

# **ESOM Evaluation Report**

DT323 / DT324
European School of Makers (ESOM)

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#### 1. Overview

The High Level Training run from September 2018 until February 2019 as the first "European School of Makers" (ESOM). The courses where held in the participating Fab Labs and where specifically designed to share the capacities developed within the FabLabNet project to a wider public of professional, following the project philosophy of making Central Europe more competitive by unlocking the innovation capacity of Fab Labs.

In total 38 courses were offered and a total of 526 people participated in at least one of the courses. Please find list of all courses below.

| Course name  | n  | Target groups        | Organizer                 |
|--|----|----------------------|---------------------------|
| CODING @ SCHOOL  | 37 | School teachers      | MUSE Fablab               |
| FabLab in Education  | 15 | FabLab staff         |                           |
| Fab Lab Bootcamp   | 10 | Designers and makers | HappyLab Wien             |
| DIY Chocolate Molds  | 9  | Designers and makers |                           |
| Introduction to 3D printing  | 9  | Designers and makers |                           |
| Packaging Design: create the perfect packaging for your product                | 8  | Designers and makers |                           |
| Basics of woodworking  | 5  | Designers and makers | FabLab Budapest           |
| Digital technologies and textile design  | 5  | Designers and makers |                           |
| Introduction of KUKA PRC   | 4  | Designers and makers |                           |
| 3D metal printing - Additive technologies in mechanical engineering - basics   | 8  | Designers and makers | Vysoké učení<br>technické |
| 3D metal printing - Additive technologies in mechanical engineering - advanced | 9  | Designers and makers |                           |
| Introduction to the 3D world   | 11 | Children and young   | FabLab<br>Bielsko-Biała   |
| About Drones: how to build your own 250 class drone?                           | 12 | Everyone             |                           |
| 3D scanning  | 8  | Designers and makers | RogLab                    |
| Dancing-drawing robot (applied workshop)                                       | 14 | Kids 9-12            |                           |
| 3D modelling - beginner  | 18 | Designers and makers |                           |
| 3D modelling - intemediate   | 19 | Designers and makers |                           |
| 3D modelling - advanced  | 12 | Designers and makers |                           |
| Microbit & Micropython   | 50 | Everyone             | SCSTI Fablab              |
| TRIZ-tehory of inventive problem solving                                       | 6  | Designers            |                           |





| 3D Printing and Biofeedcack                              | 13 | Designers and makers |                              |
|--|----|----------------------|------------------------------|
| 3D Printing  | 13 | Everyone             |                              |
| 2D modelling Inkscape                                    | 13 | Everyone             |                              |
| Vynil and laser cutting                                  | 13 | Everyone             |                              |
| Design Thinking  | 34 | Start up managers    | <u>FabLab.hr</u>             |
| Plastic and Digital Fabrication                          | 45 | Designers            |                              |
| Startup - Do Local Go Global                             | 9  | Designers            |                              |
| STEAM skills - electronics                               | 25 | Makers               |                              |
| Introduction to Freeform modeling                        | 52 | Designers            |                              |
| 3D Printing for beginners (FDM)                          | 6  | Makers               | UnternehmerTUM<br>MakerSpace |
| Laser cutting for beginners                              | 6  | Makers               |                              |
| Waterjet cutting for beginners                           | 4  | Makers               |                              |
| Electronics for beginners                                | 2  | Makers               |                              |
| Wood workshop for beginners                              | 7  | Makers               |                              |
| Metal lathe for beginners                                | 4  | Makers               |                              |
| Beginners Metal workshop: Cutting, Drilling and Grinding | 4  | Makers               |                              |
| Industrial sewing machines for beginners                 | 3  | Makers               |                              |
| 3D Printing for beginners (SLA)                          | 4  | Makers               |                              |

The ESOM was jointly organized and jointly implemented. Benefits were found from both the content and the communication points of view.

We have benefited a common communication strategy, advertisement on social media, a common website for registering and making easier the transnational access to the courses. We have also coordinated the efforts to offer a course portfolio addressing the specific and general needs of or target groups and interested regions.



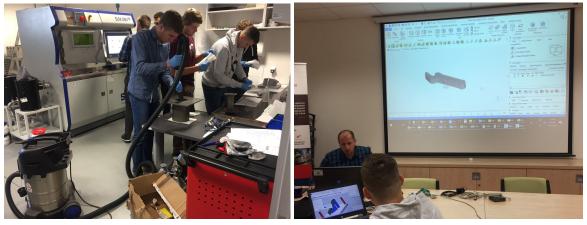




Fab Lab in Education workshop in Trento



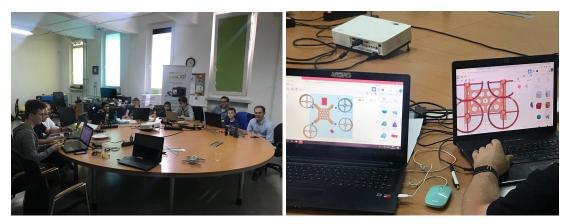
DIY Chocolate Molds in Vienna



3D Metal Printing workshop in Brno







About Drones workshop in Bielsko-Biała



Dancing-drawing robot workshop in Ljubljana



Vinyl and laser cutting workshop in Bratislava









Design Thinking workshop in Zagreb

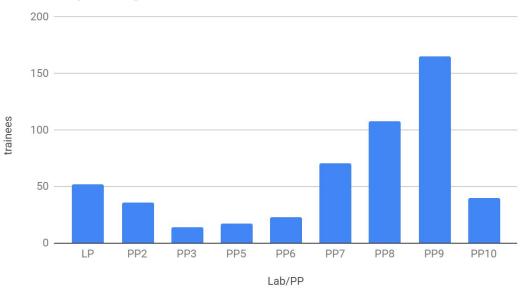




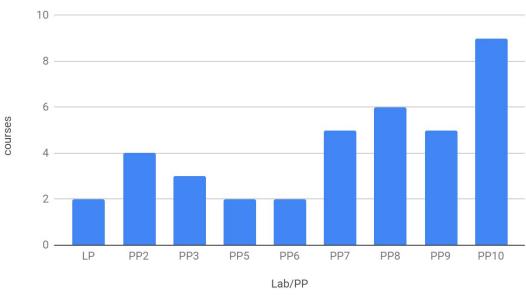
### 2. Evaluation

All nine project partners have conducted courses within the framework of the ESOM. In total, the course program included 38 different workshops. Each project partner trained between 14 (PP3) and 165 (PP9) persons within ESOM. A total of 526 participants attended the course program of the ESOM.

### Trainees per Project Partner



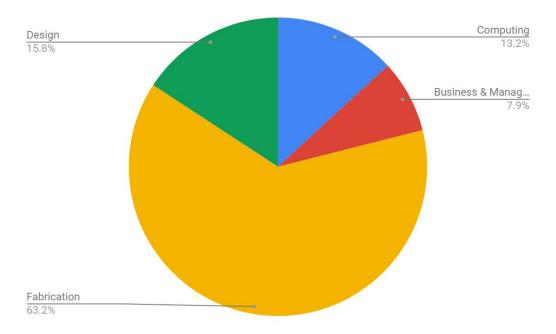
## Courses per Project Partner



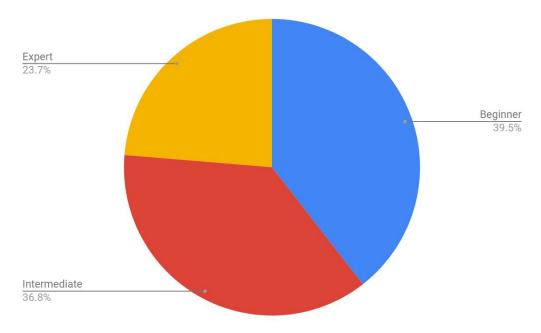




Fab Labs are mainly associated with technical topics. However, we believe that in addition to Fabrication skills, Design, Business & Management and Computing are to be covered in a Maker education programme. The following chart shows the distribution of courses based on these topics.



The aim of the ESOM is to give both beginners and advanced students the opportunity to participate. The participants had the chance to put together their individual course program on the basis of their previous knowledge and needs. The 38 courses offered can be divided into three groups: Beginner (15), Intermediate (14), Expert (9).







#### 3. Conclusions

The need for a comprehensive Maker Education can be seen by the huge amount of interested participants during the first European School of Makers. Only with the strength of the FabLabNet network a comprehensive course program can be developed. Fab Labs are a very diverse network and the individual labs have very specialized knowledge in certain areas. Through the network every Maker gets access to a workshop and training program that a single Fab Lab itself could never offer. Each lab contributes its expertise and at the same time has access to the know-how of specialists from all over the network.