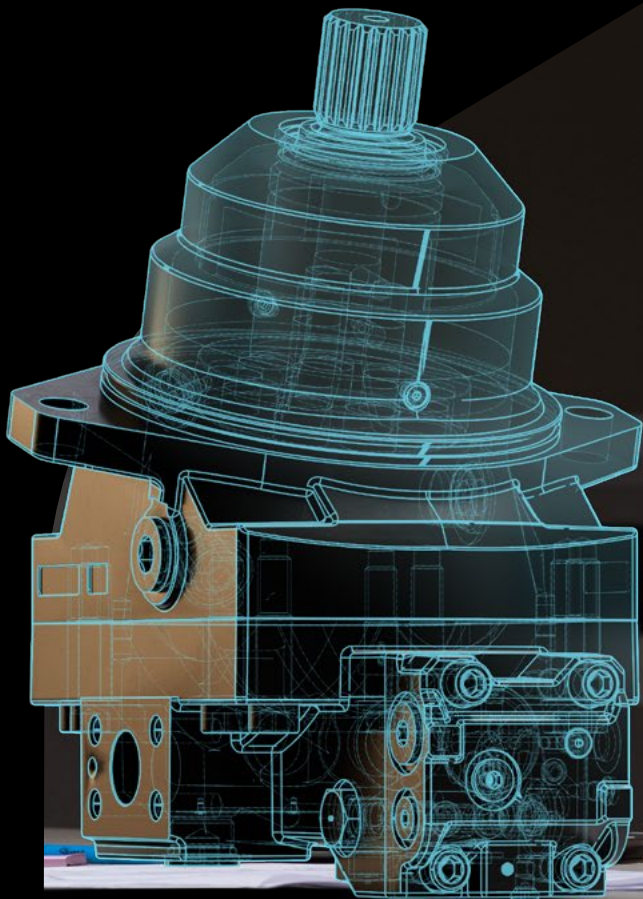




# Top reasons product design engineers choose Autodesk



# Contents

- I. A time of accelerating change 02**
- II. The value of Autodesk 03**
- III. Top reasons product design companies choose Autodesk 04**
  - a. Improve time to market 04
  - b. Increase product development agility 05
  - c. Expand product offerings 06
  - d. Improve product desirability 07
  - e. Improve product performance 08
  - f. Reduce environmental impact 09
- IV. Autodesk’s Design and Make Platform 10**
- V. Fusion Industry Cloud 11**
- VI. Autodesk AI 11**



# A time of accelerating change

With an increasing focus on user-centric design, sustainable product lifecycles, and the integration of smart products, designing products for both industrial and consumer use has become more complex than ever.

Today, design and engineering companies are struggling to bring new products to market in a competitive timescale against headwinds of disruption in the supply of materials and components and the hiring (and retaining) of skilled labor.

The challenge for designers and engineers is to accumulate a broader range of specialized knowledge, consider a wider context of information from a broader range of sources, and satisfy customers with products that are sustainable, customizable, and connected.

Using collaborative and integrated software tools, design and engineering companies can become more agile to better respond to the fluctuating market and facilitate a new digital transformation. Such transformations depend on automating processes to release capacity for innovation—so companies can focus on providing higher-quality products and services to their end customers within a reduced lead time.

In fact, in our recent report, [“2023 State of Design & Make.”](#) 76% of Autodesk design and manufacturing respondents agreed that the future growth of their companies will depend on digital tools, with top benefits including:



Reduced costs



Faster product or service launches



Simplified planning and better business decisions

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“Over the next three years, the manufacturing industry needs to prioritize trade skill development and supply chain diversification. Widening the supply chain by supporting more raw materials suppliers and regional hubs that fabricate critical components will create more competition in the market, business opportunities, and jobs. It will also ensure that the industry will still be functional if there are supply chain disruptions.”

Samantha Snabes, Co-founder, re:3D Inc.

Autodesk State of Design and Make Report 2023.

[➔ Read more](#)

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# The value of Autodesk

Making complex equipment, components, industrial products, and specialty products often involves a mature approach to design engineering. Successful companies balance innovation with customer needs, and expanded offerings with the time it takes to bring those offerings to life.

That's why so many companies like yours choose Autodesk.

We help you uncover the insights necessary to create the products your customers want—with the CAD, simulation (FEA), CAM, and data management (PDM) solutions you need—all on a single platform.

We help you stay ahead of your competitors with the agility that comes from dedicated toolsets for industrial design, mechanical engineering, electrical engineering, and manufacturing. And we help you move more quickly, with innovative automation technologies like generative design, to get your products to market faster.



# Top reasons product design companies choose Autodesk

## Improve time to market

Investing time to understand your market, evaluate concepts, and optimize designs for manufacturing efficiency is crucial for the success of any product. Moving too quickly can lead to launching products without clear expectations of their commercial success.

However, spending too long on design can add cost to the development process and lead to your competition beating you to market—allowing them to grab market share and gain a foothold as the leading brand.

The tension between quality and speed of the design engineering process is difficult to get right. Maintaining the proper balance has become even more challenging in the current climate, with supply chain disruptions and a competitive labor market.

To succeed, leading manufacturers rely on Autodesk’s design automation tools to streamline team workflows, reducing the time spent on repetitive or non-value-added tasks. This allows them to focus on core tasks, like creating innovative products that exceed customer expectations, while minimizing the design cycle time.

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71% of design and manufacturing respondents plan to invest in technology to improve project outcomes.

[➔ Read more](#)

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“Autodesk has improved the way we approach our projects and is boosting our speed to market.”

Viktor Börjesson, Chief Partnerships Officer, PulPac

[➔ Read more](#)

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# Increase product development agility

Today, product design companies that only rely on a disconnected combination of spreadsheets, email, and paper-based workflows struggle to scale their operations and deliver successful products to market.

As data becomes increasingly siloed, these companies and others like them experience a loss of productivity and an increase in waste accessing, assessing, and even moving data around. Crucial decision-makers lack insight into the health of their companies and projects because real-time data is too difficult to collate.

Autodesk solutions for [data and process management](#) can significantly reduce the amount of time your team spends on non-value-added tasks, such as reporting or documenting the handover between processes.

The resulting reduction in workload can help increase trust within teams and improve agility by freeing up members to focus on more important work. As a result, your team's overall capacity can be greatly improved, allowing them to work more efficiently and effectively.

Having insights into project data also enables management to stay up-to-date on a project's progress without impeding work. This, in turn, helps them make better-informed decisions earlier in the process, when those decisions can be most impactful.

[Learn more about data and process management for design engineering with Autodesk.](#)

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72% of design and manufacturing respondents plan to invest in data management and analytics.

[Learn more](#)

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“Using integrated solutions like the Product Design & Manufacturing Collection allows us to reduce our design time by half. We’re not repeating work, which is a big time savings. If we have standard projects that use components from the library, we can minimize engineering time as well. On top of that, we’re eliminating the risk of losing time correcting errors because we’re all using accurate data.”

Assad Hani, Business Analyst, Technica International

[Read more](#)

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## Expand product offerings

More than 25% of total revenue within design and manufacturing organizations comes from the launch of new products. In addition, these days, the market is trending toward connected or “smart” products that use cloud services to deliver enhanced value to the customer.

Smart products can provide organizations with valuable insight into customer activities by continuously collecting and communicating data throughout their entire lifecycle. This ongoing connection helps organizations understand their customers’ requirements better, and make informed decisions on how to improve existing offerings or when to establish new product lines.

Additionally, smart products can support additional services that lead to increased revenue and customer satisfaction.

Autodesk design and engineering solutions support design automation and collaboration to build on customer insights, develop product strategy, and design smarter products.

→ [Learn more about design and engineering solutions at Autodesk.](#)

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72% of design and manufacturing respondents plan to invest in new product development over the next three years

→ [Learn more](#)

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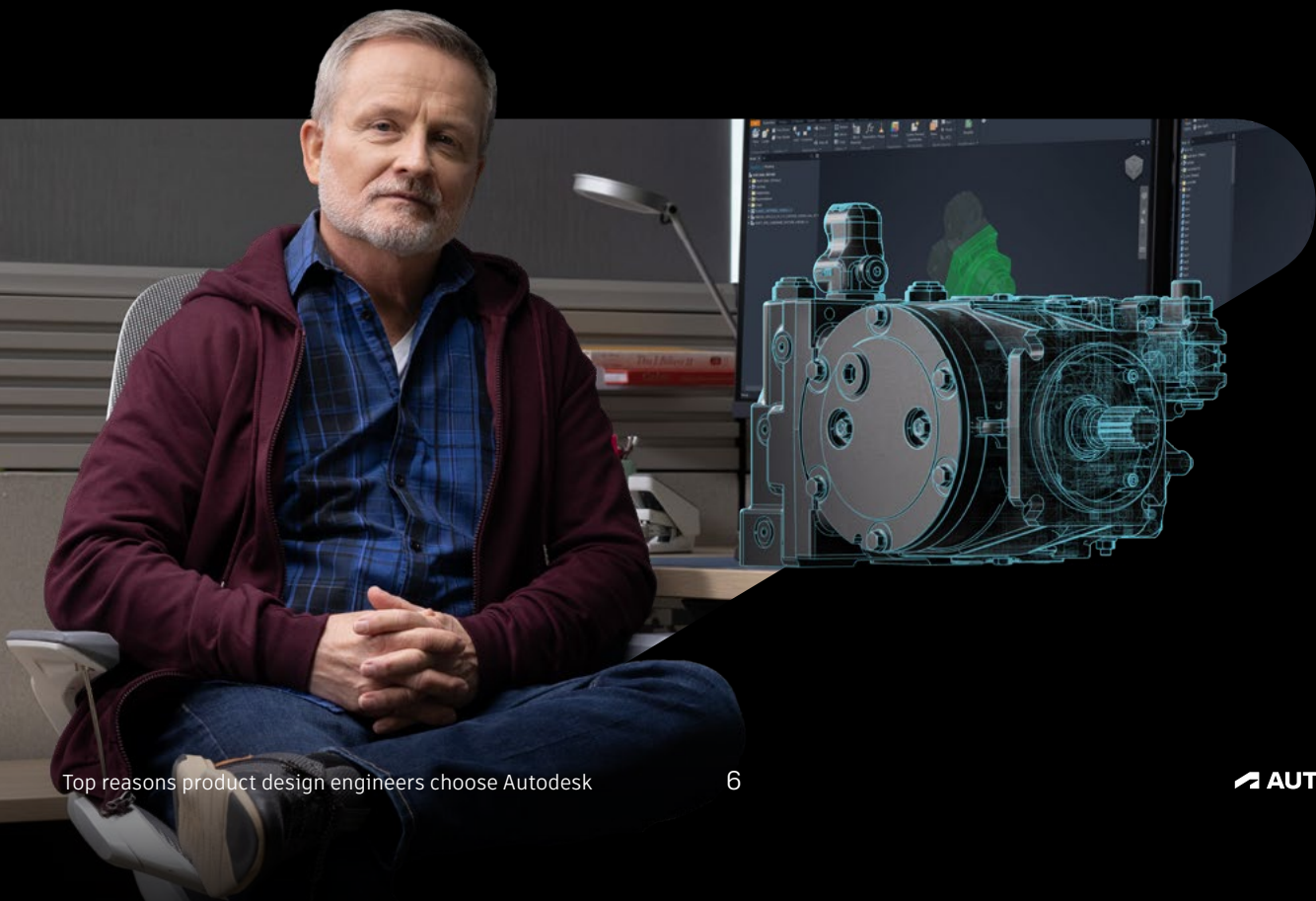
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“We have gone from being a component manufacturer to a solution provider for smart networked access systems.”

Alwin Berninger, COO DACH, Dormakaba.

→ [Watch video](#)

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# Improve product desirability

**52%** of design and manufacturing respondents stated that internal data has helped their companies to make faster internal decisions

**50%** said it had helped their companies to develop products, services, or projects more quickly

**46%** said that internal data had helped their companies to facilitate internal collaboration among teams

→ [Autodesk Design & Make report 2023](#)

How robust should a given product be? How durable? How will we make it? How will we transport it to the customer? What will it cost to make? Will it be profitable? Product development requires large investments, investments which require answers to a range of difficult questions that relate directly to costs.

But when specifying a product or component to procure, customers aren't simply assessing the item as a practical solution to their problem. No matter how tempting it can be to focus on function, product desirability is better increased by focusing on the user experience.

The desirability of a product is an emotional response to the user experience—from the product aesthetics to the way the product behaves when used by people or as a sub-component in a larger machine. These aesthetics can create a preference for a product in the target market, by signaling a brand's reputation for quality, reliability, and innovation.

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“The pillar of our company is and has always been our engineering division, where we take a customer’s problem and we engineer a solution for it. That’s really where the Autodesk tools come into play.”

Kipp Sakundiak, General Manager, Rokion

→ [Read more](#)

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It is crucial for development teams to ensure that the design language reflects the requirements of end-users, brand attributes, and upcoming trends, and to ensure that these requirements do not get lost during the process of development.

Autodesk supports the physical execution of well-designed products by helping engineering and manufacturing teams manage collaboration around a 3D CAD model, to coordinate design data from suppliers and subcontractors. Integrated data management helps track changes through rapid feedback cycles, incorporating insight from colleagues and customers while automatically maintaining your audit trail of changes made and the decisions behind the changes. What changes were made, when, and by whom, for example.

→ [Watch the free to view on-demand webinar: From Data to Deliverables: Improving Collaboration with PDM](#)



## Improve product performance

Spend too long on product development and your competition could win market share out from underneath you. Spend too little and you risk delivering products to market that don't meet customer requirements or simply don't perform as required.

Improving the quality, reliability, and functionality of your product increases your brand reputation and gains you a competitive advantage in the market.

How can you reduce design cycle time while still maintaining that quality?

A 3D digital model of your design can help you improve quality while reducing design cycle time, through digital workflows like [generative design, simulation, and tolerance analysis](#).

Generative design creates multiple pre-validated solutions based on loads and materials set by the designer. The designer can choose from the solutions proposed based on information such as weight, safety factor, material, or aesthetics.

Simulation allows designers to digitally validate the physical properties of a design, reducing the number of physical prototypes needed. Simulation studies could focus on solving problems such as strength, vibration, or fluid flow.

Tolerance analysis helps you make informed decisions while specifying manufacturing tolerances. Verify the fit of interchangeable components while avoiding high-precision tolerances that add unnecessary costs and effort to your machining workflow.

Making use of your 3D digital model to validate and optimize your design can help you maintain the quality of your design and engineering process while minimizing design cycle time.

[→ Learn more about simulation for design and engineering at Autodesk.](#)

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79% of respondents said that the future growth of their company will depend on digital tools.

[→ Read more](#)

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“It’s a complex balancing act, trying to harness the most effective ways of working that exist already with the innovation possibilities of the future. We have to be conscious of the pace at which we change, and of the benefits we create for people, the planet, and the business.”

Charles Cambianica, advanced design project leader, Decathlon

[→ Read more](#)

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## Reduce environmental impact

Autodesk design and manufacturing customers are leading the way in some sustainability actions. These include the proportion of respondents whose organizations have:

**41%** decreased waste from production and/or used more recycled materials

**35%** designed products considering environmental impact

**33%** developed or invested in more energy-efficient processes or machines

➔ [Autodesk Design & Make report 2023](#)

Incorporating environmental considerations into your design process can benefit sustainability and cost savings, as well as improve customer satisfaction. It's important to gather information on the potential impact of your designs early, to make more-informed decisions.

Gathering input on the environmental impact of your designs can assist you in integrating sustainability into your decision-making process right from the beginning stages of design development.

When considering the environmental impact of a product, it is important to assess its entire lifecycle, from the sourcing of raw materials to production, usage, and eventual disposal. Today, more and more companies are recognizing the importance of sustainability and are investing in it throughout the entire lifecycle of their products rather than just aligning with sustainability policies to reduce costs during the development process.

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“Simulations are essential for the development process. The feedback we get from them is invaluable for optimization. If we were to put out a turbine that broke down in normal weather conditions, our prospects as a venture company would vanish in an instant. At the same time, we can't wait 10 years to see if our specifications hold up long-term.”

Atsushi Shimizu, Founder and CEO, Challenergy.

➔ [Read more](#)

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Autodesk's advanced technologies for generative design, manufacturing design, and simulation help reduce material usage and make sustainable choices. Through collaborations with partners such as Makersite, our customers can evaluate risk from cost, carbon, and material selection to make more sustainable design choices earlier.

➔ [Learn how Autodesk helps achieve sustainable outcomes in design and manufacturing.](#)

# Autodesk's Design and Make Platform

Companies worldwide are facing a rapid evolution in business trends and practices, from the way people work to the way supply chains operate. Demographic pressures, shifting consumer priorities, and demand for sustainable solutions are creating challenges across every industry. Traditional siloed tools and ways of working are no longer sufficient to meet these needs. Therefore, we are witnessing a shift towards cloud-connected and integrated software solutions and data-driven approaches to address today's challenges.

Autodesk brings the cross-industry and cross-discipline expertise to help you embrace and thrive in this new world. We've shown that we set the precedent in solutions and ecosystems that transform processes and deliver value.

The Autodesk design & make platform connects teams, tools, and workflows throughout the project lifecycle. We unlock the value of data, guiding our customers through their digital transformation and providing real-time insights and automation so they can work faster, make better decisions, and deliver better outcomes.

The result? New and better ways of designing and making, and a better world designed and made for all—a world that is more equitable, accessible, and sustainable.

→ [Find out more about the Autodesk Platform](#)

## Ready to get started?

To learn more about product design and engineering with Autodesk, visit our solution center.

→ [Learn more](#)



# Fusion Industry Cloud

Built on the Autodesk design and make platform, the Autodesk Fusion industry cloud for manufacturing will connect capabilities, data, people, and processes across the entire product development lifecycle.

CAD, CAM, CAE, PCB, data management (PLM, PDM), MES, and more will be integrated into one unified experience, enabling advanced automation, AI capabilities, and streamlining of workflows.

The Autodesk Fusion industry cloud will provide a single source of project data across your organization and supply chain through the Autodesk Data Model. By ensuring everyone has access to the same data, you can eliminate repetitive tasks and processes, accelerate productivity, and provide critical real-time insights about product development and business operations.

[→ Learn more about Fusion Industry Cloud](#)

# Autodesk AI

From the top floor to the shop floor, Autodesk AI is integrated into every part of the design and manufacturing process, automating tedious work, and freeing your teams to explore new ways of working. Autodesk's industry leading AI workflows provide innovation and automation that transforms the way things are designed and made.

[→ Learn more about AI for design and make at Autodesk](#)





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