

REMIXING MATERIALS

Rethinking life cycles - non linear, cyclical & interdisciplinary

Textures, Colors, Tactile, Appearance → what is our psychological relationship with these?

Building your own circular economy by collaborating with local businesses

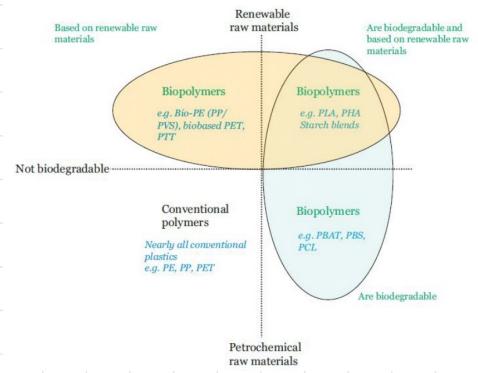
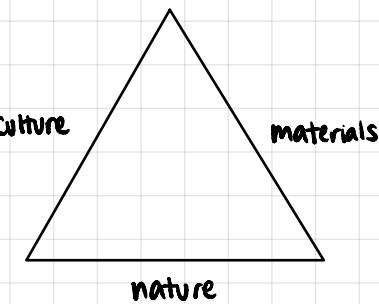
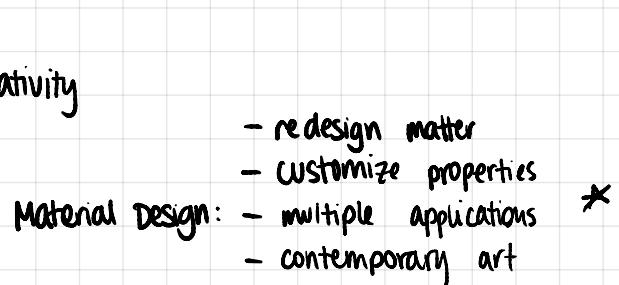
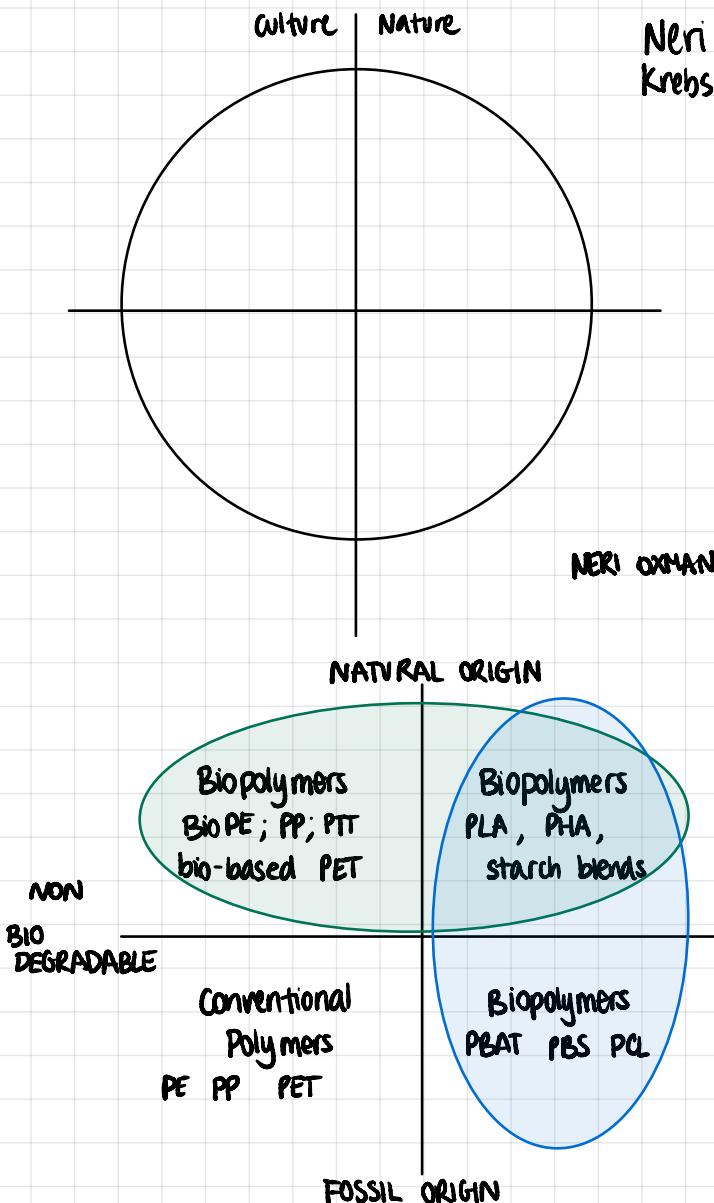
The Remix Manifesto - diagram

The geology of the Anthropocene - WASTE

We are responsible for what we leave on the earth's crust, and most of it is petroleum-based

textile waste → synthetic materials → microplastics → polluting our food

Plastiglomerates - rocks, sand + plastic fusion



Brands & companies in Biomaterial Space

- Ecovative: Mycelium products
- Suzanne Lee: clothes out of Kombucha
- Angeline Van Der Valk
- Agnes de Leon
- Dasha Plesen - cultivating organism in petri dishes
- Charlotte Gauthier Vantour - **INSTALLATIONS w/ BIOMATERIALS**

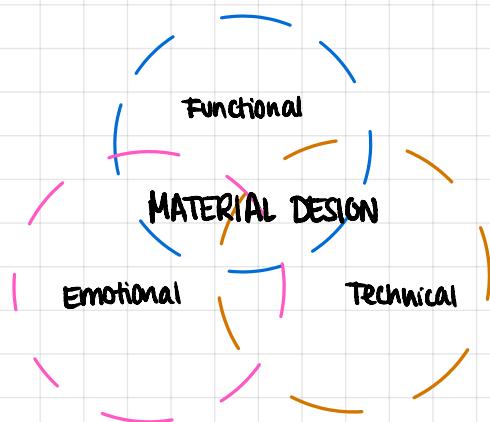
BASICS

RAW MATERIALS

bio polymer (binder/structure)
+
plasticizer (flexibility / resistance)
+
additives (aesthetics / structure)
+
solvent

resins, alginate, gelatine, cellulose, caseine, gum, starch
glycerin, oils, wax
food waste, fibers, pigments
water or alcohol

MICROALGAE / MACROALGAE



Questions we can ask

- How was it fabricated?
- Where does it come from?
- What is it made of?
- How can it be manipulated?
- What could you fabricate out of it?

Materials in Context

Mapping opportunities of "waste" in Poblenou

Sessions: 3rd & 10th February from 10-13th

Tutor: Laura Freixas

Name of members of the group (2/3 persons): Just Tatiana in her room

1 What are your material research and experimentation interests?

How to scale up biomaterials / Biomaterials in fashion + packaging

2 Select 5 images of projects related to your material experimentation interest.



Reference #1: Mycelium Degradable Bio - Diapers

Reference #2: Mycelium package Reference #3: Dissolvable packaging

Reference #4: BIO RIOT - fablab

Reference #5:



Map of Poblenou.

3 Choose an area of interest in the Poblenou neighbourhood from which to begin your research into material opportunities.

Personal Tip: Look at the type of waste or surplus materials you are looking for and the type of businesses in the area.

4 Enter and talk to those businesses where you think there may be material opportunities of interest to you. → I used Google Maps

Personal Tip: Introduce yourself briefly and comment on the motivation of your project and what you would like to experiment with their waste. The aim is to establish a bond of trust and collaboration and to keep them informed in case the results are promising.



Local Business #1: SYRA / NOMAD



"Waste" #1: COFFEE



Local Business #2: Can Dende



"Waste" #2: Egg, bread, Avocado



Local Business #3: Al Arab



"Waste" #3: bottles, cans, aluminum



Local Business #4: Vratal



"Waste" #4: Fries, oil, burgers



Local Business #5: KOH



"Waste" #5: Rice / Starch / Fish



Local Business #6: Street Waste



"Waste" #6: Bread, furniture etc.

5 Submit 3 to 6 material opportunities (waste and surplus) and fill in the following form with your project information by 3/2/2022 at 10am. We will need the information of the project and the material opportunities to be able to carry out the session in class.

If you wish, you can find more information on the subject in the following links:
<https://laurafreixas.gitlab.io/laura.freixas/-/organicmatters.html>
<https://fablabbcn.org/projects/siscode-remix-el-barrio>

PART 2 - Laura Freixas

Material SWOT Analysis

Assessing the potential of material explorations

Strengths

- easy to obtain
- water repellent
- high boiling point

- tough surface
- sturdy
- flexible
- common in Spain

Weaknesses

- messy
- greasy
- needs to be cleaned
- hard to transport
- not available globally

- soap
- cosmetics
- paints
- emulsified

- leather
- paper
- rough material
- bioplastics
- planter

Opportunities

- carcinogen
- hygiene concerns

- mold
- disintegration

Threats

OIL

CHUFA

OIL

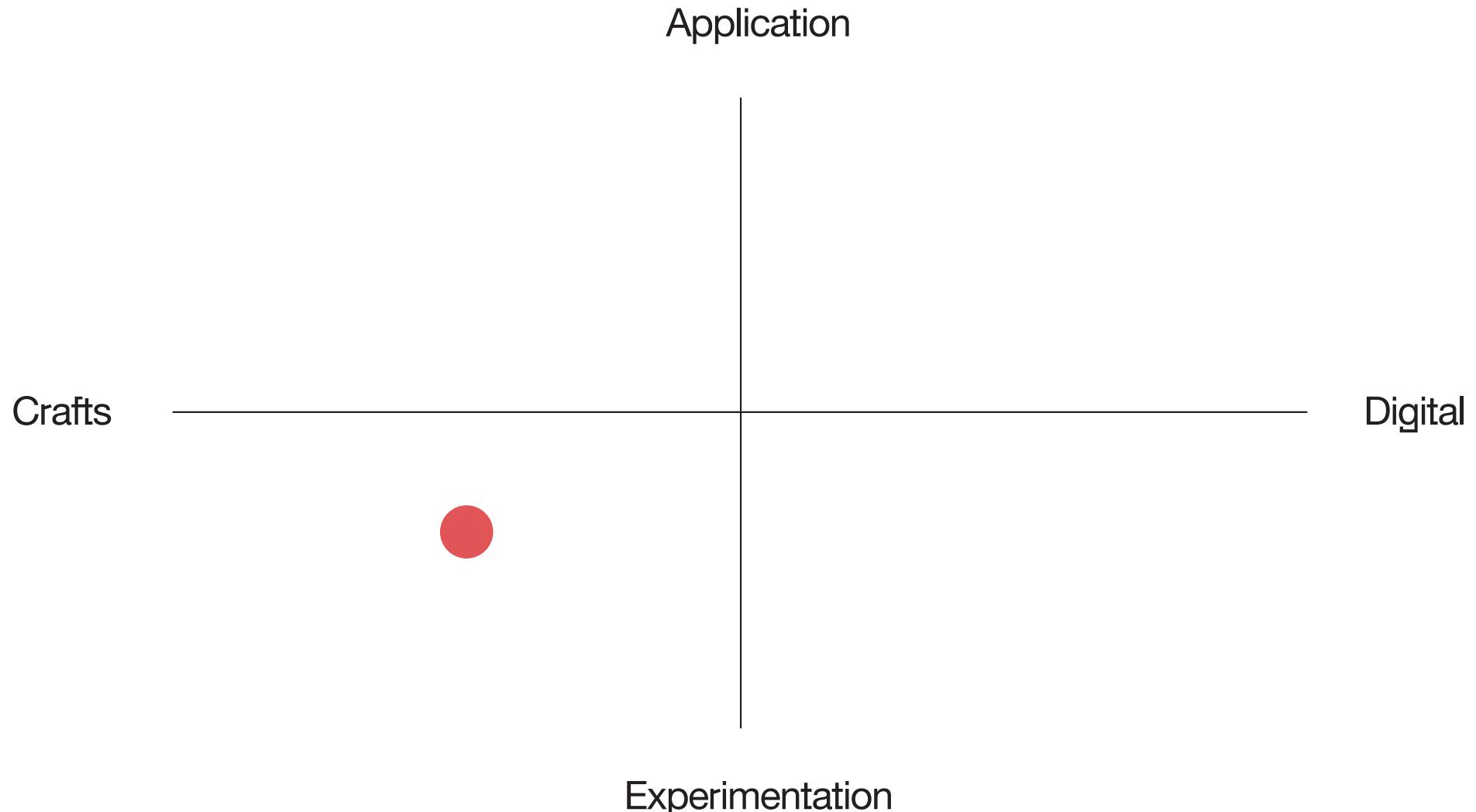
CHUFA

Title of the project: CHUFA GIRLS

Members of the group (3 persons): Tatiana, Marina, Paula D.R.

Material Feedback

Assessing the potential of material explorations



Title of the project: CHUFA GIRLS

Members of the group (3 persons): Tatiana, Marina, Paula D.R.

Material Feedback

Assessing the potential of material explorations

Material Properties	DIY Recipes	Experimental Processes	Possible Applications	General Feedback
<p>Sturdy Blendable Powder / Flour form Starchy Flexible Local to Spain ↳ benefit for footprint ↳ unique/uncommon biomaterial</p>	<p>15gr glycerine 40gr chufa 10 gr Agar splash vinegar 300gr water 10gr Alginate</p> <p>20gr chufa 25 gr gelatine 250ml water 15gr glycerine 5ml vinegar</p> <p>40g chufa 45gr pine resin 5gr beeswax 15ml alcohol</p>	<p>→ we tested out various molds & shapes</p> <p>→ we experimented with different colors (MICA powder = shine copper tone)</p> <p>→ we tested out various recipes (see prev. column)</p> <p>→ we tried different thicknesses, which influenced flexibility, drying time & sturdiness</p>	<p>chufa leather ↳ bracelets, jewellery, clothes, accessories ... (this was our favourite idea)</p> <p>packaging - bags, boxes</p> <p>Horchata drink from chufa cup?</p> <p>resin recipe: marble-like texture</p>	<p>Feedback from class</p> <ul style="list-style-type: none"> - thin material was most appreciated - could be used for accessories like bracelet, handbag ... - shiny color was people's favourite (everyone loves shiny things) - people liked the texture + density + shape of the donut one

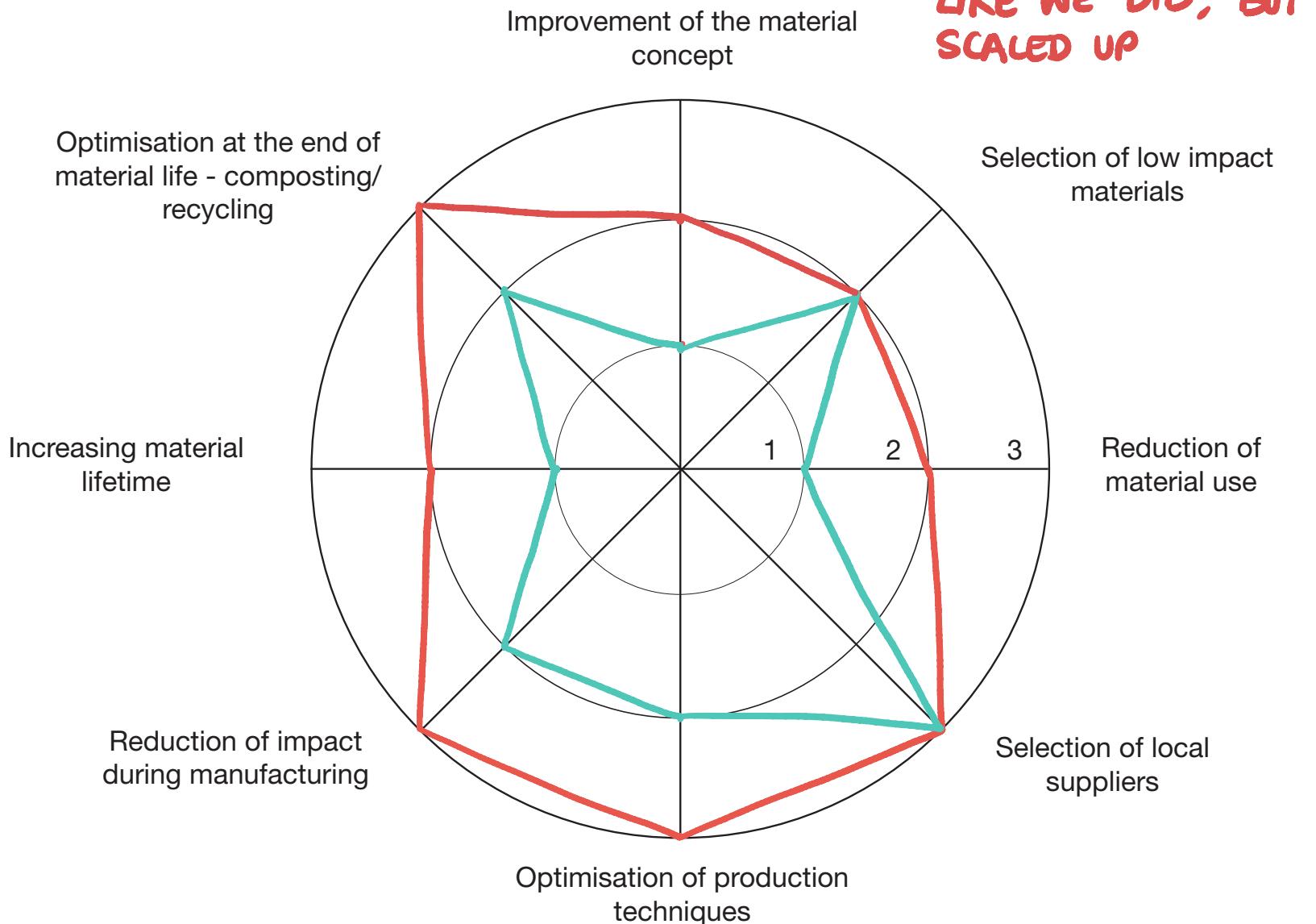
Title of the project: CHUFA GIRLS

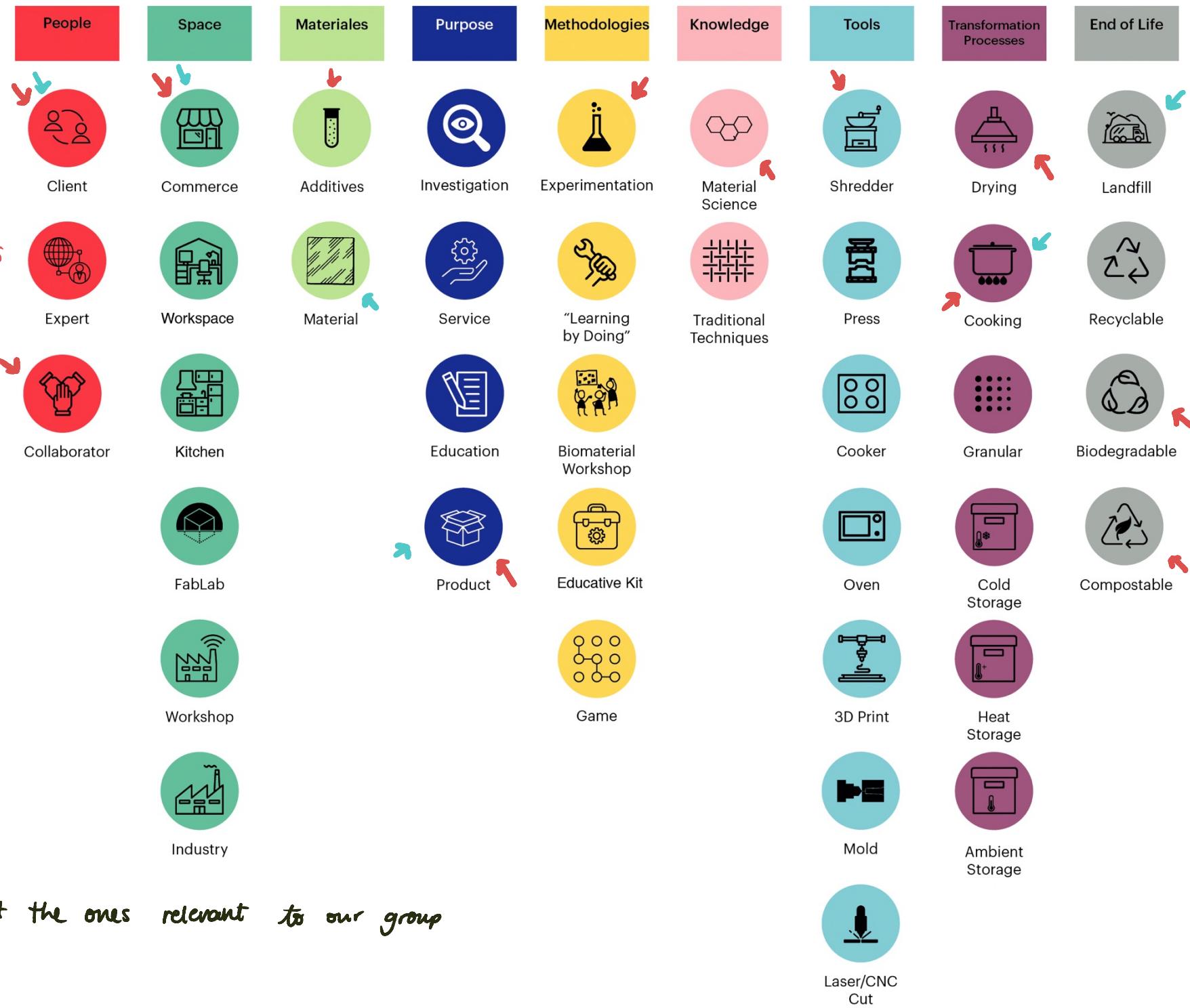
Members of the group (3 persons): Tatiana, Marina, Paula D.R.

Ecodesign Strategy Wheel

Assessing the impact of material explorations

Legend	
	Actual Material
	Ideal Scenario Material
1	More Impact
2	Intermediate
3	Less Impact ↳ best





→ select the ones relevant to our group

CHUFAS NOW
CHUFAS WASTE
AS BIOMATERIALS
→ expanding the
uses & market

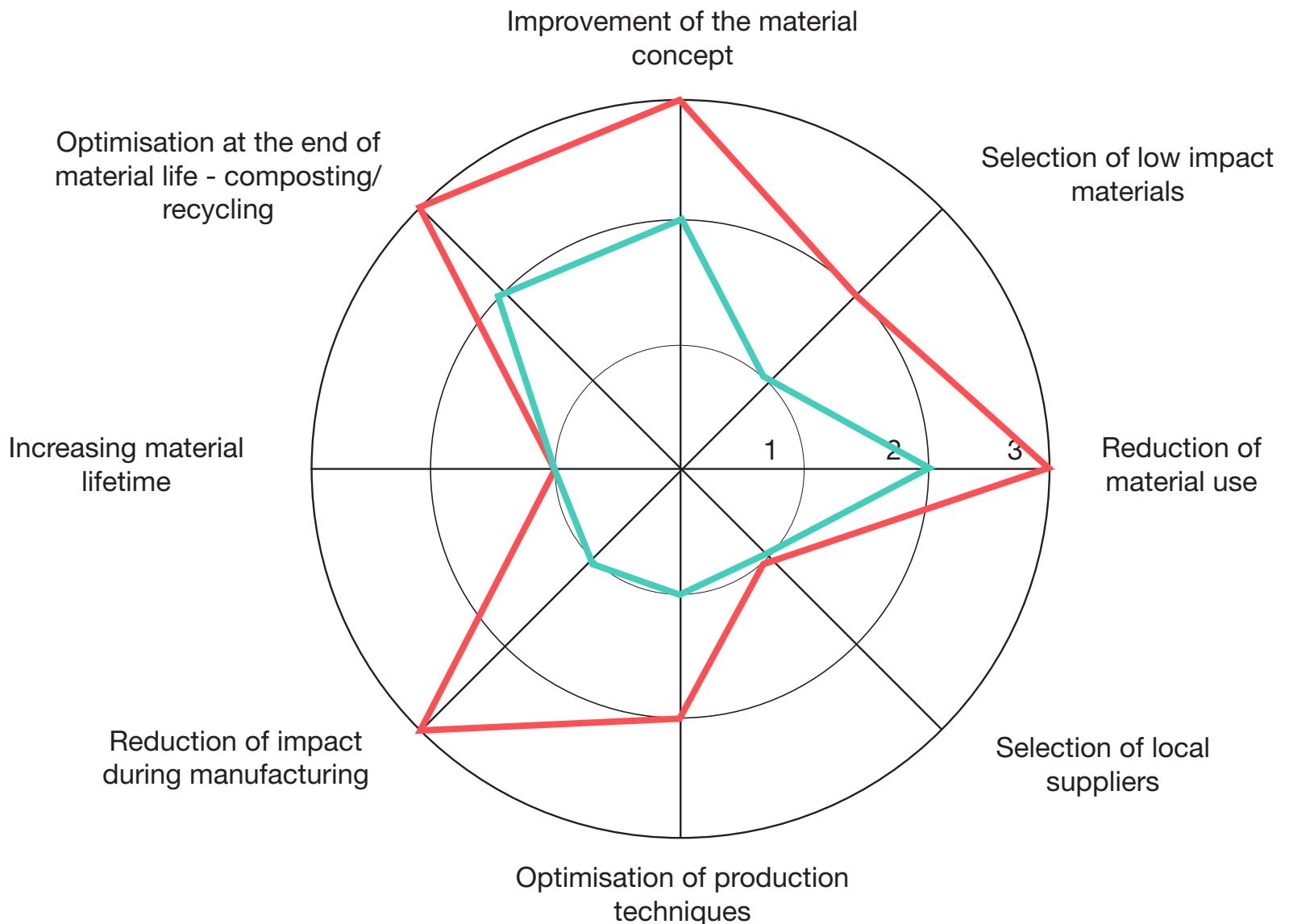
Ecodesign Strategy Wheel

Assessing the impact of material explorations

Legend	
■	Actual Material
■	Ideal Scenario Material
1	More Impact

2 Intermediate

3 Less Impact



Remixing Materials

Documenting the process of material explorations

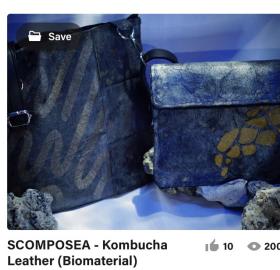
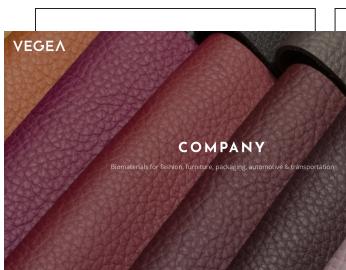
Sessions: 3rd & 10th February from 10-13h

Tutor: Laura Freixas

Title of the project:

Members of the group (3 persons):

1 Project referents.



Reference #1:
VEGEA

Reference #2:
FAB TEXTILES

Reference #3:
CULTIVARES
Kombucha leather (Behance)

Reference #4:
SCOMPOSEA
(Behance)

Reference #5:
BAGACERO
(Behance)

2 Objective of the experimentation.

We would like to create bioleather by experimenting with local (Barcelona/ Spain) Chufa waste. We think it's a great opportunity because we have not found many biomaterial projects done with Chufa, making this material interesting & unique.

We also want to explore the potential of oil paints by using waste frying oil with pigments.

3 List of materials.

CHUFA

glycerine

Agar - Alginate - Gelatine

water

vinegar

pine resin

beeswax

Mica powder

alcohol

oil

4 Step by step process.

Blending chufa into a fine powder

Mixing with Ingredients → check 3 variating recipes on website

Straining the liquid so the result is more homogenous

Place the contents into moulds

thin layer

flexible sheet of material

thick donut

yields thicker, jelly-like consistency

(more in-depth + pictures can be found on website)

5 Photos of the results.



6 Opportunities identified during the experimentation.

We loved the addition of mica → shiny + copper colour

Making jewellery or packaging

↳ bracelets, necklaces, bags ...

Thin material was probably more versatile

7 Conclusions of the results according to the stated objective.

We think that chufas bring an excellent opportunity as a bio-based leather alternative, especially because it is unique & can be blended into a fine powder, unlike Kombucha.

8 Next steps of the project.

We would like to experiment with more colours → mimicking leather tones (brown, tan, bronze, black) but also with more shapes & thicknesses and attempt to sew and shape the material into products.