DT.1.1.2 MAPPING LOCAL ECOSYSTEM CHALLENGES

Mapping local ecosystem challenges of each project partner
PP 1/ MUSE

Version 2
11 2017

T1	Capacity Building and Networking of Fab Labs
A.T1.1	Baseline Phase: Mapping Challenges and Innovation Potential within Innovation Ecosystem
D.T.1.1.2	Mapping Local Ecosystem Challenges of Each Project Partner

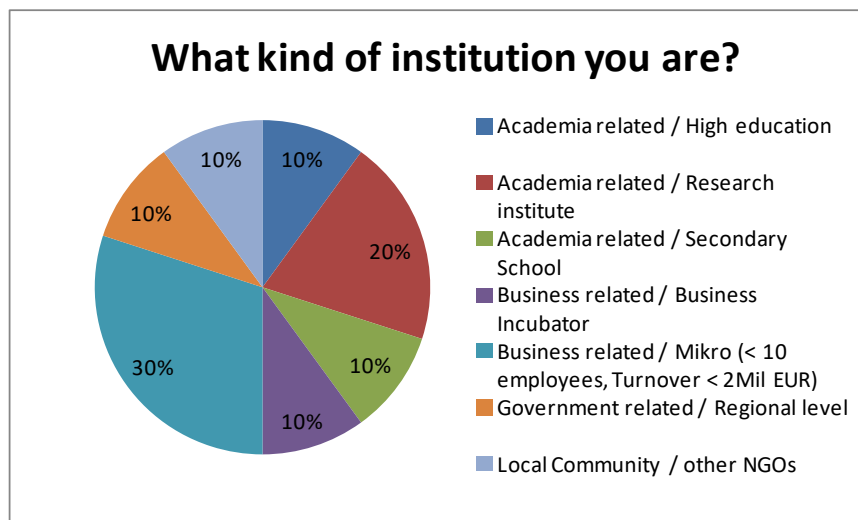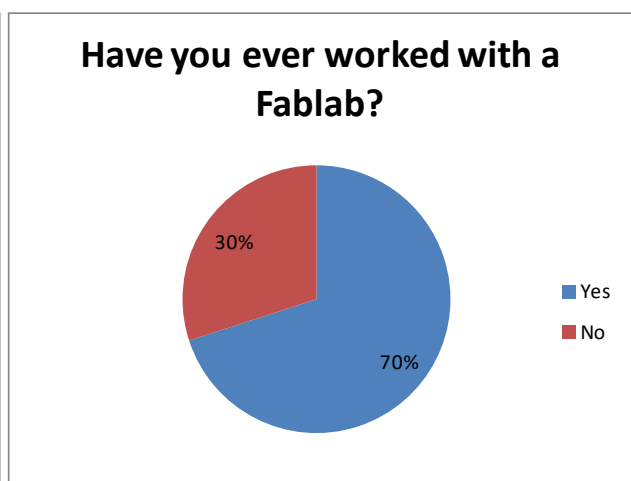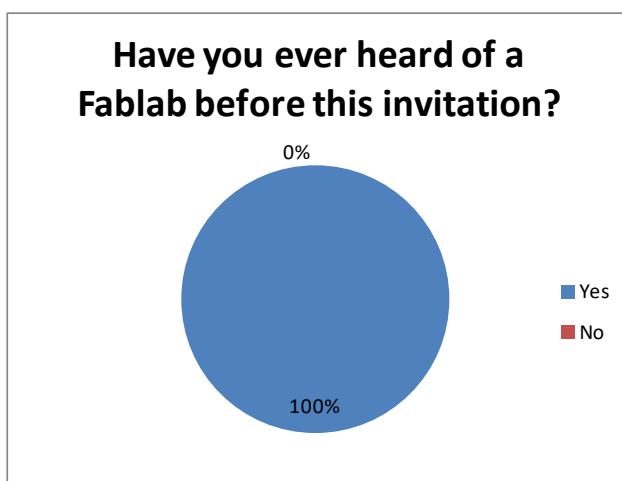|	
Version:	2
Due Date:	31 December 2016
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Date and location of:	15-27.1.2017/Online
Nature:	Survey
Dissemination Level:	Internal
Lead partner:	PP9 - HR FLZG
Authors:	Marco Fellin, Sabina Barcucci
Internal reviewers:	/

Survey Analysis

The survey was intended for a target of 6 respondents: we had a over-satisfactory rate of 10 respondents.

Q1: The institutions that answered belong to a wide variety of typologies that we can sum up in:

1. 40 % of them are related to Academia
2. 40 % to business
3. 10 % to Government or regional level
4. 10 % related to local community.

What kind of institution you are?

- Academia related / High education
- Academia related / Research institute
- Academia related / Secondary School
- Business related / Business Incubator
- Business related / Mikro (< 10 employees, Turnover < 2Mil EUR)
- Government related / Regional level
- Local Community / other NGOs

Q2 & Q3: The knowledge of the FabLab institution is very well diffused with the totality of the respondents knowing what a FabLab is and this is an expected result since the centrality of the MUSE Science Museum and its FabLab within the local community. An interesting data is reporting that the majority (70%) of interviewed stakeholders have initiated or an ongoing collaborations with at least one FabLab.

Have you ever heard of a Fablab before this invitation?

- Yes
- No

Have you ever worked with a Fablab?

- Yes
- No

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Q4: These cooperation or working relationships are however very recent (1,5 years of average, 0-3 years range with one 5 years exception) but this result is completely aligned with National and European standards, since the FabLab movement started get developed in Italy about 4 years ago and the MUSE FabLab was one of the first to start public operation in 2013.
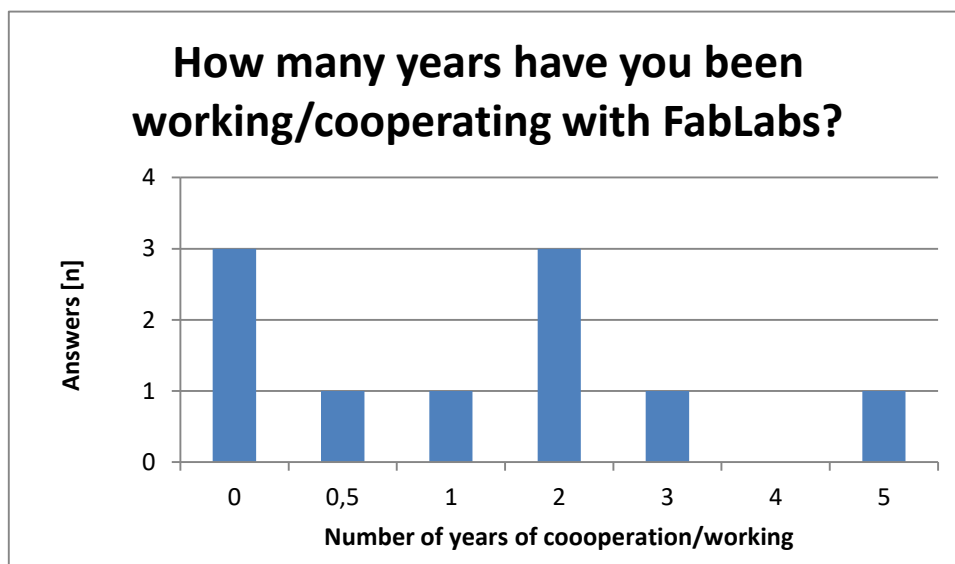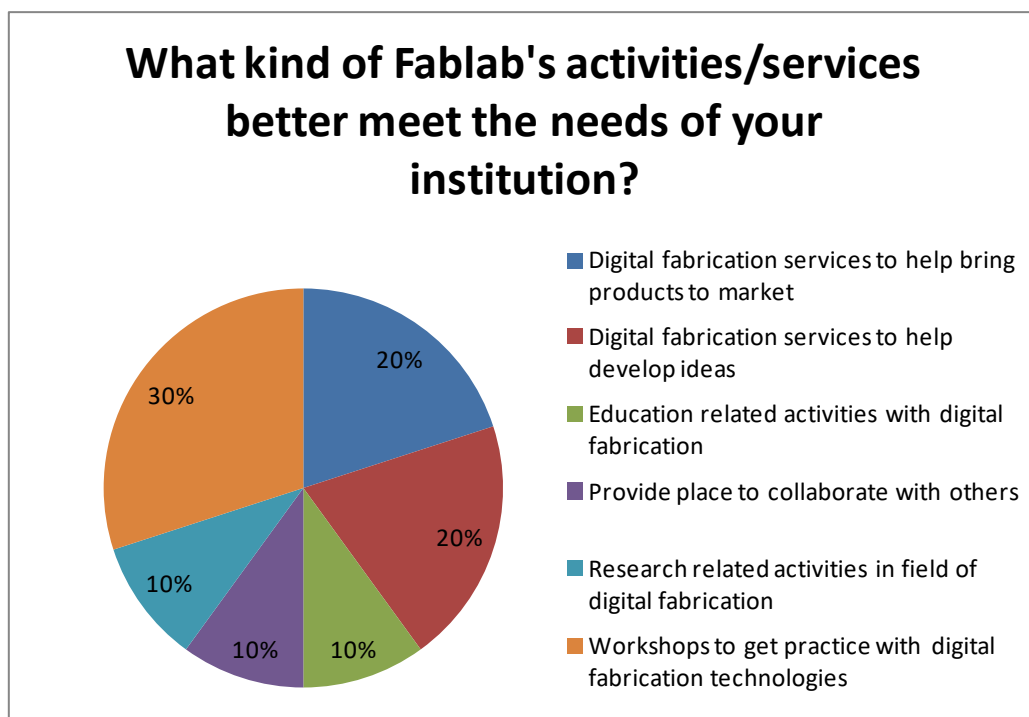
Q5 & Q6: The motivations to cooperate with a FabLab are various, but mainly oriented in two directions: practical outputs such as building prototypes for personal, social or entrepreneurial innovation, and in order to produce physical artifacts as students' proof of concepts. There was an interesting answer about the importance of using the repairing skills as ecological value in a perspective of Circular Economy.

Q7: 40 % of the respondents found no major obstacles for cooperating with FabLabs. The main obstacles are bureaucracy, access (time schedule, closed environment), mind (work share, mutual goals), resources (volunteer jobs).

Q8: The kind of FabLab's activities and services which better meet the needs of the contacted institutions are, in order of importance:

1. The workshops for digital fabrication technologies (30%),
2. The digital fabrication services for developing ideas (20%)
3. The digital fabrication services for bringing products to market (20%),
4. Education (10%),
5. Cooperation (10%),
6. Research activities (10%).

In this perspective, we can assume that the first 3 top needs are all concurring toward a business oriented approach to FabLab facility use while research, education and cooperation are somehow less relevant.

What kind of Fablab's activities/services better meet the needs of your institution?

- ■ Digital fabrication services to help bring products to market
- ■ Digital fabrication services to help develop ideas
- ■ Education related activities with digital fabrication
- ■ Provide place to collaborate with others
- ■ Research related activities in field of digital fabrication
- ■ Workshops to get practice with digital fabrication technologies

20%, 20%, 30%, 10%, 10%, 10%

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Q9: In general, the stakeholders see the cooperation with external organizations or companies as very important for networking and building and/or interacting with a community, learning and having an impact on the ecosystem. It is seen as important for getting input or developing innovative products and services and supporting activities. The survey demonstrates then that collaborative approaches are less business oriented (creation of new products and services) and more strategic oriented, along with the creation of social and intellectual capital. The same data is confirmed by the next inquiries that declares a low interest in starting cooperation for fundraising.
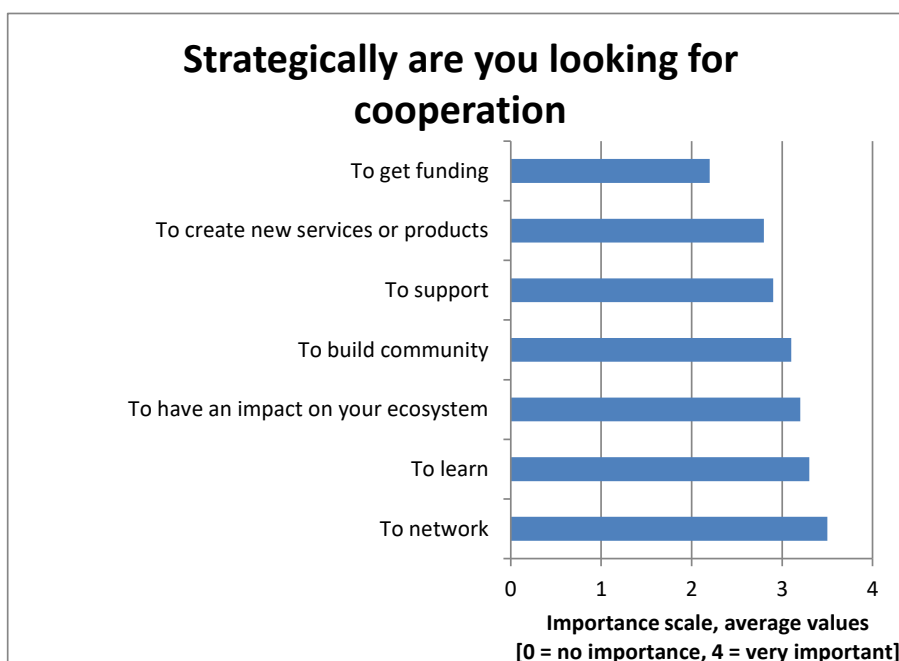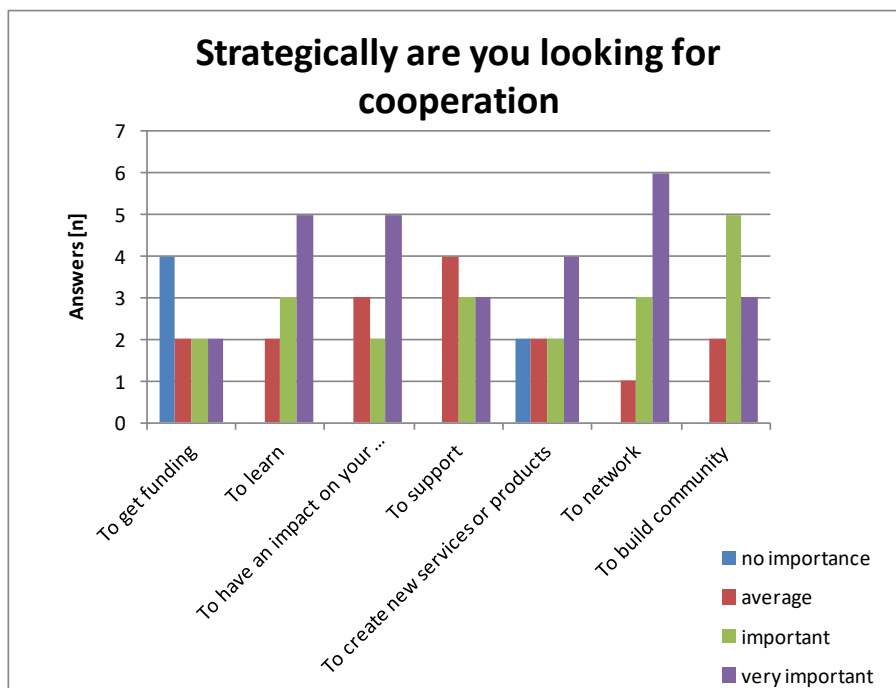
Q10: The survey has revealed the wide variety of users with no apparent trend. The users are both males and females, young and elderly, with low, average and high instruction, coming from Architecture, Agriculture, Design, Engineering, Fashion, Photography, Research domains.

Q11: The main source of income of the institutions are public or private funding, followed by sales and services, and in order of importance external projects, government funds, Venture capital financing, donations.

The main challenges for the institutions in their works are the Administration and Bureaucracy, followed by limited financial resources and in order of importance

1. Marketing and logistics
2. Organization
3. Limited space
4. Limited knowledge
5. Limited workforce
6. Network capabilities

Points number 4 to 6 are challenges that can match with FabLab's assets as they are platforms for customized learning and Open Innovation practice (both for companies and other institutions), for outsourcing research and development (interacting also with communities) and for enabling social innovation via networking.

DT.1.1.2 MAPPING LOCAL ECOSYSTEM CHALLENGES

**Mapping local ecosystem challenges of
each project partner
PP 2/ INNOC**

**Version 2
11 2017**

About the chosen partners from our ecosystem:

BG BRG is a secondary school we used to work with in the past and will proceed in the future. Trotec, the laser cutter producer, is a strong partner regarding the business issues. Xioneer is a start-up that developed their product at our Fab Lab. Otelo is an open technology lab. The Austrian Science Center Network has more than 160 partners and we are a part of this network. The Creative Region Linz & Upper Austria GmbH is a Service- and Information platform to support local creative development.

All those polled were familiar with Fab Labs, since we have been working with them before. They all have been working with Fab Lab between 3-9 years.

	What kind of institution you are?	What is source of income for your institution?	What are the biggest challenges you face in your work?
BG BRG Purkersdorf	Academia related / Secondary School	Government funded	Organizational issues, Limited technology access
Trotec Laser GmbH	Business related / Corporation	Sales and Services	Limited financial resources
Xioneer	Business related / Mikro (< 10 employees, Turnover < 2Mil EUR)	Public or private funding, Government funded, Sales and Services, External project charges	Limited financial resources, Limited working hours, Limited workforce
Science Center Network Austria	Other	Public or private funding	Limited financial resources
Otelo	Local Community / Civil association	Public or private funding, Donations, funding members	Administration / Bureaucracy, Organizational issues, Limited support, Limited working hours, Limited network capabilities
Creative Region Linz & Upper Austria Gmbh	Government related / Regional level	Government funded, External project charges, EU Funding	Limited financial resources, Limited workforce, Limited space

Institution	What are/would be your motivation to cooperate with a Fablab?
BG BRG Purkersdorf	new technology and a big community
Trotec Laser GmbH	They are customers and partners
Xioneer	no willingness to invest into expensive prototyping infrastructure at this moment
Science Center Network Austria	access to digital fabrication, training options, collaboration, referring our target groups to Fablab to go deeper; common projects
Otelo	Inspiration, cooperation in the field of workshops for kids, maker movement,...
Creative Region Linz & Upper Austria Gmbh	Creating a space where local creatives can develop their ideas, where they can collaborate with each other, finding new partners and professionalize their ideas

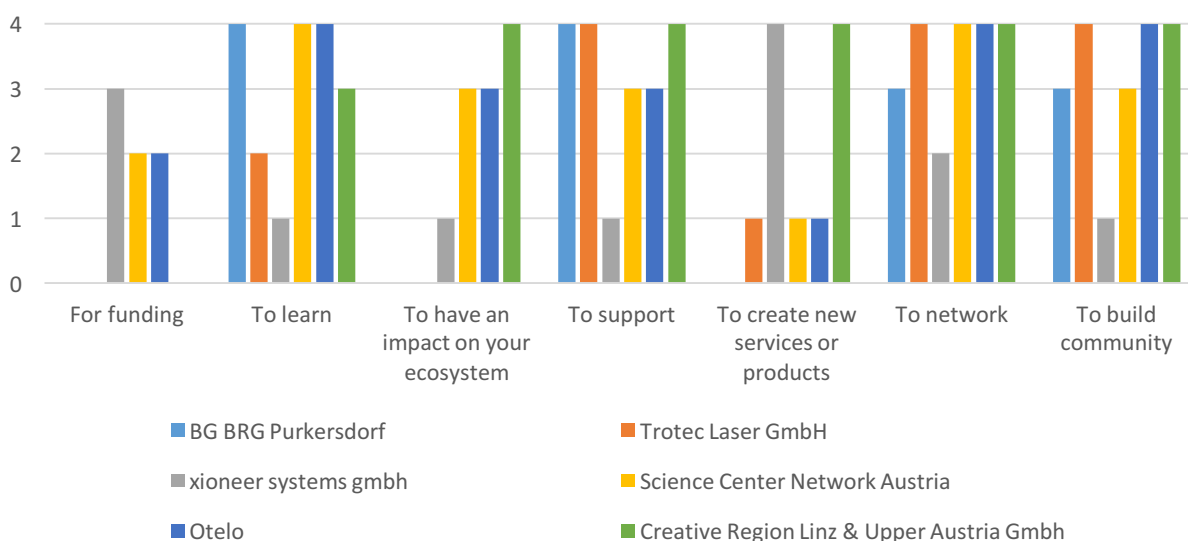| Institution	How do you think Fablab could help you in your work?
BG BRG Purkersdorf	A fablab makes it possible to make your ideas come true.
Trotec Laser GmbH	new ideas, good network
Xioneer	provide easy access to prototyping infrastructure
Science Center Network Austria	providing expertise, fostering connections, producing prototypes
Otelo	prototyping, cooperation in the field of education
Creative Region Linz & Upper Austria Gmbh	As we are having limited resources regarding time and space we are also lacking special know how regarding (digital) production etc. A Fab Lab could provide these things.

Institution	What are/would be the main obstacles your institution face when cooperating with Fablab?
BG BRG Purkersdorf	Find time in our daily business.
Trotec Laser GmbH	low budget
Xioneer	no obstacles
Science Center Network Austria	as an NGO, not too much budget for paid cooperation; needs common goals and benefits for both sides
Otelo	sharing inspiration
Creative Region Linz & Upper Austria Gmbh	- finding the perfect place/space for the Fab lab - lack of public funding - nearly no internal resources for setting up a Fab lab in our Region. It strongly depends on our partner to do the initial steps.

Institution	What kind of Fablab's activities/services better meet the needs of your institution?
BG BRG Purkersdorf	Education related activities with digital fabrication
Trotec Laser GmbH	Workshops to get practice with digital fabrication technologies
Xioneer	Digital fabrication services to help develop ideas
Science Center Network Austria	Provide place to collaborate with others
Otelo	Education related activities with digital fabrication
Creative Region Linz & Upper Austria Gmbh	Digital fabrication services to help develop ideas

Institution	Describe your three typical/average user/client/target and their age, gender, educational background, nationality, social background etc.?
BG BRG Purkersdorf	young pupils from 10 to 18 years male and female, most Austrians.
Trotec Laser GmbH	
Xioneer	young or mid-age male, university education, western European;
Science Center Network Austria	children with migrant background and low socioeconomic status living in Austria; STEM teachers; science communicators/museum educators/facilitators
Otelo	we don't have a specific target group... sorry. we address citizens from all ages, but working almost in rural areas
Creative Region Linz & Upper Austria Gmbh	#1) Gerald + Paul, Start Up Founder, around 30, academics, want to build a prototype / small batch #2) Magdalena / Product Designer, around 30, academic, mainly working with wood, #3) Markus & his Friends, from 15-60+ years, would like to have access to machines, space & know how for fixing things, from pupils, students, academics, blue/white collar worker, retired

Strategically you are looking for new cooperation mainly for
0 = not important 4 = very important

Legend:
- BG BRG Purkersdorf
- Trotec Laser GmbH
- xioneer systems gmbh
- Science Center Network Austria
- Otelo
- Creative Region Linz & Upper Austria Gmbh

DT.1.1.2 MAPPING LOCAL ECOSYSTEM CHALLENGES

Mapping local ecosystem challenges of
each project partner
PP 3/ FABLAB BUDAPEST

Version 2
11 2017

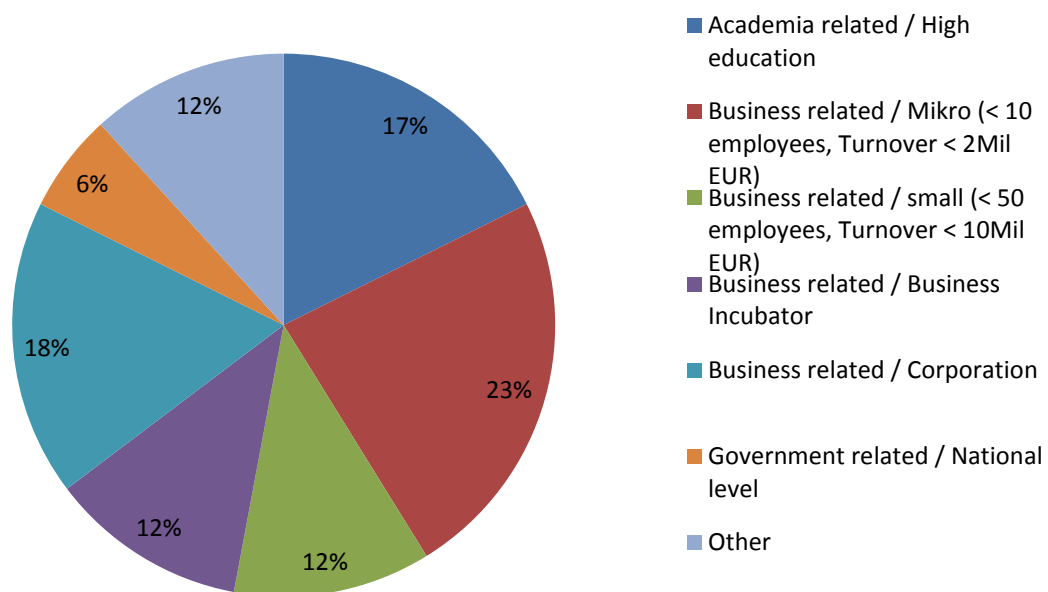| T1	Capacity Building and Networking of Fab Labs
A.T1.1	Baseline Phase: Mapping Challenges and Innovation Potential within Innovation Ecosystem
D.T.1.1.2	Mapping Local Ecosystem Challenges of Each Project Partner

|	
Version:	2
Lead partner:	PP3
Authors:	Peter Varga, David Pap

Survey Analysis

Q1: After collecting the answers of 17 stakeholders, they reflect the network as we thought it is. Amongst all stakeholders, only 3 of them are related to education and there is one government agency, with all the others being SME-s, multinational corporations and innovation hubs.

What kind of institution are you?

- Academia related / High education
- Business related / Mikro (< 10 employees, Turnover < 2Mil EUR)
- Business related / small (< 50 employees, Turnover < 10Mil EUR)
- Business related / Business Incubator
- Business related / Corporation
- Government related / National level
- Other

Q2, **Q3** and **Q4**: Awareness of the Fablab as an institution/company is good, with the only stakeholder being unaware of our existence is the government agency. We have been working and/or cooperating with most of our partners for several years (avg. 3,25 years).
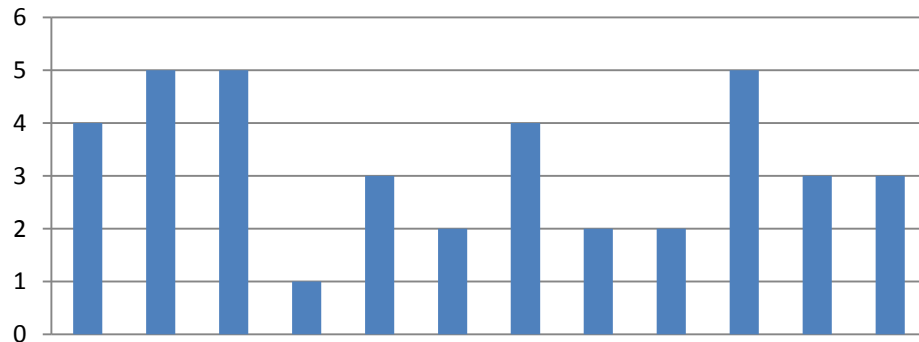
Have you ever heard of a Fablab before this invitation?
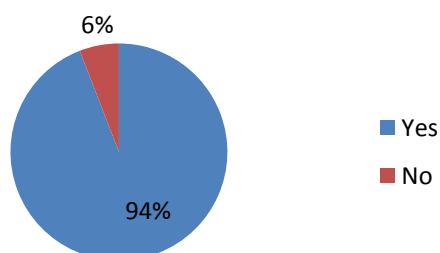
- Yes
- No

Have you ever worked with a Fablab?

- Yes
- No
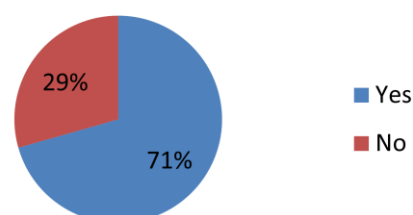
If the answer is Yes, for how many years have you been working/cooperating with FabLabs?
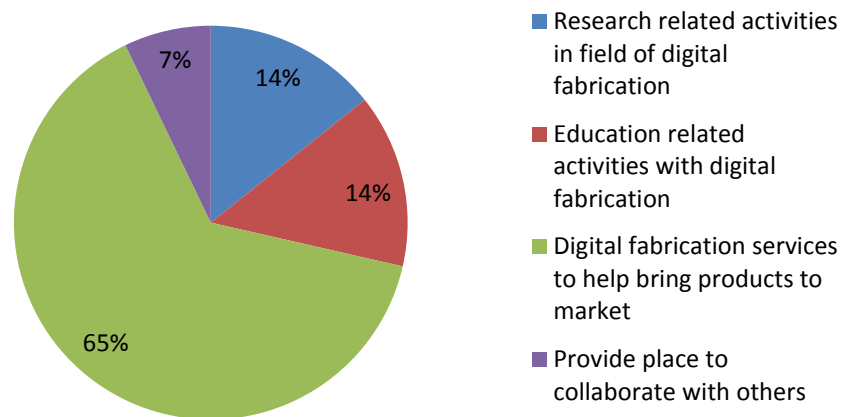

Q5 and **Q6**: Motivations are various but can be boiled down to two main factors: the infrastructure and the knowledge. While those two can not be separated either, most of the stakeholders are interested in our Fablab either because they can use or learn machines and technologies nowhere else accessible or because of the diverse knowledge gathered over the years working with said infrastructure and cooperating with all kinds of people and organisations. Most of the stakeholders considers us as a production company and/or a kind of „technology library" and seek our help/contribution accordingly, with some mentioning our educational activities and professional network also helps them in their work.

Q7: Most answers that identify some kind of obstacle include words like „time" or „schedule" in some way, which describes the main problem of our FabLab (several various activities with only two full-time employees). Other obstacles include administration, human resources, cooperation structure and infrastructural deficit.

Q8: Two-third of responders identified our digital fabrication services as the one best serving the needs of their institution, which is again pictures us as more of a production company. Research and education related activities are also important factors in our portfolio with according to approximately 25% of responders. After reviewing the answers it seems inevitable that our FabLab needs to get better at promoting our workshops and other community events.

## What kind of Fablab's activities/services better meet the needs of your institution?

Legend:
- Research related activities in field of digital fabrication
- Education related activities with digital fabrication
- Digital fabrication services to help bring products to market
- Provide place to collaborate with others

(Pie chart values: 14%, 14%, 65%, 7%)

Q9: Responds to this question were inconclusive but tendencies can be read. Most of the stakeholders hoped to have an impact on the ecosystem, to create new products or services, to network and build community by cooperating with our FabLab. (Around 75% of responses were „more important" or „very important" on these topics.)

Q10: According to responds and our observations, most of our users are young and mid-aged people (mostly in the 18-35 age group) with ongoing or finished high level university studies. Field of education/expertise is mostly either art-related (jewellery/clothes/accessories makers and designers) or technology-related (electronical and mechanical engineers, hardware/IoT startuppers). A smaller but still significant group is high school students participating in our workshops. We are proud to say that we have approximately as many female users as male. There are a few areas where our FabLab could improve by reaching out to other social groups, such as primary school student, elderly people or people with lower levels of education.
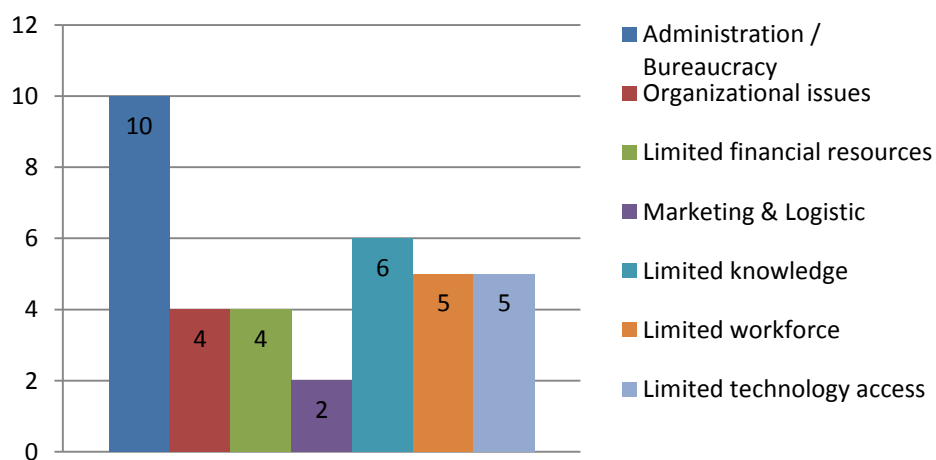
Q11: The main source of income for our stakeholders are sales and services, followed closely by publicor private funding. There are some responders who metioned government founding, external project charges and venture capital financing, and there are some exceptional cases which involve crowdfunding, donations and such.

What is source of income for your institution?

Category	Value
Government funded	2
Public or private funding	7
Sales and Services	11
External project charges	2
Venture Capital financing	2
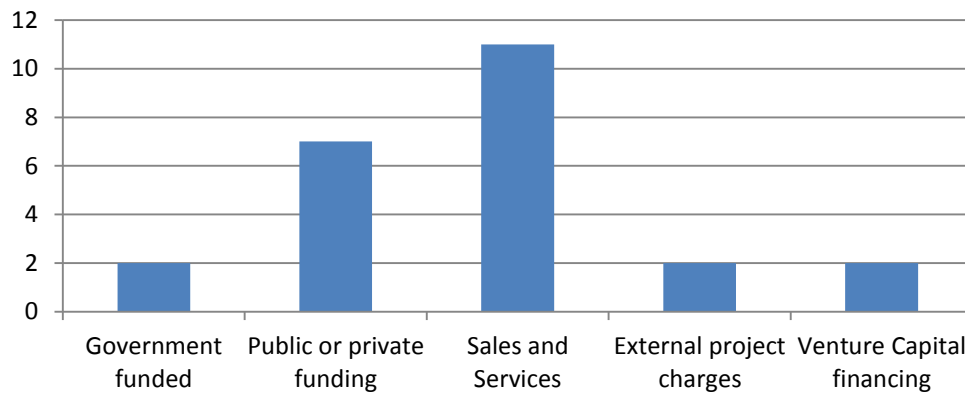
Q12: The main challenges FabLab stakeholders face are administration and bureaucracy. There are areas in which our FabLab can help these institutions overcome their challenges, such as limited knowledge, limited workforce and limited technology access.

What are the biggest challenges you face in your work?

Category	Value
Administration / Bureaucracy	10
Organizational issues	4
Limited financial resources	4
Marketing & Logistic	2
Limited knowledge	6
Limited workforce	5
Limited technology access	5

Report Summary

While the nature of the questionnare format and the relatively low number of responders limit these results' validity, there are some clear indications after we conclude all the information.

Of the three big FabLab fields of activities (Business – Education – Community), our FabLab is really strong in the first one. We are widely known and recognized for our digital fabrication capabilities and services.

The other areas, however, can and should be improved. Responds regarding the motivations and needs of our stakeholders points us to the business direction on the first place, but there is a demand that our FabLab (and Fablabs in general) act as an educatinal and community building institute through making our digital fabrication tools and technologies widely accessible and building our own community, thus fostering interdisciplinary cooperation, acceptance and innovation.

DT.1.1.2 MAPPING LOCAL ECOSYSTEM CHALLENGES

**Mapping local ecosystem challenges of each project partner**
PP 5/ BUT Brno

T1	**Capacity Building and Networking of Fab Labs**
A.T1.1	**Baseline Phase: Mapping Challenges and Innovation Potential within Innovation Ecosystem**
D.T.1.1.2	**Mapping Local Ecosystem Challenges of Each Project Partner**

Version:	2
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Nature:	Report
Dissemination Level:	Internal
Lead partner:	PP9 - HR -FLZG
Authors:	David Palousek, Marek Rozehnal

Version Control

Version Date	Author	Author's Organization	Changes
09/12/2016	David Palousek	BUT Brno	First draft
15/12/2016	David Palousek	BUT Brno	Internal review
02/01/2017	David Palousek	BUT Brno	Second draft
26/01/2017	David Palousek	BUT Brno	Review

Annexes

No	File Name	Title
I		Responses table - raw data
II		Responses generated summary

Details

Deliverable Title	Mapping Local Ecosystem Challenges of Each Project Partner
Deliverable Number	D.T1.1.2
Keywords	Mapping, Ecosystem, ICT, Digital fabrication, Education, Business, Local Community.

Executive Summary

WP T1 Capacity Building and Networking of fablabs includes activity A.T1.1. Baseline Phase: Mapping Challenges and Innovation Potential within Innovation Ecosystem, one of deliverables being D.T.1.1.2 Mapping Local Ecosystem Challenges of Each Project Partner. The scope of local ecosystem challenges analysis is obtained by means of a survey prepared for all stakeholders. In case of the Croatian partner, 13 respondents have been recorded (6 being the minimum). Analysis shows that all stakeholders are interested in fablab activities, especially the ones from the Academia group. These results will be used to strengthen the bond with the existing community as well as to start engaging new groups.

Survey Analysis

Q1: What kind of institution you are?

The target of the survey was to have 5 respondents; we had over-satisfactory rate of 7 respondents. The institutions who provided the answers belong to a wide variety of typologies that we can sum up in the following categories:

1. 29% Large enterprises
2. 29% SME
3. 14% Non-profit organization
4. 14% Local public authority
5. 14% Sectoral agency
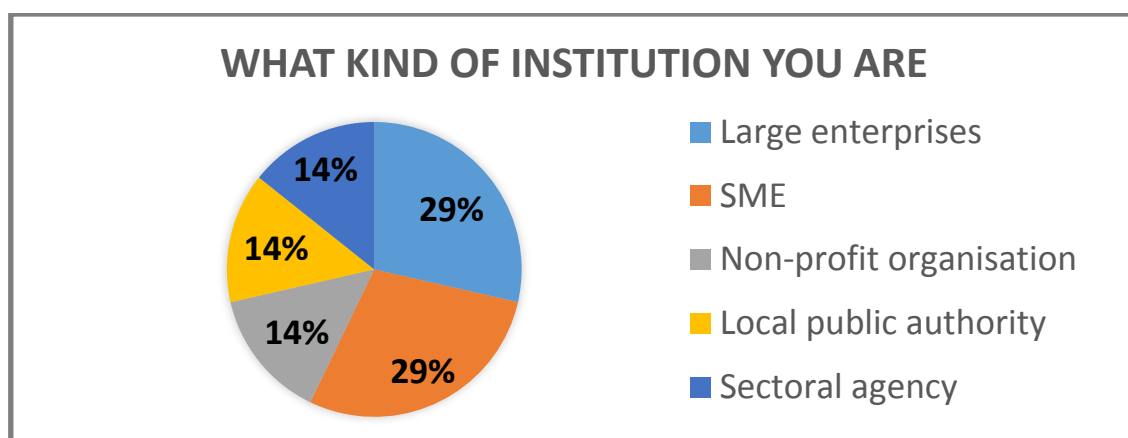
Q2 & Q3: **Have you ever heard of a fablab before this invitation? Have you ever worked with a fablab?**

Awareness of fablab as an institution is expectable, but some responses were surprising. One respondent have never heard of fablab and six respondents have never cooperated with fablab. Research has shown the awareness of the fablab is widespread, but there is no effective cooperation.
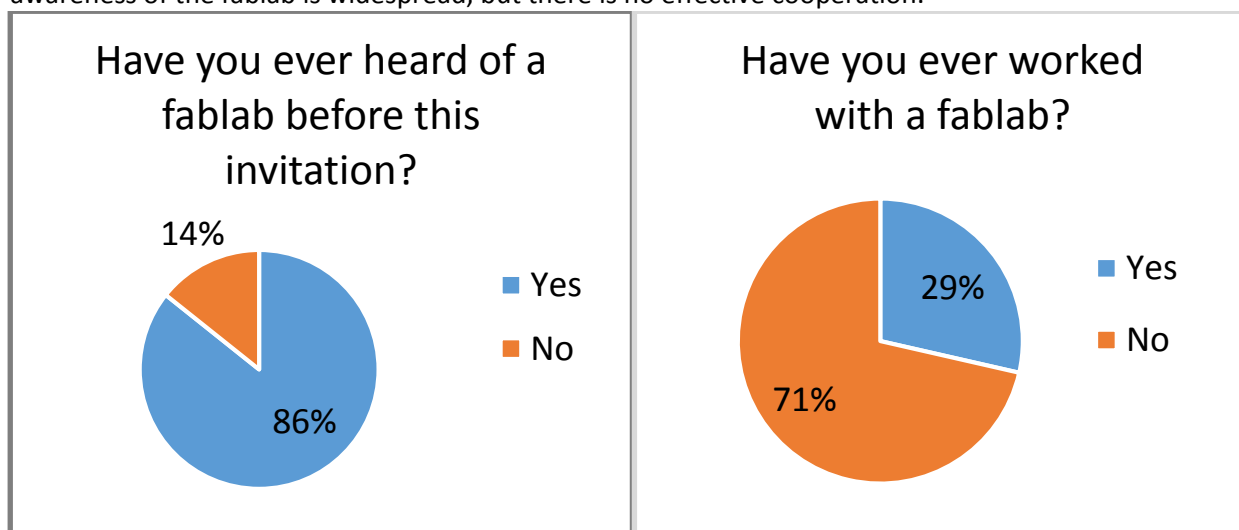
Q4: **If the answer is Yes, for how many years have you been working/cooperating with fablabs?**
The collaboration or working relationships are, however, very recent or not established (just 1 year), but these results are completely aligned with National and European standards, since the development of fablab movement started in Czech republic about 2 years ago and the BUT fablab was opened for several years just for master degree students and not officially.
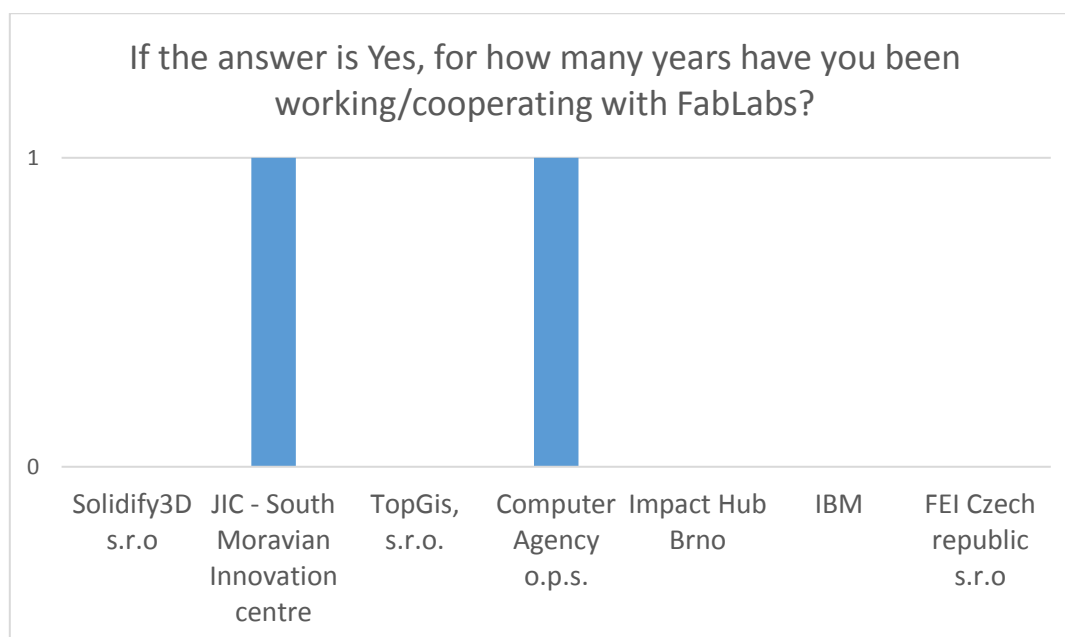
Q5 & Q6. **What are/would be your motivation to cooperate with a fablab?**
Motivation for cooperation with fablab could be seen in different ways: from sales channels and feedback sources, to more specific activities, such as:
Business in the area of digital technologies, extending the company competitiveness by cooperating with specialist from related branches, networking with new customers and enhancing cooperation between schools, students and academic and commercial environment, business ecosystem and partnerships between companies and other business helpful organizations, community activities, as well as technological innovations, to create a shared space for learning, access to technologies we don't have in house and finelly to improve and deepen cooperation with university.

Q7. **What are/would be the main obstacles your institution face when cooperating with fablab?**
About 85% of respondents didn't find any major obstacles for cooperation with fablab. Some responses were related to limitation of participant's number and long distance between Hubs and fablabs. Generally, there are no major obstacles for cooperation if fablab heightens motivation and understanding of the fablab role.

Q8. What kind of fablab's activities/services better meet the needs of your institution?
More than 35% of responses recognized that "digital fabrication services to help bring products to market" are the ones that meet their needs. 25% of responses focus on education related activities with digital fabrication and next 25% responses would like to see the fablab as a workshop for practice with digital fabrication technologies. At least 13% of responses are looking for research related activities in field of digital fabrication.
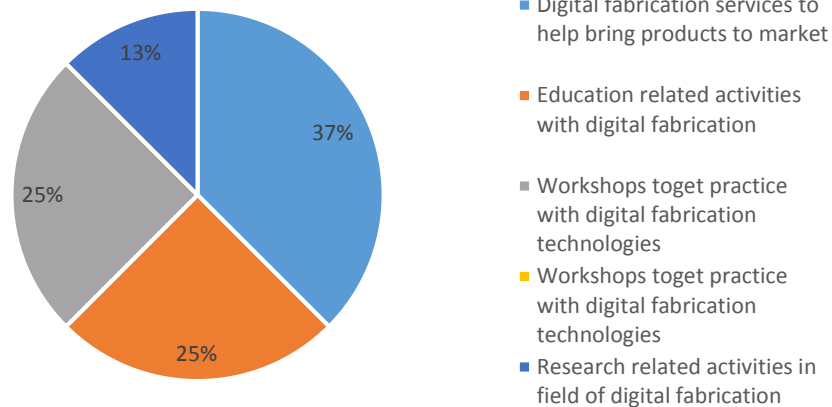
Q9. **Strategically are you looking for cooperation:**

The stakeholders see the cooperation primarily as a very important way of learning, and then as providing them with networking opportunities. Cooperation as a source of support or building community is very important. The same importance is given to the way to create new services, however, this indication is for sure related to an organization's background. The survey demonstrates that collaborative approaches are more business oriented (creation of new products and services).
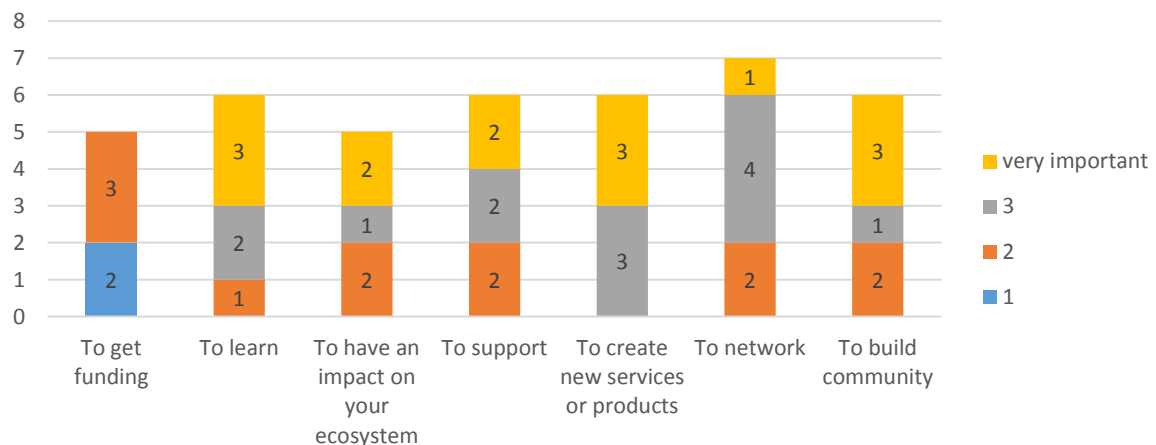
Q10. Describe your three typical/average user/client/target and their age, gender, educational background, nationality, social background etc.?

Regarding typical users, no clear trends can be recognized, but students are most often mentioned group. This is probably because of Brno is typical university city with more than 65 thousand students. Typical users belong to younger population, both male and female. Some responses reveal more male presence, with mid- and higher education background, but no specific fields can be recognized.

Here is the complete response:

1. *Male, 25, students, technical education, male, 45, hobbyists, male , 25-40, academic staff"*
2. *University students or researchers, Czechs, male; people 25-35 years old, entrepreneurs*
3. *Engineer, who need to renew information, how to work with specialized software*
4. *Secondary school and university teachers, who teach specialized software*
5. *1. young freelancer (until 35), 2. small company) - both mostly men Czech, university degree level of education, marketing specialists, designers, graphics, web developpers, coaches, writers, architects, finance, education, trade and sales etc.3. rental clients (rents of our premises for their events) - various"*
6. *College student, IT skilled, around 20 yrs., internship in corporate*
7. *Mid age high education Czech male/female*

**Q11. What is source of income for your institution?**

The main source of income of the institutions sales and services, followed by public or private funding, loans from bank and government funds.

What is source of income for your institution?
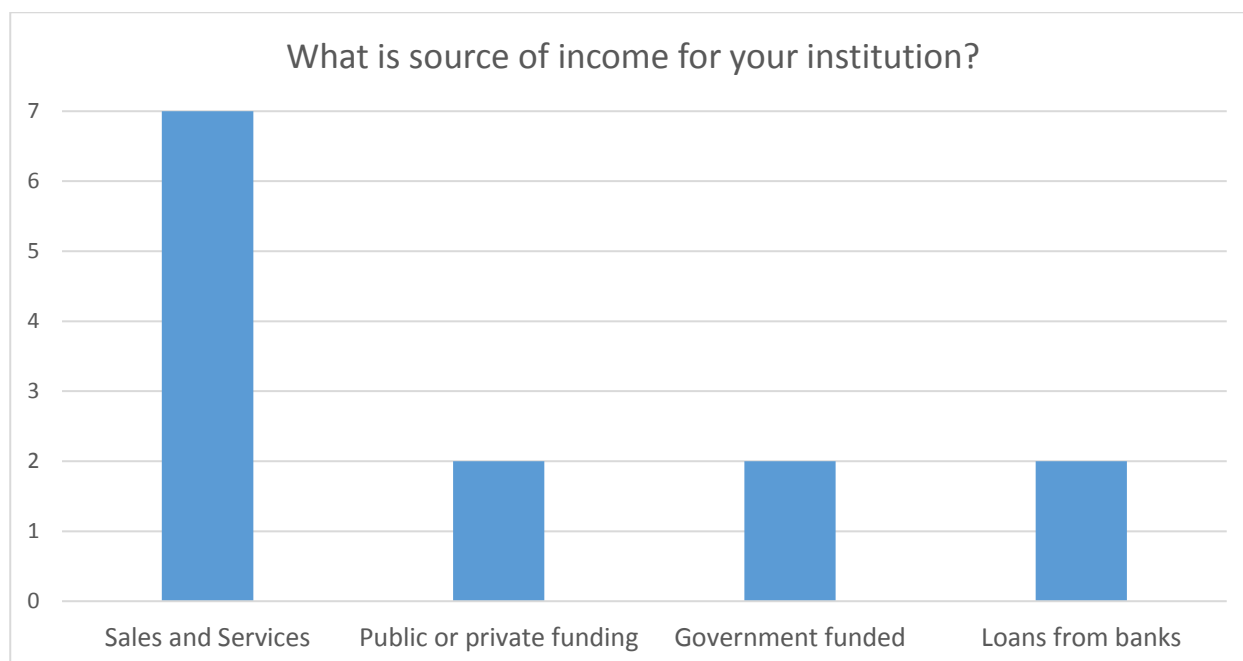
Q12. What are the biggest challenges you face in your work?

The main challenges of the institutions face in their work are administration, followed by limited financial resources and limited technology access. This challenges seems to be, let's say, typical situation in Czech Republic. Situation is related to low support of entrepreneurship by state and high bureaucracy level.
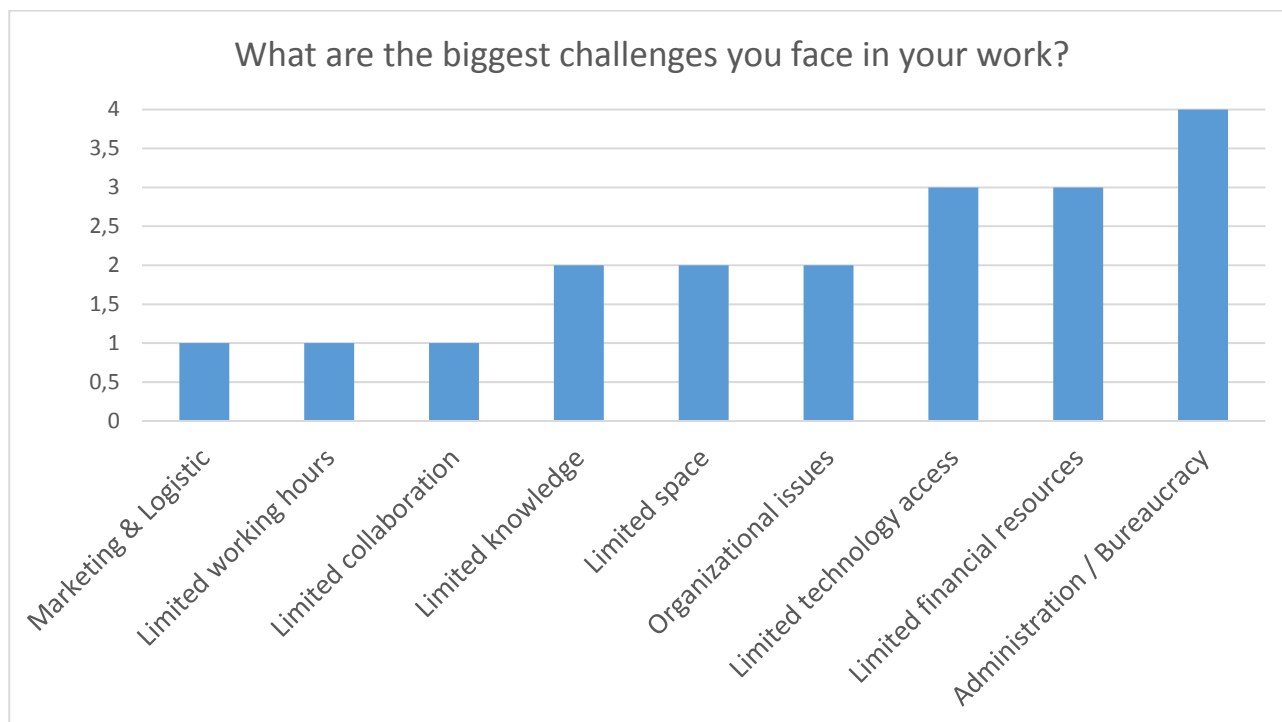
What are the biggest challenges you face in your work?

Report Summary

When we discuss results of this survey, several facts should be considered. Survey offers results of a limited number of responses from different stakeholder and results strongly depend on subject's activities. For some questions, better results would be achieved with more respondents, and they could provide more focused results. Role of fablab as a place where almost anything can be made is related to transforming ideas into prototypes or further into products. It is an important part of education and business oriented activities. The university fablab can expand opportunities of education system a DIY and also provide services startups and SME's, but also for larger businesses which would benefit from digital fabrication.

The analysis shows importance of education in fablab activities. New technologies, including digital fabrication, are slowly penetrating into primary/secondary schools and faster into universities. Fablab can trigger innovation within young population in schools, and provide significant impact on their future, entrepreneurial mindset and more efficient employment. This education should not only be about technology, but also about new teaching processes, such as using project based learning system, design thinking process or do it yourself.

DT.1.1.2 MAPPING LOCAL ECOSYSTEM CHALLENGES

Mapping local ecosystem challenges of each project partner
PP 6/ARR SA Bielsko-Biala

Version 2
11 2017

Details

Deliverable Title	Mapping Local Ecosystem Challenges of Each Project Partner
Deliverable Number	D.T1.1.2
Keywords	Mapping, Ecosystem, ICT, Digital fabrication, Education, Business, Local Community.

Executive Summary

WP T1 Capacity Building and Networking of Fab Labs includes activity A.T1.1. Baseline Phase: Mapping Challenges and Innovation Potential within Innovation Ecosystem, one of deliverables being D.T.1.1.2 Mapping Local Ecosystem Challenges of Each Project Partner. The scope of local ecosystem challenges analysis is obtained by means of a survey prepared for all stakeholders. In case of the Croatian partner, 13 respondents have been recorded (6 being the minimum). Analysis shows that all stakeholders are interested in FabLab activities, especially the ones from the Academia group. These results will be used to strengthen the bond with the existing community as well as to start engaging new groups.

Institutions answered FabLabNet questionnaire:

Akademia Techniczno Humanistyczna Bielsko-Biala
Uniwersytet Ekonomiczny w Katowicach
Cypress Studio sp. z o.o. Bielsko-Biała
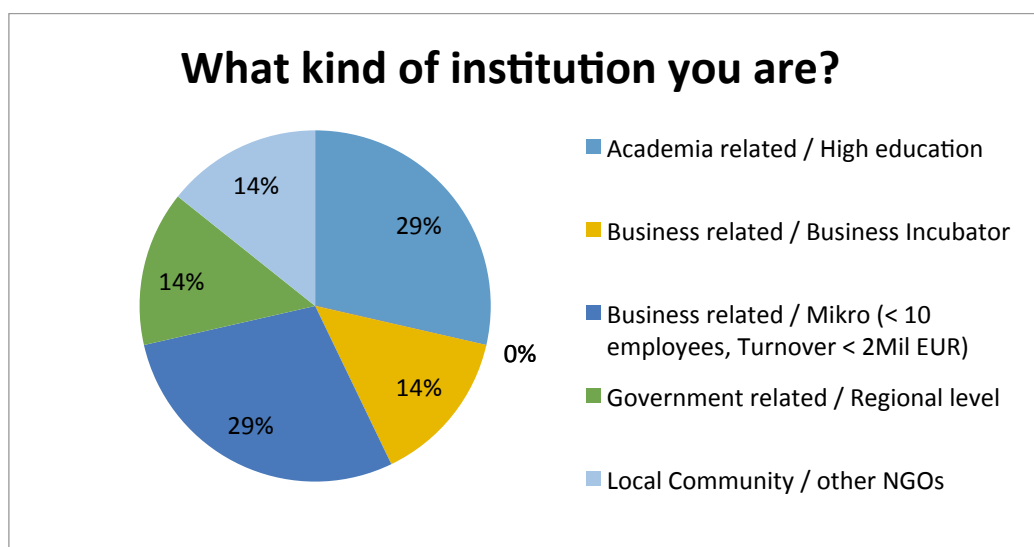Multimedial sp. z o.o. Rudzica
BCSK Bielsko-Biała
Stowarzyszenie Ośrodek Wspierania Turystyki, Przedsiębiorczości I Rozwoju Lokalnego Bielsko-Biała
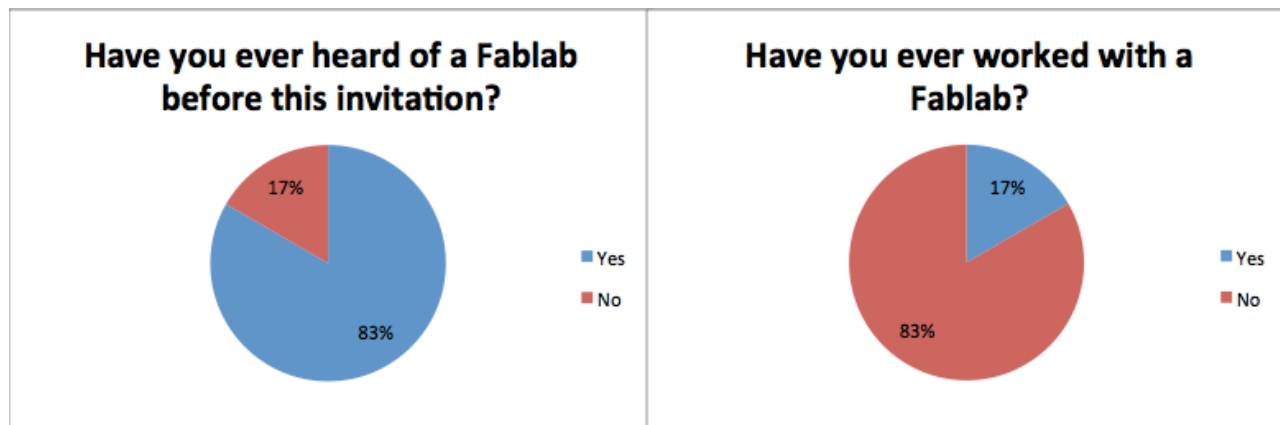
Survey Analysis

Q1: The target of the survey was to have 6 respondents from different interest groups collaborating with FabLab or being within the interest group of possible cooperators. The institutions who provided the answers belong to a wide variety of typologies that we can sum up in the following categories:

1. 29 % related to Academia
2. 43 % related to Business
3. 14 % related to Local Community
4. 14% Government related

What kind of institution you are?

- 14%
- 29%
- 14%
- 29%
- 14%
- 0%

- ■ Academia related / High education
- ■ Business related / Business Incubator
- ■ Business related / Mikro (< 10 employees, Turnover < 2Mil EUR)
- ■ Government related / Regional level
- ■ Local Community / other NGOs

Q2 & Q3: Awareness of FabLab as an institution is on very low level in the area of FabLab Bielsko-Biała operations. And in this regard, this is especially true when we think of business support organizations and business organizations. Knowledge of the FabLab system is more common within the education system, and this is partially case of the training and promotional activities of our FabLab. This awareness is still raising, due to the daily activities of FabLab

Have you ever heard of a Fablab before this invitation?

- 17%
- 83%
- ■ Yes
- ■ No

Have you ever worked with a Fablab?

- 17%
- 83%
- ■ Yes
- ■ No

Q4: Due to the short operational time of the FabLab Bielsko-Biała, cooperation record is not very impressive. FabLab has been established in 2014, and since that, from questioned organizations only one has a 1 year cooperational record. However, FabLab Bielsko-Biała has a long cooperation with education system, and some experience with prototyping and project development within medical related projects.
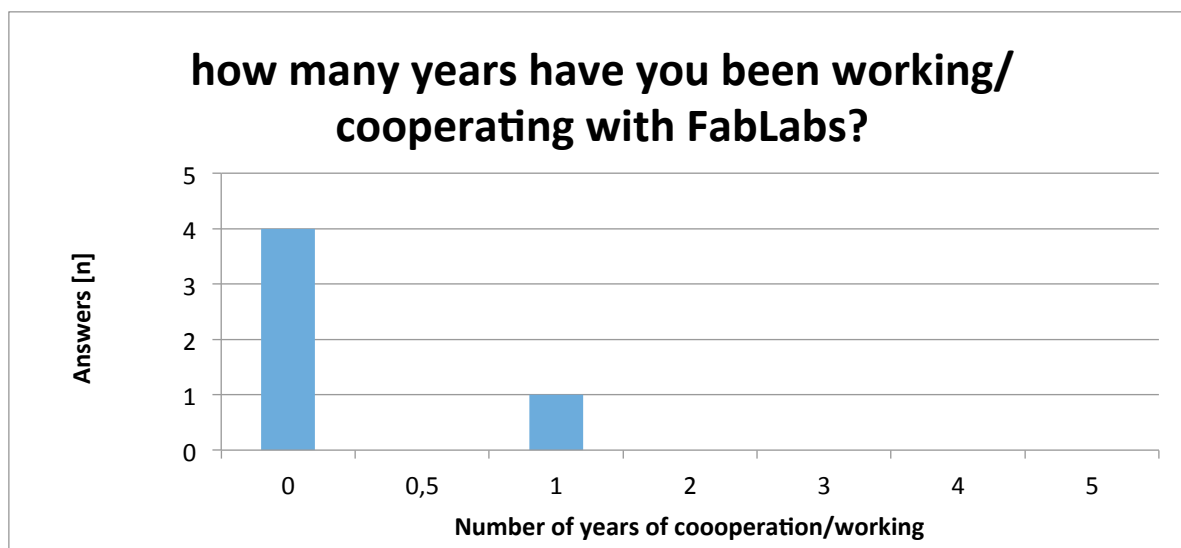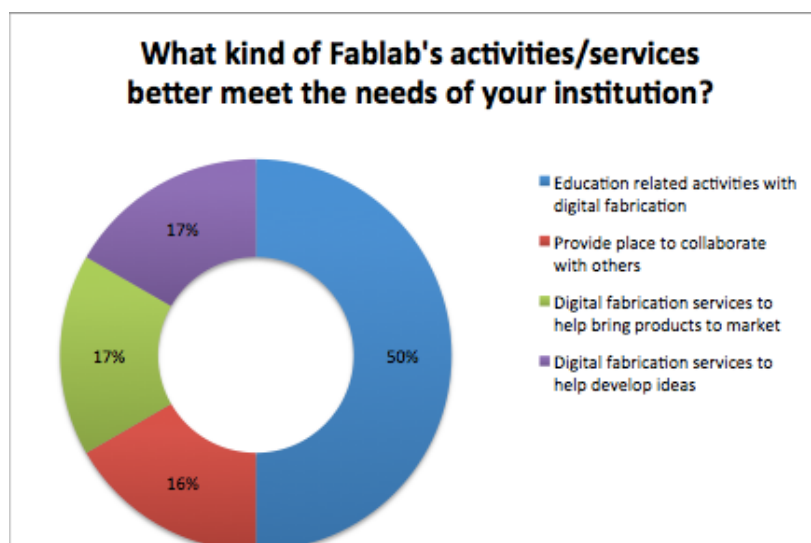

Q5 & Q6. Motivation for cooperation with FabLab are divided into different areas: from enabling new opportunities for students to test their ideas in practice, searching for new products solutions, via educational programs and vocational training till 3D printing and fast prototyping. In general responses were related to the importance of providing to the communities a new knowledge, enabling new opportunities and catalyzing innovation and creation.
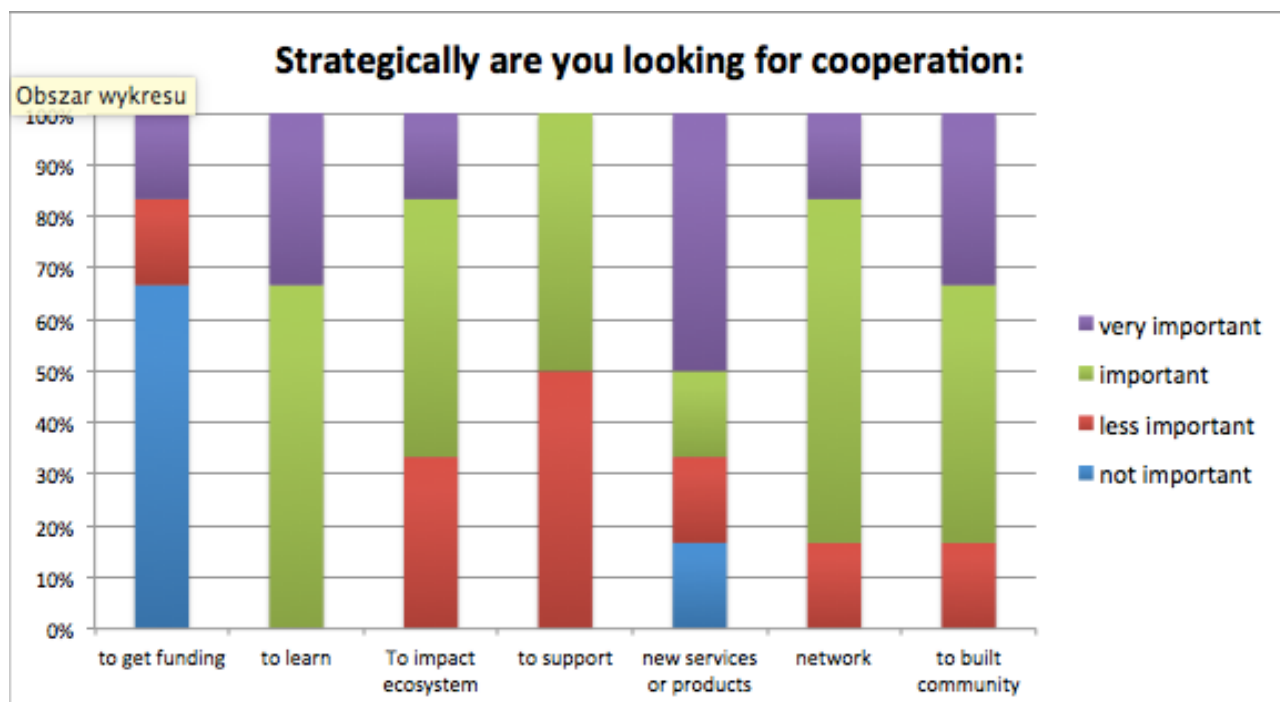
It is clear, that learning and education, bridging formal and informal learning environments, transforming ideas into products, and making new technologies more accessible is the main way, fablabs are considered to be a part of local innovation environment.

Q7. About 80% of respondents within analyzed institutions pointed out the importance of the main services offered and costs of them. Generally, Places like FabLabs are considered to be centers of innovation and creation of new ideas, and should take the role of social centers, and be free of charge. Only few did not pointed any problems with cooperation with FabLab , which proves that understanding of the FabLab role in the business and innovation system is not clearly developed yet.

Q8. More than 50% of responses recognized that education related activities with digital fabrication are the ones that meet their needs. This is true taking into account the experience of the FabLab Bielsko-Białą and expectations of clients. Some identified the needs for Digital fabrication services either to bring products to market (17 %), or to help develop ideas (17%), and they are business oriented. Space for collaboration with others, which could present an important innovation trigger is considered by 16% as an important factor.

Interreg
CENTRAL EUROPE
European Union
European Regional
Development Fund
FabLabNet

What kind of Fablab's activities/services better meet the needs of your institution?

- Education related activities with digital fabrication
- Provide place to collaborate with others
- Digital fabrication services to help bring products to market
- Digital fabrication services to help develop ideas

50% — 16% — 17% — 17%

Q9. Strategic focus of the stakeholders preferences is clearly presented by the graphics below.

Strategically are you looking for cooperation:

Obszar wykresu

Categories: to get funding, to learn, To impact ecosystem, to support, new services or products, network, to built community

Legend:
- very important
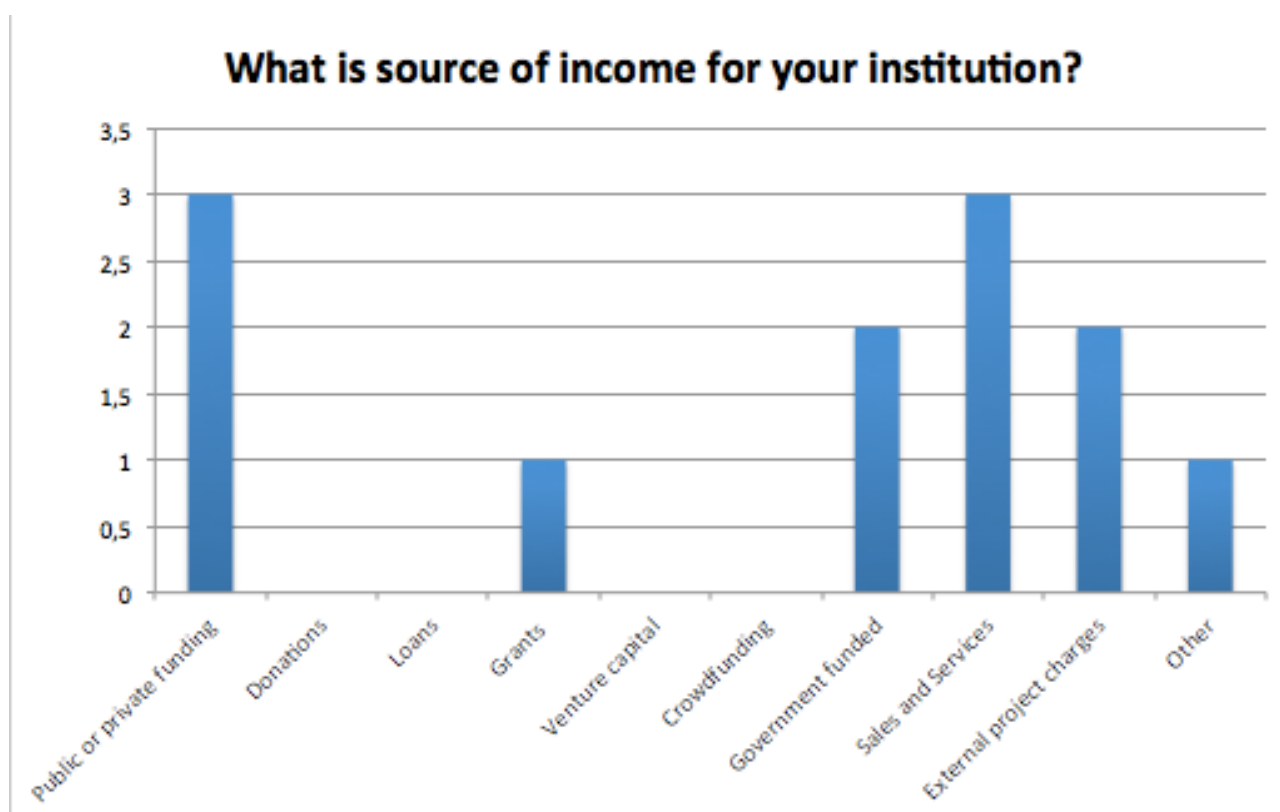- important
- less important
- not important

Q10. Regarding typical users, no clear trends can be recognized. There is no clear identification of most important user group. This is probably due to the small number of responses. Experience however, shows that most users till present day were schoolmates of the high schools of Bielsko-Biała region.

Here is the complete response:

| |
|---|
| 18-25 y/old, mostly Polish, secondary school or bachelor graduate; foreign exchange or full time students, 18-25 y/old, mostly UE, Ukraine, Asia; business / public administration clients for expertise. |
| Young entrepreneurs, male, high school NGO's and associations |
| mid age, secondary education, male and female from around the world |
| not relevant |
| from every sector starting from age of 20 (male and female) |
| 19-25 age, students of engineering |

Q11. The main source of income of the institutions is public or private funding, followed by sales and services, then Governmental funds, external projects and grants. Donations, loans, crowdfunding and venture capital are not pointed as a possible income of the cooperating institutions.

Q12. The main challenges of the institutions face in their work are Administration and Bureaucracy, Limited financial resources, Limited Financial resources, followed by Limited support. Of no importance, organizations pointed Limited working hours, Limited knowledge, Limited space, Limited collaboration and network capabilities. But this may the effect of the limited number of responses.

What are the biggest challenges you face in your work?
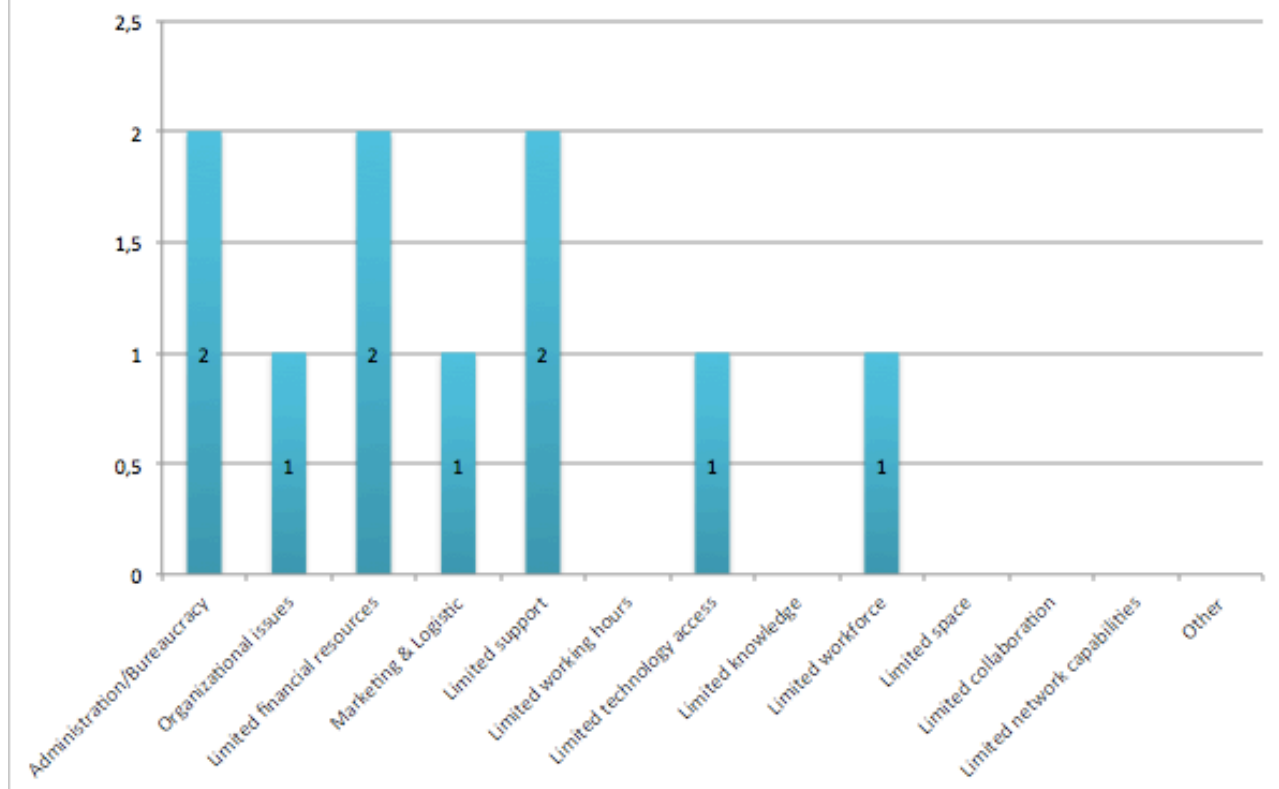
DT.1.1.2 MAPPING LOCAL ECOSYSTEM CHALLENGES

Mapping local ecosystem challenges of each project partner **PP 7**	**Version 2** **11 2017**

| T1	**Capacity Building and Networking of Fab Labs**
A.T1.1	**Baseline Phase: Mapping Challenges and Innovation Potential within Innovation Ecosystem**
D.T.1.1.2	**Mapping Local Ecosystem Challenges of Each Project Partner**

Stakeholders who participated to the survey

Nine stakeholders participated to the survey. Most of them also participated at the Consultation we organized concerning the role of fablabs in the slovenian ecosystem (DT1.2.1).

Q1: The institutions that answered belong to a wide variety of typologies that we can sum up in:

Business related / small (< 50 employees, Turnover < 10Mil EUR)	1	11.1%
Academia related / Secondary School	1	11.1%
Academia related / High education	3	33.3%
Academia related / Science park	1	11.1%
Local Community / Civil association	1	11.1%
Local Community / other NGOs	1	11.1%
Other	1	11.1%
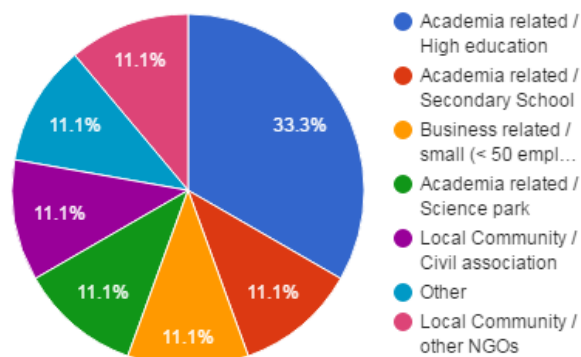
MakerLab Ljubljana is a dedicated open laboratory at the Faculty of Electrical Engineering of the University of Ljubljana that provides access for creators, students and researchers to all tools and skills related to information and communication technologies, and technologies of the Internet of Things. MakerLab provides equipment such as 3D printers for the fabrication of mechanical assemblies, a CNC milling machine for manufacturing printed circuit boards, a reflow oven for soldering circuit boards, various instruments and equipment for developing electronics and more. MakerLab also offers free workshops where participants can acquire new skills in innovative technologies, while the support of other faculty laboratories, mentors and links with companies provide an excellent creative starting point for new innovations.

Zavod 404, a centre for technological research for the young, was founded with the aim of communicating technical skills to the young and inspiring them to pursue science and research. The workshop found its home in the building of the Institute for Metal Constructions. The centre is divided into two parts: the machinery section offers everything from hand tools to planes and a CNC milling machine, while the electrical-technology section comes with two 3D printers and several computers. Anyone looking to make and create is offered assistance and space to acquire new knowledge and skills (that schools can't always provide), and the possibility to work on different materials while taking advantage of a wide array of educational activities through which they can develop and boost their creativity

RAMPA is a laboratory for hacking science, art and society, and operates in the framework of the Zavod Kersnikova institute. Its advanced experimental and research environment offers artists, researchers and youth basic technical infrastructure and consultations with the support of inspiring mentors who assist independent creatives on their respective research paths. Rampa is home to the production of art projects, ČIPke and CodeCatz initiatives for women working in science, technology and media arts, creative workshops for children and youth – 5HEK, Crafty Builders 3D modelling workshops as well as other initiatives, projects and societies.

Forum Ljubljana is an independent production company. It was founded in 1994 as an institute for artistic and cultural production. As far as the production is concerned, it is the successor of the first civilian association ŠKD Forum, founded in the end of the sixties in the former Yugoslavia.Faculty of Natural Sciences and Engineering

The **School of Arts** was founded in 2008 within the University of Nova Gorica. The School of Arts of University of Nova Gorica has been founded upon fifteen years of groundwork of Famul Stuart School of Applied Arts (active since 1994) and its two- and three-year long academic type art studies.

EPPS is the largest printout centre in the region with a monthly printout of over 8.5 million postal items in various types and formats of forms and marketing material. Through consultancy and implementation thez help simplify operations. In addition to the printout services they also provide free e-business: remote printing, e-invoices and e-archiving. They are a subsidiary that is 100% owned by Pošta Slovenije, it was established in 1998 and has now 47 employees. They are now preparing some new services in the field of 3D-printing.

Technology Park Ljubljana (TPL) was established in 1995 as an organisation representing a support and simulative business environment of the highest quality, enabling the development of technological entrepreneurship of the highest level. By providing appropriate infrastructure, services and promotion, TPL motivate the technological entrepreneurial potential in the region and help realize knowledge-based entrepreneurial initiatives with great potential. At the same time, it allows alliances and synergies to be established with both the domestic and foreign developmental, research and market environment. Since 1995 they have grown into a dynamic and innovative ecosystem with state-of-the-art R&D offices and laboratory buildings offering over 35,000 m2 of space. The park is also a vibrant intellectual community. It represents a small city with more than 288 companies and more than 1,500 professionals in the following main clusters: ICT, Cleantech, Industrial Technologies, Life Science, Creative Industries, Automatization & Production, Health and Medicine and New Materials.

The Regional Development Agency of the Ljubljana Urban Region (RDA LUR) unites 26 municipalities and communities in central Slovenia, in which it supports sustainably oriented business, infrastructural, social, cultural and creative activities. At the same time, it encourages connecting and developing partnership networks among various stakeholders whose activities bolster the region's sustainable development. A young and highly qualified team of experts from diverse fields conceives, coordinates and carries out the development projects that contribute to the rise of the quality of life in the region, looks out for synergies among projects and connects with domestic and foreign experts. The agency advises and helps interested stakeholders find financial resources for the successful preparation, coordination and implementation of their projects; simultaneously, it handles the promotion of the region, its development and achievements at both the national and international levels.

Q2, Q3 and Q4: The knowledge of the FabLab institution is very well diffused, for 100% knew what is a fablab about. Almost half of them already worked with a fablab, all of them for a period of 4 to 5 years.

Have you ever worked with a Fablab?
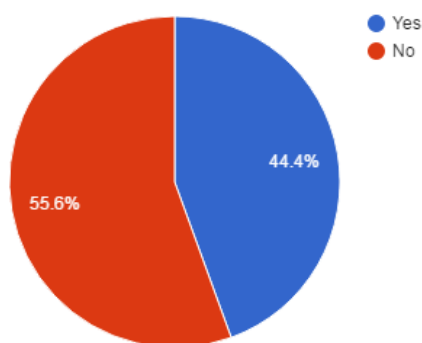
For how many years have you been working/ cooperating with FabLabs?
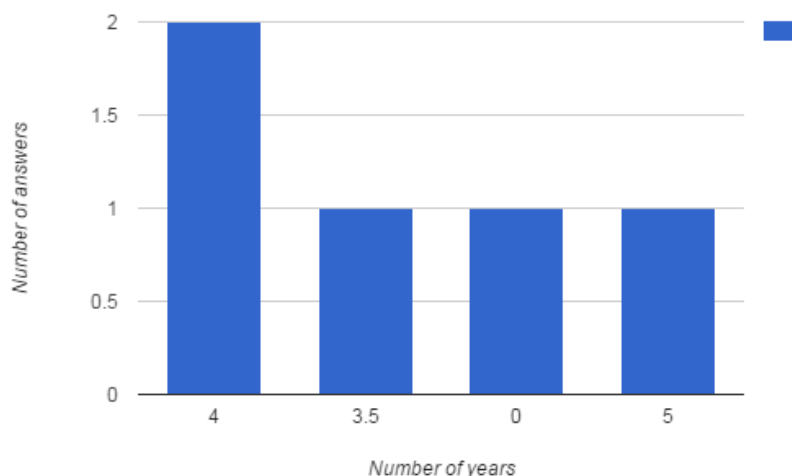
Q5. What are/would be your motivation to cooperate with a Fablab?

- Open environment for education and work.
- Implementing new educational methods.
- Interdisciplinary knowelage.
- Offering 3D printing capacities
- workshops, specific (co)mentoring or consulting of students
- Managing the flow, providing services, commercialization, fostering the innovation, identifying the market needs/demand - running lean, mediation of „different" interest „languages", etc.
- development of new artistic / educational projects
- To connect the FabLab with other support programmes in the ecosystem, to make partnership for collaboration, to better understand the needs in innovation support.
- We already cooperate with RogLab (co-production, free of charge services for mentors and artists from our organization, joint presentations of our collaboration ...) very well and would like to upgrade our collaboration, as well as to extend it to international level.

Q6 How do you think Fablab could help you in your work?

- Know how and equipment.
- Cooperation on developing hands-on projects for primary and high school students.
- Cooperation within network with intedisciplinary knowelage could give us sinergistics results.
- Promotion
- specific (co)mentoring or consulting of students; production of models (animation characters); new media / intermedia projects
- Collaborative activities - see answer abowe
- by introducing new technologies / ideas with the development of art projects
- To provide the necesary information "from the field" for preparation of strategic documents.
- With developing. co-creating and executing collaborative educational and other projects, free of charge education related activities with digital fabrication, research related activities in field of digital fabrication, workshops and consultancy to get practice with digital fabrication technologies and materials, digital fabrication services to help develop ideas, and to help bring products to market.
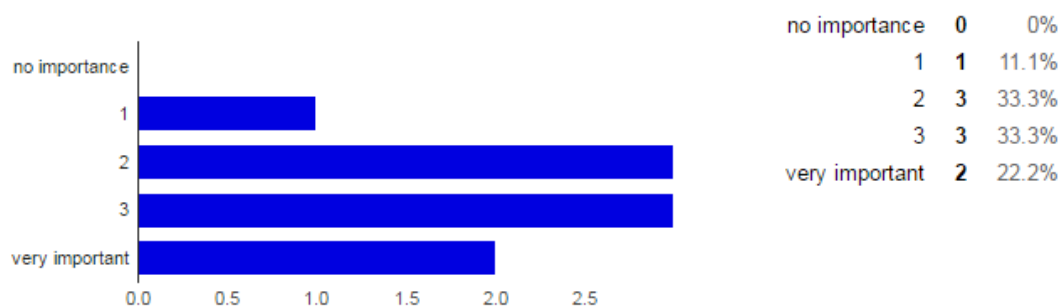
Q7. What are/would be the main obstacles your institution face when cooperating with Fablab?

- IP protection
- No general obstacles.
- The main problem I see is coordination of such network to be realy effective.
- Funding
- physical distance (100kms to RogLab)
- No, obsticles
- due to it's nature only part of our programme can be produced in cooperation with fablab
- institutional barriers
- Limited financial resources for (bigger and/or a larger number of) collaborations, limited technical resources.

What kind of Fablab's activities/services better meet the needs of your institution?

- Education related activities with digital fabrication
- Workshops toget practice with digital fabrication technologi...
- Research related activities in field of digital fabrication
- Provide place to collaborate with others
- Digital fabrication services to help bring products to market
- Digital fabrication services to help deve...
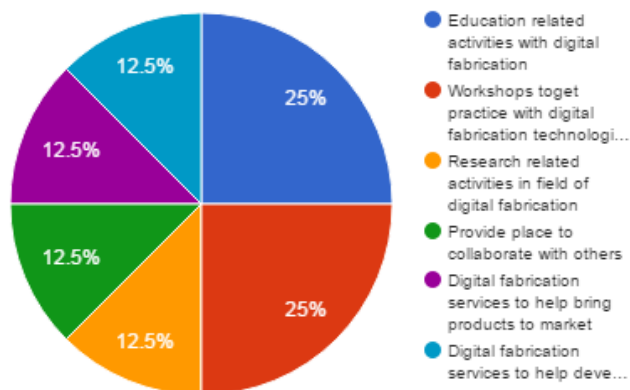
To get funding [Strategically are you looking for cooperation:]

no importance	0	0%
1	1	11.1%
2	3	33.3%
3	3	33.3%
very important	2	22.2%

To learn [Strategically are you looking for cooperation:]

no importance	0	0%
1	0	0%
2	2	22.2%
3	1	11.1%
very important	6	66.7%
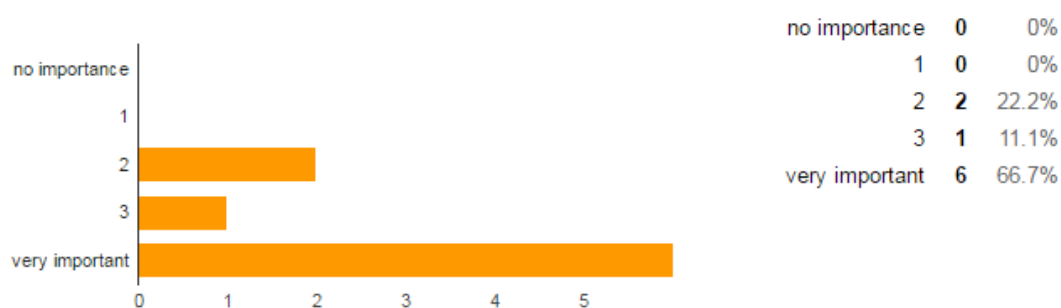
To have an impact on your ecosystem [Strategically are you looking for cooperation:]

no importance	0	0%
1	0	0%
2	0	0%
3	3	33.3%
very important	6	66.7%
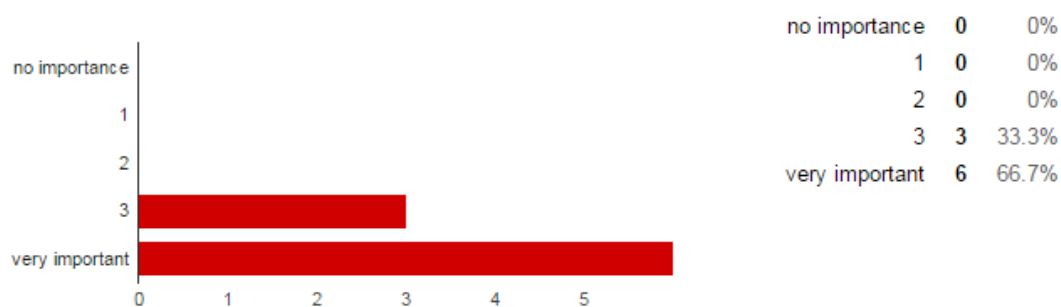
To support [Strategically are you looking for cooperation:]

no importance	0	0%
1	0	0%
2	2	22.2%
3	3	33.3%
very important	4	44.4%
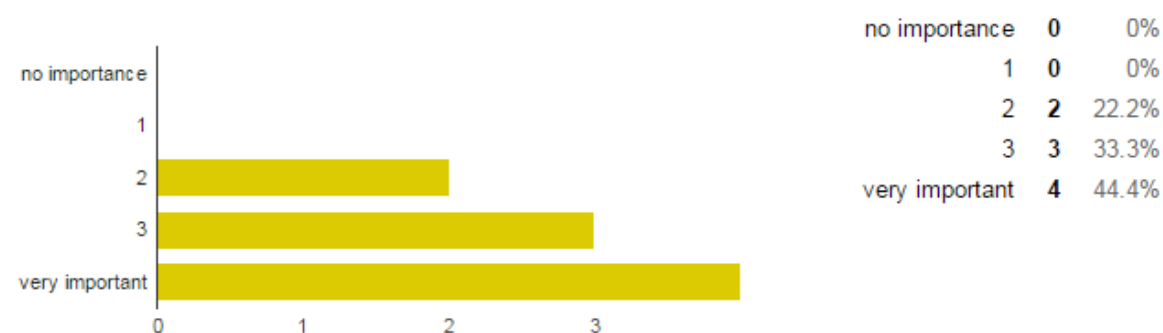
To create new services or products [Strategically are you looking for cooperation:]

no importance	**0**	0%
1	**1**	11.1%
2	**1**	11.1%
3	**2**	22.2%
very important	**5**	55.6%
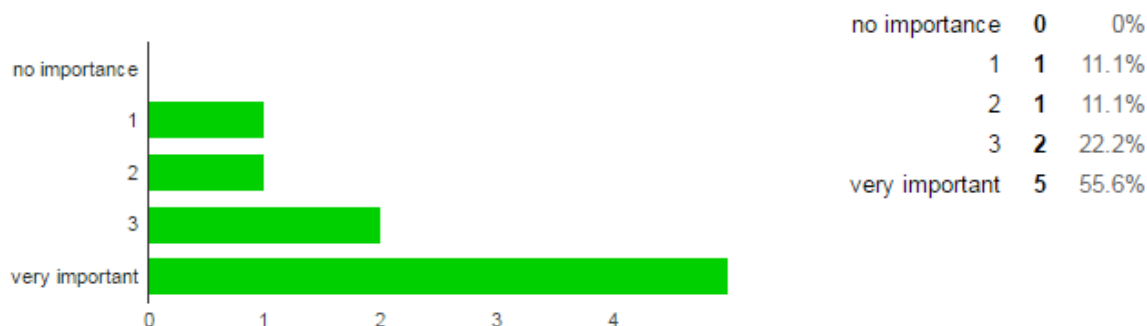
To network [Strategically are you looking for cooperation:]

no importance	**0**	0%
1	**0**	0%
2	**1**	11.1%
3	**2**	22.2%
very important	**6**	66.7%
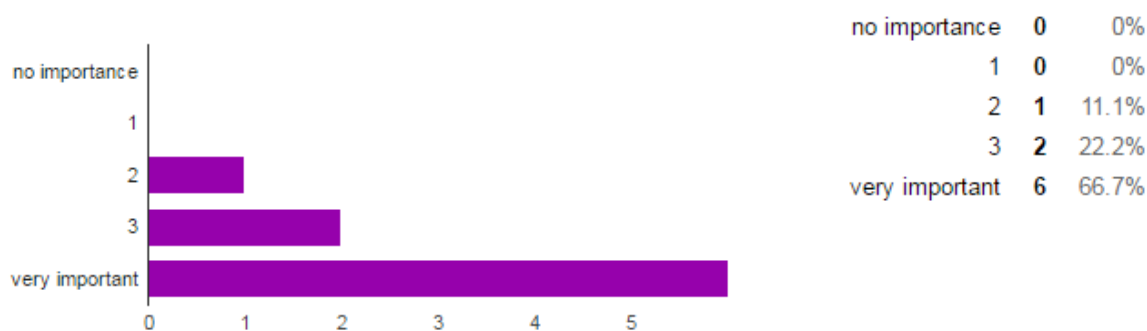
To build community [Strategically are you looking for cooperation:]
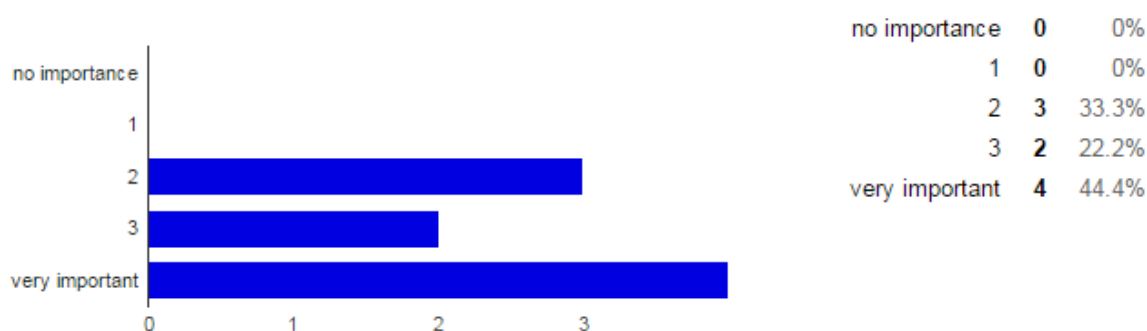
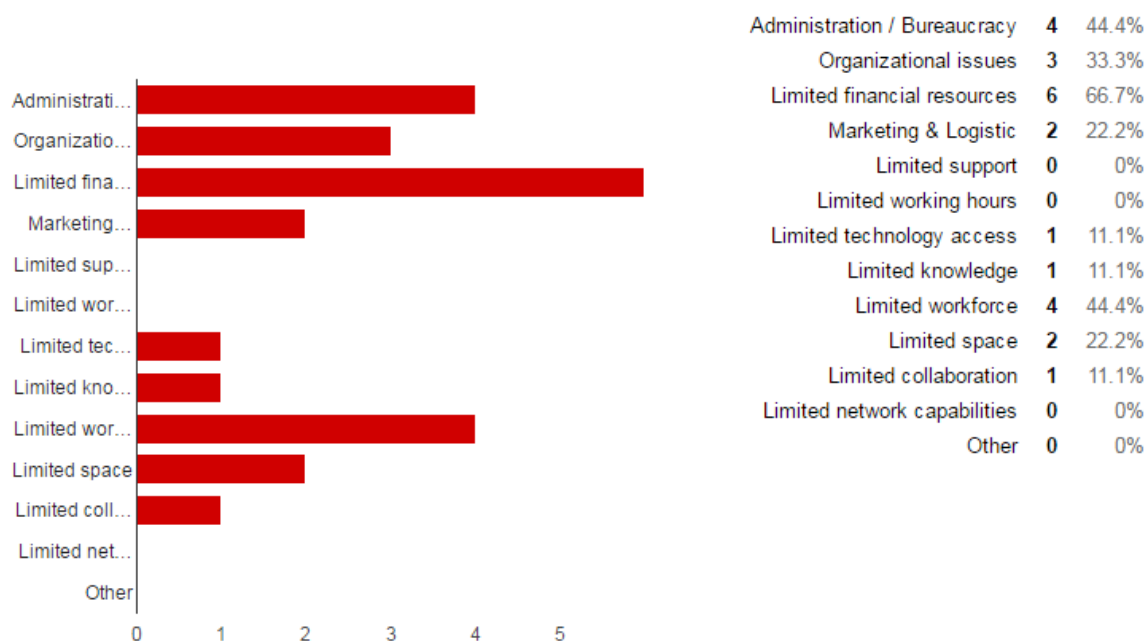|		
no importance	**0**	0%
1	**0**	0%
2	**3**	33.3%
3	**2**	22.2%
very important	**4**	44.4%

Describe your three typical/average user/client/target and their age, gender, educational background, nationality, social background etc.?

- Mid age high education Slovenian male.
- primary, secondary and higher school students/ Slovenian /Male and Female
- students, industrial partners
- Manufacturing industries B2B, citizens B2C
- early thirties higher-education (HE) female, (lower) middle class ; early twenties higher-education (HE) male, (lower) middle class ; early twenties higher-education (HE) female, (lower) middle class
- Innovative, technology driven person, all age groups, global interes
- scholars, 10-20 years, both genders, Slovenian, all social backgronds creative people, both genders, all ages, all nationalities and social background adults, age 20 - 70, both genders, middle and high education, all nationalities
- young high education slovenian male/female, mid age high education slovenian representative of support institution/or educational institution, mid age high education slovenian representative on policy level
- 8-15 years old Slovenian children + mid age high education Slovenian male and female + professional international artists and scientists working in the field of investigative contemporary art

What is source of income for your institution?

Public or private funding	8	88.9%
Donations	3	33.3%
Loans from banks	1	11.1%
Grant from a non-profit institution	1	11.1%
Venture Capital financing	0	0%
Crowdfunding	0	0%
Government funded	2	22.2%
Sales and Services	3	33.3%
External project charges	4	44.4%
Other	0	0%

What are the biggest challenges you face in your work?

Administration / Bureaucracy	4	44.4%
Organizational issues	3	33.3%
Limited financial resources	6	66.7%
Marketing & Logistic	2	22.2%
Limited support	0	0%
Limited working hours	0	0%
Limited technology access	1	11.1%
Limited knowledge	1	11.1%
Limited workforce	4	44.4%
Limited space	2	22.2%
Limited collaboration	1	11.1%
Limited network capabilities	0	0%
Other	0	0%

DT.1.1.2 MAPPING LOCAL ECOSYSTEM CHALLENGES

Mapping local ecosystem challenges of each project partner
PP 8 / SCSTI

T1	Capacity Building and Networking of Fab Labs
A.T1.1	Baseline Phase: Mapping Challenges and Innovation Potential within Innovation Ecosystem
D.T.1.1.2	Mapping Local Ecosystem Challenges of Each Project Partner

|	
Version:	2
Due Date:	31 December 2016
Delivery Date:	28 January 2017
Date and location of:	15-27.1.2017/Online
Nature:	Survey
Dissemination Level:	Internal
Lead partner:	PP9 - HR - FLZG
Authors:	Nina Bratkova

Results of the survey

Target groups of the survey were local educational environment institutions, local business environment institutions, local society/community environment. The survey was intended for a target of 6 respondents, the rate of respondent is the same as required (6).

The aim of the survey is to map the local ecosystem challenges related to Fablab in Slovakia.

The survey was conducted by means of questionnaire in Google form.

Q1: The questionnaire was filled in by 6 respondents, from which:
50 % were local communities or civil associations.
16.6 % Academia related or higher education environment (1 respondent),
16.6 % local community or social groups (1 respondent) and
16.6 % other institution (1 respondent)

What kind of institution you are?
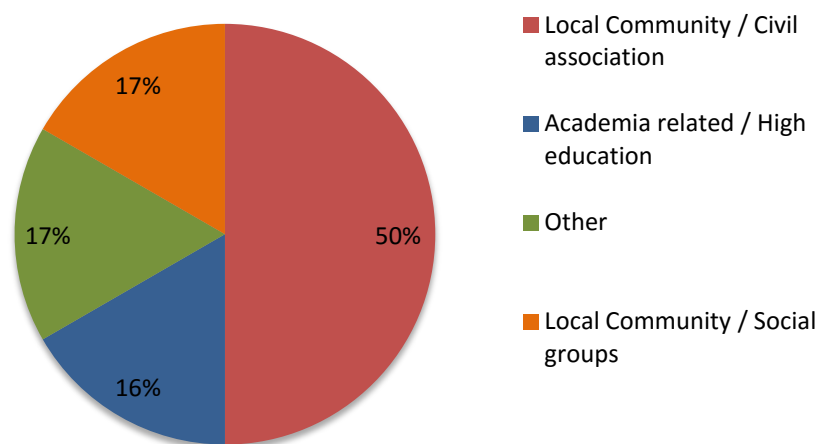
Q2: The first question aimed at knowledge on operations of the FabLab in Bratislava (Have you ever heard of a Fablab before this invitation?), all respondents stated they had previous knowledge about the Fablab.

Q3&Q4: The next question: "Have you ever worked with a Fablab?" was also answered positively by all respondents. In case this question was answered positively the respondents were asked to indicate the number of years cooperating to Fablab: "If the answer is Yes, for how many years have you been working/cooperating with FabLabs?" Based on responses of participants of the survey, we learned that in average the respondents cooperated to the Fablab 2.2 years.

Q5: The motivations of respondents to cooperate to the Fablab are according to the survey is following:
- **Good idea**
- **Learning and teaching**
- **Curiosity - creation of new things by new technologies in principle new ways**
- **Equipment, People in FabLab, Place to meet**
- **Mission, Goals and Possibilities**
- **Mission of our Civil Association is to use the TRIZ approach (Theory of inventive problem solving) to increase the skill levels of users to use this art cum science to enable and facilitate the development of breakthrough innovations**

Q6: The next question "How do you think Fablab could help you in your work?" received these responses:

- **Provide technical devices together with knowledge on technology**
- **Create, learning, environment**
- **To discover new perspectives for community development / production / education**
- **More workshops and communities cooperating within fablab**
- **Testing, verification and realization of ideas and in non-formal playful education**
- **Fab Lab can adopt our ideas into real life.**

Q7: The next question "What are/would be the main obstacles your institution face when cooperating with Fablab?" received following responses: 33 % of respondents did not find any obstacles, 33 % of respondents indicated that the main obstacle is funding, 16.6 % respondents indicated as obstacle the quality of available material for printers, computer´s language and 16.6 % indicated that the main obstacle is the distance of the FabLab.

Q8: The question "What kind of Fablab's activities/services better meet the needs of your institution?" received following percentage of answers:
- Education related activities with digital fabrication 50 %
- Provide place to collaborate with others 16,6 %
- Workshops to get practice with digital fabrication technologies 16,6 %
- Digital fabrication services to help develop ideas 16,6 %

From the survey we learned that the main activity of FabLab that meets the needs of institution is education related and digital fabrication. But respondents also indicated that activities as place for cooperation, workshops and digital fabrication services are important.

What kind of Fablab's activities/services better meet the needs of your institution?

Pie chart legend:
- Education related activities with digital fabrication (50%)
- Provide place to collaborate with others (16%)
- Workshops toget practice with digital fabrication technologies (17%)
- Digital fabrication services to help develop ideas (17%)
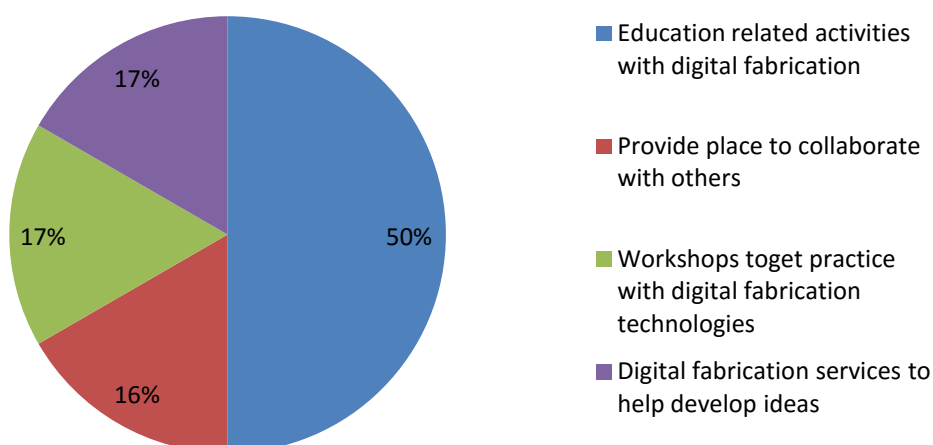
Q9: The institutions which responded the questionnaire indicated that they are strategically looking for cooperation mainly in order to learn and built community as well as network and have an impact on ecosystem.

Strategically are you looking for cooperation:
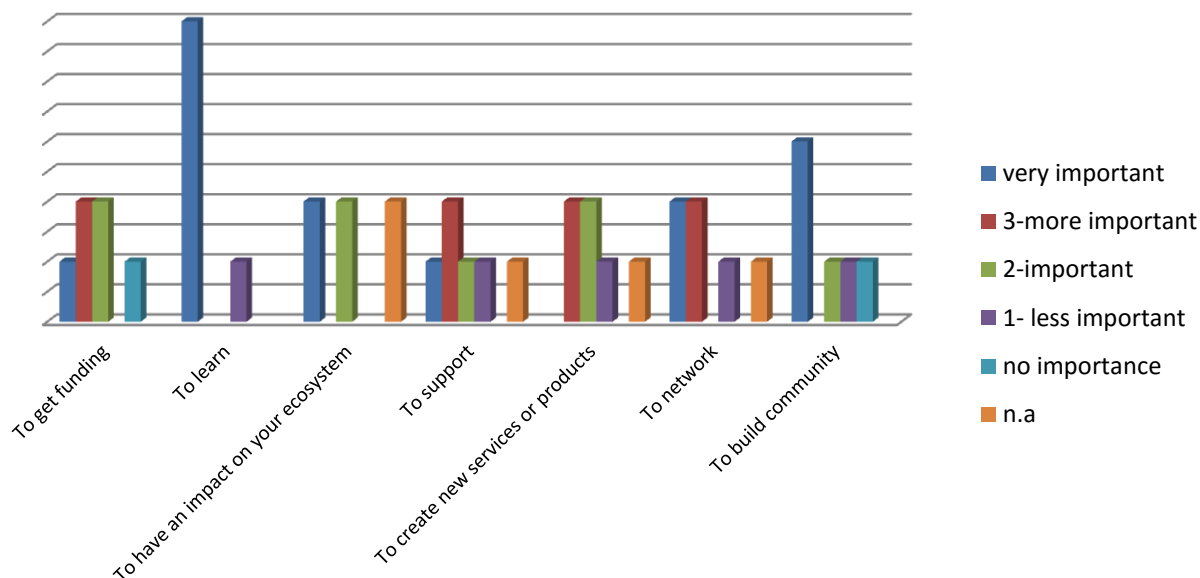
Q10: The respondents were also asked to describe three typical/average user/client/target and their age, gender, educational background, nationality, social background. The responds most frequently mentioned the following characteristics of their clients:
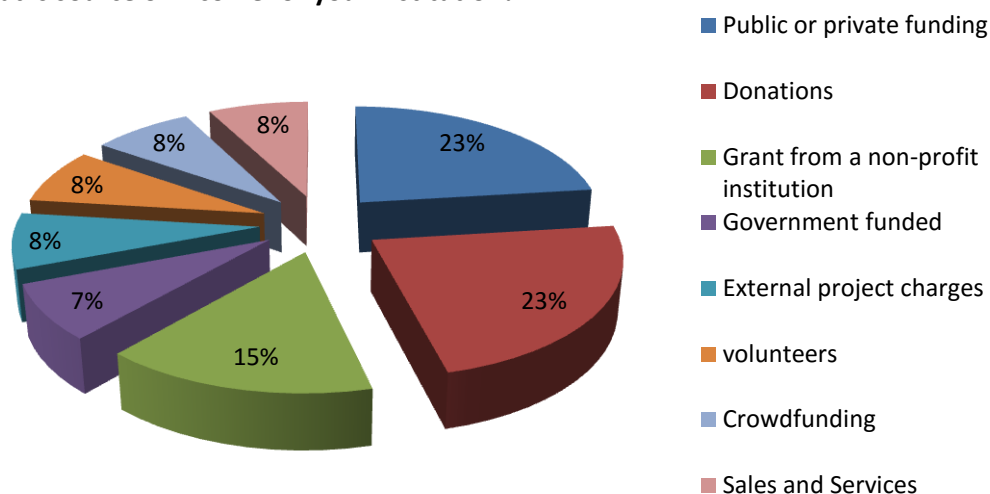
- **Researcher, universities**
- **secondary school student , higher education**
- **applied informatics bachelor or master program student**
- **pupils and teachers of basic schools in Slovakia**

Q11: the main recourses of income of institutions involved in survey were:

- Public and private funding 23 %
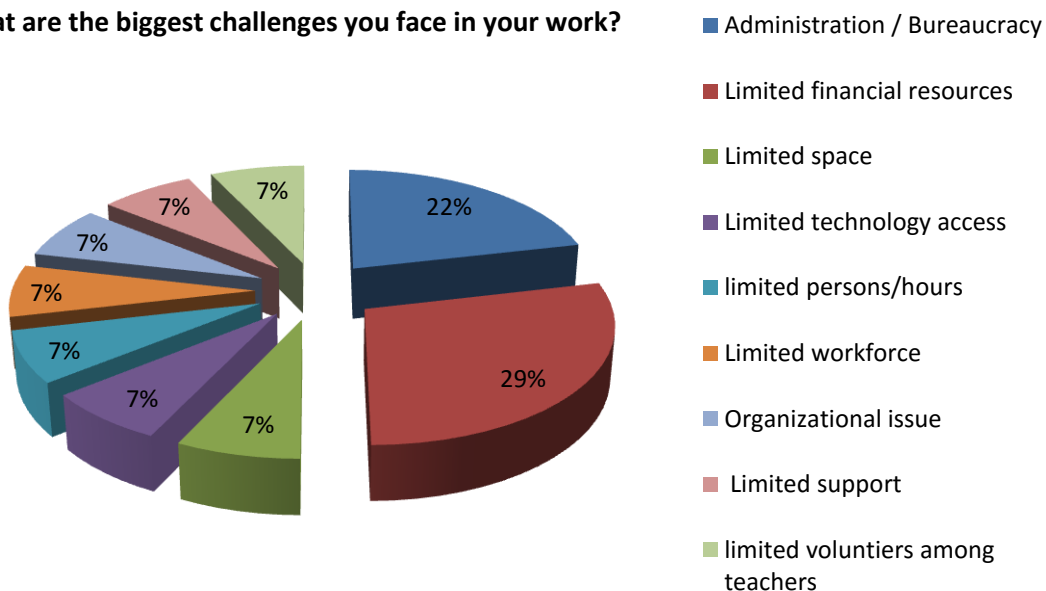- Donations 23 %
- Grants from a non-profit institution 15 %

What is source of income for your institution?

- Public or private funding
- Donations
- Grant from a non-profit institution
- Government funded
- External project charges
- volunteers
- Crowdfunding
- Sales and Services

Q12: The biggest challenges for institutions involved in the survey are:
- Administration/Bureaucracy 22 %
- Limited Financial recourses 29 %

What are the biggest challenges you face in your work?

- Administration / Bureaucracy
- Limited financial resources
- Limited space
- Limited technology access
- limited persons/hours
- Limited workforce
- Organizational issue
- Limited support
- limited voluntiers among teachers

DT.1.1.2 MAPPING LOCAL ECOSYSTEM CHALLENGES

Mapping local ecosystem challenges of each project partner

PP 9 / FLZG

Version 2

11 2017

T1	**Capacity Building and Networking of Fab Labs**
A.T1.1	**Baseline Phase: Mapping Challenges and Innovation Potential within Innovation Ecosystem**
D.T.1.1.2	**Mapping Local Ecosystem Challenges of Each Project Partner**

Version:	2
Due Date:	31 December 2016
Delivery Date:	31 January 2017
Date and location of:	15-30.1.2017/Online
Survey:	Report
Dissemination Level:	FLZG
Lead partner:	FLZG
Authors:	Roberto Vdovic, Morana Pap

Version Control

Version Date	Author	Author's Organization	Changes
09/12/2016	Morana Pap	FLZG	First draft
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Annexes

No	File Name	Title
I		Responses table - raw data
II		Responses generated summary

Details

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Deliverable Title	Mapping Local Ecosystem Challenges of Each Project Partner
Deliverable Number	D.T1.1.2
Keywords	Mapping, Ecosystem, ICT, Digital fabrication, Education, Business, Local Community.

Executive Summary

WP T1 Capacity Building and Networking of Fab Labs includes activity A.T1.1. Baseline Phase: Mapping Challenges and Innovation Potential within Innovation Ecosystem, one of deliverables being D.T.1.1.2 Mapping Local Ecosystem Challenges of Each Project Partner. The scope of local ecosystem challenges analysis is obtained by means of a survey prepared for all stakeholders. In case of the Croatian partner, 13 respondents have been recorded (6 being the minimum). Analysis shows that all stakeholders are interested in FabLab activities, especially the ones from the Academia group. These results will be used to strengthen the bond with the existing community as well as to start engaging new groups.

Survey Analysis

Q1: The target of the survey was to have 6 respondents; we had over-satisfactory rate of 13 respondents. The institutions who provided the answers belong to a wide variety of typologies that we can sum up in the following categories:

1. 46.2 % related to Academia
2. 30.8 % related to Business
3. 23.0 % related to Local Community+Museum
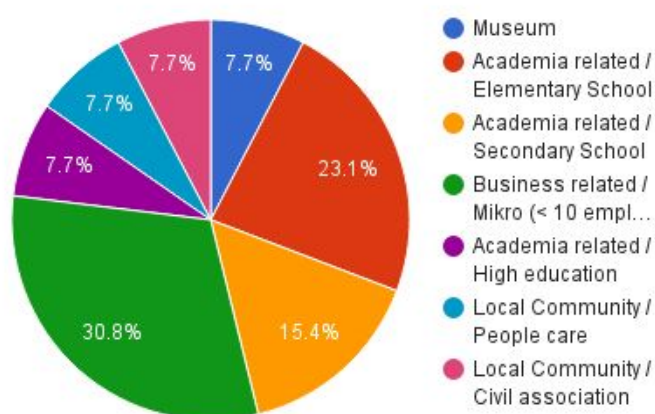
Q2 & Q3: Awareness of FabLab as an institution is acceptable, but some responses were surprising. Two respondents have never heard of FabLab, even though they cooperate with FabLab. In one external partner school (Elementary School Lovre pl. Matacic), person who responded was new to the school, and was not familiar with FabLab and the project! Respondent from another school didn't recognize that there was FabLab activity in his/her school, therefore, more efforts should be made in order to increase understanding of FabLab as a brand, at least by performing activities in schools.
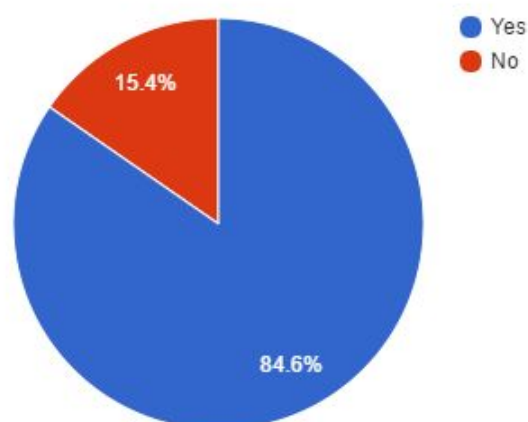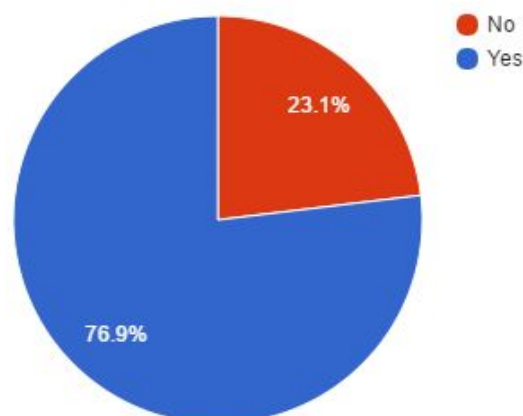
Q4: The collaboration or working relationships are, however, very recent (1,5 years on average, ranging 0-3 years, with one exception of 5 years) but these results are completely aligned with National and European standards, since the development of FabLab movement started in Italy about 4 years ago and the MUSE FabLab was one of the first to start public operations in 2013.

If the answer is Yes, for how many years have you been working/cooperating with FabLabs?
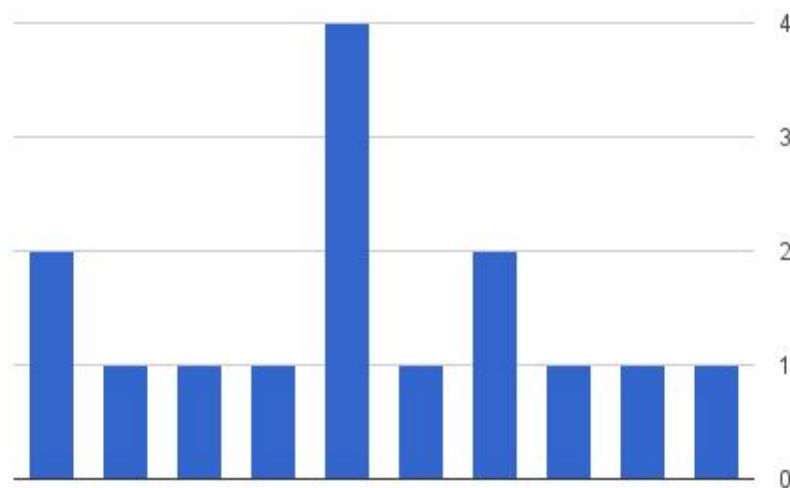
Q5 & Q6. Motivation for cooperation with FabLab spread in different ways: from sales channels and feedback sources, to more specific activities, such as: presenting new technologies to people with disabilities, implementing innovation in education, learning new skills and other education related ways of collaboration. Some responses were related to the importance of inspiring the community and sharing knowledge, enabling new opportunities and catalyzing innovation and creation. It is interesting to see that one response (secondary school) is related to the concept of Circular Economy, and that could be the basis for collaboration with FabLab.

FabLab is viewed as helpful in networking, innovative learning and education, bridging formal and informal learning environments, transforming ideas into products, and making new technologies more accessible.

Q7. About 60% of respondents didn't find any major obstacles for cooperation with FabLab. Some responses were related to distance, those of respondents from the islands or from abroad, which presents a great opportunity for FabLAbNet to solve some of those issues. Generally, there are no major obstacles for cooperation if FabLab heightens motivation and understanding of the FabLab role.

Q8. More than 30% of responses recognized that education related activities with digital fabrication are the ones that meet their needs, which could be in correlation with about 50% of Academia background. But detailed analysis shows that schools are looking for practical workshops (23.1%) and education is distributed between Academia and Local Community+Museum. Some identified the needs for Digital fabrication services either to bring products to market (15.4%), or to help develop ideas (7.7%), and they are business oriented. Another 23.1% respondents would like to see FabLab as a space for collaboration with others, which could present an important innovation trigger.

What kind of Fablab's activities/services better meet the needs of your institution?

- Education related activities with digital fabrication — 30.8%
- Workshops toget practice with digital fabrication technologies — 23.1%
- Digital fabrication services to help bring products to market — 15.4%
- Digital fabrication services to help develop ideas — 7.7%
- Provide place to collaborate with others — 23.1%
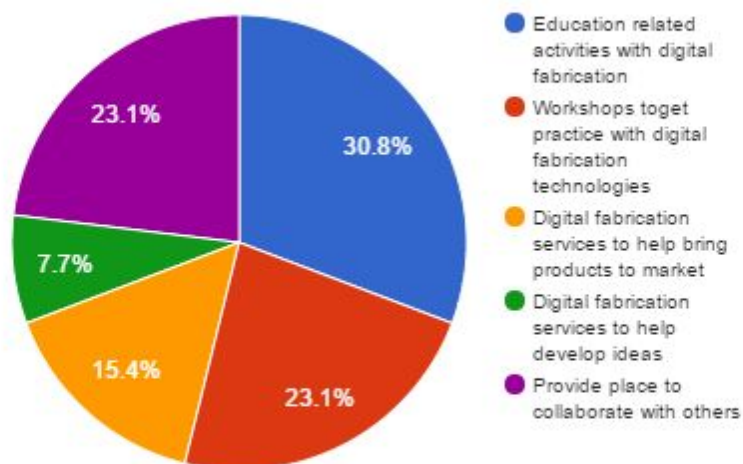
Q9. The stakeholders see the cooperation primarily as a very important way of learning, and then as providing them with networking opportunities. Cooperation as a source of support or building community is very important for 50% of respondents. The same importance is given to the way to create new services, however, this indication is for sure related to an organization's background. The survey demonstrates that collaborative approaches are less business oriented (creation of new products and services) and more strategy oriented, along with the creation of social and intellectual capital. Although some respondents see it as very important, more respondents find cooperation less important for fundraising.

Strategically are you looking for cooperation:

Legend:
- N/A
- not important
- less important
- more important
- very important
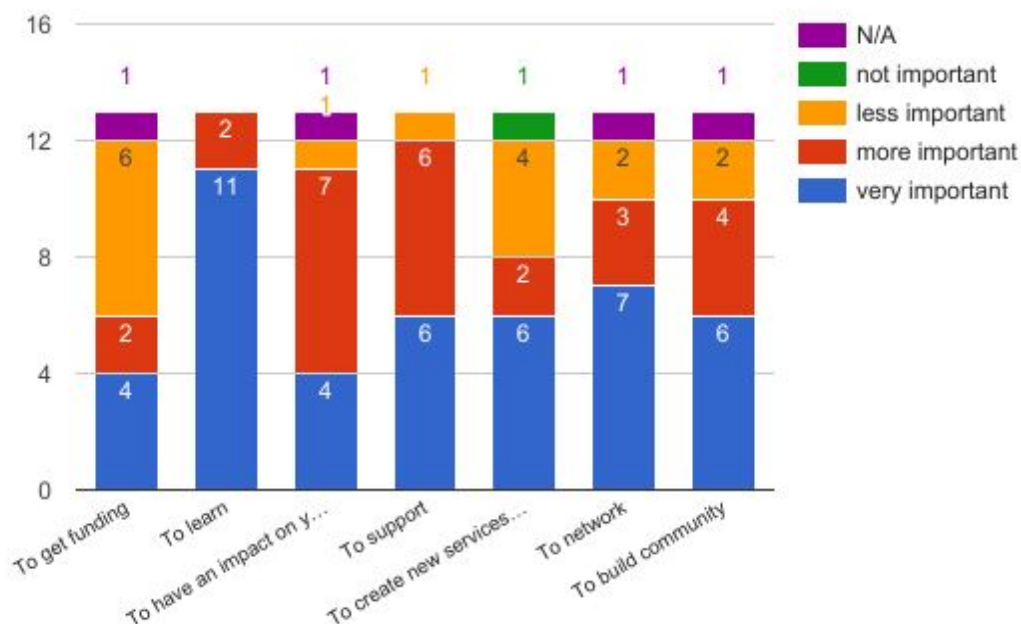
Q10. Regarding typical users, no clear trends can be recognized. This is probably because of a small number of responses of different stakeholders. Because more responses came from Academia, typical users belong to younger population, both male and female. Some responses reveal more male presence, with mid- and higher education background, but no specific fields can be recognized.

One of the responses was most elaborate. It is specific because of the startup background, but it points to challenges which might be interesting for FabLab, not only as digital fabrication service, but as a wider makerspace platform for collaboration and innovation.

Here is the complete response:

> *1) mid age (high/or semi-high education) male who is an engineer and loves exploring, making, programming and fiddling with hardware (an adult maker with an engineering background)- he/she buys our educational kits and/or attends our workshops*
> *2) curious high school student who loves making, electronics, hardware, has an Arduino or knows what an Arduino is - he/she buys our educational kits and/or attends our workshops*
> *3) mid age programmer (highly educated) who is working in a prosperous fast-growing startup, he/she is a programming wiz but has never seen a soldering iron and would like to learn something about hardware (curious and embracing new things) - he/she buys our educational kits and/or attends our workshops*

Q11. The main source of income of the institutions is public or private funding, followed by sales and services, loans and in order of importance: government funds, donations, external projects. One response indicates using crowdfunding as the source of income.

What is source of income for your institution?
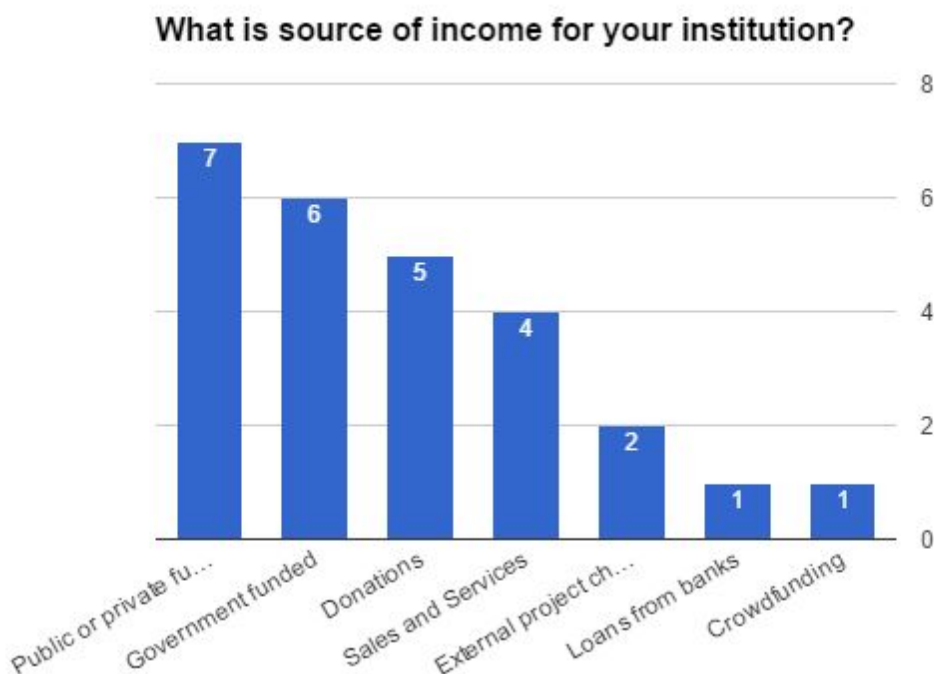
Q12. The main challenges of the institutions face in their work are Limited Financial resources, followed by Administration and Bureaucracy, as well as Organizational issues. Those responses related to Limited technology knowledge, Limited support, and Limited networking and collaboration are from the groups interested in relating the FabLab role with local ecosystem.
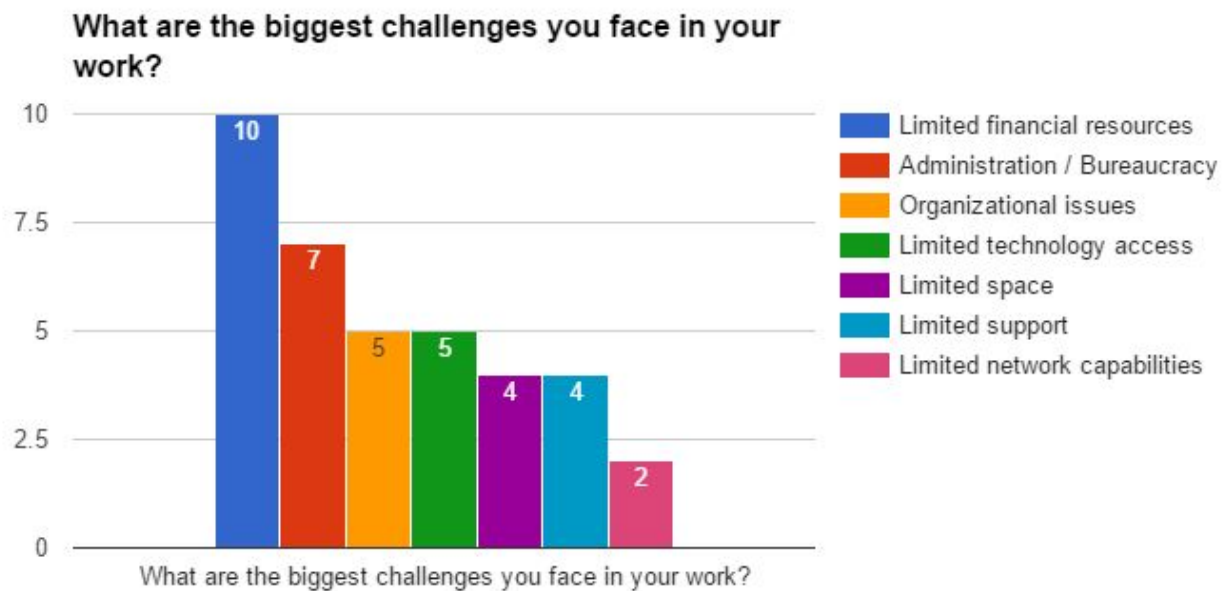
What are the biggest challenges you face in your work?

Report Summary

When we discuss results of this survey, several facts should be considered. Survey offers results of a limited number of responses from different stakeholder and results strongly depend on subject's activities. For some questions, better results would be achieved with more respondents, and they could provide more focused results.

Role of FabLab as a place where almost anything can be made is related to transforming ideas into prototypes or further into products. It is an important part of business oriented activities. This could be an important source of income for some FabLabs, providing services both for startups and SME's, but also for larger businesses which would benefit from digital fabrication.

The analysis shows importance of education in FabLab activities. New technologies, including digital fabrication, are slowly penetrating into primary/secondary schools and faster into universities. Fablab can trigger innovation within young population in schools, and provide significant impact on their future, entrepreneurial mindset and more efficient employment. This education should not only be about technology, but also about new teaching processes, such as using design thinking process to improve STE[A]M skills. Therefore, it is very important not only to work with children, but also to educate teachers.

Local community can play an important role in FabLab activities, either in order to bring technology to different social groups, for instance helping people with special needs, which might in turn trigger new businesses. Unemployed persons could benefit from collaboration and networking.

DT.1.1.2 MAPPING LOCAL ECOSYSTEM CHALLENGES

Mapping local ecosystem challenges of each project partner

PP 10 /MakerSpace

Version 2

11 2017

| T1	Capacity Building and Networking of Fab Labs
A.T1.1	Baseline Phase: Mapping Challenges and Innovation Potential within Innovation Ecosystem
D.T.1.1.2	Mapping Local Ecosystem Challenges of Each Project Partner

Version:	3
Due Date:	31/05/2017
Delivery Date:	31/05/2017
Date and location of:	15-30.4.2017/ Email distribution
Nature:	Survey
Dissemination Level:	Internal
Lead partner:	PP9-HR-FLZG
Authors:	Lana Handy, Martin Laarmann

Survey Analysis

The sampling-size of the survey reached a total of 6 respondents who where asked to answer a survey created with the Google Forms tool and distributed via Email.

Q1: The institutions that answered belong to a wide variety of typologies that we can sum up in:

1. 33% to Government or regional level
2. 33% consider themselves related through other channels
3. 16% of them are related to Academia or from a Research Institute
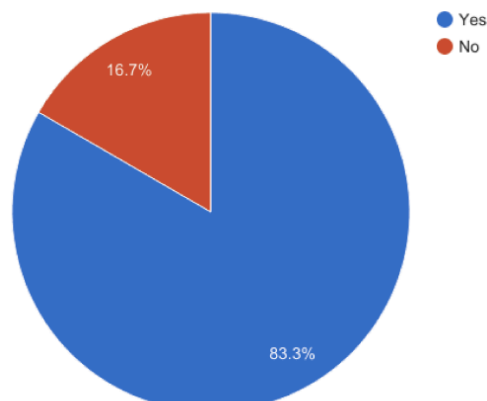4. 16.% related to a local community.
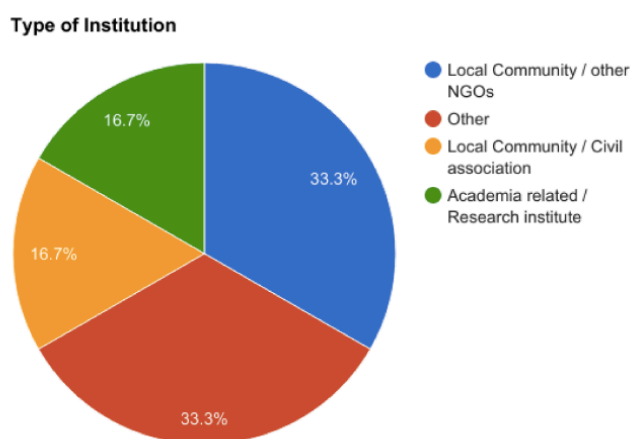
Q2 & Q3: The FabLab institution was very well known among the respondents with the totality of the respondents knowing what a FabLab is. An interesting fact is that the majority (83.3%) of the interviewed stakeholders have already worked with FabLab or are in an ongoing collaboration.
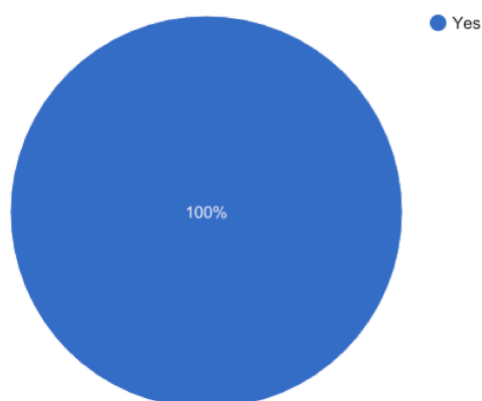
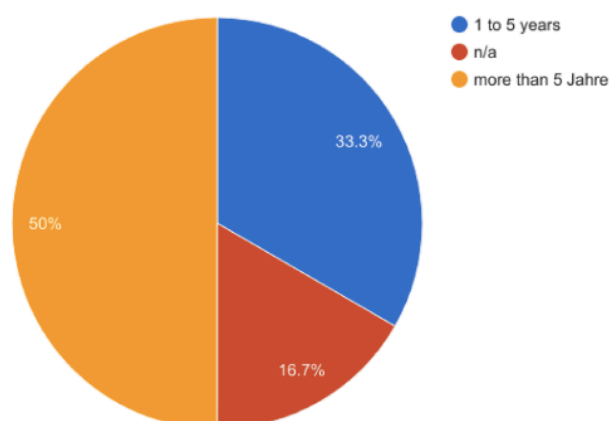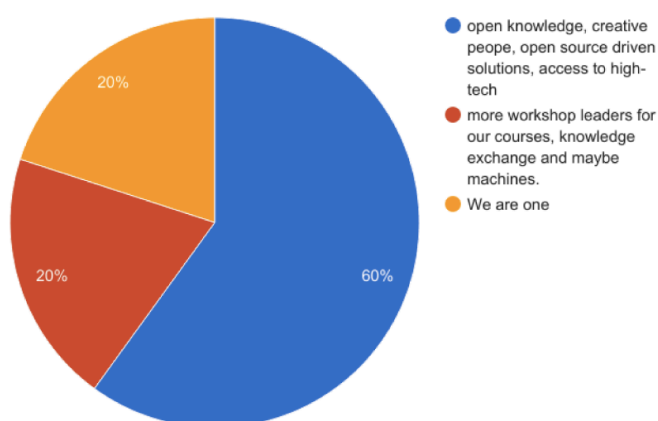**Q4:** The above mentioned cooperation forms have been established over a longer course of time with the most recent cooperation starting five years ago.

How many years have you been working/collaborating with FabLabs?

- ● 1 to 5 years
- ● n/a
- ● more than 5 Jahre

33.3%
16.7%
50%

Q5&Q6: It was possible to observe two main directions as for why the respondents cooperated with a FabLab. The main reason (60%) was that the respondents saw an opportunity to openly exchange ideas and knowledge with creative people in a high-tech environment that is open-minded towards open source driven solutions. Another 20% of the respondents saw the chance of recruiting more workshop leaders for their courses and exchange knowledge and maybe machines.

Motivation to cooperate with a FabLab

- ● open knowledge, creative peope, open source driven solutions, access to high-tech
- ● more workshop leaders for our courses, knowledge exchange and maybe machines.
- ● We are one

20%
20%
60%

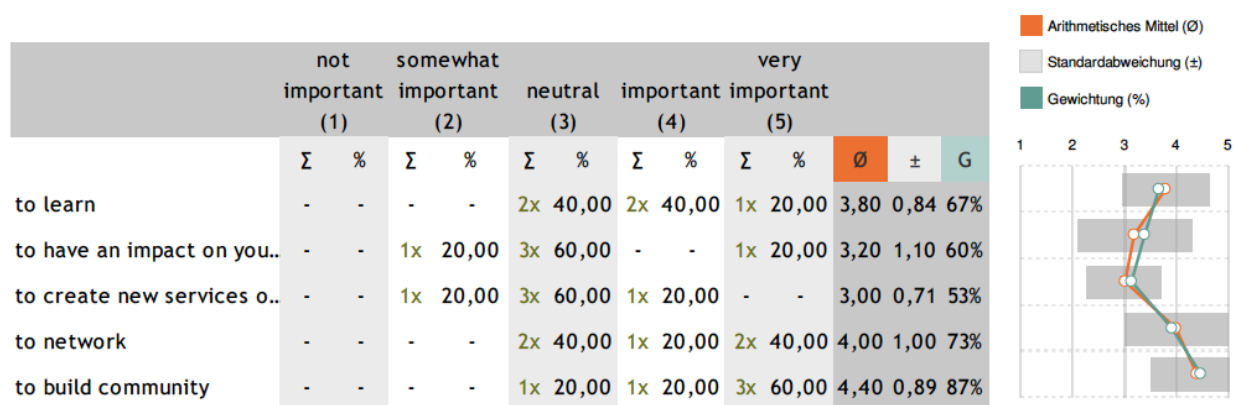When asked about how a FabLab could help the respondents improve their work, answers were mostly community-driven (challenges, support, place to meet people). One of the participants saw the chance of outsourcing the production of parts that were too big to assemble in their own facilities. A cooperation was also seen as an opportunity to get the younger generation and teachers involved in new technology.

Q7: The most common obstacles respondents found themselves confronted with when cooperating with FabLabs were poorly designed processes for cooperation responsibilities. Some of the respondents thought that many of the FabLabs were very business-oriented or hard to reach because of a local concentration and overload. Another roughly 16% said that the access times and costs were obstacles they were faced with when cooperating with a FabLab,

Q8: The kind of FabLab's activities and services which better meet the needs of the contacted institutions are, in order of importance:
1. Collaboration (33%),
2. Workshops to get practice with digital fabrication technologies (16%)
3. Education related activities with digital fabrication (16%)
4. Research related activities in the field of digital fabrication (16%)

Q9: In general, the stakeholders see the cooperation with external organizations or companies as very important for learning from and with each other, networking and building and/or building a community.

	not important (1)		somewhat important (2)		neutral (3)		very important (4)		very important (5)		Ø	±	G
	Σ	%	Σ	%	Σ	%	Σ	%	Σ	%			
to learn	-	-	-	-	2x	40,00	2x	40,00	1x	20,00	3,80	0,84	67%
to have an impact on you..	-	-	1x	20,00	3x	60,00	-	-	1x	20,00	3,20	1,10	60%
to create new services o..	-	-	1x	20,00	3x	60,00	1x	20,00	-	-	3,00	0,71	53%
to network	-	-	-	-	2x	40,00	1x	20,00	2x	40,00	4,00	1,00	73%
to build community	-	-	-	-	1x	20,00	1x	20,00	3x	60,00	4,40	0,89	87%

Q10: The survey has revealed the wide variety of users with no apparent trend. The users are both males and females and have mostly reached a higher education level. One respondent described their typical user as a young university student and/or inventor.

Q11: All the participants described public or private funding as their main source of income. This means of funding was closely followed by donations, and grants from a non-profit institution, government funding or the monthly member fees.
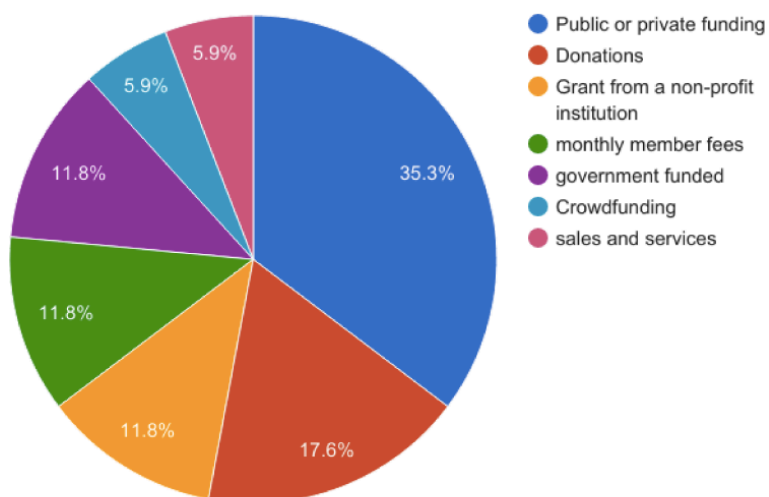
The main challenges for the institutions in their works are organizational issues and limited financial resources they see themselves confronted with. Administration and Bureaucracy raises another very important issue the participants see themselves challenged by.

1. Organization
2. Limited financial resources
3. Administration/ Bureaucracy
4. Limited workforce
5. Limited collaboration
6. Limited working hours
7. Limited support
8. Marketing&Logistics
9. Limited technological access