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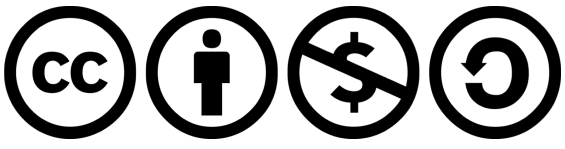
DT.1.3.6 Report on P2P Knowledge Exchange Visits

Deliverable D.T.1.3.6

Report on P2P Knowledge Exchange Visits in Wien - PP 2/HappyLab

Author: Marco Fellin

Version 2
11 2017



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1. Visit outline

Date:

June 28-29 2017

Venue: Wien, Austria

Host Partner: Happylab

Visiting Partner represented by: Marco Fellin

Other Partners attending the same visit: PP2 (Joanna, Karim, Roland, Thomas), PP5 (Marek, David, +2ASP), PP8 (Joseph, Hanka), PP9 (Roberto + 1 ASP), PP10 (Lana, Martin). Presence of GE – Agnes, for the first day.

The program of the visit was the following:

June 28th

13:30 - 14:00 Welcome coffee and networking

14:00 - 15:00 Happylab Tour

15:30 - 17:00 Fabman presentation and workshop on Fab Lab management practices (Raphael Luba, Fabman developer)

17:00 - 17:30 Coffee break

17:30 - 18:30 Data analysis in Fab Labs: "Is there a gender gap in Fab Labs?" (Christian Voigt, Centre for Social Innovation)

19:30 Traditional Austrian dinner (Englischer Reiter)

June 29th

09:00 - 09:30 Welcome coffee and networking

09:30 - 11:00 European School of Makers (Joanna Kowolik, Roland Stelzer, Karim Jafarmadar): Pilot no. 3 progress of the joint digital catalogue and workshop on individual pilot plans

11:00 - 12:00 Happylab Pop Up Fab Lab and Fab Box (Peter Pollak, Gymnasium Purkersdorf)

12:00 Lunch

13:00 - 14:30 Workshop Pop Up Fab Lab

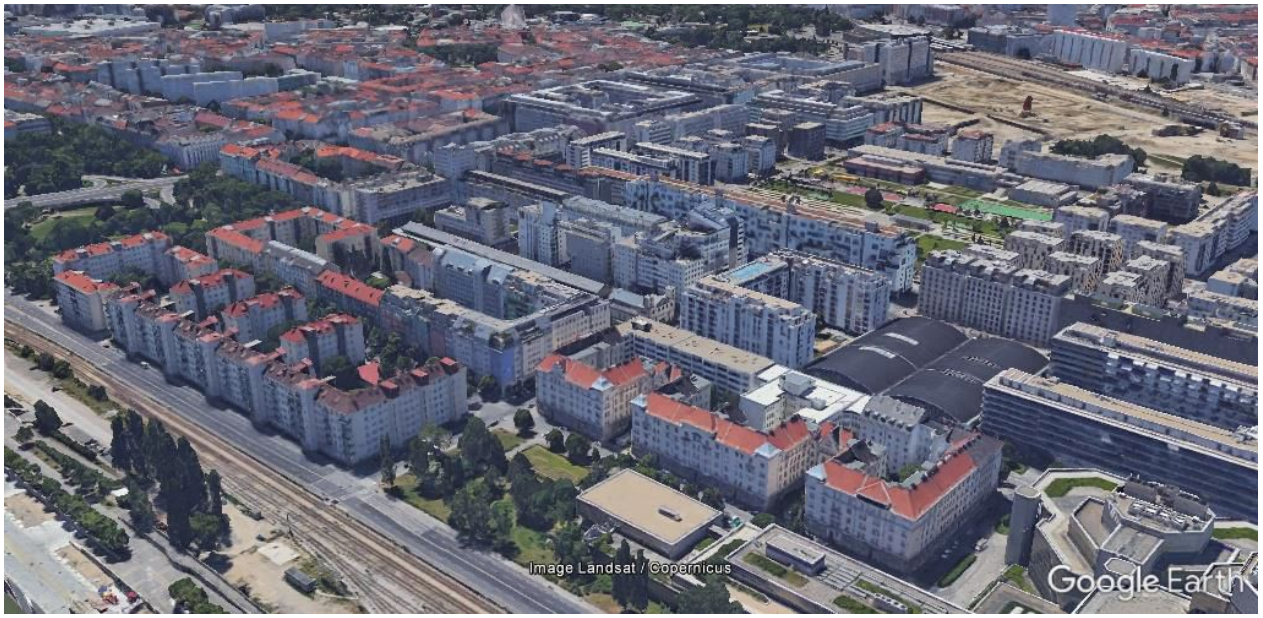
15:00 - 16:00 Visit at Werksalon - Co-Making Space

2. FabLab Reality:

Happylab was founded 10 years ago. In 2010 it moves in its actual position, and with this change they begun to be more business oriented. They are offering a basic access to the lab for as little as 9€/month, without any limitation in the machine use. This comes from a precise intention of allowing a wide majority of users to access to the lab.

2.1 Location:

The FabLab is strategically located in a new neighbourhood, with a high density of inhabitants and business activities (see the image below). The Metro station is at just 5 minutes walking distance, thus the Happylab has a wide basin of potential member at both local and city level.



The Happylab is a pretty big FabLab, organized in 8 main rooms/areas which covers all the basics and part of the advanced needs for a FabLab:

- wood workshop room
- laser cutting room
- vinyl cutter and hot press room
- 3D printing area, electronics area meeting area
- shop/reception room
- relax/coffee area.

The space is ordered and wisely organized. It is wheelchair accessible.

2.2 Tools and equipment:

Beside the standard FabLab equipment and tools, it impressed me the wood working workshop, which is very well equipped and includes a CNC. Similarly, the electronic work bench is very well equipped and includes also an oscilloscope and a logic signal analyzer.

2.3 Management and Organization of the FabLab, Communication:

The Happylab Management is indeed a worth-to-see characteristic. Following a machine fire a few years ago, they have developed the FabMan system, which is in function in the Happylab.

The FabMan:

- Manages the booking of the machines;
- Allows the access to a machine only if the personnel is entitled to work on that (it has passed the safety course, it booked the machine);
- Monitors the status of the machine, and the presence of the operator, who cannot leave the machine without surveillance (dead-man control). This feature is stricter during the dangerous working phases, while is less annoying during the simple machine setup;
- Manages the billing for the machine use;
- Saves statistically relevant data from machine use.

The opening hours of the Happylab are just 13 a week, thus limiting the cost of personnel.

These hours are scheduled to cover the needs for a wide variety of members (students, workers...), so it is very probable that the majority of Wieners can access the lab at least once a week. The scheduled opening hours are Tue 9-13, Wed 18-22, Thu 13-17.

The Lab is accessible 24/7 for intermediate and advanced users, with a monthly fee of 29 € and 49 €, respectively.

The lab very conveniently provides to users some basic materials almost at price cost. This is a very good opportunity since these materials are pretty cheap if acquired in bulk quantity.

Happylab provides a free machine course every Wednesday. This is a very interesting opportunity to visit the Lab (just before the course a visit is scheduled), to attract new members and to increase the knowledge level of existing users.

The meeting room and the PPS participating to the exchange visit.

The vinyl cutter and the hot press.

One of the two laser cutters.

The well equipped electronic bench.

The wood working room.

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The relax area, for sharing ideas with other members.

The shop and the reception.

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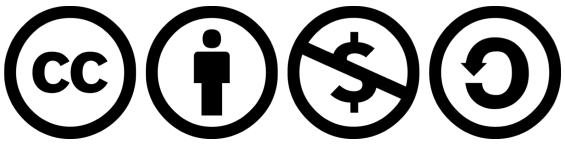
Deliverable D.T.1.3.4 & 1.3.6

Report on P2P Knowledge Exchange Visits in Wien PP 2/HappyLab

Authors: Marek Rozehnal, David Palousek

Version 2
11 2017



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2. Management and Organization:

The HappyLab is successfully working FabLab. The business model is based on membership - 9/29/49 Euros and paid trainings and events. This FabLab is working for more than 10 years, so it can be seen that it works. The most interesting thing was control software – FabMan which enable to manage running of Fablab by one men in operation. It is very interesting figure considering that HappyLab has over 1700 participants.

3. Tools and equipment:

Fablab "HappyLab" is very well equipped with a lot of tools such as 3D printers, Laser Cutters, CNC milling machines Vinyl Cutters, etc. It was really meaningfully deployed on a total of 250 m2.

4. Mutual benefit and challenges:

The main mutual issue was safety, organization and utilization of devices. The Happy Lab face to this problem by very useful tool – software FabMan, which enable to control how devices are used, secure safety rules and when non-compliance appear, the devices turn off. System also provide multiple statistical information which are very useful for strategic decisions and improving of FabLab.

5. Conclusion:

Visit of Happy Lab was really inspirational. We have seen how Fablab can successfully work on a commercial basis in the centre of Vienna. We would like to implement a similar system of automatic control as they did.

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Authors: Jan Sienkiewcz, Grzegorz Michałowski

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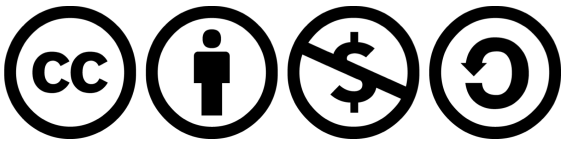

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Visiting Partner represented by:

Jan Sienkiewcz, Grzegorz Michałowski

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2. FabLab Reality:

2.1 Location:

The localization of HappyLab is great. It is quite easy to get there by bike or subway, it is near the city centre and a metro station. It is also full accessible for disabled, because it is located on the ground floor.

The work space is divided into separate rooms/sections – well soundproofed space with the machinery allow to give lectures and provide trainings in other rooms.

The only downside of this place was the exhaust filtration system – while the laser cutter was on the opposite side of the room than we were, the smell of burned plexy was palpable.

2.2 Tools and equipment:

HappyLab has a really good, branded machines and a great resource of tools and devices supporting the construction of electronic circuits.

However, the most impressive was full size, typical production milling machine, where a huge piece of wood can be worked.

2.3 Management and Organization of the FabLab, Communication:

We are full of praise for the whole management system and implemented solutions. The system of price packages for the users – everyone would find something for themselves. There's a wide range of different options, from those for the beginners – including open tours for the first-time visitors when they can see what FabLab offers, through something for amateurs who know what they want to do, but it's in a small scale, to professionals and entrepreneurs – for whom the biggest packages are foreseen.

What we consider that the great solutions is also the Fab Store – which is a great opportunity both for the beginners and for professionals. First of all, HappyLab earn money on it, and secondly, everyone has an open access to different consumable materials and can buy whatever he want –also on-line, and then pick it up directly in HappyLab.

And of course Fabman – a great management tool for open-source spaces. It ensures safety using of the machines, calculates working, renting and the amount of fees. It also provides FabLab management with reports and analysis of the resource usage, payment, members growth and what is makers favourite tool.

One thing that in our opinion is missing or maybe not well promoted (because we didn't see any info about that) is electronic data sharing system. For ex. in our FabLab we plan to solve it through an internal fabcloud - fabserver based on Linux OpenWrt which can be loaded on virtually every router. When user connect to our WiFi network named ssid fablab24.net, through the web browser and inner address fablab24.net, he can easily get access to machine drivers, instructions, various applications or project samples and tutorials.

2.4 FabLab's Beneficiaries/Specific Target Group/Clients

Basically, FabLab is a place for everyone, but in our opinion its most important role is to show the possibilities of rapid prototyping, new ways of production and marking products to the young people who are at the begging of their professional life and their looking for the appropriate path to choose, because meeting and exploring new technologies can widen their horizons and influence their further choices.

The most demanding customers are those related to business, with explicit requirements, who f. ex. Want to make a prototype for trade fairs.

2.5 Mutual benefits and challengers - Exchange of info

The most important challenge that we have to face right now, is promotion and marketing connected with the new place where we moved our FabLab, how to attract new members, mainly outside the educational zone.

Regarding what we saw in HappyLab, we would like to open our lab for everyone, connect it strictly to community. We also are planning to expand our machine stock on tools and devices for supporting the construction of electronic circuits.

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Deliverable D.T.1.3.6

Report on P2P Knowledge Exchange Visits in Wien PP 2/HappyLab

Authors: François Friderich, Luka Mali, Miha Cebulj

Version 2
11 2017

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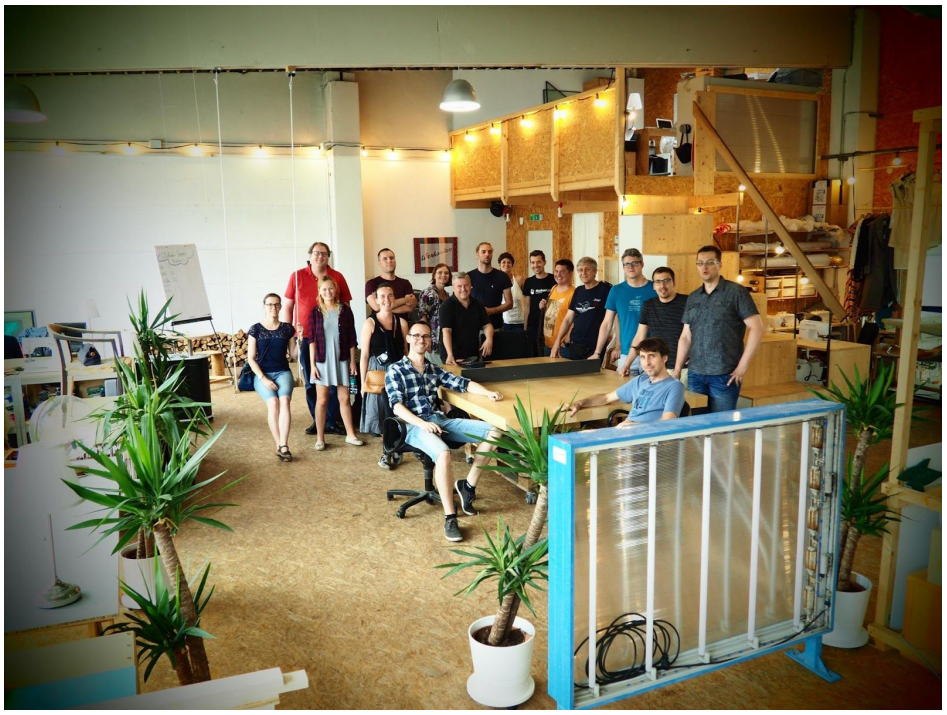

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Attendees:

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PP5 CZ	Brno University of Technology	David Palousek, Marek Rozehnal, David Skaroupka, Tomas Koutechky
PP6 PL	Regional Development Agency in Bielsko-Biala	Jan Sienkiewicz, Grzegorz Michalowski
PP7 SI	RogLab	François Friderich, Luka Mali (Makerslab UL), Miha Cebulj (FA-UL)
PP8 SK	Slovak Scientific and Technical Inform. Centre - Fablab Slovensko	Jozef Vasko, Hana Kubanova
PP9 HR	FabLab Zagreb	Roberto Vdovic, Silvana Pesut Vitasovic (Borovje school)
PP10	UnternehmerTUM Makerspace München	Martin Laarmann, Lana Handy
	External	Raphael Luba, Christian Voigt, Peter Pollak

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Photos and videos of this visit (you can also share links of other pictures here):

From PP2 https://drive.google.com/drive/folders/0ByoAACxWsR9WeWNYd0FVaHRDb0k

2. FabLab Reality:

2.1 Location:

Photo: Happylab Vienna

Ideas are important driving forces of our society. However often their implementation fails because of missing access to required machines, lacking know-how or fear of contact to modern technology. Helping you to bring your ideas to life and turn them into physical objects by just one click - that's Happylab's main goal.

Founded in 2008 by Karim Jafarmadar and Roland Stelzer, Happylab provides cost-efficient access to digital fabrication tools at its locations in Vienna, Salzburg and Berlin: 3D printer, laser cutter, CNC milling machine, cutting plotter, electronics workstation, a workshop with common hand tools and a store with selected consumable materials are counted among the basic equipment.

But Happylab is more than just a space with workstations and machines that can be used. Important aspects are the possibility to exchange ideas and know-how within the community and easy access for people without technical expertise. In regular guided tours, trainings and workshops Happylab conveys the needed know-how so that you can use the digital fabrication tools for your own ideas and projects.

About 2.000 active members use Happylab's infrastructure - among them students and pupils, start-ups and entrepreneurs, designers, artists, inventors, makers. Since November 2010 Happylab Vienna is open for all makers and DIY enthusiasts, in October 2014 our second location in Salzburg followed. On September, 30th 2016 Germany's first Happylab in Berlin opened its doors.

2.2 Vienna Maker Ecosystem:

Here you can find a list of all Makerspaces, workshops, Labs in Vienna and Austria:

http://www.makerszene.at/makerspaces-in-oesterreich/

https://www.fablabs.io/labs?country=at

2.3 Tools and equipment:

Happylab provides on three locations a large number of machines and tools - from simple screwdrivers to professional 3D printers. For all of our digital fabrication machines we regularly offer free training courses in which we show you how to use them.

On 250qm Happylab Vienna provides the following machines/ tools:

- Two Laser Cutter: Trotec Speedy 100, Trotec Speedy 400
- Two 3D Printers: Dimension BST 768, Dimension Elite
- Vinyl Cutter: GCC Bengal BN-60
- CNC Milling machine: BZT PFK 1607 PX
- electronics workstation and wood workshop with hand tools

Floorplan Happylab Vienna

2.4 Management, Organization, Communication of FabLab:

Between the years 2008 - 2010 Happylab was established within the framework of an EU project. In November 2010 we opened our lab in Vienna, in autumn 2014 our second Happylab opened its doors in Salzburg. 2016 the third followed in Berlin.

At Happylab Fabman is the most important tool for Fab Lab management practice, which we are using in Vienna. It offers us machine integration, booking organisation, is our gatekeeper and analyses resource usage, and automatically tracks our billings and payments.

Make things happen: https://youtu.be/Wb9r96Y9Rhs

https://www.facebook.com/happylab.at/

http://www.happylab.at/en/happylab/

Opening Hours

On Wednesdays at 7 pm (workdays) Happylab hosts a tour through the lab in which we introduce first-time visitors to our digital fabrication tools and answer questions. At 8pm a free training on one of the machines takes place in the Lab.

During the following opening hours staff members are on site to support the users:

Tuesday 9 am - 1 pm
Wednesday 6 pm - 10 pm
Thursday 1 pm - 5 pm

Happylab is accessible 24/7, depending on the type of membership – see details below.

MEMBERSHIP

Members can choose from the different plans - from try-out membership to 24/7 access. Machine utilisation is flat-rate, there are no time-based costs.

Small 9 EUR per month:

- free access during opening hours
- utilisation of all machines at Happylab
- free trainings on all machines

Medium 29 EUR per month:

- free access during opening hours
- utilisation of all machines at Happylab
- free trainings on all machines
- 24-hour access to Happylab on one weekday
- 2 hours free machine reservation

Large 49 EUR per month:

- free access during opening hours
- utilisation of all machines at Happylab
- free trainings on all machines
- daily 24-hour access to Happylab
- 4 hours free machine reservation

Before members can use the digital fabrication tools at Happylab, they first have to complete our training courses. These trainings take place on Wednesday evenings (workdays) and are free of charge for Happylab members.

3. Personal exchange summary:

HappyLab has set a very low financial threshold to attract users, and their 1800 users prove that it works! In their business model, I especially liked:

- the 3-level membership, which allows all kinds of users to have its need fulfilled at a reasonable price
- the 3-month minimum period of membership. It allows the fablab to have more stable revenue and motivate the user to come several times and get hooked. This might also explain their high return rate (number of users vs number of trained people) :57%
- their concept of training courses (prerequisite to the access for each machine): it is only one hour, focused on safety for the user and the machine. Then the user actually learns by doing and via the online tutorials.
- the price of training courses: free for anyone! It allows to break the barrier of the first time coming to the lab
- the concept of allowing access to trusted members out of the open hours is a very nice idea.

The workshop on Pilots was a great opportunity to talk about contents and it is nice to see that each partners will implement the pilot in a different way. Most of the partners will have it in a one week program. We clarified some misunderstandings about vocabulary: the catalog of course concerns also the hands-on workshop and not only theoretical trainings.

The hands-on workshop on Drawdio was very nice, since we have been.

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Authors: Jozef Vasko, Hana Kubanova

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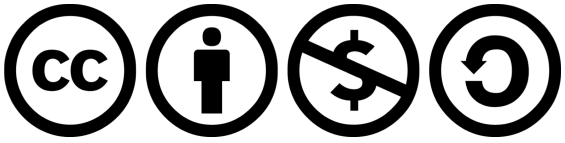

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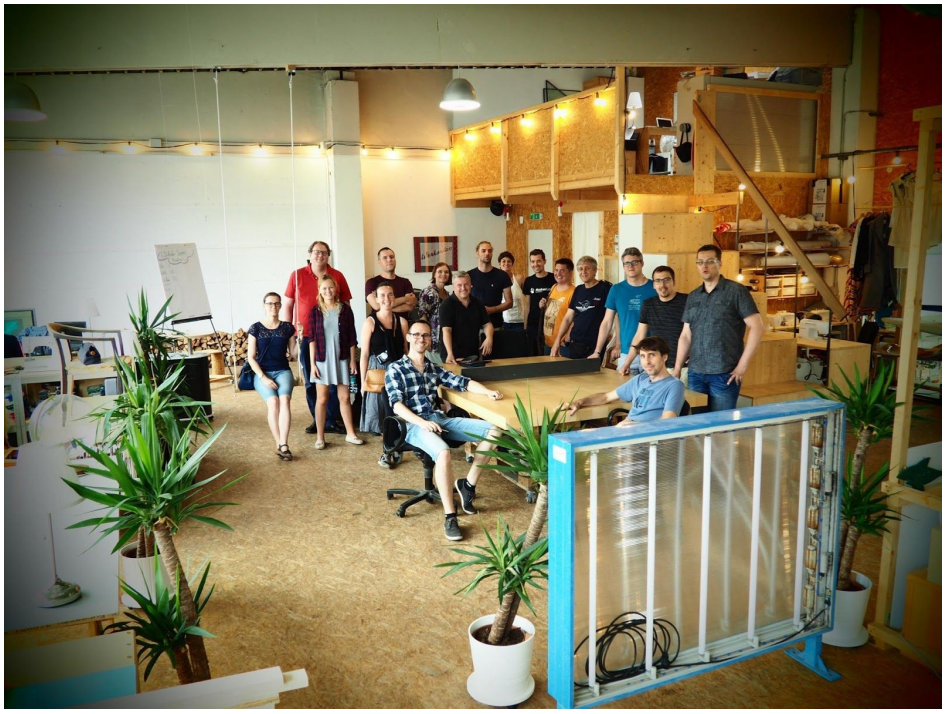

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- free access during opening hours
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- free trainings on all machines
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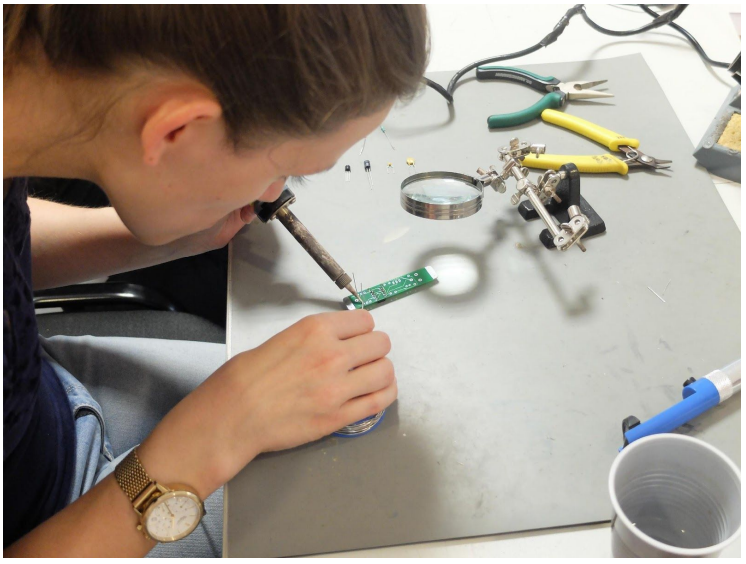
Before members can use the digital fabrication tools at Happylab, they first have to complete our training courses. These trainings take place on Wednesday evenings (workdays) and are free of charge for Happylab members.

3. Personal exchange summary:



During our visit we learned about Happylab and its activities. Non-stop access to machines for trusted members has piqued our interest. Fablab Bratislava does not offer this possibility. While a machine is being used at least one staff member must be present in Fablab.

Workshops formed a very interesting and entertaining part of our visit. We had chance to create a noisy pencil - Drawido or our own backpack by ourselves. Creation itself is demanding neither on time nor finances, as absorbing for kids as for adults. It's a great idea, so we're planning to implement similar workshops ourselves.

Similar activities spark curiosity and creativity in people and bring them to Fablab and maybe they'll become regulars.

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DT.1.3.6 Report on P2P Knowledge Exchange Visits

Deliverable D.T.1.3.6

Report on P2P Knowledge Exchange Visits in Wien PP 2/HappyLab

Authors: Roberto Vdovic, Silvana Pesut Vitasovic

Version 2
11 2017

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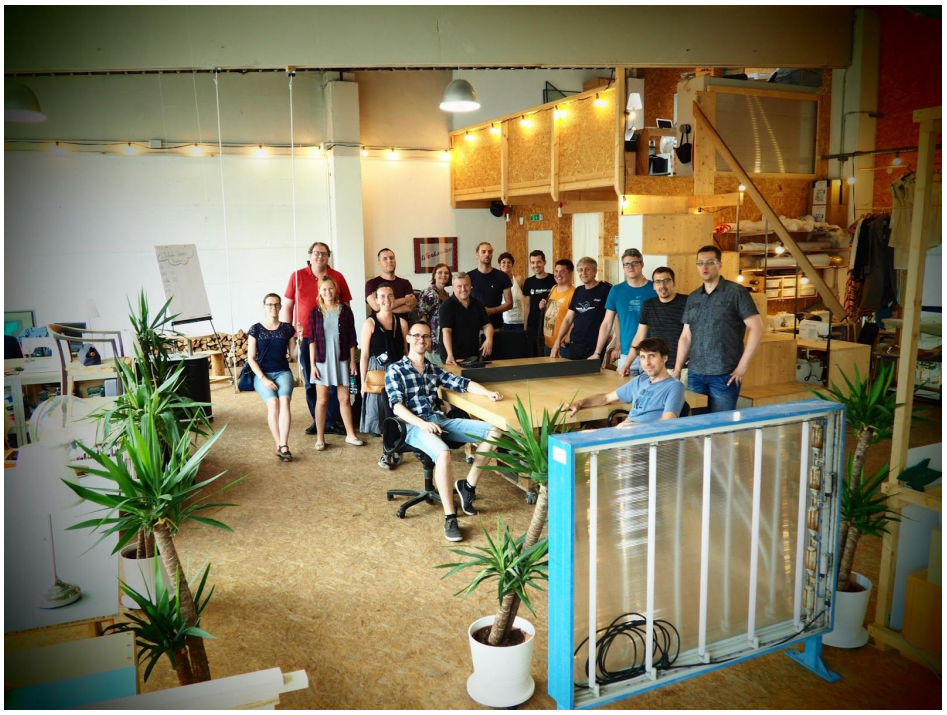

1. Visit outline

Date:

June 28-29 2017

Venue: Wien, Austria

Host Partner: PP2 -AT INNOC

Attendees:

PP1 IT	Muse	Marco Fellin
PP2 AT	Innoc	Roland Stelzer, Karim Jafarmadar, Joanna Kowolik, Thomas Bittner
PP5 CZ	Brno University of Technology	David Palousek, Marek Rozehnal, David Skaroupka, Tomas Koutechky
PP6 PL	Regional Development Agency in Bielsko-Biala	Jan Sienkiewicz, Grzegorz Michalowski
PP7 SI	RogLab	François Friderich, Luka Mali (Makerslab UL), Miha Cebulj (FA-UL)
PP8 SK	Slovak Scientific and Technical Inform. Centre - Fablab Slovensko	Jozef Vasko, Hana Kubanova
PP9 HR	FabLab Zagreb	Roberto Vdovic, Silvana Pesut Vitasovic (Borovje school)
PP10	UnternehmerTUM Makerspace München	Martin Laarmann, Lana Handy
	External	Raphael Luba, Christian Voigt, Peter Pollak

Agenda:

Wednesday 28th June 2017

13:30 - 14:00	Welcome coffee and networking
14:00 - 15:00	Happylab Tour
15:30 - 17:00	Fabman presentation and workshop on Fab Lab management practices (Raphael Luba, Fabman developer)
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17:30 - 18:30	Data analysis in Fab Labs: "Is there a gender gap in Fab Labs?" (Christian Voigt, Centre for Social Innovation)
19:30	Traditional Austrian dinner – self payed (Englischer Reiter, in walking distance from Happylab and IBIS Hotel)

Thursday 29th June 2017

09:00 - 09:30	Welcome coffee and networking
09:30 - 11:00	European School of Makers (Joanna Kowolik, Roland Stelzer, Karim Jafarmadar): Pilot no. 3 progress of the joint digital catalogue and workshop on individual pilot plans
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Photos and videos of this visit (you can also share links of other pictures here):

From PP2 https://drive.google.com/drive/folders/0ByoAACxWsR9WeWNYd0FVaHRDb0k

2. FabLab Reality:

2.1 Location:

Photo: Happylab Vienna

Ideas are important driving forces of our society. However often their implementation fails because of missing access to required machines, lacking know-how or fear of contact to modern technology. Helping you to bring your ideas to life and turn them into physical objects by just one click - that's Happylab's main goal.

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But Happylab is more than just a space with workstations and machines that can be used. Important aspects are the possibility to exchange ideas and know-how within the community and easy access for people without technical expertise. In regular guided tours, trainings and workshops Happylab conveys the needed know-how so that you can use the digital fabrication tools for your own ideas and projects.

About 2.000 active members use Happylab's infrastructure - among them students and pupils, start-ups and entrepreneurs, designers, artists, inventors, makers. Since November 2010 Happylab Vienna is open for all makers and DIY enthusiasts, in October 2014 our second location in Salzburg followed. On September, 30th 2016 Germany's first Happylab in Berlin opened its doors.

2.2 Vienna Maker Ecosystem:

Here you can find a list of all Makerspaces, workshops, Labs in Vienna and Austria:

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2.3 Tools and equipment:

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On 250qm Happylab Vienna provides the following machines/ tools:

- Two Laser Cutter: Trotec Speedy 100, Trotec Speedy 400
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- electronics workstation and wood workshop with hand tools

Floorplan Happylab Vienna

2.4 Management, Organization, Communication of FabLab:

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3. Personal exchange summary:

HappyLab has set a very low financial threshold to attract users, and their 1800 users prove that it works! In their business model, I especially liked:

- the 3-level membership, which allows all kinds of users to have its need fulfilled at a reasonable price
- the 3-month minimum period of membership. It allows the fablab to have more stable revenue and motivate the user to come several times and get hooked. This might also explain their high return rate (number of users vs number of trained people) :57%
- their concept of training courses (prerequisite to the access for each machine): it is only one hour, focused on safety for the user and the machine. Then the user actually learns by doing and via the online tutorials.
- the price of training courses: free for anyone! It allows to break the barrier of the first time coming to the lab
- the concept of allowing access to trusted members out of the open hours is a very nice idea.

The workshop on Pilots was a great opportunity to talk about contents and it is nice to see that each partners will implement the pilot in a different way. Most of the partners will have it in a one week program. We clarified some misunderstandings about vocabulary: the catalog of course concerns also the hands-on workshop and not only theoretical trainings.

The hands-on workshop on Drawdio was very nice, and suggested a valuable idea to be used in our reality as well.

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DT.1.3.6 Report on P2P Knowledge Exchange Visits

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Authors: Martin Laarmann, Lana Handy

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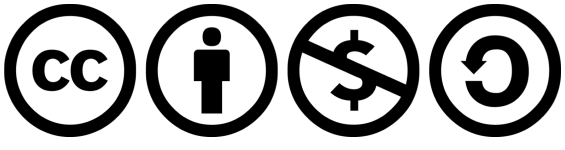

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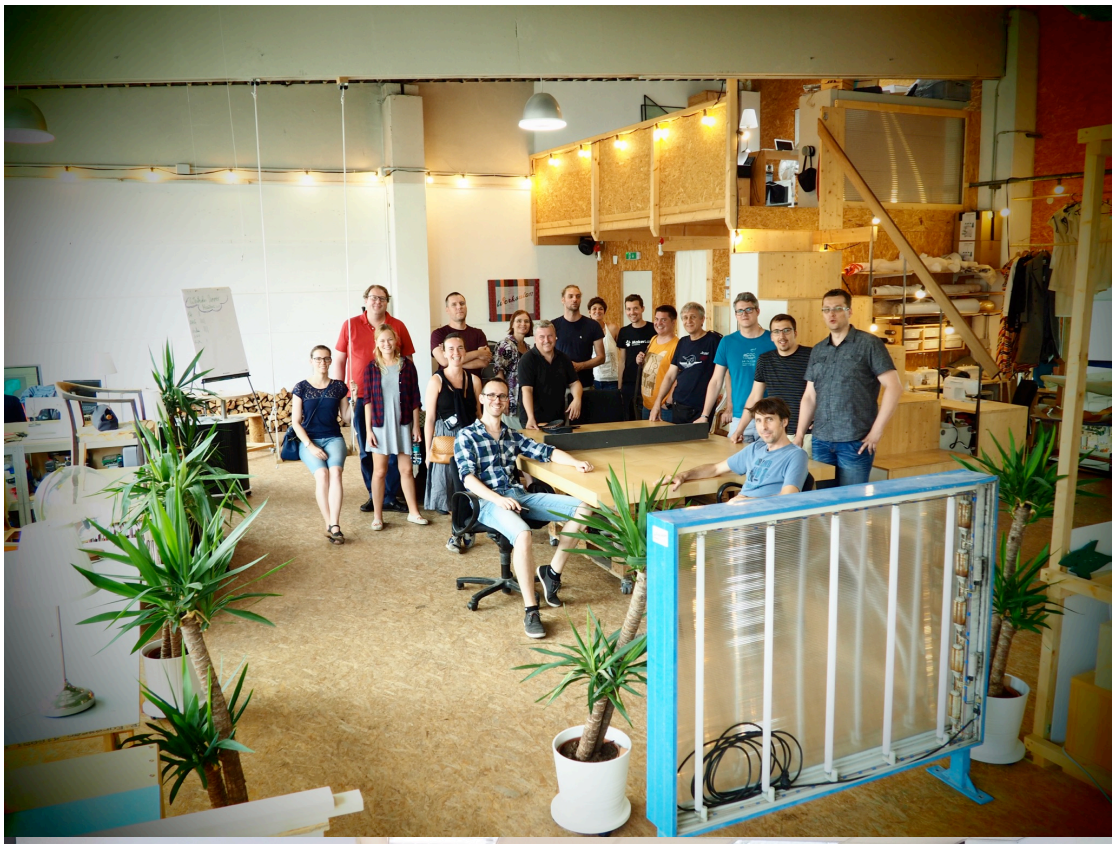

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Date:

28th and 29th, June, 2017

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Werksalon Co-making space, Stadlauer Str. 41A, 1220 Vienna http://werksalon.net/

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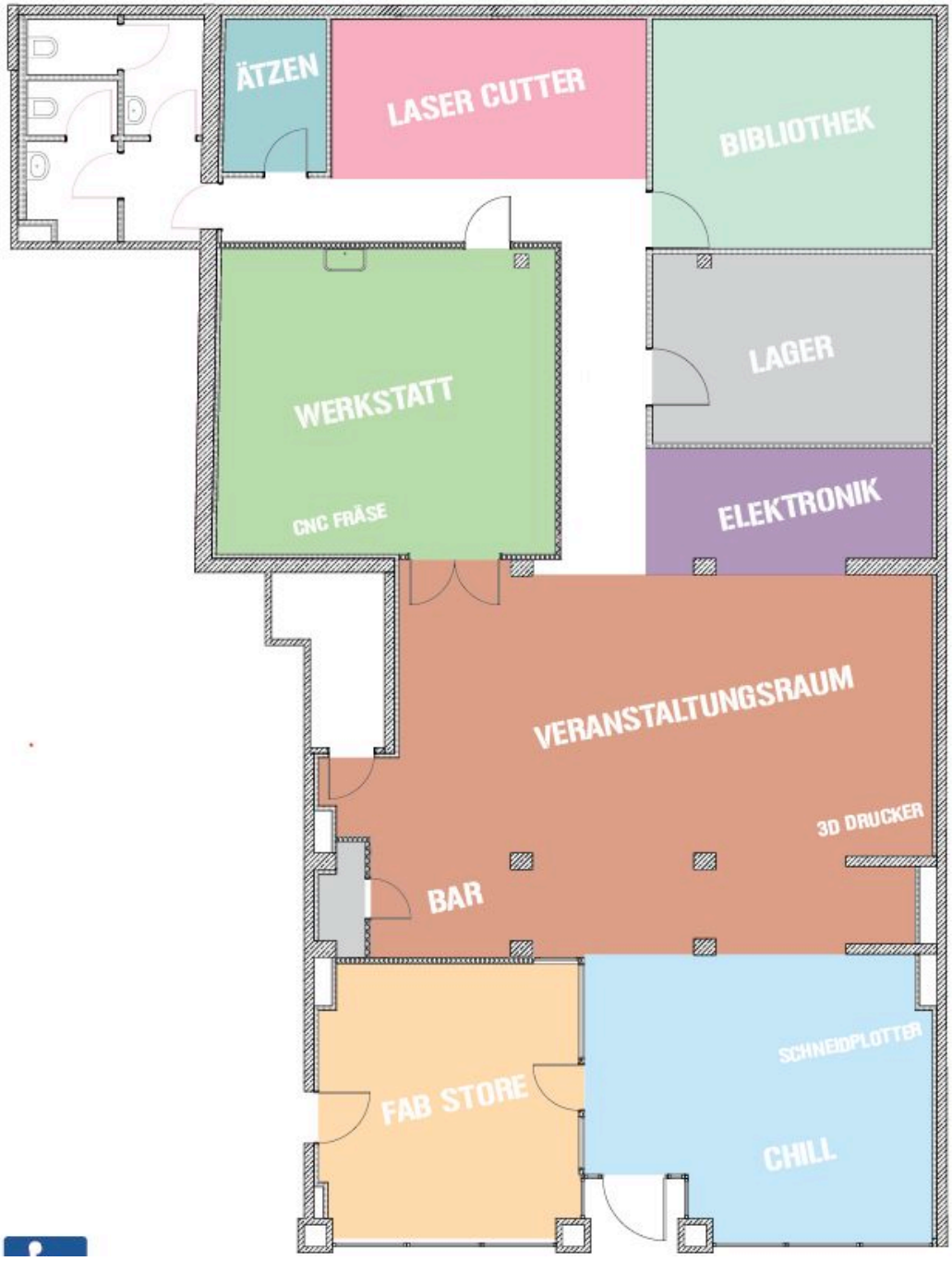

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3. Personal exchange summary

The hands-on workshop at Happy Lab was definitely a highlight of the visit. In the beginning the fair-team showed us their box system for fair events, which was very clever and effective. Afterwards everybody was able to participate in all of the offered workshops (soldering, vinyl printing). I have brought back the “noisy pen” (DRAWIDO) to MakerSpace and we are trying to find a way to include something similar into our introductory program to the electronics lab.

The workshop on the different pilot actions of the Project Partners presented a great opportunity to talk about contents and hear the different ways the PP are planning to implement the pilot within their ecosystem. Most of the partners will implement a one week program. We clarified some misunderstandings about the course catalog, the hands-on workshop and budgeting.

Happy Lab has set very low threshold pricing methods and through that was/is able to create a large community of makers within their FabLab. With MakerSpace having rather high membership prices it was interesting to see the benefits Happy Lab was able to generate with their pricing.

Happy Lab has three different kinds of memberships that vary in price and access times. The minimum membership duration is three months in order to create a stable and predictable revenue stream which may also allow the user to (test) use the facilities for an extensive time period. A return rate, meaning the number of users vs. the number of trained people, equals 57%. Happy Lab offers training courses, as a pre-requisite to access each machine, which take one hour and are focused on providing general safety information for the user and about the machine. Online tutorials will help the user when actually using the machines. The training courses are offered to everyone for free allowing them to take down the first barrier of coming to the lab.

Trusted Happy Lab members may use the lab outside its regular opening hours providing for a flexible honor system.

The above mentioned pricing shows very clearly that, at the moment, Happy Lab is reaching out to a different target group than MakerSpace is. Still it was very interesting and informative to see successful ways of creating such a huge and vivid maker community. Upon our return to Munich we will try to implement more flexible access control to MakerSpace and/or the machines.