



AUTODESK

Autodesk fusion enables circular design practices for consumer goods

AUTODESK FUSION FOR CIRCULAR DESIGN

CAD software like Autodesk Fusion is an increasingly vital tool for companies entering the modern era of design, where concepts like circularity and mindful material selection are indispensable for success. With over 80% of product-related environmental impacts determined during the design phase (according to the European Commission), leveraging the sustainability-forward tools in Autodesk's 3D modeling software empowers businesses to succeed two fold: they are able to give their project's a sustainable edge on the market while also contributing to a more sustainable and responsible future.



Designing with Autodesk Fusion gives products a sustainable edge while also contributing to a more sustainable future.

Founded in 1982, Autodesk quickly became a pioneer in computer-aided design (CAD) with its release of AutoCAD. Their suite of design software has significantly impacted the industry, establishing the company as a leader in the evolution of design, manufacturing, and engineering technologies. In a significant expansion of its product offerings, Autodesk introduced Fusion, a cloud-based 3D modeling, design, and manufacturing tool built for design and engineering professionals.



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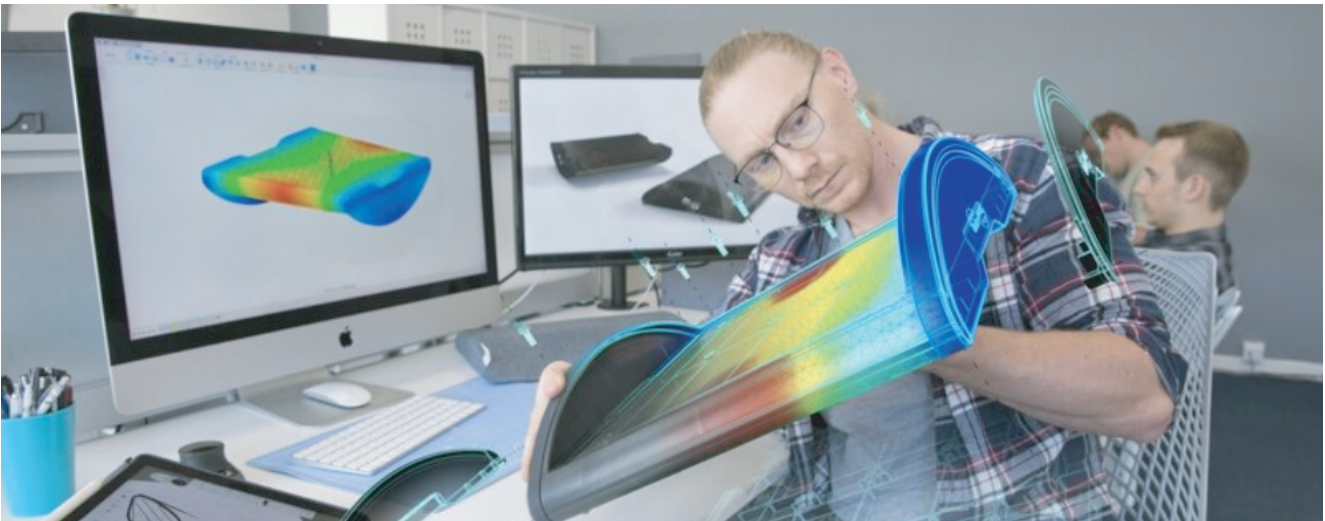
TOOLS IN FUSION FOR SUSTAINABILITY-MINDED COMPANIES

According to McKinsey & Company, 70% of consumers expect companies to drive positive social and environmental impact. However, despite these growing sustainability expectations, companies aiming to create truly sustainable products often grapple with reducing costs and maintaining high quality standards. To meet these concerns, Autodesk Fusion offers a plethora of features focused on improving design for manufacturability (DFM). Using data captured on the micro scale of individual parts all the way up to the macro scale of entire production lines, the software provides valuable insights into the production aspects for designers, engineers, and manufacturers. These end-to-end tools, easily incorporated into pre-existing design processes, help teams make informed decisions in the early stages of the design phase, cutting down on the environmental impact of the product while also eliminating the need for costly revisions down the line.



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In the program, users are offered features to help optimize a product's performance and production. The simulation tools in Fusion enable design teams to accurately predict how a part or product will perform under various conditions, such as stress or heat. By modeling these conditions, potential issues can be identified and fixed earlier on, before physical prototypes are made. This not only saves time but also minimizes waste and added costs. The Fusion Product Design Extension and injection molding efficiency also help achieve similar waste-reduction results.



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Similarly, generative design in Fusion leverages AI to explore countless design possibilities based on specified constraints. This process results in optimized designs that both meet performance requirements, reduce weight, and minimize excess material use. Additionally, the Makersite Add-on for Autodesk Fusion elevates sustainable practices by providing valuable information on carbon emissions, cost impact, material recommendations, and heat map visualization tools within the software.



Coral Maker, an Australian company, leverages CAD to rapidly prototype and manufacture premade calcium carbonate skeletons for corals | image courtesy of Coral Maker

Coral Maker, Infinite Acoustics, and SRAM are few examples of companies that have leveraged the software's tooling to create sustainable consumer goods. Coral Maker, an Australian company, leverages its CAD capabilities to rapidly prototype and manufacture premade calcium carbonate skeletons for corals, showcasing the synergy between additive and traditional manufacturing techniques.



Infinite Acoustics utilizes the Fusion Design Extension and cloud collaboration tools to design speakers 3D printed with recycled materials | image courtesy of Infinite Acoustics



PEMBREE, a UK-based bike parts company, takes a holistic approach to sustainability by considering it from product design through to manufacturing | image courtesy of PEMBREE

LOOKING TOWARD A SUSTAINABLE PRODUCT FUTURE

As the market demands more sustainably produced goods and services, integrated digital design tools like Autodesk Fusion have become paramount in the long-term success of design practices. The ability for designers and engineers to incorporate sustainability-forward features like generative design into the product development process prepares companies for the future needs of eco-conscious consumers. By leveraging Autodesk Fusion, businesses position themselves at the forefront of sustainable and responsible design practices, aligning with the evolving expectations of both consumers and regulatory bodies.



Read the original blog post

<https://www.designboom.com/technology/autodesk-fusion-circular-design-3d-modeling-software-02-12-2024/>



and Learn more about Autodesk Fusion:

<https://www.autodesk.com/products/fusion-360/consumer-products>



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