



ADVANCED MANUFACTURING SOLUTIONS

Make the new possible



About Autodesk Advanced Manufacturing Solutions

For nearly 40 years, Autodesk® has pushed the possibilities of what it means to design and manufacture. Covering additive, subtractive, simulation, materials and electronics, products such as Moldflow®, PowerMill®, Netfabb® and FeatureCAM® provide customers globally with solutions across all advanced manufacturing processes and needs.

Now, with Fusion we're ushering in an era of advanced manufacturing that will change everything. Empowering product design and manufacturing innovators to achieve the new possible – in the way businesses can imagine, collaborate, and create.

Your advanced manufacturing innovation partner

With more than 600 manufacturing professionals dedicated to software development, and over \$1B investment



600

software
developers



>\$1bn

invested by
Autodesk



6

manufacturing
innovation
centers

in advanced manufacturing technology, we are committed to helping you stay ahead of the competition. Our expert technical specialists, consulting teams and specialized local Partner Network are available globally to optimize your manufacturing processes.

We recognize it's difficult to test, learn, and implement new manufacturing processes when you face pressures every day to deliver parts. Our global network of technology centers help expand your R&D capabilities to drive manufacturing innovation, using Autodesk software to push the limits of the latest hardware available today.

Converging design and manufacturing

We are here to help you connect your design and manufacturing workflows, automate your processes, and network with your entire supply chain.

Choose from a range of digital manufacturing software focused on processes including CAM, additive manufacturing, simulation, and inspection for your business needs:

CAM



PowerMill

Expert high speed and multi-axis CAM software



FeatureCAM

Automated CNC programming software (includes Swiss-lathes)



CAMplete TruePath/TurnMill

NC-code post-processing and G-code simulation software

Additive



Netfabb

Connected software for additive manufacturing, design, and simulation



PowerMill

Program, control, and simulate high-rate additive manufacturing

Simulation



Moldflow

Plastic injection and compression mold simulation software



CFD

Computational fluid dynamics simulation software

Metrology



PowerInspect

Multi-device 3D inspection software

Modeling for Manufacturing



PowerShape

Prepare complex 3D molds, tools and dies for manufacture

Integrated platform solution



Fusion

Integrated CAD/CAM/CAE/ECAD software

Factory & Shopfloor MES



Fusion Operations

Plan, assign, manage, and track shop-floor production



FlexSim

3D discrete event simulation for factory optimization

Included with all Autodesk specialist tools – Fusion is our next generation, data-centric platform seamlessly connecting design, engineering and manufacturing. Differentiate your business by:

- Accessing technology on demand
- Collaborating with all stakeholders from design to manufacture
- Connecting the entire supply chain
- Effortless team communication

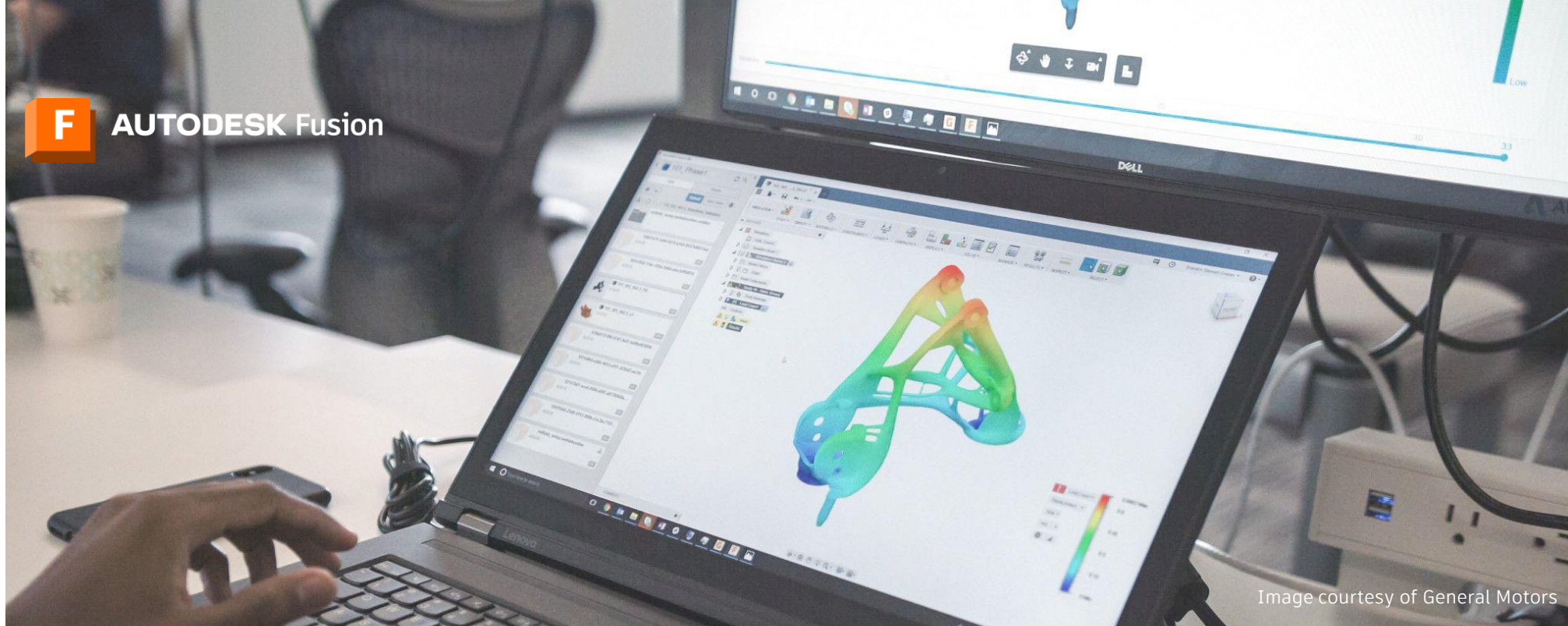


Image courtesy of General Motors

“I’ve used various softwares in the past, like CATIA, or NX or Mastercam, but none of those really put together designing and manufacturing as well as Fusion

Jeff Hooper,
Backhand Bikes

Integrated platform solution

Fusion solves the bottlenecks created by traditional CAD, CAM, data management, and simulation solutions by eliminating the disconnected development process that you encounter every day. Unifying our most potent technologies under the power of a single platform, Fusion provides a cohesive experience across design, engineering, and manufacturing with your data at the center – on any device, anytime, anywhere.

Three reasons to use Autodesk Fusion



Simplify your entire workflow with one platform



Collaborate seamlessly in the cloud



Use generative design to realize previously impossible outcomes

[Learn more at www.autodesk.com/products/fusion-360](http://www.autodesk.com/products/fusion-360)

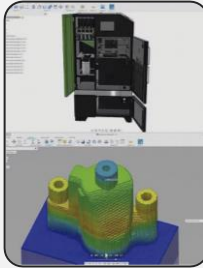
F AUTODESK Fusion Extensions

Unlock advanced design, simulation, manufacturing, and data management technologies in Fusion. Create better products with enhanced workflows tailored to your business needs using a single, cloud-enabled platform.



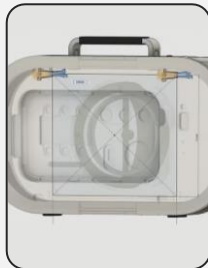
Manufacturing Extension

Unlock additional CAM workflows for 3 to 5-axis CNC machining, sheet-based nesting and fabrication, and metals based additive manufacturing.



Manage Extension

Improve the management of engineering processes with collaborative workflows in the cloud to control how users interact with key project data.



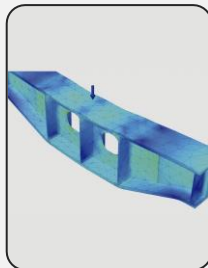
Design Extension

Improve the product development process by leveraging multiple design options influenced by the available design constraints.



Signal Integrity Extension

Improve high-speed PCB design compliance with EMI and EMC testing standards to reduce costly physical PCB prototyping and testing time.



Simulation Extension

Explore innovative design outcomes with access to generative design then optimize and validate designs with powerful simulation studies.



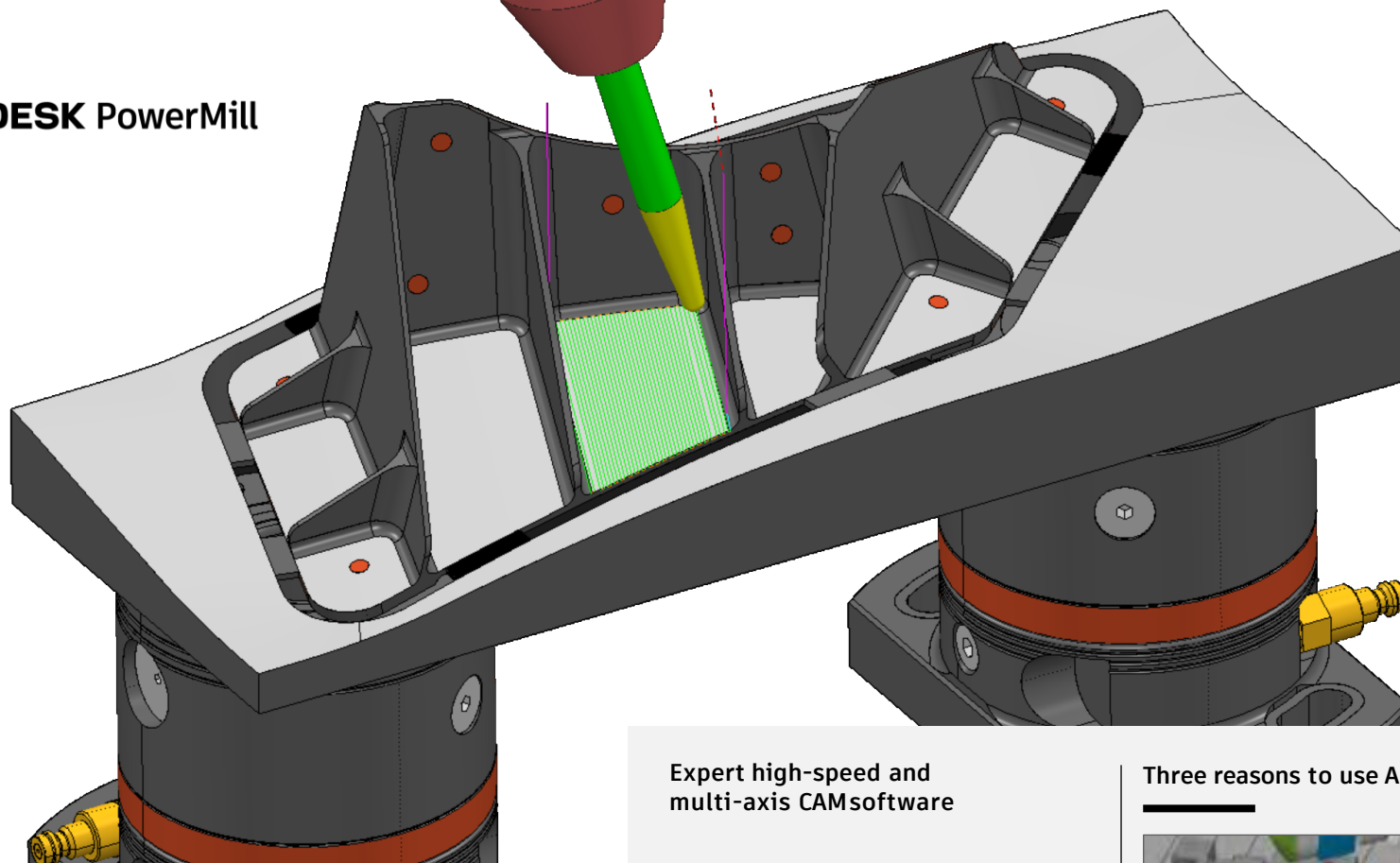
Since investing in Fusion, we have doubled our shop-floor income and reduced non-compliance by 34%. In hindsight, I wish we had subscribed to Fusion sooner

Paul Bourne,
Operations Manager,
Brown & Holmes (Tamworth) Ltd.

[Learn more at \[www.autodesk.com/products/fusion-360/extensions\]\(https://www.autodesk.com/products/fusion-360/extensions\)](https://www.autodesk.com/products/fusion-360/extensions)



AUTODESK PowerMill



“With PowerMill, we’re seeing jobs come in weeks ahead of schedule. Builds that would traditionally take 10 weeks, we’re doing in 4 to 5

Brian Kerkstra,
Manufacturing Engineer,
Paragon D&E

Expert high-speed and multi-axis CAM software

Autodesk PowerMill is expert CAM software for programming molds, dies and highly complex components requiring maximum quality, control, and efficiency of your CNC machines. Access a vast library of toolpath strategies and combine with advanced optimization tools to generate the NC code needed to produce exceptional quality parts. Use powerful simulation tools to validate and enhance the motion of 5-axis machines and industrial robots.

Three reasons to use Autodesk PowerMill



Rapidly create high efficiency toolpaths for large, complex parts

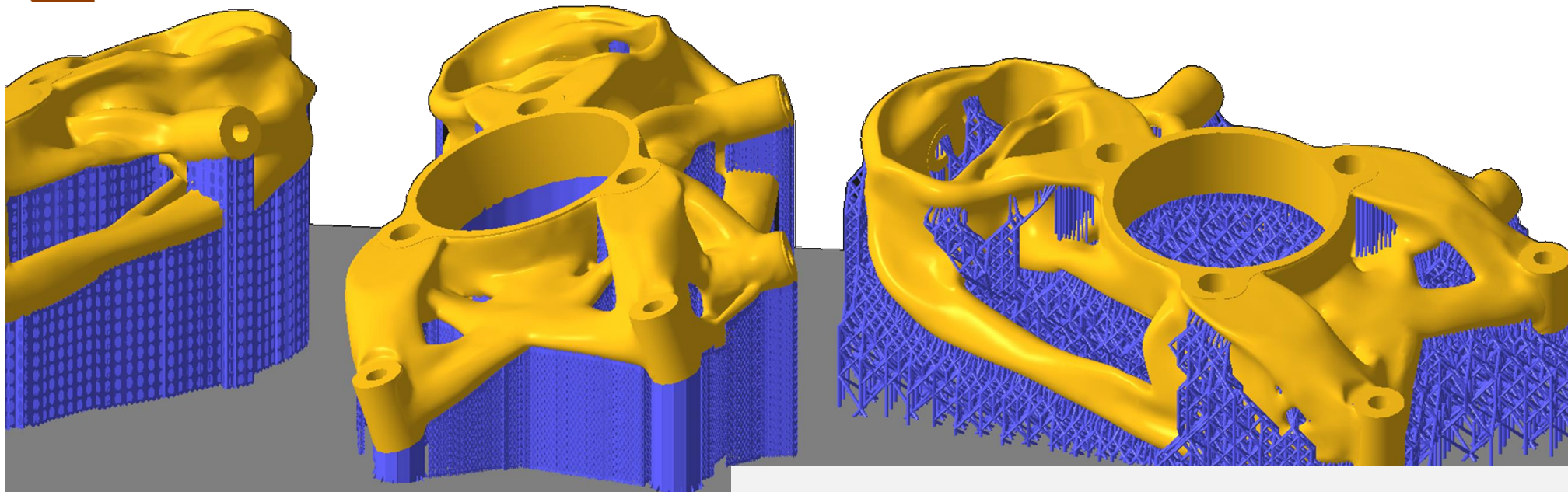


Extensive toolpath editing and optimization



Automatic 5-axis collision avoidance for demanding applications

[Learn more at www.autodesk.com/products/powermill](http://www.autodesk.com/products/powermill)



“Designs are becoming more complex and computer modelling is essential to master the complexity. Autodesk software proved this can be done

Marko Bosman,
Chief Technologist AM,
GKN Aerospace

Connected software for additive manufacturing, design, and simulation

Designed for production environments, Netfabb provides efficient build preparation capabilities alongside tools for optimizing designs for additive manufacturing and simulating metal additive processes, to help you reduce costs, increase efficiency, and improve part performance. Quickly get from a 3D model to successfully printed parts using a complete additive manufacturing toolset that streamlines workflows and reduce build errors.

Three reasons to use Autodesk Netfabb



Convert and import models from many different CAD applications



Create models that take advantage of additive manufacturing

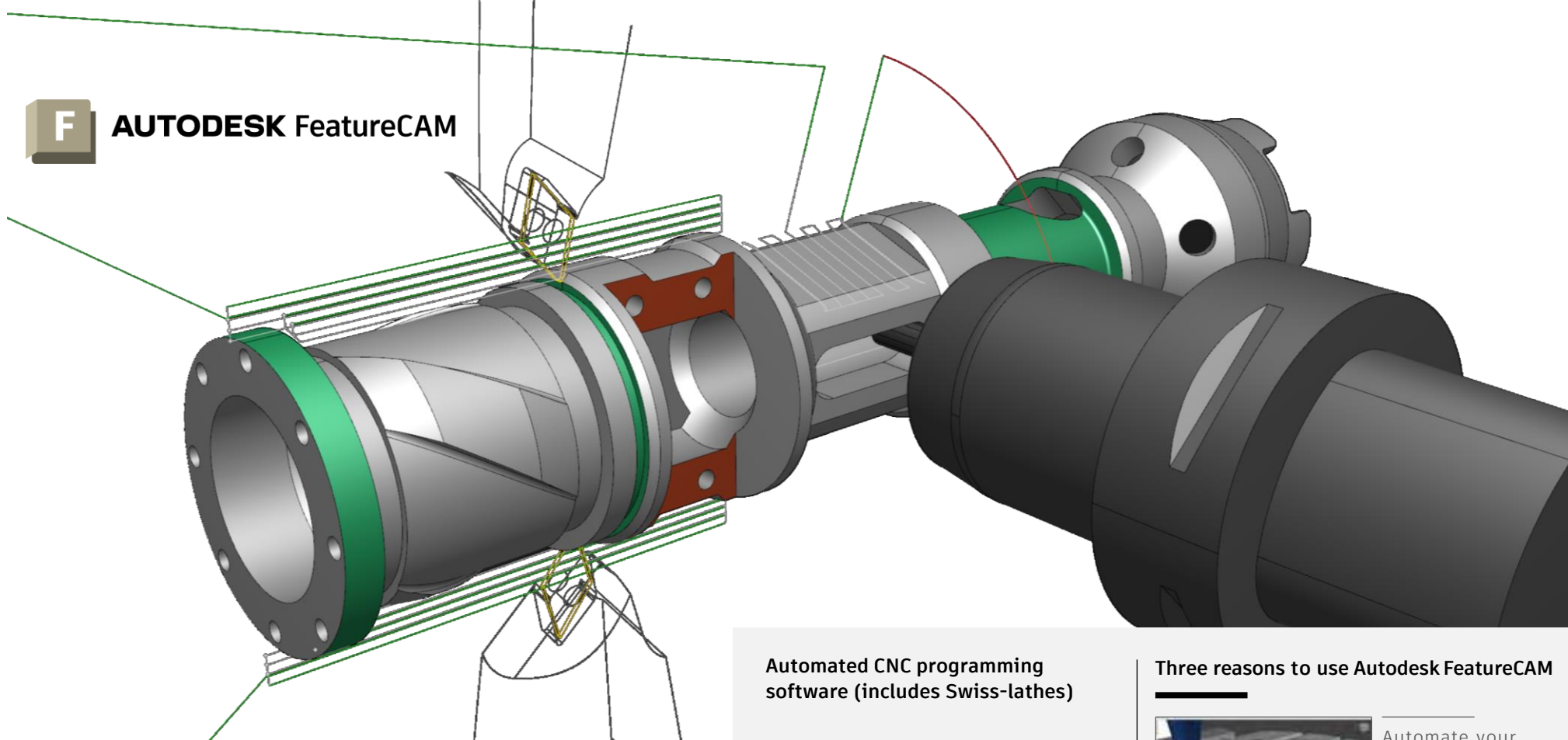


Maximize the numbers of parts you can fit into each build

[Learn more at www.autodesk.com/products/netfabb](http://www.autodesk.com/products/netfabb)



AUTODESK FeatureCAM



“FeatureCAM has been a blessing. It takes our design, gets the G-code made, and goes into the machine in lightning time

Don Binkley,
CEO,
D&D Engineering

Automated CNC programming software (includes Swiss-lathes)

FeatureCAM automates CAM programming with automatic and interactive feature recognition technology for faster part production. Knowledge-based programming helps you intelligently program a comprehensive range of CNC applications, including mills, multi-tasking turning centers, Swiss-type lathes, and wire EDMs. Includes PartMaker for Swiss-lathe programming.

Three reasons to use Autodesk FeatureCAM



Automate your workflow from design to NC code



Single interface for all your CNC applications



Produce consistent results with built-in manufacturing knowledge

[Learn more at www.autodesk.com/products/featurecam](http://www.autodesk.com/products/featurecam)

“The biggest benefit of CAMplete is being able to run verification and send it to the machine, knowing what I programmed is going to be a good part, on the first part with no guessing or checking involved.”

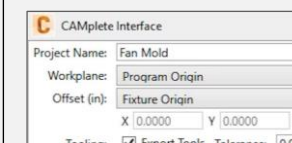
Bill Kemble,
Manufacturing Engineer,
Allen Aircraft Products, Inc

NC-code post-processing and G-code simulation software

CAMplete software provides G-code post-processing, verification, and simulation for CNC machinery. Use proven post-processors and accurate 3D machine models, developed in partnership with machine tool builders, to generate NC code. Choose your CAMplete solution:

- **CAMplete TruePath** for multi-axis milling machines
- **CAMplete TurnMill** for Nakamura-Tome multi-tasking machines

Three reasons to use Autodesk CAMplete



Import CAM data from all mainstream CAM software



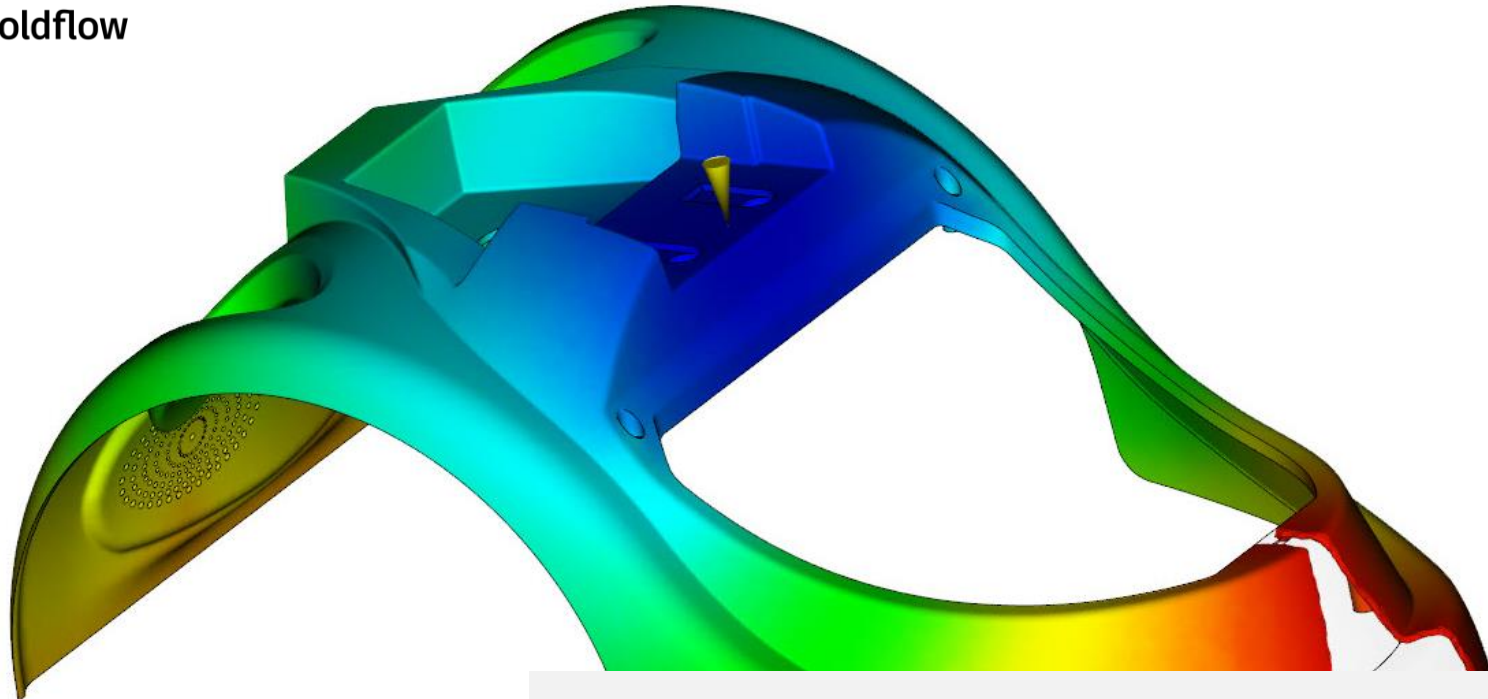
Generate safe NC code using proven post-processor files



Use accurate 3D models to verify machine motion

[Learn more at www.autodesk.com/products/camplete](http://www.autodesk.com/products/camplete)

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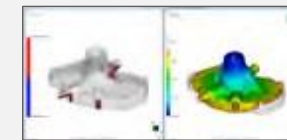
“We have been using Moldflow for about ten years. Back then, it was the only sensible product on the market. Today, it is basically the standard tool for simulations

Beat Schiegg,
Head of R&D,
Forteq Nidau AG

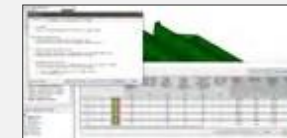
Plastic injection and compression mold simulation software

Optimize part and mold designs, reduce potential manufacturing defects, and get innovative products to market faster. Autodesk Moldflow provides tools based on a comprehensive materials database to help CAE analysts, engineers, and designers evaluate different designs, mold configurations, and injection molding processes, reducing the need for costly physical prototypes to plan ahead for manufacturing.

Three reasons to use Autodesk Moldflow



Reduce delays and gain insights with plastics part simulation

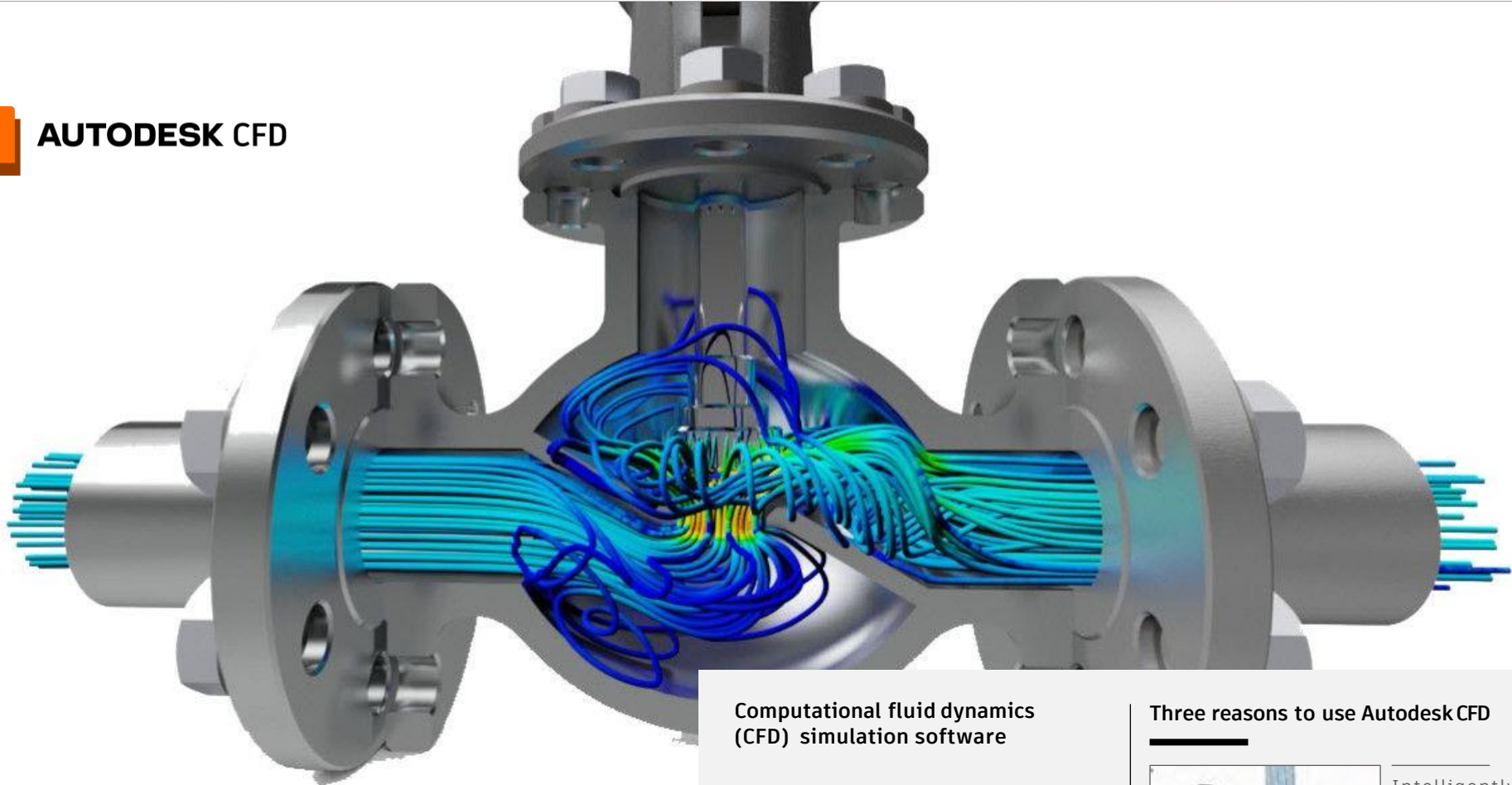


Optimize part, mold, and manufacturing processes in one interface



Simulate with flexible meshing and solving options

[Learn more at www.autodesk.com/products/moldflow](http://www.autodesk.com/products/moldflow)



“Autodesk has a fantastic suite of software where we can design, analyze, build and see how the data center behaves

Sam Wicks,
Data Center Design Engineer,
Sudlows

Computational fluid dynamics (CFD) simulation software

Autodesk® CFD software provides fast, accurate, and flexible fluid flow and thermal simulation tools to help predict product performance, optimize designs, and validate product behavior before manufacturing – minimizing reliance on costly physical prototypes and helping you get innovative products to market faster. Accurately predict behavior, optimize, and validate designs with a wide range of simulation capabilities before manufacturing.

Three reasons to use Autodesk CFD



Intelligently predict fluid flow and thermal conditions

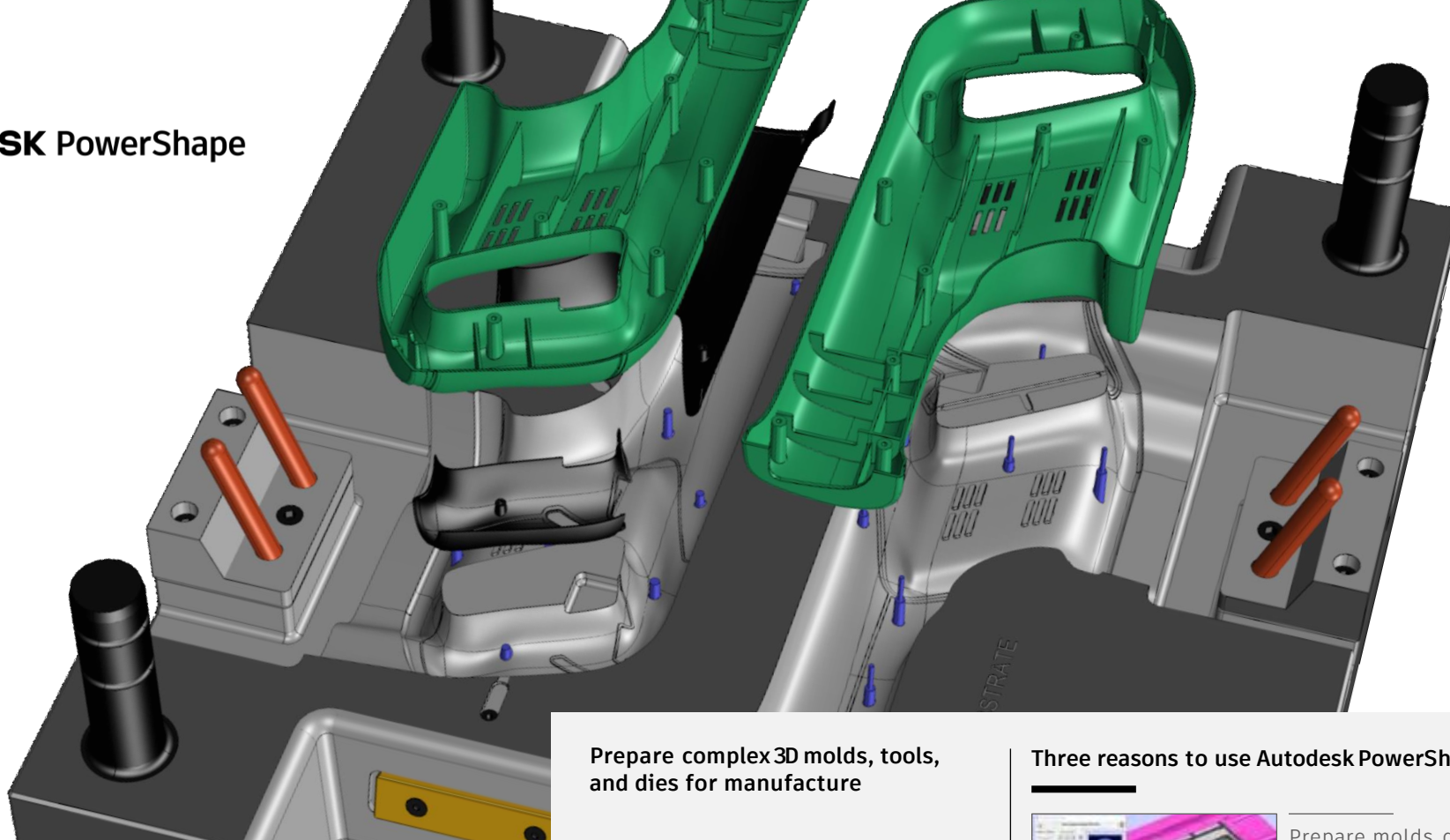


Optimize a range of CFD tools for various industry applications



Flexible simulation capabilities to run locally or on remote servers

[Learn more at www.autodesk.com/products/cfd](http://www.autodesk.com/products/cfd)



“The interaction between PowerMill and PowerShape has definitely streamlined our ability to manufacture molds. We can start making chips right away

Shawn McNamara,
Designer,
Chicago Mold Engineering

Prepare complex 3D molds, tools, and dies for manufacture

The ideal modeling companion to use alongside PowerMill® and FeatureCAM®. Create additional geometry to help with CAM programming. Sketch wireframe boundaries to control the extents of machining. Automatically produce capping surfaces that smoothly cover ribs and other features produced with other manufacturing processes. Construct curves and surfaces to more precisely control the motion of 5-axis machines and industrial robots.

Three reasons to use Autodesk PowerShape



Prepare molds, dies, and complex parts for manufacture



Create geometry to help with CAM programming

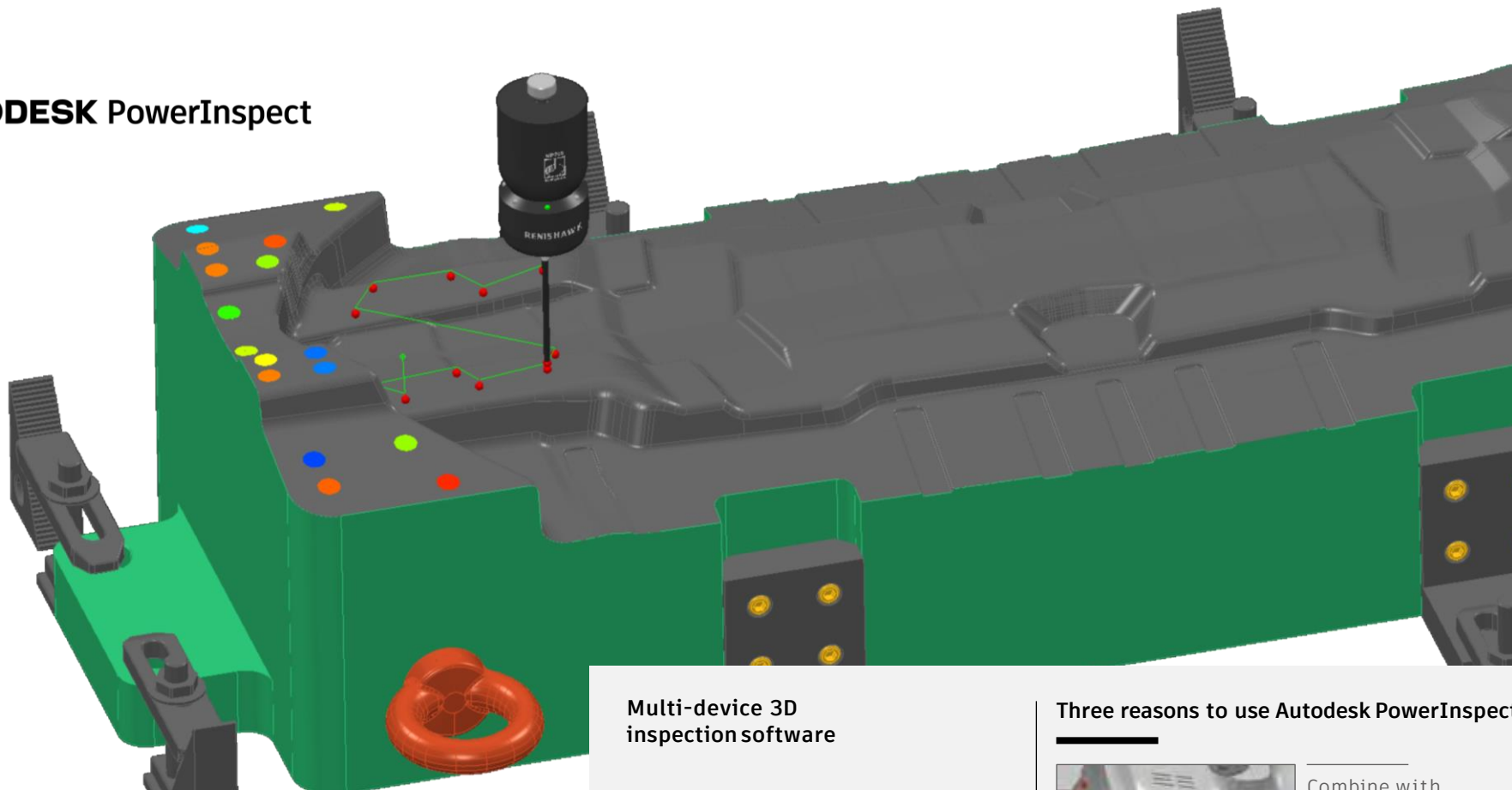


Find and repair faults to simplify downstream processes

[Learn more at www.autodesk.com/products/powershape](http://www.autodesk.com/products/powershape)



AUTODESK PowerInspect



“Our main target was to have one established inspection software on all our different hardware platforms

Hr Dr. Gohmann,
Head of QM and QA,
bielomatik Leuze GmbH + Co. KG

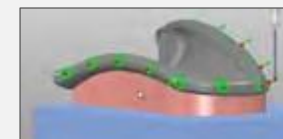
Multi-device 3D inspection software

Make inspecting complex freeform surfaces simple with a wide range of measuring devices. Autodesk® PowerInspect® offers a powerful way to inspect, validate, and quality control for all measurement equipment. Inspect parts during machining using On Machine Verification (OMV) to reduce scrap and avoid expensive rework. Minimize long setup times that can compromise machine productivity and overall plant capacity.

Three reasons to use Autodesk PowerInspect



Combine with PowerMill to maintain quality and accuracy



Save money by finding defects early in manufacturing

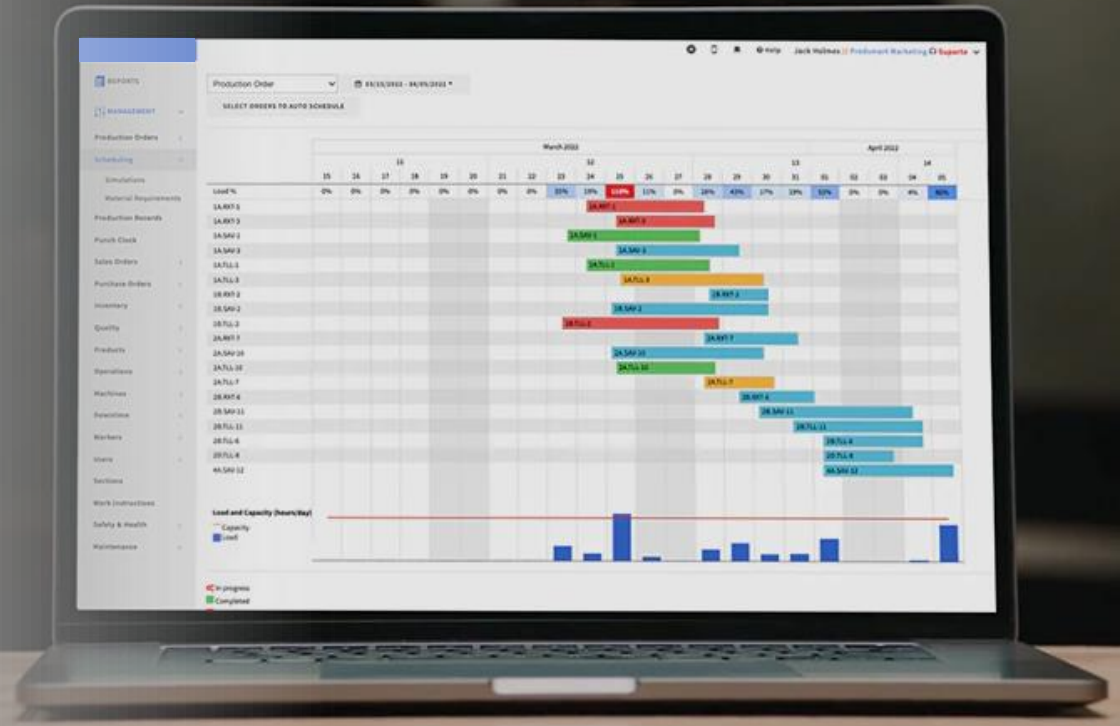


Easily inspect large, complex, and layered parts

[Learn more at www.autodesk.com/products/powerinspect](http://www.autodesk.com/products/powerinspect)



AUTODESK Fusion Operations



“This groundbreaking manufacturing execution system (MES) replaces paper-based data collection methods and renders the ultimate truth of the shop floor.

MES Solution Providers

Plan, assign, manage, and track shop-floor production

Create seamless manufacturing processes with one single source of truth, across your entire organization.

Fusion Operations optimizes the shop floor and connects your entire organization with digitized and automated manufacturing processes.

Plan, assign, manage, track and analyze fabricating and manufacturing shop floor production with one software solution.

Three reasons to use Fusion Operations



Real-time data with dashboard for connected manufacturing

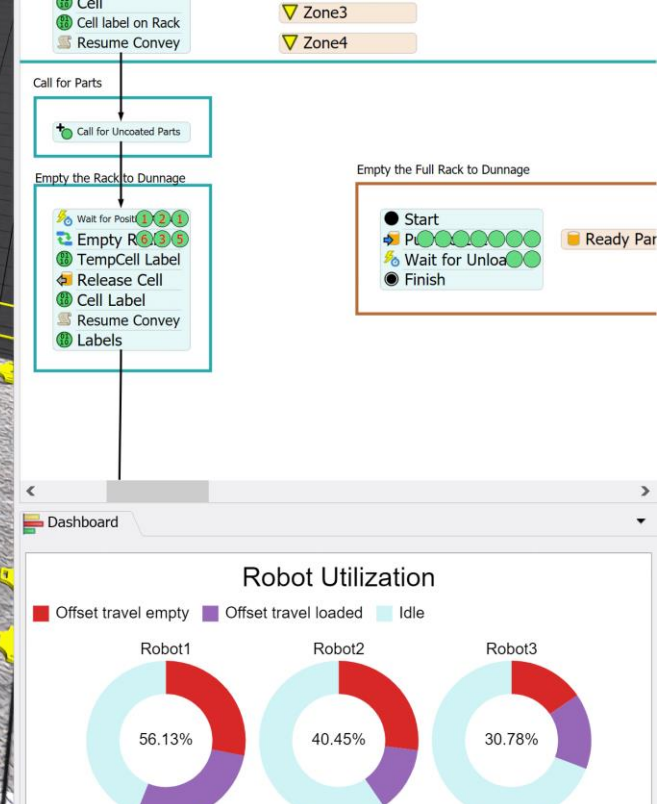
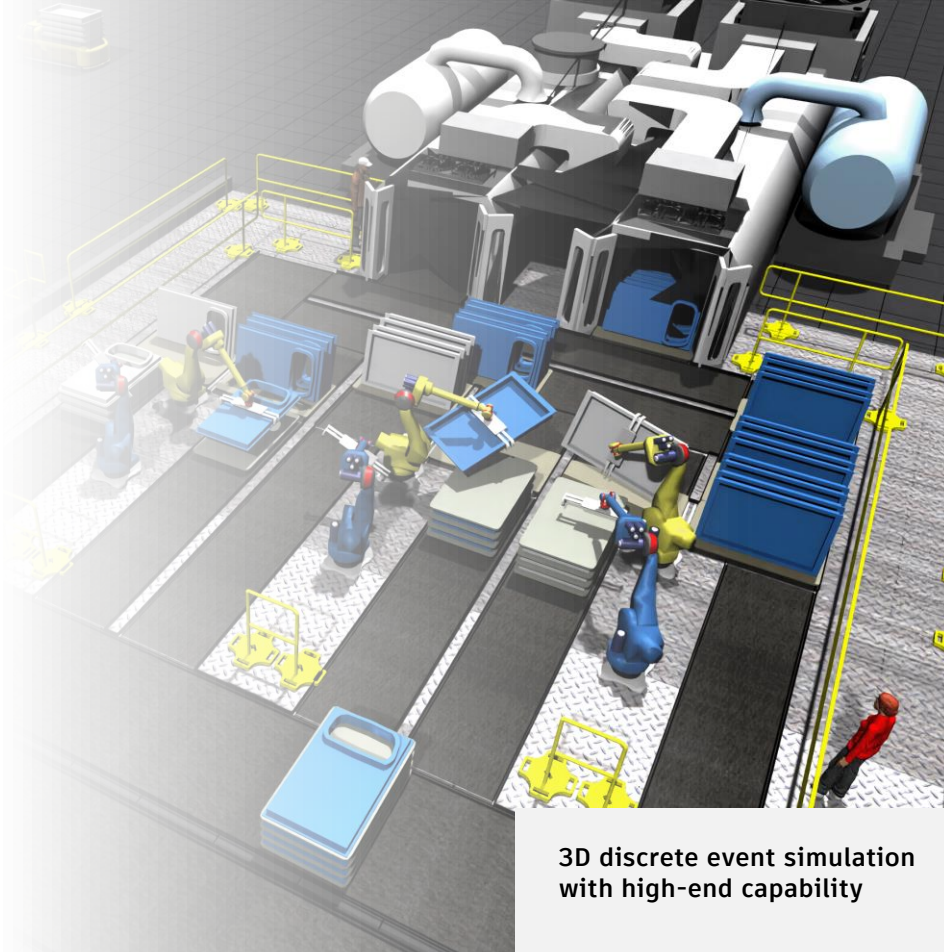


Effective scheduling for MRP and inventory management



Workflow visualization and performance tracking

[Learn more at www.autodesk.com/campaigns/prodsmart](http://www.autodesk.com/campaigns/prodsmart)



“The FlexSim model allowed us to do optimization runs where we could zero in on how many people we needed on each level and how big a pick wave we can run.”

John Friedl
Senior Vice President of
Automation and Innovation,
thredUP

3D discrete event simulation with high-end capability

FlexSim allows you to model any production process, transforming existing data into accurate predictions.

Whether you are designing a new factory layout or reconfiguring an existing line, FlexSim combines statistical analysis with 3D visualization to tell the complete factory story.

Test your changes in FlexSim first and make better, more informed decisions.

[Learn more at www.autodesk.com/products/flexsim](http://www.autodesk.com/products/flexsim)

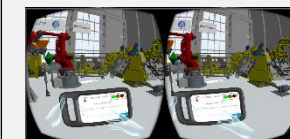
Three reasons to use FlexSim



Study alternative investment ideas and cost reduction plans



Balance production goals and find optimal factory solutions



Account for real-world variability to make accurate predictions



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Access specialists worldwide who can provide product expertise, a deep understanding of your industry, and value that extends beyond your software. Locate a reseller near you at www.autodesk.com/reseller

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