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Design Option Paper
for
Smart Industrial villages
initiatives and innovation support services

# GoSIV! – Smart Industrial Villages

## Support SMEs innovation and initiatives within Smart Industrial Villages (SIV) an approach for renovating traditional urban industrial areas

Go SIV Smart Industrial Villages
EUROPEAN UNION
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# 1. Introduction

Go SIV project aimed at improving the support provided to SMEs innovation processes by testing and developing a model of innovation ecosystem named "Smart Industrial Villages" (SIV).

> In specific, the "Smart Industrial Villages" approach refers to a process of upgrading, renovation or urban regeneration of small and medium sized industrial areas located in the suburbs or within urban areas (e.g. because the same urban area enlarged around them over the years) that were planned according to old models and included both small industrial enterprises and craft activities. Those areas now need to be renovated according to new models and requirements of urban quality, sustainability and energy efficiency, effective use of urban spaces.

Go SIV had therefore the aim to respond to specific needs (renovate the industrial areas; qualify the SMEs located in the area and assure the attractiveness of the area itself for new investors and settlement of new enterprises, respond to new criteria of urban quality, etc.). It also had the aim to develop and test an innovative model for designing and developing the upgrading or refurbishment of industrial and crafts areas through inclusive and participatory processes, creation of synergies with public transport, accessibility, promotion of full integration with the "living urban context and the citizenship, activation of new «smart» services or forms of circular economy and sustainability. Through this upgrading or renovation process, the urban industrial area can be promoted as a real part of the urban context and an effective innovation ecosystem, where new forms of innovation and entrepreneurship can take place, also by the means of dedicated tools or services.

The project used as a reference method the peer learning methodology promoted by the INNOSUP-05-2016-2017 topic, involving different regional development and innovation agencies with complementary expertise about the topics relevant for the "Smart Industrial Villages". The partners exchanged knowledge and experience, and developed proper local case studies (obtaining a process of "learning by doing") as test activity. The joint work of project partners together with the peer learning produced the present Design Options Paper for the implementation of local initiatives aimed at the development of "Smart Industrial Villages" and related innovation support services

# 2. Industrial areas, urban contexts and innovation

## 2.1. Needs for renovation of urban industrial areas

The urban industrial areas have to deal with several problems. Among them:

- the changes in the productive system during the last 50 years,
- the expansion of the cities that have incorporated the suburbs,
- the development of the big shopping centre model, the recent economic crisis that has changed deeply the productive system and caused the closure of many activities,
- the post industrial issues connected to the conversion of industrial buildings in facilities for the population,
- the different needs in term of services and accessibility and many more.

Analysing different case studies could help to understand how to manage these issues, and can provide useful examples.

The urban industrial areas located in Bielsko-Biała - Poland, Evora – Portugal and Bologna – Italy can be considered as well representative case studies for this work. They have different features in terms of dimension, geographical location with respect to the city, planning and typology of activities within the area, but also common features. All of them have been planned and built several years ago (in the seventies the area in Evora, in the early eighties the area in Bologna and in the sixties for the area in Bielsko-Biała) when the criteria and concepts of industrial areas were different from now.

Manufacture and handicrafts were the main components of the industrial system while the third sectors has become more important in the last 40-50 years. The development and broad diffusion of big shopping centres, often located at the edge of the industrial areas has also to be taken into account.

At the same time, the incredible development of the urban areas has embedded the industrial areas into the urban areas creating urban conurbations that incorporate the suburbs of the cities. Residential buildings have been built within the industrial areas and with them many services for the inhabitants.

The economic crisis started in 2008 has deeply changed the industrial areas. Many companies have shut down leaving empty buildings. Some of these buildings are still empty, other have been adapted for different uses. We have witnessed many changes in the use of buildings originally planned for industrial activity. Many of them reconverted becoming restaurants, gyms, incubators, etc.

The enterprises have to deal with big changes in the productive system where the industrial activities are still ongoing. There are therefore different needs in terms of energy supply, waste disposal, accessibility of goods and of workers, etc.

For all of these reasons, these urban industrial areas are no more functional and are in the need of renovation. The diversity of business models and activities make difficult to identify the needs and characteristics of these areas. Studying these case studies can be useful to learn different ways to deal with all these issues.

## 2.2. Renovation of urban industrial areas and support to innovation

Blooms and declines: Urban industrial areas bloomed since 19 century – yet, the bloom periods were regularly interrupted by the economy crisis or a withdrawal of the investor due to the move to another area; e.g. to the suburbs, more modern premises, another city or country. Whatever the reason, after the exit, empty buildings, sometimes estates, are left with spacious halls requiring strong renovation.

The exit did not limit to the empty property. This was also a degraded ground, polluted environment – soil and water; even nowadays when the awareness of the environment is growing, companies are not able to avoid wastes, which affect the closest material environment. The impact stretches much further, starting on the satellite companies pulling out to follow the economy engine, dozens and hundreds of direct or contracted employees can lose the job if they refuse to follow to the new location; this means even more abandoned cubic meters. The unemployment can grow – and in the dark scenario, the area is physically and socially degraded in a short time. This situation could be observed in the city centres in the past, nowadays it affects suburbs corresponding to the trend of placing big companies on the outskirts of urbanized areas or in the countryside.

Only in 1990 the trend was born to revive rural areas of the falling agricultural production by inviting big investors, global companies to establish their production sites and to create jobs. This can feed the local economy for a decade or longer but when the investor moves out, the material remnants will need the attention not to turn into the shelter for crime and decay.

Fluctuation of investors As for the urban areas, the very centres can see the monuments of the industrial revolution of 19 century. Elegant buildings of the red bricks attract investors and can be turned to the shopping malls, luxury apartments with still trendy lofts or to hotels. In 2000 and onward, such buildings tempted banks eager to pay a high price to arrange their headquarters in a busy district.

In Eastern and Central Europe cities faced a different problem of the once government-owned companies, which built their premises quickly, with disregard for the environment, inhabitants and aesthetics, exploited the closest neighbourhood and were closed down when the socialism and communism collapsed. The former industrial buildings were left there scarce in various districts yet with a similar impact on the urban development. The demand for such real property is usually much lower due to the less attractive location with different customer profiles and due to the lower expected return compared to the necessary capital input.

In each of these cases, however, it is possible to turn the disadvantage into the strength; alas, some intervention form the local government may occur essential.
Because the economy is cyclical with the phases of the growth and decline, in each political system, this is the task of the governments of all levels to mitigate the negative impacts of the changes by interventions at least partly – the scale and the type of interventions can differ but it will be always expected by the community. Then again, in the perfect world, the community will act itself. And more and more often it does – and it can do it better than the government.

Big vs. small: Another face of the concentration risk is relying on one major investor, which should be mitigated by the strong sector of SMEs. They decide of the local economy strength and investment attractiveness because they create the ecosystem and the base for the big corporates; they operate and deliver locally, are more flexible and more customer friendly. Regardless the size of the investors, they will be looking for the base to feed their business on and for the advantages to build their competitive strength on.

According to the "Annual Report – EU SMEs 2016-2017", in 2016 in the non-financial business sector of the EU-28[1]:

- micro SMEs accounted in 2016 for 30 % of total employment and 21 % of total value added
- the contribution of all SME size classes to employment amounted to 67% and value added generated to 57%.

According to the same source, SMEs, which tend to generate job are young, innovative, active internationally and based in urban areas.[2]

Human resources are the crucial assets for each company. Digitalisation and automation of the processes with usage of advanced ICTs creates a new challenge for the companies of all sizes – finding the adequate human resources with the specific skills and the creative potential. The competitive race for improvement is fed by innovations. An attractive job market with candidates demonstrating these features allows to draw and to maintain investors because they will be able to develop. Innovativeness and skills are built by linking the education and research, business and the community. In case of the local/regional/national government intervention, there is a series of various tools used and a choice of them is described further in this document. They include business incubators, technology accelerators, fab labs, creation the entire smart villages, stimulation for the business and innovation friendly ecosystem.

The (hardly) living proof how risky the concentration can be is the city of Detroit, legendary and proverbial due to the history of the decline after the withdrawal of the car industry. Big companies are volatile for economy crisis.

[1] Annual Report – EU SMEs 2016-2017 prepared in 2017 for the European Commission, Directorate-General for Internal Market, Industry, Entrepreneurship and SMEs; Directorate H: COSME Programme; Unit H1: COSME Programme, SME Envoys and Relations with EASME, November 2017, pp.13-15.
[2] Ibidem, p.97

Preparations and plans: As every project or action, the first and basic thing to do is a proper plan with analysis of the area. The quick availability of the data is a great advantage for the local authorities and speeds up their work significantly. The data mean maps, development plans including the pre-arranged investments, the recognition of the existing infrastructure and utilities, the features of the real estate, availability and the type of the surrounding property; limitations and requirements resulting from the natural environment such as reservation parks, forests, protected species habitats etc.; the socio-economic analysis regarding the inhabitants, their socio-demographic characteristics including the type and level of education and skills, readiness to undertake the job, unemployment and crime rate, wealth and demand for the public services; the transport features – roads and their maintenance, the number of cars, traffic patterns, availability of the public transport etc.

A big corporate investors who construct their factories and centres would develop the utilities infrastructure along with the buildings; SMEs have less financial capacity and flexibility and appreciate places well prepared and equipped with the entries for all media. The same refers to the public transport, which can be offered to employees by big companies but not so often by SMEs. Another factor, which has an impact on the needs of investors is availability of their settles by the customers. The most blatant example of the meaning of the public transport on the business success are shopping centres located in the suburbs. A development of the Smart Industrial Village based on the development of micro and small enterprises and craft should prioritise the accessibility by the transport delivered by the municipality, regional government or by private sector. The key features will be in each case the frequency, reliability and to a big extent the prices.

The vision of the city's future is a critical part of the plan. The smart specialization strategies are currently prepared in the regions and in most of the cities and towns Europe-wide. Two features present in the successful strategies include ICTs and innovations (more about the smart development in the next chapters). For the contemporary business, ICTs are nowadays fundamental for the effective communication and for the ubiquitous data processing. Innovations are a practical sine-qua-non condition to stay ahead of the competition and to offer a competitive product or service. If these elements

The action and assessment: The basic and the least thing to do by the local government is cutting down the red tape – this itself might be enough to encourage the investors. The direct contacts and creation of the ecosystem involving the quadruple helix (i.e. local government, community, business and the education and research) are the big step to the successful renovation and attraction of the investors.

If the ICT infrastructure is not present, the construction should be facilitated or delivered. The costs, which can be too high to the municipality already strained by the crisis could be shared if not covered by the investors; the funding can be also acquired from various sponsors, PPPs, national programmes or from funding of European Union or equivalent.

Innovations are more difficult to capture – the ideas may live in people's minds but they will need more to plant them before harvest is collected. Innovations are driven by creativity and expertise – for them, the modern education system is necessary but not sufficient by itself. Lack of the stimulus and encouragement to experiment and test new ideas and the support during introduction of them to the market threatens with the brain drain and the stagnation; especially in the relation to the strong competition also between the municipalities attempting to draw the best employees and entrepreneurs.

## 2.3. New technologies and new approaches: thinking of a smart city

Smart cities have requirements that go beyond efficiency, mobility and sustainability, or even digital platforms.

People and their day-to-day life are the centre of the focus. The aim is to use more or less technology to improve and solve problems/obstacles which can be circumvented applying some innovating processes.

One of the most important partners to help turning a city in a Smart City are the municipalities. They are the main channel to understand people's needs and get into action to implement the new "smart" services. It is therefore essential for a smart city to be in line with the stakeholders, promoting participatory processes. This can be easily achieved through a digital platform, saving the time and logistic that organizing a meeting with all the interested parts can take. The smart city is to facilitate these kind of processes.

This processes can go through a better communication between people and stakeholders. This can be easier solved by not only a digital platform but through the use of beacons that send information directly to citizen's phone. The information to improve people's life can be about traffic, events, important dates, the working schedules of public services, waiting times (in those services), direct the crowd by suggesting places to go, where to eat, what to do, etc. The possibilities are immeasurable.

We cannot talk about smart technologies without referring the imperative need of having a good internet connection. A good wireless internet connection is almost regarded as a basic service nowadays. Optical fibre is the latest and greatest innovation in connection to the internet and it is being implemented in some countries across Europe. The connection through this optical fibre has numerous advantages, including higher data speed, lower signal degradation, the light signals do not interfere with those of other Optical Fibres that grants clearer TV reception and phone conversations. It has other physical advantages when compared with copper wires as they are thinner, lighter, flexible, non-flammable and have a lower power consumption.

A smart city should provide good and free internet connection. We have seen an increase in the number of hotspots across Europe and this is also a result of several investments financed by the

European Commission as they also have felt its importance. Not only available during a trip at coffee shops, on a shopping centre or even in a park but also next to the big attractions and important squares.

Regarding the accessibility and sustainable mobility, sensors may be used to manage the existing parking spaces within a city or industrial zone. It is already used in underground car parks and can be adapt to open areas and with more information as the exact location of the empty parking spaces. Electric vehicles can also be used. We can already see some rental points for electric bicycles in some big cities and also some industrial zones.

The mobility of citizens itself is a very important question to be solve in a "smart" way. The creation of synergies with public transport, regarding the work schedule of the employees and peak times. Assembling every means of transport in one card or *app*, facilitating the payment, the information and the passage from one means of transport to another.

In a Smart Industrial Village (SIV), we can think that the aim of the innovation and improvement are not only people working there but also the companies and services that improve the business environment in that area. This could be done to inform enterprises of new services, new events to promote new partnerships and services that promote a full integration with the living urban context and the citizenship, activation of new "smart" services or forms of circular economy and sustainability.

Services are an essential part of a smart city and a SIV. As we should provide specific services to improve citizen's life in big cities, in SIV's we should extend this service to the companies located there.

These services can focus on existing startups and provide infrastructure based in sharing services to minimize the initial and fixed costs and help "hatch" and accelerate them. Incubation and acceleration programs are essential to support them to grow sustainable and to get in the market. We can already see the increasing appearance of business incubators that provide support services to businesses and entrepreneurs as information and advice on investment and other related matters, mentoring, preparation and tracking of their business plans, information and consulting on financing, accountancy, legal services, marketing and support services for innovation. Later in this document we will deepen the importance of *Fablab* as an important tool to develop new products and that is a fabric-laboratory that is present in some industrial areas.

A SIV should bring together city leaders, technologists and innovators and create an ecosystem conducive to innovation and as a way to give response to the needs of the market and the region.

Networking is a powerful tool these days and a "smart" ecosystem should encourage partnerships. One of the ways of achieving this ecosystem is through education and qualification of the SMEs located in the area and assure the attractiveness of the area itself for new investors and settlement of new enterprises, respond to new criteria of urban quality, etc. We can look at the example of Silicon Valley.

According to the *World Economic Forum*, almost 90% of the world's data was created in the last two years. Going forward, the pace will only increase.

By recognizing that cybersecurity is an imperative issue when talking about big data, smart villages must be data-driven and cloud-powered too. With the data explosion, cloud technology will be instrumental in shaping disruptions and redefining customer experiences, innovation methodologies, and governance models, not only for urban places but also for industrial zones.
This is why empowering industrial villages through technology and renovation by creating rural and urban innovation clusters will be critical to match the contemporary industrial zones and realize their true potential.

# 3. Three Case studies

## 3.1. The FabLab – the innovative hub for creativity (Bielsko-Biała, Poland)

Wapienica is a district of the city of Bielsko-Biała. The oldest historical note found comes from 1568. Until the end of the second world war Wapienica was the suburb village of the rural character with only a few private enterprises. The majority of inhabitants were Germans (84% in 1921). It was merged with the city in 1977.

The 19th century brought the industrial revolution also to Wapienica. Initially the dominating industry was textile one. The dynamic development brought also the railway station in 1888 and in 1893-1894 the first water intake was located in Wapienica for the water company of Bielsko-Biała. Around 1930 the dam was built to create an artificial lake for the water capture for the city

The bloom of the business was observed around the railways, i.e. in the northern part of the today's district. This determined its later industrial character. In 1921 the Factory of Saws and Tools was created. The company endured the changes until today and operates now owned by the global corporate.

The southern part gained it current touristic and environmental nature in the end of 19th century when the mountain shelters were built on the peaks and walking trails were marked. After the second world war the industrial investments were continued and the rural character was lost.

The political changes after the second world war cause that the business was nationalised and operated thusly even to to 1990s. in the post-war period, several companies were established and located in the district, giving the inhabitants workplaces. Majority of the companies were of the heavy and construction industry; Fiat Auto Poland has also its premises here.

In 2001 a subzone of Katowice Special Economic Zone was created. Over 150 companies invested in the Zone, according to the City Council of Bielsko-Biała, including the startups in the Beskid Technology Incubator created in 2006 by RDA Bielsko-Biała. The number of jobs was estimated at 32 thousands. Many companies created after the collapse of socialism (1980s) took over the buildings of the withdrawn or liquidated former national companies. A big percentage (nearly 50%) operated in the logistics. In the very Zone, the leader is Eaton Automotive with neighbouring Hutchinson Poland and TI Poland.

Many projects were implemented in the area of Wapienica. The scope of areas is very vast. The projects developed in the northern part focus on business development and on the protection of the environment as a part of the preparation of the industrial infrastructure.

The following major investments and infrastructure projects were concluded I the northern part of the district:

- Inclusion of Wapienica to the Special Economic Zone of Katowice in 1996 as a subzone; the main investors are Eaton Automotive Systems Sp. z o.o.
- The construction and the development of the Beskidy Wholesale Stock Market Ltd started in 1996. In 2002 the company changed the name to the Beskidy Commerce Stock Company to reflect its business profile better. The company is mixed public-private ownership. It offers the surface for rental for the storage, workshops, garages and offices for private traders. It also hosts one of the biggest open markets in the region working every Sunday. Total surface covered was gradually extended with time to total 11,34 ha. The role of the open market grew in 2018 in relation to the ban for commercial trade on Sundays introduced in Poland and it constitutes a replacement for closed shops and hypermarkets.
- The creation of the Technology and Industry Park in Wapienica - the concept born in 1999 and worked on together with the Office of European Integration of the Silesian Marshalship and the City Council of Bielsko-Biała; the Park covers 5.12 ha and is located by the express road S52 (Cieszyn-Bielsko-Biała). Main investors are Hutchinson Poland, RDA Bielsko-Biała and Multiform Dariusz Krywult. Creation of the Park was covered in a big part from PHARE 2000 funding.
- Construction of the Beskid Technology Incubator (BIT) – the business complex was finished in years 2005-2006 – three-level building with 3660 sq. m of the surface; the building hosts the training and conference centre for 150 participants, the accommodation for 33 persons in the hotel rooms of the business standard, rental surfaces accommodating 30 companies, the restaurant and comfortable parking spaces.
- Upgrading the road infrastructure in 2018 – vast works are being finalised regarding the quality of roads and the traffic organisation; the project of construction of the fast traffic road through Wapienica towards Cieszyn will proceed in 2019 – more lanes will be created and a general improvement of the traffic is planned.

Projects implemented in the southern part have in majority the environmental or touristic character – they focus on the preservation of the natural environment and the forests, which constitute the biggest area in the city of Bielsko-Biała and District Bielsko-Biała, and on the enhancement of the touristic values of the area, particularly the Wapienica Park and the dam surroundings. Multiple bike paths were built and renovated over previous several years and four educational trails in the Park was created with the instructive boards.

Notwithstanding, socio-economic projects were also developed aiming at the improvement of the life quality, educational upgrade of chosen social groups, revival of the entrepreneurial spirit, business and job creation. The meaning of the projects is very high particularly for these estates in the district, which are located towards in the northern part and which had a reputation of the degraded area with increased level of the crime and the presence of social pathologies. Thanks to the joint effort of the community and municipal welfare agency, the projects resulted in the significant upgrade of the area. Many activities were addressed to elderly inhabitants, including mountain walks, joint leisure meetings by the bon fire, the celebrations of the Seniors' Day, a choir and the computer skills course for 60+.

### 3.1.1. Location and key facts

#### Geography and natural resources

Wapienica is the most populous and the vastest district of the city with nearly 10.5 th inhabitants living on the area of over 2.5 ha. Of this surface, only about 11% constitutes inhabited area[3] and ca. 70% are forests[4].

The district is divided into two parts by the powiat-level road joining Bielsko-Biała with Cieszyn on the Czech-Polish border:

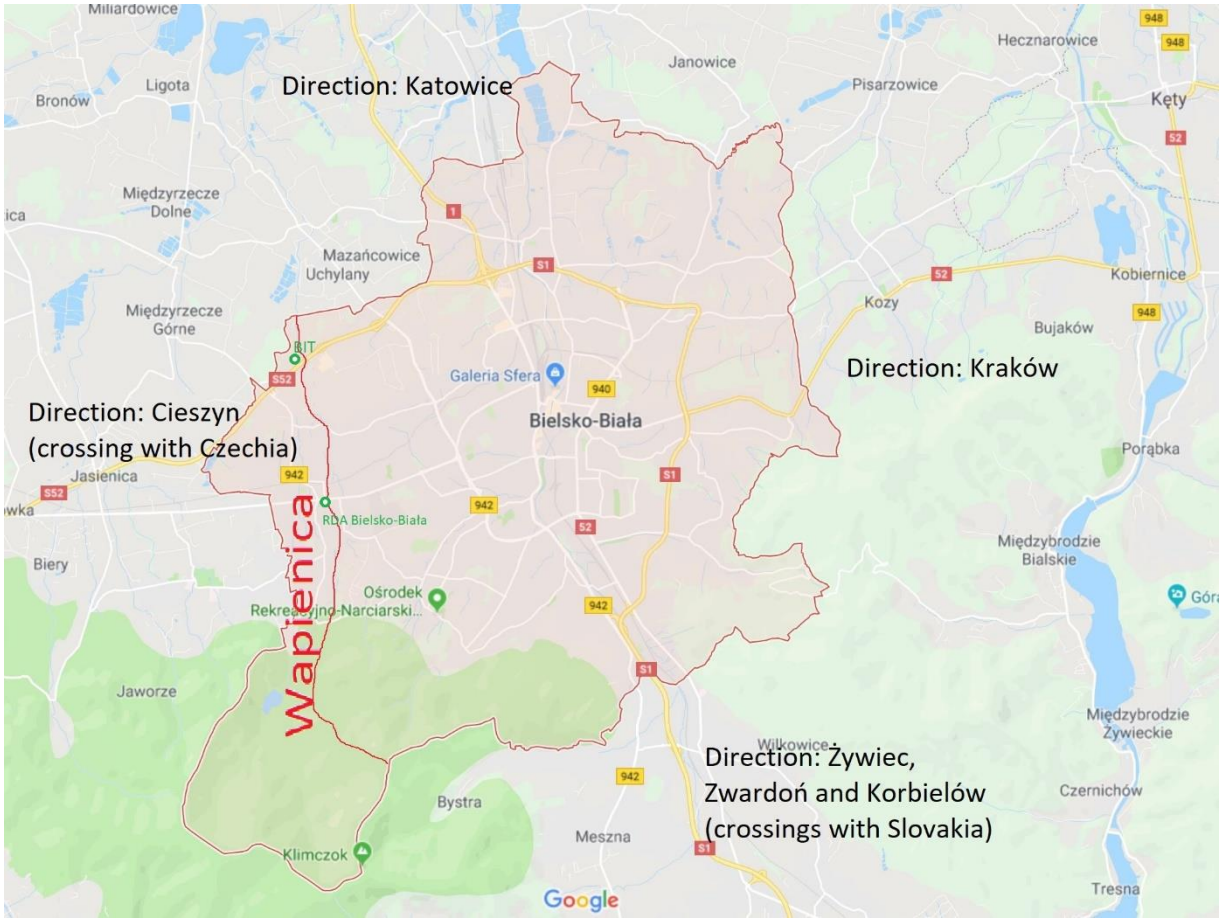
- southern area with nature park and beginnings of the mountain walking trails educational routes for children and adults, bike paths and water reservoir (Wapienica Dam), which has also touristic value as a view point; associated commonly with recreation and with wealthier inhabitants; 4 preservation parks operate in Wapienica for the unique vegetation threatened by the extinction, and 5 nature and landscape parks.
- and northern part, which has strong business character with the industrial park and the biggest open market in the subregion. The northern part hosts multiple social housing buildings and the centres of social welfare for homeless and people with addictions.

The road to Cieszyn (Cieszyńska Street) is an alternative route to Cieszyn with the secondary meaning to the express road S1 going through the northern part of the district. The historical railway station is not in use from 2009.

The district is served by 7 bus lines, of which 5 have their end stops nearby the very centre of the district, one (No. 16) extends to the tourist southern area and the beginning of mountain trails and one (No.24) goes through parts of northern estates. One of the lines (No 10) is extended to the business Park at the request of the companies including RDA Bielsko-Biała as the owner of the incubator. The frequency of the extended routes serves the Incubator 10 times per day – in the early morning hours, midday at the shift change and in the late evening (second shift end).

[3] Own calculation based on „PROGRAM REWITALIZACJI OBSZARÓW MIEJSKICH W BIELSKU – BIAŁEJ NA LATA 2007 – 2013" **Bielsko-Biała,** November 2007 - https://www.bielsko-biala.pl/bb/dzialy/polityka/doc/prom.pdf accessed 14/08/2018.

[4] http://wapienica.info/page/4/ accessed 14/08/2018.




## Infrastructure and business

An industrial park in Bielsko-Biała located In the northern part of Wapienica was created in 2005 as an initiative of the Bureau of European Integration of the Silesian Marshalship and the City Council of Bielsko-Biała. The main reason of the creation of the Park was the creation of the jobs. Together, the governments and the Agency developed the concept of the Park of Industry and Services, which is managed from the very beginning by the Agency. The grounds are owned by the city and the buildings and infrastructure belong to various companies leasing the grounds from the City. The Park itself does not have its own organisational structure. There is no specialisation with some domination of auto-motoindustries. Beskid Technological Incubator built in 2005 – 2006 by the Agency is also located in the Park. BIT is a three-floor building of 3660 m² of the usable surface, equipped with the training and conference centre for 150 persons with the full accommodation (33 sleeping places) and with the office surface rented by 30 companies.

Since 2009 the Technology Accelerator is operated by RDA as the complementary activity to the incubator to extend the support services to the next stage of the life of innovative companies with a big potential. The concept was to create the competitive advantage to innovators who do not find the potential capital or funding as in other countries I the Western Europe.

The third stage carried on by RDA Bielsko-Biała was a creation of the FabLab to inspire young innovators, students and crafters to use the most modern technologies for their products and services. The FabLab creation complete the incubator service stimulating the processes preceding

the establishing the company – thus, the innovators receive the support on each stage of the idea development – from the inspiration and learning stage, through the setup of the business to the investment and development of the more mature innovations in bigger, industrial scale.

One of the most recent projects of a significant revival value for the district of Wapienica "Bielsko-Biała connects people" was implemented in years 2015 – 2017 by the City Social Welfare Centre and citizens groups and organisations from 4 districts in Bielsko-Biała, including Wapienica. The project was co-financed by European Union and by the City of Bielsko-Biała. The actions were addressed to unemployed, clients of social welfare centres, financially disadvantaged etc. The purpose of the project was the reinforcement of the social integration and the prevention of the social exclusion by the support for participation in the labour market. In case of Wapienica, the project included several activities addressed to seniors, in this art and craft activities, organising days of seniors, occasional meetings of seniors, organised tours and many others. Some of these activities (particularly art and craft) were initiated in the previous decade and revived and continued thanks to the support of the project. Events such as Days of Wapienica with concerts were also organised in cooperation with citizens and the district council.

The renovated buildings of former Beskidiana by Cieszyńska St., Bielsko-Biała, Poland – currently the Regional Development Agency

The Beskid Technology Incubator (BIT) in Bielsko-Biała

## Socio-economic features

The community of Wapienica is characterised by a strong citizens' initiative and involvement in various local and global events and movements, for example during the Day of Earth, citizens are invited to join their forces in the collection of abandoned wastes in Wapienica (particularly but not solely the forest parts) – this is the answer for the illegal waste dumping in the park and on the forests edges. Many cultural and sportive events are organised on the regular yearly basis. Local schools prepare concerts and performances for the summer festivals and the local citizens Culture Centre invites local choirs to perform on the concerts. Wapienica group of modellers with its history going back to 1960s is famous for the skills and their models of planes and ships made of carton and plastic.

| | |
|---|---|
| Urban centre population (Bielsko-Biała) | 171 500 |
| Urban Area (Bielsko-Biała) | 124.5 sq. km |
| District Area (Wapienica) | 25.6 sq.km |
| Population density (Wapienica; inhab. per ha) | 4.03 |
| Position | The outskirts of the city |
| Type of enterprises | Car and construction industries, wholesale and trade enterprises, convenience shops, sport and recreational activities |

### 3.1.2. The needs for renovation of the area

As mentioned above, many companies were closing down or moving to more attractive areas with more modern premises since 1990s. The most numerous liquidations were observed in the governmentally owned sector. Apart from the derelict buildings and estates, the loss of the jobs could be observed. The big shopping centres constructed in the end of 1990s drew the customers away from smaller retailers. Additionally, several welfare centres were located in Wapienica – two hostels for persons with addiction problems, the temporary accommodation for homeless and the estate of social housing for the disadvantaged families. The accumulation of the social issues caused that the big part of the district in the North got the bad reputation and was avoided by the citizens. The prices of the property were low but the environment did not encourage new developments.

With the effort of the City acting together with the RDA Bielsko-Biała, the business was encouraged to invest and to create their premises. Together with activities of incubator, accelerator and the hotel services addressed mostly to business and organised customers, the character of the Northern part of the district was changing. The strong initiative of the citizens contributed very strongly with arranging the green areas, playgrounds for children, cleaning the district and organising leisure activities.

A very strong stress on the recreational functions in Wapienica causes that the entrepreneurship is pushed out from the southern part of the district. The business and trading activities focus in the northern part. The extreme specialisation can lead to the situation when the local trade and gastronomy has the sufficient supply of the customers only during the weekends with the good weather and during the touristic seasons. This leads to the uneven and uncertain profitability. The symptoms are already visible – several smaller bars and local shops were closed down and two main cafes scaled down the offer; the bus schedules are altered and adjusted to the hours of companies and schools opening and scarce otherwise, which additionally affects negatively the visitors traffic in the area and isolates the inhabitants. It is crucial to maintain the economy and to prevent the marginalisation of the district.

### 3.1.3. Activities performed during Go SIV project and outcomes

Prestudy and the conclusions:

Regional Development Agency in Bielsko-Biała had developed the support mechanism for 3 stages of the development of the innovative enterprises: the Fab Lab to stimulate innovative ideas, the incubator for startups and the enterprises in their initial phase and the technology accelerator for the introduction of the innovative ideas to the market for SME sector. A similar process was initiated in the southern part of Wapienica – in 2017 the FabLab was moved to the buildings of RDA by Cieszyńska Street to raise the level of innovativeness of the inhabitants and to offer the advantageous education opportunities. The project follows the awareness rising and popularisation of FabLab in the closest neighbourhood.

RDA in Bielsko-Biała performed the analysis of the profile of the district, interest declared by the projects proposed for implementation by the City. We analysed also the current urban development trends on the local, regional and international levels and experiences from activities carried so far. The approach was to recognise the behaviour patterns and the overall economy status and trends.

Social factors: Based on the intense local activities in the area of the community development, art, craft and ICTs indicate that this directions will be explored further by Wapienica stakeholders. The activities are carried primarily via schools and the district culture centre – a branch of the city culture centre.

Natural environment: big parts of the southern Wapienica have the touristic character where the clean natural environment is the key asset; the preservation of these assets will maintain the priority in the plans of urban development as well as among the inhabitants: .

Business factors: Particularly the northern part creates opportunities in the employment in the global leading companies using the most modern technologies based on ICT and requiring IT skills. Slow decrease of the companies and retailers can be observed in the centre and southern part of the district. The care for the clean environment and the smart strategic specialisation for the region and for the city (tourism, ICTs and automobile industries) imply the choice of the key enhancing technologies (KETs) to focus on - ICTs.

Demographic factors: Seniors constitute a significant group of the local community, which in future can be a risk driver for the downgrade of the district due to the depopulation. Preventive measures include the creation of a good educational infrastructure for children to encourage young people and in particular married couples with kids to settle down in this attractive area.

Global trends: the rapidly growing role of digitalisation is observed. Flexibility, personalisation and a conscious focus on the local delivery have become the drivers in activities, especially among younger generations. Social and environmental awareness and responsibility are one of the choice criteria.

Conclusions from the prestudy: in order to maintain the moment of the growth in Wapienica and to prevent deceleration and a risk of the decline, activities should be offered to the community to inspire the so-far developed activities and which would give the advantage to the young persons on the existing and future job market with the particular focus on the existing business potential and in line with the values preserved and cherished by the community (i.e. clean environment, developed tourism, culture and art activities with and for the local community).

Based on the factors above, the Agency suggests that further development of skills in the area of IT should be addressed. The new programmes should be tailored to the local preferences and demand from the local businesses.

Multidisciplinary nature of 3D modelling and 3D printing addresses the trends, fills the gap in the current educational programmes and opens new dimensions to the hobbies such as model building, craft and culture for any age group; albeit, the main stakeholders are young generations (children, youth and young adults).

The training and the retail services of the 3D modelling and printing should be offered to the public in the affordable manner on day-to-day basis. The offer should include the awareness building, demonstration of the possibilities and ease of operating the software and equipment, training and possibility to use the services of modelling and printing for persons who have not acquired the appropriate skills. In case such offer cannot be delivered free of charge, the prices should be maintained on the minimal level, e.g. covering only the direct costs of the processes.

### Local meetings and open days of Fab Lab

Two meetings were organised in the form of the focus groups in relation to the revitalisation and the revival of the area of Wapienica in Bielsko-Biała, Poland, as a postindustrial area in the suburb of the city.

Parallely, the open day of Fab Lab was organised at the same day.
The idea of the project is to create a model preventing the decline of estates like Wapienica and allowing the intelligent and sustainable development base on smart specialisation. The results of the attempt will be presented as a case study and a practical guide to serve other regions as templates to be used.

The representatives of 4 groups participated in the meetings – the primary education, the inhabitants, representative of the estate council and the local business.

During a loose unstructured discussion the following core issues were raised:

- The quality of the system of education for children as the background for the needs of cooperation with RDA Bielsko-Biała
- Importance of the team work and cooperation
- The lack of publicity of FabLab and the Agency in terms of the closest neighbourhood and the need of advertisement and potential cooperation

The current offer of FabLab activities means a change in the main target audience of the Agency from the local government, organisations and enterprises - to citizens. The fresh look and suggestions offered by the participants of the meeting regarding how to channel the message are very precious input for our farther communication strategy. The communication and dissemination are key factors for the successful implementation of any activities and projects on the local level.

At the closure of the meetings, the participants were invited to the FabLab to experience the discovery of the 3D modelling and printing; in the FabLab they were introduced to the basics of 3D printing and to the methodology of the presentation for visitors, in particular for groups of children and youths.

The dialogue with the community of Wapienica indicates lack of awareness of the FabLab and its possibilities and a very low awareness of the current trends in the digital education. RDA Bielsko-Biała will intensify and continue the educational and awareness raising activities. It is expected that further work will result with the gradual modification of the local activities and services based on innovative use of digital technologies, including 3D design and printing, usage of new tools in the craft and hobbies of inhabitants, including the local culture centre and the offered courses, which will refer to the modern trends and will respond better to the interests of the youth. This will secure the up-to-date education and will give the inhabitants the advantage on the job market in the future. The immediate expected results include the new offered courses and classes and increase of interest in innovative services from then potential startups as well as potential users of innovative products and services.

### Joint efforts suggested by the participants

The participants declared the will for a cooperation with FabLab on various levels. It was advised that the coalition for Wapienica could be a great opportunity to discuss the role of FabLab for the neighbourhood and possibilities of the contribution. It was stressed that this group has a very high potential thanks to the synergy and a focused cooperation.

Participants were also interested in joining initiatives and projects in future in their scope of mainstream activities.

For the closest autumn the following joint initiatives were suggested and are being followed:

- Lessons for pupils of the local schools
- An offer of cooperation will be created for the local Senior Club and Culture Centre
- The Agency could be introduced to the Coalition for Wapienica to invite to the members possibilities of cooperation with the FabLab and organising there presentations, courses, classes and regular services. The Coalition will be suggested to invite the Agency to discuss possibilities of joint projects application and implementation
- Further, regular meetings of the Agency with local players to be organised
- The Agency will consider organising various forms of regular meetings (e.g. morning coffee meeting, business breakfasts etc. to establish the network for further cooperation; such meetings should be beneficial for participants who will be offered an opportunity of finding new customers or ambassadors for joint local initiatives. This idea needs to be discussed

also with the Agency's owners to assure that preferential treatment will be created for one district and that it will not be developed at the cost of other revitalised areas (fair play rules and the objectives validation).

Further activities planned by RDA Bielsko-Biała

- Follow-up contacts:
    - Invitation to FabLab for a demonstration session
    - Invitation for the second round of local meetings
    - Organisation of regular meetings for the community members
    - The possibility of cooperation and potential of FabLab to be discussed with other stakeholders during the meeting of the coalition for Wapienica
    - Invitation to the second meeting
- Organising visits of students in FabLab
- Organising more frequent open days of FabLab with a stronger promotion around the area
- Keeping in touch regarding other events
- Sending the information regarding possibility of regular courses
- Investigating of the initiative coalition for Wapienica and potential cooperation in terms of revitalisation
- Increase the frequency of events and intensify the message also in the neighbourhood
- Revise the promotion, media and advertisement messages to align them better with the mission, role and on-going tasks for better performance

## 3.2. Roveri Smart Village, Bologna (Emilia-Romagna, Italy)

### 3.2.1. The story of the area

The Roveri industrial area is a big area located on the borders of the Bologna city centre. It was established during '70s, divided by three different districts, where enterprises settled according to different "settlement" criteria. The first district was composed through a "traditional" model for settlement of middle/big size: the municipality directly negotiate with the companies their settlement on the area. Later, about 1975 the municipality of Bologna prepared the PIP-Piano Insediamenti Produttivi (the plan defining the industrial areas to be built on the local territory) according to a national law (Law 10/1978, which also included the rules for taking the land from the owners if the local authority pursues a public purpose for the common good). According to the PIP the area was enlarged including two more districts. The municipality decide to set the second district as including small craft activities and assigned the role of managing the settlement phase to the association of enterprises supporting crafts (Confartigianato). The typical model for settlement was the small laboratory or enterprise with the craftsman own house attached. Moreover, the municipality decided to set the third district as including SMEs and assigned the role of managing the settlement phase to an association of enterprises supporting SMEs (API-Associazione Piccola Impresa). Finally, a further part of the total area on the borders of the municipal territory was filled

in according to a public call defining requirements for enterprises willing to settle. Associations of enterprises participated to the evaluation of applications.

The Roveri area as a whole is included into two different municipal territories (Bologna and Villanova di Castenaso) and has a total extension of 1.998.000 mq. It was developed according through a systematic plan (while many other industrial area in the region developed on the basis of different enlargement over time not specifically expected at the first planning phase). This features implies that the area has effective access ways and internal roads, green areas, and composition of private and common spaces).

The composition of enterprises existing and operating in the area changed over time. It was exclusively of industrial nature at the beginning. Nowadays, the set of enterprises settled in the area is composed by industrial activities, craft activities, services but also commercial, leisure and sport activities. In recent years many enterprises left the area or closed and the area used to have many buildings empty or not in use. Then, a new incoming of enterprises took place supported by local associations. In specific, many companies already settled enlarged their existing production site, or companies already operating in other areas decided to move to Roveri area. Currently the number of building not in use is very low and there is a demand from new companies to settle in. At the moment, about 200 enterprises are operating in the area.

The area is still changing. Recently new and innovative enterprises established their headquarters and production processes at Roveri. Some of them represents significant cases of innovation, or have economic relevance at local level, and thus are promoters of requalification, attractiveness and innovation in the area. For example.

- FIVE-Fabbrica Italiana Veicoli Elettrici: produces electric cycles and innovative solutions for electric mobility. The building has been the first NZEB (Near Zero Energy Building) in Emilia-Romagna and is still a model for energy efficiency. The company proposes an innovative bike sharing plan for the last mile mobility (from the Local Public Transport facilities to the companies). The project is connected with the empowerment of the railway station in the FICO area (FICO-Fabbrica Italiana Contadina Eataly World is intended to be the largest food park in the world)
- FRI foundation - Fashion Research Italy: the foundation has the aim to enhance the leading manufacturing excellences of the history of Made in Italy fashion. The exhibition centre of FRI will foster the protection of companies' photographic archives, training and technological research in the various sectors of the manufacturing industry. It is located in the old manufactory building of "La Perla", Italian historical fashion brand.
- Music Academy's campus, located in Zona Roveri Music Factory, offers the best facilities for students interested in developing a vocational, hands on approach to music and the performing arts. The Music Factory have 1500 square meters for students to develop their projects. With its 16 high-end rehearsal studios, 2 recording studios, dance studios and its live club/ theatre (holding over 600 people), Music Academy has become well known nationwide for its industry-relevant facilities.

Improved transport networks and upgraded infrastructures will support the activities of the companies;

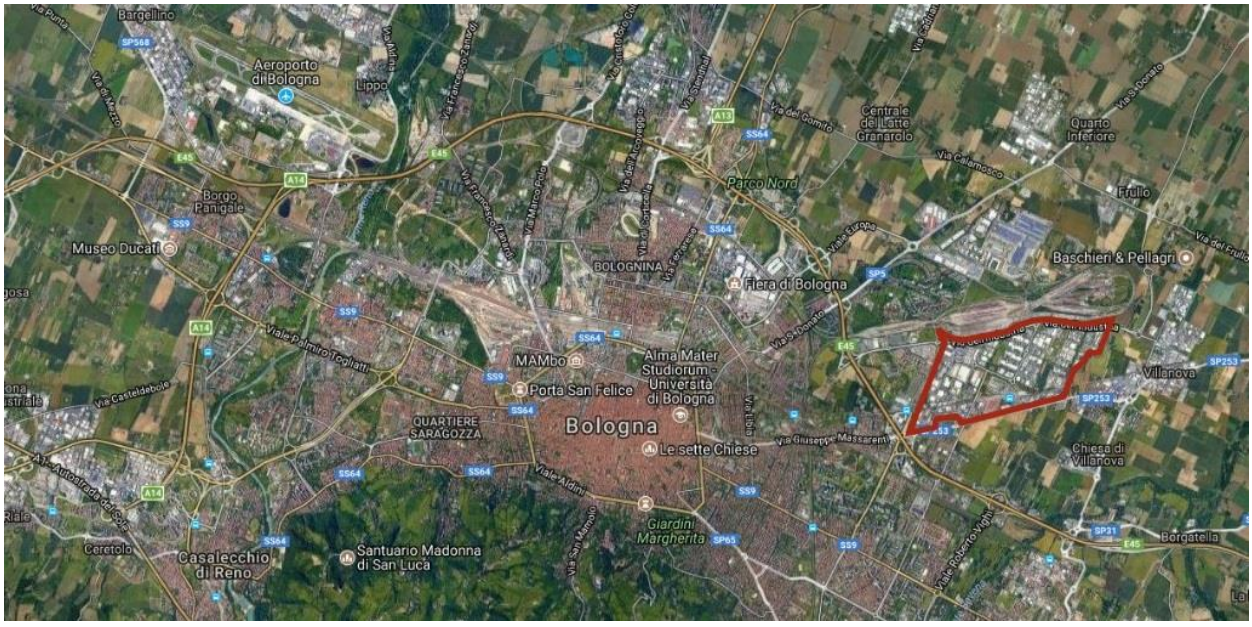
- The Roveri railway station, recently reopened and improved, serves the Roveri and the FICO areas
- Facilities like restaurants, self-services, B&B
- The opening of a service centre

The Roveri area represents a typical local industrial area built in the seventies near the urban areas and now embedded in the city. This kind of areas are called "transition areas", and they are potentially involved in renovation, requalification, development or regeneration process in order to increase the functionality and the attractiveness.

### 3.2.2. Location and key facts

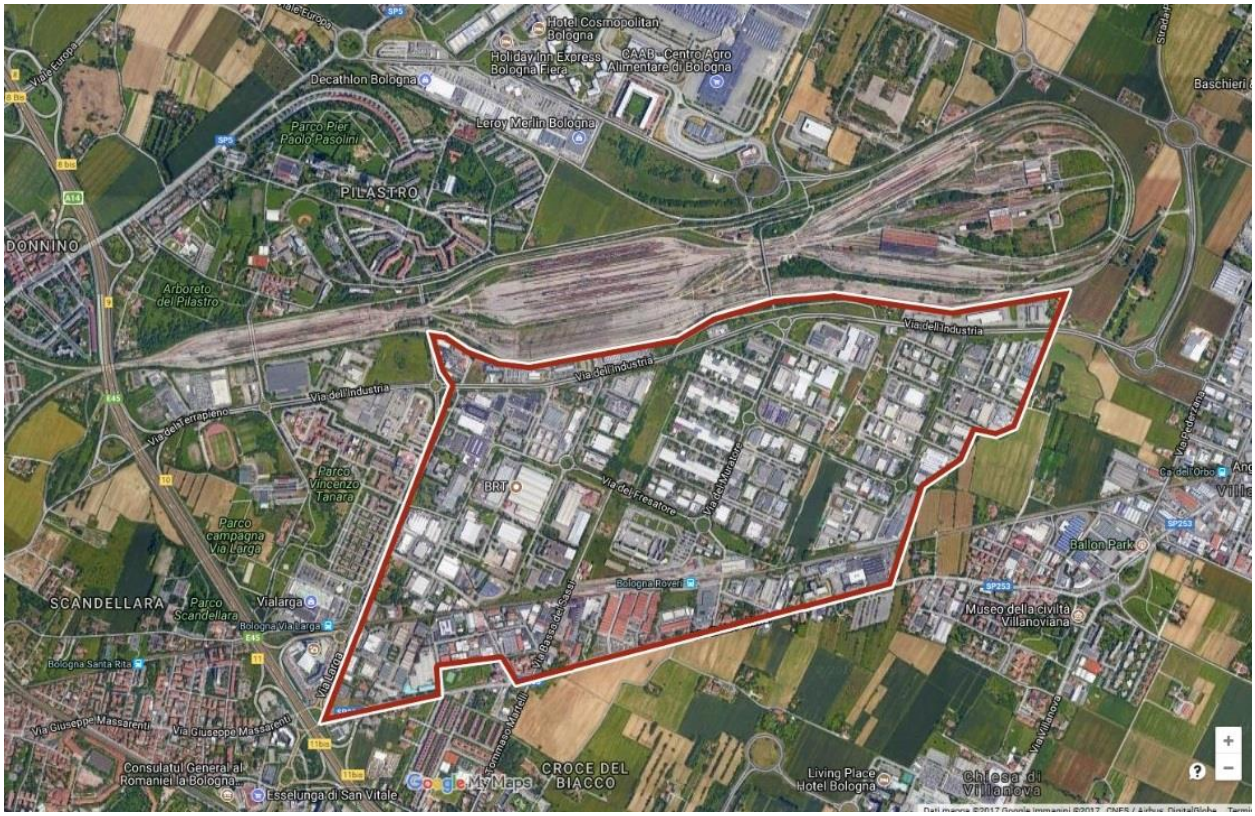
The Roveri industrial area is located in the outskirts of the city of Bologna near the highway. In the seventies, when this area was built, it was in a marginal position. During the last 50 years, the city has expanded, embedding this area into the urban area. The area can be classified as "big area" compared with the medium size of industrial area in Emilia-Romagna.

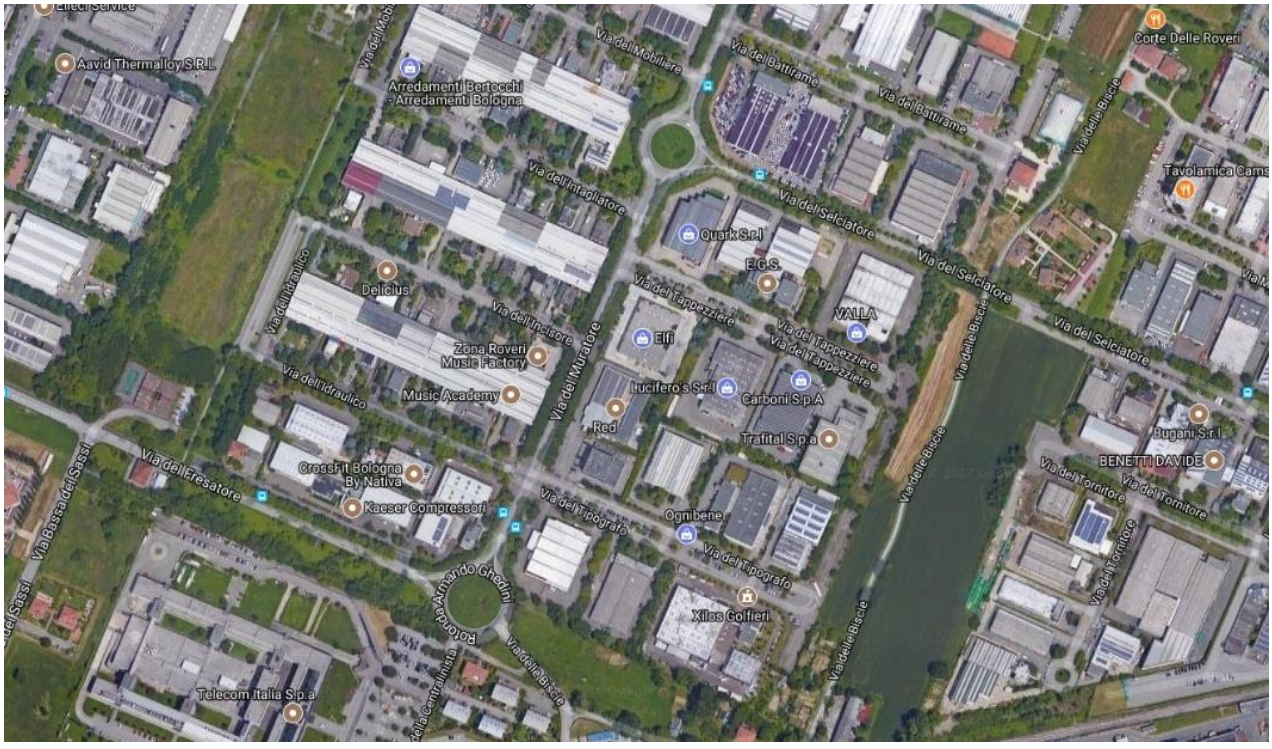
It is located in a strategic position; there are two highways nearby, the A14 highway connecting the north of Italy (A1) with the south and the A13 highway connecting the north east of Italy. Other important infrastructures near the area are the Bologna Ring road, the main local road and a local railway with a station inside the area. This area is also well connected to the Bologna airport (reaching in less than 20 minutes) and is closed to the Bologna Exhibition Centre which leads the regional trade fair system with several international trade fairs.




The Roveri area is one of the first example of industrial area built with a master plan; with zones planned for the industrial activities and zones for artisans. It is possible to see the different size of these buildings in the picture. The streets are wide according with the heavy traffic serving the

manufacturing companies. There are many green areas, some of them for recreational activities. The settlement is still efficient despite the great changes occurred over time.



Currently there are about 200 activities in the area, including manufacture and handicrafts SME's, different kind of services, shopping centres and recreational activities. Many building have changed their original use and we witnessed a transition from industrial to service destinations.

| | |
|---|---|
| Urban centre (population, n. inhabitants) | 390.000 |
| Area ($m^2$) | 1.998.000 |
| Number of settlements | About 200 |
| Position | in the outskirts of the city |
| Type of enterprises | Industrial/ crafts (SMEs), services, shopping centres, sport and recreational activities |

### 3.2.3. The needs for renovation of the area

The Roveri industrial area is facing many changes in the last fifty years. It is important to identify the main needs of the area.

The integration between industrial and urban areas is an important issue; the Roveri industrial area was planned with a general idea of efficiency for manufactural and handicrafts activities, but over time, different activities replaced the original ones without an organized plan. Currently, there is a mix of different activities in the area, including shopping centres, recreational services (sport, arts, leisure) and business services. This implies that there are different kind of users of this area.

The ease of accessibility to this area is one of the major need; the wide street planned for trucks, are now used also by private vehicles, including cars, scooters and bicycles. There is the need of road maintenance due to the heavy traffic, but also different accessibility infrastructures, like bike paths and sidewalks, are needed.

The public mobility is very poor, there are just a few bus lines reaching the border of the area while the recreational and sport activities settled in the area need more. The railway station inside the area has recently been reopened and it represents a good starting point for the public mobility. It connects the city centre with Portomaggiore, a municipality in the Ferrara province, with a local railway line. As mention before, there is a project to connect the railway station to the rest of the area with electric bike sharing in collaboration with FIVE (Fabbrica Italiana Veicoli Elettrici).

Security is another important issue. The 80% of the companies in the area have their own security system, providing only one or two rounds per night. A shared security system instead will guarantee a continuous monitoring all night long, with full time private security teams. About 40 companies are enough to reach the goal. Currently the number of company with a private security service is bigger, so it is a matter of organization and sharing the needs.

### 3.2.4. Activities performed during Go SIV project and outcomes

Go SIV activities supported the ongoing process for designing and implementing a process for requalification and upgrading of the area, started in November 2016 as a bottom up initiative and developed under the branding "Roveri Smart Village". The initiative "Roveri Smart Village" has been promoted and coordinated by ENEA-Italian National Body for new technologies, energy and sustainable development and Confindustria Emilia, the industrial association representing the enterprises of the provinces of Bologna, Modena and Ferrara, in Emilia-Romagna.


Other actors are collaborating to the initiative, among them:

- The municipality of Bologna
- The Bologna metropolitan area Authority
- ERVET , the Emilia-Romagna Regional Development Agency
- Other regional agencies
-

Roveri Smart Village is including in a common framework different instruments and projects. In specific, main activities performed till now refers to

- stakeholder engagement. "Three steps for the Roveri" is a specific initiative for involving companies located in the area through workshops hosted by the different enterprises, facilitating participation and discussion about renovation objectives and measures, drafting of a renovation plan with specific objectives. Three different workshop were held between October and December 2017, resulting in a survey, discussions and proposals about needs and expectations connected with the renovation of the area, and 24 thematic actions envisaged identified- (see paragraph 5.2 for a more detailed description);
- governance. Activities, from the beginning of the initiative, included involvement of local and regional authorities -including the urban district council- and, later, the formal establishment of a coordinating board composed by the municipality, the metropolitan authority and the regional government. The coordinating board will support at the institutional level the process for the requalification of the area, and will dialogue with the associations, enterprises and other local stakeholders;
- Development of thematic projects for supporting companies and the competitiveness of the area as a whole. During 2017, 2017 and 2018 the promoters proposed and implemented different projects, with special focus on the environmental sustainability issues and social issues. In specific, they produces a survey about energy consumptions,

practices, energy efficiency measures, and first level energy audits of companies. Other specific meeting and trainings focused on the concept of circular economy and the possible synergies about the flow of materials between companies.

Roveri Smart Village also includes the implementation of the "Functional map of the Roveri area" (see paragraph 3.2 for a more detailed description) as a tool or service for promoting the upgrading and attractiveness of the area. The mapping has been implemented by Confindustria Emilia and ENEA together with ERVET and other regional actors, with the aim to increase the knowledge of the current situation of the area. The first step before carrying out any activity was studying the current situation of the area in order to know which companies are settled in the area, what they do, which buildings are empty. The main purpose of this tool was therefore to give an overall picture of the area, putting together different information. We have a lot of information about a certain part of the area while others are mostly unknown, this gives a distorted view of the territory. An objective representation of the area, scalable and implementable with other information, is needed to fully understand the needs of the area as a whole.

In the case of Roveri area the functional mapping allowed to know the exact number of enterprises settled in the area, the dimension of them (size of buildings and number of employees) and their activities. This knowledge, from the geographical point of view, allows to identify potential critical issues, or on the other hand, opportunity, as for example, collaboration between companies.

During 2018 and 2019 the Roveri Area will be involved also in the project BEST. The project is financed by the Climate Kic initiative (an international initiative funded by the EIT-European Institute of Technology) and leaded by TNO, a Dutch research centre). It will work both in the Netherlands and in Italy, and in specific will develop testing activities on two industrial areas located in Emilia-Romagna (Roveri industrial area and Ponte Rizzoli area, this latter located in the surroundings of Bologna). The activities will promote energy efficiency of companies, and in specific will develop knowledge of energy consumptions at single company level through first level energy audits (energy check-ups). Moreover, the project will study and in some way experiment solutions for creating synergies and energy exchanges between companies in the same area or district, going towards kinds of local energy networks. Therefore, energy efficiency tools and facilities as well as knowledge about energy consumptions are discussed as relevant elements for the requalification of an area, and common energy services as possible useful services for supporting competitiveness and innovation of companies.

Go SIV activities directly observed and directly supported all Roveri Smart Village activities and projects. Many different meetings with local stakeholders took place in Bologna and a special focus group with technical and institutional actors deepened the needs for renovation and upgrading of the areas as well as possible tools to support innovation of companies. Further local meetings focused on the application of the Go SIV model to other areas and how to capitalize the tools implemented in the Roveri case study. Go SIV also directly supported the implementation of the functional map. Moreover, a specific collaboration between Go SIV and Best project was established.

## 3.3. Industrial Zone Horta das Figueiras, Evora (Alentejo, Portugal)

### 3.3.1. The story of the area

The city of Évora is the economic and administrative centre of the Alentejo region, which occupies more than 1/3 of the country. The economy is based mainly in the Services sector, with great weight of the University of Évora and the decentralized services of the Central Government.

Industry is also very present in the economy of the city, mainly in the sector of electronic and electromechanical components and construction.

One of the new Portuguese aeronautical clusters settled in Évora, with the Brazilian Embraer as anchor. Several other aviation companies have already installed or will soon install manufacturing units in the Aviation Industry Park of Évora (PIAÉ). There are also in the city the Industrial and Technological Park of Évora (PITÉ), the Industrial Zone of Almeirim (North and South) and the Industrial Zone of Horta das Figueiras.

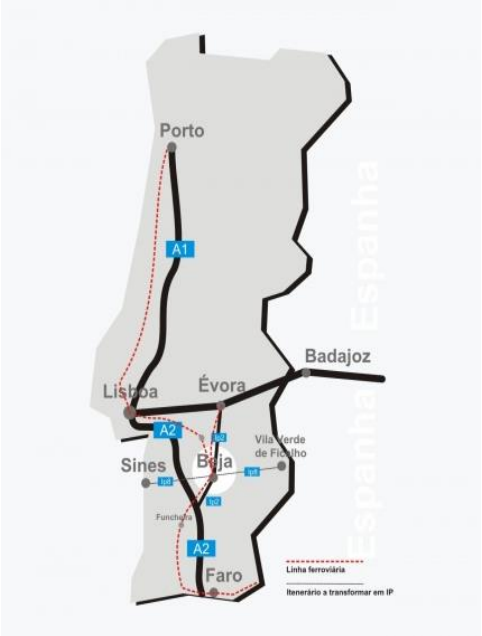
The Évora Town Hall acquired PITÉ in 1990, with only 10 companies installed. PITÉ is an economic development centre that aims to strengthen the industrial and logistic capacities of the municipality, invest in the modernization and dynamisation of the economic sector, attract investment, strengthen the municipality and promote the installation of industrial units.

It is clear that there is a clear business growth in the main locations of the territory, due to its size, competitiveness or geographical location, clearly visible in places where there is a cluster effect, such as Évora, Vendas Novas, Sines or Elvas / Campo Maior. In Évora, in the PITÉ and PIAÉ parks,

there has been an increase in new investments, in key sectors for local development and high technological intensity / human resources. It is important to take advantage of this growth and make the investments resilient and durable, by establishing the respective supply chains in the territory, consistently and integrated in several locations.

### 3.3.2. Location and key facts

Évora is located in the centre of the Alentejo region and is, due to its geographical location, an important communications hub.



### Road transport

At the road level, the following main axes serve the city:

- A6 - Route that connects Lisbon to Madrid and has two nodes connecting to the city (East and West)
- EN 114 - Évora / Montemor
- IP 2 - Route that connects Bragança to the Algarve through the interior of the country. In the municipality of Évora is still under construction
- EN 18 - Évora / Estremoz
- EN 18 - Évora / Beja
- EN 254 - Évora / Redondo
- EN 256 - Évora / Reguengos
- EN 380 - Évora / Alcáçovas
- R 254 - Évora / Viana
- R 114-4 - Évora / Arraiolos

The Évora Bus Terminal is the headquarters of the "Rodoviária do Alentejo", which ensures the city's connections with various points in the region. In this terminal also operates the Expresso service, which connects the city to all regions of the country and also international regular lines.

### Rail transport

An on-line electrified train, linking Évora to Lisbon and the rest of the country by the Intercidades service, does rail transport.

### Air Transport

The city also has a Regional Aerodrome, with asphalted and illuminated track, where several services work, including a school of Parachuting. The nearest international airport is Humberto Delgado Airport in Lisbon, about an hour from the city.

### TREVO - Transportes Rodoviários de Évora

Urban transport is provided by TREVO (Évora Road Transport), linking the city's many neighbourhoods with the centre and with the Industrial Zones, Hospitals, Schools, etc.

### Key facts

The modern investor is currently very demanding in choosing the location to make their investments. In addition to the traditional criteria, it includes digital accessibility, the quality of spaces and the availability of highly specialized and qualified human resources. It is important to consider, for most business reception areas, their qualification at the level of common spaces and services and the availability / quality of the available technological services.

Alentejo is currently one of the regions with the greatest potential for economic growth, based on its endogenous resources, regional assets, subsoil wealth, new products resulting from the irrigation of specialization, which is associated with innovation and technology employed, and existing

knowledge network. This new reality entails territorial challenges of training and creation of spaces for business reception and respective industrial zones competitive at national and international level, adequate and adjusted to the intelligent specialization of the territory.

The transfer of technology promoted by interface agents such as ADRAL, PACT and NER has contributed decisively to leverage projects of greater technological intensity. Services such as FABLAB (www.fabfoundation.org) promoted by ADRAL at Évoratech allow companies to support rapid prototyping projects for new products, the result of which can contribute to the innovation and competitiveness of small businesses. The Alentejo Science and Technology Park (PACT), of which ADRAL is a founder, plays a leading role in the interface between business initiatives and the most relevant knowledge centers of the regional ecosystem.

ADRAL is consistently supporting technology-based investment, such as DECSIS investment in a state-of-the-art Data Centre, the installation of the AED Cluster in Évoratech, as well as support for the development of new projects. New technology-intensive initiatives such as a Business Accelerator in Critical Technologies, Energy and Mobility by ADRAL, an advanced ICT Services Centre by DECSIS, and other regional-based initiatives in highly-developed clusters are currently under development in Evora. qualified as e-Health, Cluster AED, ICT and Agro-food.

### 3.3.3. The needs for renovation of the area

It is not possible to attract new investments without providing high quality digital services, where the models must be flexible and tendencially based on condominium models of services that leverage their quality.

In addition to high-speed Internet access (> 100Mbits), it is urgent to implement services that support SMEs in the digital transformation of their businesses and to meet the challenges of the European Digital Single Market. ADRAL has in its strategy to support the municipalities and companies in their digital transformation, having for this purpose established several partnerships with a view to the development of a Digital Agenda of the territories.

Many industrial zones in the Alentejo were created in the context of the need to relocate small workshops and some industrial activity from the urban centers of towns and cities to these industrial spaces, many of which were characterized by small lots.

It is crucial to devise new ways of breaking down barriers and avoid blocking investment and innovation based on geographical location in order to attract firms to a territory with proven capabilities and proven dynamics, but where some gaps can lead to loss of competitiveness when compared to other locations.

ADRAL has directly supported some Municipalities of the Alentejo in the shared management of Municipal Business Centers and in organizing and training to support business dynamics, with the

creation of GADE (Economic Development Support Offices), key elements of the companies and new investors in a professional way. These qualified teams ensure key functions at the municipal level, such as:

- Make an investment dossier at the municipal level;
- Disseminate the potential of the municipalities to promote / strengthen the economic base;
- Promote actions to attract new investors and support the installation of new companies;
- Provide information on funding lines for national and community programs;
- Ensure the collection and treatment of economic and social elements, with a view to establishing databases for the provision of information to economic agents and the definition of public policies;

The investment decision is currently based on multidimensional criteria in choosing the location for your project. In addition to a concern with costs, geographic positioning and logistics chains, factors such as the availability of digital services, quality of spaces and reception areas, shared services, capacity for growth and scale, and a strong regional and local level at the political level. In order to respond to these concerns, it is necessary to create integrated responses, in a network, by the municipalities and the interface organizations (ADRAL, Local Development Agencies, Alentejo Park of Science and Technology and Business Centers).

The establishment of integrated subregional business reception systems, combining several industrial zones or business parks, in the creation of AAE (Business Reception Areas) of common and homogeneous services in any location, will contribute to increase the attractiveness of Alentejo as a whole and, necessarily, the locations specifically designed to welcome companies. It is fundamental to capitalize on the principles of competitiveness, but also on territorial cohesion, the opportunities that recur to us throughout the territory, by designing complementary and specialized solutions for each type of investment.

The sub regional AAE's should be modern areas of business reception, allowing a new paradigm of infrastructure and service management, contributing to better and more diversified services to the companies installed, as well as better promotion and territorial marketing.

The development of sub regional AAE's allows the improvement of the local ecosystem, based on common management of infrastructures, with effective sharing of business development support services, fostering the relationship with the Regional Technology Transfer System and the induction factors of innovation , reinforcing the territorial comparative advantages. These AAE's should streamline processes and organize condominiums from the infrastructural point of view and the provision of basic services. They must provide access to services and goods of science and technology, of interface and proximity to centres of knowledge, the development of network economies that generate synergies and greater critical scale, incubation of entrepreneurial activities, as well as marketing and promotion, in an active commitment to the regional or local development in which they are inserted.

### 3.3.4. Activities performed during Go SIV project and outcomes

The Go SIV project gave us the opportunity to discuss important issues regarding the improvement of our industrial zone, as well as discussing solutions and good practices that can be implemented there. Through local activities defined in WP4, as focus groups with our main stakeholders in our region, we had the change to sit and talk about the needs stakeholders feel regarding our industrial zone and suggest some solutions.

The International Peer Learnings, which occurred in each partner area, provided us with a comprehensive knowledge of the responses that already exist in the different industrial zones and allowed us to present innovative and technological solutions that have already been proven and tested successfully.

The final workshop was also an event where we get to show to our partners and stakeholders what solutions we are thinking about and which good practices exist and had been implemented here and are successful. Unfortunately, the main stakeholders could not attend.

During the development of this project, we achieve some important goals that will help us in future projects like Go-SIV. We acquired information about various development models that can be applied to our industrial zone, knowledge of barriers and ways to overcome them and we were able to reinforce the link to the closest stakeholders, which will be the key for further cooperation.

We believe that our case study presents an innovative approach, based on trends and the needs identified and confirmed by the recipients and will be the door to new projects and support from the EU (including funding for chosen activities). Despite of realize resilience towards innovation and lack of trust as well as limited human resources to respond by stakeholders to the needs identified, we strongly believe that this outcome could not be more positive.

One of the major challenges facing the region is the capacity of capturing and retaining people and critical mass in the territory. In this context, it is important firstly to raise awareness internally and externally of the new opportunities, potentialities and assets that Alentejo has today, well referenced in the strategy of EREI, many of which are differentiators, and therefore of added value, to which it associates the quality of life, safety, proximity to important urban centres, a strong cultural identity, and the excellence of the training offered across the entire territory of Alentejo.

ADRAL, in the context of the strategic repositioning process of its activity affirmation, intensifying the promotion of Alentejo Development adapted to the new territorial, national, European and international challenges, referred to those that will be its main areas of bet since 2019, in particular:

- The external promotion of the region and internationalization;
- Development of regional strategic value chains;
- The European Digital Agenda;
- The qualification and management of corporate hosting infrastructures.

In this context, part of the great challenges of the territory, necessarily go through their ability to work in a network, which guarantees, enhances and enhances the regional assets, and the differentiating criteria of the Alentejo. In this regard, ADRAL has an aggregating and differentiating role as an entity that incorporates global activities, being the only organization that crosses the various economic sectors, representing the entire Alentejo.

# 4. The "Smart Industrial Villages" model

The present chapter describes the simple model that Go SIV partners developed as a reference scheme to analyse the local case studies and design the activities implemented at local level to support the process for renovation, upgrading, regeneration of the areas.

The local case studies involved different kinds of urban industrial areas, with different kinds of features connected with an ongoing process for renovation, upgrading, regeneration. For each of them, meetings, focus groups or workshops at local level deepened opinions and points of view of local stakeholders about

- needs and opportunities,
- stakeholders to be involved in the process and their possible role;
- how to involve and give pro-active role to existing or new enterprises; services, infrastructures or management issues to be considered as basic requirements to assure the capability of the area to serve as a modern, contemporary and integrated part of the urban context.

For instance, here is a comparison of three different areas included in the case studies in Italy, Poland, Portugal.

| Area | Area Roveri Bologna (Italy) | Area Nowe Miasto[5] Bielsko-Biała (Poland) | Area Horta Das Figueiras Evora (Portugal) |
|---|---|---|---|
| Urban centre (n. inhabitants) | 390.000 | 175.000 | 56.000 |
| Covered area ($m^2$) | 1.998.000 | 47.000 | 164.000 |
| Settlements for enterprises (n.) | About 200 | 16 | 65 |
| Position | in the outskirts of the city | Inside urban centre | Outside the city centre |
| Types of enterprises currently settled in | Industrial/ crafts (SMEs), services, shopping centres, sport and recreational activities | Services, Tertiary, Crafts, sport activities | Mainly commercial activities |

Area Roveri, in Bologna, is a big area located in the outskirts of the city, whose relation with the urban centre is becoming more and more intense and articulated over time. The area is still and industrial area, but new different activities are settling in. The connection with the closer residential

[5] not included in this document due to the private initiative of the revitalisation

neighbours is also becoming more and more intense. Therefore, the areas should have basic requirements to be effectively an integral part of the urban context. At the same time, new and innovative companies settled in the area. They can collaborate together and also be active part for the upgrading of services of the area as well as for identifying the area as a good environment for company innovation, especially in the field of environmental and energy sustainability.

Area Nowe Miasto, in Bielsko-Biała is a small former industrial area now integral part of the city centre. A few year ago private entrepreneurs started a project for the recovery and the regeneration of the previously existing and then abandoned big industrial settlement. Now the restructuring and modernization of buildings is almost completed and the area aspires to be an integral part of the urban context hosting bars and commercial activities, sport and leisure activities, new enterprises and social spaces. It can be considered as a kind of model for other areas in the city.

Area Horta Das Figueiras was the main industrial area serving the city of Evora, very close to the historical town centre. In recent years, many industrial activities moved to other areas or closed and the area changed from a mainly industrial site to mainly commercial business and commercial parks site. A new industrial area was established not far from the city centre. New companies and new services for companies settled in there. It was composed as a cluster of small and medium mainly innovative enterprises having the support of technological laboratories or service centres. Horta das figueiras became a new commercial area serving the city, including other services for businesses.

These three different cases suggest that there are different possible ideal models of urban industrial areas, although every case should be read as a unique one. It is possible to identify some reference models. The study of more and more case studies can lead to a better definition of different models. Here is a possible initial identification of reference models according to only three cases.

| Model | Model 1 | Model 2 | Model 3 |
|---|---|---|---|
| Size of urban centre | Medium / Large | Medium | Small |
| Area extension | Large | Small | Media |
| N. settlements | Large | Small | Medium |
| Location | Urban limits | Inside urban centre | External to / urban limits |
| Origin / Design | Planning– Master plan | Regeneration | Planning– Master plan |
| Destination / use | Mainly industrial | Commerce, Tertiary, housing | Industrial |
| Ref. case study | Area Roveri | Nowe Miasto | Horta Das Figueras |

The study of different cases of urban industrial areas, their evolution over time and the needs and opportunities connected to their renovation, or upgrading or regeneration process can bring to identify different possible situations connected with the different models of relation between the

urban centre and the industrial area. Here is an example of possible representation of needs and opportunities, which does not intend to be fully exhaustive.

| Model 1 | Model 2 | Model 3 |
|---|---|---|
| • Assure basic services (security, management of accesses)<br>• Activate social-family services (schools, kindergardens)<br>• Create and feed the Community of area<br>• Assure a continual institutional support<br>• Lab for solutions/product of companies of the area<br>• Qualify the area on specific issues (sustainability, efficiency) | • Assure accessibility of private entrepreneurship<br>• Support handcrafting / creative activities<br>• Promote new commercial / industrial activities<br>• Support innovative startups<br>• Obtain public external funds<br>• Branding | • Assure services and occupational basin for the town<br>• Update digital infrastructures for companies<br>• Develop logistic solutions<br>• … |

This analysis can lead to identify a common set of key elements for competitiveness, attractiveness and functionality of the areas and understand that they are possibly connected with the design, initiation and maintenance of specific instruments or services for supporting innovation of enterprises.

In the Go SIV model, three simple dimensions are identified in order to describe the features of the different instruments or services, the requirements for their proposal and preparation, and the potential impact of initiating services or instruments for supporting innovation: They are the following:

- Industrial and Post-industrial issues. It refers to the main issues of the enterprises or the urban and social context the local stakeholder wants to give a solution to, promoting the process for the renovation or the area. It may refers mainly to
    - Specific issues for the competiveness of the enterprises and the qualification of the area as industrial cluster (i.e. issues connected with modifying processes according to industry 4.0 principles and opportunities) or to
    - specific issues of the local socio-economical context such as creation of jobs or increase green urban areas or leisure spaces, or to
    - Specific issues of the single urban areas or district as a part of the city (especially in the case of regeneration of the area which changes its vocation from mainly industrial to commercial, or residential):

- Governance and stakeholder engagement. It refers to the need and the opportunity to manage a renovation process, to involve all the most important local stakeholders (which

can be promoters, supporters or active parts of the initiative) and assure a positive impact on their purposes through specific initiatives and services. It may refers to:
    - Public administrations at the different levels
    - Private actors with institutional rose (i.e. association of enterprises)
    - Public actors with technical roles(agencies, research bodies,
    - Private single actors and citizens;

- Basic services and infrastructures. It refers to the assurance of the basic requirements and basic structures that should characterize a contemporary (or "smart") industrial or post-industrial area in an urban environment. They can constitute basic requirements for assuring the capability to start specific services for enterprises (i.e. digital networks) and be strongly influenced or supported by the activation of the initiatives themselves. They can refer to
    - basic requirements (such as accessibility of security) to
    - thematic features (i.e. energy efficiency, circular economy and optimization of waste recovery or materials flows) or to
    - advanced functionalities, more connected with the usual and diffused idea of "smart" (ICTs infrastructures, sensors, interoperability and networks, …)

All these three main areas of analysis and work are the three reference dimensions of the Go SIV model. Through the Go SIV model the designing, initiation and maintenance of specific services or tool to support innovation of enterprises within the process of renovation, redesign, regeneration of an urban industrial areas are evaluated by the means of these three dimensions.

As for the use during the Go SIV project, the three areas of works have been detailed by specific topics of analysis as in the following table

| Industrial and «post-industrial» issues | Governance and stakeholder engagement | Basic services and infrastructures |
|---|---|---|
| • Social issues<br>• Education<br>• Recreational functions<br>• New and young entrepreneurship<br>• Smart services<br>• Creation of Jobs | • Institutional and political level<br>• Enterprises<br>• Associations of Enterprises<br>• Research centres / Universities<br>• Groups of interest<br>• Citizens | • Sustainability<br>• Digital infrastructures<br>• Energy efficiency<br>• Circular economy<br>• industrial symbiosis<br>• Mobility |

The list of topics is not to be intended as exhaustive and complete. Other topics can be added in the future on the basis of new proposals, case studies and good practices.

Therefore, an evaluation of requirements on one side, and of possible positive impacts on the other side can be made on the different services and tools that public authorities, managing bodies and local stakeholders can design and activate to support innovation of enterprises and renovation of the area.

Go SIV partners identified a short list of tools or services for the support to enterprises, on the basis of the local case studies presented and analysed during the project. They described and analysed each tool or service according to a common form and on the basis of the model and the three areas of analysis.

The following paragraphs of chapter 4 describe in detail the different topic of each area of analysis according to the model. In specific paragraph 4.1 related to the "Transition" issues and paragraph 4.2 relates to the "basic services and infrastructures" issues.

The basic set of tools and the schedules with description and evaluation are reported in chapter 5.

All the elements of the simple model built and tested within Go SIV and here described (models of urban industrial areas to be renovated, needs and opportunities connected with renovation, topics of work within the different areas of work, etc.) are to be intended as not exhaustive. Go SIV model can be improved and enlarged over time through new case studies, experiences, proposals, ideas.

## 4.1. Transition issues (post industrial, industry 4.0 and other)

As already mentioned above, there are many consequences of the withdrawal of business and industries from the area. The local community can be affected in many ways. Mitigating the negative impact should encompass many layers of the ecosystem. When the revitalization programme is prepared it should tackle various problems in the complex and cohesive way: social issues have mutual impact on the health, employment, education, crime level and, obviously, on wealth and – what is much less obvious – on the environment.

### 4.1.1. Social issues

The direct effect of the withdrawal of business, the job loss and wealth deterioration affect the general life style and the approach to the place of living. Sad statistics showed that during the recent global economy crisis in 2007-2009, the level of persons affected with the depression grew and the number of suicidal attempts increased dramatically. Homelessness, addictions to alcohol and drugs and to tobacco also record increase in negative indicators. The estates abandoned by the withdrawing companies are degrading and fall into ruins. The places avoided by the community can encourage crime, they can be also used as temporary shelters and toilets. With the waste and neglect, the health hazard can also arrive.

Past the economy crisis of 2008, the Custom House in Dublin, Ireland, a jewel of neo-classicism architecture was commonly used for several years by increasing number of vulnerable persons – victims of the crisis. Visited several times per day by Garda (Irish police), it maintained was a place of the bad fame and bad appearance. Employees who worked in the offices complained about the conditions including the noise and stench. When only the harsh austerity of the governmental expenses was relaxed, the Custom House arcades were thoroughly cleaned and renovated and the Visitor's centre was opened in 2016 to commemorate the anniversary of Irish Independence. Restoring the tourist traffic was a part of a complex revitalization plan for the wider district of Dublin's Northern Docks and Inner Dublin.

Among the tools used for the revitalization of the post-industrial areas, there is social support for the strained families, programmes for unemployed to upskill persons who struggle in finding the job or to give them the opportunity to acquire new skills and competencies. Municipal social welfare and employment offices should be also invited for the close cooperation. These measures support the community effort in searching for the job and employment opportunities, including own business initiatives. Social enterprises are one of the solutions, which were also employed in the case of Wapienica within one of the projects co-financed from the national support programmes.

However, before the district faces the degradation and is challenged by social problems arising from the withdrawal of the economy engine, preventive measures should be applied. Used already in 90s, programmes for outplacement can be created and offered locally. The corporates, which are socially responsible, offer the employees various solutions including funding for various types of training, mentoring for startups and sessions with psychologists to deal with the stress of the change. Ideally, these programmes were implemented in cooperation with local governments. Thus, the negative impact can be minimalized – or in some cases avoided.

### 4.1.2. Education

An obvious factor improving the job market and increasing the chances of inhabitants for a good job is the education adjusted to the requirements of the existing or potential investors. The education should be in line with the local development strategy and smart specializations. It also should include cross cutting skills such as the general and specialized ICT skills,.

The traditional model of vocational and third level education tends to lag behind the job market trends; hence the special role of all institutions offering the vast scope of the additional trainings building specific vocational skills of active employees supporting their adjustment to the changing tasks (e.g. operating CNC machines, 3D modelling, change management or social media marketing). Due to the rapid changes in the technologies, the tailored training is most effective. While the big corporates have funding and infrastructure at their disposal to upskill their employees,

the training centres availing the equipment and expertise in a flexible manner gain more and more meaning. Thanks to them, even SMEs employees can acquire unique competences at the relatively low cost born by the centres.

The high cost of the equipment or software is, however, problematic and can rarely be covered from the fees for the training. This is why centres such as fablabs are maintained by the foundations and sponsors – often big socially responsible companies aware of the benefits of investments in the local workforce and the community. The European Union also dedicates significant funding for establishing and maintaining the centres. Universities and vocational schools are frequent hosts and founders of the training centres and other extra activities, which constitute a stimulus for creativity and innovations.

The important factor is to create and maintain the link between the education and business sector – on one hand this helps in creation of the practical specialisations and syllabuses aimed at the skills required by the future employers. On the other hand the business entities support the education system not only by funding but also for example by inviting apprentices, system of grants, competitions for innovators and startups.

### 4.1.3. Recreational functions

The recreation functions stretch from sport through art, culture and hobbies of all sorts. The meaning of them is also multilayered. Whatever the preferences are, the community members need activities to fill their leisure time to boost their mental and physical health and to find additional inspiration for other activities, enhancing their knowledge and views. The innovations are born in various field and they can be carried over for the overall improvement of the life quality and with benefits for art, sport and industries.

The attractive offer of after-hours / weekend activities support the social inclusion, increase tolerance and trust to others, helps to build the community spirit and also helps to lower the crime level. Adjusting local areas to the recreational functions such as organizing playgrounds for children or sportive facilities, bike paths or even parks and flowerbeds creates the local patriotism (compare the German concept of motherlands or little fatherlands) by building the personal identification of individual citizens with the place of living. Such solution was used among others in Wapienica – after organizing green areas in place of previous fallow lands, the local community increased their efforts in maintaining the district clean and tidy.

The Coalition for Wapienica in Bielsko-Biała, Poland, was created by the representatives of the district to cooperate together on many projects, acquire funding and step forward to influence decision processes regarding the district and the municipal planning related to this area. Thanks to the cooperation and mutual support, the district enjoys many cultural events like the concerts of a local chorus, performances of the dance groups from the local culture centre,

meeting and tours for seniors and open events for all inhabitants and tourists like the Day of Potato with a bon fire and possibility to bake own potatoes in a jolly company. Thanks to the efforts of the Coalition, municipality undertook activities of the support for homeless people who were finding the temporary accommodation in the council buildings. The persons were offered the permanent social housing premises on the preferential conditions – in line with the city programmes and regulations. Events like Days of Cleaning Wapienica were also organized for several years and enjoyed growing numbers of participants. The event gathers inhabitants, builds up their local patriotism and the feeling of responsibility for the common habitat. Such activities result in the growing attractiveness of the area for young people to settle down and also attracts citizens of the higher wealth level.

The leisure infrastructure is one of the choice factors for choosing the place for one's home. The example of the high meaning of the leisure facilities are multiple rankings as well as actual investments. Due to the Brixit, many corporates were looking for areas for their new headquarters. The leaks from management's discussions published eagerly by the media revealed that preferred locations included – among others – cities where inhabitants could take part in sport, cultural and art events above those, which offered lower costs of operations and living. Another proof of the role of recreational functions are vouchers offered by the best companies to their employees as a factor building the loyalty and binding the staff with the employers.

Hence, development of the recreational infrastructure supports strongly revitalization and is one of the tools preventing depopulation

### 4.1.4. New and young entrepreneurship

In the competitive job market with the increased unemployment rate, employers tend to choose persons with experience and wit the set of skills and competencies best matching the requirement of the offered job. Young people after schools or studies have smaller chances to find the job, especially the one, which would allow them to settle down and establish the family. This creates a vicious circle in the postindustrial areas, where many persons who lost their job are active on the market. The best employees may leave looking for better conditions and higher salaries while the local offer occurs poorer as for the job choice, employment conditions and the salaries. There is little to attract talents or young talented persons who do not have any financial back up for starting a new life. Hence, the loss of young talents is probable and frequent. This in turn discourages employers and investors who would be looking for a highly motivated and educated crew. This causes the risk of depopulation, further withdrawal of investors and deterioration of life conditions and decrease of wealth. Such phenomenon is observed already in remote rural areas where the towns practically slowly die.

The local, regional or national government can create incentives such special programmes of co-financing apprenticeship or employment of young persons, tax relief for employers or support in arranging specific education projects to upskill existing workforce for the profile of the investors. Alternative and at the same time a complementary activity is to encourage entrepreneurship and business initiative.

> In February 2017, Inn:Poland released an article, in which they claim that the percentage of startups surviving over 2 years is nowadays much higher than 10%. The key to the success is a smart investment – the support they can receive from specialized funds, organizations or business angels. The acceleration of introduction of the idea to the market grows thanks to additional funding and mentoring to 50% or more. The Founder Institute detected the ratio of 89% of the success among the startups, which used additional support already in 2014. Regardless the advantageous economy and sector conditions, the financial and mentoring support is one of the main forces, which increase the startup survival and – at the first stage – encourage young people to set up their own business.

These statistics bring on a simple conclusion that the complex project will bring the strongest results – the support in setting up the company assisted by the technology accelerator.
The determination and the entrepreneurial spirit can also result in more than just one startup – they can initiate a chain of entrepreneurial initiatives. The office space, which is too big or used only for the part of the day can be availed to various persons eager to share the space and equipment – furniture, internet connection, other facilities. The Academic Incubator operating by the University of Bielsko-Biała, Poland, offers such space and some services supporting these beginning entrepreneurs who do not have the capacity and the certainty as for establishing their own firms. The services is paid on the monthly basis and the fee is flat. There are no particular limitations as for the choice of starters other than the legal capacity to sign the simple contract with the Incubator.

### 4.1.5. Smart services

Any undertaken activity for the revitalization should serve the vision and the general plan. The activities carried on in the postindustrial area should be aligned with the development strategy of the district and the city and embedded in the strategy of the region and of the state. In Bielsko-Biała, the City Council cooperated with all groups and invited the quadruple helix to the dialogue about the shape of the future city. The smart specialisations were chosen, which are also adjusted to the strategy of the region and of the country. The bottom up process of creation of the smart specialisations take long time but involvement of all groups adds to the success of the strategy thanks to the commitment and the feeling of participation and the responsibility for the created strategy. This processes are very important on the local level where the group of people involved is less numerous and where the motivation can be undermined by the negative past and the difficult situation. Complexity of activities is one of the necessary features to address not just one issue but

entire ecosystem in all its aspects. At the same time such features as sustainability, natural environment, public interest of various groups, social inclusion should be kept in mind.

Informatics and communication technologies – ICTs – mentioned already before are the cross cutting topic, which is present in our life and in practically all activities and sectors. EU experts identified ICTs as on of the most important sectors driving innovative strong economy. ICTs are also recognized in virtually each local development strategy as the condition of the local development.

In the case of Bielsko-Biała, ICTs are also chosen as a strategic smart specialization. The significant number of the companies operating in IT in Bielsko-Biała and the number of the companies who applied through the RDA Bielsko-Biała for the support confirms the significant role of ICTs for the local economy.

From the ideas submitted to the RDA Bielsko-Biała Technology Accelerator in years 2009-2017, 71% were from IT sector and ca. 30% of capital investment from the supporting funds were invested in the companies in this sector.

The safe, quick and reliable access to the internet infrastructure is basic service for each business premises. Entrepreneurs have their preferences for the usage of the information services and delivery of a joint solution for the market data is not feasible in the case of companies operating in the variety of sectors. There are some services, however, which can be jointly used by the companies regarding for example their operating costs - e.g. energy and other utilities usage, the statistics of the visits on the websites, the databases of contacts with business support organization worldwide are only few examples. The scope of such services depends on the types of the companies served, on their individual needs and the creativity of the providers.

Another example of smart services usage is such a choice of companies in the business park managed or the community in the revitalized area, who could provide the services to other local startups and enterprises.

An active supporter of the revitalization (municipality, foundation, agency) should also look for the common interest and for the possibilities to involve the companies in the wider projects. Such initiatives are often facilitated by European Union through various programmes. In 2017, Regional Development Agency Bielsko-Biała participated in the working group on the concept of big data for SME for introduction of Industry 4.0 in SME sector. The working group was co-financed by the European Union. Involved actors shared their ideas and experiences of the support for SMEs in using big data for their business activities. The agreement was achieved to look for the funding for the project, which would allow to gather data from the production companies of textile and car industries for certain types of quality tests, which would allow to create a benchmark for SMEs and help to follow up with the diagnosis for further development and investments in the production infrastructure. Such project is difficult to implement without a significant external funding due to the complexity. The access to the data, which are collected globally, is often impossible for individual SMEs – and the creation of the database and of the benchmark tools not feasible without the international cooperation.

Creation of the FabLab also tackles smart services. The operations of Fablab are based on the international cooperation and the open source. The software for the rapid modelling and 3D printing also comes from the open source. It is possible to use the ready designs from legal sources, which can be personalized by users and innovators. The users of FabLab services are also encouraged to upload the results of their work to the network and to allow the distribution of them free of charge with the respect for the intellectual property regulations.

Smart services by their nature, the access to the global and big data and usage of ICTs are one of the features of the shared economy. Such fablab as the one in Bielsko-Biała offering 3D printing and designing services is an essence of the shared economy and could not operate without it in a similar form – open for public.

### 4.1.6. Creation of Jobs (social jobs, green jobs, public jobs)

Although the creation of the jobs is associated with the investors, there are solutions, which can go beyond this scheme. They can involve the community initiatives or the governmental intervention. In case of a strong leadership in the community, the inhabitants can establish an organization or an informal structure to support the cooperation between various local groups of interest. Important success factor is to be able to gather representatives of various age groups and of various sectors – education, youth, business, seniors, services – and preferably local government. In case of the formalized structure (e.g. a foundation or an agency), the initiative can reach for funding from the bank or certain programmes (including EU programmes on various levels). Informal groups have less flexibility and they might need to rely on their own funding and smaller scale programmes of the support - most frequently destined for small initiatives and redistributed by the national or regional governments. Both types constitute a lobby, which can put the pressure on the decision bodies for the further support and encourage bigger investors.

The social enterprises see the growing popularity and are a perfect example of the community initiative. A great example of the community initiative could be observed in Italy, where the group of young people acquire an old building of the fire station and restored it with their own work and effort getting from the municipality no more of the support but the permission to use the building. At the moment the interiors are used as business offices, trading place for farmers markets and the social area for local community events e.g. concerts or parties. Several startups rent the rooms for their activities. The building is operated by the social enterprise.

The jobs can be also created by the municipality – local governments usually are in power to set up the companies with the specific purpose and offer the jobs to local citizens. The jobs can have various character, including the development agency, a foundation, a company delivering specific service like arrangement and maintenance of green spaces or cleaning and maintenance of the area. The jobs can be offered to specific groups (age group, social group, students, registered

unemployed etc.) or persons who are sought on the open job market with specific competencies to fulfil specific tasks. The latter can refer for example to legal or social services to the local community.

## 4.2. Basic services and infrastructures

### 4.2.1. Accessibility and sustainable mobility

It is one of the greatest environmental challenges we face today lies in mobility. People need a great and infinite network of vehicles and transportation systems to uphold societies and economies. Cars, busses, trains, trucks and other modes of transport each leaving their indelible mark on the environment. Although walking is the most environmentally friendly means of transport, it is not always possible to do so.

Accessibility and mobility are central to sustainable urban and industrial development. While some big cities across Europe are closing their city centres to cars, or limiting the number of vehicles that can circulate in certain area, it is imperative to find more sustainable alternatives to meet this social and economic requirement.

Another aspect of accessibility concerns its relationship with the economic development in a region. An industrial zone requires a special infrastructure for mobility and accessibility because it will support a large movement of people and goods. This movement will increase proportionally as the economic development of the area.

An industrial zone needs to have good infrastructures to receive all workers, all visitors and all and all vehicles to carry the goods produced there and the necessary raw materials.
Moreover, it should have good access to trucks that due to their size, it requires special conditions. A smart industrial village could provide a smaller equipment/infrastructure to unload trucks and took goods into the company, without the need to have an infrastructure build within that building. It could take a little longer but it would save the roads (trucks spoil the pavement), saving the space that trucks need to manoeuvre.

Alternative approaches focus on transport demand management measures to promote sustainable mobility to improving accessibility. The application of sensors for car parks is a good way to reduce the traffic within this areas. It can work as vehicle limitation.

For public transportation, the easier way to turn it in a sustainable option is to use electric vehicles instead of fuel cars. Companies should also promote the culture of public transportation and sustainable mobility and, as explained in the next section, use some digital platform to share this information even with the transport management company to meet the needs. A good public transportation network is essential.

The use of bicycles is a good way to replace car rides. The question that arises about conventional bikes is that sometimes Industrial zones are out of the city or far from home and it may be a little bit uncomfortable to ride a long distance. An option is the use of electric bikes. But to ride freely across the industrial zone, it is convenient to have bike paths.

Regarding the use of bikes, public transportation could allow the transportation of the bike itself, as many buses already have.

Car sharing services are growing and it can reduce the mark on the environment, maintaining the comfort and privacy public transportation cannot ensure. Again, companies can promote this type of mobility, once the working schedule of people working there it might be the same.

An alternative to the goods transportation is the use of trains. Some post-industrial zones already have rail freights which can be refurbished and used. For the ones already renewed, we can replace the old train for an electric one or a more sustainable model.
Is it known also that the train is much more sustainable than the car or the airplane in terms of: $CO_2$ emissions, energy consumption, use of space (regarding passengers *per hour* and in terms of highway size), or noise levels.

Accessibility is also seen by people with disabilities as a critical aspect of infrastructure that influences their health, quality of life, and ability to participate in community life, so it is necessary to build the appropriate infrastructure. A SIV should have this must have these accessibility requirements already incorporated in buildings, or provide a solution of mobility as special equipment to move around and climb up stairs.

Sustainable urban mobility requires a mind shift: where transport in private cars and trucking give way to different modes of public transport. Like bicycle and pedestrian lanes, electric vehicles, car sharing and rail freight.

### 4.2.2. Digital infrastructures

A Smart City should have a set of advanced digital shared infrastructures that can create a good environment to promote collaboration between citizens, SME and governance bodies. The design of the digital infrastructures must use an integrated goal oriented strategy and an incremental approach that can maximize impact, achieve financial sustainability and recurrent investments. Even at our days, there most cities have an infrastructural divide between analogic and digital infrastructures, resulting inefficient development of infrastructures. Any works done towards improvement of city infrastructures must be evaluate in order to maximize the results and reduce barriers to digital improvements (ex. ducts, fibre placement, connected facilities, connected traffic, connected buildings).

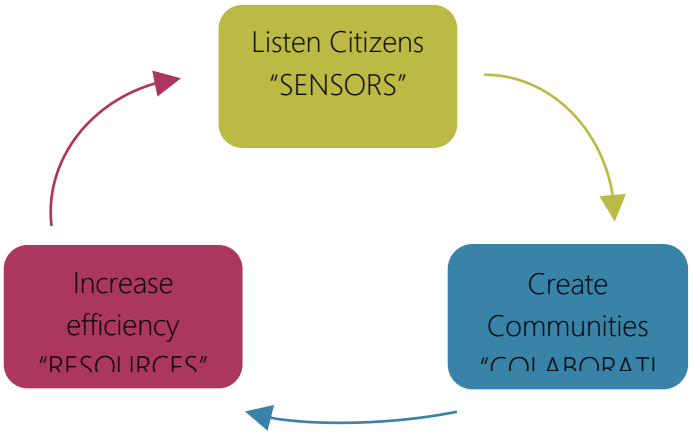
The main stakeholders, public or private bodies, organizations or citizens should address a common vision for digital and smart connected city. The governance must be common and the participation leveraged to create a positive result and resource optimization.

Public and private owned open fibre networks can installed to respond to the needs of SME installed in city areas, with a special focus on industrial and entrepreneurial parks. To the sustainable development of an integrated smart city, a common vision is needed between public bodies and private companies to lay the digital infrastructures to allow the access to technology services and information society. Public bodies can deploy digital infrastructures, can aggregate demand to increase private investments, always responding to a market failure response, an incremental and complementarily response to the demand. It is common to see, in cities and in particularly in low density entrepreneurial parks a market failure to provide SME with the most advanced broadband and wifi coverage. A local and territorial service provider is also something to considerer in order to respond effectively and fast to the specific needs of the SME present in the city.

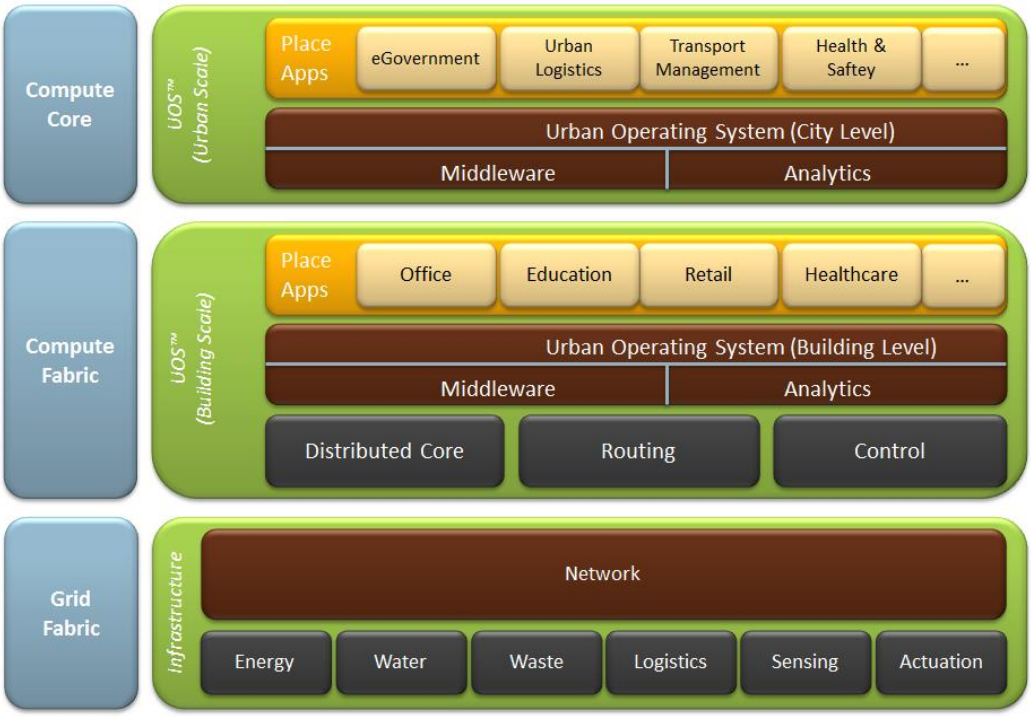
Today, worldwide digital communications and the Internet are becoming the fourth utility in cities (in addition to roads, water, and electricity). Similar to the beginning of last century, when newly built electrical networks were the focus, today's citizens, governments, and enterprise organizations are taking advantage of digital services delivered over the Internet.

Regarding the "smart mapping" of the industrial zone itself, Portugal developed a tool to support the foreign direct investment and is a service that our government, in a partnership with *aicep Global Parques*, provides. It has a mapping of all the business parks and his plots. You can consult it here: http://www.portugalsiteselection.pt/

A smart way to close deals and improving the average efficiency and saving money is by using high quality video conference services. Organizations benefit from increased employee productivity and enhanced communication with partners and customers. This is a digital infrastructure that allows organizations and remote workers to do telepresence communications outside the firewall.



The layers of digital infrastructures can be addressed to respond to any urban service.




### 4.2.3. Energy efficiency

Efficient energy use, sometimes simply called energy efficiency, is the goal to reduce the amount of energy required to provide products and services.

Most of the attention in sustainable urban development has been directed to this sector because the reducing energy use reduces energy costs and may result in a financial cost saving to consumers and companies if the energy savings offset any additional costs of implementing an energy-efficient technology. It is also seen as a solution to the problem of reducing greenhouse gas emissions, one of the main obstacles we are facing today regarding the global warming.

Economically, in many countries energy efficiency is also seen to have a national security benefit because it can be used to reduce the level of energy imports from foreign countries and may slow down the rate of energy at which domestic energy resources are depleted.

Photovoltaic solar energy is the energy obtained by the direct conversion of light into electricity (photovoltaic effect), being the photovoltaic cell, a manufactured device with semiconductor material, the fundamental unit of this conversion process. This type of energy is used to feed innumerable applications and autonomous devices, to supply shelters or detached houses and to produce electricity on a large scale through distribution networks. This

can be installed in companies and used to create electricity in a more sustainable way and to reduce costs, among other advantages.

Examples of energy efficiency tools:

In a commercial site

- Adding to Street Line Networks technology, some other sensing capabilities
  - Humidity;
  - Temperature;
  - Structural Health Monitoring
- Putting photovoltaic panels over the structure that protects the shopping carts
  - Power to the components of the Wireless sensor network that needs it;
  - Enables supermarket to sell extra energy to the grid or use it in any other application

In street lights

- Street Line Networks is a software that deploys sensors and then builds services and applications on top of those sensors information:
  - The sensors are just "glued" to the asphalt;
  - Creates a wireless sensor network;
  - You buy and add time on your smartphone
  - There is an application for municipalities to run the application
  - There is an application for smartphones
  - Guides you to the nearest available parking space to your destination (like a GPS)


### 4.2.4. Circular economy and industrial symbiosis

The principle behind industrial symbiosis is quite simple; instead of being thrown away or destroyed, surplus resources generated by an industrial process are captured then redirected for use as a 'new' input into another process by one or more other companies, providing a mutual benefit or symbiosis.

Circular economy is a strategic concept based on the reduction, reuse, recovery and recycling of materials and energy. By replacing the end-of-life concept of linear economy with new circular flows of reuse, restoration, and renewal, in an integrated process, circular economy is seen as a key

element in promoting the decoupling of economic growth from increased consumption of resources.

In a world where environment issues are increasingly important, circular economy and industrial symbiosis are gaining more importance and are seen as more environmentally friendly alternative. It promotes the use of clean, recyclable and natural materials.

Pellet factory example: This is as simple as using the resources of one company that sees no use in waste and selling to another one where that waste is its raw material. We can see as an example the case of a furniture factory which its waste is sawdust. A furniture factory does not need the sawdust but a pellet factory uses us sawdust as its raw material to produce its product. It is estimated that the waste prevention measures, eco-design, reuse and other "circular" actions will generate net savings of around EUR 600 billion to EU companies (about 8% of its total annual turnover ), creating 170,000 direct jobs in the waste management sector and, at the same time, enabling a reduction of 2 to 4% in total annual greenhouse gas emissions.

# 5. Tools and services

The present chapter describes a number of tools or services developed or in use during the Go SIV project within the development of the regional case studies, observed and evaluated according to the general model discussed by the development agencies.

The development and the use of each tool or service took place within the process for designing and/or implementing a renovation or regeneration of urban industrial areas, with the aim to support the entire process, as a single instrument or in combination with others. The direct experience of the partners on the local context and local situations provided the experience useful to describe the tool and describe it as a generally applicable tool.

Each tool or service is described through a schedule based on a common template. The first part of the schedule describe the process of thinking, designing, building the tool or services (which purposes, which requirements, which actors to be involved directly or engaged, which expectations). In specific, each tool is described by the following arguments:

- What the tool or service is useful for
- How to design and activate the tool or service
- Actors and instruments involved
- Benefits for the area and the enterprises
- How it supports innovation of SMEs

Following, for each tool a brief description of the reference local case study (or cases studies) is reported.

Finally, the tool schedule includes an evaluation of the suitability or functionality of the tool when implemented. In other words, how the tool or service fits with the purposes and objectives of a specific case or a specific local situation). The evaluation is structured according to the three different dimensions of the Go SIV model. In specific:

- How much the tool or service can be suitable to support improvements about each "post-industrial" issue, as specific purposes of the renovation or regeneration process of the area? The evaluation is drafted for each different kind of issues connected to the renovation process.
- How much the tool or service can be suitable to the objectives and the role of each typology of local stakeholders, provide added value to each of them and obtain their support for initiation and maintenance? The evaluation is drafted for each typology of stakeholders
- How much the implementation of the tool or service can support the adequacy (or the "smart" characterization) of the local area in terms of basic services and infrastructures? The evaluation is drafted for the different kinds of basic or more advances services needed for supporting operations in the area.

For each criteria of evaluation a qualitative evaluation (from 1 to 5) is reported. The evaluation can be useful for discussing how the tool can be suitable or functional to support the needs, expectation about the development, the renovation or the regeneration of the area considering the local issues and public or private purposes, the capability to involve the different stakeholders, the features of the area itself and the services and infrastructures available. Though this it is possible to make an evaluation, at regional or local level, about how the tool can be suitable or applicable to different reference models of urban industrial area (small/big area, integrated/at the borders of the urban centre; industrial/mixed/post-industrial activities, etc.) according to the approach described in chapter 2.

The collection described in this chapter provides a first set of reference tools or services for supporting the process of development renovation or regeneration of urban industrial areas, as much as possible a "smart" one. More in general, this chapter proposes a template by which the tools or services can be described and evaluated, which can be used to think, design and describe other tools or services according to the Go SIV model, having other local experiences and initiatives as a starting point.

## 5.1. Functional mapping of the area

### What the tool or service is useful for

A basic knowledge and description of the current situation of the area (which enterprises are settled and operating, which buildings are in use or empty, which are the main features of the enterprises, which the flows of people and goods, etc.) is an important asset needed in order to support companies and improve the use of the area and the spaces in it. In many situations, even this basic information about the area is not available. More technical information can be instead useful for promoting a more advance knowledge of the area, the possible optimization of processes, consumption factors and flows of materials, the possible optimization of common and public services (i.e. mobility, logistics, technical services) and even more and more opportunities for collaboration or synergies between companies. All the information can be managed and exploited through a GIS based tool.


## How to design and activate the tool or service

The mapping of the area can be developed through a GIS based tool in order to represent in a graphical way the territory and the real location of the object described by the data. In addition, you can observe under the territorial point of view the phenomenon connected with the data or retrieve the data referring to specific elements of the area (name of settled enterprises, features of the buildings, etc.). Under the GIS, the overall data set con be build and enlarged over time with the availability of new typologies of data. The mapping tool can collect kinds of basic data (name and location of enterprises settled and operating in the area, kind of economic activity performed, actual use –or not use- of the building, space available or buildings available for new activities, public transport, other mobility services and facilities, etc. The tool can collect also other kinds of functional data (i.e. energy consumptions or energy performance class of each building, flows of materials from/to the different companies or buildings, etc.), potentially useful to optimize services and technical connections between the companies or develop and manage technical networks and grids. The mapping tool can collect more and more advanced data, retrieved or produced by the managing bodies of the area or competent bodies or associations as well as specific data provided by the enterprises or public services, in order to create a "smart" map more and more useful for promoting new entrepreneurial ideas and technological or social startups, who can, themselves, produce new data and feed the mapping.

## Actors involved

The initiative of building the mapping tool can be promoted and started by the managing body of the area or the consortium grouping the enterprises operating in the area, if one of these latter exists. Otherwise, the same initiative can be promoted by the local industrial associations or public agencies supporting the enterprises of the area and/or playing a role in the development of local businesses. Retrieving data can be a technical issues, therefore research centres, universities or development agencies can have specific roles or create a teamwork. The same actors and other technical bodies can retrieve and provide and analyse more and more technical data (i.e. energy data. Finally other actors can be involved (i.e. groups of interest like environmental associations or consumers associations, citizens) or local audits or public surveys can be performed. Finally the production or retrieving of (verified and qualified) data can be open to contributors, start-ups, professionals.

## Benefits for the area and the enterprises

Basic information included in the mapping tool (about the companies, the buildings and their current usage, the services for accessibility and management of the area) can enable a basic shared knowledge about who is operating in the area and doing what. This kind of information is not to be considered always available and its unavailability can be an important obstacle to the improvement and the optimization of the operations of the companies in the area, or the connections and relations between the area and the rest of the urban context. As much as the data and the information available through the mapping tool is technical and specific, it will be useful in order to optimize common or specific services.

## How it supports innovation of SMEs

As much as the mapping is a "smart" mapping the availability of data and specific technical information on a GIS platform can promote the initiation of new services of new entrepreneurship, technical networks and grids within the area, or simply provide a basic or more articulated knowledge that can be basis for relations or collaborations (also business partnerships) between the settled companies.

## A case study

At the Roveri area in Bologna, Italy, Confindustria Emilia[6] and ENEA[7] realized that it was not available neither easily accessible some basic information about the area, the use of the settlements and the industrial buildings existing in the area. This basic information was needed in order to obtain the effective use of the available spaces and buildings, promote the settlement of new enterprises and have a clear information of who is present and doing what within the area. So they built up a GIS based tool to be supported by data retrieved by the different possible sources: official registries of enterprises (for instance in Italy those managed by Chamber of commerce), economic data bases of enterprises, local surveys, etc. They discovered that the knowledge about the areas by the same bodies managing the area or supporting the activities and the business of local enterprises of having institutional public competencies about the area and the city can be quite weak. On the other side, this knowledge can have very good potentialities to address directions for managing the area as well as designing a renovation process of supporting innovation and new entrepreneurship (technological startups, social services providers, etc.). They are enlarging the data set available through the mapping tool, also with the support of ERVET, (e.g.: energy data of enterprises flows of materials from/to industrial companies, etc.). Moreover, they are developing new possible projects for the gradual building of a "smart map" open for use and consultation, whose information that could be used for optimising local services, think and create new services and startups, promote the settlement of new SMEs integrating their activities or services with those already operating in the area.

## Effectiveness of the tool or service

**Transition issues** (post-industrial, Industry 4.0, …)

| Description | Suitability / Functionality | | | | |
|---|---|---|---|---|---|
| | 1 | 2 | 3 | 4 | 5 |
| Social issues | ■ | | | | |
| Education | ■ | | | | |
| Green "living" areas / rcreational functions | ■ | ■ | | | |
| New and young entrepreneurship | ■ | ■ | ■ | ■ | |
| Smart services | ■ | ■ | ■ | ■ | ■ |
| Creation of Jobs (social, green jobs, …) | ■ | ■ | ■ | ■ | ■ |

[6] Confindustria Emilia is a local partner associated to the Go SIV project in Italy, and is one of the most relevant local industrial associations in the Emilia-Romagna Region covering the territories and supporting the enterprises of Bologna, Modena and Ferrara provinces. It is the local branch of the regional and national association Confindustria.

[7] ENEA is a local partner associated to the Go SIV project in Italy. It is the National research centre for environment, energy and sustainable development, and has been operative as a public technical body to perform research on technological innovation and support the implementation of public policies for innovation, technological development and sustainability.

The tool, especially in further developed as an advanced (smart) mapping, can support the full and effective use of the available spaces, and the incoming and the settlement of new enterprises (industries, services, startups, social services) and activities synergic with the other activities in the area. The map based on a data hub can have interesting potentialities for promoting entrepreneurship and innovation

**Governance and stakeholders engagement**

| Description | Suitability / Functionality | | | | |
|---|---|---|---|---|---|
| | 1 | 2 | 3 | 4 | 5 |
| Institutional and political level | ■ | ■ | | | |
| Enterprises | ■ | ■ | ■ | ■ | |
| Associations of Enterprises | ■ | ■ | ■ | ■ | ■ |
| Research centres / Universities / Agencies | ■ | ■ | ■ | ■ | |
| Groups of interest | ■ | ■ | | | |
| Citizens | ■ | | | | |

The mapping tool can be very useful for bodies in charge of managing the area or supporting the enterprises of the area, also through consortiums or agreements, i.e. association of enterprises. It also will support operations and optimization of management of the enterprises. It will be useful for research centres, development agencies and other actors for the development of initiatives and project connected to the competitiveness and attractiveness of the local area. Could be interesting for the local public administration in order to retrieve, analyse data and make evaluation in terms of public policies, as well as to groups of interests for specific purposes.

**Basic services and infrastructures**

| Description | Suitability / Functionality | | | | |
|---|---|---|---|---|---|
| | 1 | 2 | 3 | 4 | 5 |
| Maintenance and availability of the area | ■ | ■ | ■ | ■ | |
| Security | ■ | ■ | | | |
| Accessibility and sustainable mobility | ■ | ■ | ■ | ■ | |
| Digital infrastructures | ■ | ■ | ■ | | |
| Energy efficiency | ■ | ■ | ■ | | |
| Circular economy and industrial symbiosis | ■ | ■ | ■ | | |

There is a strong connection the different possible basic services or infrastructure and the functions of the mapping tool, as they can be provider of data (about use of public services, buildings and activity of the enterprises of the area, energy aspects, flows of materials) and can be users of data in order to optimize services or startup new ones.

## 5.2. Enterprises and stakeholder engagement process

### What the tool or service is useful for

Usually each one of the enterprises operating within the same industrial area is focuses on its own processes, business, organization and economical-financial matters. Therefore, it is interested and has active relationship with the area only referring to specific problems occurred to the company because of the area management issues or needs for improvement. As a result, often each entrepreneur of manager does not have information about other enterprises of the area of even don't know what its neighbours are producing, or innovating with or renovating.

Reciprocal awareness and knowledge is a basic factor enabling (or not enabling) technical synergies (product, processes, flows of materials etc.) between enterprises of the area. Moreover, other local stakeholders with technical skills can be involved and propose new entrepreneurial ideas or connecting factors, thus providing a significant benefit to the qualification or renovation process.


### How to design and activate the tool or service

Local actors having an institutional role (the municipal administration, an association of enterprises supporting the area) can promote the engagement process connected with the industrial area or

the urban district. One or more actors with technical competencies (research centres, universities, local can support the process. The most important activity is the organization of a short but structured path aimed at sharing information about the area and its current situation as well as discussing problems, needs and perspectives about the area. It may refer to ongoing long-term changes occurring within the area and to the idea of a renovation or upgrading process to be developed in the next future. This activity can be performed through the organization of different workshops with the participation of enterprises and other local actors, in locations within the area. This main activity can be reinforced through "social activities" for promoting meetings among the enterprises and local actors, such as "peer learning", site visits, networking cocktail hours, etc. The

## Actors involved

Actors with institutional role can promote the overall process (the municipal administration, one or more associations of enterprises). One or more actors with technical capabilities (regional or local agencies, research centres, universities, etc. ) can be promoter as well or technical partner of the initiative, in order to assure the technical advice on the topics or the projects proposed for the renovation. Professionals in the fields of communication, networking, workshops, and facilitation can provide the needed expertise to run the meetings. Institutional or political figures can bring the public policies point of view and support.

## Successful outcomes factors

Technical actors can bring the expertise to discuss in practical and feasible terms of possible innovation and collaboration projects involving the area. They also can help identify the available funding for the projects under preparation or discussion. Therefore, they can support the process assuring practical implementation of projects and ideas. Professional facilitators can help obtaining and use the outputs of the workshops with enterprises and can provide their contribution for the preparation of the overall path for involvement and discussion among enterprises. Obtaining the active participation of local councillors or the mayor can provide the idea of the institutional support to the renovation projects as well as of a kind of political vision supporting the process itself. Giving a strong identity to the initiative (name, logo) can have a relevant effect on the participation. Complementary and even informal activities (networking events, cocktail hours, and recreational activities) can support friendship and dialogue between companies and encourage the exchange of ideas or common projects.

## Benefits for the area and the enterprises

Awareness and knowledge about the features of the area and its current situations as well as about the other companies local in the area and their processes and products can support the exchange of ideas and opinions and support the renovation of the area. In a general way, the dialogue and the meetings can promote a general identity and sense of belonging to the area.
Regarding the maintenance and the basic services for the area, or the possible initiative to improve the functionalities of the areas, this can be useful especially if the area is not runned by a managing authority. In fact, it provides the opportunities for assuring common services (i.e. security, control of accesses) or supporting a dialogue with local competent actors (municipality of local districts for maintenance, local transport companies for mobility and accessibility to the areas, etc.). Other

benefits are connected with the opportunity to think and prepare joint projects and innovation in the processes or products.

### How it supports innovation of SMEs

Regarding the improvement and the optimization of processes of enterprises, a direct dialogue can promote a reciprocal knowledge and possible solutions at cluster level (i.e. common services or technological networks). Finally, the exchange of ideas between entrepreneurs or between these latter and startuppers can lead to new entrepreneurial activities located in the area, giving value to possible synergies between companies.

### A case study

At the Roveri area in Bologna, Italy, Confindustria Emilia[8] and ENEA[9] promoted and organized a specific initiative for the involvement of the enterprises, with the participation of other local actors, named "three steps for Roveri". They organized three workshops for the enterprises during the period from October to December 2017. The first workshop was aimed at discussing a possible general approach for renovating or upgrading the area and discuss a possible long-term vision for the competitiveness and attractiveness of the area. The second one was aimed at discussing specific approached and instruments for upgrading the areas as a "smart" area. In specific, the overall proposal was to characterize the area towards sustainability (energy efficiency, circular economy, eco-design of products of enterprises, etc.). The third workshop was aimed at co-designing solutions for the proposal discussed in the first two meetings and evaluate conditions for feasibility of the different possible projects. The three workshops took place in the conference rooms of three different companies of the area, which hosted the initiative, including a social cooperative. The final general output was composed by 24 projects, remarking four general thematic priorities identified by the participants: 1) create the community; 2) Mobility, traffic and maintenance; 3) management of the area 4) funding and planning for projects implementation.
During the period of the workshops and after the initiative was also supported by the organization of informal events (B2B aperitifs) and public events (open day with site visits to different companies, and also the hosting of foreign delegations visiting the companies part of the participation to international projects.

[8] Confindustria Emilia is a local partner associated to the Go SIV project in Italy, and is one of the most relevant local industrial associations in the Emilia-Romagna Region covering the territories and supporting the enterprises of Bologna, Modena and Ferrara provinces. It is the local branch of the regional and national association Confindustria.

[9] ENEA is a local partner associated to the Go SIV project in Italy. It is the National research centre for environment, energy and sustainable development, and has been operative as a public technical body to perform research on technological innovation and support the implementation of public policies for innovation, technological development and sustainability.

## Effectiveness of the tool or service

**Transition issues**
(post-industrial, Industry 4.0, …)

| Description | Suitability / Functionality | | | | |
|---|---|---|---|---|---|
| | 1 | 2 | 3 | 4 | 5 |
| Social issues | ■ | ■ | | | |
| Education | ■ | ■ | ■ | | |
| Green "living" areas / recreational functions | ■ | ■ | ■ | | |
| New and young entrepreneurship | ■ | ■ | | | |
| Smart services | ■ | ■ | | | |
| Creation of Jobs (social, green jobs, …) | ■ | ■ | | | |

The process can have a strong impact first on the education and relationship issues, as its first outcome is a general capability of enterprises to know each other and establish collaborations. The process also have impact on issues connected with the management of the area, common services, coordination of the enterprises for assuring maintenance and services. Also, The implementation of specific projects discussed through workshops and networking can work on more advanced services and creation of new economic activities within the area.

**Governance and stakeholders engagement**

| Description | Suitability / Functionality | | | | |
|---|---|---|---|---|---|
| | 1 | 2 | 3 | 4 | 5 |
| Institutional and political level | ■ | ■ | ■ | | |
| Enterprises | ■ | ■ | ■ | ■ | ■ |
| Associations of Enterprises | ■ | ■ | ■ | ■ | |
| Research centres / Universities / Agencies | ■ | ■ | ■ | ■ | |
| Groups of interest | ■ | ■ | | | |
| Citizens | ■ | | | | |

The instrument affects enterprises and their capability to know their neighbours and set relations of friendship and collaboration. This can be the basis for discussing common projects (auxiliary services to the core activity but also technological networks or local grids) improving the management or the processes of the enterprises. This kind of initiatives can promote the role of associations of enterprises as promoters, as well the competencies of agencies, research centres, universities. Also, they can enhance role of the institutional actors to new policy instruments. Groups of interests can be active part of the process.

**Basic services and infrastructures**

| Description | Suitability / Functionality | | | | |
|---|---|---|---|---|---|
| | 1 | 2 | 3 | 4 | 5 |
| Maintenance and availability of the area | ■ | ■ | ■ | | |
| Security | ■ | ■ | ■ | | |
| Accessibility and sustainable mobility | ■ | ■ | ■ | | |
| Digital infrastructures | ■ | ■ | ■ | | |
| Energy efficiency | ■ | ■ | ■ | | |
| Circular economy and industrial symbiosis | ■ | ■ | ■ | | |

The instrument has a possible medium-to-high impact to all different kinds of basic services, according to the priorities that the companies and local actors give to the different themes, as output of the stakeholder engagement process. The specific needs or opportunities remarked during the process can be related to management of the area, external or public services, proposals from the companies themselves.

## 5.3. Fab lab

### What the tool or service is useful for

Fablabs are technical prototyping platforms for innovation and invention. Ease of access and low costs support the features of the modern economy such as collaboration, sharing, community and innovations.

Fablabs are easy to deploy in the areas with the limited accessibility by transport, limited access to utilities and in the limited space – this means they can operate in the remote villages, countryside or even in the desert in the extreme cases or in the crowded city centres.

The fablab movement is closely aligned with the DIY movement, open-source hardware, maker culture, and the free and open-source movement, and shares philosophy as well as technology with them. Fablabs encourage to experimenting, creation, innovations and testing of the new solutions. They avail the knowledge of various machine, design and fabrication processes, depending on the scope of activities they can be used as programming training centres, research and testing centres, rapid prototyping points or even for the production of individual products from one item to short series of products. Fablabs link community with business, education and the research sector. When digitalised, they foster international networks and create the perfect environment for cooperation and knowledge exchange.

Thanks to their features and resulting from them unique and far stretching flexibility, fablabs contribute to smart & inclusive growth by decreasing regional disparities in education and innovations.

### How to design and activate the tool or service

Creation of a fablab should be preceded by the recognition of the existing stakeholders and potential future users to establish the demand and the purpose of the fablab. The purpose of the fablab can be creation of the manual skills, availing the specific equipment to the community, education of the youth, adults or children, prototyping for the existing companies, research and testing etc.

The prognosis of the trends in the local and regional economy development, the current and future job market needs and community preferences, On this basis the profile of the fablab should be designed and the adequate equipment planned.

Thus, the fablab can have various types of equipment answering the needs of future users and led by the industry chosen – fablabs exist, which offer the carpentry tools, set of sewing machines and all related equipment and tools including the laser cutter for textiles, fablabs offering the sophisticated equipment for testing innovative fibres – or probably most popular – the set of equipment for the rapid modelling and 3D printing.

One of the key factors is also the source of funding of the future operations: the list of planned cost needs to be comprehensive including the costs of the space rental or purchase (and then potential taxes and fees), energy, water, maintenance, costs of the staff serving the fablab, costs of the repair and exchange of tools, equipment and the interior of the workshop as well as the insurance cost. Additionally, the cost of extra services should be included such as training, cleaning, periodic renovation and promotion.

Before the purchase the recognition of the market prices, sources and the reliability of particular brands and providers should be also performed before preparation of the final budget. In many cases fablabs are the result of the citizens project funded from the citizens budget, financed by the commercial sponsors, foundations or by EU programmes.

## Actors involved

Three parties are usually involved in the creation of a fablab: the founder, the sponsor and the recipients of the services.

The founder can be an individual with an idea or an organisation such as an NGO or a university suggesting the fablab to address a problem in the environment. The founder delivers the knowledge, expertise, experts or the network of experts.

The sponsor is an entity which supplies the funding for the setting and the maintenance of a fablab – usually an organisation or a company; very often the funding is delivered by EU programme and less frequently by business angels or another type of a sponsor.

The recipients are the citizens from the local community, groups of students, groups of employees being trained in the fablab, startups, micro and small companies using the services for their prototypes. The fablab services would be unattractive for big corporates who protect their products and processes and other commercial information; thy also require usually highly specialised equipment, expertise and are unwilling to share the information due to its commercial nature. Unlike corporates, smaller businesses do not have the sufficient funds for such infrastructure and are more comfortable using the open source; furthermore, SMEs scarcely use the rapid modelling in the continuous manner – usually they focus on one innovative product at the time and exploit the idea before the introduction of the new one.

## Benefits for the area and the enterprises

Direct advantages are local access to the equipment and the expertise beyond the reach otherwise; a high flexibility of usage at random without unnecessary investments – or a possibility of testing

the ideas before the investment in the infrastructure. The expertise and the open data can be accessed easily and modified for the local and individual needs; simultaneously, in the case of digitalised fablabs, the ideas and designs can be tailored, easily shared and even delivered globally promptly to the customer.

Indirect advantages include the increased attractiveness of the area thanks to the offer of easily accessible services, enhanced scope of leisure activities, possible cost saving thanks to the shared tools and equipment, increase of creativity in the community.

On further stage, expected advantages also include the growth of the number of the skilled employees, startups, companies, innovative products and services, investors looking for the well prepared workforce, higher competitiveness of the are – and further on, increase of the employment and wealth of the local community.

This also is expected to decrease the crime level and the corruption in the community due to the interesting leisure offer and stronger and more attractive labour market.

### How it supports innovation of SMEs

The increase of creativeness in the community is the foundation for the innovative products and services. Creation of the skills makes delivery of the innovative ideas feasible. The access to the equipment and the possibility of testing the idea before the full implementation saves the costs and supports the operational and financial flexibility of SMEs.

### A case study (1)

FabLab Bielsko-Biała was created in 2014 by the Regional Development Agency. The concept was inspired by the similar centres for creative industries in various countries operated by institutions cooperating with the Agency. The purpose of Fab Lab is to create a stimulus for citizens activities and entrepreneurship, particularly in the creative industries and in the sectors with extended usage of ICTs. In general, the creation of the laboratory can constitute an independent action; in case of the RDA Bielsko-Biała, it is a complementary service for already existing Business incubator, technology accelerator and the business space created for rental in the preceding decades. The FabLab boosts the first stage – the creation and mastering the innovative idea before the further support is offered in the introducing it to the market.

The profile of the FabLab was driven by the strategy of the regional and local development; i.e. with the car industry as a core and with the thought of the clean environment: the filament used for the printers is biodegradable, the choice of equipment includes the criterion of low energy usage and friendliness for environment and the technologies embrace the concept of minimisation of time, material and energy usage.

The modern technologies and the global network using the 3D programming software and printers were availed to the users at the low cost. In 2016, the laboratory was enhanced thanks to the EU funding from Interreg CE programme, which allowed the Agency to implement the project FabLabNet – more modern equipment was purchased, which can be used free of charge in the

pilot actions such as training for students of all ages, demonstration of the technologies or even chosen prototyping services for innovators.
The objectives of the FabLab are to stimulate creativity in the community, to inspire initiative of citizens, to improve the level of education and to increase the employment thanks to the better educated candidates and thanks to the growth of start-ups and expanded activities in the companies, mainly in SME sector.

### A case study (2)

Fablab ÉvoraTech is part of the Centro IDEA – an operation focused on the area of Innovation, knowledge transfer and the promotion of technology-based business initiatives, within the scope of ADRAL's activities and Development of European and national innovation projects and the promotion of entrepreneurship and the diversification of the economic and productive base.
Thus, it was given the format of an application for a set of activities complementary to each other and that allow to generate entrepreneurial dynamics in its target audience. Given the characteristics of the activities proposed and the results and impacts that are intended to be achieved, the network format has assumed the most appropriate, both in terms of the methodology of action and of the partners of the project itself. This network is based on the skills and experience of a diverse set of beneficiaries and non-implementing partners, who contribute to the implementation of the project and ensure its future sustainability.
CENTRO IDEA application was made under the framework of the Alentejo Regional Operational Programme (INALENTEJO) 2007-2013
Currently, the ÉvoraTech Fablab has a diverse ecosystem of stakeholders, from universities, private companies, municipalities, schools, volunteer groups and general public.

## Effectiveness of the tool or service

**Post industrial issues**

| Description | Suitability / Functionality | | | | |
|---|---|---|---|---|---|
| | 1 | 2 | 3 | 4 | 5 |
| Social issues | ■ | | | | |
| Education | ■ | ■ | ■ | ■ | |
| Recreational functions | ■ | ■ | ■ | | |
| New and young entrepreneurship | ■ | ■ | ■ | ■ | ■ |
| Smart services | ■ | ■ | ■ | ■ | |
| Creation of Jobs (social, green jobs, ...) | ■ | ■ | ■ | | |

Fablabs can have multiple functions as tools with the primary function of increasing the knowledge and stimulating the creativity and initiative of the local community. It is difficult to distinguish their recreational function from economy ones without the assessment of the results (e.g. increase of the number of hobbyists, number of leisure events related to the fablab, number of startups or progressing innovative companies with new products or services etc.). Moreover, the fablabs usually serve both purposes.
To a certain extent, fablabs have a positive impact on the social issues; albeit, this tool has a limited and rather indirect effectiveness.

**Governance and stakeholders engagement**

| Description | Suitability / Functionality | | | | |
|---|---|---|---|---|---|
| | 1 | 2 | 3 | 4 | 5 |
| Institutional and political level | ■ | | | | |
| Enterprises | ■ | ■ | ■ | | |
| Associations of Enterprises | ■ | | | | |
| Research centres / Universities | ■ | ■ | ■ | ■ | |
| Groups of interest | | | | | |
| Citizens | ■ | ■ | ■ | ■ | ■ |

The fab labs are primarily created to serve the communities or for the existing micro and small companies. Hence, they can serve also the local and regional authorities or various associations in stimulation of the entrepreneurial development. Local governments, business associations and universities can act as founders of fablabs. The cooperation of these entities is very beneficial and allows achieving common goals such as delivery of tailored training for existing and future employees and / or innovators and startups in line with the smart specialisations of regions and cities.

Although it is feasible to prepare the fab lab for the needs of local businesses, the creators need to consider the costs of preparation and maintenance and compare them with the declared demand of the future users. It needs to be taken into consideration that contemporary research and testing has in majority commercial character while fablab concept is based on the open access and open data; hence, this model might not be sustainable in the competitive business environment. At the same time, usefulness of highly specialised fab labs requires concentration of users of similar needs, e.g. such as clusters.

As stressed above, the fablabs as a concept are created for the local communities where the infrastructure (equipment, tools) and the knowledge (open data designs, knowledge and software). They serve the individual citizens as well as their formal and informal groups – amateurs, researchers, students and trainees and others. Limitation of access contradicts the concept of the fablab.

**Impact on environment and other features**

| Description | Suitability / Functionality | | | | |
|---|---|---|---|---|---|
| | 1 | 2 | 3 | 4 | 5 |
| Sustainability | ■ | | | | |
| Digital infrastructures | ■ | ■ | | | |
| Energy efficiency | ■ | ■ | | | |
| Circular economy * | ■ | ■ | | | |
| industrial symbiosis ** | ■ | ■ | ■ | ■ | |
| Mobility | ■ | | | | |

Many of the characteristics depend strongly on the profile of the fablab – e.g. the impact on the environment depends not only on the profile of tools but also on the material used by users (is it

artificial, recyclable, environmentally friendly etc.). Moreover, the approach of the users to the environment and their abilities to use the equipment in an effective way affects the features.
Fablabs can be mobile either stationary or mixed (part of equipment or the whole lot can be moved on the request according to the users' needs).

## 5.4. Business incubator

### What the tool or service is useful for

Business incubators are created to stimulate setting up new companies. They are operated by universities, municipal and non-for profit organisations, foundations, corporates and private investors. The support delivered by incubators can vary from the renting basic office or production and service space to the seed funds assisted by wide scope of mentoring, advisory, networking and contracting participation.

Incubators can specialise in specific sectors and industries or specific group of people, depending on the policy of the founders. If the founder is a municipality or the governmental agency, in particular a regional development agency, smart strategic sectors will be most likely preferred. In case of the academic incubators, the support will be provided to the students although it can be extended to other citizens depending on the demand. The incubators set up by corporates can focus on specific themes, e.g. usage of ICTs, medical services and products etc. – i.e. these fields which can be useful for the funder for own development and growth. The aim of incubators also can differ. Not-for-profit entities aim in the general development of economy and an increase of the number of employed while private funds usually would seek the profit in the form of a dividend, the share in the intellectual property or the subcontractor of the chosen service, component or product.

The incubator can have physical, material shape or can be virtual without the infrastructure availed to the startups – in this case funding and some services would be provided. The virtual incubators would be more typical for the private supporters and investors willing to share their expertise and to participate in the risk with the capital injection.

### How to design and activate the tool or service

Establishing the incubator requires the vision and the plan, as any undertaking. The purpose of the incubator should be drawn and the indicators expected defined with the target values. The funder needs to decide on the fields of the startups development, the scope of the support he is willing to provide and the benefit he wants to harvest.

Depending on the purpose and the needs of the local environment, the model of the incubator should be decided on an early stage of planning. The model includes the scope of support, the conditions how it is granted and the institutions involved with the clear and transparent definition of roles and tasks on each stage of the life of startups and of the incubator itself.

In its widest form, the incubator will consist of the building, infrastructure and services. The settle for the startups is important – it needs to be accessible, attractive as for the conditions and preferably not expensive to rent. In the perfect world, the specialised incubator could offer the equipped offices, the space for production or technology operations and the testing and research centre to support innovations.

The buildings are usually repurposed abandoned premises of withdrawn corporates or production halls; sometimes the financing Is available for the creation of the new tailored complex. This depends on the availability of the real estate in the area where the incubator is being created. In the case of Wapienica, the incubation services are provided in the building created in 1960s and in the former fur coats company, which operated there to 1980s. The existing building required a thorough renovation, adjustments of utilities, exchange of the electricity, water and gas installations to more modern and efficient systems, provision of the communication media. One of the buildings received also an extra floor with a state of art rooms with the predesign air conditioning. The complex is also equipped with the parking with the innovative monitoring systems. The new building constructed is based on the design already including all the features.

It is worth to consider also inviting or pre-contracting supplementary services desired yet often absent in the remote areas such as a café and/or a canteen or a restaurant, a small shop, vendor machines. The café is desirable also as a place to meet a contractor or investor in the pleasant conditions. The presence of sport and leisure facilities and services related to children (e.g. kindergarten or a playground). Adding up further services and trade, the founder creates a small smart village.

External services should also include the public transport. In the case of the Polish public transport companies, there is often a possibility to arrange a shuttle bus or a regular service. The public transport company can extend existing lines or create new routes. In the case of some Polish companies operating in the outskirts of the city, various solutions can be observed starting from the municipal initiative, through the shared costs with the incubator funder participation to the contracting of the separate company and creating the schedule independent from the regular public transport.

The testing and research centre is a rare facility due to the cost of equipment and maintenance. the difficulty is to define what type of specialised services would be needed, what machinery and software would be required and what are the conditions for using it.

The complementary incubation services delivered by the funder can include mentoring, advisory and consultancy in business related topics such as marketing, human resources management, accountancy, financial management, legal issues, strategy etc. facilitation of the business contacts can be also observed.

The involvement of the local education is very beneficial. Academics can provide advisory services or tailored research. They can also support in the assessment of the idea on the initial, decision

stage. Universities and 3rd level education colleges create the perfect environment to inspire innovators among student and among the scientists and experts.

In the case of the investment, the seed fund is necessary. The investment in innovative area is marked by the increased risk and the return is not certain even with the delivered all the support on each stage. The management of the capital is based on many variables and a strong data deficit. The level of capital entrance and the clear, measurable and transparent criteria of the choice of the investment have to be clearly described and announced to maintain the transparency. The assumptions should include the desired composition of sectors, desired sizes of the enterprises, skilful calculation of the break-even point and the margin as well as the accepted loss level. In some cases more complicated project financing could be required with the bridge funding for particular stages. Then again, many incubators operate the funds on the first in – first out basis with the assumption that the main purpose is the creation of the new companies and the increase of the job number in the area. Last but not least, the plans for the capital exit also should be prepared ex ante and included in the contract.

The incubation services need to be promoted and the adequate marketing strategy needs to be created. Incubators also can have the competition from other entities, which provide similar services in efficient way and can have longer experience. Even if the incubator is not created to generate any profit, the funder should seek to meet the indicators. The real measure of the success is, however, the long term successful existence of the startups and their growth on the market. Even in the case when the incubator does not have any influence on the management of startups, their performance is to a big extent the test of the accuracy of the definition of the regional or local needs regarding the entrepreneurship.

## Actors and instruments involved

Three parties are usually involved in the creation of a fablab: the founder, the sponsor and the recipients of the services.

The founder can be an individual with an idea or an organisation such as an NGO or a university suggesting the fablab to address a problem in the environment. The founder delivers the knowledge, expertise, experts or the network of experts.

The sponsor is an entity which supplies the funding for the setting and the maintenance of a fablab – usually an organisation or a company; very often the funding is delivered by EU programme and less frequently by business angels or another type of a sponsor.

The recipients are the citizens from the local community, groups of students, groups of employees being trained in the fablab, startups, micro and small companies using the services for their prototypes. The fablab services would be unattractive for big corporates who protect their products and processes and other commercial information; thy also require usually highly specialised equipment, expertise and are unwilling to share the information due to its commercial nature. Unlike corporates, smaller businesses do not have the sufficient funds for such infrastructure and are more comfortable using the open source; furthermore, SMEs scarcely use the rapid modelling in the

continuous manner – usually they focus on one innovative product at the time and exploit the idea before the introduction of the new one.

Experts involved in incubator of RDA Bielsko-Biała defined the following personality features of the most successful innovators:

- open mind
- cooperativeness
- timeliness and the quality of delivered information
- personal involvement

As for the team, which is the most likely to succeed on the market, the competencies and experience of the team members and their complementing skills and knowledge are the key factors of success.

## Benefits for the area and the enterprises

Direct advantages are local access to the equipment and the expertise beyond the reach otherwise; a high flexibility of usage at random without unnecessary investments – or a possibility of testing the ideas before the investment in the infrastructure. The expertise and the open data can be accessed easily and modified for the local and individual needs; simultaneously, in the case of digitalised fablabs, the ideas and designs can be tailored, easily shared and even delivered globally promptly to the customer.

Indirect advantages include the increased attractiveness of the area thanks to the offer of easily accessible services, enhanced scope of leisure activities, possible cost saving thanks to the shared tools and equipment, increase of creativity in the community.

On further stage, expected advantages also include the growth of the number of the skilled employees, startups, companies, innovative products and services, investors looking for the well prepared workforce, higher competitiveness of the are – and further on, increase of the employment and wealth of the local community.

This also is expected to decrease the crime level and the corruption in the community due to the interesting leisure offer and stronger and more attractive labour market..

## How it supports innovation of SMEs

The increase of creativeness in the community is the foundation for the innovative products and services. Creation of the skills makes delivery of the innovative ideas feasible. The access to the equipment and the possibility of testing the idea before the full implementation saves the costs and supports the operational and financial flexibility of SMEs.

Incubators can stress in the regulations their criteria for delivery of the support to startups like the sector (e.g. ICT, carbon processing, medical services, creative industries), specific requirements towards the entrepreneurs (e.g. gender, origins, long term unemployment, disabilities) or other features (e.g. employment for minimum 5 persons, employment for seniors, minimum 50% of women employed etc.) – the criteria should be aligned with the policy of the funder and of the area where the incubator will operate – and – naturally – with law regulations and ethics.

The funders should adjust their services to the expectations of the startups. Typically, the innovators are looking for the preferential conditions regarding the space rental and for the financial support. Among the applications, which were submitted to the RDA in Bielsko-Biała, about 50% of innovators were looking for the financial support for the R&D phase, about 20% for the the acquisition of an external institutional investor for projects that are at least in the prototype phase and ca. 25% for a spin-off project. Barely 5% sought the support for the pre-commercialized idea.

Each case of the business idea should be treated independently and the scope of support can differ from one case to another, depending on the idea, startups and the innovators themselves.

### A case study

The idea of creation of the incubator in Bielsko-Biała, Poland, came from the Regional Development Agency Bielsko-Biała. The purpose was to create an ecosystem for the development of enterprises using modern technologies and operating in innovative branches in cooperation with R&D centres. The aim was to create new modern jobs, to stimulate the local economy and the innovations in the industrial sectors. The area chosen – the outskirts of Wapienica – was chosen as a contribution to the revitalisation of the district after the withdrawal of big employers and to level the development of the city preventing the dereliction of the site.
The Agency, the City Council of Bielsko-Biała and the University of Bielsko-Biała signed an agreement of cooperation, which opened the door to seek for the funding from the Axis 1.3 – Creation of Convenient Conditions for the Business Development within the Sectoral Operating Programme "The Growth of the Competitiveness of Enterprises". In 2004 the Agency was granted the funding for the project by the Polish Agency of Entrepreneurship Development (PARP). The construction was finalised in 2005 and a year later the Incubator was opened. The investment amounted to PLN 14 million (ca. € 3.6 million), of which 73% came from the SOP programme, 10% was a capital injection of the City Council and the remaining amount own funding of the Agency. The incubator is located in the area of the Industrial and Services Park and in the proximity of the Katowice Special Economic Sub-Zone hosting the leading car industry companies in the region. The modern building offers 3660 sq. meters of the usable surface on 3 floors and the production space of 2550 sq. meters. The incubator hosted 38 companies from IT, rail automation, industrial design, industrial construction, modern technologies and consultancy and financial services. The modern training and conference centre was also created with the space for 150 persons, 33 hotel rooms of business standard and the restaurant. The centre is equipped to host the conferences, seminars or teleconferences. The rooms for simultaneous translations were created.
The RDA Bielsko-Biała created the system of consultancy and advisory for startups and SMEs thanks to the participation in many project on the national and international level. The companies could get the support in finances, marketing, management, law and in IT. They could also use the administrational and office services facilitating every day activities and saving the entrepreneurs time effort and money.

## Effectiveness of the tool or service

**Post industrial issues**

| Description | Suitability / Functionality | | | | |
|---|---|---|---|---|---|
| | 1 | 2 | 3 | 4 | 5 |
| Social issues | ■ | ■ | ■ | | |
| Education | ■ | ■ | | | |
| Recreational functions | ■ | | | | |
| New and young entrepreneurship | ■ | ■ | ■ | ■ | ■ |
| Smart services | ■ | ■ | | | |
| Creation of Jobs (social, green jobs, ...) | ■ | ■ | ■ | ■ | ■ |

By the definition, incubators are created to support newly established enterprises, often set up by the persons with the limited experience. The basic role is to support the startups with the space and/or complementary and easily accessible services. Depending on the incubator model, additional services, advisory and training can be provided. Indirectly, incubators can be the tool to solve the social issues - by the support in establishing the company and job creation, the wealth and wellbeing of the community would be improved taken that the local citizens will use the opportunities offered. However, the social issues in the area chosen for incubator constitute a threat that the entrepreneurs will look for more friendly environment.

The mitigation for this is creation of the cohesive programme together with local councils, welfare and social centres, which would address the problems for example by tailored training and preparations for the future entrepreneurs and for future employees

**Governance and stakeholders engagement**

| Description | Suitability / Functionality | | | | |
|---|---|---|---|---|---|
| | 1 | 2 | 3 | 4 | 5 |
| Institutional and political level | ■ | ■ | ■ | ■ | |
| Enterprises | ■ | ■ | ■ | ■ | ■ |
| Associations of Enterprises | ■ | ■ | ■ | ■ | ■ |
| Research centres / Universities | ■ | ■ | ■ | ■ | ■ |
| Groups of interest | ■ | ■ | ■ | ■ | |
| Citizens | ■ | ■ | ■ | ■ | ■ |

Incubators can be used by local and regional governments as a tool of implementation of their economy strategy and policies. Their participation in the incubators is very strong value added to the incubator. This reassures that the development is comprehensive with the development strategies and helps to go through the red tape; moreover, the support has usually a positive influence on the prestige of the incubator. Thus, the community will accept the initiative more eagerly given that the local government is also accepted by the community and that there is no hostility. Incubators merging the services and knowledge of various fields such as the business, universities and R&D centres create an advantage to startups by feeding the ecosystem with multidisciplinary knowledge and expertise. By harmonised activities, incubators stimulate local business making the entire area more competitive and attractive for citizens and for external investors. The development of the new companies, job opportunities and by facilitating the entering the market with new innovative products, the ultimate beneficiaries is the local community and all citizens.

**Basic services and infrastructures**

| Description | Suitability / Functionality | | | | |
|---|---|---|---|---|---|
| | 1 | 2 | 3 | 4 | 5 |
| Accessibility and sustainable mobility | ■ | ■ | ■ | | |
| Digital infrastructures | ■ | ■ | ■ | ■ | ■ |
| Energy efficiency | ■ | ■ | ■ | | |
| Circular economy and industrial symbiosis | ■ | ■ | | | |

The impact of the incubator on the industrial ecosystem is positive due to the stimulation and development of new ideas, offering new services etc. As for the impact on the natural environment, it depends on various factors. The derelict and postindustrial estates are the examples where the creation of the incubator can restore the clean environment. The removal of the industrial pollution, cleaning the soil and water is usually related to the big investments and may require the involvement of the local government or usage of dedicated funds (e.g. special funding from EIB). The modernisation of used buildings frequently improves their energy efficiency and certain harmful substances are then removed. The new buildings most probably would show better indicators than older infrastructure if the design is following trends in this scope. There are many tools, which can be used during modification of existing buildings to make them not only friendly for environment but also more convenient for the tenants thanks to the cheaper energy from renewable sources

(solar panels, windmills, geothermal heating etc.). Modern water and sewage infrastructure can be also supplied etc. the scope of modifications depends on the funders; this applies also to the transport, which can be organised in the environmentally efficient way and availed not only to the employees or entrepreneurs from the incubators but also to the local community as a contribution to the green economy.

## 5.5. Municipal Decision Support System

### What the tool or service is useful for

The Municipal Decision Support System aims to train organizations responsible for regional and local development, with information and integrated tools that provide integrated knowledge, structured with the temporal and spatial dimension, that allows contributing to a greater effectiveness in the intervention in the territory.

Through a structured process based on norms and good practices in force, it is intended to analyse the information cycle, to adapt it to relational models, to store it in an appropriate way, to co-relate information and to produce relevant outputs for the organization.

### How to design and activate the tool or service

The Municipal Decision Support System has as main functionalities:
1. Analyse and extract information from data available from organizations relevant to regional planning and development;
2. Organize and store information in relational systems with a temporal, spatial and other properly structured / identified dimension;
3. Co-relate information with knowledge production through appropriate tools;
4. To promote the integration of knowledge generated in a decision-making process in the development of its activities and other relevant entities;
5. Disseminate generated knowledge and potential information consolidation as a way to acquire greater value.

### Actors involved

- Entities providing information, at national and local level, namely Municipalities and Regional Governments.
- Potential investors and entrepreneurs

### Benefits for the area and the enterprises

- Providing information to the areas of techniques and business processes, relevant to strategic and operational decisions of the organization.
- Optimize and accelerate structuring business technical processes for the development of the activity, through the provision of information and tools of co-relation of knowledge.
- Develop and maintain competitive advantage through innovative data compilation processes and detection of patterns in information, sedimenting knowledge.

- Introduce ruptures in the processes of knowledge construction that optimize existing information, based on historical facts relevant to the decision.
- Effective use of the organization's information assets, over time, in space and resources. It requires the reuse of information as an alternative to the manufacture of new information and / or research, optimizing resources by reducing the initial cost. Information is a factor that differentiates the competitive advantages of organizations.
- Reduce unnecessary complexity of processing or creation of information, protecting against excess effort of the organization.
- Protect confidential information avoiding extraction of knowledge, value and competitive advantage in the natural process of organizational evolution in the field of human resources.

## How it supports innovation of SMEs

This system is innovative since it provides the possibility of articulating the information and knowledge produced by an Entity of support to the regional development in a platform that allows going beyond the mere replacement and possibility of consultation. This enables the municipal/regional decision makers to change/create public policies which are more favourable to the entrepreneurial tissue in a certain area.

## A case study

One of the biggest problems today in organizations is not related to lack of information, but to the ability to extract knowledge from information produced or available. The efficiency and effectiveness of organizations in the 21st century is based on their capacity to acquire mechanisms that allow them to capitalize on the knowledge available in the information acquired over time and in space.

This ability to transform information into useful knowledge that produces organizational innovation and operational effectiveness currently measures how organizations survive and become useful to the development of the ecosystem that surrounds them. The internet is clearly nowadays a clear example of this flaw in organizations in which a user "googles" information but receives so many results that he seldom finds the intended one and sometimes obtains results opposite to the expected erroneous ones and that induce actions inadequate to the initial purpose.

Organizations that accumulate a history of information and experience and do not capitalize on these facts for a new way will result in a decrease in profitability, a decrease in usefulness, and will lose information relevant to themselves and the organizational environment with which they interact. Information is nowadays in most organizations managed as an isolated knowledge repository in unrelated information silos, with no history or time evolution, no metrics, no relativity, moving from valuable information to documentary junk. Often where we could only verify and supplement knowledge with existing information we tend to do it again, to think again, losing value and ignoring existing knowledge in the organization.

Reducing technical and financial means forces organizations to become more efficient and effective in using knowledge based on information and available human capacity. For this rationalization, it is necessary to make the information and the knowledge derived from it more

accessible to the internal human resources, mitigating losses of knowledge by the organizational transformations, natural over time.
Organizations and in particular ADRAL have developed a broad set of information that does not always generate internal persistent knowledge of the organization and / or transfers to appropriate organizations adequate information for important decision-making (eg municipalities in the development of long-term public policies) . Due to the structural and technical nature, the resources and the projects, the information acquired in the development of the activity constantly has different forms and formats, often incompatible and complex crossing. There is a growing need to define an information standardization plan that allows the organization to relate knowledge, analyse evolution over time and locate the impact of information in the territory.
The SIRAD project aims to train ADRAL, its teams and organizations in regional and local development, with information and integrated tools that provide integrated knowledge, structured with the temporal and spatial dimension, that allows to contribute to a greater effectiveness in the intervention in the Alentejo territory.
Through a structured process based on norms and good practices in force, it is intended to analyse the information cycle, to adapt it to relational models, to store it in an appropriate way, to co-relate information and to produce relevant outputs for the organization. An example of a COBIT5 information cycle, in the following image, allows us to gauge the need to gather / create data (data) in mass, to structure and store the information, to transform into knowledge and at the end of creating organizational value that contributes to better business processes.

## Effectiveness of the tool or service

**Post industrial issues**

| Description | Suitability / Functionality | | | | |
|---|---|---|---|---|---|
| | 1 | 2 | 3 | 4 | 5 |
| Social issues | | | | | |
| Education | | | | | |
| Recreational functions | | | | | |
| New and young entrepreneurship | | | | | |
| Smart services | | | | | |
| Creation of Jobs (social, green jobs, ...) | | | | | |

**Governance and stakeholders engagement**

| Description | Suitability / Functionality | | | | |
|---|---|---|---|---|---|
| | 1 | 2 | 3 | 4 | 5 |
| Institutional and political level | | | | | |
| Enterprises | | | | | |
| Associations of Enterprises | | | | | |
| Research centres / Universities | | | | | |
| Groups of interest | | | | | |
| Citizens | | | | | |

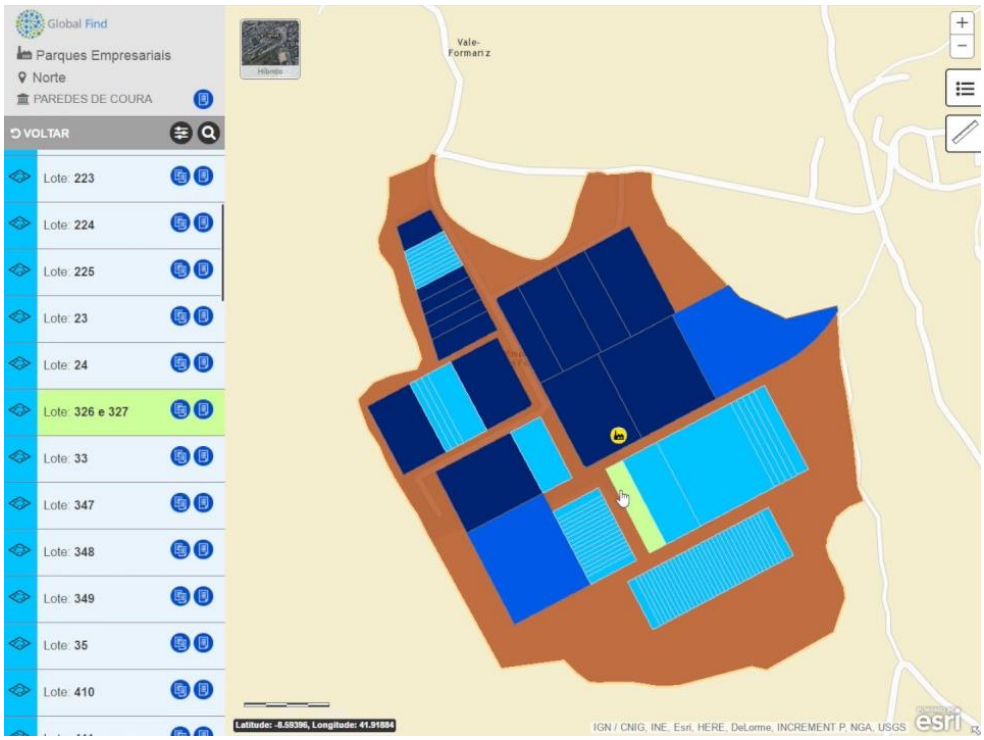
**Basic services and infrastructures**

| Description | Suitability / Functionality | | | | |
|---|---|---|---|---|---|
| | 1 | 2 | 3 | 4 | 5 |
| Accessibility and sustainable mobility | ■ | ■ | ■ | | |
| Digital infrastructures | ■ | ■ | ■ | | |
| Energy efficiency | ■ | ■ | ■ | ■ | |
| Circular economy and industrial symbiosis | ■ | ■ | ■ | | |

## 5.6. Web platform to support business location

### What the tool or service is useful for

It is a web platform that, using geographical information systems (GIS) and a search engine, allows any investor to find sites available in a determined area, that are suitable for their project, whether it is industrial and / or logistic .




### How to design and activate the tool or service

For this purpose, the tool performs multicriteria analysis based on the requirements provided by the investor, provides technical and urban information on the spaces presented as results, socioeconomic information about the surrounding regions and allows comparing them, up to a maximum of five spaces (selected locations ) for a set of indicators.

When filling in the query with the characteristics of the desired area (eg, built space or lot, proximity to major transport infrastructures and / or universities, level of education in the region), the tool identifies, in an interactive map, shows the best solutions and allows investors to access detailed information about the various locations identified.

It can also be performed a free search with keywords, navigation on the map, information on points of interest (e.g., ports, airports and logistics platforms, road and rail network, universities and state laboratories), access to reports terrain / lot, Park and County that contain socio-economic information about the regions, and technical characteristics of the spaces, as well as one for comparison, up to 5 solutions. These reports can be printed.

## Actors involved

- Entities providing information, at national and local level, namely Municipalities and Regional Governments.
- Potential investors and entrepreneurs

## Benefits for the area and the enterprises

The promotion, in a uniform way in the territory, of the various places for business facilities available in a certain area.

## How it supports innovation of SMEs

Investors and entrepreneurs will have at their disposal a web tool that will allow them to identify the most correct location in a certain area for their businesses.

## A case study

Portugal Site Selection is an innovative online service developed by aicep Global Parques with the aim of helping entrepreneurs to find the best location in Portugal for future companies in the industrial and logistics areas.
Developed on a platform of Geographic Information Systems, Portugal Site Selection allows the national and international business community to identify, through a more efficient and fast online process, the location alternatives for the installation of business units in industrial or logistic parks with available lots , or in PDM (Municipal Master Plan) areas with the same scope.
Portugal Site Selection allows the user, through the website http://www.portugalsiteselection.pt/, to carry out free searches on a map or to identify location alternatives through a number of predefined criteria, contributing to the good performance of organizations that use the geographical intelligence in the analysis of the surrounding reality and as one of the supports of its strategic options

### Effectiveness of the tool or service

**Post industrial issues**

| Description | Suitability / Functionality | | | | |
|---|---|---|---|---|---|
| | 1 | 2 | 3 | 4 | 5 |
| Social issues | ■ | ■ | ■ | | |
| Education | ■ | ■ | ■ | | |
| Recreational functions | ■ | ■ | ■ | | |
| New and young entrepreneurship | ■ | ■ | ■ | ■ | |
| Smart services | ■ | ■ | ■ | ■ | |
| Creation of Jobs (social, green jobs, …) | ■ | ■ | ■ | ■ | |

**Governance and stakeholders engagement**

| Description | Suitability / Functionality | | | | |
|---|---|---|---|---|---|
| | 1 | 2 | 3 | 4 | 5 |
| Institutional and political level | ■ | ■ | ■ | ■ | |
| Enterprises | ■ | ■ | ■ | ■ | |
| Associations of Enterprises | ■ | ■ | ■ | ■ | |
| Research centres / Universities | ■ | ■ | ■ | ■ | |
| Groups of interest | ■ | ■ | ■ | ■ | |
| Citizens | ■ | ■ | ■ | ■ | |

**Basic services and infrastructures**

| Description | Suitability / Functionality | | | | |
|---|---|---|---|---|---|
| | 1 | 2 | 3 | 4 | 5 |
| Accessibility and sustainable mobility | ■ | ■ | ■ | | |
| Digital infrastructures | ■ | ■ | ■ | ■ | |
| Energy efficiency | ■ | ■ | ■ | | |
| Circular economy and industrial symbiosis | ■ | ■ | ■ | | |

## 5.7. Technology accelerator

### What the tool or service is useful for

Similarly as business incubators, the technology accelerators boost the development of enterprises and the local economy. Accelerators use seed funds to invest in the company developing an innovative idea. In return for the investment, the funding accelerator takes over a percentage of shares. Along with the funding, the business mentoring follows.

Accelerators focus on funding and mentoring and not on the charged services, rent either technology or business infrastructure.

The purpose of the accelerators activities is to speed up the development and introduction to the market of an innovative product or service. the growth of the company, increase of the profit and

employment are the desired consequences; however, the financing is granted towards the idea rather than the company development.

By the sectoral focus, accelerators can serve the implementation of the regional or local smart strategic specialisation, revive a chosen branch of the industry, to create a cluster etc.

## How to design and activate the tool or service

Accelerators manage seed funds and the portfolio of the companies invested in. hence on the start, the seed fund is necessary. The level of funding needs to be adequate to the nature of the investments and the needs of the candidate companies – the costly specialised infrastructure and equipment will most likely be the core spending. It should be assumed that the capital invested is usually higher than in the case of a start up.

The general assumption is that the investment of accelerator funds is higher than in the case of a startup, that the innovator has already some experience in business activities and that the idea is innovative or edge cutting. The risk estimated is high and the accepted level of the loss should also be estimated. The back up capital for losses needs to be booked.

The sector and main features of the candidates should be chosen based on the market, to which accelerator is addressed. Similarly as for incubators, accelerators also should consider the local economy development strategies and plans of the local governments.

The choice of a specialisation, a sector or a technology and narrow focus will facilitate managing the fund as a portfolio and as individual investments. For an effective mentoring and to limit the risk of failure, the thorough knowledge of the industry and the market is required, what should also be taken into consideration.

## Actors involved

In the case of accelerators, the funders are often the mentors and portfolio managers at the same time. The following roles need to be included in the accelerator design: the funder/investor delivering the capital, the decision body who will assess the idea and make the suggestion or the decision of investment, the mentor or the mentor team who will oversee the portfolio or individual companies, management body for the portfolio and the innovator with his or her idea.

The innovator is usually not an individual person but a person representing the business, team of inventors or a company.

## Benefits for the area and the enterprises

The benefits of accelerator activities are multi-layered – the basic advantage is the return on the investment, which is often the priority for a private or corporate investor. In case of the accelerator created for the public purposes, the benefits should match the purposes – i.e. the development of the sector, predefined branch if industry, attracting other investor to the area, growing strength and the reputation of the area as a nest of innovations. In the case of public purpose, the expected results include the growth of employment and the wealth of the community.

The entrepreneurs will appreciate the opportunity of the business enhancement and the general economy development; but at the same time they may observe an increase of the competition or the loss of the most talented employees. In the case of a wise management of the portfolio, such risks could be principally avoided or mitigated by the composition of the companies and innovations invested in. This being the case, the local area gains new providers and customers and drives the employment growth.

## How it supports innovation of SMEs

The successful innovation stimulates the synergies in development by spreading to other technologies, creating the demand for specialists and employees with the specific or even tailored vocational education, for specific services, products, subcomponents etc. one innovation implemented can be often use in various sectors.

Laser cutting, which ones was specific for industrial use, is used nowadays by crafters, small producers of personalised souvenirs, toys or gifts, it can be used by the individual private customers. It also found its use in the medicine – in the surgery, optical services and many other fields. Similarly, 3D design and printing is considered by many an advanced technology while some inventors can find it extremely useful for minor products. It can be used for art for the production of fashion accessories, for the personalised unique gadgets and for the spare parts produced ad hoc before the original part is delivered – or instead of it.

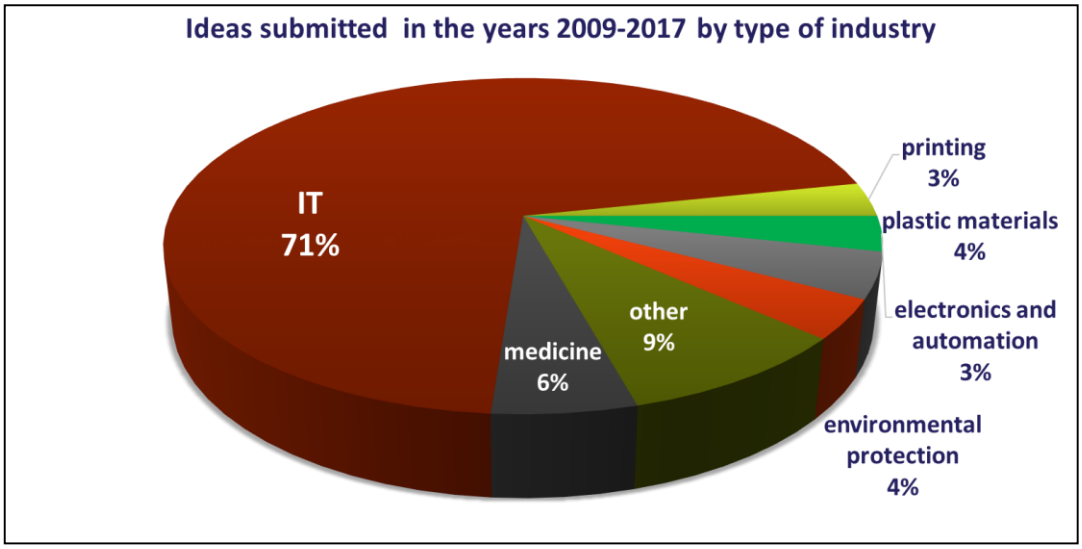
Depending on the chosen model of the accelerator, entire clusters can be created and used as a revitalisation of the chosen area.

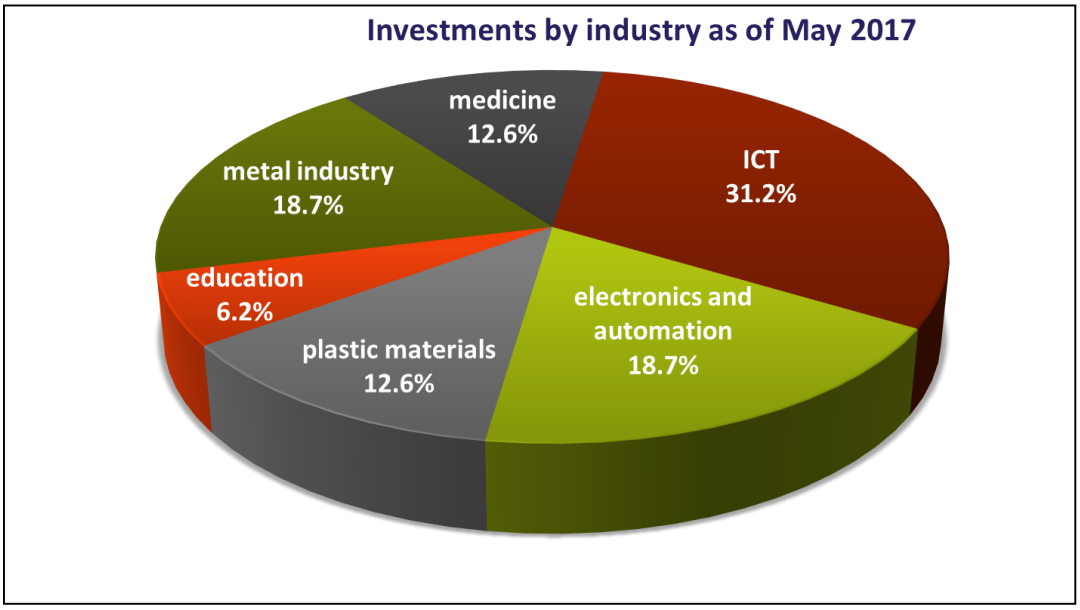
## Case study

In 2009 the Regional Development Agency Bielsko-Biała amended the seed capital to the existing services of the business incubator. Thanks to the EU contribution, RDA Bielsko-Biała has at its disposal the seed fund of ca. PLN 15 .7 million (€ 4,1 million). Since 2009, the capital investments in 17 companies based on innovative ideas were realised. Today, the fund is operated and reinvested as the Beskid Technology Accelerator (BAT).
BAT offer is addressed to people with new innovative ideas. After the presentation to the expert team, the idea is assessed In case of the positive decision, the innovation enters phase I of the preincubation of the idea focusing on the research and development, planning and securing the intellectual property. On this stage the innovator team can use the infrastructure of business incubator and receives the full requested advisory from the RDA's experts. After the final assessment finalising the first phase, the second phase of the capital investment (the negotiations of the contract, signing of the contract etc.) and the innovative project implementation follows. In the end of the period contract the capital exit is arranged in cooperation with the company majority owners. In some cases, the owners can decide to buy the shares out earlier.
The most innovative ideas get investment capital from the RDA on the basis of joint stock partnership. The investment in the innovation is a mixture of the private equity (innovator or another sponsor) and BAT venture capital. BAT investment upper limit is PLN 800 000 (or € 200

000) per company with the minimum PLN 300 000 with the condition of the majority investment from the private investor (i.e. over PLN 300 000).
During the incubation, the supporting services were offered such as the technology audits, technology transfers advisory, marketing advisory (market analysis, marketing and sale strategies preparation, promotion plans etc.), advisory on the effective management of energy (diagnosis and planning of the energy management), services in the scope of intellectual property, innovation support and networking, information services regarding the external financing of R&D area and cooperation in applications, rapid modelling and 3D printing services, coaching and monitoring of undertakings, training and seminars in various business topics, including the changes in business regulations and others.
For incubation, the ideas of the high technological and market potential where chosen.
The following sectors are prioritised: IT/ICT, healthcare, metal industries, environment, tourism, furniture, plastic, electronics, automation and polygraphs. The investment period can reach 10 years.
The Team of the BAT consists of the Managing Director and 3 expert teams – technology brokers, financial analysts and business experts.
Statistics of ideas in the Beskid Technology Accelerator:

- During the 8 years of the Accelerator implementation, 183 ideas were officially registered and rated
- More than 200 queries were sent by e-mail and by telephone, concerning the possibility of financing their idea
- Among 183 submitted ideas:
    - 82% were assessed positively in terms of form
    - ca. 37% was positively evaluated in terms of content
    - 33% were classified for pre-incubation phase
    - -ca. 10% were qualified to investment phase
- 17 start-ups with 15 patents were invested in within 2010 – 2015; in this figure:
    - 8 companies were created by the payment of the contribution in the form of patents, prototypes, know-how
    - 5 companies were based on the separation / contribution of the company that owns the innovative idea
- Over 130 new jobs were created.
- The average value of the expected investment - approx. 1 million PLN.




## Effectiveness of the tool or service

**Post industrial issues**

| Description | Suitability / Functionality | | | | |
|---|---|---|---|---|---|
| | 1 | 2 | 3 | 4 | 5 |
| Social issues | ■ | | | | |
| Education | ■ | ■ | | | |
| Recreational functions | | | | | |
| New and young entrepreneurship | ■ | ■ | | | |
| Smart services | ■ | ■ | ■ | ■ | |
| Creation of Jobs (social, green jobs, ...) | ■ | ■ | ■ | ■ | |

Accelerators require some existing ecosystem – e.g. providers of specialised services, customers, experts etc. They will fulfil their role not as much as initiators of the revitalisation but as the pillars maintaining the development and revitalising processes initiated already by other parties and

activities. Accelerators support the enterprises in the scope of the growth and job creation; they also can offer and develop specialised services, which can determine the effectiveness of the entire support mechanism.

**Governance and stakeholders engagement**

| Description | Suitability / Functionality | | | | |
|---|---|---|---|---|---|
| | 1 | 2 | 3 | 4 | 5 |
| Institutional and political level | ■ | ■ | ■ | ■ | |
| Enterprises | ■ | ■ | ■ | ■ | ■ |
| Associations of Enterprises | ■ | ■ | ■ | | |
| Research centres / Universities | ■ | ■ | ■ | ■ | ■ |
| Groups of interest | ■ | ■ | ■ | | |
| Citizens | ■ | ■ | ■ | ■ | |

The accelerators are relatively rarely created by the governments. Instead, there are governmental funds, which are encouraging for the business angels to set up or to join accelerators. The funds take over some financial risk and thus they increase the attractiveness of the ventures.

This tool is specifically addressed to innovators who tend to have some experience or they own business. Accelerators gather R&D and business and channel the focus towards one innovative idea (within a company). From the investors point of view (the accelerator fund and the innovator), the education, business associations and groups of interest would have the supportive function towards the idea. The successful companies are trendsetters and they will stimulate other links of the helix to follow but on the stage of incubation of the idea, the innovators are usually precursors and can receive relatively little support in the scope of technological knowledge and experience.

**Impact on environment and other features**

| Description | Suitability / Functionality | | | | |
|---|---|---|---|---|---|
| | 1 | 2 | 3 | 4 | 5 |
| Sustainability | ■ | ■ | ■ | | |
| Digital infrastructures | ■ | ■ | ■ | | |
| Energy efficiency | ■ | ■ | ■ | | |
| Circular economy | ■ | ■ | ■ | | |
| industrial symbiosis | ■ | ■ | ■ | ■ | |

In the case of technology accelerators it is relatively easy to minimise the negative impact on the environment by amending the care for the environment to the criteria. Thus the innovations which do not respect the natural ecosystems can be eliminated. Then again, the current trends embed ecology and minimum impact on the environment in the innovative ideas. The awareness of such necessity is very high and it seems to be specific for the younger generations of innovators and entrepreneurs. In the best cases, the promotion for the innovative ideas directly addressing the environmental issues can be the theme for the accelerator.

# 6. Services to support innovation and competitiveness within the area

In each case, each area and each interacting group, the support for innovations will take a different form and will have different effectiveness. There are however certain principles, which are common for most of the cases.
In general, introduction of innovations should be:

- Not forced and rushed;
- Inspired by the community (bottom-up approach);
- Wise and smart – preceded by an analysis and planned in line with the vision of the future;
- Embedded in the ecosystem and in the wider reality – including the local community but also regional, national and international policies and aspects;
- Equipped with „plan B" and with contingency reserves;
- Implemented with respect to the best practices of change management and innovation management (innovation life cycle);
- Sustainable;
- Performed with respect for the environment and nature, circular economy and aiming in zero environmental impact or positive impact;
- Motivating for the community members and encouraging to the stronger commitment to the undertaken projects and tasks.

The creation of the supporting services system should incorporate the rules of the innovation management and with this – change management. Hence, the role of institutions supporting innovation processes in revitalised areas is multidimensional. The skilled multidisciplinary and experienced team will allow to tackle all areas of the ecosystem for the best result. The team should include not only technical or financial experts but also persons with competencies in public relations and sociology.

In each case the process should be consulted with various actors and stakeholders of the area in question. As stressed many times above, the involvement of the triple or preferably quadruple helix is the key factor of the success of entire support. If smartly undertaken, it will not only increase the successful development of the area and the community but also creates a chance for additional funding to lower the burden for the municipality and the community – an institutional base of such project allows for example to gain a grant from business angels or national or international institutions and funds.

The services supporting innovations can be delivered free of charge, exclusively to chosen groups or investors or addressed to the open public. The scope depends of the capacity of the providers and the demand among innovators and investors. The innovators' priorities might be not aligned with the principles listed above or sometimes conflicting with them, especially when the financial criteria apply.

The offer and the composition of the services itself can constitute the tool of managing the revitalisation of the area. The offer of the services can shape the character of the businesses

encouraging them for instance to the circular economy, usage of the renewable sources of energy, to the higher level of the corporate social responsibility etc. If the incubator offers the consulting services on the energy efficiency or on the contacts with social media and the customers, the companies using the basic offer (usually rent of the space) are more eager to use more of them – particularly if they translate to the stronger market position and material results.

The support for innovations and competitiveness can be composed according to the stages of innovations – from the birth of an idea, through its development and introduction until the stage of the popularisation and death. Further on, the institution coordinating the processes of the revitalisation can intensify these stages where the strongest needs are recognised. For example, a high level of the social exclusion in revitalised areas can be addressed by the creation of the jobs or by the stimulation of the self-entrepreneurial attitude; accordingly, the municipality can invite the investor and organise vocational education or take an alternative route of stimulating the creativity and startups establishment by demonstrations, courses and incubation services for individual entrepreneurs and social enterprises.

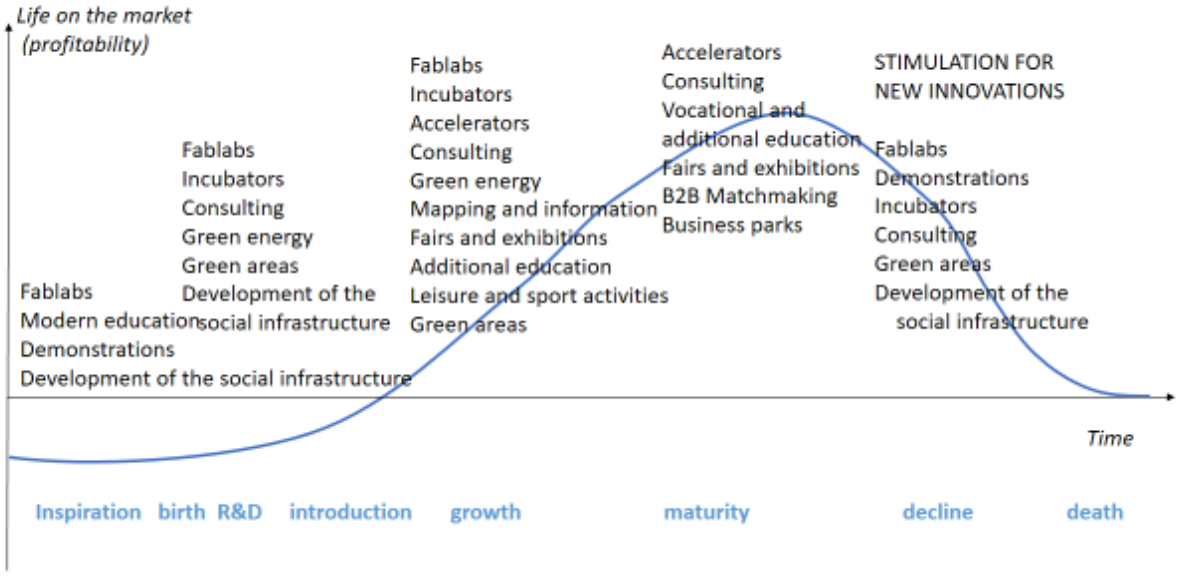
| *Supporting services* | *Features of services* | *Providers* | *The stage of innovation focused on* | *Addressed to SMEs?* |
|---|---|---|---|---|
| Modern education | • In line future trends in science, economy, industry etc.<br>• Employs social and psychological factors such as the change of behaviours of the customers, changing leisure preferences etc<br>• Cooperation with the industry, 3rd level education and research centres<br>• Addressed to the general public | Public and private schools and kindergardens | birth<br>development<br>introduction | No |
| Vocational education | • Extended with practical courses<br>• Cooperation with future employers<br>• Optional training on-the-job<br>• To certain extent tailored to the local employers needs | Public and private educational institutions, training centres | introduction<br>maturity | No |
| Additional training and education | • Contemporary trends<br>• Includes the leisure preferences, hobbies, interests<br>• Considers various age groups, their needs and learning habits<br>• Recognises the growing public interest and changing patterns (e.g. elderly taking on hobbies, adults acquiring new skills, youth developing alternative career paths, extra classes for children after school etc.)<br>• Possibility to tailor to the needs of a narrow group | Mainly private or community initiatives | introduction<br>maturity | Yes |
| Demonstrations of the novelties | • Regular or irregular events of an open character | Public institutions, NGOs, RDAs, | Birth<br>development | Partly |

| | | | | |
|---|---|---|---|---|
| in various sectors | • Addressed to open public with some sectoral or social focus<br>• Possibility to tailor to the needs of a narrow group | foundations, universities | | |
| Fairs and exhibitions | • Regular or irregular events<br>• Some sectoral or social focus<br>• Addressing the demand on the market or in the community | Private providers, sometimes public providers | development introduction maturity | Partly |
| Fablabs | • Open for public<br>• Sectoral focus<br>• Delivers infrastructure for further services (demonstrations, training, courses, small services)<br>• Possibility of educational functions and commercialised services (usually cost-based prices)<br>• For best effects requires coordination with urban planning, education, local industry<br>• Requires investment with limited or none financial return<br>• Usually operating as a non-for-profit<br>• Usually requires long-term funding for operating and maintenance and the organisational structure as a patron/sponsor (e.g. a foundation) | Public and private provider, NGOs, RDAs, Foundations, mixed capital | Birth development introduction | Yes |
| Incubators | • Regular support<br>• Possibility of tailored services<br>• Strong stimulation of individual investors and innovators<br>• Focused on early stage of business<br>• Possibility of sectoral focus<br>• Relatively high risk for investors<br>• Requires hard infrastructure (buildings, parks, infrastructure)<br>• Requires the capital back up in case of financial support | Public and private provider, NGOs, RDAs, Foundations, mixed capital, corporates, business angels | Development introduction | Yes |
| Technology accelerators | • Regular support<br>• Possibility of tailored services<br>• Suitable for existing companies<br>• Focused on innovations<br>• Possibility of sectoral focus<br>• Relatively high risk for investors<br>• Requires the capital back up in case of financial support | Public and private provider, RDAs, Foundations, mixed capital, corporates, business angels | Development introduction | Yes |
| Business parks | • Regular support<br>• Possibility of tailored services<br>• Suitable for existing companies<br>• Focused on early stage of business<br>• Possibility of sectoral focus<br>• Limited risk for investors | Public and private provider, RDAs, Foundations, mixed capital, corporates, business angels | Development Introduction maturity | Partly |

| | | | | |
|---|---|---|---|---|
| | • Requires hard infrastructure (buildings, parks, infrastructure) and services (e.g. transport, security)<br>• Requires the high capital back up on the stage of development of the park<br>• Requires strong coordination with the development plans for the city, region and the very area<br>• Possibility of additional services<br>• Suitable for creation of clusters | | | |
| B2B Matchmaking | • Regular or irregular events<br>• Some sectoral or social focus<br>Addressing the demand on the market or in the community | Private providers, rarely public providers | introduction maturity | Yes |
| Green energy delivery | • Can be delivered in various locations<br>• Requires capital<br>• Can operate on the commercialised basis (return on investment)<br>• Requires strong coordination with the development plans for the city, region and the very area<br>• Requires patron with knowledge of the sector and regulations | Various, often public and PPP | Development Introduction maturity | Yes |
| Advisory, consultancy | • Can be delivered in various locations<br>• Does not require high capital investment<br>• Requires expertise<br>• Can operate on the commercialised basis (return on investment)<br>• Possibility of the regular support<br>• Possibility of tailored services<br>• Possibility of sectoral focus<br>• Limited risk for investors<br>• Can require financing if targeted on early stages of innovations<br>• limited by the limited availability of innovators' funding) | Various | All stages | yes |
| Leisure and sport services | • support the development of the community<br>• increases the attractiveness of the area for investors<br>• no direct link to the innovations in SMEs | Various, usually private | Development, maturity | partly |
| Maintenance of green areas | • increases the attractiveness of the area for investors<br>• no direct link to the innovations in SMEs | Usually public | Development, maturity | partly |

| | | | | |
|---|---|---|---|---|
| Development of the social infrastructure (estates, parks, schools etc.) | • support the development of the community<br>• increases the attractiveness of the area for investors<br>• no direct link to the innovations in SMEs | Various, usually public, often PPP | All stages | Partly (as supportive functions) |
| Information – mapping of the area | • Can be delivered in various locations<br>• Requires investment and time for the development of the plans and maps<br>• Requires continuous maintenance and updates<br>• Requires expertise<br>• Unlikely but possible commercialisation<br>• Possibility of tailored services<br>• Possibility of sectoral focus<br>• Some risk for investors | Various, usually public | Development, maturity Introduction (depending on the type of information) | Yes |

**The development of the innovation in time – example delivered tools**




The frequent problem of the revived areas is the relapse to the derelict state due to the oldering of the business environment. When the novelty wears off and the development momentum is lost the interest of the customers and employees turns elsewhere in the search of the new, more modern and fashionable solutions and offers. To prevent such situation, the rejuvenation of the ecosystem is required by the arrival of further innovations, new products and services. The practice shows that the blooming city centre can also move to the different location. Occasionally the new social and business hub can be remote from the original city centre; more frequently it oscillates around the main square, street or another inner part of the municipality. Nevertheless, even if the new hub is in an adjacent estate, such move creates a risk for the original area of the businesses moving out following the customers traffic if the city management fails to assure some balance.

The choice of the social hub by customers might be spontaneous but the entrepreneurs are driven by economic and pragmatic factors. The global economy crisis of 2008 was a strong lesson even for the richest who scaled down their luxurious premises in the most fashionable and the most expensive districts. The location of the offices in the expensive places is the result of the calculation of the direct and indirect costs and benefits. The benefits include the visibility, prestige of the brand, accessibility by the customers.

The phenomenon of the "district-in-fashion" causes that the investor choose to rental over the purchase to avoid the loss of the market value of the real estate. Additional benefit of renting is the lack of taxes and lower engagement of the human resources and funding for the maintenance, security and some other services, which can be shared. Paralelly, this creates an advantage for the municipality to create the attractive area or business park.

Dublin Docks created in 19 century where restored by the Dublin Docklands Development Authority in early 2000. The DDDA was created in 1997 to perform the complex regeneration of the eastern part of Dublin (Ireland). The buildings gained the new modern and inspiring design attractive enough to encourage big corporations and financial institutions as well as small providers of luxury goods and luxury crafters. The years 2007-2008 changed the landscape radically and the district occupancy rate fell dramatically below 60%. It took another several years, creation of special purpose bodies and several billions of investments to bring back the customers and the business. The tools used by the municipal authorities included organising social events such as occasional festivals around summer, Christmas, Easter etc. or inviting big events such as international sailboat races. Development of the frequent and comfortable public transport had also a strategic meaning – the docks were connected to the main streams of the city transport routes (tramway, buses). However, the original character of the district changed slightly due to the investors scepticism. The dominating sectors among the small businesses are food, alcohol, hospitality and chosen specialised services such as health, cleaners, repairs.

The understanding of the life cycle of innovations is an essential skill to create an efficient composition of the services supporting the innovations. The role of the providers of the services does not finish on the stage of the innovation development; once the new product or service reaches the stage of maturity, the enterprises need to be already ahead of the customers and the competitors with their offer not to lose the position and to expand the market – otherwise the company may cease to exist. Then again, with some external support, SMEs can compete with global corporates or can become their preferred providers and business partners given that they keep up the pace of the development. The interruption of the innovation processes create a thread of lagging behind and eventually of the relapse.

Likewise, the support has to change the character to answer the changing needs of the local business and community. Once the innovator used incubation services, it may look for further investments to modify the technology and to run further research. The modernisation of the existing company can be supported by the technology accelerator, a business angel or another matched enterprise looking for a new business model. A different area of education and training may be sought by employers; employees and inhabitants will look for different services and social infrastructure; moreover, the old templates may need to be revised in line with the changing behaviour of the communities.

This results in the need of modification of the composition of the services to adjust them to the current needs of the recipients of the support. The system created several years ago is no longer valid not only because of the change in the business ecosystem of but also in the social and psychological characteristics of the target groups even if the recipients are namely the same persons.

The work-life balance is the concept born in 1970s and 1980s and refers to the individual preferences of the allocation of time for work and private life. The contemporary model already does not correspond to the original concept. The generation, which enters their adulthood age, is looking for and at different solutions such as working from home or locally, using the advanced ICTs and to minimise commuting what results in much bigger per cent of the time with the family and friends. The work interest and hobbies merge and the delivery of entertainment is more flexible thanks to the advanced technologies and more effective and quicker communication. The age characteristic also gains the meaning in line with expanding life expectancy and the growing length of fitness. At the same time, the technologies facilitate life of persons with disabilities and elderly. The main factor, which caused and allowed the change is the growing usage of internet services and practical electronic gadgets, which fit the pocket while their computing strength is several times quicker than the machinery used to send the first email in 1960s.

Consequently, not only the composition of the services used so far change but also their form and the way of their delivery, the multidisciplinary expertise required from the consultants. Needless to say, the brand new services and products supporting innovations are born every minute.

Ironically, the same as the innovations they support, the new services are subject to the same rules albeit the challenge is bigger – to assure the continuity and the speed to bring the competitive strength to the renovated areas and the communities, the support should look always a couple of steps ahead of the inventors themselves.

# 7. Conclusions

- There is no unified formula for the effective support of innovations. Factors are very individual for each area, community and even for each investor,
- There are certain common features, on which the tools can be built and their effectiveness is proven by the best practices gathered in this paper.
- The tools need to look into the current trends and into the prognosis of the economy and social development.
- The tools need to answer the needs of the community they will serve and they need to be embedded in the overall strategy for the area and the region.
- The implementation is subject to the same rules as other projects regarding the planning, continuous monitoring and follow up. One of the key features is an effective communication across all stakeholders of the project and even beyond them.
- The providers of the services can be individual or institutional with the latter enjoying the easier access to aid funds e.g. from the European Union than private individuals. The team work brings additionally wider and deeper expertise.
- The exchange of best practices, ideas and failures allows to maximise the benefits of effort put in the delivery of the supportive services. Nevertheless, apart from the personalisation of the support for each investor, the supportors should closely observe the changes in the existing ecosystem as well as the global and local trends.
- Despite of the globalisation, the focus is on local community even though the support is delivered to an individual innovator.

# 8. Annex 1. the Go SIV method of work

Go SIV technical activities were structured in order to assure the achieving of effective peer learning between participating partners through:

- the exchange of knowledge and expertise according to the high level of complementarities included in the partnership, and through
- the learning by doing approach, whose implementation will be a fundamental part of the project because each partner will be able to bring the experience acquired through the learning by doing to other partners.

Peer learning activities and learning by doing at local level will feed mutually and provide the knowledge and experience needed to prepare the Design Option Paper related to "Smart industrial villages" initiatives and innovation support services.

## 8.1. Go SIV and the Horizon 2020 work programme

Go SIV proposal relates to the topic "INNOSUP-05-2016-2017: Peer learning of innovation agencies" of the call "For a better innovation support to SMEs" included in the work programme 2016-2017 chapter "7. Innovation in SMEs" of Horizon 2020.

In specific, Go SIV refers to the Twinning+ methodology proposed by the PRO-INNO Europe 'INNO-Partnering Forum' combining and testing elements of traditional peer reviews and twinning in a small learning group of regional development agencies. The Go SIV group was composed by three development agencies representatives of different European regions (in Poland, Italy, Portugal) with specific experience and case studies already developed and high complementarities of expertise.

Through the project activities, the development agencies involved were able to

- exchange their respective expertise,
- identify the basic elements of a common reference model (the Smart Industrial Villages model),
- implementing activities (focus groups, meetings) at their local level,
- build a local case study (the study for requalification of an urban industrial area) and, therefore
- developing a process of learning by doing that provided additional added value to the peer learning.

The three agencies worked together to define features and tools connected with the different elements of the model, finalising the preparation of a Design Options Paper for the startup and design of local initiatives intended to develop a "Smart Industrial Village", and for the design of

innovation support services for the enterprises of the area, intended this latter to be an effective innovation ecosystem.

Though this experience and the application of the Go SIV project scheme the development agencies enhanced their role as promoters of SME's innovation processes. The application of the model described in the DOP, and its inclusive character was intended for assuring an higher level of satisfaction by the local stakeholders, who were involved in the design process and stimulated by the opportunity to produce new forms of innovation. This was intended to make the methodology and the expected results coherent with the challenge the specific Horizon 20202 programme reference topics addresses.

Moreover, the proposed approach is coherent with the objectives of the call in which the reference topic is in included as it refers to new forms of innovation (such as new services, integrating commercial and leisure functions, promoting micro craft or art/design activities, possible applications of "smart technologies") and new entrepreneurship connected with them. The industrial area (close or included in the urban context) is tested as an effective environment for promoting and supporting an innovation ecosystem. The model can be capitalised at the regional level and promoted at the European level, as the peer learning process developed by the partners will keep into consideration that different local situations across Europe can have different starting point in terms of features, available structures and local services, entrepreneurial and business culture.

## 8.2. The Go SIV consortium

The consortium was composed by three regional development agencies located in different European countries (Poland, Italy, Portugal) and competent for implementation of regional policies, projects and initiative related to economic development of territories and support to SMEs innovation and entrepreneurship. All project partners have direct working relationships with their respective regional governments, and have strong connections and contacts with regional and local stakeholders related to SMEs or local clusters innovation processes and, local administration, territorial planning and management or urban areas.

The three partners as a group could guarantee an exhaustive expertise on all topics included in the "Smart industrial villages" approach, and in specific:

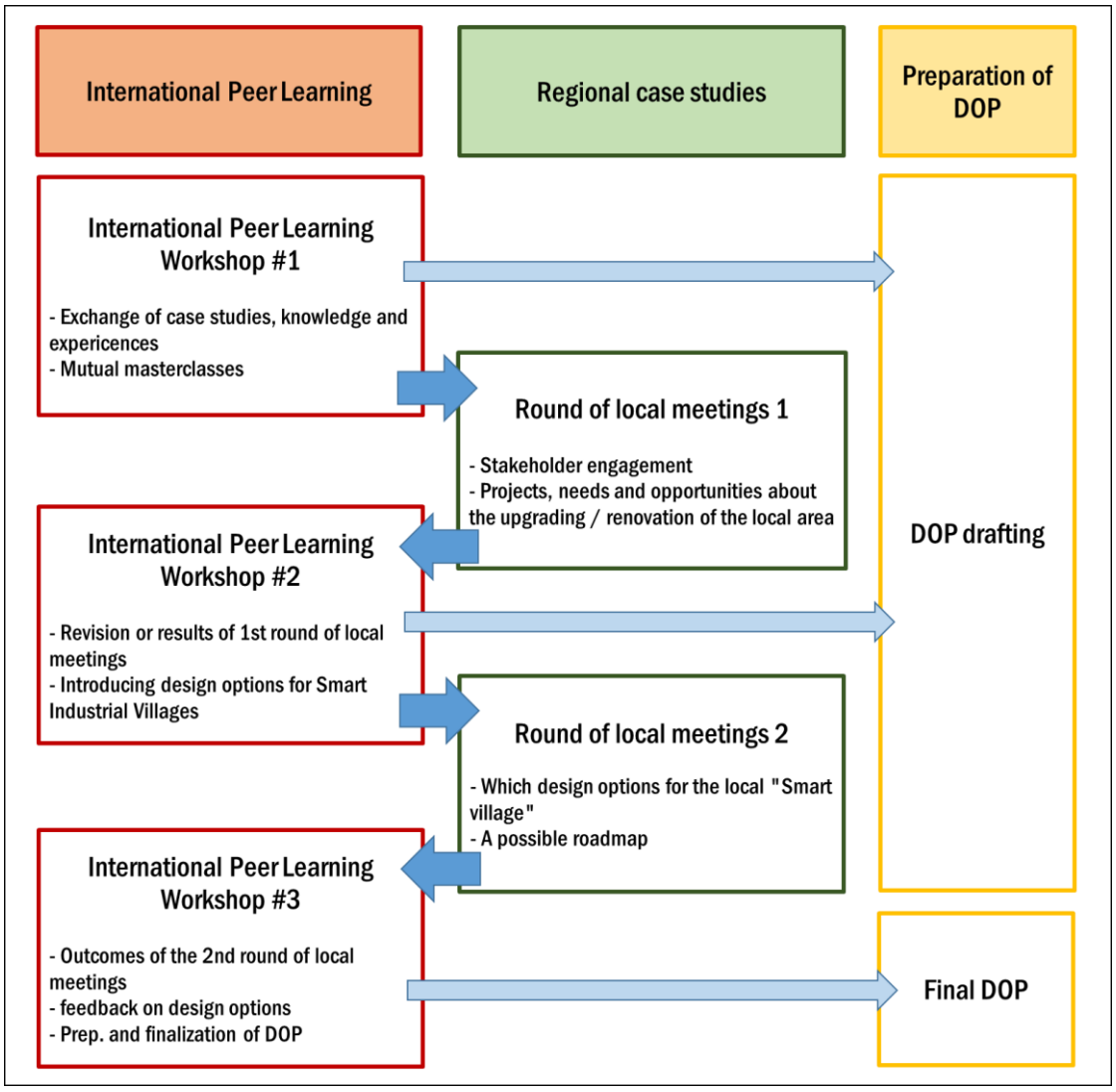
- RDA Bielsko-Biała: smart cities technologies and services, fab labs, energy renovation
- ERVET: circular economy, energy renovation, promotion of entrepreneurship, social innovation
- ADRAL: Innovation, ICT, Energy, IoT, Cloud Computing, Big Data, Entrepreneurship, Incubators, Prototyping, Bottom-up Initiatives, SME support.

The limited number of partners and their expertise on different topics optimized the exchange of knowledge and the opportunity to integrate the peer learning method with the development of a case study at local level enabling a learning by doing process that was shared by the consortium itself.

## 8.3. The project scheme

The work plan of Go SIV technical activities was structured as described in picture X.

Picture X. Structure of Go SIV technical activities




The structure of the project takes into consideration three working environments:

- The international peer learning workshops, by which the partners were be able to meet, exchange their knowledge and expertise, provide mutual master classes on specific topics and work together having as a starting point the experience each partner is developing at

local level. The three partners as a group were able to guarantee an exhaustive expertise on all topics included in the model, and in specific:

- RDA Bielsko-Biała: smart cities technologies and services, fab labs, energy renovation
- ERVET: circular economy, energy renovation, promotion of entrepreneurship, social innovation
- ADRAL, Innovation, ICT, Energy, IoT, Cloud Computing, Big Data, Entrepreneurship, Incubators, Prototyping, Bottom-up Initiatives, SME support

- The regional case studies, by which the partners were able to work on a specific local pilot areas for the application of the concepts of "Smart Industrial Village" approach. They deepened needs and opportunities related to the design of the area renovation process, discuss locally the renovation options and the most effective measures to be supported by regional and local actors. The measures were intended for renovation of the area and also for including new industrial and crafts activities, cultural and/or artistic activities, developing commercial and recreational functionalities of the area, optimizing mobility and means of public transport, etc.

Each one of the partners will be able to work with a specific local industrial area or a specific local context including different industrial urban areas to be renovated:

- RDA Bielsko-Biała initiated a local discussion about Smart Specialisation at city level, within the IN-FOCUS project implemented under URBACT III Programme. A Local Support Group was established and coordinated to develop a Local Action Plan for the City of Bielsko-Biała. RDA Bielsko-Biała as a regional development agency also has strong impact on the local innovation system and start-up scene. The agency initiated a local startup platform and startup seed capital fund called Beskid Technology Accelerator, and since 2009 invested over 3.000.000 EUR into innovative regional and local companies. Within Go SIV, RDA Bielsko-Biała implemented the local case study in collaboration with the local startup platform and startup environment involving new technology companies, called Startup Podbeskidzie (local startup bottom-up initiative). Moreover, the agency involved the Bielsko-Biała university, with its academic incubator initiative. New startup companies have been also supported by the FabLab Bielsko-Biała, located in the Special Economic Zone within the Beskid Technology Incubator, which is an initiative by RDA Bielsko-Biała and provides innovative solutions in the area of 3D modelling and printing.
- ERVET has been working with the Roveri industrial area located in the urban area of the city of Bologna (capital town of Emilia-Romagna Region). The Roveri area is characterized by historical small industrial and crafts activities, and by some services or recreational activities activated in the last few years. Some new enterprises included in the green economy sectors (e.g. electric mobility) have been recently located in the area. A process of renovation of the area is in progress, included in the general master plan of the city, and an initiative called "Roveri smart village" is going to start in March 2017. The first steps planned are for the promotion of energy

renovation and the implementation of forms of industrial symbiosis between the small and micro-enterprises located in the area.

- ADRAL has been working in the region's main city, Évora, which is a Unesco World Heritage City with a recent and positive development in terms of components industry (example: Aeronautics Industry). The city is developing an urban renovation plan with a total budget of 9M€. This plan if well designed combined with the new industry and services investments from private companies can be the key factor for a boost in economic and population development, not only in the city but also in near small towns. The challenge is to combine a smart, high quality and sustainable urban environment having good housing prices, with a growing specialized investment and employment and also with qualified and abundant human resources. A Smart, Innovative, Industrial and World Heritage City for a new development paradigm in rural cities.

- The discussion and preparation of the DOP about initiatives and innovation support services related to the application of the "Smart Industrial Village" approach (WP5). During the meetings, partners discussed outcomes of the peer learning and the case studies and tried out the contents of the DOP, which is be the main deliverable of the project. After the third International Peer Learning workshop, partners prepared the final release of the DOP.

Activities within the three working environments have been developed according to a general agenda (see picture X):

1) Project partners met for the first international Peer learning workshop, through which they have been able to exchange their knowledge and expertise, share and deepen their local case studies, provide mutual masterclasses on general issues.
2) The homogenization and mutual work was the basis for the first round of activities to be implemented at local level within the pilot area. They included stakeholder engagement activities, focus groups and/or local meetings to discuss projects, needs and opportunities related to the renovation of the area, optimization of public and technological services and facilities, inclusion of different kinds of activities, promotion of the area.
3) The outcomes of the first round of local activities in each participating region have been the basis for the works of the second international Peer learning workshop. Partners summarized, introduced and discussed possible basic design options for "Smart industrial villages" initiatives and innovation support services, and provided each other expertise and knowledge about specific topics of discussion.
4) The results of the second Peer Learning workshop was useful for the organization and the contents of the second round of activities at local level in each participating regions, within the pilot areas. Focus groups and/or local meetings enabled discussion and learning by doing about the possible design options for the local initiative and the renovation of the area as a means for building an effective innovation ecosystem, and for specific local innovation support services.
5) The outcomes of the second round of local activities within pilot areas have been the basis of the works of the third International Peer Learning workshop. Partners

discussed about the application of general and specific design options according to the development of local case studies. They also discussed the general model developed through Go SIV and described in chapter 3, aimed at describing the local "Smart Industrial Villages" as local innovation ecosystems.

6) After the third International Peer learning workshop the partners prepared the final version of the DOP.

## 8.4. Organising peer learning activities

The International peer learning workshop (IPLW) is the work environment adopted by the Go SIV project methodology by which the partners have been able to meet, exchange their knowledge and expertise, provide mutual master classes on specific topics and work together having as a starting point the experience each partner is developing at local level.

According to the project plan of activities, project partners organized three IPLWs:

- International Peer Learning Workshop #1, organized in December 2017 by RDA Bielsko-Biała.
- International Peer Learning Workshop #2, organized in April 2018 by ERVET.
- International Peer Learning Workshop #3, organized in October 2018 by ADRAL.

The partners agreed a common format for the three meetings keeping as a starting point the needs to optimize knowledge and expertise already owned by each agency, the development of local case studies (learning by doing) and the contents included in the DOP. Therefore, all partners agreed that each workshop could have a duration of one whole day or half a day for:

- the introductory part: presenting or update local pilot applications, development of the Go SIV model, making the point about knowledge shared by partners on the specific topics of the model, connections with contents of the DOP;
- the core part: presentations and masterclasses by the agency and local experts and discussion of case studies about specific topics and applications;
- the final part) making the point about the contents acquired with the masterclasses, connections with contents of the DOP, homework, work expected to be done at local level on pilot areas.

Moreover, the hosting partner could add one day or a half day of site visits (i.e. the local pilot industrial area and/or local companies, universities, services centres etc.). So each partner could be free to organize a more restricted or extended programme according to his local network and good practices as well local services or structures already in use.

However, as the peer learning process also worked on a continual way along the project through the exchange of news, findings and questions about methodological and technical issues among the partners, partners had the opportunity to optimize the workshops agenda also according to specific needs of the project in progress.

In specific:

- the International Peer Learning Workshop #1, took place in Poland, in the city of Bielsko-Biała on December 18th and 19th 2017. Being the IPLW#1 planned during the project kick off meeting, partners were expected to exchange and discuss, as a first step, the respective specific expertise and specializations, as well as the general characterization of their agencies and the related regional territory covered by the activity of the agency, in specific under the economic point of view. They also were expected to share and deepen specific features of each local case study. Finally, another basic need was to discuss a fist proposal about the general structure of the DOP. All this in order to create a common understanding of the three different work environments.
- The International Peer Learning Workshop #2 took place in Italy, in the city of Bologna on April 5th and 6th 2018. The IPLW#2 was expected to be held after the presentation of the project and its objectives at the local level in all partner countries, the local stakeholder engagement initial activities and a first round of activities performed for developing the local case studies. Therefore, partners were expected to exchange and discuss, as a first step, the state of the art of the works at local level, problems encountered and results obtained, and further steps to be implemented in a first part of the local application. They also were expected to share and deepen additional features of each local case study. Finally, another basic need was to discuss and make the point about the general structure of the DOP and possible substantial changes, and the state of the development of the reference model.
- The International Peer Learning Workshop #3 took place in Portugal, in the city of Evora, on October 1st and 2nd 2018. The IPLW#3 was expected to be held summarizing the work done at local level in the different countries. The partners discussed how to finalize activities, meetings and outcomes about the local case studies. They also discussed and agreed the final version of the Go SIV model and the solutions adopted to describe and apply the different steps. Moreover, they discussed the list of tools or services for supporting the processes for the upgrading, renovation or regeneration of local areas composing the basic set proposed by Go SIV. They also agreed the final structure and contents of DOP and how to produce the final release of the document.

## 8.5. Stakeholder engagement and development of good practices

Direct involvement of local stakeholders was a basic component of the Go SIV project scheme. Expertise, knowledge, case studies, ideas and points of view of the different local stakeholders and managers provided the contents for feeding both the peer learning workshops and the local workshops case studies (through local workshops and meetings) as well as the contents of the DOP resulting from them.

Go SIV partner had the opportunity to understand the dynamics of the development over time of the urban contexts and the connected urban industrial areas and directly visited the urban centres

of Bielsko-Biała (Poland), Bologna (Italy) and Évora (Potugal), as well as the following "urban" industrial areas:

- Nowe Miasto Urban Area in Bielsko Biała (Poland),
- Bielsko-Biała Technology Park in Wapienica (Poland),
- Roveri industrial Area in Bologna (Poland),
- Horta da Figueras urban area in Evora (Portugal),
- Technology and industrial park in Evora (Portugal)

Moreover, they involved their internal experts within the peer learning. Regarding external local stakeholders, actors directly involved in the project activities and in the development of technical contents have been the following:

- Providers of services for innovation, technology, startups: Fab Lab Bielsko-Biała (Poland), University of Bielsko-Biała Startup incubator (Poland); Beskid Technology Incubator (Poland); Fablab ÉvoraTech (Portugal); NERE – Business Centre Of The Region Of Évora (Portugal); LINC – Évora Incubation Centre (Portugal)
- Agencies, Research centres, universities: ENEA-National Italian body for energy, environment and sustainable development (Italy, Go SIV associated partner), TNO-Netherlands Organisation for applied scientific research (Netherlands), University of Bielsko-Biała (Poland), University of Ferrara (Italy); ASTER-Emilia-Romagna Regional Agency for technology and innovation (Italy); Lepida Spa (Italy)
- Association of enterprises or managers of industrial areas: Confindustria Emilia (Italy, Go SIV associated partner), CAP-Consorzio Attività Produttive di Modena (Italy); CNA Bologna (Italy)
- Enterprises: F.I.V.E (Fabbrica Italiana Veicoli Elettrici) Srl; FRI-Fashion Research Italy; Kaeser Compressors; Eta Beta coop soc. onlus; UP-Urban Climbing srl; DECSIS-Data Centre;
- Public administrations: Municipality of Porąbka (Poland); Bologna metropolitan authority (Italy)
- Other actors: Liberex-Commercial credit circuit of Emilia-Romagna (Italy).