

Design for Disassembly

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Design for disassembly

Viable or utopia ?





ERICA



1175

LATIN AMERICA
Mexico

Mobile 20th Century





What is design for disassembly?

Design for disassembly is an approach that involves intentionally designing products in a way that allows for easy and efficient disassembly at the end of their life cycle. It focuses on creating products that can be easily taken apart, separating different components and materials for reuse, recycling, or other forms of responsible disposal.

In order to design for disassembly we need to understand not only how to design but also which manufacturing methods and materials we want to use in order to design the full cycle.



What about modularity?

Modular design is an approach to product development and engineering where a system is composed of separate components, or modules, that can be independently created, modified, replaced, or interchanged without significantly affecting the functionality of the overall system. These modules are designed to fit together seamlessly, allowing for easy assembly, disassembly, and reconfiguration.

Because of modularity, we are able to increase the longevity of the product, repair it, give a different use or even change to a new and fresh aesthetic.

**What are the challenges of
designing shoes for disassembly?**

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- **Manufacturing capabilities**
 - **Customer perception DIY**
 - **Performance limitations**
 - **Take back systems and Recyclability**



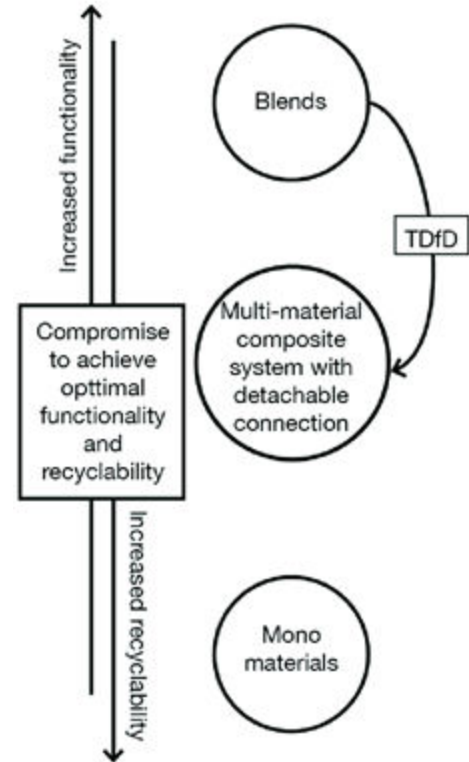
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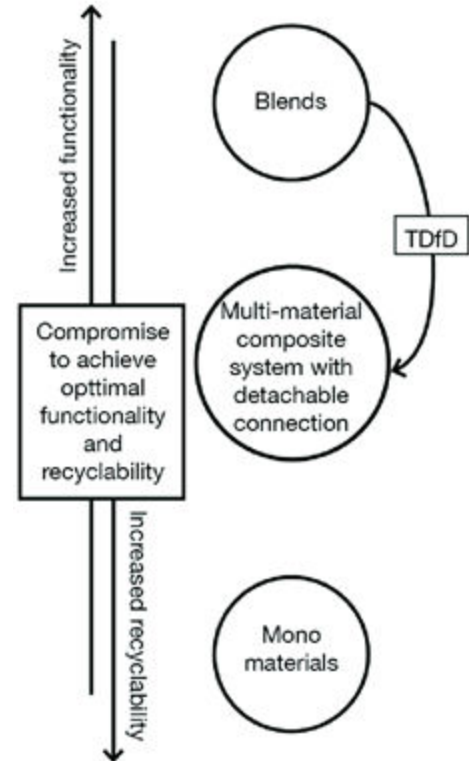
What are the opportunities?

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- Government regulations (eu 2030 recycling targets)
 - New manufacturing methods
 - New material options
 - Customer awareness
 - Local and on demand manufacturing
 - Product / system / service
 - NO shoe people interested in shoes

New manufacturing methods



New manufacturing methods





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Recyclable options



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- Government regulations (eu 2030 recycling targets)
 - New manufacturing methods
 - New material options
 - Customer awareness
 - Local and on demand manufacturing
 - Product / system / service
 - Wide range of people interested in designing shoes

What can we find on the market?

Outerknown is a sustainable clothing brand founded by professional surfer Kelly Slater. They focus on using organic and recycled materials in their products. Outerknown offers a “Lifetime Guarantee” on their garments and provides repair services to extend the life of their products.

<https://www.outerknown.com/pages/about>



Founded in 2015 by pro surfer Kelly Slater and creative director John Moore, Outerknown is on a mission to smash the formula of how clothing is made. The brand specializes in super comfortable, versatile, and easy-to-layer staples made from soft, sustainable fabrics. Pushing the envelope even further, the brand has committed to going fully circular by 2030. Resale is an essential step to ensure their products stay in circulation.

With a customer base already well-versed in responsible shopping, their community quickly took to their peer-to-peer resale platform, Outerworn. These pre-loved goods provided new and existing customers accessible price points while aligning with Outerknown's commitment to sustainability. Outerworn is consistently stocked with pre-loved inventory, and the brand has sold over 1,400 items

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The Nike Zvezdochka are a model of sneakers designed by the famous industrial designer Marc Newson in collaboration with Nike. These sneakers are known for their futuristic and distinctive design, which includes a modular sole and translucent mesh upper. The name "Zvezdochka" means "little star" in Russian, and the design is inspired by the space suit used by Russian astronauts. They were first released in 2004 and have since generated interest among fashion and sneaker enthusiasts for their unique look and innovative design history.





**What can we find
on the market?**

What can we find on the market?

Stella McCartney

Stella McCartney is a luxury fashion brand known for its dedication to sustainability. They prioritize designing products that are easy to disassemble, repair, and recycle. Stella McCartney has also collaborated with Parley for the Oceans to create swimwear made from recycled ocean plastic, further showcasing their commitment to circularity



What can we find on the market?

Nike ISPA (Improvised, Scavenge, Protect, Adapt) es una línea de productos de Nike que se centra en la innovación y la funcionalidad para situaciones urbanas. La línea ISPA busca crear soluciones para desafíos diarios mediante el uso de tecnologías avanzadas y diseños innovadores. Los productos ISPA suelen incorporar elementos de diseño de calzado deportivo con características técnicas que los hacen adecuados para la vida en la ciudad, como resistencia al agua, transpirabilidad y comodidad. Esta línea se distingue por su enfoque en la adaptabilidad y la versatilidad para el uso en entornos urbanos diversos.

<https://www.nike.com/nl/en/nikelab/ispa>



What can we find on the market?

Clarks explored the concept of disrupting linear paths to producing with their most sustainable suede sneaker to date called "Origin". The shoe's 5-pattern pieces are held together with no glue and 100 percent recyclable, mono-material nylon thread.



Imagine a world where our footwear gives us more flexibility of use, doing away with the need to purchase multiple products to serve different scenarios. The idea is having modular elements that are applied to footwear in order to provide customization. This is a concept **Vibram** Connection Lab are exploring, launching customization tool kits where people can purchase a kit including a sole, pieces of leather, textile, and laces to construct a shoe themselves. This could be a really great way of simply refreshing and customizing a pair of shoes without feeling the need to commit to seasonal trends.

What can we find on the market?

Li-Ning Mix Ace

Having developed their presence as a global leader in sportswear, Chinese brand Li-Ning sustain their attempts to push thought-provoking design alongside their dedication to tradition and heritage. While we might consider modular shoes to be a thing of the future, Li-Ning can consider them to be a product of their past.

the Mix Ace draws inspiration from the traditional Chinese joinery concept of 'Sun Mao'. The sections of the design may be reconsidered over time as they depart from each other to rethink the spatial form of the unit as a whole. The lightweight mesh upper is placed upon the separate UVA outsole before a flexible cage made from TPU is laid over both to combine all three sections into one. Grooves along the bottom of the outsole allow the frame to be held tightly in place and prevent it from eroding against the ground, while laces hold the top of the frame against the foot in the traditional way.



What can we find on the market?

Mahabis is a footwear brand known for its innovative and comfortable sneakers. They are characterized by their minimalist and functional design, with a removable sole that allows them to be used both indoors and outdoors. Additionally, Mahabis offers a wide range of colors and styles to suit different tastes and preferences. The brand is also notable for its focus on quality materials and craftsmanship..



What Can we find on the market?

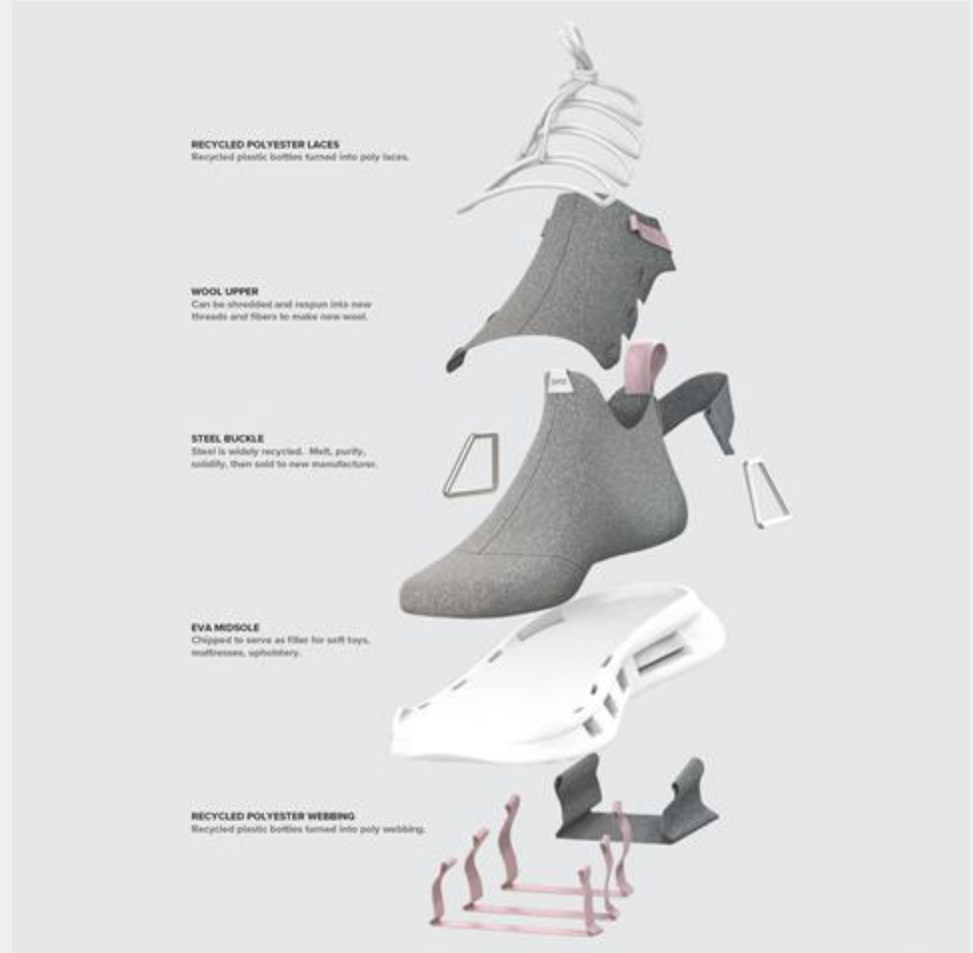
NNORMAL

Our objective is to develop a shoe, not only durable in time, but that can also offer flexibility to adapt to specific necessities of each individual and to different grounds or conditions which can be found.

For this reason, we have developed a modular shoe, which allows you to change its middle sole for adapting it to the most suitable ground.



But there are many
more projects !





Source: <https://www.footecology.com/>





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