



wemake.cc  
#makerspace  
#fablab

**Zoe Romano**

# **Hacking the Fashion System**

**@zoescop**

**Textile Academy Bootcamp  
2017**





wemake.cc  
#makerspace  
#fablab

WeMake is a makerspace in Milan providing a series of **services and training** to the creative community of the region in the field of digital and traditional manufacturing.

WeMake is a 250sq/mt urban multifunctional fablab providing open and membership based access to digital fabrication tools.

Clearing the difference between prototype and finished object, we foster the development of a **new model of designer-producer** (maker) and small-scale company by facilitating

- the engineering phase,
- the rapid iteration of design solutions,
- the on-demand production of physical/digital artefacts.





## TEXTILE

Open Design

Smart textiles

Wearables

## ELECTRONIC

Internet of Things

Open Hardware

Arduino

WE  
WIRE  
FRAME

## FABRICATION

Digital Manufacturing

3D Printing

Prototyping



# CONTEXT



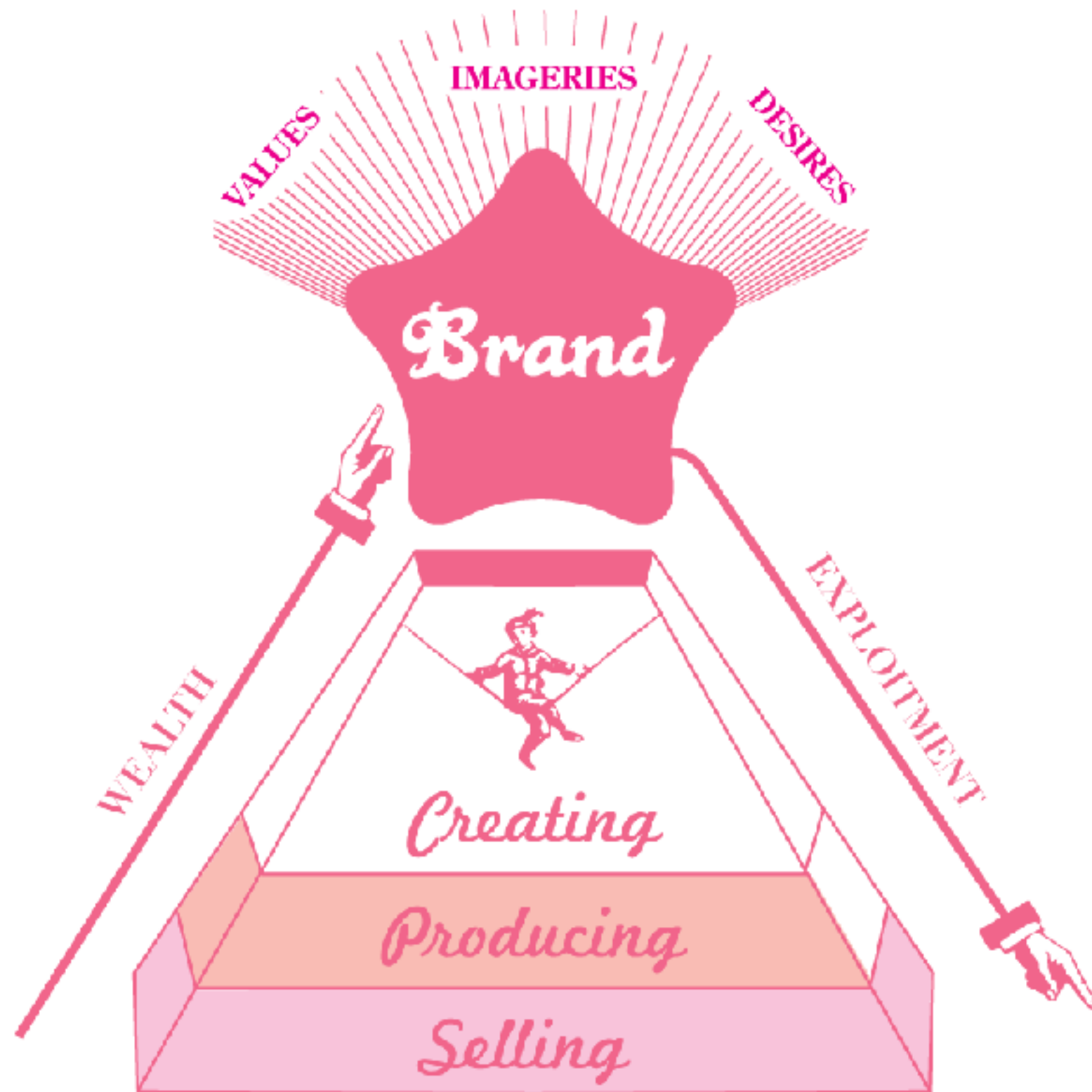


# FASHION CONGLOMERATES



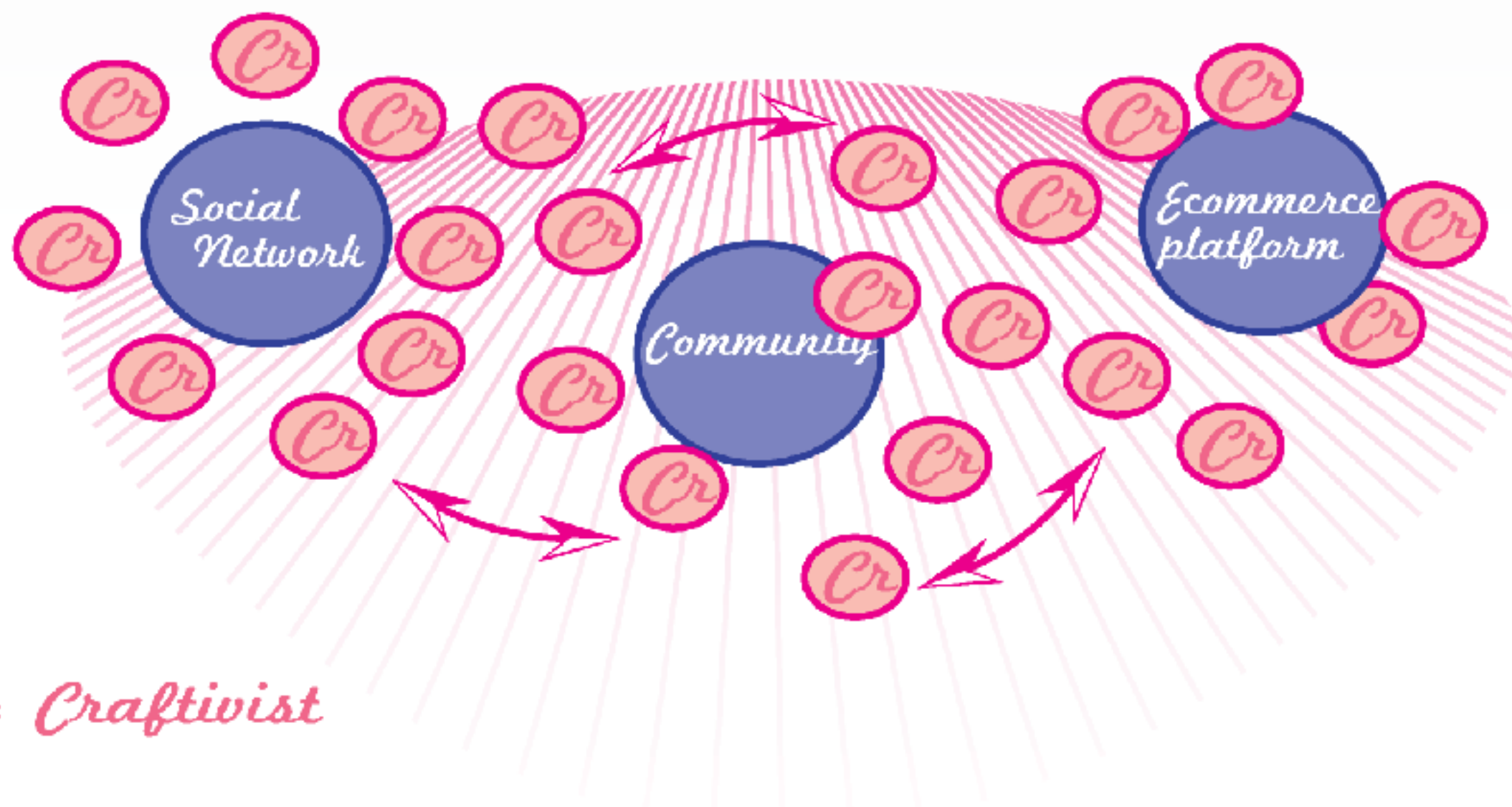
<http://www.purfe.com.au/who-owns-whom-in-fashion/>







Do it  
yourself







# From DIY to DIT





# WHAT IS CHANGING

**EASIER THAN EVER  
DATA>OBJECTS>DATA**

- Modularity
- Flexibility
- Open codes

**OFTEN THAN EVER  
BOTTOM UP INNOVATION**

- Interdisciplinarity
- Horizontality
- Self-organization



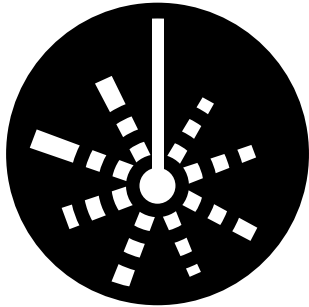


**FABLABS AND MAKERSPACES  
A SPACE TO LEARN AND CREATE TOGETHER**

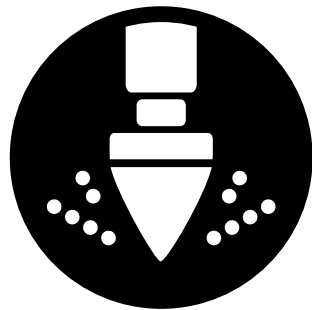


# NEW FASHION TOOLS

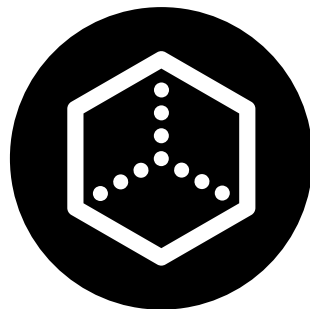
LASERCUT



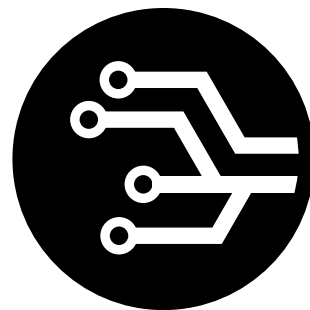
CNC



3D PRINTING



ELECTRONIC



(hacked)

- Sewing machines
- Knitting machines
- Embroidery machines
- Soft Circuits
- Bio Composites
- New materials



**INTELLECTUAL PROPERTY ///> OPENNESS**

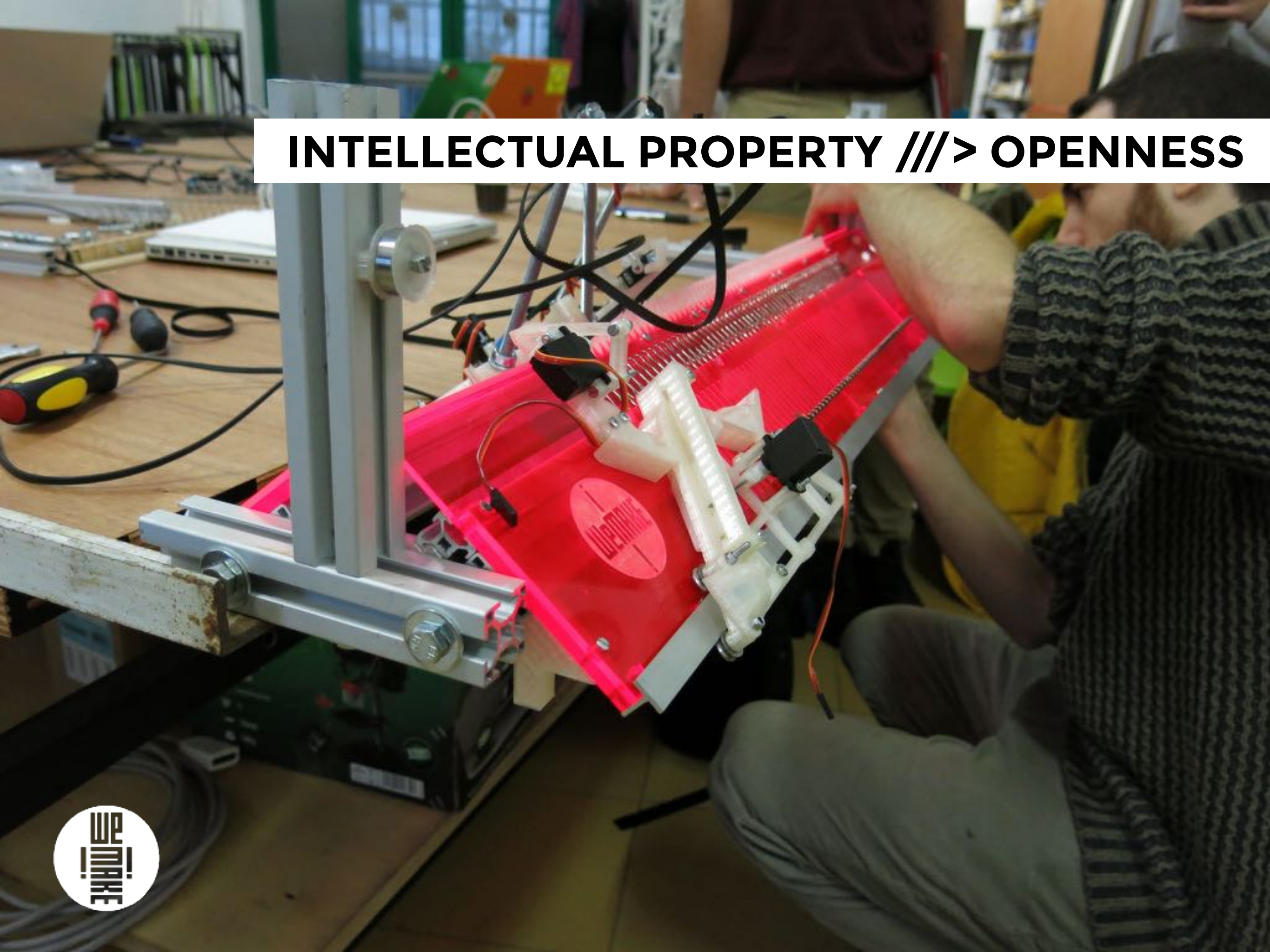
**PRODUCT ///> PLATFORM**

**FAST ///> SLOW**





**INTELLECTUAL PROPERTY ///**





# TYPES OF OPENNESS

Open source software (OSS) is computer software with its **source code made available** with a **license** in which the copyright holder provides the rights to study, change, and distribute the software to anyone and for any purpose

## Open source hardware

(OSHW) is hardware whose **design is made publicly** available so that anyone can study, modify, distribute, make, and sell the design or hardware based on that design.

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Open design is the development of physical products, machines and systems through use of publicly shared design information.

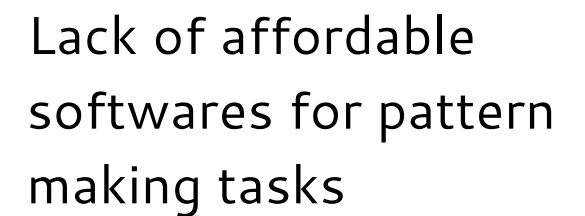
Open data is data that distributed in a **convenient and modifiable form** which can be freely used, re-used and redistributed by anyone – subject only, at most, to the requirement to attribute and sharealike.



# **OPEN SOURCE SOFTWARES**



# Open source pattern making software



- Seam allowance
- Truing a dart
- Easy multi-sizing

## Opensource.com lists Valentina in 2016's top creative FOSS tools



# BLENDER

## Cloth Simulation





## From scanning to trousers





# OKNITME

Creating punch card from 2-color images – by Serpica Naro

# oknitme

[HOME](#) [GALLERY](#) [THE PROJECT](#) [ABOUT US](#)

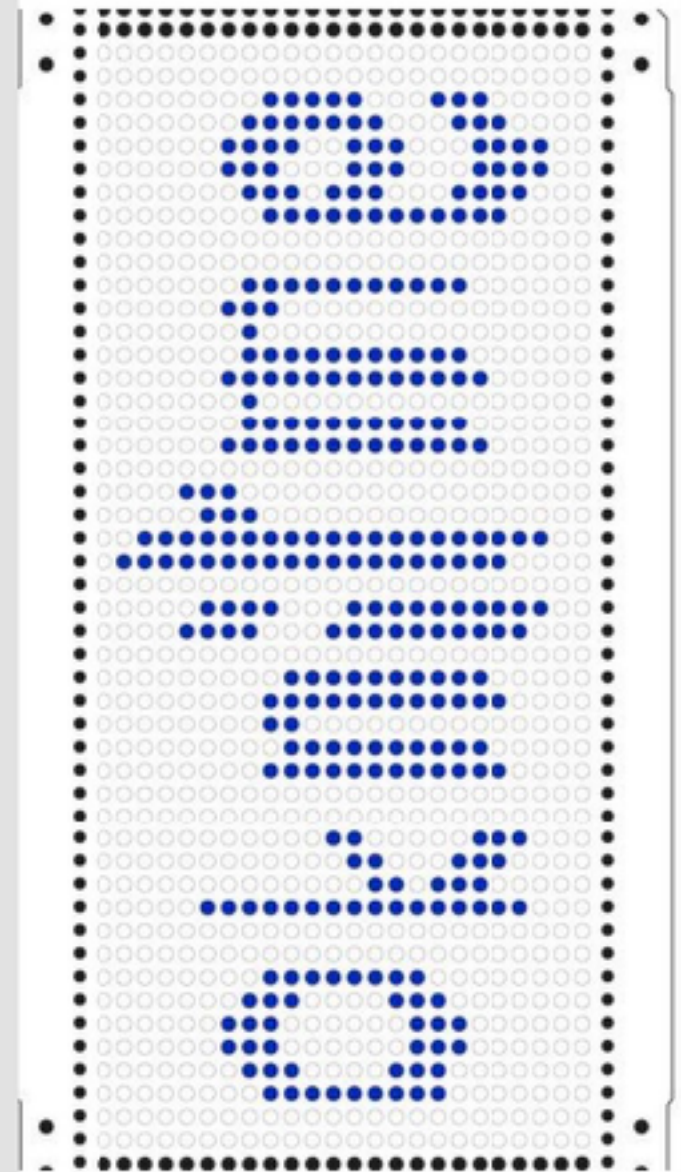
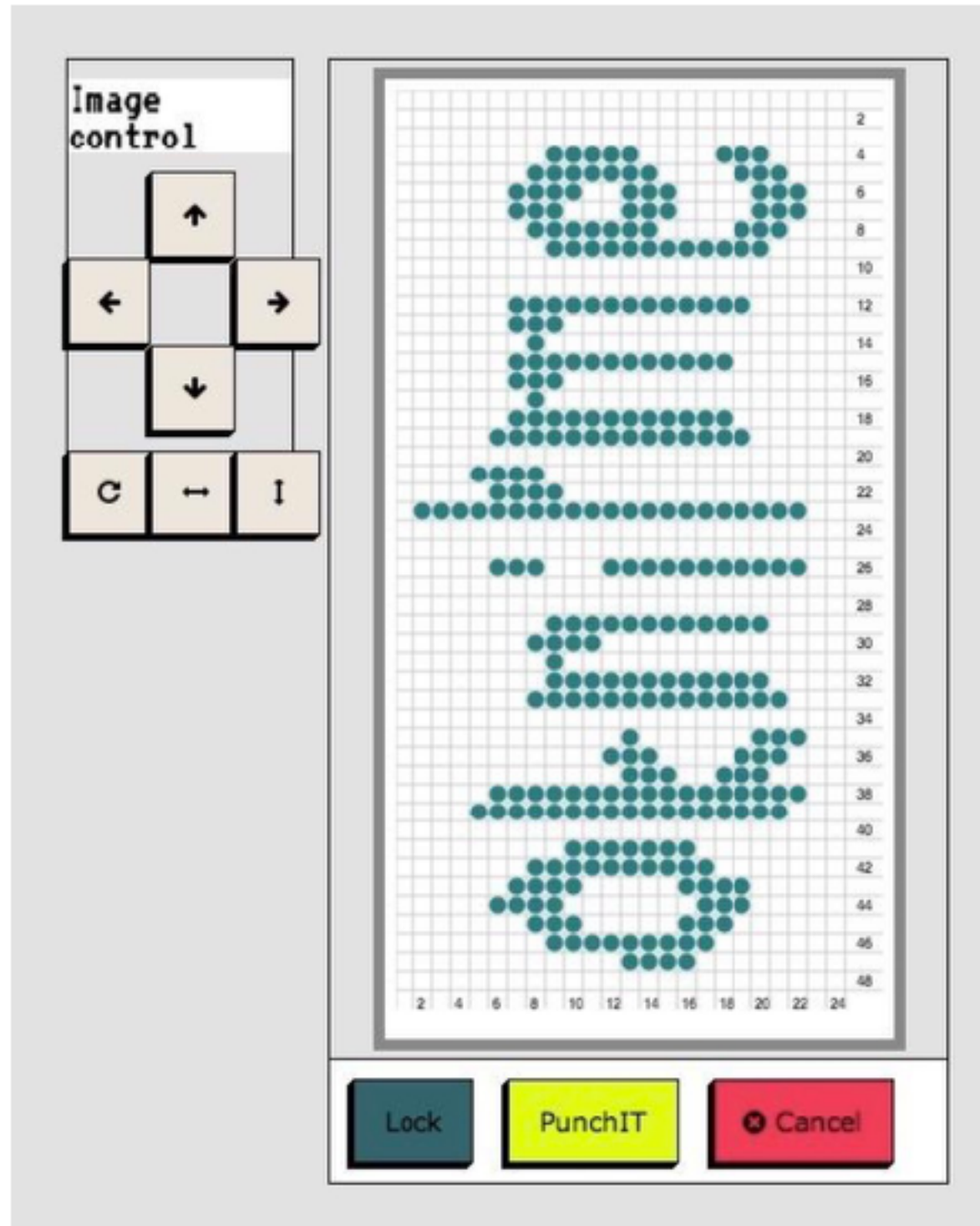
CREATE CUSTOM PUNCH CARDS FOR YOUR KNITTING MACHINE!

[BROWSE](#) or DROP 2-COLOR IMAGE HERE



# OKNITME

Creating punch card from 2-color images





# OKNITME

Creating punch card from 2-color images



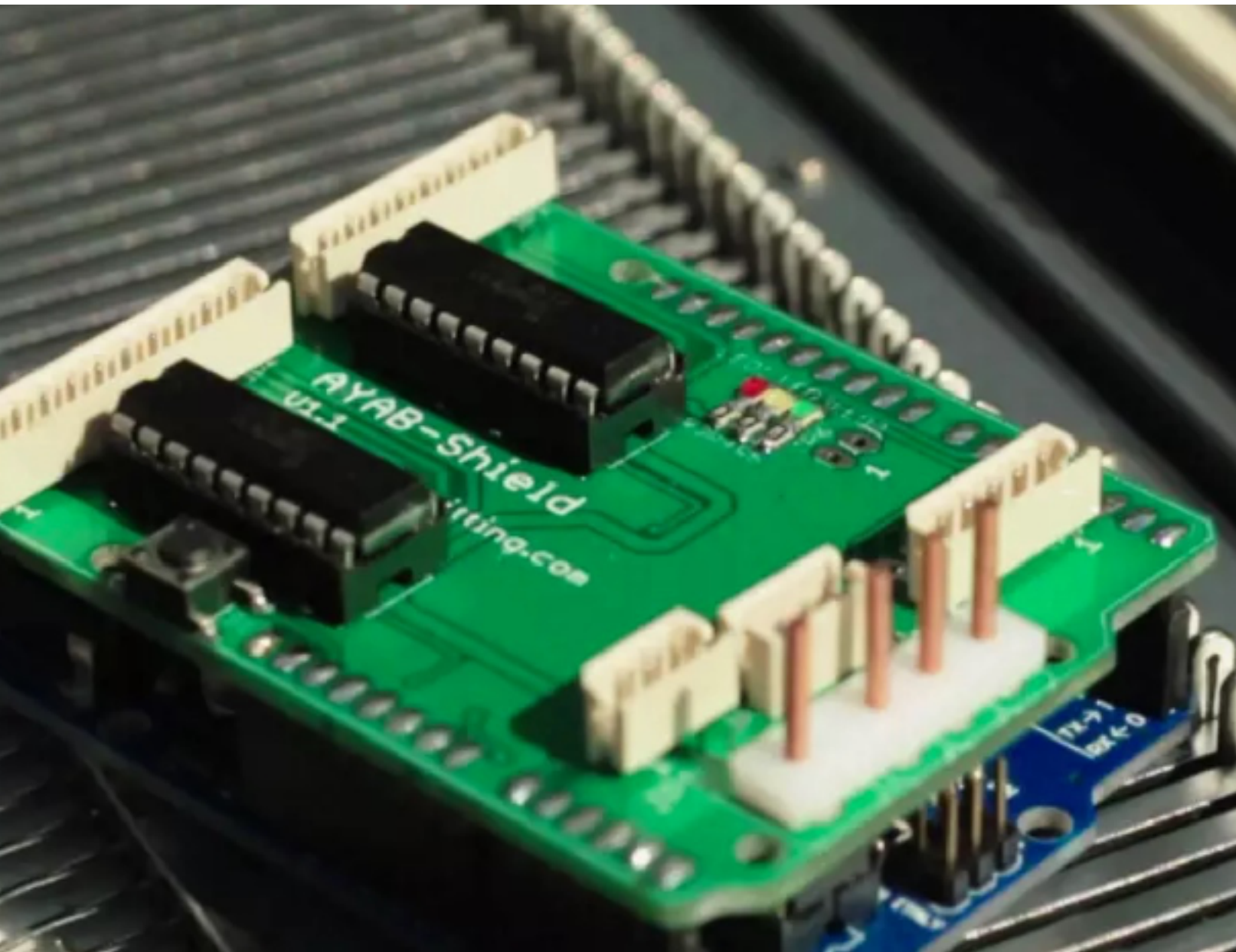


# **OPEN SOURCE HARDWARE**



# AYAB Shield

Arduino shield to hack digital knitting machines

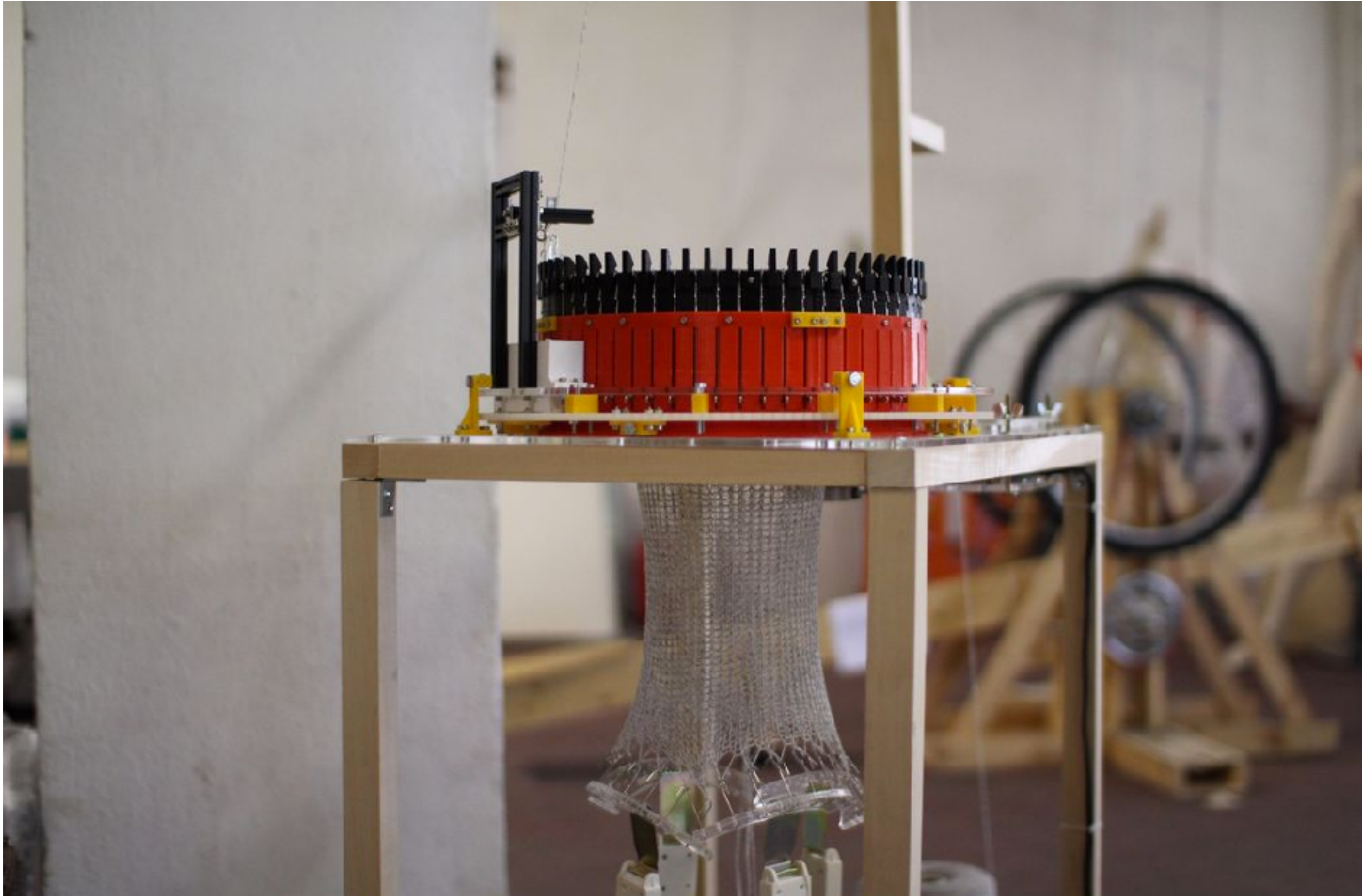


Knitted bag by RATATATA – Claudia Scarpa – Made at WeMake



# Circular Knitic

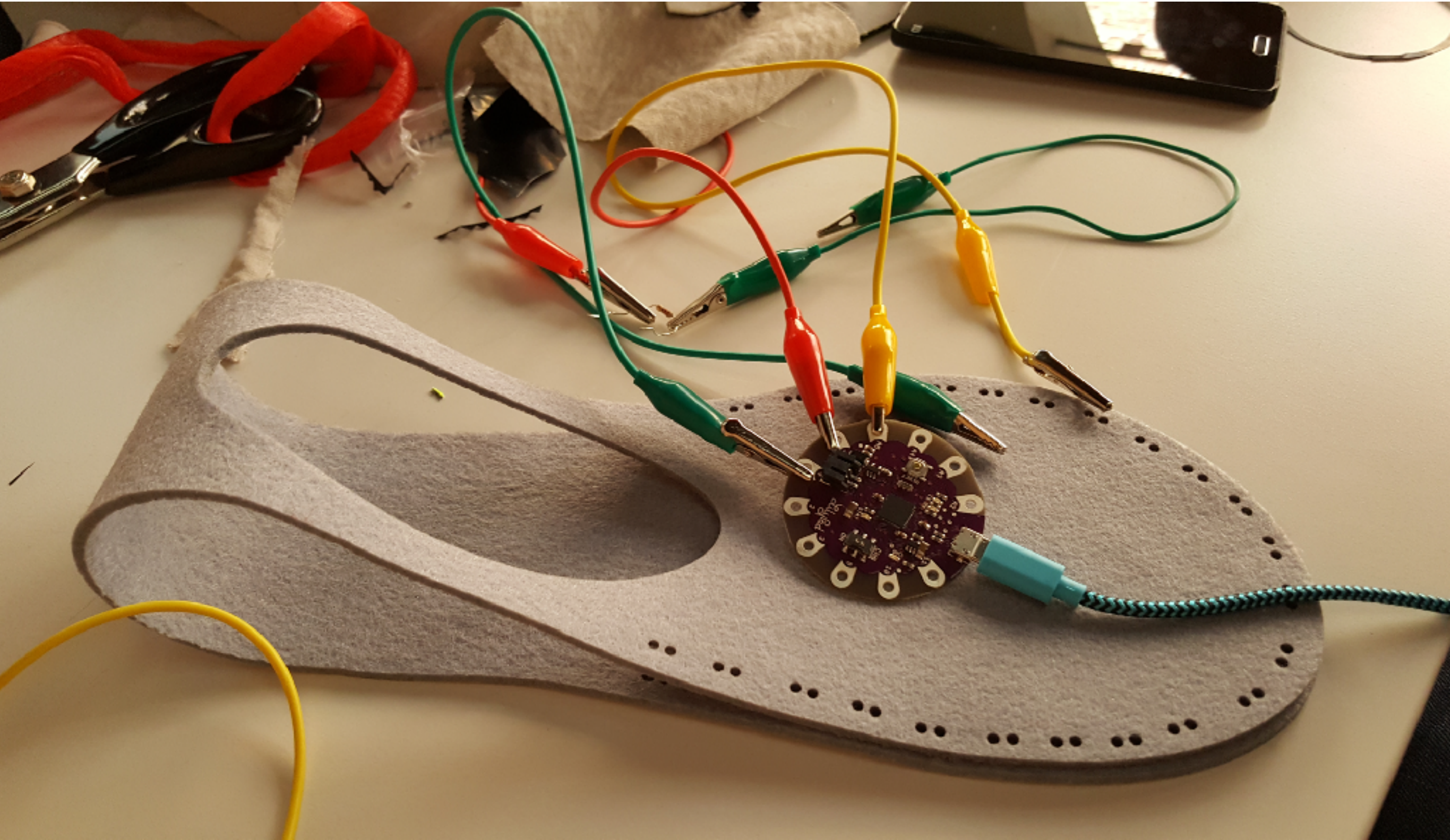
Integrating textile manufacturing into the contemporary makers' culture





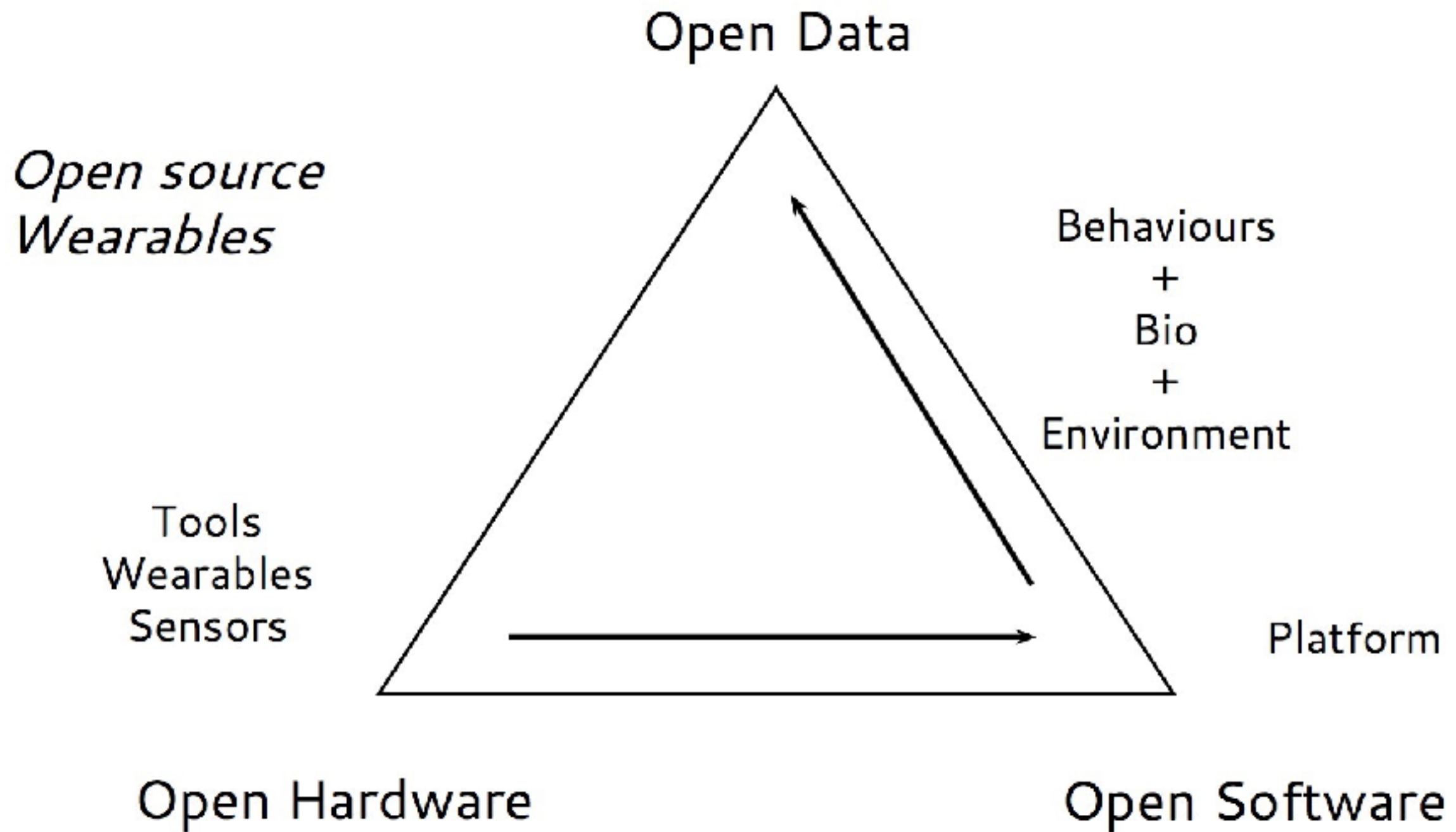
# Smart textiles - Open Design for wearables

Empowering people with wearables and soft circuits





# INTERDISCIPLINARY APPROACH





# **OPEN SOURCE BRANDING**



# SERPICA NARO



In 2005 the first **open source brand** in fashion created from a hoax during Milan fashion week

## THE JOURNAL OF DESIGN STRATEGIES

—  
Alternative Fashion Systems  
—

**VOL. 7, NO. 1 | FALL 2014**

**PARSONS THE NEW SCHOOL FOR DESIGN**

[http://sds.parsons.edu/designdialogues/?post\\_type=article&p=634](http://sds.parsons.edu/designdialogues/?post_type=article&p=634)

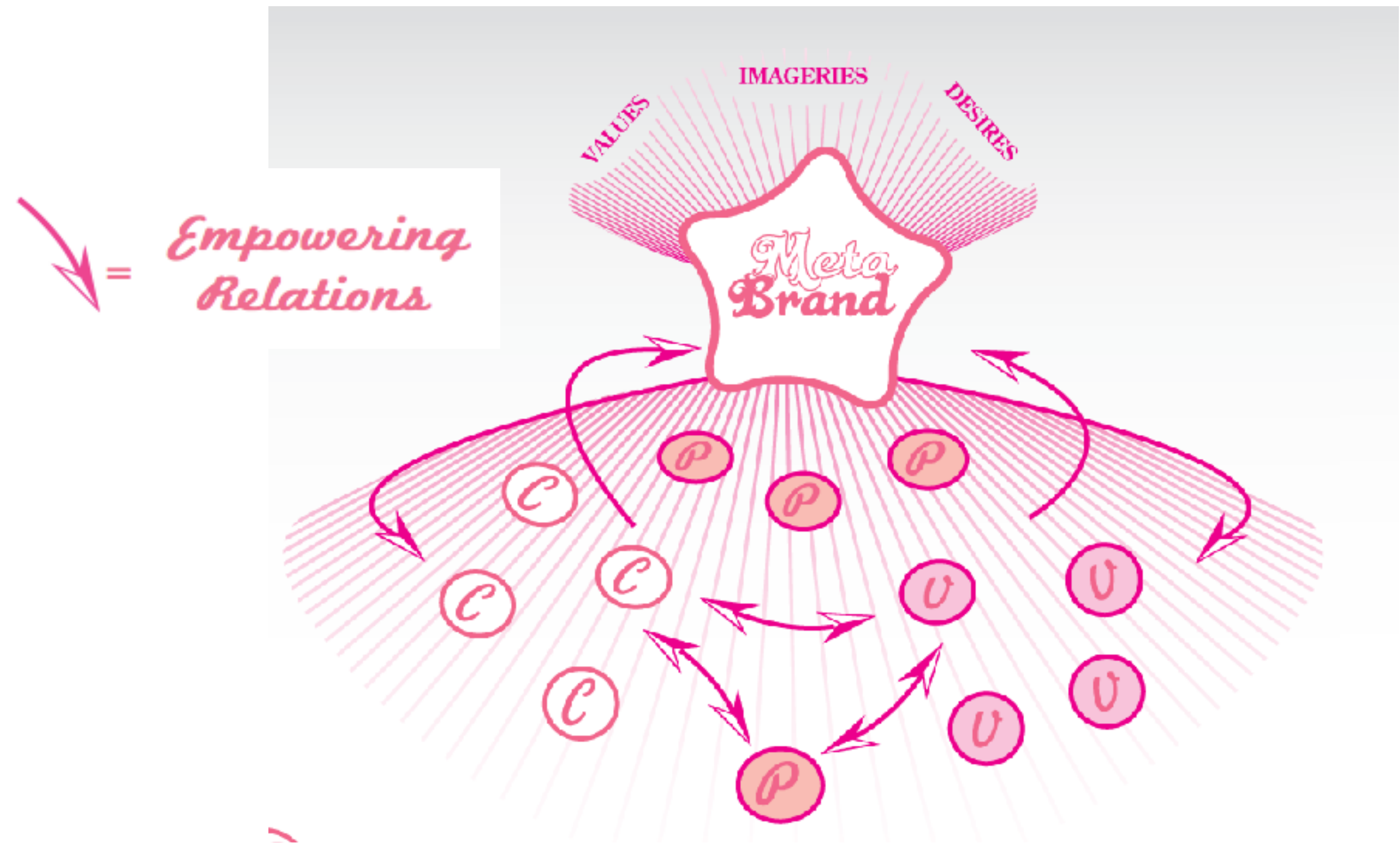




- A collaborative community around fashion production and creation
- A series of **Collaborative collection with an open-source brand**
- Prototypes freely downloadable which members can produce and sell, benefiting from the social innovation created within the community.

# OPENWEAR





A brand made o **empower a network of small producers** and promote a different kind of fashion based on collaboration, sharing, short supply chain and else.




# PRODUCT / PLATFORM





# POST-COUTURE

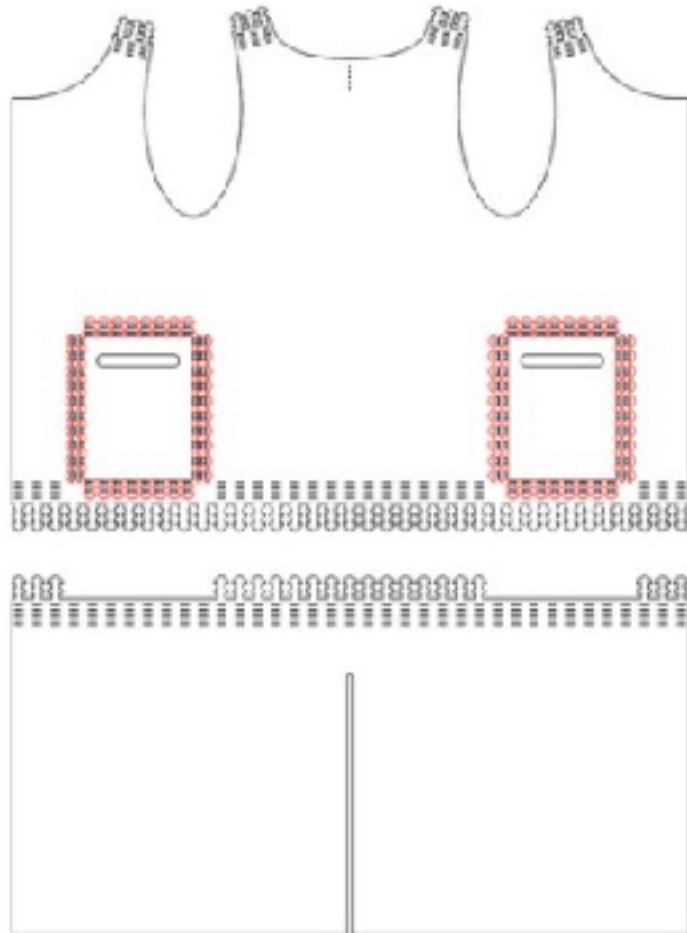


MAKE

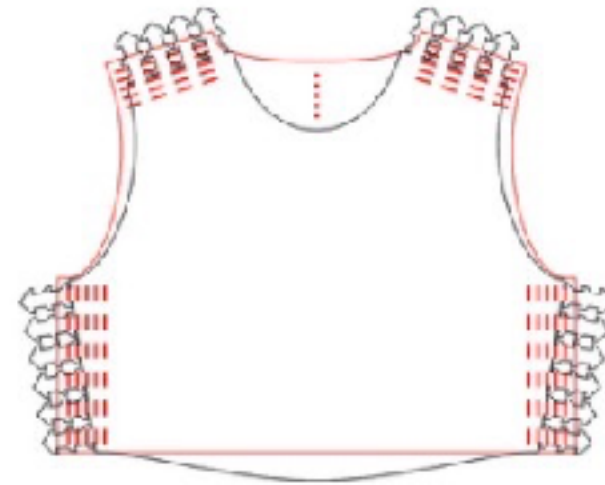
SHOP



# POST-COUTURE



post-couture coat  
digital design file  
€ 5



post-couture crop top  
digital design file  
€ 5



# TASKA





# ANOTHERSHOE



Open source footwear.  
Cut by a laser. Assembled by hand.



DIY

Download it Yourself



MIY

Make it Yourself



AIY

Assemble it Yourself

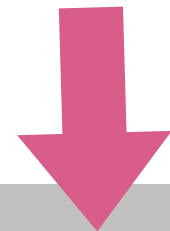
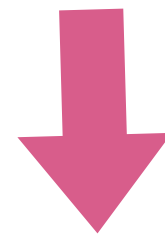
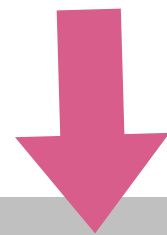
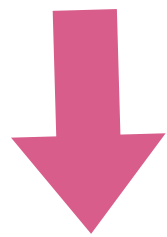


WIY

Wear it Yourself



# FROM IDEA TO PRODUCT



**Share the code**  
(non commercial use)

**BUILD AN AUDIENCE**

**Sell the kit**  
(involve local  
hubs)

**REACH EARLY ADOPTERS**

**Sell out-of-the-  
box after a  
crowdfunding  
campaign**

**FULLFIL CONSUMERS**

**Sell the  
collection  
edition**

**CREATE EXCLUSIVITY**

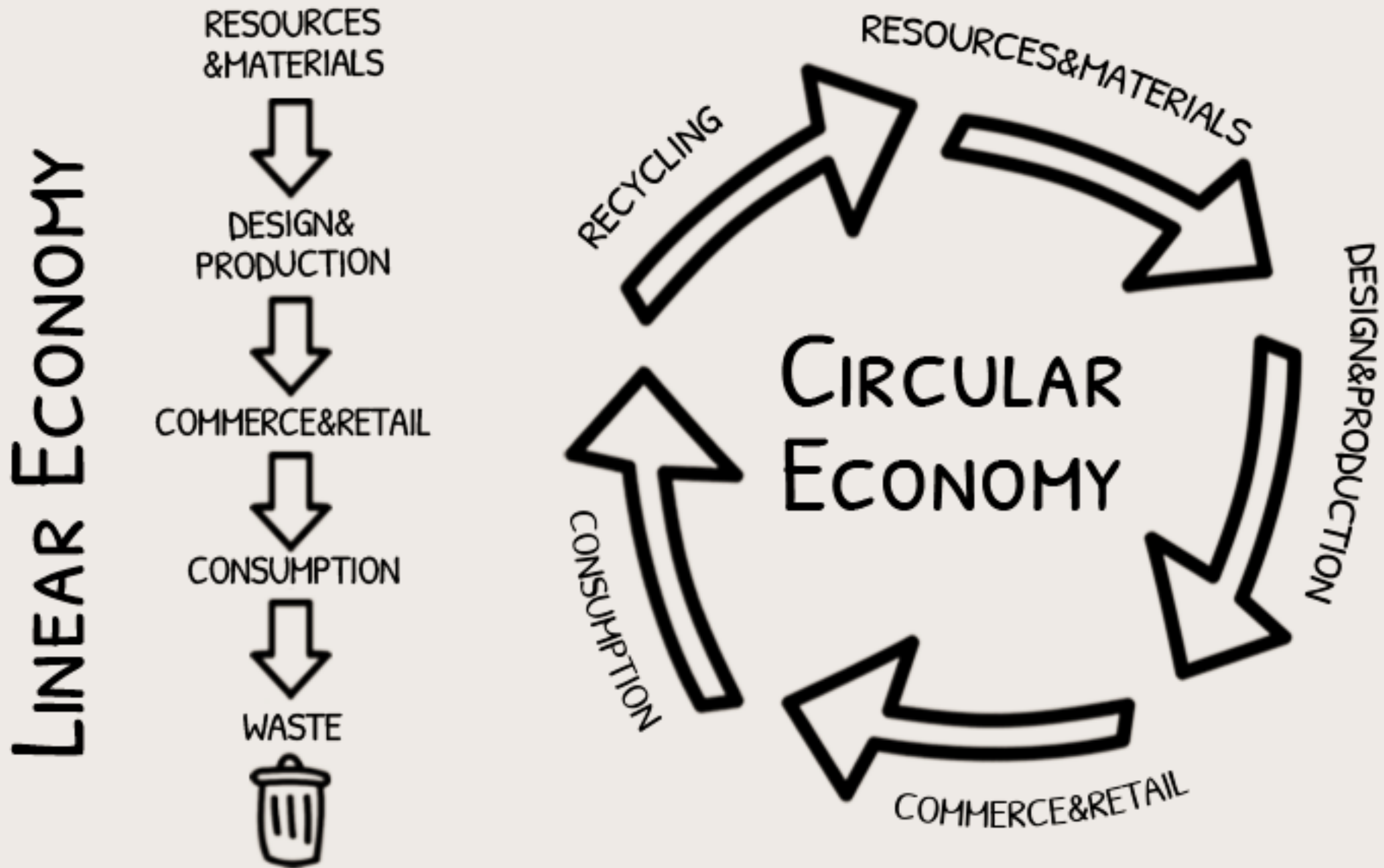


**FAST ///**



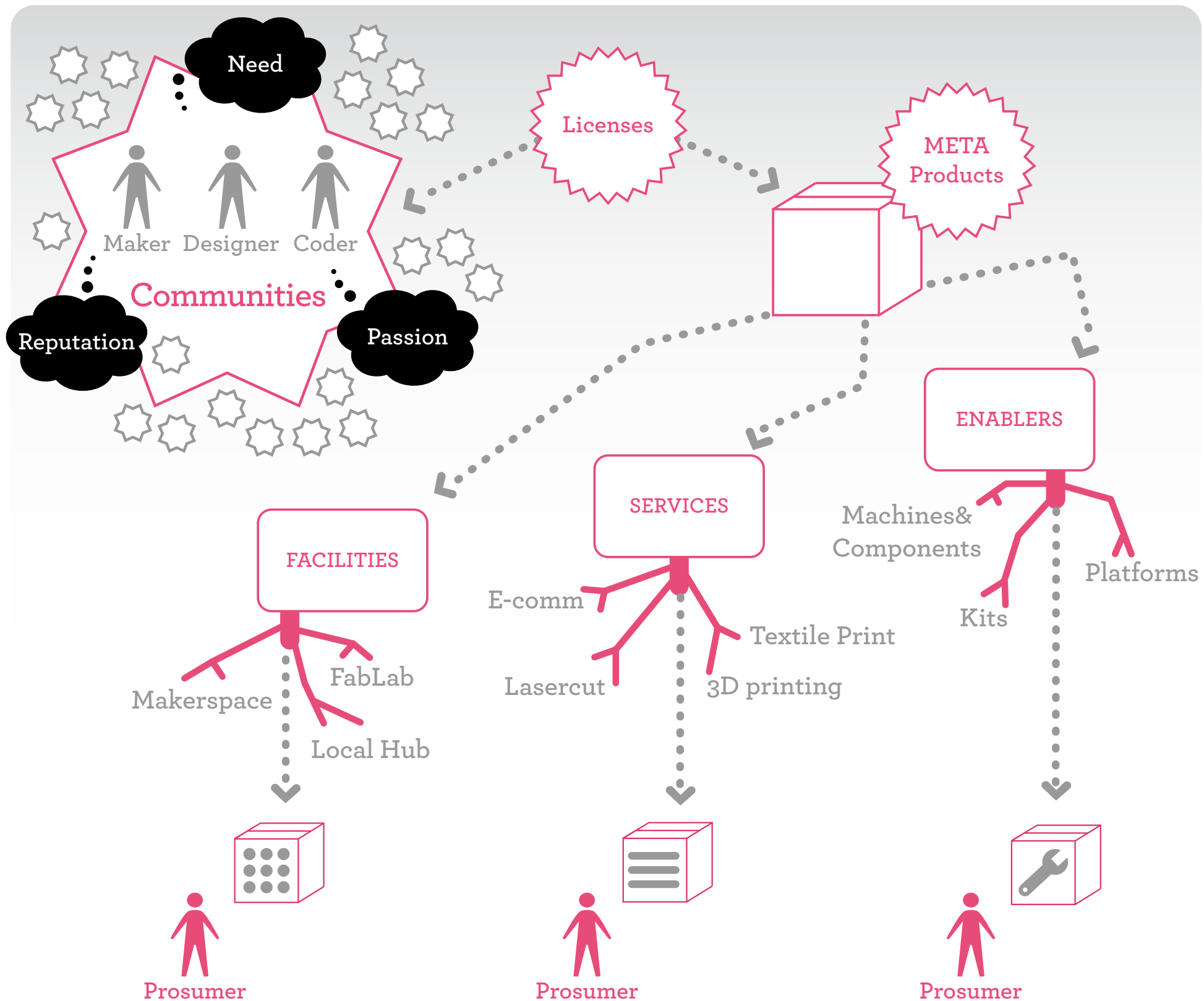


# CIRCULAR ECONOMY





# ECOSYSTEM





# EXPERIMENTING ALTERNATIVE FASHION MODELS

## “AGILE FASHION”

### YESTERDAY

- Product/Closed
- Collection of disposable products
- Series Production
- Shops
- Venture Capital



### TOMORROW

- Platform/Open
- Catalogue of a few evolving products
- On-demand Production
- Direct selling (online/offline)
- Crowdfunding



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# GRAZIE!