

The background is a warm, orange-brown wood-grain texture. Overlaid on this are several white, slightly irregular lines that intersect at points marked by small, brown, circular elements, resembling rivets or fasteners. These elements are arranged in a way that suggests a structural or geometric design.

# Mater

D e s i g n L a b

# HI WE ARE:

Mater is a speculative design studio which translates matter into objects. Mater creates scenario for the future by embedding design fiction approach in its process to generate questions that provoke imagination and innovation to respond present conditions.



# OUR PRODUCTS ARE THE PROCESSES



(01)  
Material & its story

We generate new material from things that matter in environment.



(02)  
Technique & its algorithms



(03)  
(Functional) Products



## MATERIAL COLLECTION:

# SOYA PAPER

Tahu is one of the most consumed food in Indonesia and there are 5 million people work on this industry. Unfortunately, the processing waste become one of the factors causing endemic fish extinction in affected rivers.

Soya paper which made from tofu-making process waste become one of the solution for the matter. The materials also can be composted back into the soil. Mater optimizes the quality of these materials in a measurable way through collaboration with a research assistant who work in UGM.



Tofu processing Waste



Re-use process



Stream sheet & colouring



Collaboration with Mahaputra Vito and exhibited at Stem Project, Yogyakarta

We open collaboration with artists and brands in developing the material





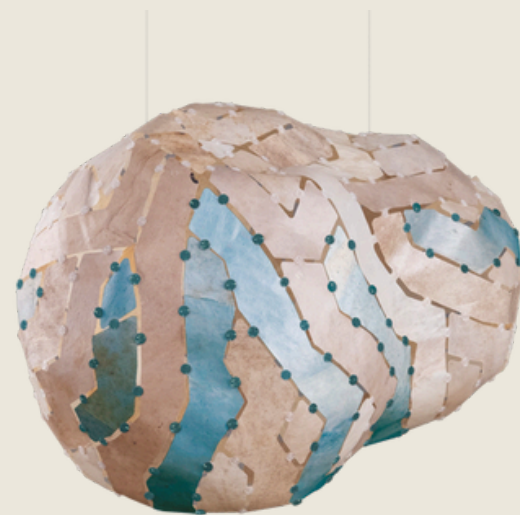
## TECHNIQUE COLLECTION:

# STREAM STRIPS

STREAM is a design prototype of Foldable hybrid object which simulates a new model of design ecosystem, which trying to integrate different aspects of design process, from material process to fabrication procedure, using both manual and digital approaches in order to understand, analyze, and simulate the characteristic of the material.

### EXHIBITION

INFINITY - Media Art Globale Festical 2022  
organized by Ars Electrónica - Yogyakarta



## PRODUCT COLLECTION:

# STREAM LIGHT

a paper lighting feature that allows you to create Structureless - complex shapes through the automatically generated pattern technique so that three-dimensional objects can be formed from two-dimensional cutting patterns.





## TECHNIQUE COLLECTION: **MINIMA FOLD**

MINIMA is foldable vase which simulates a new model of design ecosystem, which trying to integrate different aspects of design process, from material process to fabrication procedure, using both manual and digital approaches in order to understand, analyse, and simulate the characteristic of the material. The aim of this system is to produce a life cycle, where material is produced from and can be composted back to the soil.



## PRODUCT COLLECTION: **MINIMA VASE & LAMP**

MINIMA is foldable vase which simulates a new model of design ecosystem, which trying to integrate different aspects of design process, from material process to fabrication procedure, using both manual and digital approaches in order to understand, analyse, and simulate the characteristic of the material. The aim of this system is to produce a life cycle, where material is produced from and can be composted back to the soil.

MIMIMA was exhibited at:  
MINIMA - Ars Electronica Tokyo Initiative (AETI) 2018



# THE TEAM



RATNA JUWITA

She was actively involved in House of Natural Fiber (HONF). She start initiative project with HONF called Open Apparel, a platform that tries to open new opportunities for fashion industry in Indonesia, developing secondary industries, increase employment opportunities and new possibilities



ZAQI FATHIS

He studied Emergent Technologies and Design in Architectural Association School of Architecture, London. His research interest in the intersection between computational design, digital fabrication, and material system In 2017, he won an International Competition by Archi-Depot Corporation, Japan for his research project ACTIVE JOINT SYSTEM.



GHINA NABILAH

Ghina Nabilah is a designer and architect who has an interest in sustainability issues, and also a co-founder of Calapilo & Kidelab. In 2018, she was chosen as a United Nations Local Pathways Fellow. Her recycled plastic project, PLAZZLE, was also exhibited at Rossana Orlandi Gallery for Milan Design Week 2019.



SARAH RAYHANA

She Graduated from Yogyakarta Indonesian Art Institute with a major in Interior Design. Experienced in various activities in organizing exhibitions, festivals or other projects in design, music, culture, and art. Happy to be involved in creative environments in various disciplines and collaborations have to led her to meet Mater Lab and works in many projects based art and design.

# AWARD & EXHIBITION



## MINIMA FOLD

### EXHIBITION

Ars Electronica, Future Innovative Summit 2018 - Tokyo



## STREAM STRIPS

### EXHIBITION

INFINITY - Media Art Globale Festival 2022  
organized by Ars Electrinica - Yogyakarta



## STREAM LIGHT

### AWARD

RoPlastic Prize finalist 2023      Good Design Award 2023  
by Rossana Orlandi

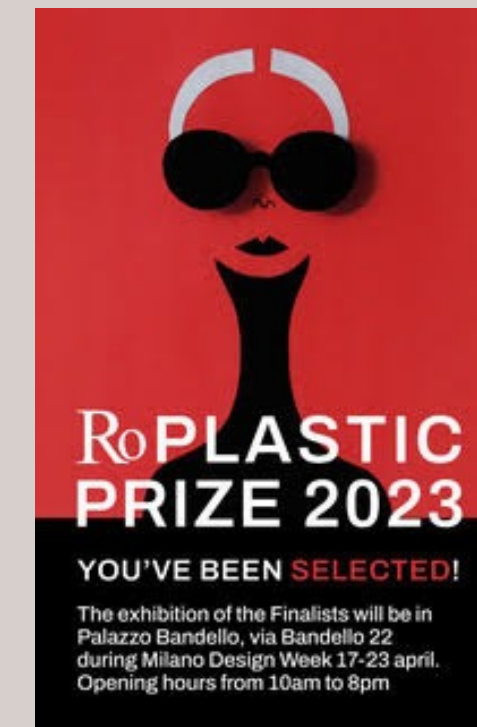
### EXHIBITION

Palazzo Bandello - RoDistrict - Milano  
Design Week 2023

ICAD 14, Unexpected, Jakarta 2024  
Icad by The Bay, Jakarta, 2025



# PRESS



## MEDIA ART GLOBALE & CONNECTED PLATFORM

<https://www.mediaartglobale.com/materstream>

## ARS ELECTRONICA & HAKUHODO

<https://aeti.jp/en/>  
<https://ars.electronica.art/export/en/fistokyo2018/>  
<https://www.youtube.com/watch?v=xuYOq-YvZVA&t=16s>

## ROPLASTIC PRIZE 2023

<https://www.guiltlessplastic.com/editions/2023/prize>

## GOOD DESIGN AWARD INDONESIA

<https://iddc.kemendag.go.id/gdi/pemenang>

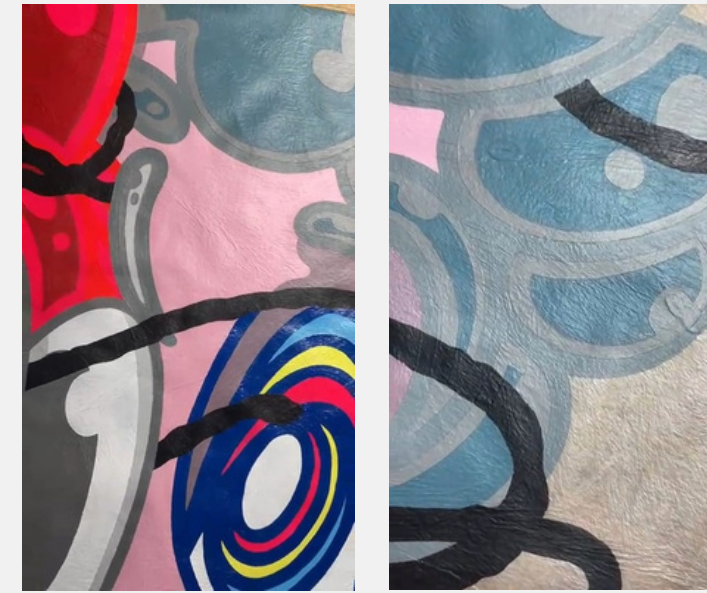
# WHAT WE DO



Exploring New  
Alternative Sustainable  
Material



Developing product  
through computational  
design



Open for Collaboration,  
Comission design work,  
Design Consultation.



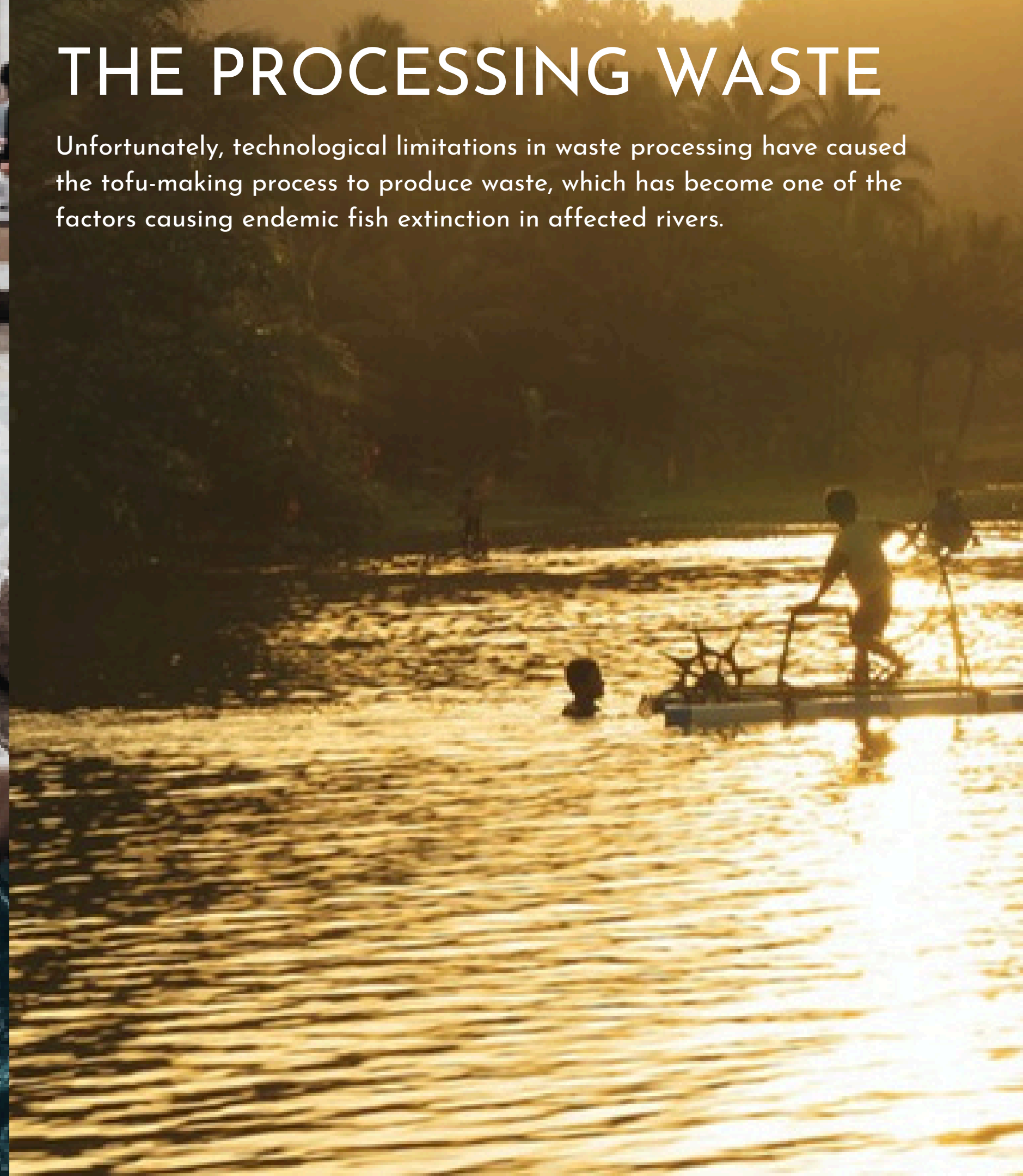


## TAHU/TOFU

Tahu or Indonesian tofu is one of the most consumed food in Indonesia. Currently, there are more than 5 million workers in tempe and tofu industry spread across around 160 thousand manufacturers in Indonesia. These manufacturers are spread across more than 200 regencies and cities in 27 provinces.

## THE PROCESSING WASTE

Unfortunately, technological limitations in waste processing have caused the tofu-making process to produce waste, which has become one of the factors causing endemic fish extinction in affected rivers.





THE  
WASTE



REUSE THE  
WASTE

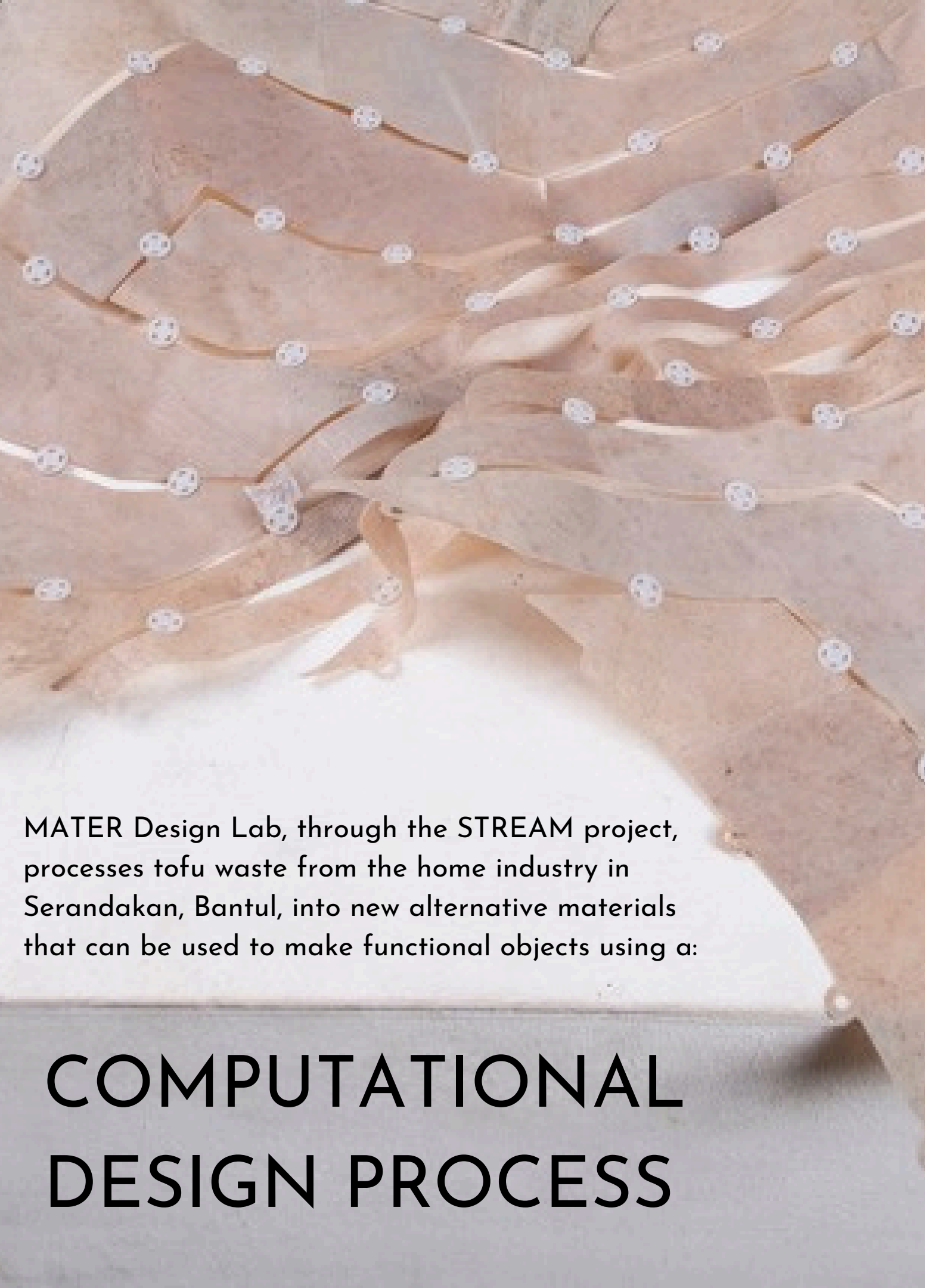


SOYA PAPER AS THE  
MAIN MATERIAL



Through MATER programs, we try to reduce the environmental impact of tofu industry. Now, we run the in Seradakan village in Yogyakarta where there are more than 200 small industries which process 70kg soybean everyday for tofu.

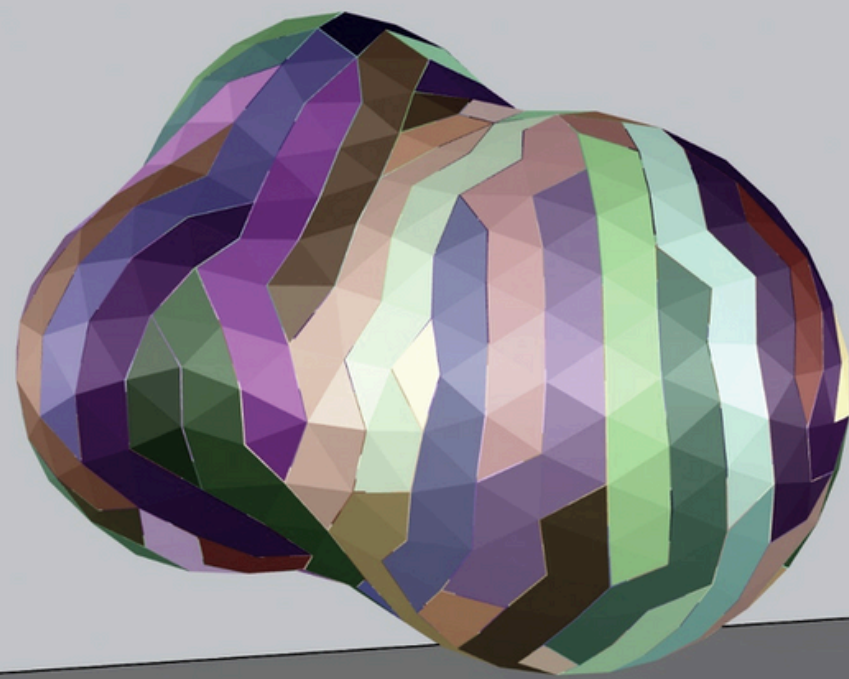




MATER Design Lab, through the STREAM project, processes tofu waste from the home industry in Serandakan, Bantul, into new alternative materials that can be used to make functional objects using a:

# COMPUTATIONAL DESIGN PROCESS





TOTAL STRIPS

**58**

STRIP MAX LENGTH

**540**

BOUNDING BOX DIM

**Length: 468**

**Width: 412**

**Height: 367**

# Computational design process.

The computational design approach is an important part of bringing processed waste to be an iconic functional object:

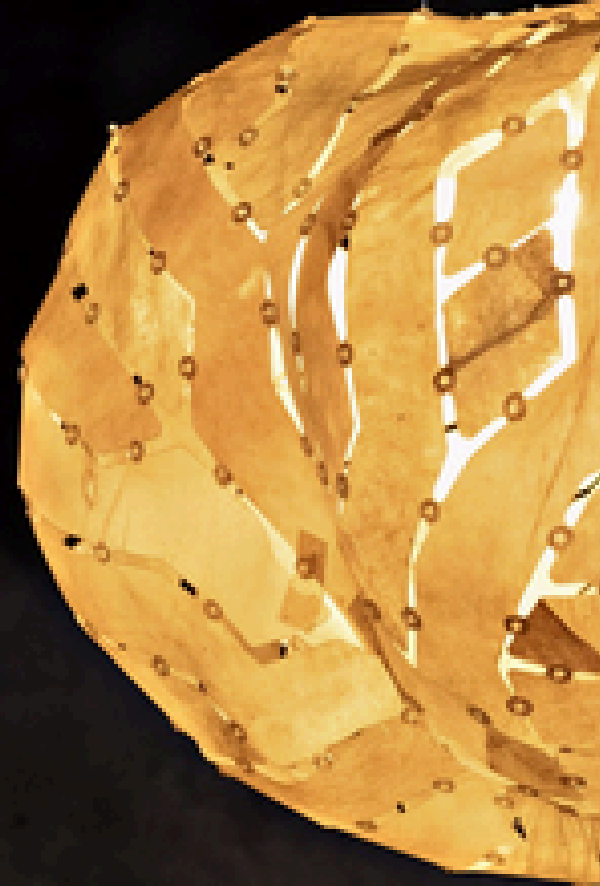
analyzing material characteristics

creating streamline the design-to-production process

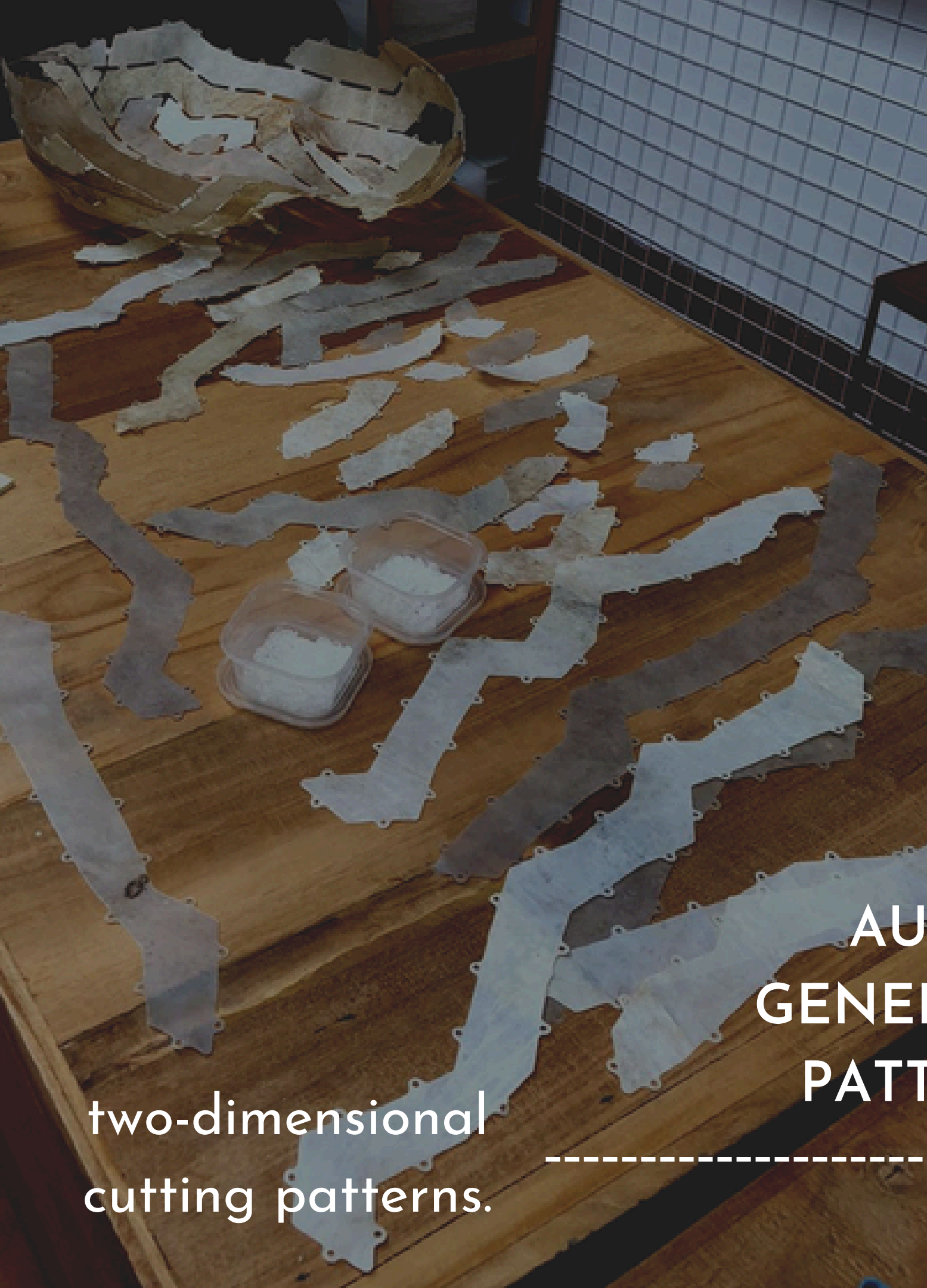
making customized designs process become more efficient

creating innovative shapes trough:

**AUTO GENERATED  
PATTERN**







two-dimensional  
cutting patterns.

AUTO  
GENERATED  
PATTERN

the output:

# STREAM LIGHTING

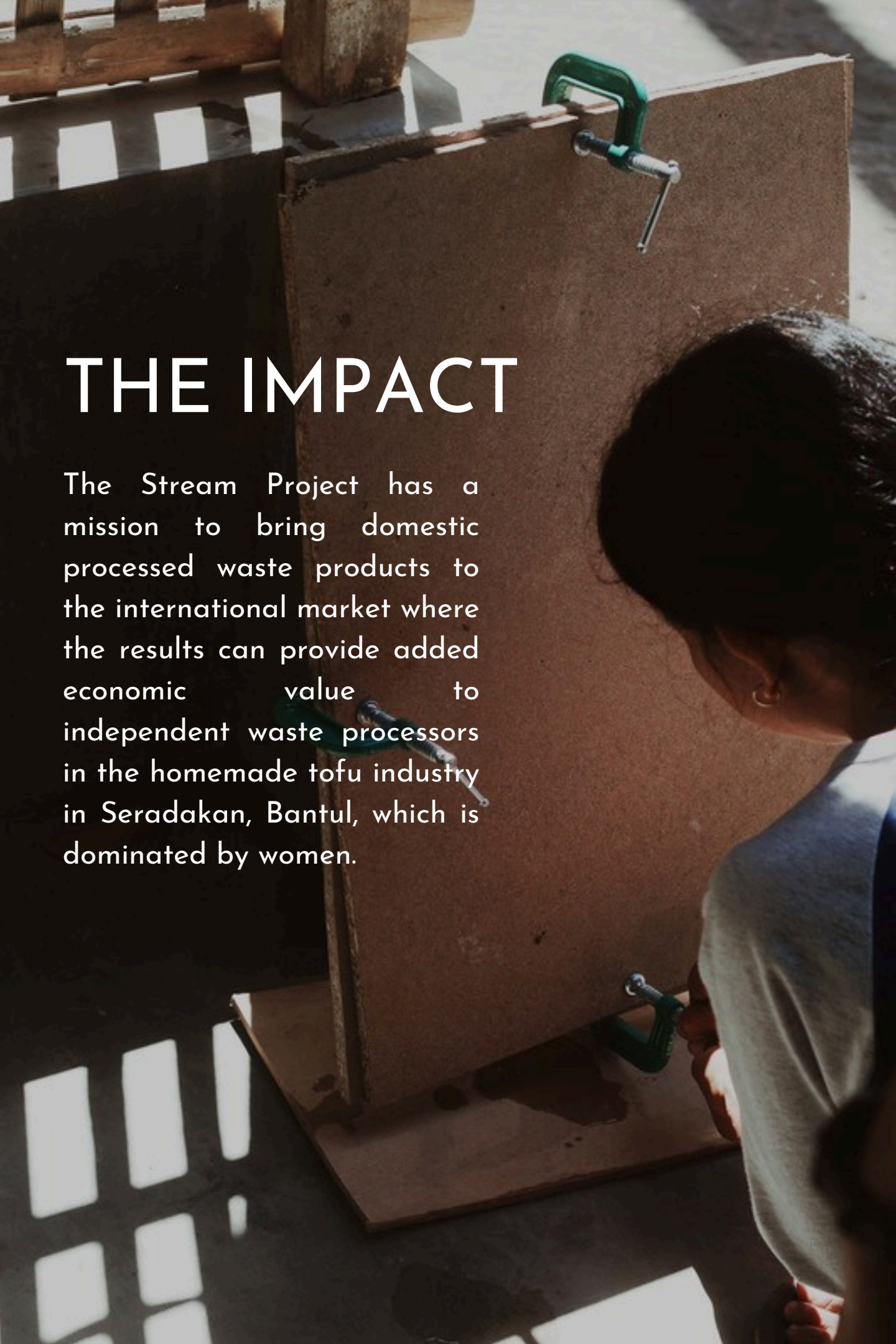
a paper lighting feature that allows you to create Structureless - complex shapes through the automatically generated pattern technique so that three-dimensional objects can be formed from two-dimensional cutting patterns.



Structureless three-  
dimensional objects

# THE IMPACT

The Stream Project has a mission to bring domestic processed waste products to the international market where the results can provide added economic value to independent waste processors in the homemade tofu industry in Seradakan, Bantul, which is dominated by women.







## THE IMPACT

We try to reduce the negative environmental impact of tofu industry in the river near. Seradakan village, Yogyakarta where there are more than 200 small industries which process 70kg soybean everyday for tofu.

## FUTURE

We hope the program can be developed since there are 160 thousand manufacturers in Indonesia that spreads across more than 200 regencies and cities in 38 provinces.



ARCHIVE





Stream Lights, ICAD 14, Unexpected, Jakarta, 2024

# CONTACT

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Youtube: [mater design lab](https://www.youtube.com/channel/UCv33333333333333333333)