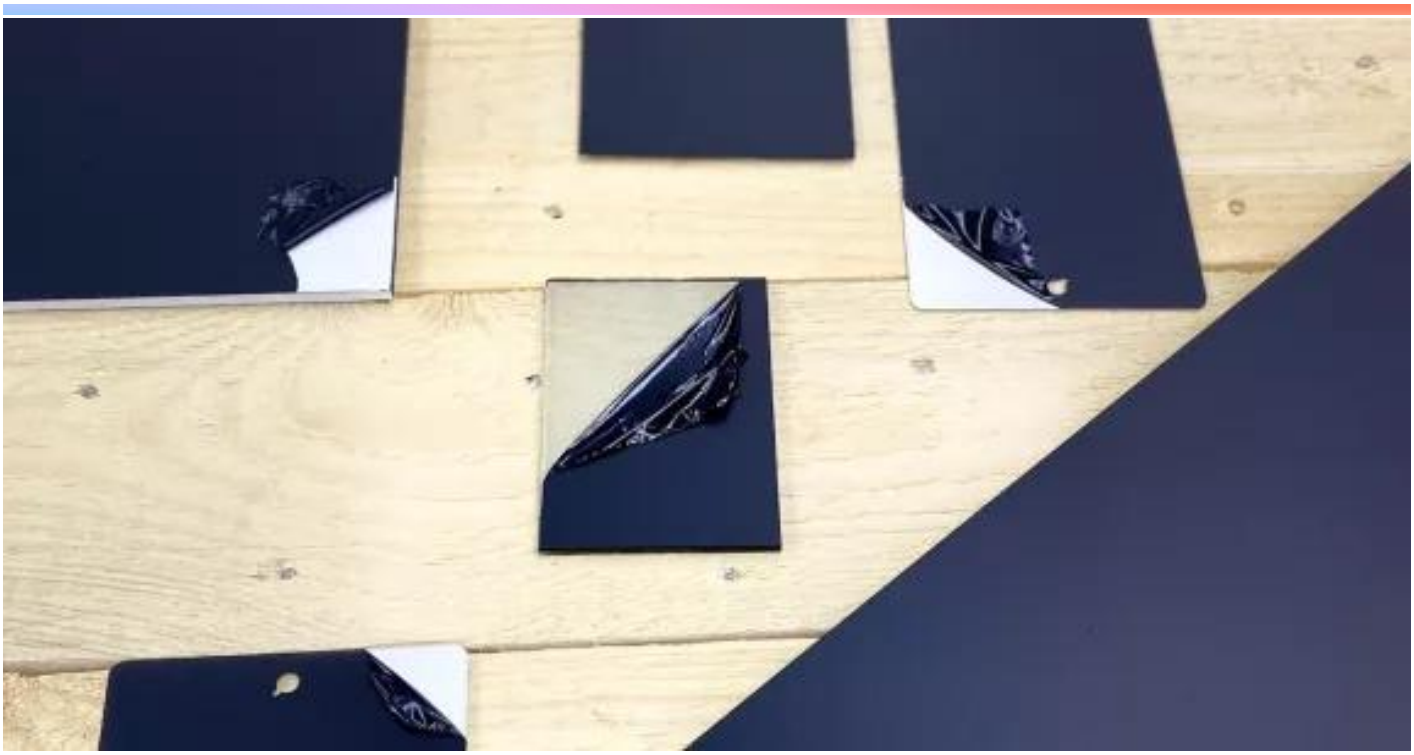

Removable coatings make interior products more durable

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Interior design industry goes circular

The PEELDESIGN project marks a major step forward in the interior design industry, with its focus on developing innovative, removable coatings that have the potential to **significantly extend** the **lifespan of interior products**. This initiative aims to reduce the consumption of new raw materials and contributes to a substantial reduction in environmental impact by encouraging the reuse and refurbishing of interior products.

Circular strategy

The first step in the circular economy starts with avoiding environmental and health impact that resource use can generate. The majority of environmental and health impacts of products are determined **at the design stage**. Ecological design aims to reduce the environmental and health impacts of products and materials throughout the products' life cycle. Redesign can make its production and (re)use safer, extend its lifetime, as well as facilitate repairs, dismantling and

recycling.

In the PEELDESIGN project, our goal is to explore how removable coatings can be **optimised for interior uses, where they typically have shorter lifespans than the materials they cover**, such as in exhibition stand construction, office furniture, or shop fittings. Additionally, we aim to identify which circular business models are most effective in supporting the reuse of these coatings.

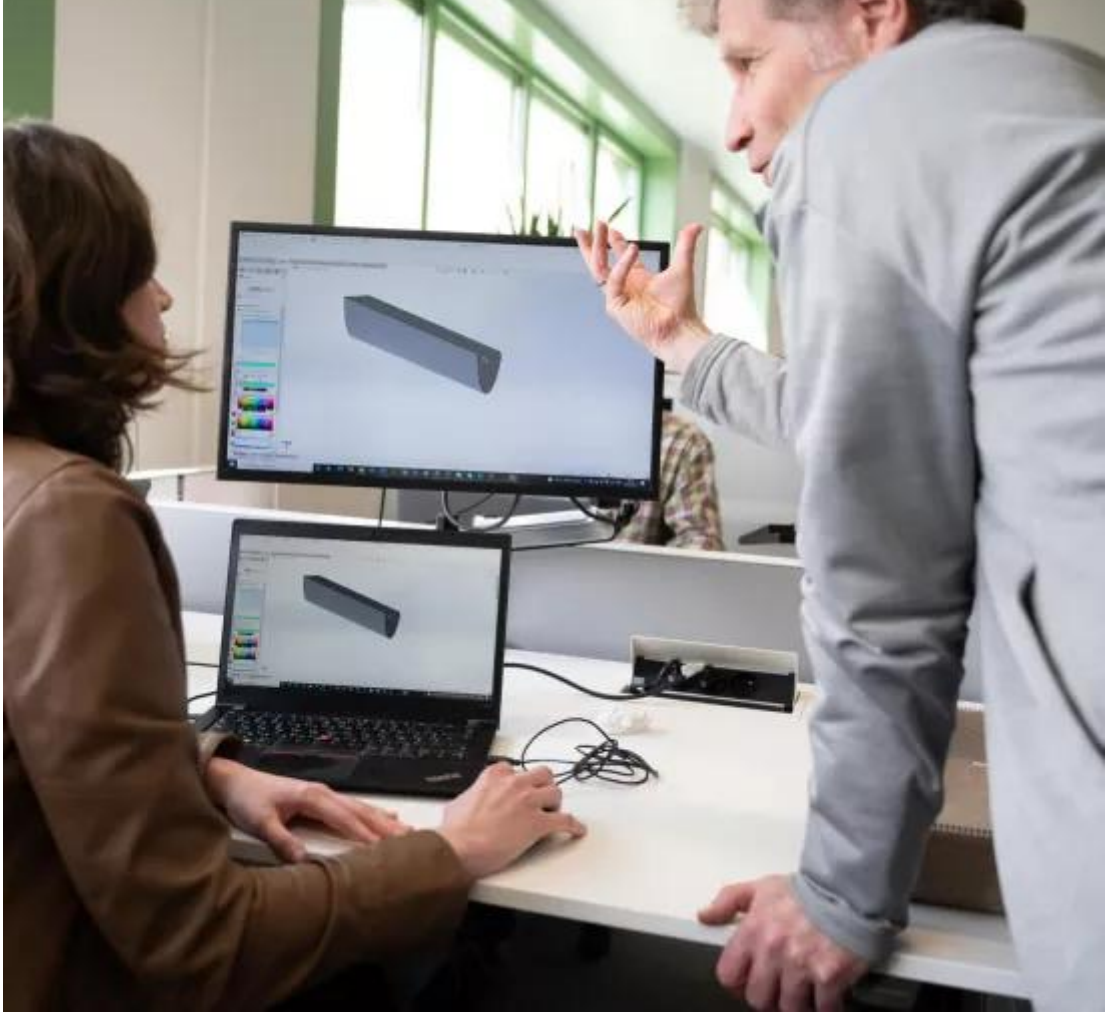
The anticipated circular impact is twofold

Reuse and reduce raw materials/energy consumption

By applying removable coatings, the used coated materials can be easily returned to their original state. Reuse and personalisation for a new user is possible by applying a new removable coating. Reduce raw material and energy consumption because the basic components do not need to be remanufactured.

Easy dismantling and clean recycling

At end-of-life, both coating and base materials can be recycled into clean fractions.



A positive result will lead to subsequent circular strategies:

- **multiple reuses** of products, reducing the use of raw materials to create new commodities,
- the **useful life** of basic materials is increased to their **lifetime**,
- at end-of-life, the base product will be able to be **recycled as a pure fraction**, avoiding incineration,
- **reuse** as the impetus for new 'as-a-service' business models, where the simplicity of the technology makes it possible to engage **social enterprises** in the value chain.

Allowing products to go through multiple life cycles not only extends their lifespan and reduces waste, but also provides the opportunity to extend this technology to other sectors.

Three Prototypes

The project is being implemented by Sirris, in a partnership with beMatrix and Expo-Etcetera. We will investigate whether the following aspects are realisable for interior applications:

- the development of removable coatings that have a life span tailored to the useful life of specific interior products, without losing the smooth removability of the coating,
- adding specific properties that enable personalisation such as colour, 'soft-feel', matte finish, transparency,
- defining procedures for take-back, preparation and reapplication of removable coatings,
- applicability based on three generic interior products from retail, office and trade fair applications,
- eco-costing methods, focusing on new business models.

Alongside coating research, the project involves designing, applying, and validating **three prototypes from the stand construction, office furniture, and shop fitting sectors**. The removable nature of these coatings offers significant added value.

The application of coatings using mature technology helps to minimise initial investment costs. The prototypes are designed to be visually distinct and easily recognisable, aiming to promote adoption of this technology among other businesses and the general public through widespread sharing.

Next on the project's agenda is assessing the environmental impact of the first prototype using either simplified eco-costing or a comprehensive life-cycle analysis (LCA). Expect more about this soon!

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PEEL DESIGN
Innovative removable coatings
Designed for product lifetime extension
Scope of the project
The PEELDESIGN focuses on the development of innovative, removable coatings that have the potential to significantly extend the lifespan of interior products.
Applications
shopfitting, panels for exhibition stands or office furniture
Goals of the project

The removable coatings have a lifetime tailored to the duration of use of the product - a stand-alone panel

Want to know more about the PEELDESIGN project?

Visit our projectpage Contact us

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