

Develop digital infrastructures and skills according to the needs and to the technological possibilities

Good digital infrastructures are a necessary precondition for Smart Villages. Policies that bring forward these infrastructures are urgently needed. Digital infrastructures alone are not sufficient. Equally important are the digital skills. The potentials of digitalization can only be used, if the digital skills are well developed. Education, training and coaching are therefore crucial functions which have to be strengthened with a clear focus on rural and mountain territories.



Interreg Alpine Space



This project is co-financed by
the European Regional Development Fund
through the Interreg Alpine Space Program

For more information about the project results and good practices,
please refer to the SmartVillages deliverables available here
<https://www.alpine-space.eu/projects/smartvillages/en/home>

For more information about the ongoing activities of the Eusalp AG5,
please visit <https://www.alpine-region.eu/action-group-5>



Drawings by Peter Niederer (SAB)