Design Friction Lab

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The Design Friction Lab is a Multidisciplinary Research Lab and Design Studio at the intersection of science and the industry,
of reality, innovation and vision.
Through the exploration of speculative scenarios with a critical design approach, preferable visions and products are prototyped while always striving to meet real-world needs with a glocal perspective and embedding aesthetics into ethics.

_sustainability

_systemic perspective

_(g)local perspective

_ethics

_critical design

FICTION → REAL WORLD NEEDS

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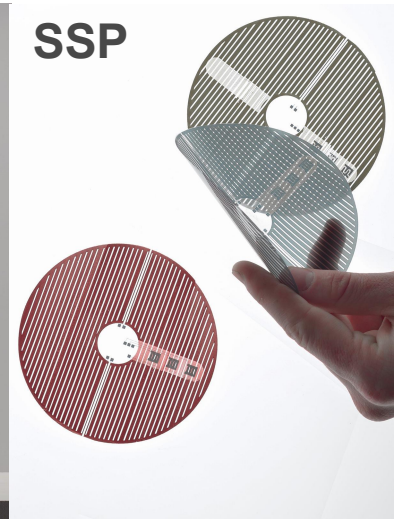
_PROJECTS AND RESEARCH TOPICS

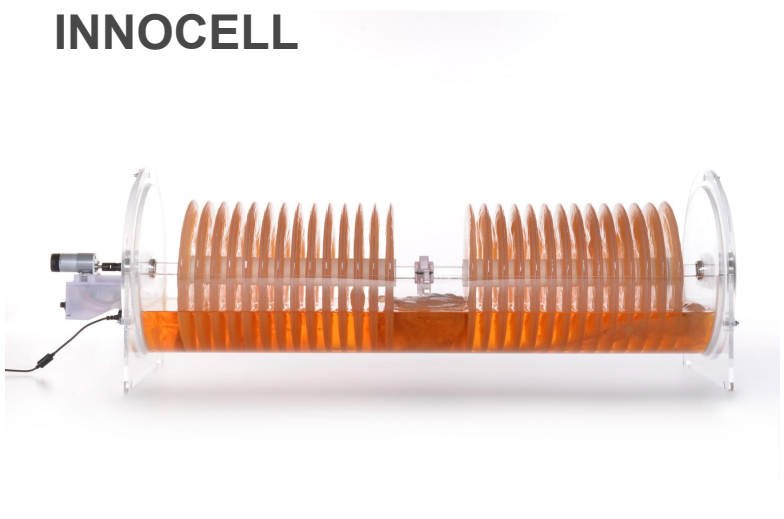
- Crafted products
- Opensource
- Electronics and DIY culture
- Nano-electronics and biodegradable sensors
- Growing materials, alternative materials and the development of circular design and production technologies

_PARTNERSHIPS AND COLLABORATIONS

- Scientists and field specialists
- Local artisans
- International cultural institutions
- Tech corporations









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MICST

Material-based Innovation as a Catalyst for a
Sustainable Transition towards Circularity in South Tyrol

InnoCell

Bioreactor
Materials

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MICST

Material-based Innovation as a Catalyst for a
Sustainable Transition towards Circularity in South Tyrol

The project MICST (Materials-based Innovation as a Catalyst for a Sustainable Transition into Circularity in South Tyrol) develops novel materials, sustainable production technologies, and alternative processes for a responsive and responsible transition towards a local circular future.





_interdisciplinary knowledge
_agricultural waste

_novel materials
_novel production methods

_sustainability
_(g)local production

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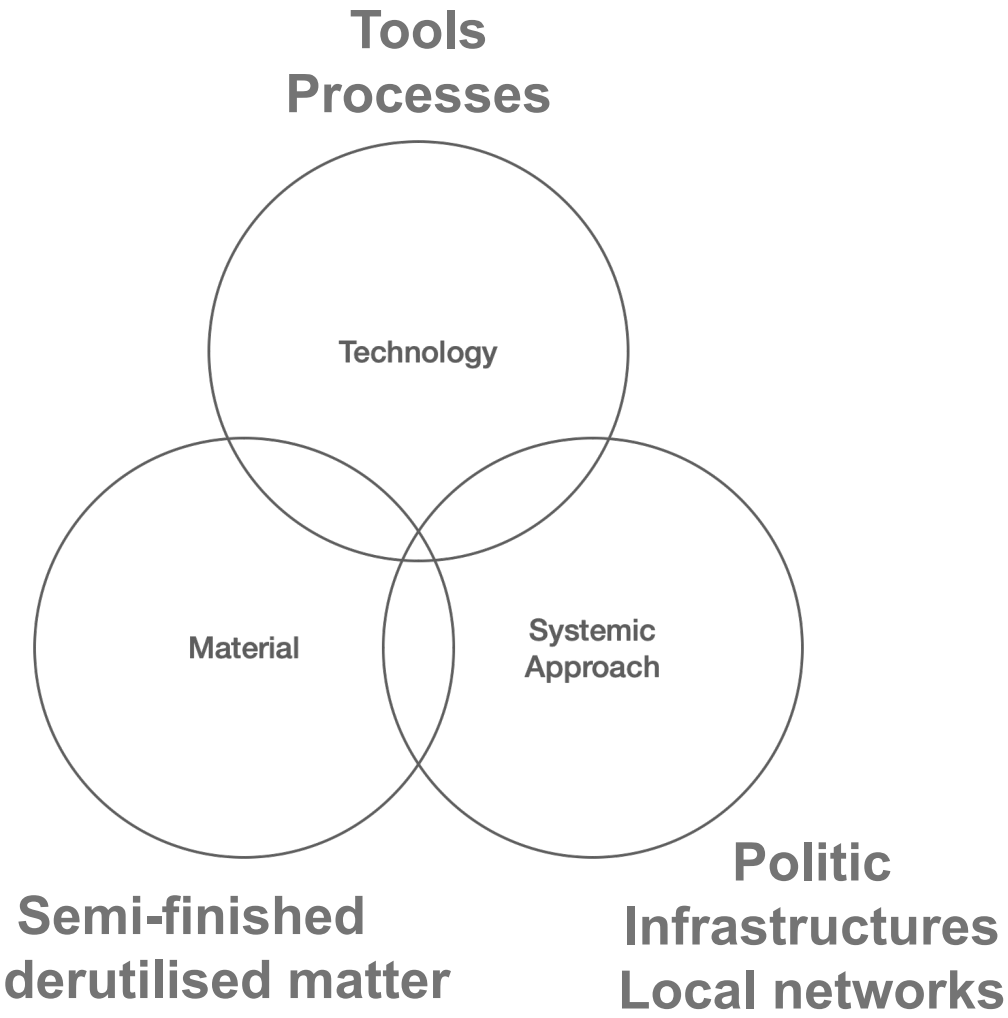
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MICST

Material-based Innovation as a Catalyst for a
Sustainable Transition towards Circularity in South Tyrol

MICST aims to enhance industrial and agricultural production to counter negative impacts and ensure wise resource utilization, thereby improving societal well-being and economic growth.

South Tyrol's unique cultural and geographical landscape, combined with its small population, makes it an ideal region to initiate a project that identifies and utilizes local resources.



The MICST project is an interdisciplinary project led by the Design Friction Lab and is done through a collaboration between the Free University of Bozen-Bolzano and Laimburg Research Center. It is financed by the province of South-Tyrol through the competitive call 'Research Südtirol / Alto Adige 2022'.

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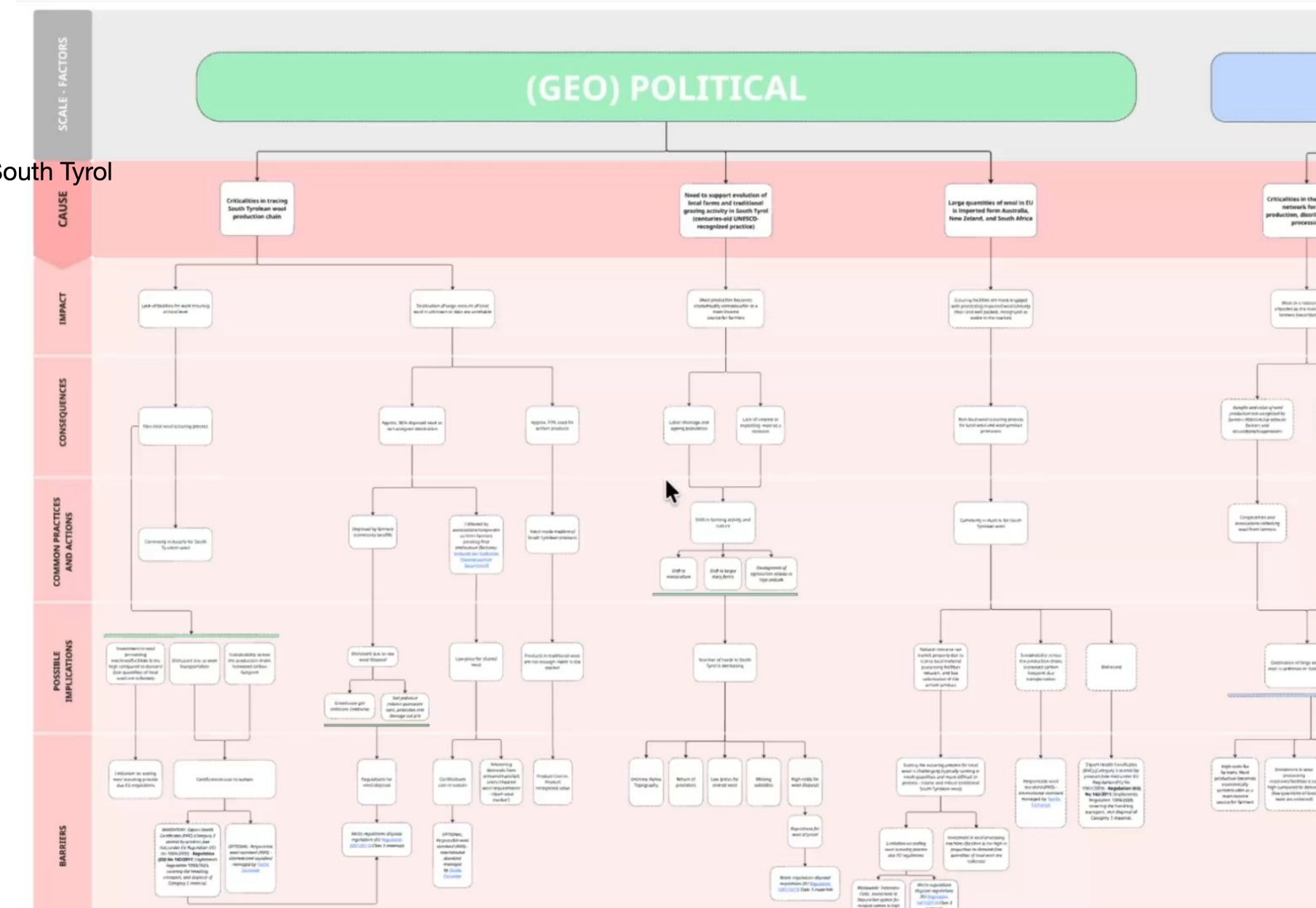
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MICST

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_systemic perspective



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InnoCell_Bioreactor (IB)

The InnoCell Bioreactor is an innovative open-source tool that makes high-precision production of SCOBY (naturally containing bacterial cellulose) and the Kombucha drink easier and more efficient than ever before.



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InnoCell_Bioreactor (IB)

The IB is an outcome of the interdisciplinary project InnoCell exploring the (g)local potential of SCOBY's bacterial cellulose production and applications. The InnoCell Bioreactor is designed as a DIY module that could be scaled up or down according to needs and technological availability.

_opensource
_digital fabrication
_fermentation
_sustainability
_(g)local production

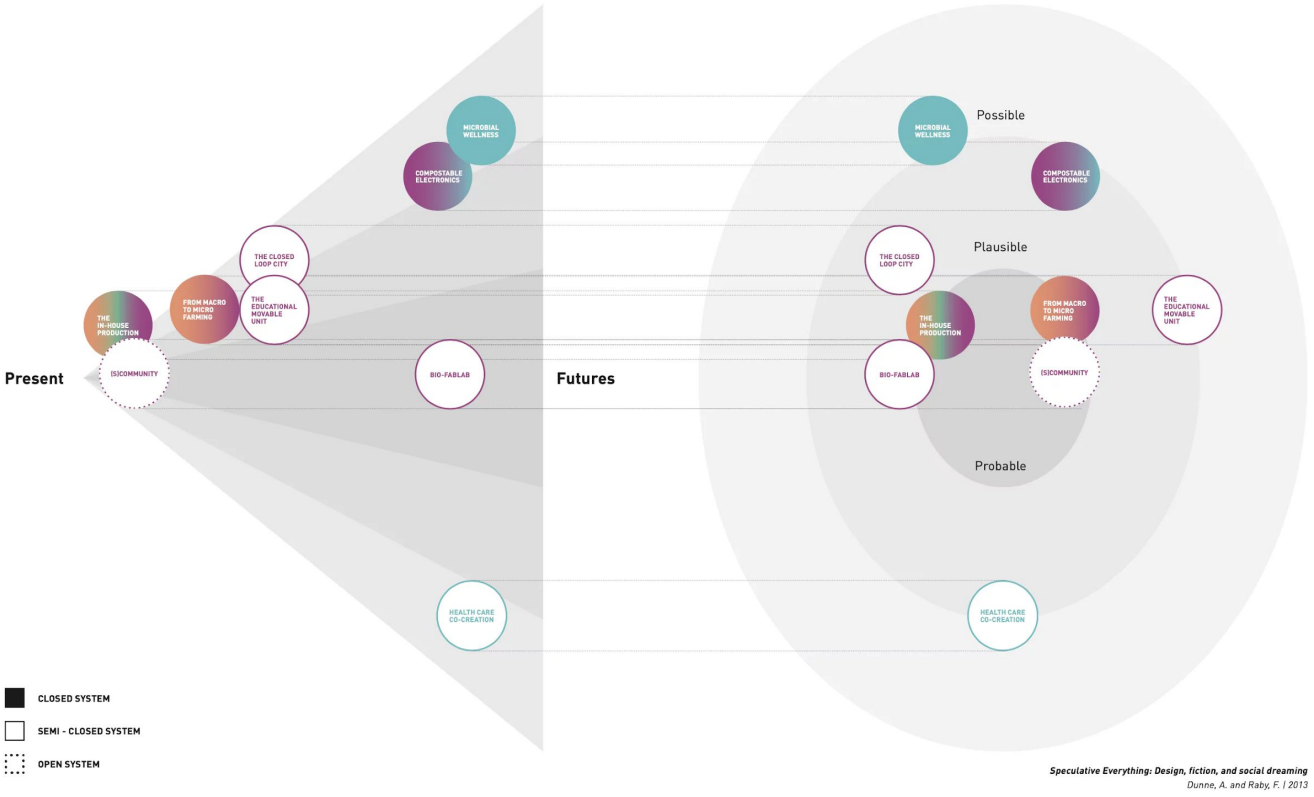


The InnoCell Bioreactor is providing a remarkably higher yield compared to traditional static methods and can produce up to 95% more pellicles. Compared with other agitated culture techniques it can produce up to 31% more yield.

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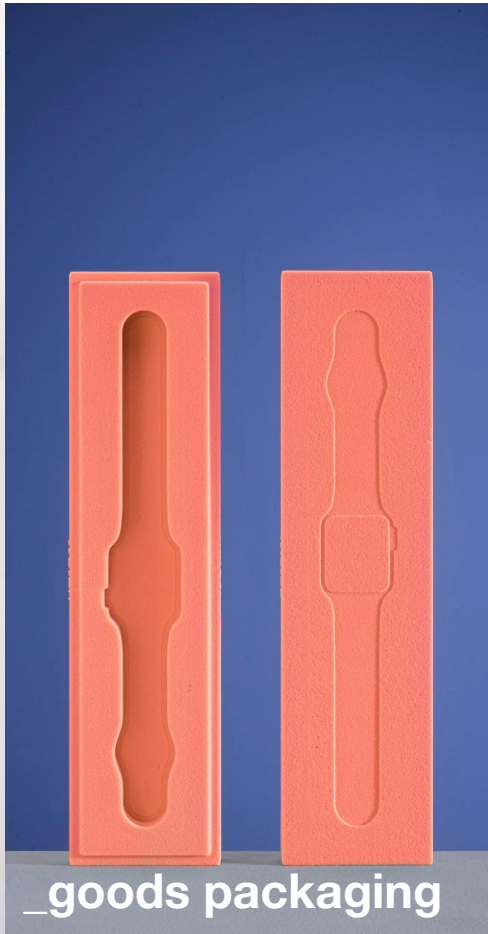
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InnoCell_Materials and Applications









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