



AUTODESK®



AUTODESK® FUSION 360™

Fusion 360 is CAD reinvented. It brings together CAD, CAM, and CAE, connecting your entire product development process in a single cloud-based tool.

- Cloud-based 3D CAD, CAM, and CAE platform for product development
- Freeform modeling & sculpting
- Solid modeling
- Parametric modeling
- Mesh modeling
- Integrated simulation & testing
- Data translation of more than 50 file types
- Assembly modeling
- Joint & motion studies
- 2 & 2.5-axis machining
- 3D printing utility
- Integrated and associative 2D drawings
- 3-axis machining
- Distributed design
- Synchronous design reviews
- Tracking / commenting / sharing
- Version management
- combines industrial and mechanical design, simulation, collaboration, and machining in a single package
- enable fast and easy exploration of design ideas with an integrated concept-to-production toolset
- Natively developed for Mac and PC.
- Design, test, and fabricate in a single tool
- Work anywhere, collaborate with anyone

Fusion 360 is the world's first cloud-enabled 3D design software. It brings together CAD, CAM, and CAE, connecting the entire product development process in a single cloud-based tool. It's an integrated, connected, and accessible platform built for the new ways products are being designed and made. It was natively developed for both Mac and PC, and it is developed collaboratively with its user community, so new features are released every 6-8 weeks on average.

The cloud functionality enables designers and teams to collaborate from anywhere, work with anyone, and track versions, comments, and tasks.

Fusion 360 enables teams to design, engineer, and fabricate components and products easily and quickly.

DESIGN, and explore form

- Quickly iterate on design ideas with sculpting tools to explore form and modeling tools to create finishing features
- Freeform modeling & sculpting - - Create smooth and precise surfaces with T-Splines technology or with sketch curves, patches, and extrusions. Obtain the exact amount of curvature you want in your models by editing the form's face, edges, and vertices.
- Solid Modeling - With Fusion 360, history modeling consists of a historic timeline. The timeline captures commands used during the design process. You can go back and edit any of those operations without needing to update anything downstream—everything updates automatically. Create base feature models that are history-free, and then use them in the history-enabled environment for top-down design. Access robust solid modeling tools that allow you to easily create organic designs, as well as detailed mechanical parts, or a combination of both. Perform powerful Boolean operations, and add features such as webs, lofts, patterns, and much more to your existing model.
- Parametric Modeling - Set precise parameters to your sketches. Model dimensions with specific values as well as relational functions. Make changes to the parameters and the model will update, keeping the mechanical features previously created intact.
- Mesh Modeling - Bring in scanned STL or OBJ data and use them as the reference for your Fusion 360 design. Create T-Spline faces right on top of the surface using Object Snap, or use the Pull command to snap vertices right onto the mesh body. This allows you to freely edit the T-Spline model.

ENGINEER the design with integrated simulation

- Simulation and testing - Create tests and animate test results to help you determine the weakest areas of your model or areas that are most likely to fail. Share, view, and mark-up study results with your team via A360. Choose from two types of simulation studies: Linear static stress and Modal Frequency.
- Data Translation - Import standard CAD formats, such as SLDPRT, SAT, IGES, STEP, STL, and OBJ. Fusion 360 will keep your original file and create an F3D counterpart. Export locally as well as via the cloud—you'll receive an email notification when your

model has been translated and is available for download. **Local file export types** include IGES, SAT, SMT, STEP, F3D, and DXF. **Cloud export file types** include Inventor 2014, IGES, SAT, SMT, STEP, DWG, DXF, STL, FBX, and F3D.

- **Assembly Modeling** - Assemble your parts in the same environment in which you designed them. Join parts as they are built, or select specific joint origins and positions. Choose among a variety of different joint types, such as rigid, revolute, slider, cylindrical, pin-slot planar, and ball. Set joint limits to get the exact amount of movement you need in your designs, and preview the kinematics in real time.
- **Joint & Motion Studies** - Get a sense of how the assembly could behave as a working prototype by activating all the joints in a motion study. Animate the motion of the joints by setting a specific order in which the motion should take place. Play the motion from start to finish, or play it in reverse.

FABRICATE

- **2 and 2.5-axis machining** - The CAM capabilities of Fusion 360 share the same proven CAM kernel as HSMWorks and Inventor HSM™, enabling you to quickly generate toolpaths that cut cycle times, reduce machine and tool wear, and produce the highest-quality finished parts. 2D strategies include drilling, contouring, pocketing, facing, and adaptive clearing.
- **3D Printing Utility** – Prepare your designs for 3D printing by previewing the mesh structure, making pre-print refinements, and automatically creating optimized support structures. You can also print multiple different designs at once. Fusion 360 is easily used with 3D printing software utilities, including Autodesk® Print Studio, powered by Spark, which allows you to prepare and communicate directly with the Autodesk Ember™3D printer. It's also compatible with a variety of 3D printers, including direct integration with printers from Type A Machines, Dremel, MakerBot, and Ultimaker.
- **Drawings** - Rapidly specify views, dimensions, and tolerances with associative 2D drawings, which can be updated with just a click if changes were made to the original model downstream. Archive them locally as DWG or PDF.
- **3-Axis Machining** - In addition to all the existing 2-axis strategies, 3-axis CAM offers parallel toolpaths, horizontal clearing, penciling, scallop/constant stopover strategies, and spiral/morphed spiral for more organic designs.