

PILOT ACTION EVALUATION

DT252 - LP - Partner Report on Pilot 3
Training courses 01.02.18, 16.03.18

Version 2
05 2019





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1. Short overview of the Pilot Action

Sharing is one of the major aims of any FabLab, and anyone who attend the FabLab has the possibility to have free access to the theoretical and practical knowledge.

Makers have to be free to know, touch and work hands-on to learn limits and potential of FabLabs tools. MUSE FabLab since 3 years works on social inclusion of senior citizen, which are actively involved in activities related to digital manufacturing.

The pilot 3 “training courses” was composed by two different course:

1. Elderly and Young Activity 02.01.2018

There is a knowledge technology-divide in between the elderly and the youngs. Elderly have difficulty to access at the technology that characterize our century, instead young live for the technology.

For this activity we have created teams composed of adults and young people which worked together, learning by each other. The goal of the course was to to program robots, a knowledge taught by the MUSE trainers. They discovered and learned how to do so, having a good time together, knowing each other and learning a new knowledge.

2. Potential of digital fabrication 16.03.2018

During this training day the MUSE FabLab has opened its doors to all the makers of the territory, offering free courses to enable the use of the machines. The courses consisted of two modules:

- Theoretical lesson
- Practical lesson

In the first part the present tools of the fablab and the different techniques useful for the use of gold were shown. In the second part the participants put the theory into practice, using the machines.





2. Lessons learnt

We have had a good response and many positive comments especially by the parents/granparents of the *Elderly and Young Activity*. Regarding the secondo course, we realized the community of makers does not necessarily mean a homogeneous group where everyone knows. Each makers who participated to the Pilot was specialized and interested in one or more technologies, but very often in a not so grounded way. It seemed many of them learned-by-doing these technologies, which is a very welcome approach in the FabLab, but sometimes leaves the persons with a lack of knowledge.

During the *Elderly and Young Activity* this knowledge gap was somehow filled by the presence of the adult. The *elderly* in fact learned by the *young* the new technologies, but he or she was able to provide back to the *young* an explanation of the basic principles regulating this technology. E.g. during an Arduino microcontroller exercise, the *young* explained the coding formatting and the capabilities of this prototyping board, but the *elderly* provided back info on the Ohm's law regulating the power supply, the width of the copper traces on the board etc.

These activities showed how a community can work actively for social integration and for sharing the new technologies to the wide public.

Keep doing

- Social inclusion
- Free access to the technology

Start doing

- Contact social associations

3. Outcomes

In the first course the young people had the chance to work with elderly , with their help they broke the walls of the digital divide. Both had the chance to learn from each other, creating or reinforcing bonds, generating mutual trust. The learnt technologies and this connection among individuals and across the entire makers' community is a strong basis for future development of projects, and as well for repeating the format in future.

4. Sustainability

The activities have a very low economic cost, but for the next times we will involve local social associations to have a greater social impact.

An entry fee can be also asked to the participants, in the form of annual membership to the MUSE FabLab. The annual membership is 20 € / year for under 25 years old and 50 € / years for all the others. It includes the open access to the FabLab, the use of the machines and all the training courses. By selling only the yearly membership we hope to encourage visiting the FabLab often, thus encouraging the creation of a network of makers.

PILOT ACTION EVALUATION

DT252 - LP - Partner Report on Pilot 3
Maker meet Artisan 01.04.-31.05.2018

Version 2
05 2019





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1. Short overview of the Pilot Action

Maker meet Artisan aimed to generate contamination of two communities that are very active in the Trentino area: the artisans and the makers. The artisan sectors we decided to involve ranged from wood, mechanics, fashion, art, textiles, to the field of wellness and nutrition. The participants were selected through a Local call, and 4 artisans and 6 makers were selected among the 21 candidates. The ideas to be developed, proposed by the selected craftsmen, have been combined with makers useful skills for the development of the first prototype. MUSE FabLab was the glue between these two communities, offering participants the use of the FabLab facility and machines, and the opportunity to attend courses on 3D printing, laser cutting, electronic programming, facilitating the development of the prototypes.

The teams were:

- Zaninelli Luca (craftsman), Degasperi Pietro (maker)

They designed and produced a musical speaker made of stone.

- Navarini Andrea (craftsman), Lenartavicius Vaidas (maker), Mantovani Giulia (maker), Garcia Gabriel (maker)

They have produced some useful media for promotional communication and a new handle for frying pans.

- Faggioni Alex (craftsman), Thiessen John (maker)

They designed and built a cnc machine milling.

- Drăgan Patricia (craftsman), Andrea Signoretto (maker)

Both cycling enthusiasts and re-use, they made bicycle saddle covers, reusing broken umbrellas and making connectors with the 3D printer.



2. Lessons learnt

The FabLabs are not only the container of tools related to digital manufacturing, but are above all generators of ideas and innovations supported by a geek community, which are often far from the economic productive world.

The artisans and the trade association was very interested in this initiative, which gave rise to a new relationship between the maker world linked to the fablabs and the world of artisans who are much more attentive to the business world.

Keep doing

- Support the development of prototypes born during this pilot to be able to place them on the market
- Repeat the pilot by interacting with other artisan companies in the area

Start doing

- Offer courses of first access to the technologies to the artisans, in order to show the potential of the tools
- Foster open innovation through other actions
- Designing other actions such as this but dedicated to a specific sector to better monitor the activities

3. Outcomes

Both communities have had the opportunity to discuss the issues of the development of new products for the market. The artisans have acquired the basics of digital manufacturing through the courses offered, but above all have opened their own companies to young makers, who have touched the path that divides the idea from the product to the sale.

During the FabLabNet project the MUSE FabLab has analysed the local territory, realizing a huge innovation potential in each of the 10.000 artisan enterprises active in Trentino. The FabLab wanted to contaminate the artisans with its technologies and manufacturing processes for promoting bottom-up innovation, thus we invented the Makers meet artisans format. A collaboration with the local Artisan association, and in particular with the “youth artisans” section was performed and considered one of the keys for success. The second success factor was the involvement of some members of our FabLab community: highly motivated, smart makers, who can easily contaminate with their enthusiasm the artisans, and have the technical capacity of demonstrating the huge innovation potential in the FabLabs.

As a results we got 4 artisans who innovated practically, with real tools, mechanisms, or processes introduced in their everyday works. Then we had FabLab members who were very happy to approach the real SME world, where their talent was used for a real life challenge. Last but not least the FabLab itself demonstrated its role of catalizer of the innovation, being

the perfect place for hosting Artisans and makers and guiding them for the use of new technologies and processes.

The relationship with the makers community resulted reinforced after the event, and the Artisans Association already expressed their clear intention of repeating the format in the next future.

4. Sustainability

The pilot action in light of the interest found is certainly right to be repeated in the future.

In order to achieve excellent results, it will probably be necessary to imagine the next action dedicated to a specific artisan sector.

The costs of the pilot action are certainly reasonable, but in the future we can imagine the active involvement of trade associations and involve the public administration.

The Artisan Association is the most probable source of fundings for repeating the Makers meet artisans in future.

PILOT ACTION EVALUATION

DT252 - LP - Partner Report on Pilot 3
Repair Cafè 26.05 & Trenoverde 6.04.2018

Version 1
06 2018





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1. Short overview of the Pilot Action

Repair Café was born as an answer to the sad dual logic that sees the object only as a purchase or as a waste, proposing an opportunity to repair its objects with the help of experts.

Repair Café operates both in terms of waste reduction and reuse.

In the first case it is a question of extending the life of damaged objects and products, thus avoiding replacing them with new ones; in the second one we mean the possibility of allocating objects or parts of objects for use other than their own, assembling in an original way recovered components or making appropriate modifications to disused objects.

Similarly, the repairing potential and its ecological purpose has been presented during the Trenoverde (literally the green train) campaign 2018. This real size train makes 12 stops across the country in 45 days, and it's a travelling info-point for informing citizens on eco-friendly best practices.



Visitors at the repair cafe boot. MUSE FabLab personnel is helping them repairing objects.



Inside the so-called green train. Informing citizens on the value of repairing.



A lamp shining again after being repaired. An electronic waste avoided, an happy men!



The organizing and repairing team of the *repair café*.



A visitor during the course (left), and Gianluca from the MUSE team soldering.

2. Lessons learnt

Repair Café was the first activity test involving citizenship. Citizenship actively participated in the event and about 100 people arrived, and 29 objects were repaired. The repairs were carried out by the technicians in synergy with the owners, who analyzed the objects, their problems and put into practice different repair techniques.

Stop Doing

- Use 3d printer to create in real time replacement parts - it takes too long to design and create (print) a spare part. This issue can be partially solved by having more than one 3D printer.

Keep doing

- Cooperation with other local associations
- Repeat the pilot in future, as a periodic event

Start doing

- Make a booklet on most popular repair techniques
- Involve public organizations
- Involve citizenship
- Activate a repair workshop inside the fablab

3. Outcomes

The participants were involved in the repair of their own objects. The FabLab personnel guided them to the discovery of the object parts, their importance (as mechanic, electric, electronic, aesthetic purposes) and the diagnosis of the broken item.

Thus led visitors to be part of the repairing process with a learn-by-doing format.

As a side effect many visitors deepened their knowledge in various fields such as electronics, safety, reverse engineering, soldering.

All they learnt the importance of repairing, they discovered that it is a feasible activity with an high success rate.

The pilot action may lead to a reduction of waste brought to recycling platforms, with an environmental benefit for the local territory and the global ecology.

The use of a repaired item may lead to not buy a new item, similarly bringing ecological benefits in terms of raw materials not produced, transportation costs etc.



4. Sustainability

The event can be replicated in future in a similar way, with volunteers helping to repair citizens' households.

An improvement of this format can be done involving associations for promoting the event, for gathering volunteers and broken objects. The future innovation can be that the objects are donated for repairing, and after the reparation they can be donated again to an NGO that uses those objects, or that sells them to support non profit activities.

The event can be sponsored by local banks or tool makers (e.g. solder iron or screwdrivers enterprises).