

Title: **Cradle to Cradle Design Innovations**

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Abstract

Cradle to Cradle® Design implies a paradigm shift in industrial production. The design and innovation process move from the present linear thinking towards thinking in closed cycles. Materials and processes are chosen and used in a way that the resulting products become “nutrient” at the end of their life. The materials are either reintegrated into biological cycles or remain in technical cycles. Cradle to Cradle® Design does not allow waste and strives to keep resources in endless cycles.

Sample products and projects will demonstrate the concrete application and results of the design process. Design for disassembly and avoidance of problematic substances allows for a new level of quality and safety during production and use and opens new opportunities for material reuse. This can be combined with system and business models that leave the ownership with the producer. This guarantee take back and maximal reuse of resources. The radical rethinking of design and production can go even beyond towards regenerative design.

Production processes are designed according to the model of nature. No waste, no surrender, no restrictions. The right materials at the right place at the right time, in endless cycles is the key.

Case studies will cover:

- Innovations drive change, e.g biodegradable polymers, flexible packaging
- Changes from passive to active business approach
- Business management systems + certification integration
- Dissemination, scaling up
- Creating demand, the pull effect
- Redesign from downcycling to upcycling

As a partner of industry in the role as knowledge and innovation trustee and accredited assessor of Cradle to Cradle Certified™ certification, epeaswitzerland has been able to implement and celebrate numerous breakthroughs of concrete innovations with industry in recent years: solutions to global problems of "microfibers", "bottles in the ocean", "toxic and non-recyclable packaging" have been created, such as biodegradable elastomers and polymers, reactive dyes or printing inks for packaging. These have been applied in areas such as flexible packaging, beverage bottles, parquet floors, luxury products, mattresses, workwear and outdoor textiles.

Companies and brands project references are: Archroma, Asahi Kasei, Bauwerk Parquet, Bayonix, Calida, Clariant, Climatex, Dystar, (Frog) Werner & Mertz + Erdal, Giroflex, Inogema, Lauffenmühle, Pfister, Röwa, Siegwark, tana chemistry, Tanatex Chemicals, Textilcolor, Trigema , USM, Vögeli, Windmüller, Wolford.

Keywords: Resources Effectiveness, Circular Economy, Eco effectiveness, Business management systems, Innovations.

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EPEA Switzerland GmbH is an accredited general assessor for the Cradle to Cradle Certified™ certification. EPEA Switzerland GmbH supports companies in various fields of activity in the development and implementation of the Cradle to Cradle® design concept. EPEA Switzerland GmbH acts in the role as knowledge and innovation trustee. With an experienced, internationally oriented and interdisciplinary management team, Cradle to Cradle® projects are implemented in all industries worldwide and in close co-operation with an accredited Material Health Assessor for the scientific assessments.