

WORKSHOP IDEAS:

- Neon sign logo - CNC + electronic + solar ?
- Library co-labs
- Arduino programming and 3D printing to make toys
- Re-making ikea stool - for adults
- making small drones
- Architecture models / mapping
- Paper Lamb
- Automata - moving cutouts + light?
- Maker woman
- Collabs with NGO's
- Collabs with Festivals
- Society questions
- Jewellery
- Leather - bdsm
- Collage Night:
- Haqckerium
- Kids science classes
- Food futures
- textured art with laser
- Wearables
- Biomaterials
- Witchcraft digital
- Solar instruments
- Moving without power - automata
- Shadows and play - theater makiet / mini kinetic sculptures
- Period tracking art
- Board games ?
- prosthetics, perception, architecture, augmented reality, sensorial hacking, glitches, cyborgs, science fiction, and corgis.
- hands-on construction of optical illusions
- Through folding, cutting, and decorating paper strips, participants unlock hidden patterns and mathematical properties while experiencing the magic of flexing their personalized hexaflexagons to reveal concealed faces.
- Physical data viz
- <https://wikifactory.com/+sdgsolutionspace/>

<https://www.lelaburris.com/craft-cart-labels/>

- Workshop - <https://www.designboom.com/technology/ejtech-liquid-midi-07-20-2015/>
https://docs.google.com/presentation/d/1C7r4kBFo-42rZXJMA1VPISo3B_2M_ctfHtd3Zf7sGMI/edit#slide=id.p
https://docs.google.com/presentation/d/1NqWT1L2ADrShhWVupYKHuMKNfORASrEoin_Zfiy8IA/edit#slide=id.g7f571280cd_0_23

<https://spearhead-amr.github.io/makeaware/index.html#workshops>

<https://artlaboratory-berlin.org/research/sonic-ecologies/>

<https://www.minifablab.nl/big-trucks-busses-and-trailers-us-size/>

- <https://fablabbcn.org/>

<https://www.instagram.com/reapclimatecenter/>

http://academy.cba.mit.edu/classes/computer_machining/index.html

<https://iaac.net/workshops/> - workshop ideas

<https://fablab.green/wp/en/>

<https://www.instagram.com/FabLabPlymouth>

Resources: <https://www.openp2pdesign.org/category/book/>

<https://vimeopro.com/academany/fab-2019/page/5>

<https://www.openp2pdesign.org/2011/open-design/business-models-for-open-hardware/>

<https://www.shareable.net/how-to-organize-a-successful-skillshare/>

<https://www.shareable.net/somerville-skillshare-a-free-locally-crowdsourced-education-model/>

While

waiting, call a number of nearby hardware stores and ask whether you can pick up some of their waste

material that can still be used in the FabLab. They're usually glad to reduce their garbage disposal costs.

Also make a phone call to city hall and talk some government official (preferably the mayor) into officially

opening your lab. Greatly helps in getting the press to cover your event

https://archive.fablabo.net/wiki/Cartographie_des_fablabs_fran%C3%A7ais

<https://www.etsy.com/listing/771208385/cricut-storage-cart-plans-digital> - cart 12 euro

https://issuu.com/openp2pdesign/docs/openp2pdesign.toolkit_dmy

<https://issuu.com/openp2pdesign/docs/reti-collaborative>

https://usinette.org/spip.php?page=auteur&id_auteur=1 - another lab, france

<http://fablabtulsa.blogspot.com/2012/04/starting-fab-lab-10-things-we-learned.html>

Inspo:

- repairs cafes
- hackerspaces
- biohacker spaces
- fablabs
- sewing cafes
- maker faire
- design festivals/ hacking festivals

<http://archive.fabacademy.org/fabacademy2016/opensdot/students/191/finalprj.html>

Setting up the lab: <https://graphism.fr/dix-conseils-pour-la-cration-dun-fablab/>

<https://wemakeit.com/projects/collecting>

place for Open / DIY projects: Fab Labs

How to start it:

* \$50,000-\$55,000 (or open source low-cost version for \$12,500 - \$5000)

* value proposal: facilities or innovation support

* **The Enabler business model:** launch new Labs or support them

* **The Education business model:** a global distributed model of education through Fab Labs (Fab Academy + P2P learning among users)

*** The Incubator business model:** provide infrastructure for entrepreneurs to turn their Fab Lab creations into sustainable businesses.

*** The Replicated / Network business model:** product / service that utilizes the infrastructure, staff and expertise of a many Fab Labs.

Business: commercial activities can be incubated in fab labs but they must not conflict with open access, they should grow beyond rather than within the lab, and they are expected to benefit the inventors, labs, and networks that contribute to their success.

1. **The Enabler business model:** launch new Labs or provide maintenance, supply chain or similar services for existing Labs.
2. **The Education business model:** a global distributed model of education through Fab Labs (with the Fab Academy) where global experts in particular topics can deliver training from local Fab Labs or even from universities/businesses via the Fab Lab video conferencing network. P2P learning among users is also a part of this business model.
3. **The Incubator business model:** provide infrastructure for entrepreneurs to turn their Fab Lab creations into sustainable businesses. The incubator provides back-office infrastructure, promotion & marketing, seed capital, the leverage of the Fab Lab network and other venture infrastructure to enable the entrepreneur to focus on her areas of expertise.
4. **The Replicated / Network business model:** provide a product, service or curriculum that operates by utilizing the infrastructure, staff and expertise of a local Fab Lab. Such opportunities can be replicated, sold by and executed at many (or all) local Labs, with sustainable revenue at each location. The leverage of all Labs in the network simultaneously promoting and delivering the business creates strength and reach for the brand.

. Studying 10 Fab Labs (out of 45), Troxler discovered that **the labs were primarily offering infrastructures to students**, and they were relatively passive in reaching out to other potential users (general public, companies, researchers). Usually Fab Labs are hosted at schools, research or innovation centres or are independent entities: **funding comes from outside**, from public sources or from their hosting institution while revenue from [sponsoring](#) or from users so far remained the exception; however, Fab Labs are requested to become

self-sustaining within 2 to 4 years, but none of the labs studied had yet reached this stage. Most of the Fab Labs had their own employees, and a few were run by a faculty of their host university or were supported by volunteers.

Fab Lab innovation ecology (a network of partners) as the most interesting, a Fab Lab with open intellectual property and aimed at facilitating innovation: more design thinking and stimulating innovation than just providing access and training. The primary clientele of this model are innovators, companies (particularly SMEs) and researchers, while the general public is not really important

It is a project [with no prospects of short-term financial returns and interested only in strengthening the brand's image](#) according to its values. Furthermore, Absolut Lab [doesn't want to get money](#) from the projects developed but charges fees for participating in workshops, and so far prices range from [50 € for a one week workshop](#) to [180 € for a 3 days workshop](#).

The educational offer will be developed by [ESADE Creapolis](#), an [innovation business park](#) based on [open innovation](#) and run by the prestigious university [ESADE](#).

- <https://www.slideshare.net/openp2pdesign> - Moulding

they had to be at least partly open to the general public.

Themes

covered were value proposition, revenue model, processes, resources, marketing, and innovation partnerships.

In summary, the Fab Labs included in this study primarily offered infrastructures to students, and they were relatively passive in reaching out to potential other users. Their funding came from government or hosting institutions. So far, They have created a limited innovation ecosystem, which rarely gets used.

0 1...5 6...10

Network partners 0 6 3

Industry partners 4 1 4

Sponsors 7 2 0

Table 4. Innovation Ecosystem of Fab Labs (N=9)

Also, labs rarely used the possibilities the Fab Lab innovation ecosystem offers.

Only one lab indicated that nearly all projects required support from the network, and two reported that on average every third project required support, while for the remaining labs this was the case on even fewer occasions.

In summary, the Fab Labs included in this study primarily offered infrastructures to students, and they were relatively passive in reaching out to potential other users.

Their funding came from government or hosting institutions. They have so far created a limited innovation ecosystem, which gets used rather rarely.

Looking at single labs in the sample, there is a notable tendency that labs engaged more actively in PR attract also non-students as users. Also, labs that more explicitly saw

themselves as providing access to the knowledge in the Fab Lab network tended to have more network partners in their innovation ecology and were more often asked by users to support their projects.

The consultancy approach is moving away from making things for the sake of making things to making things for a specific business purpose and in a setting where formerly making things was not considered an option

The primary clientele of a Fab Lab innovation ecology are those actually embarking on an innovation journey, i.e. innovators, companies (particularly SMEs) and researchers. Students and the general public – while easy to reach and being important multipliers – may therefore not be considered the most important users of the Fab Lab. Key communication channels to reach this clientele are assumed to be existing networks, events and word of mouth, rather than traditional PR and media channels or trainings that enable individuals to use the facilities.

The Fab Lab innovation ecosystem will have to consist of a network of partners with whom Fab Lab users can engage and exchange experience and knowledge. To a Fab Lab as facility other machine shops would play a much more important role. In terms of cost and revenue structure, coaches, extra research (potentially through the ecosystem) and facilities will be the main expenses – as opposed to the costs for facilities, marketing and the lab manager in a Fab Lab production facility. Equally, revenue will come from projects, services provided and partners engaging with the lab, rather than per hour or membership fees and possible sales of products or IP.

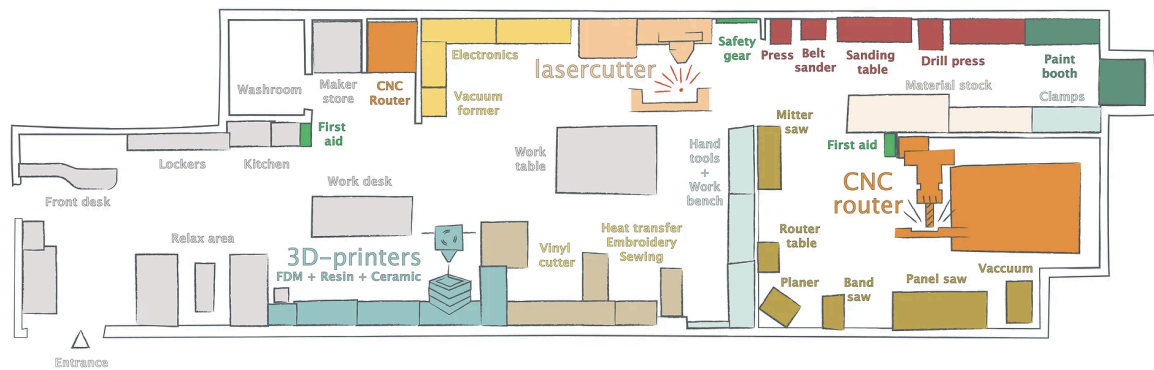
In conclusion, value creation in the Fab Lab innovation ecosystem is through two mechanisms, the linking and exchange with a network of partners providing a rich pool of knowledge and experience, and the possibility to quickly and cheaply make things whenever required in the innovation process. Value delivery to customers in the ecology is through time well spent and improving the innovation journey. The Fab Lab captures value by capturing experience and feeding it back into the network.

Key activities in such a Fab Lab correspondingly will focus around design thinking and stimulating innovation (much more than just providing access and training). The Fab Lab provides its users with an experience of time well spent, probably with the help of facilitators. Machines and tools should be seen as enablers rather than key resources.

Rather, the innovation lab allows its users to make things in situations where previously making things has been conceived as not viable. For the Fab Lab as a facility, the value proposition is providing the best value in terms of the digital production processes; for the innovation Fab Lab the value proposition is providing the best outcome for its users and their innovation journey using the right mix of ingredients determined by the facilities and (networked) competencies available.

Make zones for different materials: FabCafe Zone Plan

Floor Plan:



- Electronic wall,
- 3d printers
- laser/ wood

safety: not hurting people or machines

operations: assisting with cleaning, maintaining, and improving the lab

knowledge: contributing to documentation and instruction

Model -

MAKER STORE

-23.8"x23.8" Acrylic Sheets in 1/4" & 1/8" thickness.

-4'x8' MDF and Plywood in 1/8", 1/4", 1/2", 3/4" thickness.

-Vacuum forming HIP/ABS/PETG sheets for our Vakuform vacuum former.

(9"x12" forming area)

-Various 1/4" & 1/8" CNC endmill bits.

-5" 3M Xtract Cubitron II Net Sanding Disc in various grid.

-12"x12" permeant and removable vinyl sticker sheet in various colour.

Fab Academy course context

- 01 Digital fabrication principles and practices one week
- 02 Computer-aided design, manufacturing and modelling one week
- 03 Computer-controlled cutting one week
- 04 Electronics design and production two weeks
- 05 Computer-controlled machining one week
- 06 Embedded programming one week
- 07 3D molding and casting one week
- 08 Collaborative technical development and project management one week
- 09 3D scanning and printing one week
- 10 Sensors, actuators and displays two weeks
- 11 Interface and application programming one week
- 12 Embedded networking and communications one week
- 13 Machine design two weeks
- 14 Digital fabrication applications and implications one week
- 15 Invention, intellectual property and business models one week
- 16 Digital fabrication project development two weeks

<https://www.openp2pdesign.org/category/workshop/>

Funded projects

[Aalto Game Audio Review – AGAR](#)

[Aalto Middle East Initiative – incobeyt](#)

[AaltoWindow](#)

[At Hand. media art installation for the CityWall multi-touch screen](#)

[AVVX – Web Platform and Workshop on Sound Visualization](#)

[City Sets](#)

[CoMeUp: Collaborative Media content creation for Urban Planning](#)

[Communicum](#)

[Finnish Pavilion at the 1900 World Fair in Paris](#)

[Foodycle](#)

[Information visualisation put into physical form. new meanings. forms and stories](#)

[Light is History at TrashLab](#)

[MDNM – The Media of Energy and Emotions](#)

[New Media for Crisis Management Initiative \(NM4CMI\)](#)

[PACK-AGE – Interdisciplinary Packaging Design Project](#)

[PPAX: Play Patterns And eXperience](#)

[Qualiwall \(former MORE\)](#)
[Reality-based User Interface System](#)
[Sounds of Helsinki](#)
[soundsCollective](#)
[Talking TrashLab](#)
[Textiles Interaction Lab](#)
[The Portrait of Ms. Prime Minister](#)
[Transforming Urban](#)
[Visuality in Digital Books](#)
[Visuality in Digital Books – Developing new forms of digital publications](#)
[WanderOnStage \(previously named as GestureWatch\)](#)
[WeStyle](#)

<https://www.strategyzer.com/library?type=Tools>

Bioacademy:

<http://bio.academany.org/>

<https://scoollab.web.cern.ch/classroom-activities>

<https://www.youtube.com/watch?v=4pi5mnV1OhA>

<https://transmaterial.net/>

<https://www.instructables.com/Kite-weaving/>

<https://www.instructables.com/member/Waag/instructables/>

<http://wiki.fablab.is/wiki/Portal:Tutorials>

https://gitlab.cba.mit.edu/quentinbolsee/raspi_drawing_machine

https://www.scopesdf.org/scopesdf_lesson/spin-your-way-to-art/

<https://www.scopesdf.org/lessons/>

<https://boxdesigner.connectionlab.org/>

<https://library.fabfoundation.org/#>

<https://www.artistscreatingtogether.org/open-studios>

[https://www.appropedia.org/Welcome to Appropedia](https://www.appropedia.org/Welcome_to_Appropedia)

<https://reservation.lescopeauxnumeriques.fr/#!/projects/fabriquer-un-fablab-mobile>

<https://www.instructables.com/Maker-Cart/>

<https://www.instagram.com/fablabtulsa/>

<https://www.3dwasp.com/en/category/guide-to-3d-printing/>

http://academy.cba.mit.edu/classes/computer_machining/index.html

<http://fabacademy.org/about/program.html> - fabacademy

<https://www.niggli.ch/en/produkt/fablab/> - book to buy

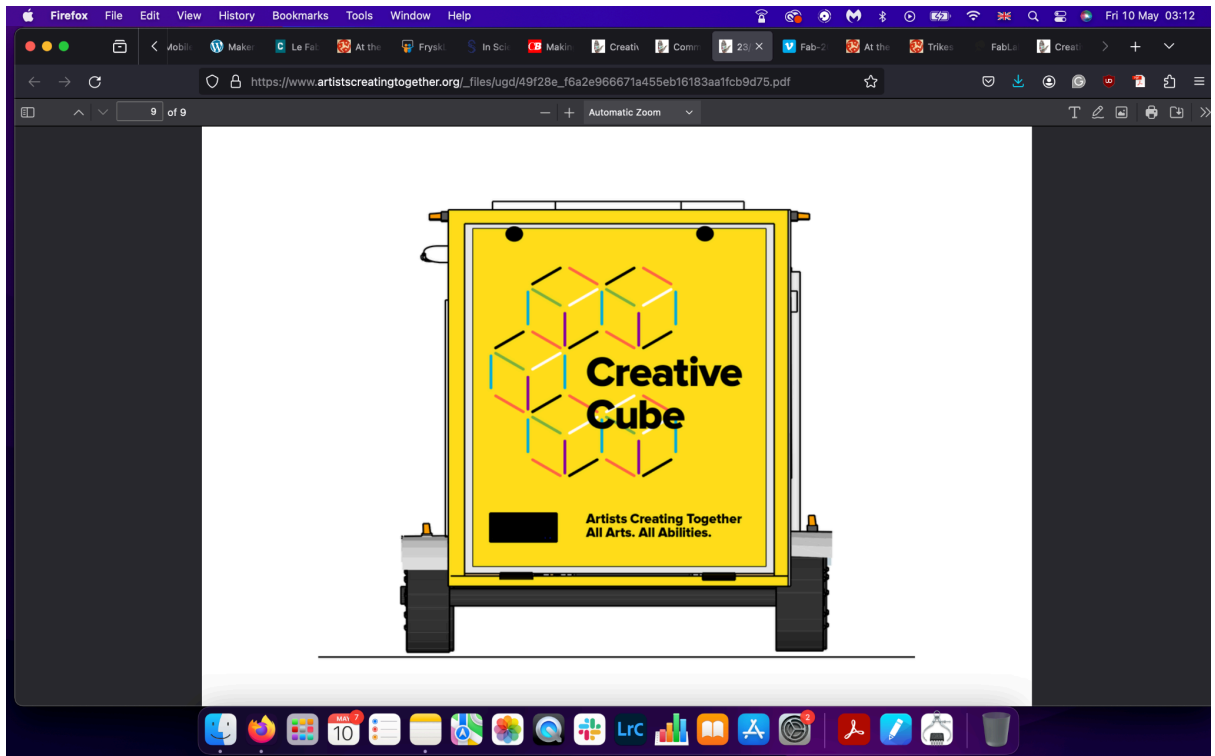
<https://www.fablabfactory.com/workshops>

Hot Press

<https://y4yarchives.org/y4yclickandgo/creating-a-makerspace/4437> - tutorial







Save slide

FryskLab



the mobile library FabLab of Fryslân







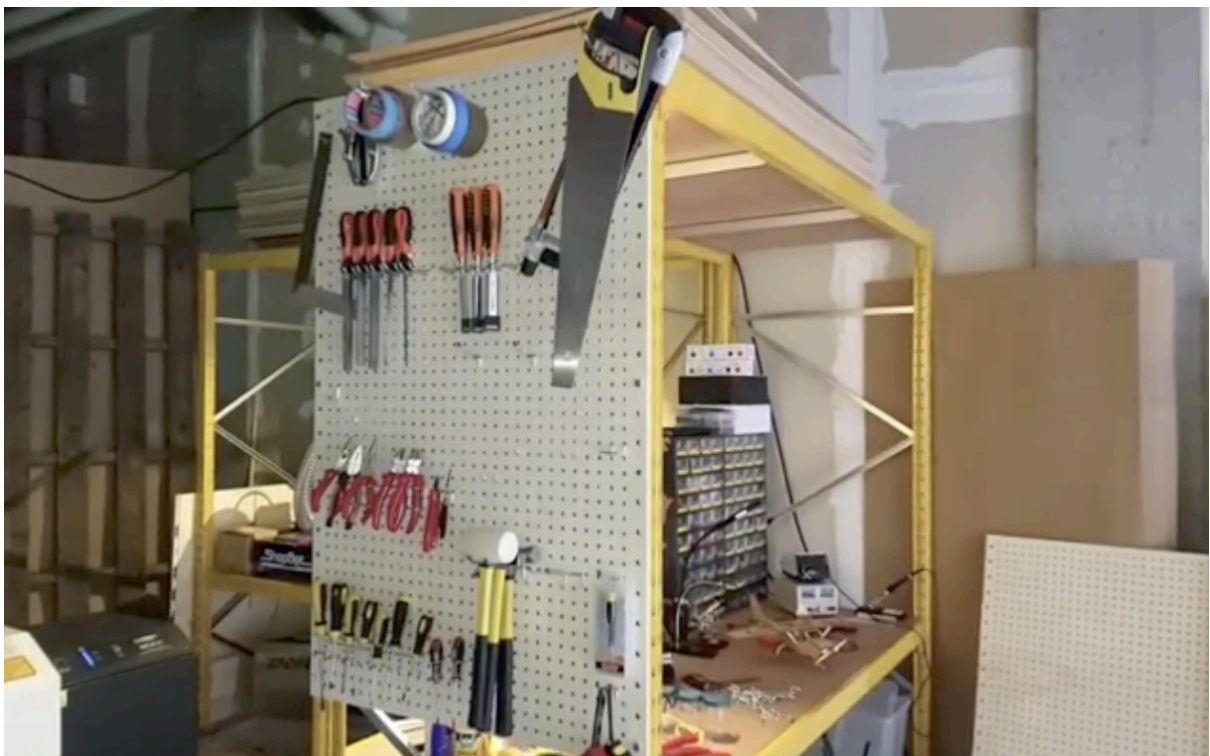
<https://www.fablabfactory.com/>







<https://www.instagram.com/fablabfactory/>



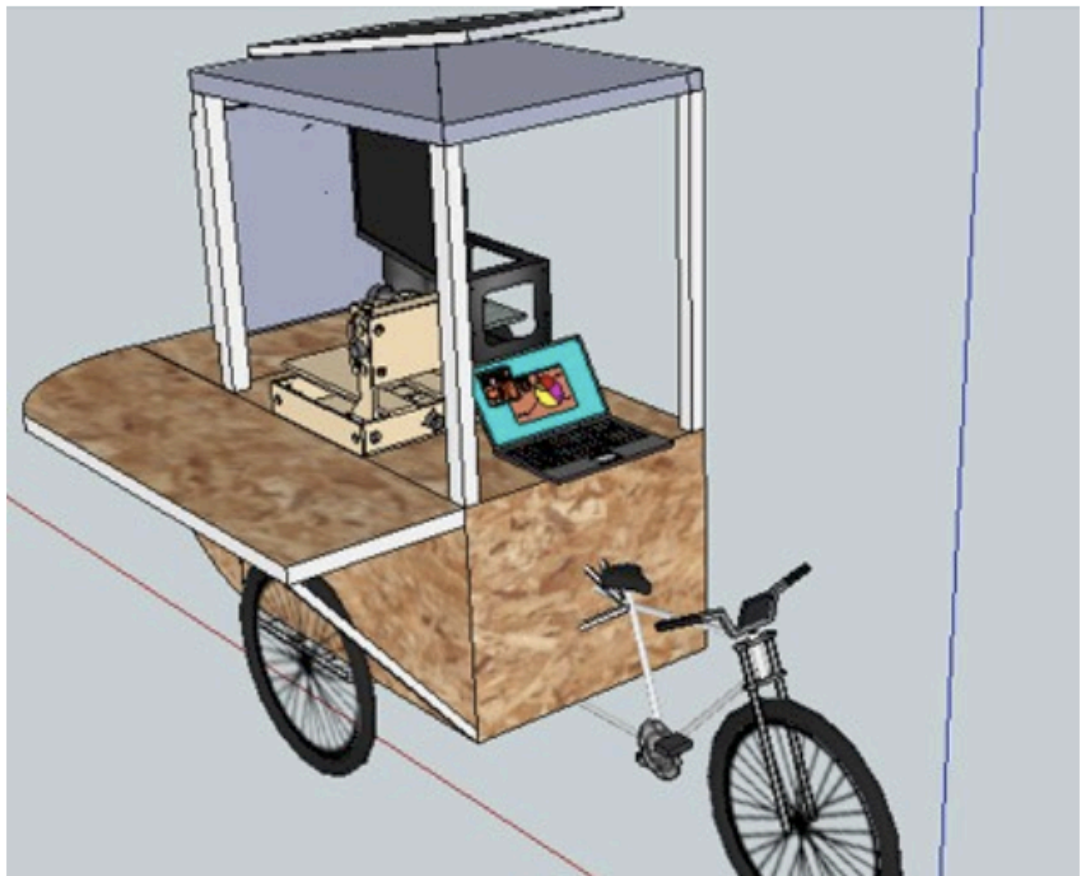




Le Mobilab' sera encore quelques semaines à la médiathèque de Vassy. ©La Voix le Bocage









MATERIAL

Recyclable Metal Sheets

In suscipit a nunc vitae posuere. Donec eget libero cursus erat venenatis fringilla in sit amet orci. Vivamus suscipit vel nunc at mattis. Pellentesque in fringilla magna, vel lacinia nisl. Pellentesque sed convallis sem. Maecenas non sem sapien. Quisque id tristique diam.



Dimensions

Height	: 80cm
Width	: 54cm
Depth	: 55cm
Seat height	: 44cm
Packaging	: 80x54x55 cm
Weight	: 8kg

Production Process

Mauris lectus tellus, facilisis non fermentum et, rhoncus et odio. Vestibulum et eros quis erat faucibus tempor eu a sem. Donec in ex eget elit eleifend condimentum. Cras mauris mi, ultrices vehicula tempus at, lacinia non leo.

MATERIALS

Recyclable Plastic

In suscipit a nunc vitae posuere. Donec eget libero cursus erat venenatis fringilla in sit amet orci. Vivamus suscipit vel nunc at mattis. Pellentesque in fringilla magna, vel lacinia nisl. Pellentesque sed convallis sem. Maecenas non sem sapien. Quisque id tristique diam.



Sourcing

Mauris lectus tellus, facilisis non fermentum et, rhoncus et odio. Vestibulum et eros quis erat faucibus tempor eu a sem. Donec in ex eget elit eleifend condimentum. Cras mauris mi, ultrices vehicula tempus at, lacinia non leo.

MATERIALS

Recyclable Playwood

In suscipit a nunc vitae posuere. Donec eget libero cursus erat venenatis fringilla in sit amet orci. Vivamus suscipit vel nunc at mattis. Pellentesque in fringilla magna, vel lacinia nisl. Pellentesque sed convallis sem. Maecenas non sem sapien. Quisque id tristique diam.

Dimensions

Height	: 80cm
Width	: 54cm
Depth	: 55cm
Seat height	: 44cm
Packaging	: 80x54x55 cm
Weight	: 8kg



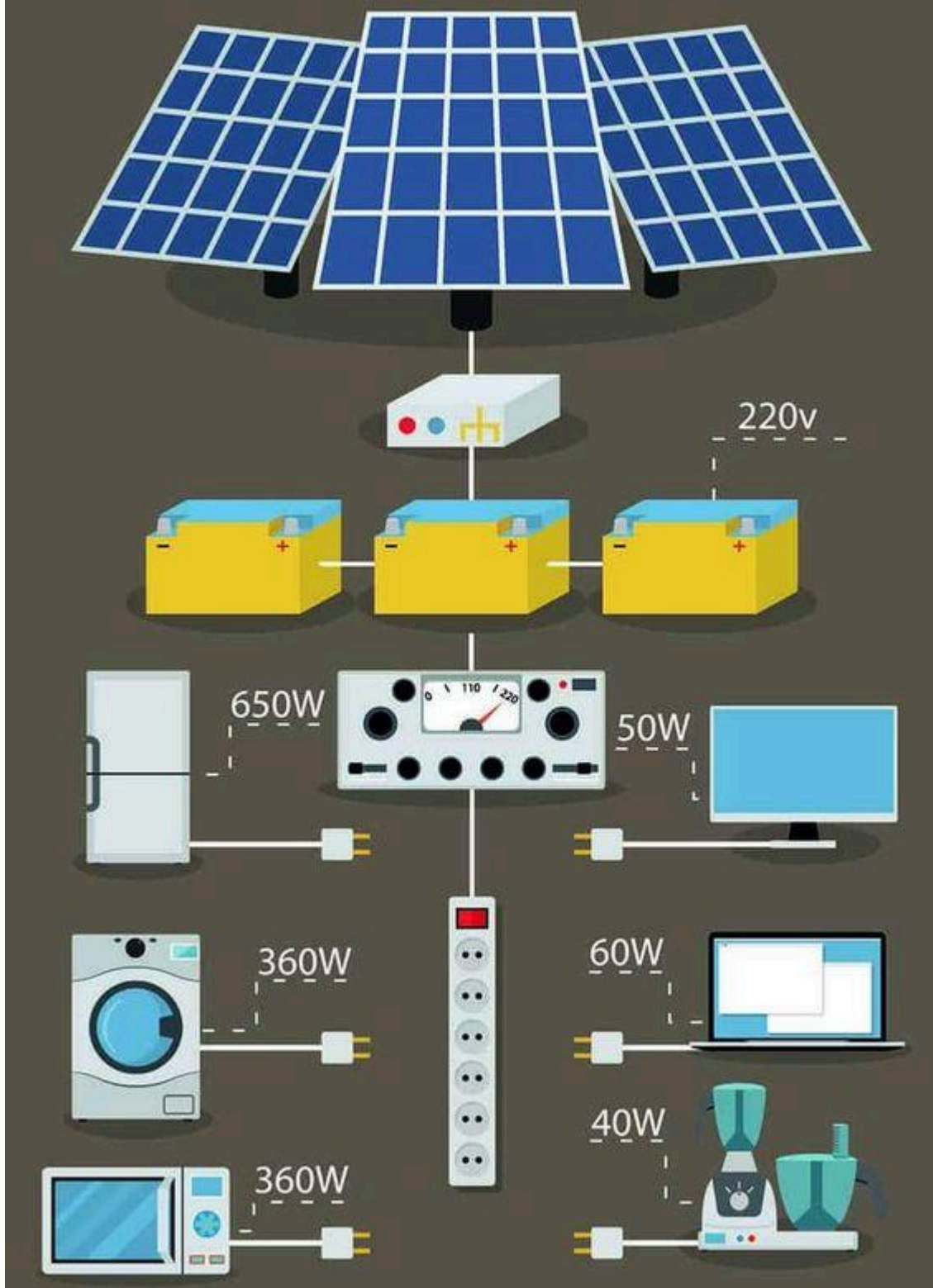
Sourcing

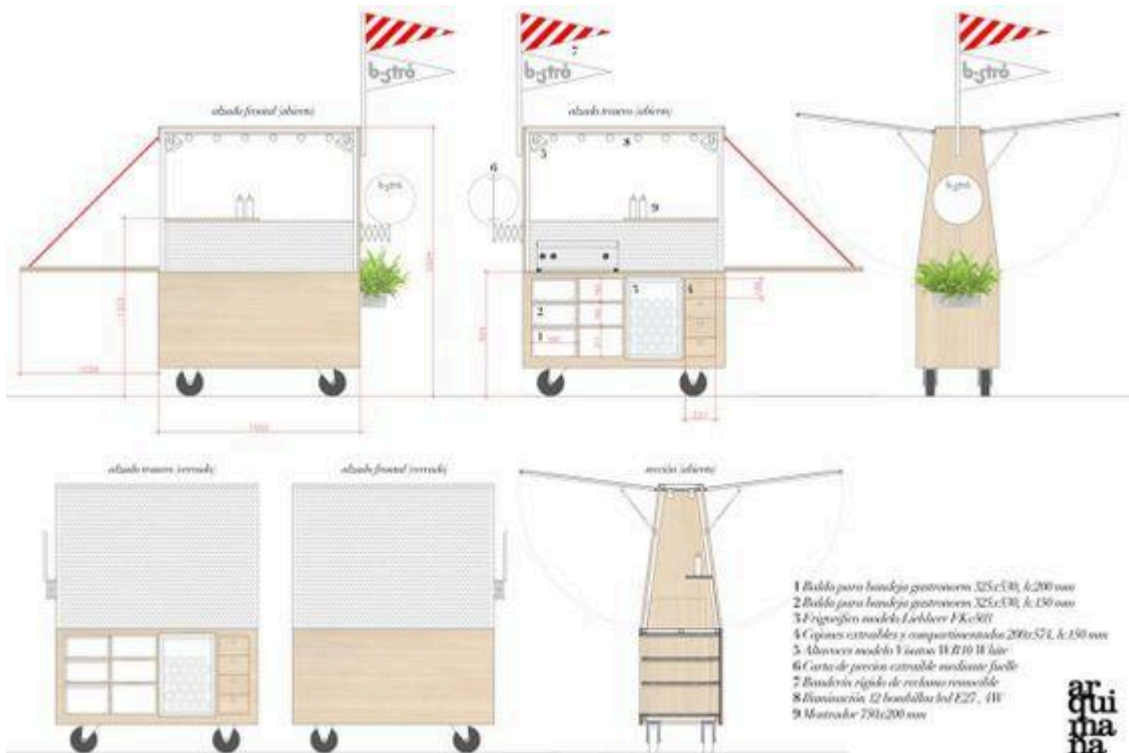
Mauris lectus tellus, facilisis non fermentum et, rhoncus et odio. Vestibulum et eros quis erat faucibus tempor eu a sem. Donec in ex eget elit eleifend condimentum. Cras mauris mi, ultrices vehicula tempus at, lacinia non leo.



<https://stemfinity.com/collections/teachergeek>

Solar Energy









IDEA

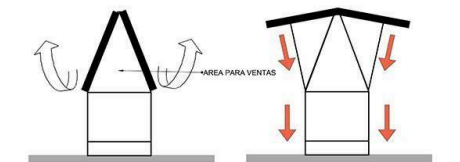
Al querer generar esa imagen de pacifico de los grandes aleros se genera una gran cubierta para dar sombra y proteger del clima que al cerrarse cubre el puesto ambulante protegiendo la mercancia dentro de ella.

BOVEDA

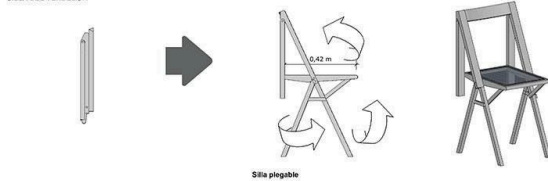
Teniendo en cuenta la reglamentación del espacio público se genera un mobiliario que respete el entorno y que sea fácil de transportar y de instalar en el lugar.

CUBIERTA

La estructura de la cubierta del puesto ambulante se genera a partir de la figura geométrica que es considerada la más fuerte que es el triángulo de ahí parte el diseño.



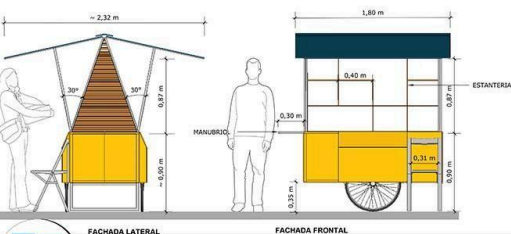
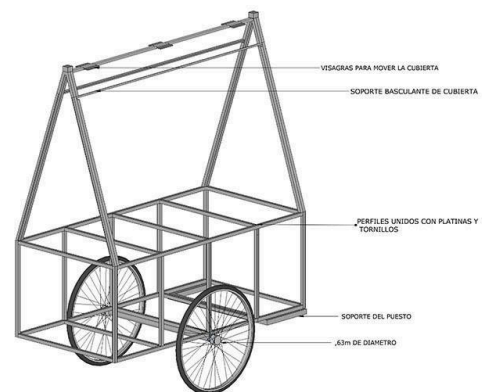
SILLA DEL VENDEADOR



Silla plegable

ESTRUCTURA

La estructura está hecha en perfiles de aluminio cuadrado que le da gran durabilidad incluso en los climas más agresivos.



UNPA

FACULTAD
DE ARQUITECTURA

JORNADA
Noturna

ALUMNOS
Carlos Andrés Angulo Preciado

CONTIENE
Puesto Ambulante Plano, Fachada y Perspectiva

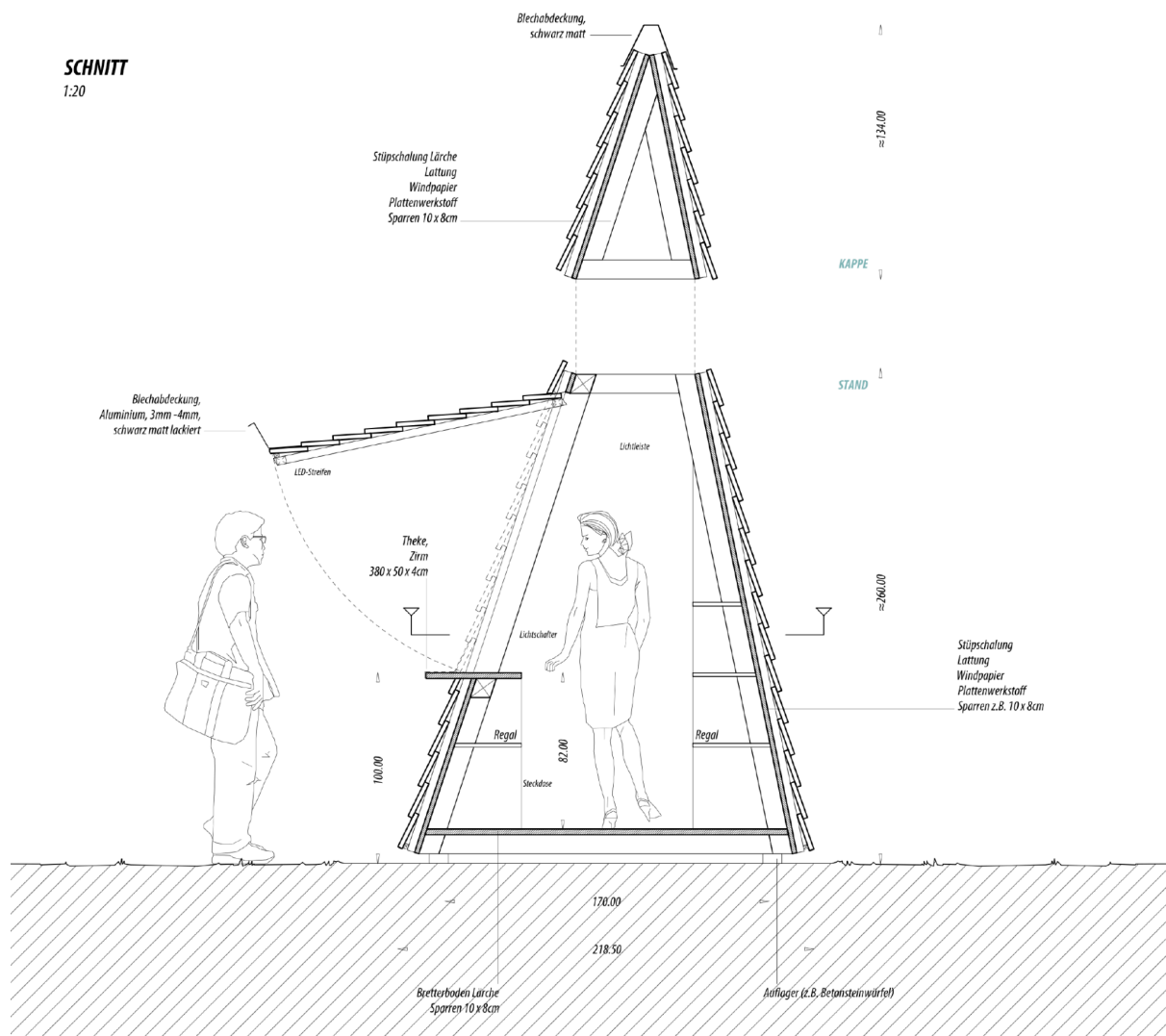
OBSERVACIONES

ESCALA
1:20

FECHA
01/07/2014

1/1





Another mobile fablab projects:

- <https://fablab.ruc.dk/mobile-fablab/>





<https://makerinstitute.cz/en/mobile-fablab/>

<https://www.instagram.com/makerinstitute/> - praga

<https://makerinstitute.cz/en/our-offer-2/> - courses catalog

Fee for non-UCT: 6000,- Kč



* Maker Institute

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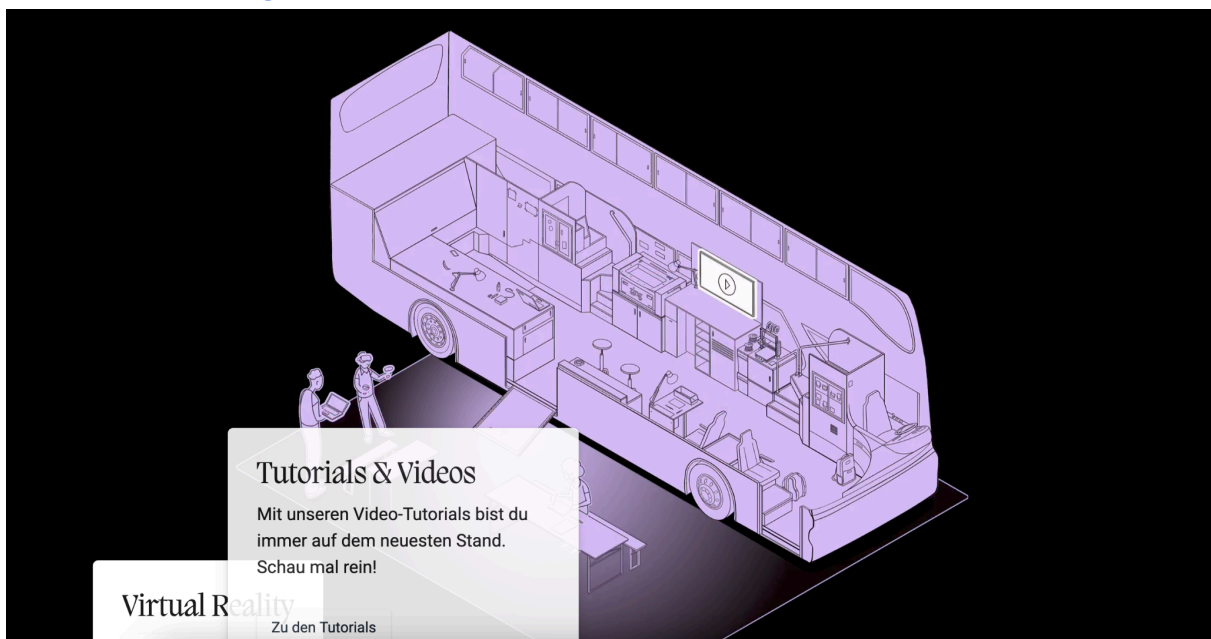
FB



https://www.appropedia.org/Mobile_makerspace -



<https://fabmobil.org/> -



<https://fabmobil.org/tutorials> - tutorials

<https://www.instagram.com/fabmobil/>

<https://tolocar.org/en/playbook/>

Futurium - Berlin- <https://futurium.de/en/mobile-mobility-workshop>



<https://www.youtube.com/watch?v=5X3nzjaRDVg&t=3s>

<https://www.youtube.com/@Futurium>

<https://cloud.futurium.de/owncloud/index.php/s/9DHYwPw846GOFk2>



REDISCOVERING MOBILITY WITH URBAN INNOVATIONS

MOBILE MOBILITY WORKSHOP

The art collective N55 and designer Till Wolfer want to revolutionise our view of urban mobility and the city of the future. Their actions and inventions show how different mobility of the future could be in future cities. Parking spaces for cars become mobile parks for people, cargo bikes become mobile workshops or a mobile kitchen. For the Futurium Lab, they have built a mobile mobility workshop. This brings the discussion about the future of mobility to where mobility really takes place: in public space.



<https://www.instagram.com/futuriumd>

<https://futurium.de/de/workshops>

<https://futurium.de/en/tours-1>

FUTURE BOX - speculative design workshops

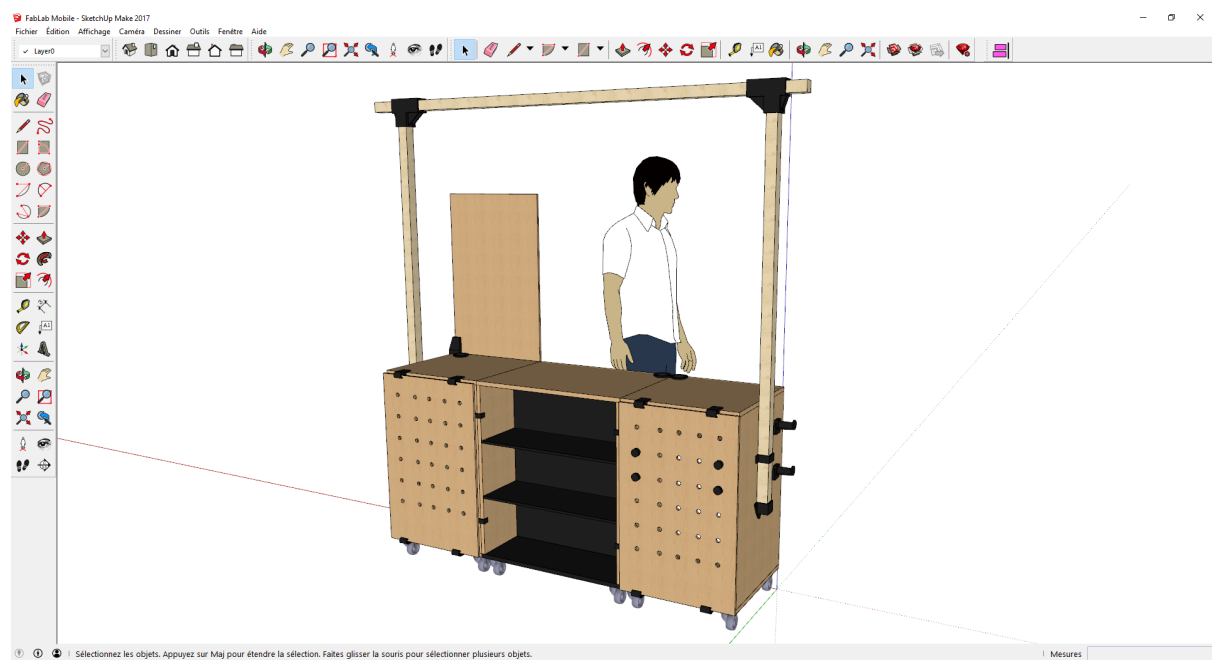
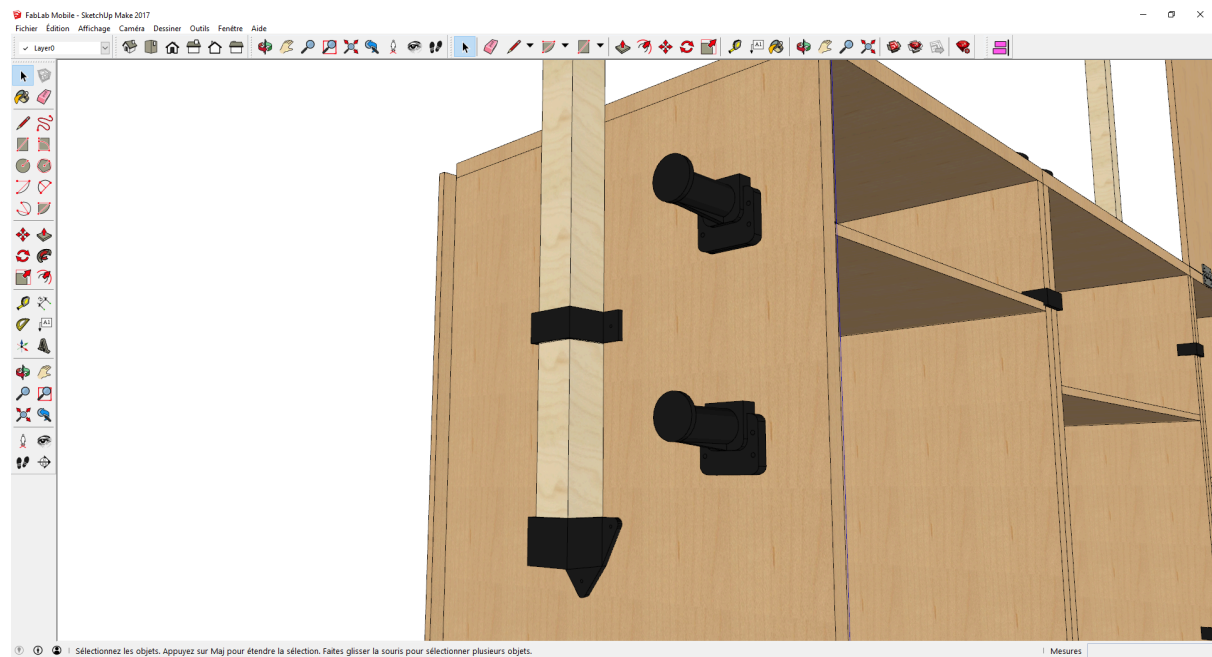
<http://mobiler-makerspace.de/mobiler-makerspace/>



<https://www.instagram.com/FabLabOberland>

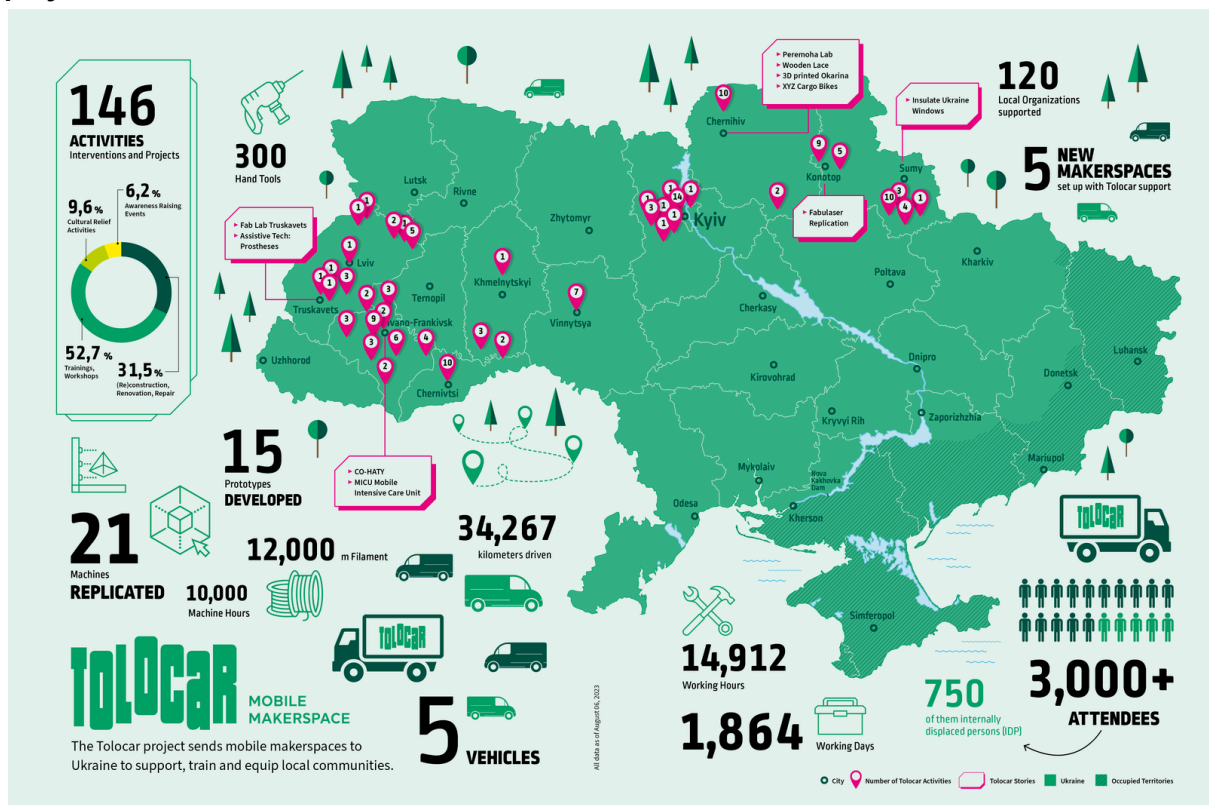
Cool font

<https://reservation.lescopeauxnumeriques.fr/#!/projects/fabriquer-un-fablab-mobile>





https://www.appropedia.org/Tolocar_Playbook#Tolocar_Playbook - mobile fablab
playbook



<https://askotec.openculture.agency/>

https://wikifab.org/wiki/Group:ASKnet_Open_Tech#Tutoriais

<https://openculture.agency/outcomes/askotec/#>

https://wikifab.org/wiki/Open_Workshop_Setup

[https://wikifab.org/wiki/COREMO_TRAILER - Community Repair Mobile#/media/File: COREMO_TRAILER - Community Repair Mobile_1.jpg](https://wikifab.org/wiki/COREMO_TRAILER_-_Community_Repair_Mobile#/media/File: COREMO_TRAILER_-_Community_Repair_Mobile_1.jpg)



<http://www.shopbotblog.com/2016/08/brief-timeline-mobile-digital-fabrication-equipment/>

Workshops - <http://eduardochamorro.github.io/beansreels/workshops.html>

<https://www.instructables.com/Mini-Fablab-Meets-IKEA-Legs-for-the-SLADDA-Trailer/>



<https://contemporaryand.com/magazines/14th-dakar-biennale-the-off-program/>

<https://www.ladepeche.fr/2019/02/20/auch-un-fablab-mobile-avant-un-100-local-en-avril.8027423.php>

Spacecraft_KT, Fabrication d'un fablab mobile pour les professionnels. »



Le Propulseur, fablab itinérant, reste à Auch jusqu'à samedi. / - DDM Marc Centene

mobile: a prototype of a mobile fablab for arts, Dak'art OFF, 2018. Kër Thoissane. Photo

<https://www.startupeuropalab.it/che-cose-un-fab-lab/>

https://www.appropedia.org/Open_Source_Machine_Tools



Cet atelier mobile sera à Tubecon, le festival des influenceurs, les 7 et 8 septembre../ Photo DR, Makers & Co.

<https://www.localenterprise.ie/Leitrim/News/Press-Coverage/Launch-of-USEFE-Mobile-Fablab.html>

<https://www.bostonmakers.org/resources/> - tutorials

<https://fablabo.com/mobile-fablab-o-%E6%95%B0%E5%88%B6%E9%AD%94%E6%96%B9%E7%BB%BF/>



<https://www.lorainccc.edu/campana/fab-lab/fab-cab/>

https://kb.osr-plastic.org/academy/resources/resources_3dprint/

<https://www.instagram.com/makerkutsche>

<https://fablab.ruc.dk/mobile-fablab/>

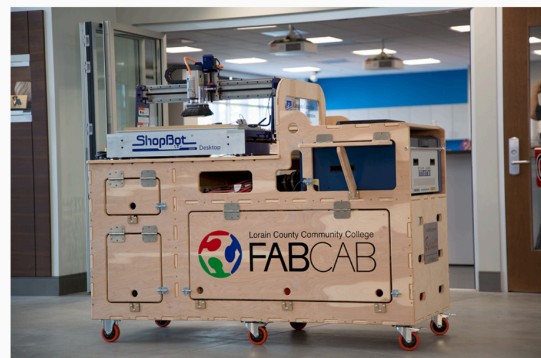
A Mini Makerspace on Wheels

The latest making tools, made ready to go

Who knew we could fit so many making machines into one mini, mobile maker station. We chose the most-used tools and equipment and put them on a compact, portable makerspace station.

Here's what the Fab Cab includes:

- MakerGear 3D printer
- ShopBot CNC mill
- Epilog Laser Cutter
- Roland Vinyl Cutter



<https://www.instagram.com/fablabmh> -

<https://www.youtube.com/channel/UC884PJt3ywtrectYOENZgqtA>

<https://cmsdfablab.org/professional-development/> - tutorials

<https://artefactcafe.wordpress.com/2012/08/10/655/>

<https://www.cap-sciences.net/au-programme/exposition-atelier/enseignants/mon-fablab-la-fabrique-a-projets/>

<https://www.instagram.com/capsciences/>

<https://tbd-studio.org/projects/fab-lab> - <https://www.instagram.com/tobedone.studio>



<https://www.opendotlab.it/> - milan - <https://www.instagram.com/opendotlab/> - nice

<https://www.centralcoastmobilefablab.org/>

<https://www.fablabfactory.com/steamachine>

<https://fablabiasi.ro/ecosystem/> -moldowa, nice network mapping

<https://www.matelab.cz/>

<https://brnoregion.com/en/news/fablab-a-place-to-bring-your-ideas-to-life> - brno

http://legacy.fablabbcn.org/popup_fab_lab.html - barcelona -

<https://wikifactory.com/+fablabbcn/popup-fablab>

<https://fabmanager.supsi.ch/#/> - goldddddd- sulpsi - tutorials & slides

<https://www.lapalanquee.org/fablab/> - <https://www.instagram.com/lapalanquee>

<https://www.repair-cafe-zug.ch/> - zurich

<http://fabacademy.org/about/program.html> - tutorials

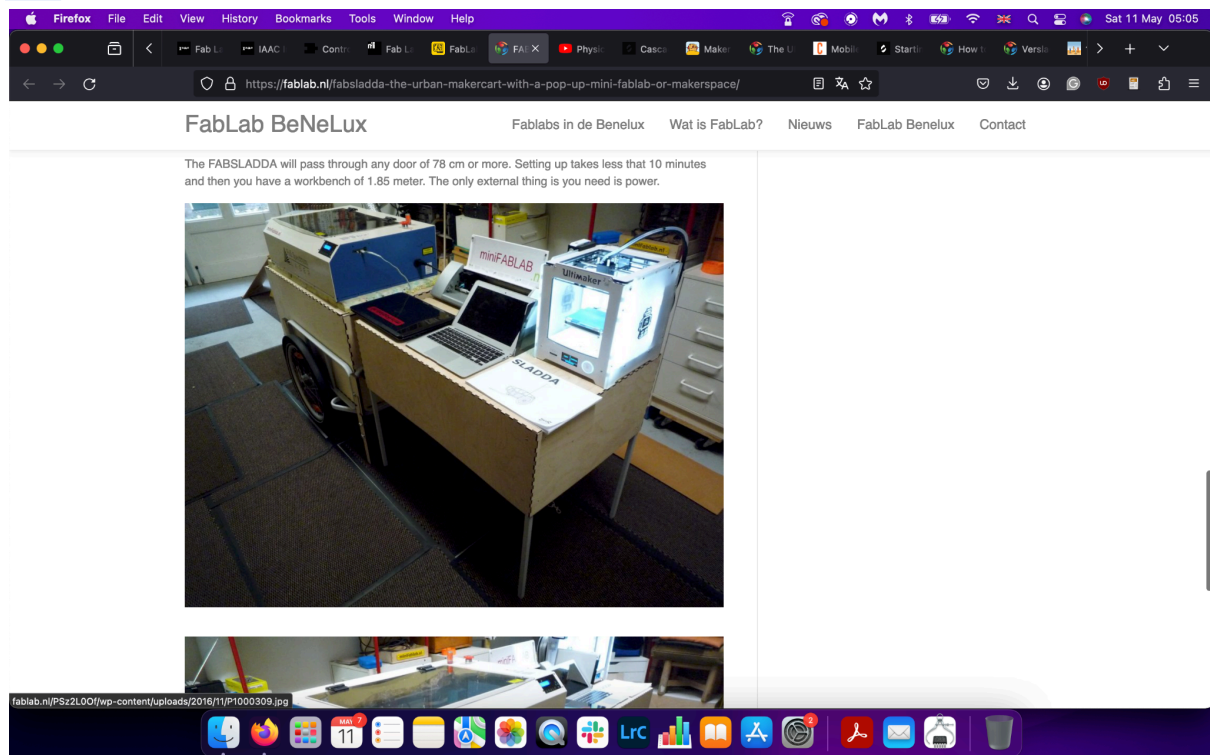
<https://teachergeek.com/collections/maker-cart-bulk-component-activities>

<https://fablab.green/wp/en/>

<https://www.fabship.cc/>

<https://www.facebook.com/groups/trashlab/>

<https://fablab.nl/fabsladda-the-urban-makercart-with-a-pop-up-mini-fablab-or-makerspace/>



SOLARRRRRRR

<https://www.appropedia.org/w/index.php?title=Special:Search&profile=pages&search=Photovoltaics>

https://wikifab.org/wiki/DIY_Solar_Charger

<https://swissnex.org/news/space-based-solar-power-workshop-towards-a-sustainable-energy-future>

<https://www.re-innovation.co.uk/portfolio/diy-off-grid-solar-workshop/>
<https://www.re-innovation.co.uk/workshops/>

<https://www.reapcenter.org/programs/makerspace/renewable-energy-lab>

<https://www.instagram.com/reapclimatecenter/>

<https://stemfinity.com/collections/teachergeek>

<https://solardecathlon.eu/>

<https://www.curiouselectric.co.uk/collections/featured/products/scrappy-electronics-kit?variant=31966250139745>

If you are interested in reserving the Mobile Fab Lab for your classroom or event, here are some questions to consider:

- Where will the Mobile Lab be parked?
- What machines will you plan to use?
- Will you run power to the trailer, use the generator, or plug machines into the wall?
- To what classroom standards will the activities align?
- What support are you expecting from the Fab Lab staff?
- How will you and your staff direct or support the activities?
- What kind of training will you, your staff, or your students need in advance of the visit?
- What is the size of the doors? Is there elevator? How big?

<https://www.pixelache.ac/projects/pixeliversity/pages/trashlab-renewable-festivals>

<https://mtm.cba.mit.edu/>

<https://www.instructables.com/Maker-Cart/>

<https://mediafactory.aalto.fi/>