FABRICADEMY
textile and technology academy
IBERO
PUEBLA

FINAL PROJECT

LAURA MUTH


SARGA
SSUM

WHY
Turning necessity
into opportunity

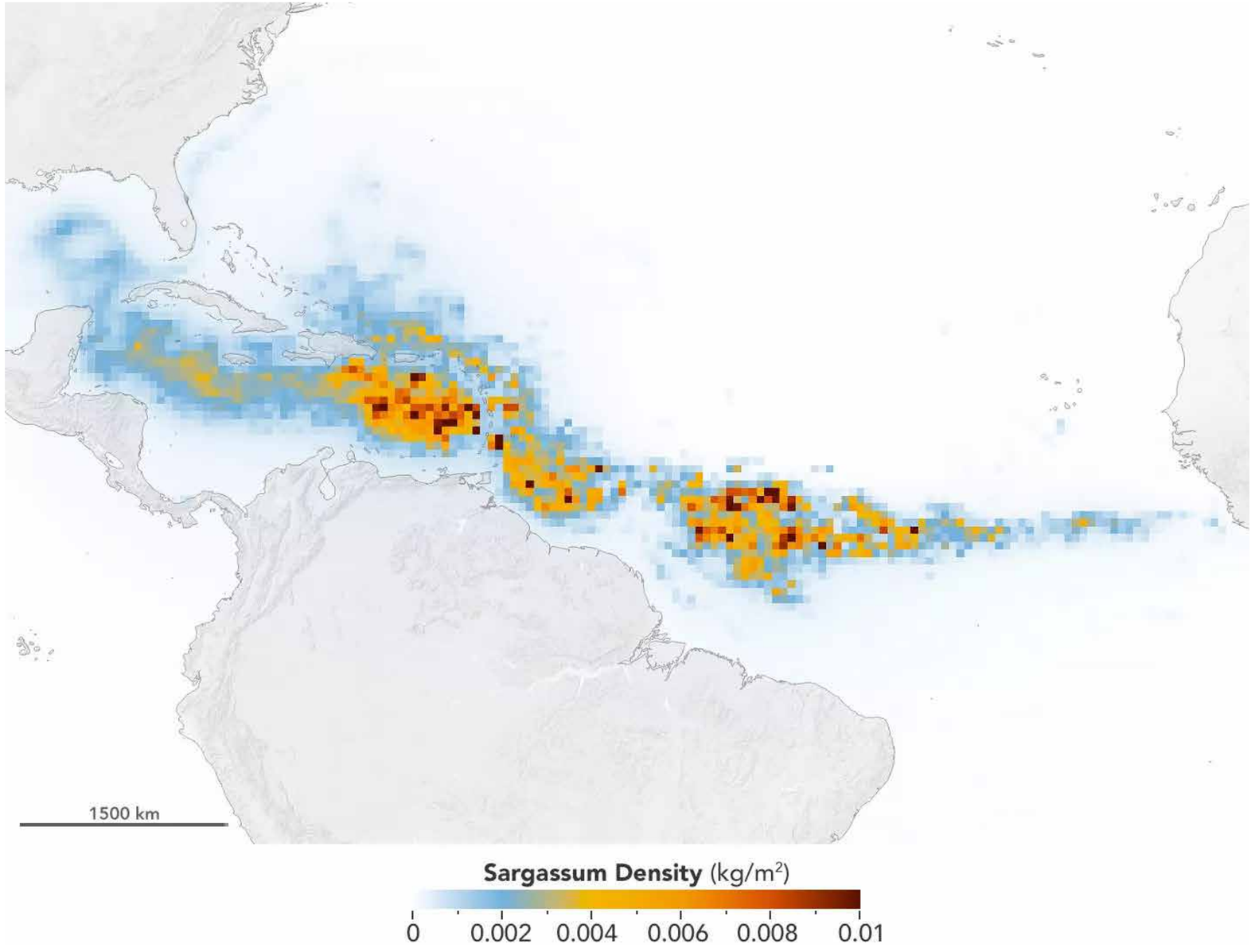
WHAT
Wearables
+ Biofabrication

WHO
Laura Muth

WHEN
January – March
2026

WHERE
MEXICO
IBERO / IDIT

WHY


1500 km
Sargassum Density (kg/m²)
0
0.002
0.004
0.006
0.008
0.01

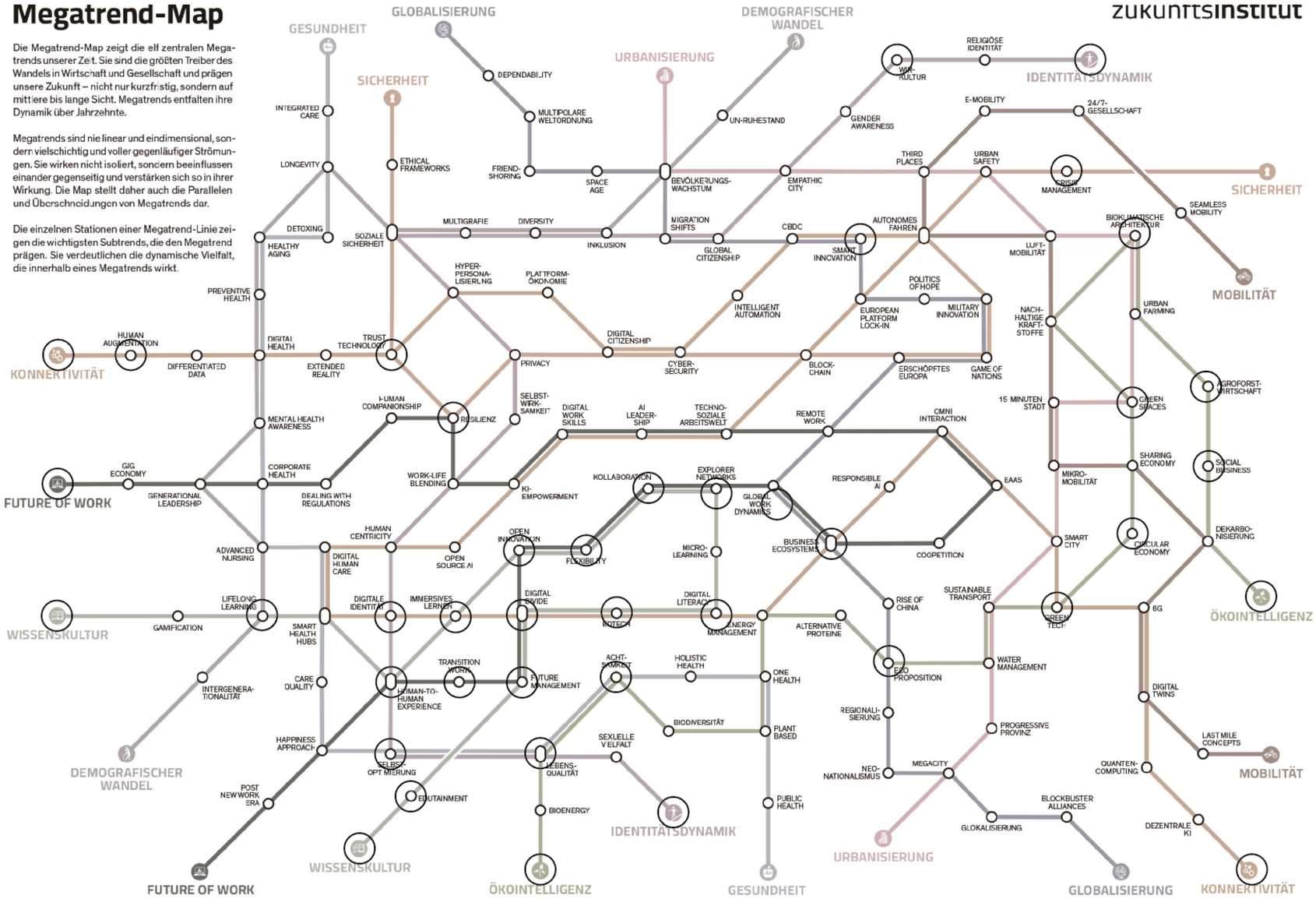
Megatrend-Map

zukunftsinstitut

Die Megatrend-Map zeigt die elf zentralen Megatrends unserer Zeit. Sie sind die größten Treiber des Wandels in Wirtschaft und Gesellschaft und prägen unsere Zukunft – nicht nur kurzfristig, sondern auf mittlere bis lange Sicht. Megatrends entfalten ihre Dynamik über Jahrzehnte.

Megatrends sind nie linear und eindimensional, sondern vielschichtig und voller gegenläufiger Strömungen. Sie wirken nicht isoliert, sondern beeinflussen einander gegenseitig und verstärken sich so in ihrer Wirkung. Die Map stellt daher auch die Parallelen und Überschneidungen von Megatrends dar.

Die einzelnen Stationen einer Megatrend-Linie zeigen die wichtigsten Subtrends, die den Megatrend prägen. Sie verdeutlichen die dynamische Vielfalt, die innerhalb eines Megatrends wirkt.



KEY MEGATRENDS

ECOLOGICAL INTELLIGENCE
(Core Megatrend)
→ strongest relevance

Why it is relevant:
The project directly engages with regenerative material systems, biofabrication, circular thinking, and the transformation of environmental challenges into resources.
Related subdimensions:
- Circular Economy
- Green Tech
- Biodiversity
- Plant-Based / Bio-Based Materials

Project relevance:
Sargassum as a bio-based resource, material cycles, end-of-life considerations, and ecological responsibility.

KNOWLEDGE CULTURE
→ research, mediation, learning through material

Why it is relevant:
The project functions not only as an object, but as a research and knowledge-transfer format.
Related subdimensions:
- Material Literacy
- Experimental Learning Formats
- Open Innovation
- Transdisciplinary Knowledge

Project relevance:
Biofabrication as a learning process, material experimentation, exhibition and educational formats.

IDENTITY DYNAMICS
→ body, perception, proximity

Why it is relevant:
Wearables act as body-related interfaces, linking materiality to identity and ecological self-positioning.
Related subdimensions:
- Body & Self-Perception
- Empathic Design
- Sensory Experience
- Material as an Expression of Values

Project relevance:
"Wearing the ecological crisis on the body," technology-free wearables, bodily proximity, and intimacy.

URBANIZATION
→ context, space, installation

Why it is relevant:
Sargassum is a local, urban-ecological phenomenon with global implications.
Related subdimensions:
- Urban Ecology
- Public Spaces
- Spatial Installations
- City as an Ecosystem

Project relevance:
Spatial installation, mediation and knowledge transfer within urban and institutional contexts.

FUTURE OF WORK
→ new design roles and practices

Why it is relevant:
The project positions design as a research-based, mediating, and systemic practice.
Related subdimensions:
- Hybrid Professions
- Designer as Researcher
- Experimental Labs
- Sustainability-Driven Innovation

Project relevance:
Material designer practice, biofabrication research, and emerging working models.

HEALTH
- Proximity to the body

CONNECTIVITY
- Trust technology
- Material as an interface
- Human–environment systems

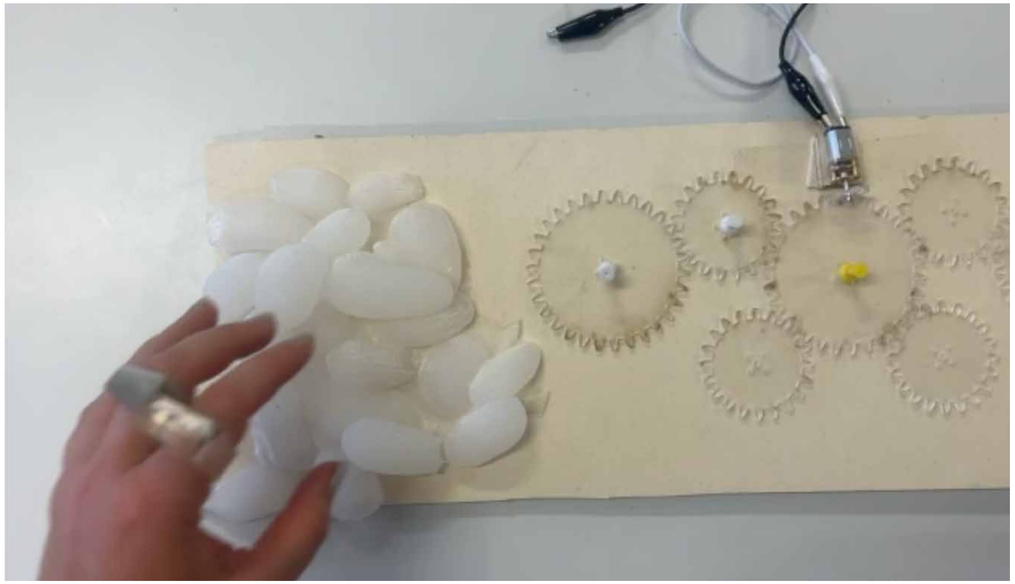
SECONDARY, SUPPORTING TRENDS


WHAT

WEAR-ABLES

BIO

FABRICATION



THE PROJECT

Questions:
how we relate to environmental crises when they are no longer distant, but physically present on our bodies.

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Interactive Instalation
/ Body-worn, biofabricated structure
as an Interface between the human body
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Interactive Instalation
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The wearable reacts subtly to bodily data
- breath, heartbeat, or movement

Translating internal rhythms:
- gentle motion, texture shifts, or light.

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it is both:
pollutant & resource,
excess & opportunity.

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The precision of sensors, code,
& digital fabrication
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creating a dialogue between
nature & technology.

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Wearable Artifact:
Invasive presence as a material for reflection, care, & regeneration.

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Wearable Artifact:
Invasive presence as a material for reflection,
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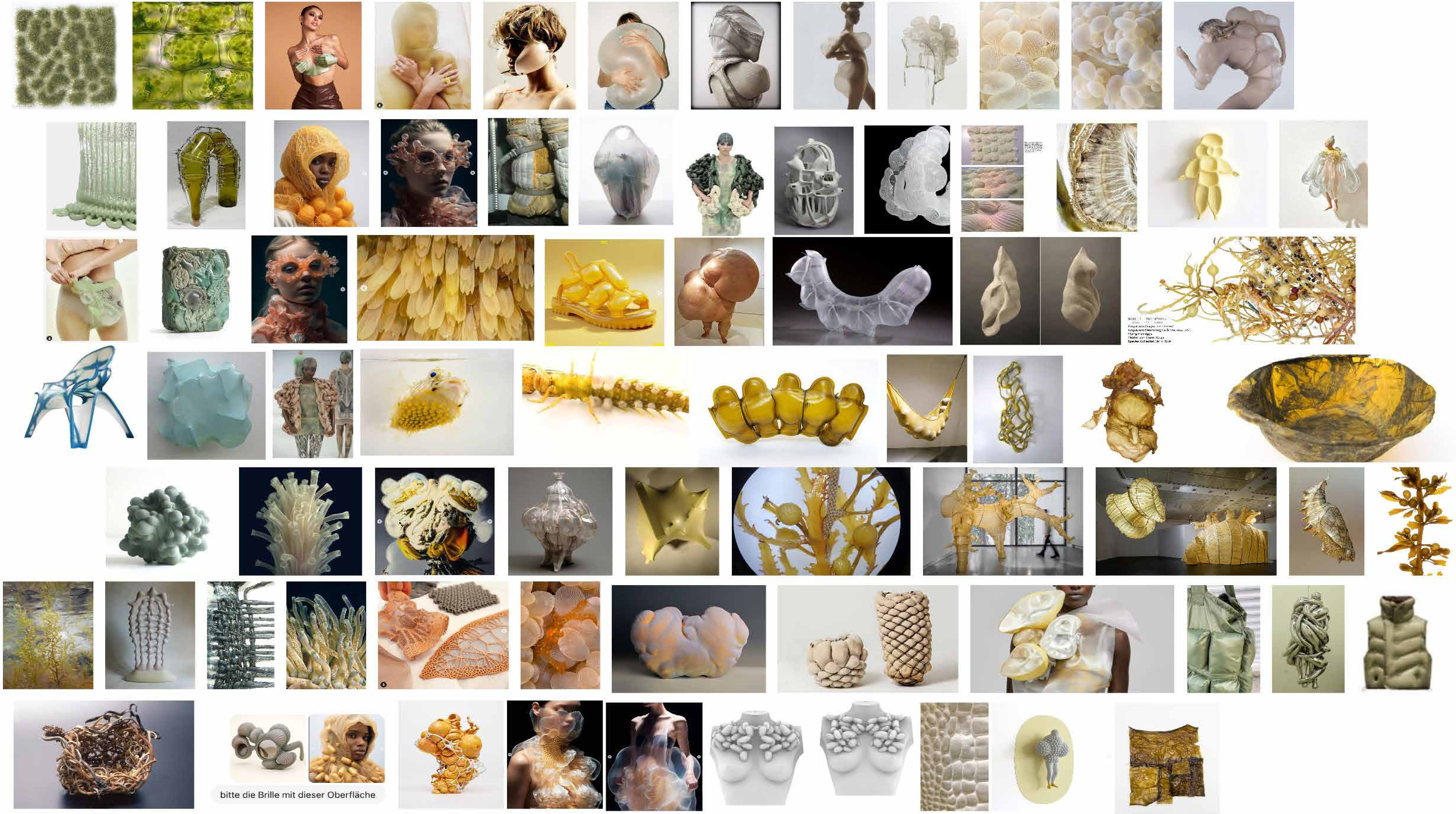
Ultimately:
The project exists in the space between
care & discomfort
technology & ecology,
problem & potential.


bitte die Brille mit dieser Oberfläche





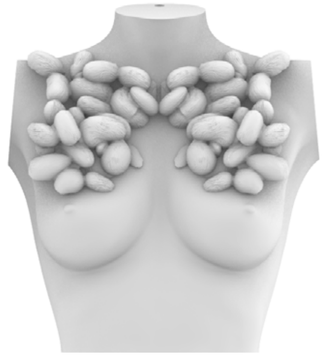


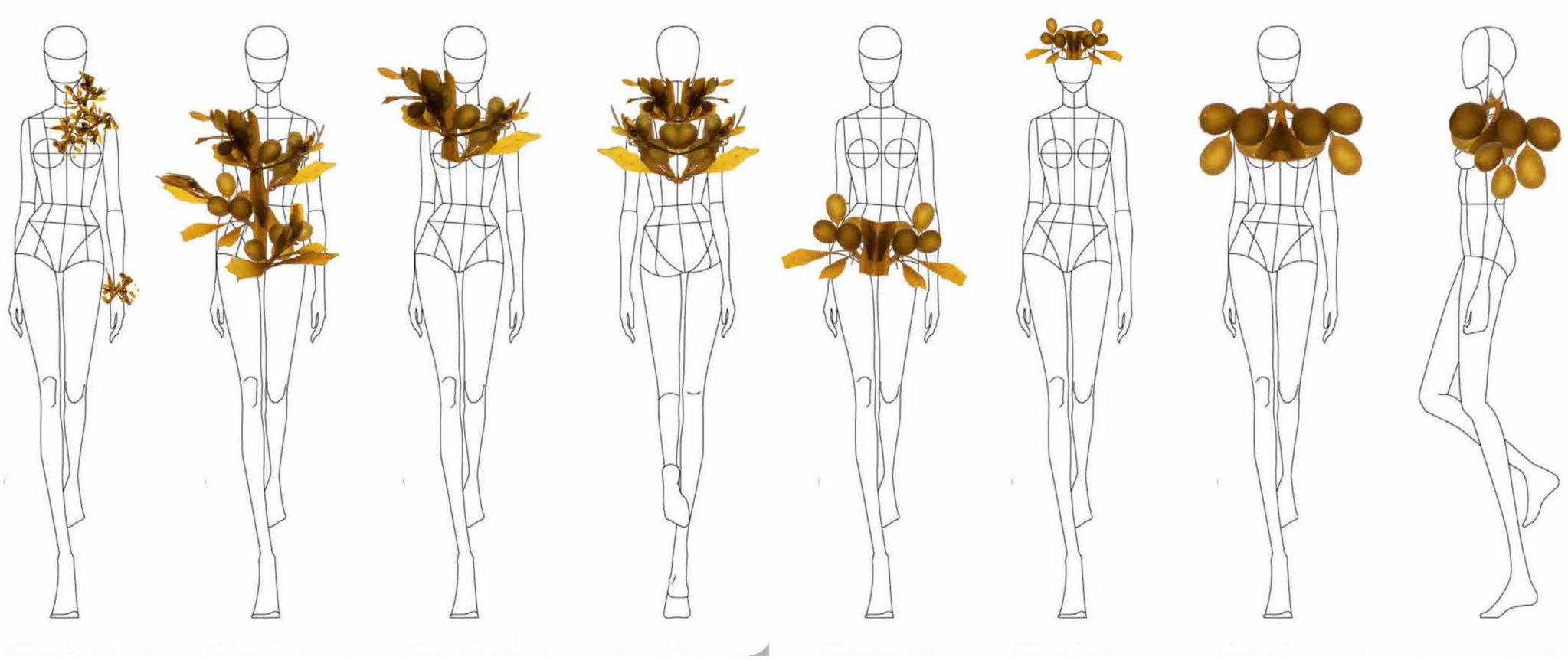






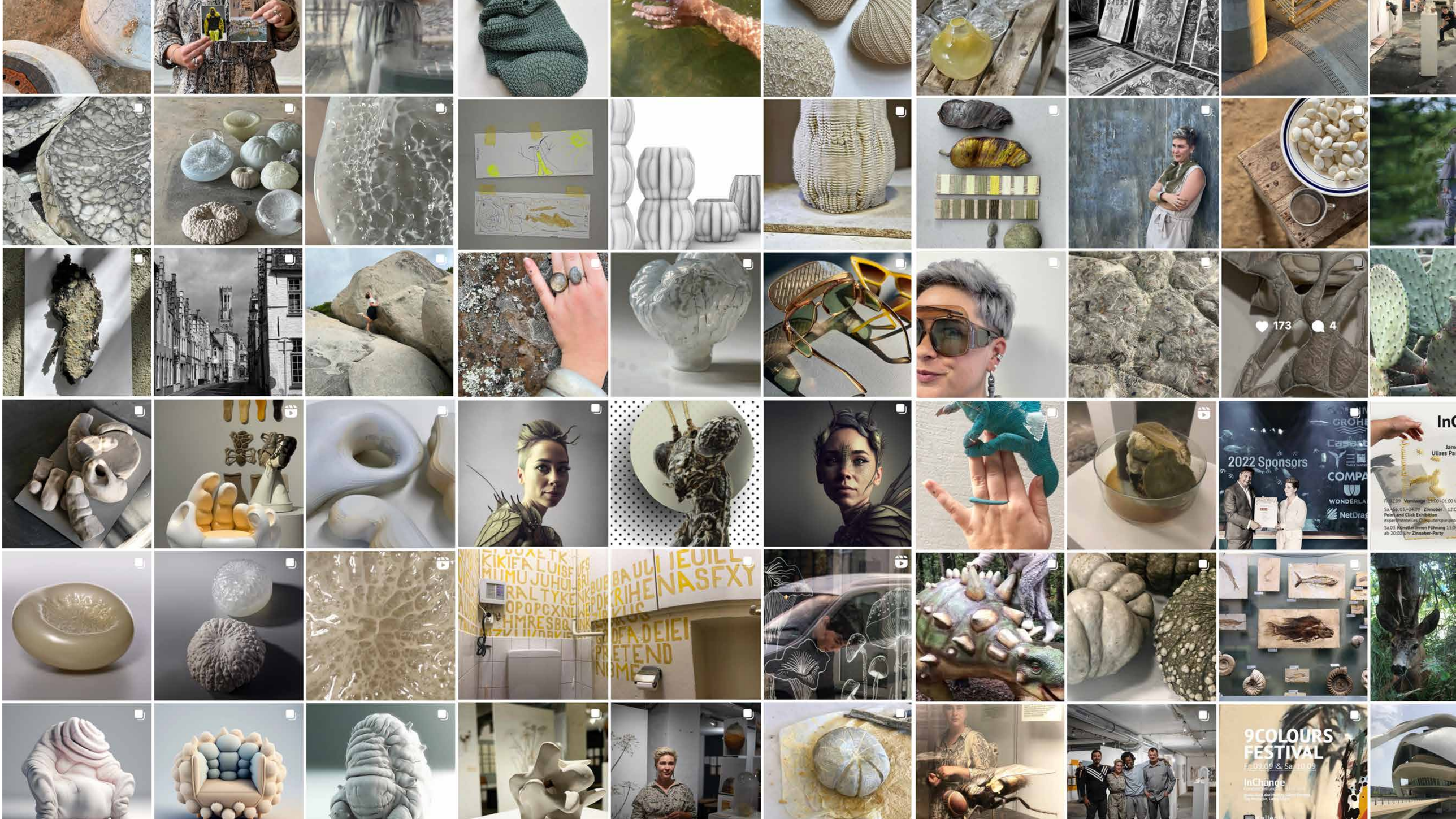







WHO


LAURA
MUTH


173
4
2022 Sponsors
9COLOURS
FESTIVAL
InChange


WHEN
FAB LAB in Spain
textile electronics
Electronic: Basic concepts
Meet Materials.
Cables &
Wires.
LEDs/Output
flexible LEDs
Adruino
uno...
Sensors
Shields &
Connectors

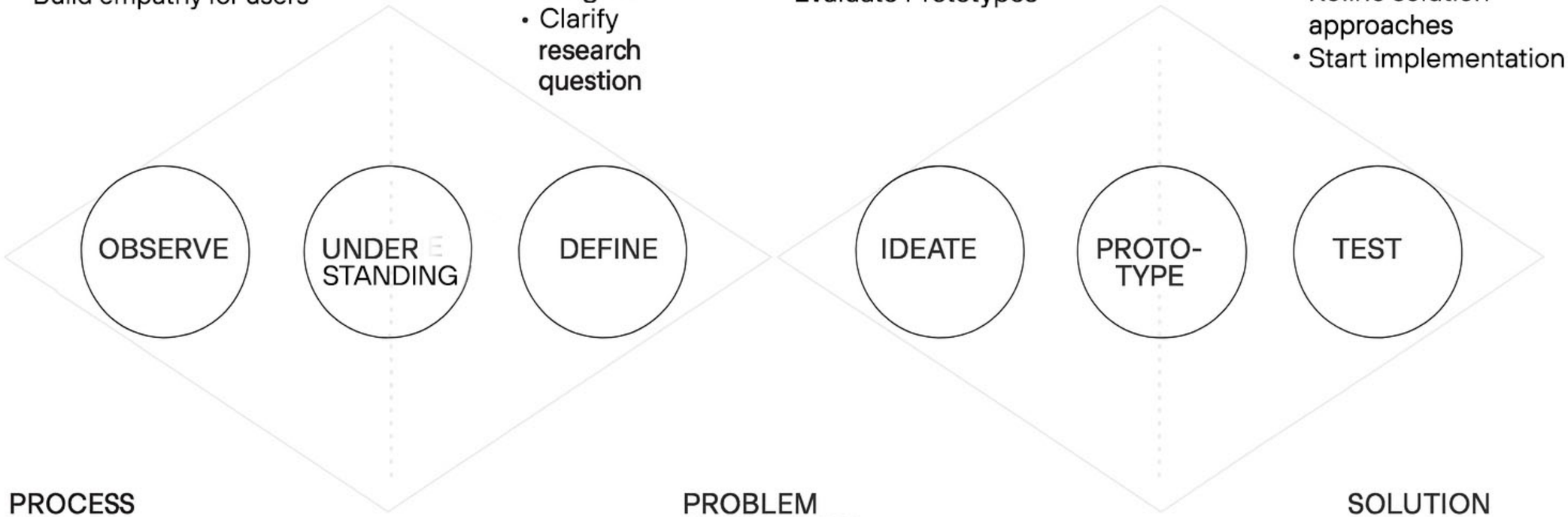
DESIGN PROCESS MODEL
DESIGN THINKING

DISCOVER
- Collect infomation
- Build empathy for users

DEFINE
- Analyze neds & insignts
- Clarify research question

DEVELOP
- Generate Concepts
- Evaluate Prototypes

DELIVER
- Validate feedback
- Refine solution approaches
- Start implementation



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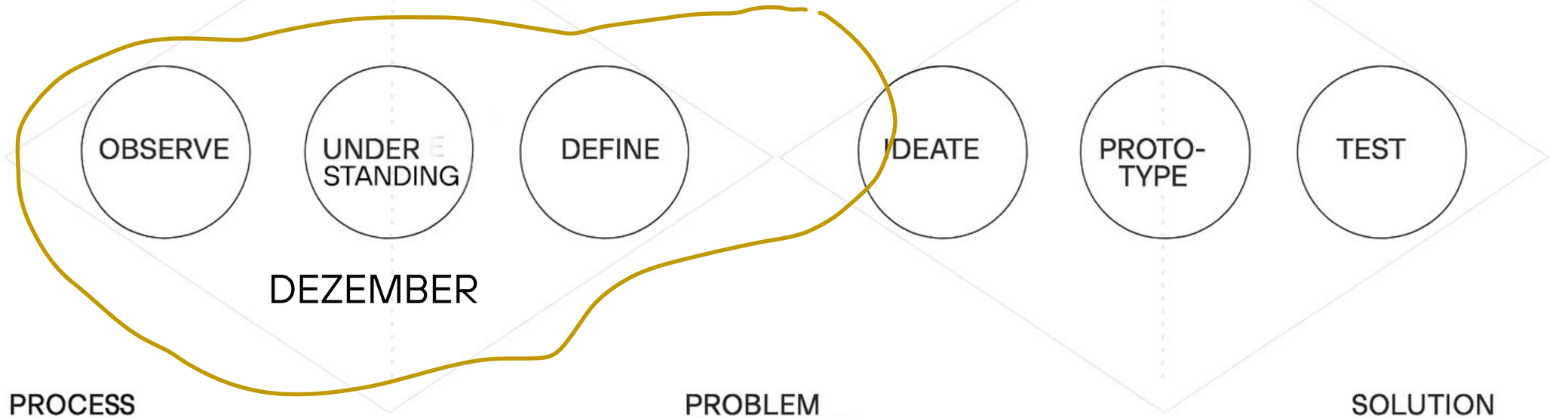

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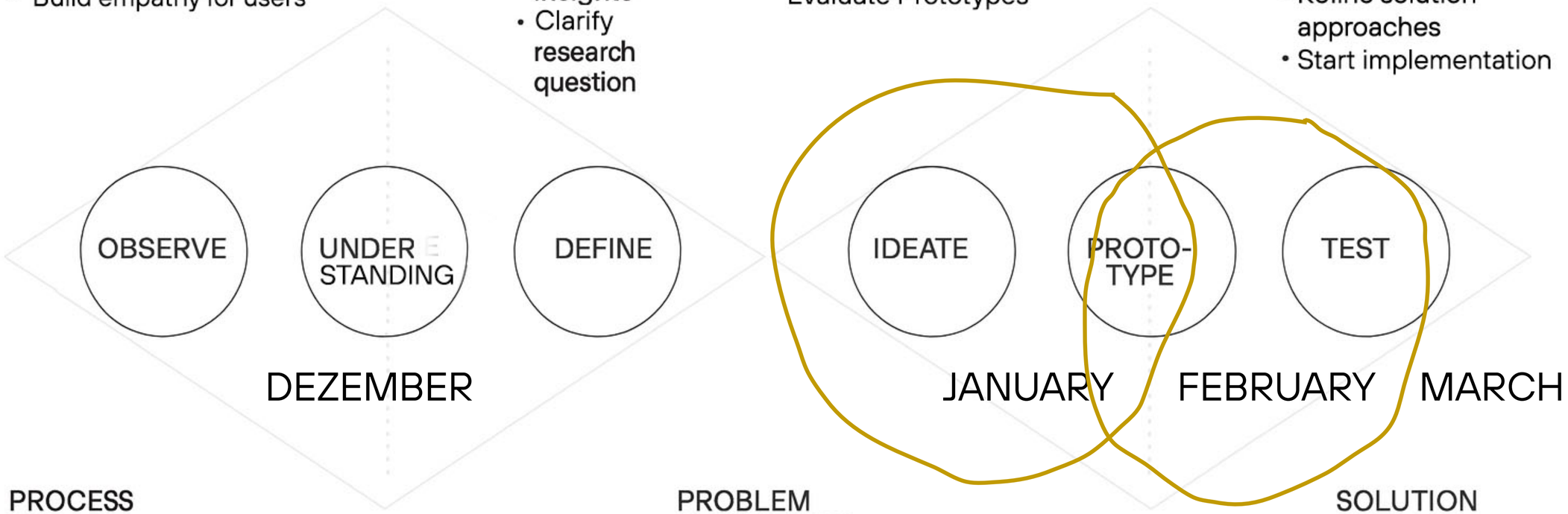

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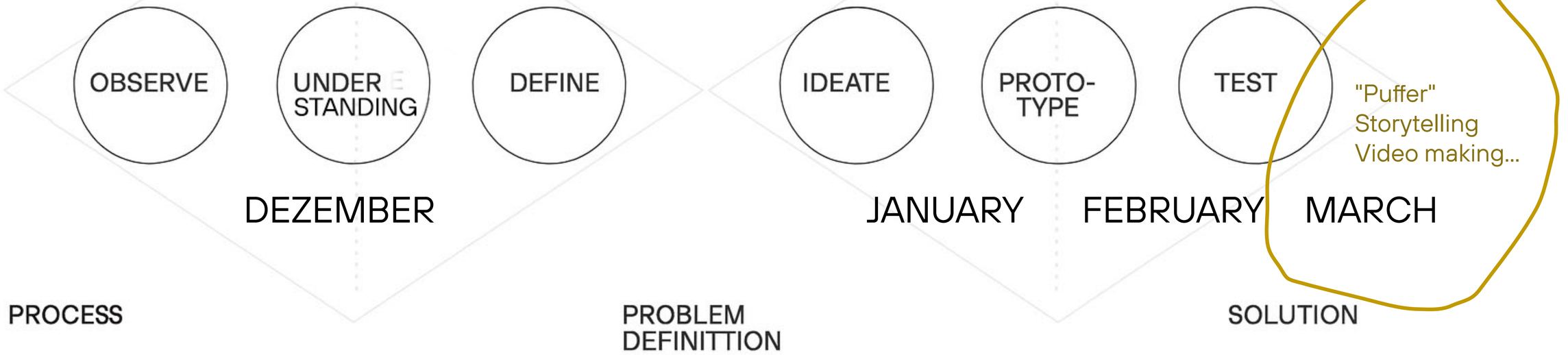

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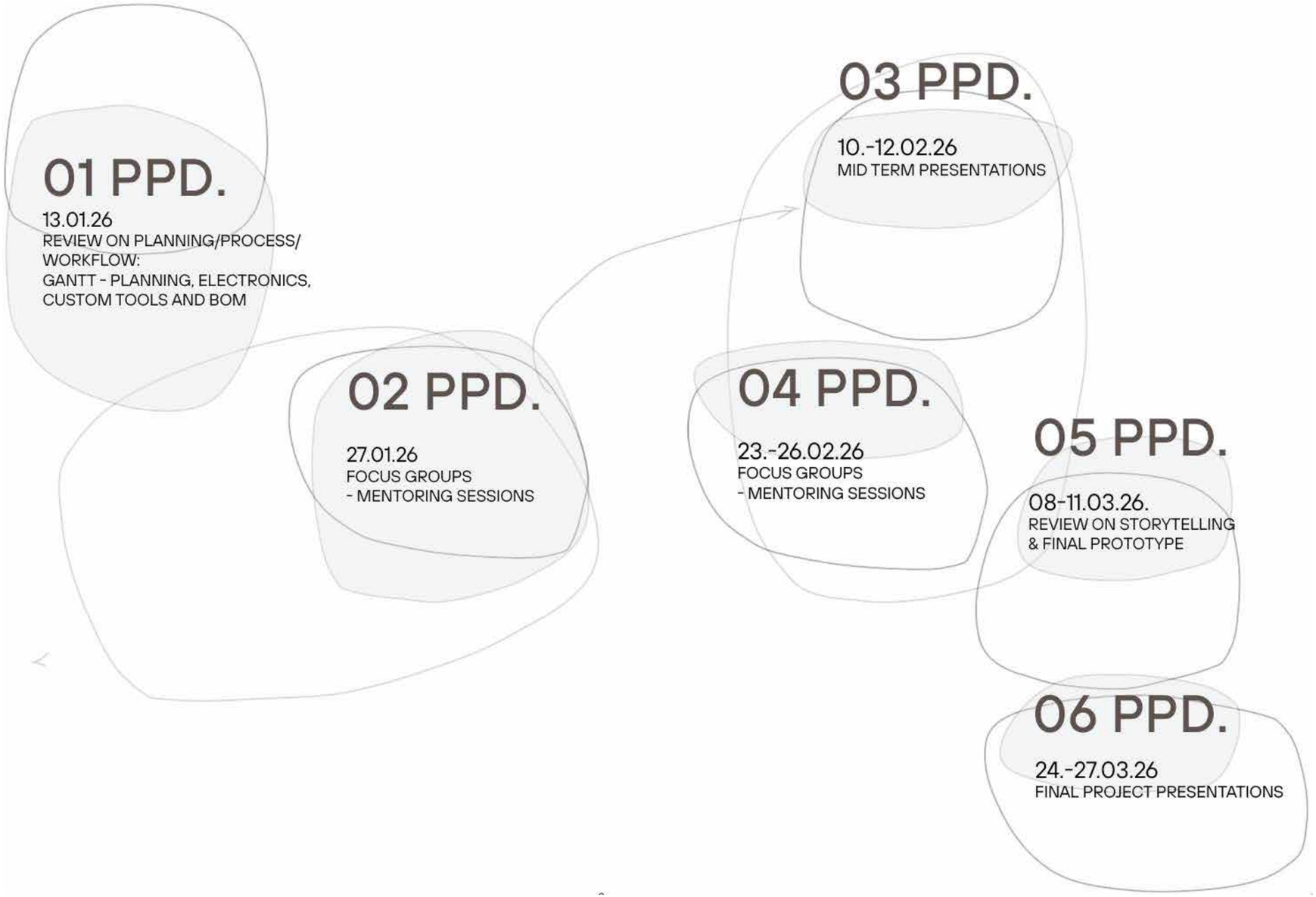
SOLUTION


01 PPD.
13.01.26
REVIEW ON PLANNING/PROCESS/
WORKFLOW:
GANTT - PLANNING, ELECTRONICS,
CUSTOM TOOLS AND BOM
02 PPD.
27.01.26
FOCUS GROUPS
- MENTORING SESSIONS
03 PPD.
10.-12.02.26
MID TERM PRESENTATIONS
04 PPD.
23.-26.02.26
FOCUS GROUPS
- MENTORING SESSIONS
05 PPD.
08-11.03.26.
REVIEW ON STORYTELLING
& FINAL PROTOTYPE
06 PPD.
24.-27.03.26
FINAL PROJECT PRESENTATIONS


WHERE


OKLAHOMA
TENNESSEE
NORTH CAROLINA
ARKANSAS
NEW MEXICO
MISSISSIPPI
SOUTH CAROLINA
Dallas
ALABAMA
TEXAS
GEORGIA
LOUISIANA
Houston
FLORIDA
Monterrey
Miami
Mexiko
Havanna
Kuba
Guadalajara
Mexiko-Stadt
Guatemala
Nicaragua


FABRICADEMY
textile and technology academy
IBERO
PUEBLA


WHOM
Yup!

PRIMARY TARGET GROUPS

DIRECT AUDIENCE / USERS

VISITORS & WEARERS

exhibition, installation,
body-worn experience

- Visitors of exhibitions, design & material festivals
- People interested in environmental issues, materiality, & embodied experience
- Design-interested general public

Why relevant:
They experience the material directly, sensorially, & in close proximity to the body.
The project focuses less on functionality & more on perception, reflection & emotional connection.

DESIGN & ART STUDENTS / RESEARCHERS

- Students from design, fashion, art, & architecture
- Researchers working in material design, biofabrication, & wearables

Why relevant:
The project functions as a research case study, reference, & learning resource for regenerative design practices.

SECONDARY TARGET GROUPS

PROFESSIONAL & INSTITUTIONAL

MATERIAL RESEARCHERS & INNOVATORS

- Biofabrication labs
- Material developers
- Textile research and industry (e.g. seaweed-based fibers)

Interests:
- New material applications
- Alternative narratives for biomass
- Prototypical material systems

CULTURAL INSTITUTIONS

- Museums
- Galleries
- Design and science exhibitions
- Educational spaces

Role:
- Presentation of the project as an installation or research object
- Contextualization of environmental and material topics

SUSTAINABILITY & ENVIRONMENTAL ACTORS

- NGOs
- Environmental initiatives
- Educational organizations
- Coastal protection and environmental projects

Relevance:
The project offers an alternative, non-technical form of environmental communication, emphasizing empathy over data.

LOCAL STAKEHOLDERS

CONTEXT-SPECIFIC

LOCAL COMMUNITIES IN MEXICO

- Coastal regions directly affected by the Sargassum issue
- Stakeholders from tourism, environmental management, & local economies

Role:
- Providers of local context
- Potential collaboration partners
- Sources of situated knowledge & perspectives

ACADEMIC INSTITUTIONS

- IBERO / IDIT
- Fabricademy network
- Future research & teaching contexts

Value:
- Project as a case study
- Integration into teaching, workshops, & exhibitions

TERTIARY STAKEHOLDERS

SYSTEM LEVEL

SOCIETY & FUTURE DESIGN PRACTICE

- The broader design community
- Discourse on material ethics, circular thinking, & regenerative systems

Contribution of the project:
- Shifting narratives
- Strengthening material-based responsibility
- Positioning design as a cultural & ecological tool