Empowering
Open Source Manufacturing Laboratories in Palestine

Tobias Redlich, Babasile Daniel Oladele-Emmanuel, Max Rumpf
Helmut-Schmidt-University, Hamburg

Empowering

Open Source Manufacturing Laboratories in Palestine

workshop

BMBF PROJECT: SUMMARY & OBJECTIVES

The project focuses on the transfer, exchange and fostering of manufacturing related knowledge and competences between German and Palestinian educational and research institutions. Based on the concepts of open fabrication laboratories as a place for encountering, learning und common product development as well as open source hardware we will develop a concept for experience-based technological learning that fits the Palestinian context. This concept will be implemented and evaluated in first trainings at the Palestine Polytechnic University (PPU) in Hebron. Hence the project also intends to foster the exchange of students and scientific staff between Helmut Schmidt University Hamburg (HSU), PPU and Birzeit University (BZU) in order to build strong cooperation ties and empower students in terms of technological literacy in constructing and using open source digital fabrication tools and managing FabLabs.

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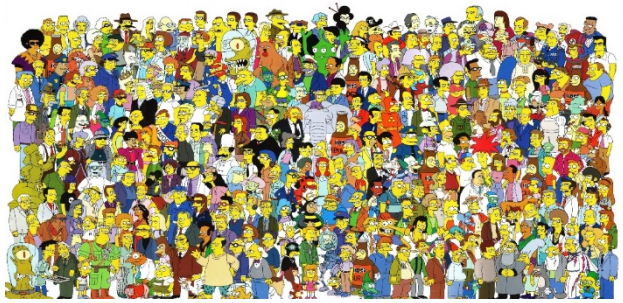
AIM OF THE MACHINE BUILDING WORKSHOP

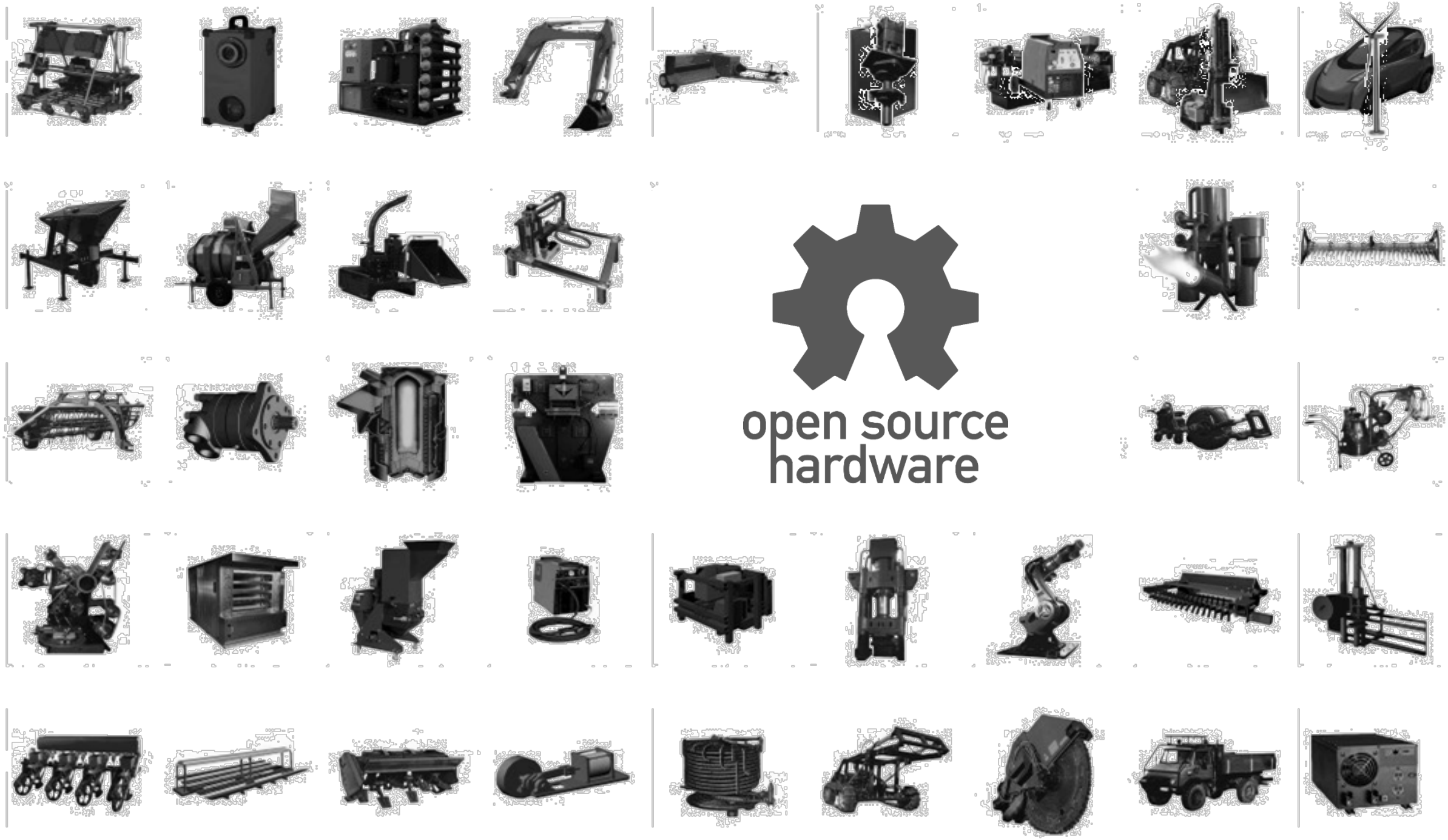
- Build two low-cost open source manufacturing machines based on existing or modified open designs: Illustrate how open collaborative design and innovation works in open production spaces.

- Give the already existing local network of makers, designers and students an inter-organizational platform and space to collaborate and show their skills and products to the public (especially to incubators, policy makers, local enterprises etc)

- Discuss and show the potential of Open Production Spaces/ Open Source Machinery with stakeholders / experts from different fields

Co-Creation of Open Source machinery in OpenLabs



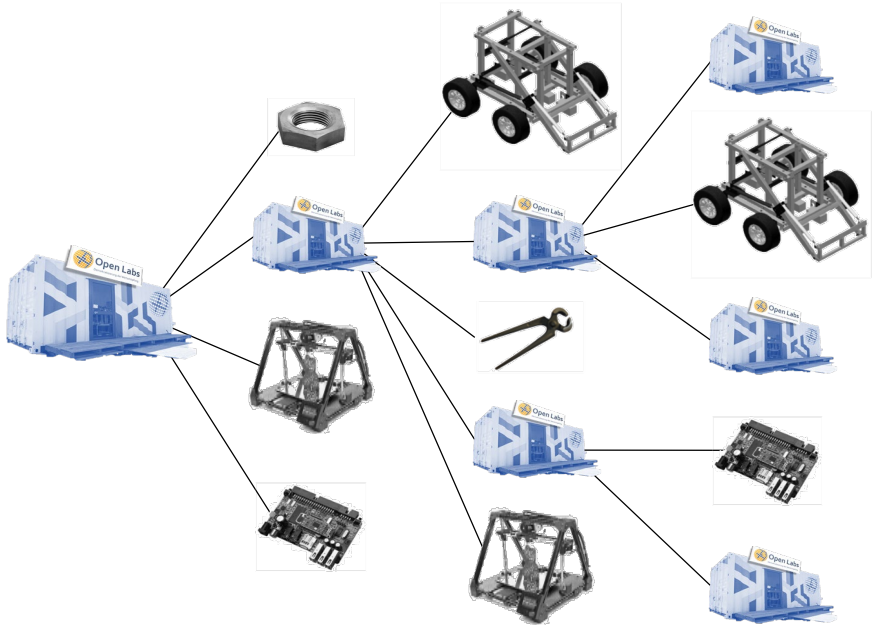

open source
hardware

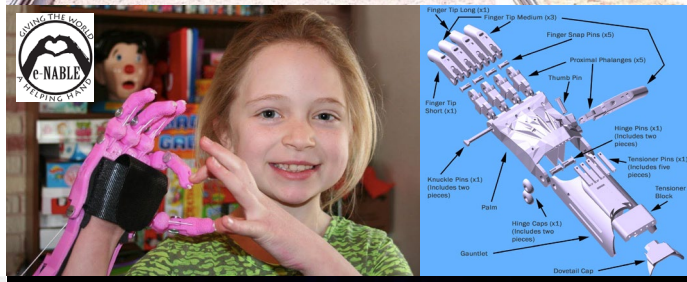
Canada
North Atlantic Ocean
Norwegian Sea
Russia
Kazakhsta
Mongolia
UZ
TM
KG
MA
TN
Algeria
Libya
Egypt
Arabia
OM
Arabian Sea
Sudan
SS
ET
SO
RY
CM
CD
TZ
AO
MZ
MG
LK
MV
Indian Ocean
South Atlantic Ocean
Australia
PG

With Open Source machinery you are able to:

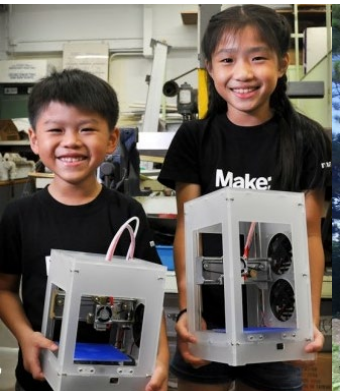
build further machinery

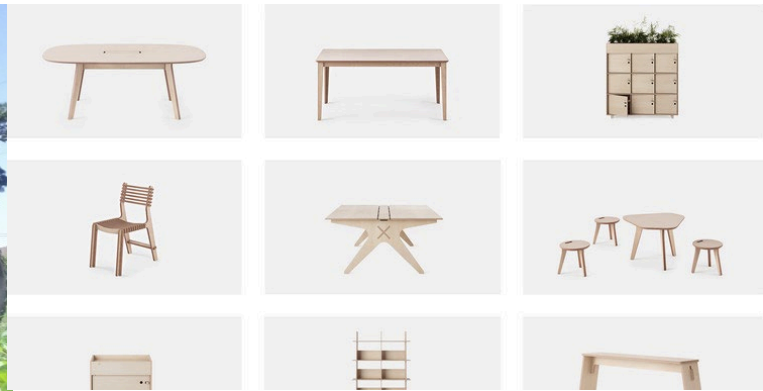
-> self-replicating effect





.... and almost anything!



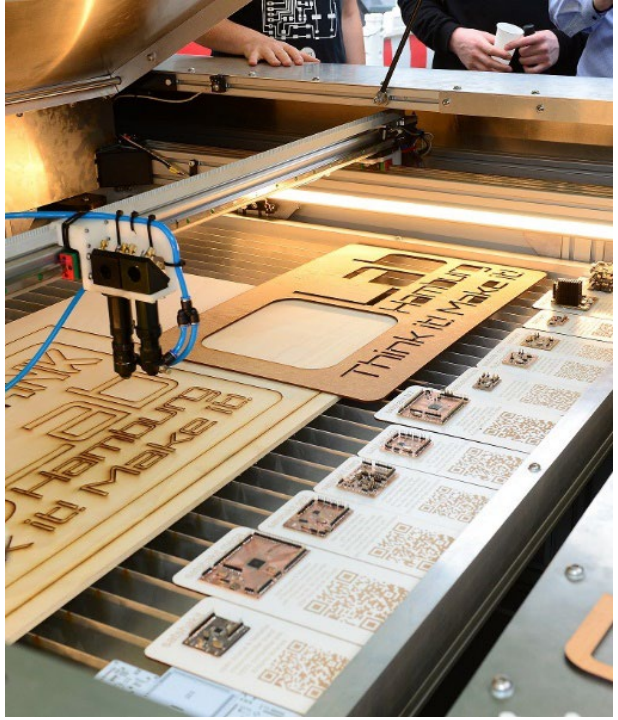


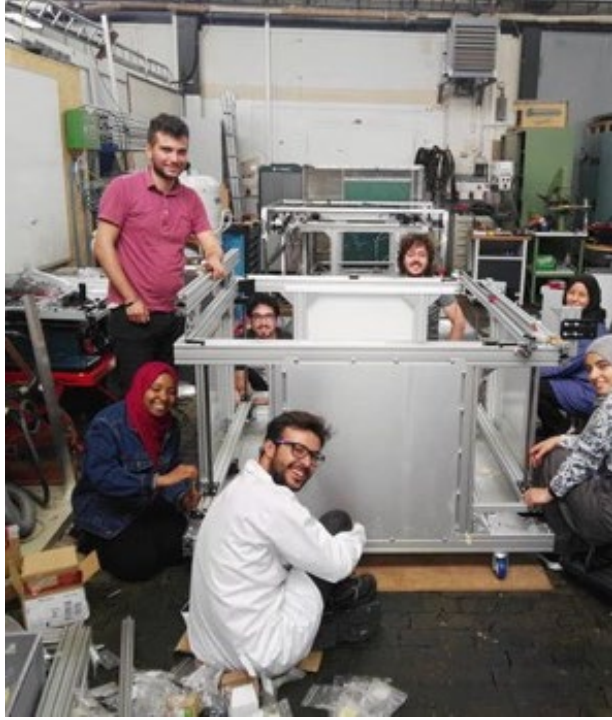
OSH Idea competition „Make a Difference“ and building workshop of 9 prototypes - 2017

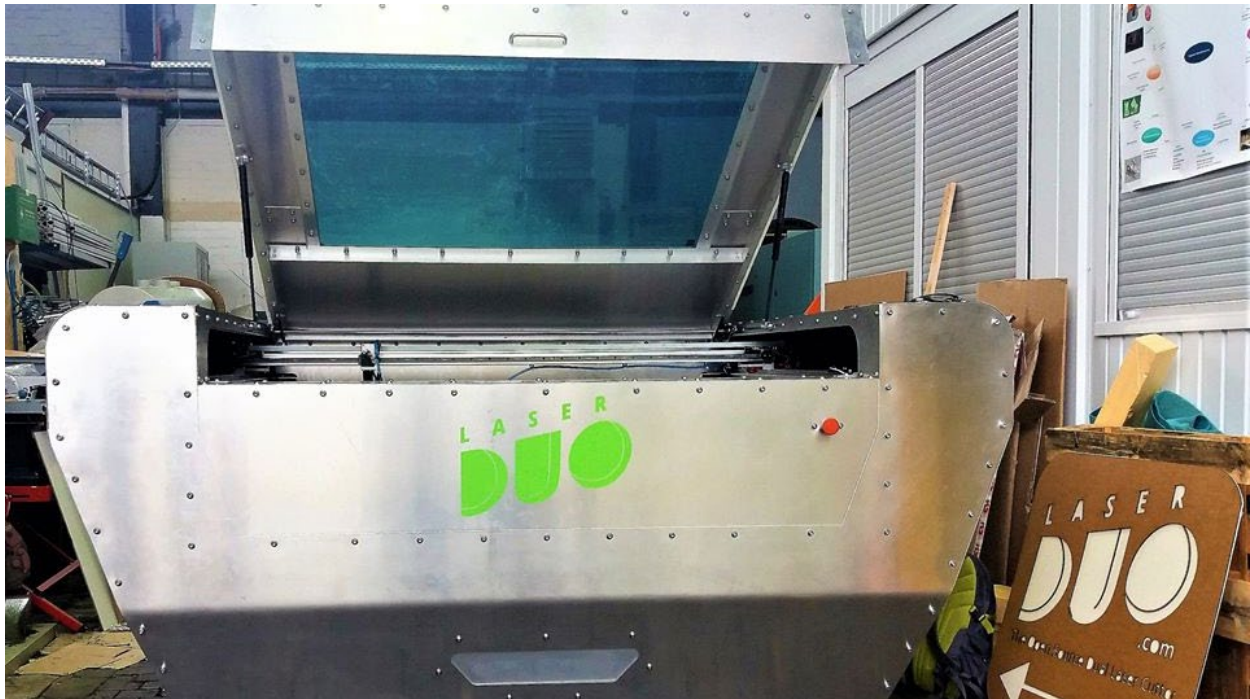
- 76 submissions
- One week Open Source building workshop with finalists
- 10 OSH Products within one week:
  - Energy storage based on recycled batteries (Lilikit/Senegal)
  - Open Water, a solar-powered water desalination system (Open Water/Germany)
  - Blind cane with ultrasonic detector (GuiDini/Morocco)
  - STEM learning materials for kids (Touch&Learn/Columbia)
  - Low-cost, all-in-one computer (PIComp/Senegal)
  - Composite Filament Fabrication Process for 3dprinters (USA)
  - Device to detect water pollution (MAJI/Togo)
  - Device to detect sexually transmitted diseases (LIZA/Mexico)
  - Gloves that transfer sign language into acoustic signals (SignIT/Lebanon/Kuwait).

Open Source Laser Cutter 2018

- Building workshop 4 weeks
- Investment for materials 5k€
- Compareable propriatery product >50k€

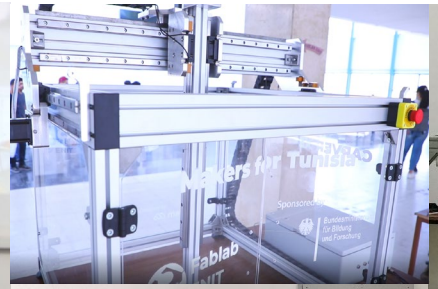


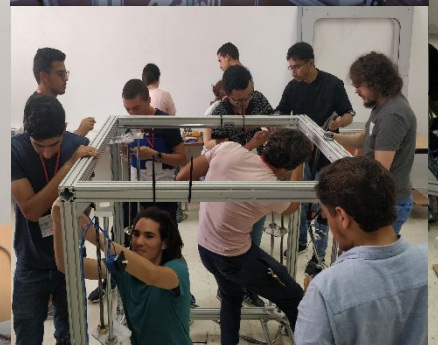


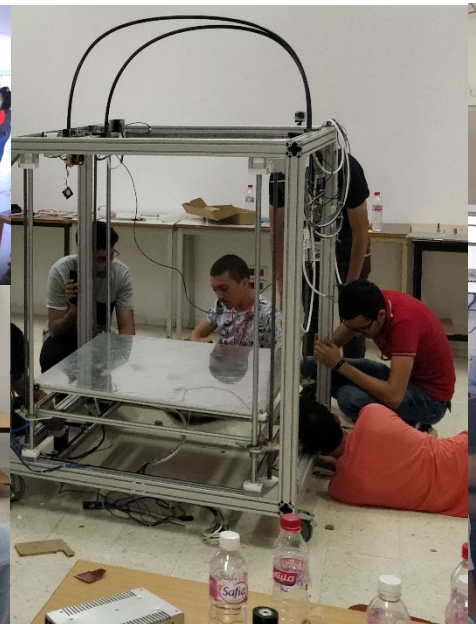


Open Source machine building workshop 2019

- 1 week, 3 trainers, 70 participants
- 3 OSH machines:
  - 5-achsis CNC-mill
  - 1m³-FDM-3D-printer
  - 3in1 machine (mill, 3D-printer, lasercutter)







Hackgrothon 2019

- Hackathon for designing an innovative Open Source agricultural device
- Prototyping it within a one-week workshop with 6 finalists mentored by 3 trainers

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- One week in Germany, one week in Hebron
- 60 participants
- 11 machines have been built within one week
- 3D-printers, CNC-Mill
- Open Source Hardware

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Thank you for your great support your motivation and efforts during the workshop!

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