

Sustainable Design Literacy –a systemic approach through product and service innovation

In this paper we suggest a systemic approach to strengthen sustainable literacy through strategic design on a societal level. The UN Resource Council (2020) underscores that extending product life cycles and increasing the intensity of use is crucial for meeting climate and resource goals. Design can help to bind carbon dioxide in products and infrastructures in the long term and on a large scale—make it available for further use (Carbon Cycle). Extending product life cycles requires not only a cultural shift in production but also in consumption habits, supported by repair-friendly products and accessible services.

Against this background, we present the project Sustainable Design Literacy, launched within the Master's Program in Strategic Innovation in Products and Services. Placing repair at the heart of the circular economy, the project aims to build competencies across the entire life cycle—from design and production to use, maintenance, repair, and responsible disposal. A multi-stage roadmap to 2030 outlines three core goals: raising awareness, strengthening knowledge and skills, and creating repair opportunities.

The project specifically targets the needs of 18- to 34-year-olds because they have a significantly lower awareness of repair compared to older groups (Micklitz et al., 2022). Key elements of the concept are: legal and education-oriented measures (e.g., repair escape rooms); concepts for manufacturing companies (e.g., forms of interaction such as digital twins and repair apps); strategies for service providers (e.g., platforms and repair services); and product design (e.g., “readable” and modular products, modular designs). The concept highlights that transformation towards more sustainable forms of production and consumption need new and diverse educational formats, intelligent products and innovative business models, but also supportive policy frameworks.

To conclude, we will use the visual outputs from the project to discuss the role of design in enhancing communication among diverse stakeholders to reach sustainable literacy together.

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Track Classification: Economy, Management and Education: Product Design