People + Planet

Full Circle

Designing for circularity: How small steps make a big impact

Read 5 minutes

Just as a leaf falls, disintegrates and nourishes its tree, designers today embrace circularity to create an everlasting continuum rather than a linear life cycle that ends in waste.

“In nature, there is no waste; everything continues the circle. Humans are the only species that generate waste,” says Steelcase Vice President of Global Design Michael Held, who also leads the company’s product design sustainability efforts. “We aspire to get to a state without waste.”

Approaching each new product design with a circular mindset includes designing, sourcing, making, shipping and considering what happens at the end of a product’s use.

“By focusing on circularity, we’re able to help our clients be more sustainable, but it also makes sense for business because designing for circularity ensures a steady flow of resources,” says Held. “As extracting new raw materials becomes more expensive due to dwindling resources and stricter regulations, recovering materials becomes more efficient and the preferable option.”

More organizations than ever are working to eliminate waste and develop products, processes and business models that align with this perspective. For instance, the number of organizations with significant environmental commitments exploded by more than 700% between 2020 and 2024.* Companies must make different choices and partner with organizations on the same path to achieve these targets. Circularity is a key strategy to reduce carbon emissions.

In our current economy, we take materials from the Earth, make products from them, and eventually throw them away as waste – the process is linear. In a circular economy, by contrast, we stop waste being produced in the first place.

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Start by starting over

A circularity mindset is put into action at Steelcase as part of the company’s sustainable design process, which is now applied to every new product it creates. Designers draw upon decades of exploration and learning to design for circularity while retaining the same quality, durability and performance level.

“I’m a big believer in baby steps forward,” says Held. “You need a vision and a strategy, but the real difference is driven by hundreds and thousands of small improvements year-over-year.”

The first step in the Steelcase design process is to ensure the product can be taken apart more easily and efficiently. The process may mean designing pieces to fit together in straightforward ways or eliminating the need for special tools to disassemble products. Designing furniture for easy disassembly allows for more agile and efficient repairs or remanufacturing.

Other key practices include marking parts to identify them and thoroughly documenting the product's engineering to make repairs easier. Using single materials that are not permanently fastened to other materials also makes recycling easier. All of these things help create a circle that reduces waste.

Creating products using the least energy in all facets takes significant design effort and innovation, which our teams are prioritizing.

MICHAEL HELD | Steelcase Vice President of Global Design

A radical rethink

With a circular mindset in 2020, Steelcase material experts, designers and engineers challenged themselves to turn small steps into big leaps forward.

The most significant materiality change came from identifying a new polypropylene plastic sourced from landfill-bound refuse that could be used in seating and other products.

Steelcase partnered with a large plastics supplier that recycles versatile polypropylene plastics found in everyday household products, such as discarded containers. Plastics were thoroughly tested for contaminants like heavy metals and other toxins to ensure they were acceptable for recycling streams.

"That material is recycled, and then we reuse it in a product," says Charlie Forslund, materials development principal for Steelcase. "This material can last and be used and reused in our products for decades, so it's special to see something that at one point would have been one-and-done, but we put it in a durable product."

These new materials allowed Steelcase designers and engineers to radically increase the amount of recycled content in its most popular task chairs – the initial products that have the most significant impact on customers' sustainability goals. This was done without compromising durability, performance or certifications.

“Our customers are making it clear: They’re demanding more recycled content in the products they buy, and we’re right there with them,” says Steelcase Product Sustainability Marketing Manager Kalia Bryzgalski. “We redoubled our efforts to explore more options to reduce the embodied carbon in our products.” Steelcase teams deconstructed each chair, using part-by-part reverse-engineering to redesign them more sustainably. They also created new measurement and testing processes to capture sustainability metrics more accurately.

Since the start of this project, the recycled content doubled on average in Steelcase Series 1 and 2, Leap, Amia, Think, Gesture and Steelcase Karman chairs in the Americas.

Steelcase is working to scale these initiatives globally and is looking to use other sustainable materials that can be applied to even more products. This includes building on our efforts to manufacture with sustainably sourced wood, metals made with renewable energy and more recycled content, and exploring lighter plastics and bio-based textiles.

“We started small by changing one part of one product years ago, leading to some initial learnings and understanding,” says Held. “Now, we have a lot more knowledge about the recycled contents in plastics, the supply chain and operations. This enables us to make an even bigger impact for our plant across many more parts and products.”

Time for change

The path to circularity is complex, but experience and systems can help businesses start – and sustain – a more circular economy. When it’s time for a change, Steelcase minimizes landfill waste through a broad range of end-of-use services meant to help customers identify the best ways to reuse, repair, remake and recycle furniture. New efforts to expand circularity services are being offered in different regions worldwide.

Circular by Steelcase: Remade in EMEA offers a sustainable solution by remanufacturing, not just repairing, previously used chairs. Select task and collaboration chairs are remade by cleaning, replacing high-wear parts, and reupholstering with new foam and fabric, ensuring they maintain their original durability and comfort. Circular by Steelcase: Remade gives chairs a second life, reduces carbon emissions and keeps them out of landfills – all while contributing to customers’ sustainability goals. Additionally, Remade chairs come with a five-year extended warranty, allowing customers to enjoy them longer with peace of mind.

“Our commitment to designing for circularity isn’t new,” says Held. We launched the Think chair more than 20 years ago as a pioneer in sustainability. It can be taken apart in five minutes. But what is so exciting is that our approach now is about designing this way at scale, in everything that we do, and helping our customers complete that circle when it’s time for a change.

Our Path to Net Zero

Our path to net zero prioritizes transforming our entire business – our products, operations and transportation – what we make, how we make it, and the ways we deliver it. Our commitment to building a net-zero future cuts carbon emissions over 90% by 2050. We plan to achieve our net-zero goals by focusing on these significant areas of impact: reducing our carbon footprint, designing for circularity, and choosing and using materials responsibly.

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*According to the global Science Based Targets initiative (SBTi). The SBTi guides companies in setting and achieving ambitious carbon and net-zero targets, providing standards, tools and validation to ensure alignment with the latest climate science.