

Roll out Strategy

D.T3.3.2 PP6 FabLab Bielsko-Biała

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Table of contents

Table of Contents

1. Incorporation of innovative services and tools to your portfolio	4
1.1 Chapter 1 - Background	4
1.2 Chapter 2 - Goal and expected outcomes	4
1.3 Chapter 3 - Target groups	5
1.4 Chapter 4 - Content of the action	6
1.5 Chapter 5 - Timeline	7
1.6 Chapter 6 - Budget	7
1.7. Chapter 7 - Assessment of the environment	7
1.8 Chapter 8 - Cooperation	8
1. 9 Chapter 9 - Advertisement	8
2. Strategies to target policy makers to spread FabLabs nation-wide	8
2.1 Chapter 1- Background	8
2.2 Chapter 2 - Vision and mission statement	9
2.3 Chapter 3 - Action	9
2.4 Chapter 4 - Stakeholders and target groups	10
2.5 Chapter 5 - Policies targeted	10
2.6 Chapter 6 - Recommendations	11
2.7 Chapter 7 - Financial sustainability and resources	11



1. Incorporation of innovative services and tools to your portfolio

1.1 Chapter 1 - Background

FabLab Bielsko-Biała was established in 2014 and it was the first fabrication laboratory in the south of Poland. FabLab is equipped with the 3D printers, 3D scanners, laser cutter and mini plotter. From the beginning of its existence, it was concentrated on educational activities, introducing cutting edge technologies to the community and to local and regional schools. In the framework of FabLabNet project we were able to widen our portfolio of activities and test new solutions that we will further implement beyond the project. With the Pilot Actions Community and Education we tested few types of services in terms of its impact on creativity and boosting innovation in the region. We have also tested efficiency of several methods of engagement of participants and level of knowledge about FabLabs itself and the technologies that they offer in the community.

With the FabLabNet project we did:

- Pilot Action 1: three types of actions: Mobile Pilot Action, 3D Schools, On-line Open Call - all related to 3D printing, 3D modelling and rapid prototyping and all prepared for children and youth from different areas
- Pilot Action 2: advanced course for students from local university in terms of spatial modelling and reverse engineering.

On the base of evaluation surveys made after implementation of all the activities, we can measure their adequacy to the needs of participants and adjust them were needed.

1.2 Chapter 2 - Goal and expected outcomes

As FabLab Bielsko-Biała we would like to become a center of creativity and innovation in the region. First of all, our goal is to introduce cutting-edge technologies to children and youth - to enable them with skills that will help them in the Industry 4.0 world in the future.

With the FabLabNet project we have tested a pilot that worked well in our conditions and we would like to continue it in the future. Within the frame of Pilot Action Community we have prepared short presentations introducing world of 3D printing in schools. We had around 600 participants and a very good feedback. Our goal is to disseminate it further, not only in our city, but in the region and beyond.

This is the goal that results from our previous activities - from the beginning of its existence, FabLab Bielsko-Biała was education oriented. We've noticed the gap in the curricula of practical, hands-on and innovative courses that results in improvement of technology



maturity level and we will for sure continue raising awareness campaigns in terms of 3D printing to fill this gap.

Our next steps in terms of education is to introduce new, up-to-date types of workshops and courses. Between others, as there is a common need to improve vocational education and tailoring courses to the needs of local labor market, we would like to provide hackathons that will combine students or pupils from higher classes with the local companies - so the first ones will work on solutions for the problems that occurred in the seconds.

To roll-out and use lessons learnt that we gained during the implementation of FabLabNet project we would like to widen the scope of our activities. On the one hand, we plan to enlarge our technological infrastructure with the new equipment: robotic arms and tools for working with electronics, robots, Arduino etc. On the other, we would like to extend our activities on other target groups - not only children and youth, but also local community and companies.

To achieve goals mentioned above we also decided to participate in the DIHELP project - organized by the European Commission. Within the project we would like to create Digital Innovation Hub on the base of our FabLab. In Digital Innovation Hub, except the services that we are offering in now, we will also prepare tools for enabling digital maturity assessment of the SMEs, automation of production processes, machine learning and general awareness raising activities in terms of digitalization and Industry 4.0 principles.

1.3 Chapter 3 - Target groups

As mentioned above, FabLab Bielsko-Biała would like to introduce its activities to three main target groups:

1. Pupils and students, school environment - already involved in many activities, high level of engagement, broad network of contacts. Having a lot of experience in terms teaching children and youth, now we would like to extend to train-the-trainer formula and try to engage teachers into our activities, to enable them to disseminate the knowledge by themselves
2. Local community - promote FabLab as an open space, where everyone can come, learn about our equipment capabilities and use it tailored to their needs. We would like to organize workshops, presentations from different areas of interest to reach different target groups - we would like to make workshops tailored for women
3. Local companies - FabLab want to become a place where companies will be able to solve their problems (by organizing events like hackathons mentioned above) or learn about new technologies in more advanced level. With the robotic arms we would like to prepare a course about automation of production processes, machine learning and human-robot cooperation.



1.4 Chapter 4 - Content of the action

Portfolio of courses that will be incorporated to the day-to-day activities of FabLab Bielsko-Biala from the FabLabNet project:

1. Pilot Action Community - basic, raising awareness training - as mentioned above, we will continue to implement those activities, but with more involvement of teachers.
In the perspective of next 5 years, each year we plan to launch an open call for schools - from the region and beyond - to invite them to participate in the 3D printing raising awareness program.
We plan to introduce two types of activities. First, an option of the mobile workshops in the FabBox convention, when we will visit the school with our portable equipment, and second - invitation for the school to come to our place and get familiar with the equipment and the space of FabLab itself.
Workshops will be provided with our own resources, and conducted by our fablab manager.
2. Pilot Action Education - more advanced training for people who already have a knowledge about spatial modelling and 3D printing, designed for students of technical universities.
We plan to encourage local universities to use our FabLab infrastructure to organize such course.
To conduct this kind of training, a professional expert has to be hired accordingly to the course thematic scope.
3. Automation of the production processes - to extend our portfolio and reach new target groups we plan to propose a workshops for the companies to get familiar with the robotic arms and consider the automation of the production processes in their environment.
In line with this, we plan to incorporate to our FabLab activities related to widely understood digitalization, including for example digitalization assessment surveys for companies.

In terms of the FabLab Bielsko-Biala infrastructure itself, actions planned for the perspective of next five years are:

1. Enlarging the working space
2. Buying new equipment - robotic arms, electronic devices, tools to work on robots, Arduino etc. - partially EU funded (4STEPS project, Interreg Central Europe), looking for funding opportunities for the rest
3. participation in projects that will constantly improve and expand the FabLab offer - eg. ongoing Digital Innovation Hub Enhanced Learning Program (end in December 2019) and its follow-ups



1.5 Chapter 5 - Timeline

Described actions are planned to be taken in the next five years. However, many of them are strongly related to the external factors, so the possibility of their implementation will be checked accordingly.

1.6 Chapter 6 - Budget

One of the goals of FabLab Bielsko-Biała is to become economic sustainable - using public funds and grants, but also with the commercial activities and membership fee.

For today, we have some money budgeted in the EU funded projects for buying robotic arms on which we will provide free workshops.

We would like to improve our business model with the revenues from membership fee and commercial trainings and activate private capital in the region to invest into technology and innovation.

1.7. Chapter 7 - Assessment of the environment

Strengths:

- Strong position in the local ecosystem of innovation
- Part of the network of relevant stakeholders
- Strong relations with schools
- Experience in the field of education
- High-level equipment
- Only FabLab in the city

Weaknesses:

- Low level of visibility in local media
- Location outside the city center

Opportunities:

- Participation in the skills improvement programs - like DIHELP (EC)
- Gaining funds for further development form EU, national, regional or local programs
- Preparation of portfolio of commercial activities

Threats:

- Losing the economic sustainability - not being able to prepare efficient business model
- Changes on the political level



1.8 Chapter 8 - Cooperation

Cooperation is central - that's why we would like to involve relevant stakeholders in all the activities that we will provide.

Having in mind type of activities we will implement, for sure we would like to engage: schools, universities, local companies and global players that we have in the city.

Having appreciation of the policy makers is also very important.

Under the umbrella of Digital Innovation Hub that we will plan to closely cooperate with the university and startup environment to ensure complex services for SMEs and community.

1. 9 Chapter 9 - Advertisement

We plan to use different channels of promotion to reach the target groups mentioned above. Thanks to the FabLabNet project and all the activities taken during its implementation we have a big data base of stakeholders and potential clients and participants for the future workshops and we are going to use them to disseminate and promote f. ex. via emails.

We will also participate in different events organized either on regional or national and international level and both present our activities and exchange knowledge and good practices with similar institution and creative spaces.

2. Strategies to target policy makers to spread FabLabs nation-wide

2.1 Chapter 1- Background

FabLab Bielsko-Biała was established in 2014. Since that time we were trying to involve all relevant stakeholders in the region, including policy makers. The first FabLabs' space was officially opened by Mayor of the city of Bielsko-Biała. Through all the years policy makers were more or less involved in the activities of FabLab - as a participants of the events or facilitators and enablers of our development and contacts with other entities.



Within the framework of FabLabNet we were organizing a lot of activities for different target groups. We tried to keep policy makers informed and involve them in the activities provided, however we would like to extend our scope - from local policy makers to the regional level. The second thing is that we've noticed the need of raising awareness and a big potential in the small communities from the municipalities surrounding our city. With the FabLabNet Pilot Action Community we have reached the community of Porąbka municipality, with FabBoxes we were in neighboring Czernichów with our 3D printers. Workshops provided by us were made for children and youth and we have seen a lot of creativity and curiosity in terms of cutting edge technologies among the participants. That's why we would like to continue this kind of activities in other municipalities. We would also like to multiple the scheme that we did in the frame of the project - which is signing the Memorandum of Understanding with the local policy maker, because in this kind of small communities they have the role of local leaders with a lot of impact. In case of the local authorities of the city of Bielsko-Biała - as it is the owner of the Regional Development Agency that provides the FabLab - the need of their involvement is unavoidable.

2.2 Chapter 2 - Vision and mission statement

FabLab Bielsko-Biała as a place to improve creativity and boost innovative ideas from local community with the active involvement of policy makers and key players from the region.

2.3 Chapter 3 - Action

With the FabLabNet project we gained knowledge and experience that we would like to use in the future. The outcomes and results that we have are very impressive and will help us in promoting our activities among relevant stakeholders, including politicians, and to extend it on wider area. Our next steps will be promotion of FabLab in local and regional media, participation in external events and organization of promotional events in FabLab - to a wider audience from different target groups, just to mention European Funds Open Days 2019. Under the frame of this event we will organize second edition of Open Makers Day - a day when everyone can come to the FabLab, learn about cutting edge technologies and our equipment and take part in workshops and contests. European Funds Open Days 2019 is a nationwide event organized by the Ministry of Investment and Regional Development cyclically every year to promote the effects of European funded projects. By taking part in this kind of event we would like to raise awareness of our project on the national level and create a bounds with ministry.

We would also like to continue our activities related with schools - in the upcoming months as a follow-up of FabLabNet pilot actions we plan to organize another series of 3D printing presentations in the schools in the city of Bielsko-Biała and after that - in other parts of the region.



In parallel, we will also introduce our offer to the local authorities from smaller municipalities in the region and propose them to organize workshops and training similar as during Pilot Action Communication or FabBoxes.

2.4 Chapter 4 - Stakeholders and target groups

All relevant stakeholders from quadruple helix are in the scope of our interest. In the FabLabNet project we cooperate mostly with the world of education - pupils, students and teachers from schools and universities. We would like to continue this way, but with more involvement of policy makers and local leaders and more impact on the local communities. We would like to reach remote areas, where access to cutting-edge technologies is limited and make workshops in the type of FabBox there. We would like to show the policy makers that our FabLab is a creative place with all relevant equipment and knowledge to face Industry 4.0 revolution - as on the everyday life level as well as from the business point of view.

Policy makers that we would like to show our offer are at the local and regional level at the most. The city of Bielsko-Biała is the owner of RDA that is providing FabLab, so they are aware of our offer. However, we would like to involve them more - as a participants of the events and as the facilitators of expansion of our ideas to other areas. We would like to introduce our offer to the regional authorities and MA of European Funds on the regional level.

We would like to become more visible for the SMEs in the region - as this target group is the most important in terms of becoming economic independent and sustainable. With the new equipment that we want to buy, we will introduce and offer of trainings in terms of automation of the production processes.

2.5 Chapter 5 - Policies targeted

Having the policy makers mentioned above on board of our FabLab, first of all we would like to influence strategic documents on the city and local level. Development Strategy of the City of Bielsko-Biała as well as of the Southern Subregion of Silesia Voivodeship (NUTS 3) are in their competence.

With our vision and activities provided, we would like to improve policies in terms of issues related with education in the first place and local smart specializations in the second.

We would like to underline the importance of being in line with industrial revolution, show that Bielsko-Biała is a place where to-be-engineers can practice and improve their skills in terms of STEM education.



We also would like to influence the city and policy makers by being a part of participatory budget. Regarding smart specialization strategy - we have all the technologies needed to provide services in line with S3 in the region that are: medicine, power industry, ICT, emerging industries and green economy. We would like to improve them in the region and transmit it on the local level with an added value of our own automotive and aviation.

2.6 Chapter 6 - Recommendations

To achieve the goals that have been set we recommend firstly, to have a clear vision of the FabLab development, specified target groups to be reached and stakeholders to be involved. Being in line with relevant strategic documents and following economic and technological European and global trends will be also helpful in terms of getting the policy makers support.

The second issue is to have well set up communication and promotion plan to disseminate FabLab activities, both regarding on-line marketing as well as participation in external events, workshops and seminars on regional, national and international level.

It is also very important to participate in varied initiatives, especially on international level, where good practices and knowledge are exchanged. We don't have to reinvent the wheel and learning from more experienced and adjusting it to the local level can also be a key principle to activate policy makers and promote FabLab activities.

2.7 Chapter 7 - Financial sustainability and resources

In our future business model we would like to combine different financial resources to ensure economic sustainability. The first pillar will be based on the European Funds, as it is now. We would like to continue applying for grants from the European Union, e. g. H2020 or European Territorial Cooperation programs. We already have two Interreg Central Europe projects - 4Steps and InduCCI - that will support our financial sustainability for the next three years. As we are trying to expand our activities into the SME market, we would also like to separate commercial services in our business model.

We are a part of the European Commission program - Digital Innovation Hub Enhanced Learning Program (DIHELP) which is coaching and mentoring program for entities like ours to become DIHs. With this project we are learning how to combine our resources - grants and commercial revenues - into appropriate financial engineering model.

Being a Digital Innovation Hub also gives us new opportunities for applying for European funds from different EC programs, just to mention Digital Europe program which is about to be announced.