



# Top tools to take product designs from excellent to exceptional

**Name**

Title

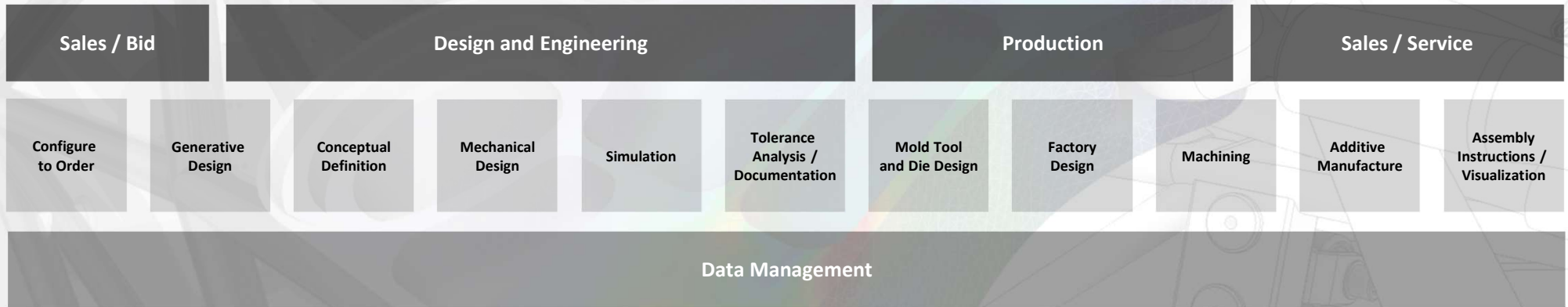
**Name**

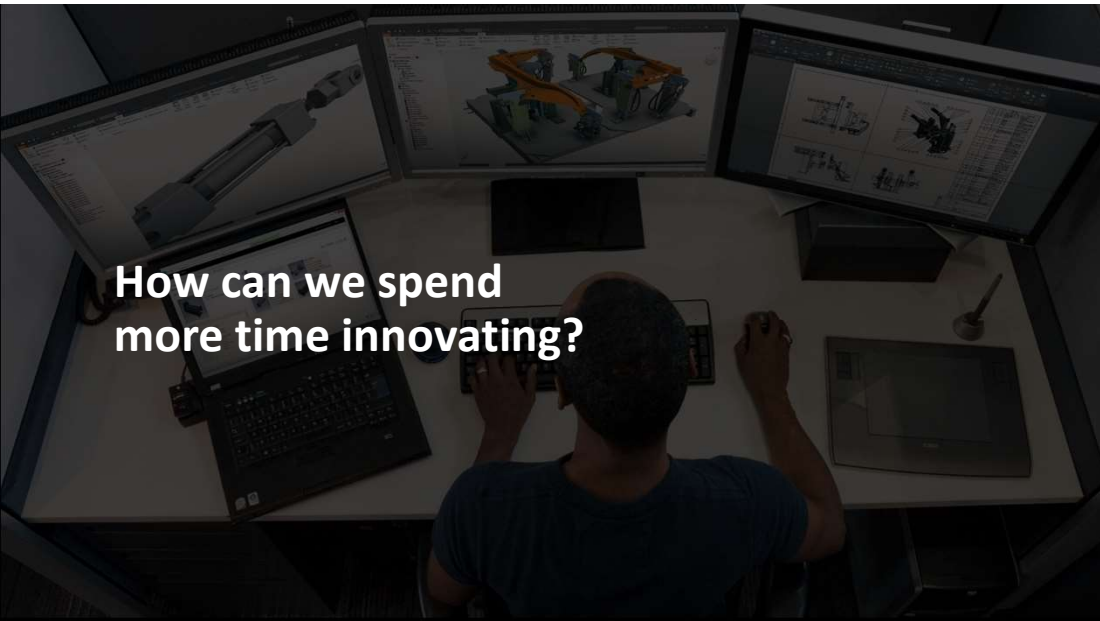
Title



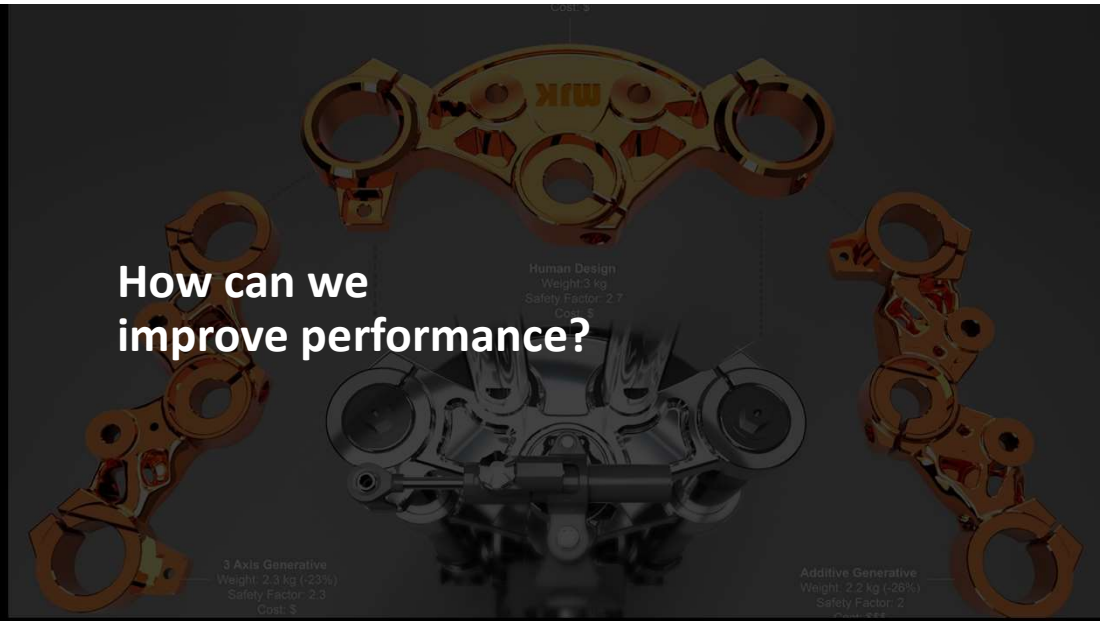


# AUTODESK Product Design & Manufacturing Collection





How can we spend more time innovating?



How can we improve performance?



How can we win more business?



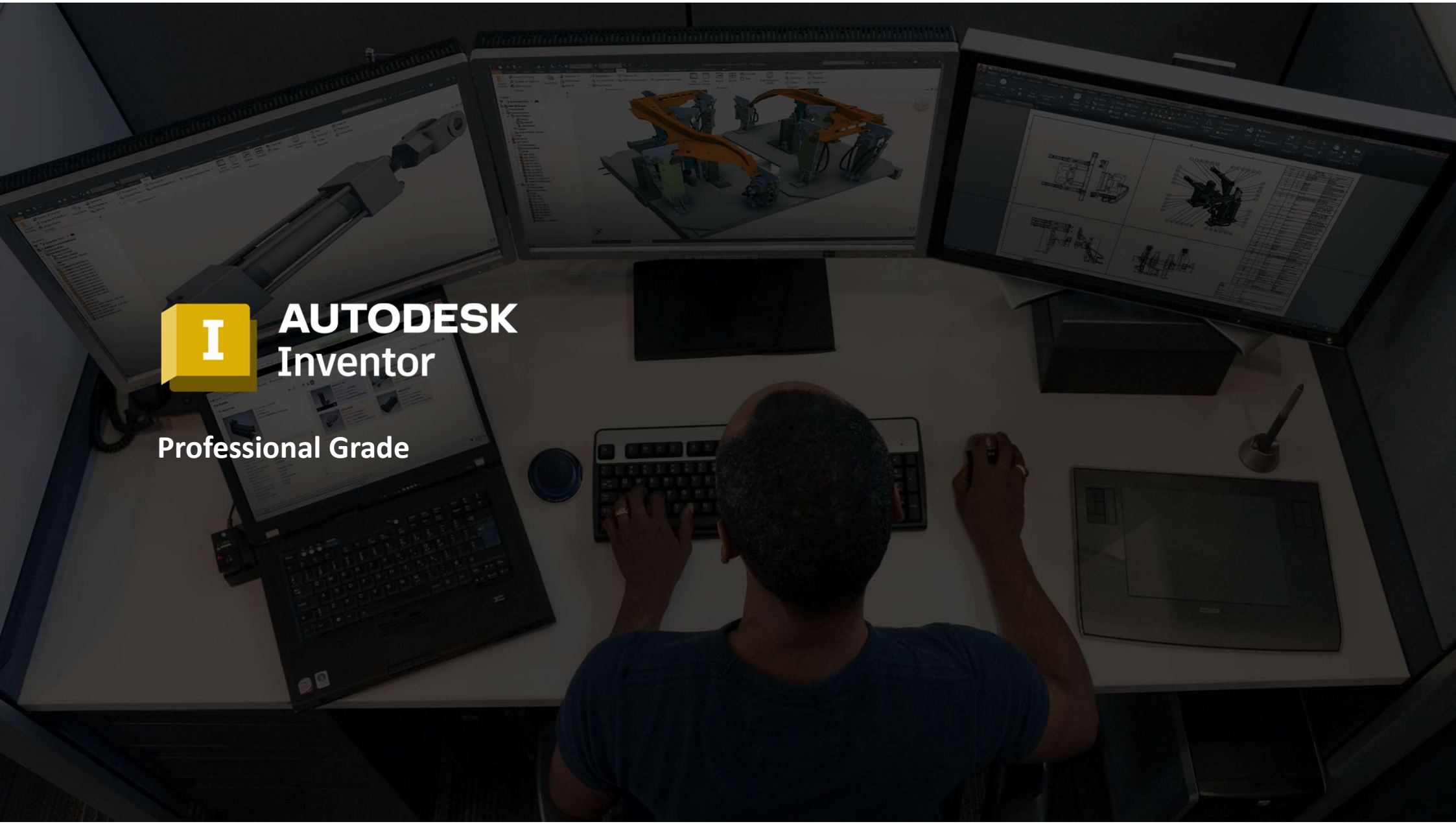
How do we streamline manufacturing?





**AUTODESK**  
Inventor

Professional Grade





Autodesk | Product Design & Manufacturing Collection

# Inventor Professional

## 3D Mechanical Design

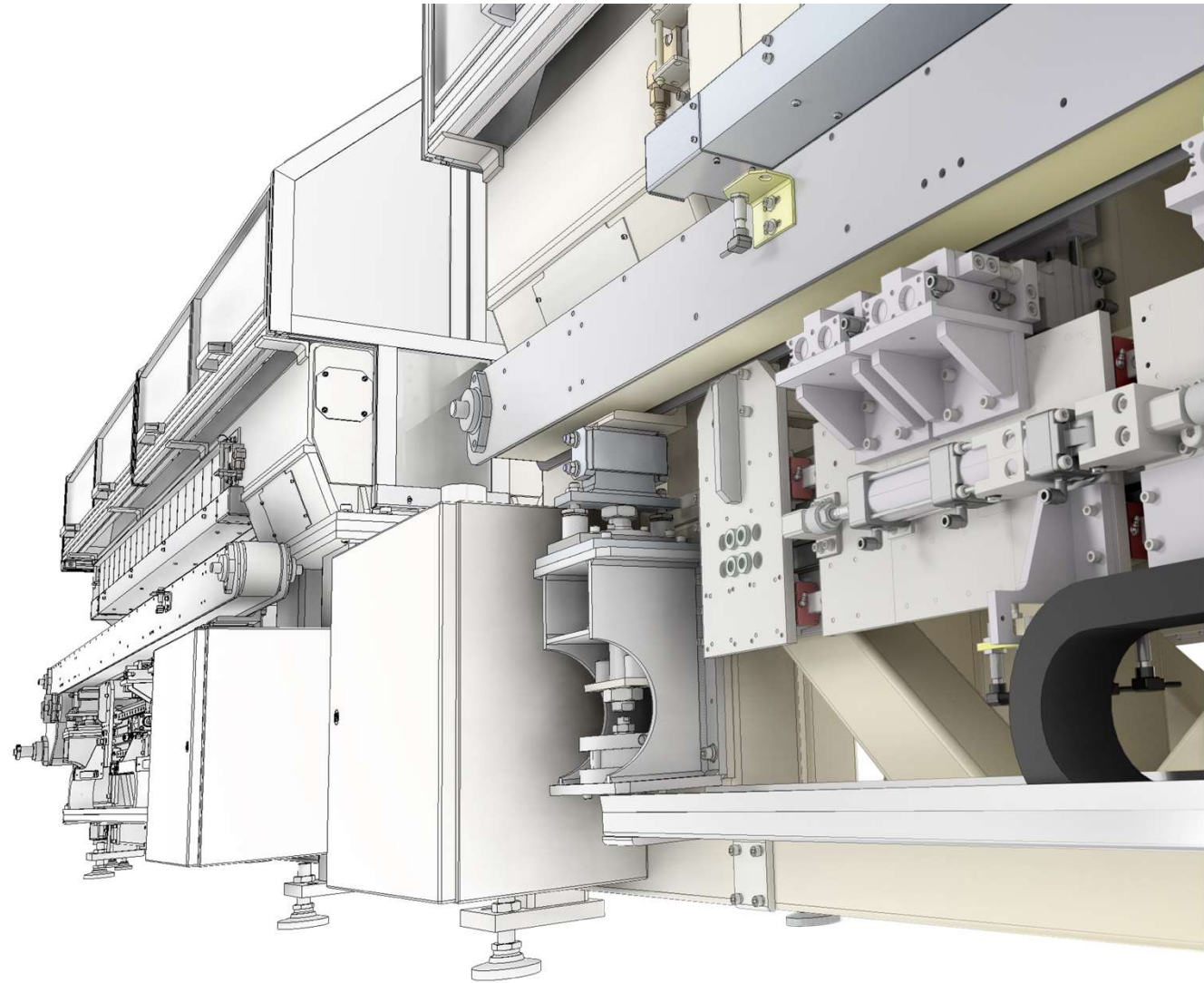
From a single part to massive assemblies, intuitively model and document your products with professional-grade 3D design capabilities.

### Specialized modeling tools

- Sheet Metal
- Welded Frames
- Tube & Pipe

### Powerful blend of flexible modeling tools

- Parametric
- Direct
- Freeform

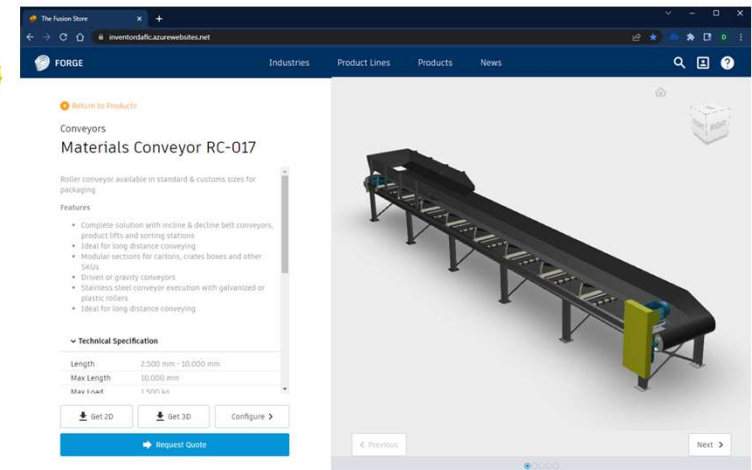
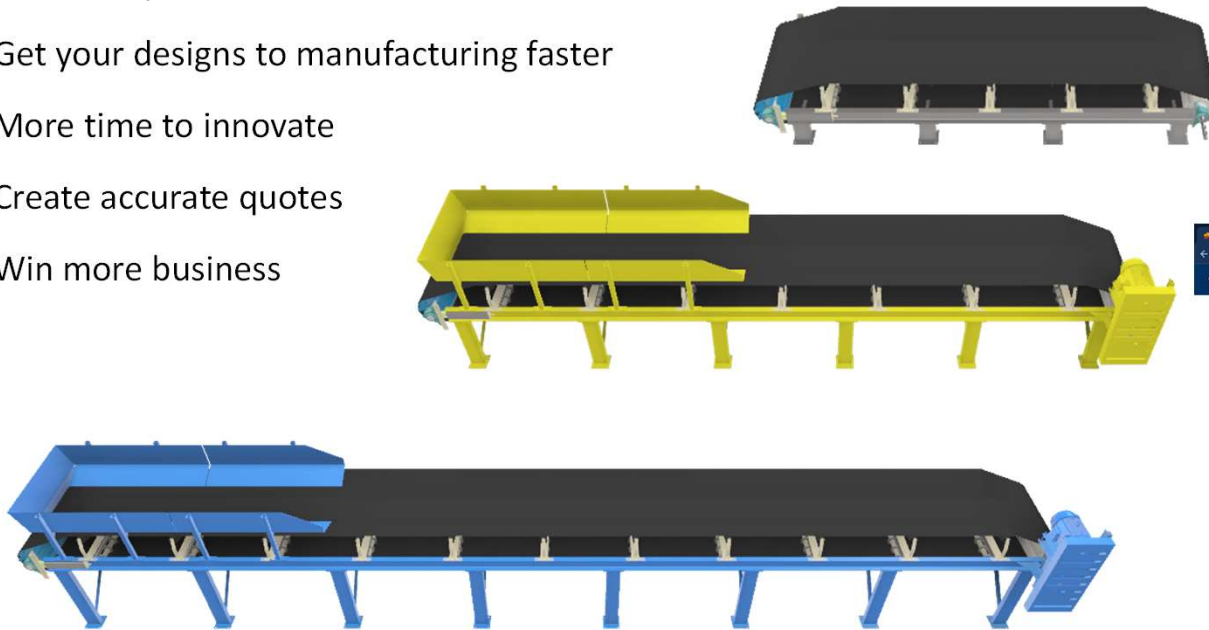
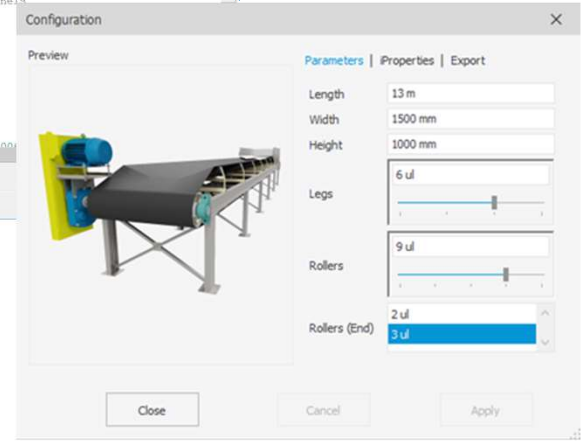
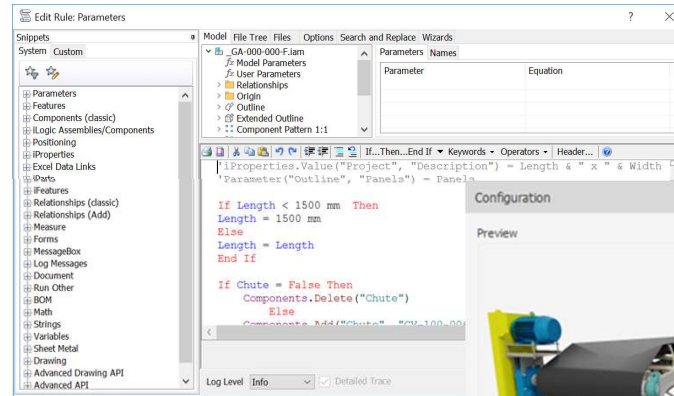


# Inventor Professional

## Design Automation

Enable rapid assembly reconfigurations and efficient design re-use

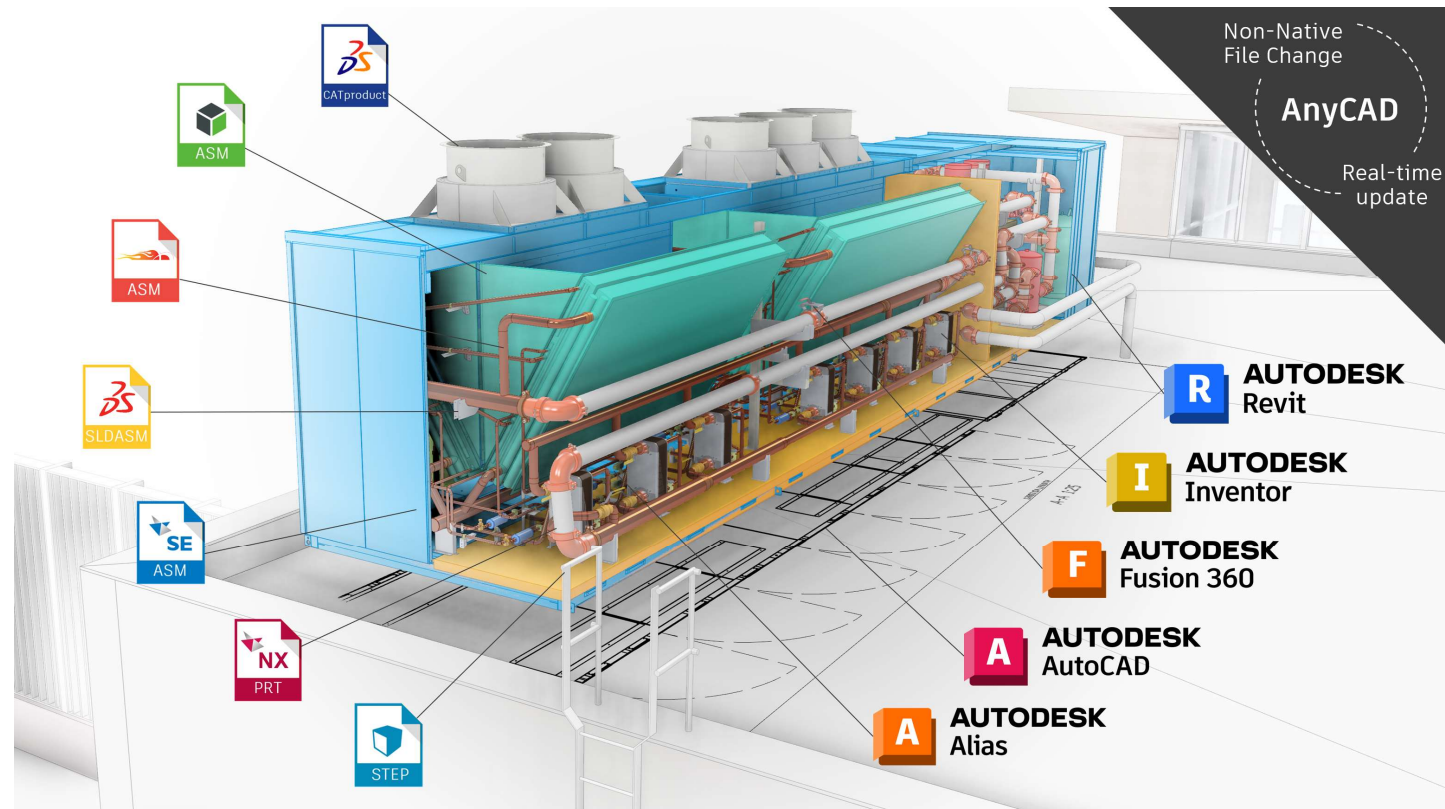
- Reduce repetitive tasks
- Get your designs to manufacturing faster
- More time to innovate
- Create accurate quotes
- Win more business



# Inventor Professional

## Interoperability

- Open native files from other CAD systems
- Skip translation
- Work associatively





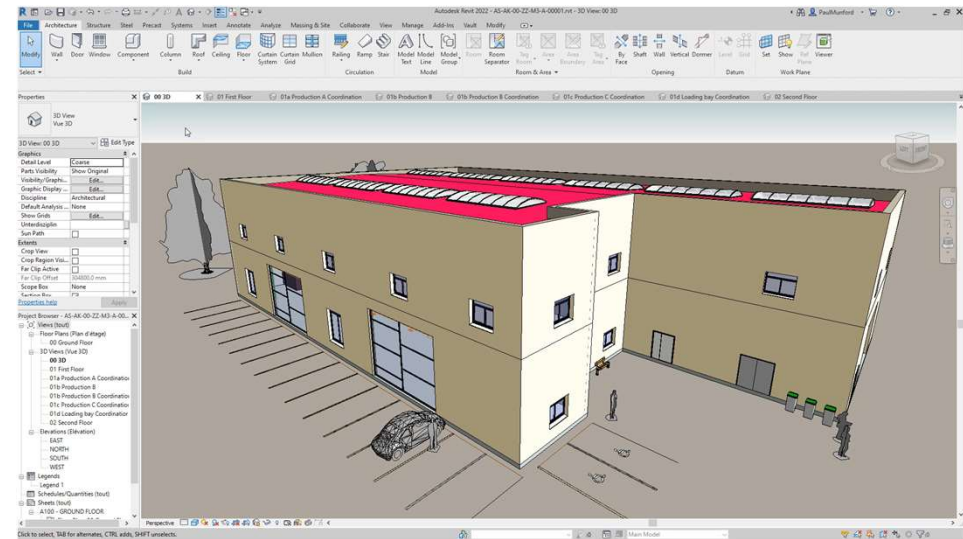
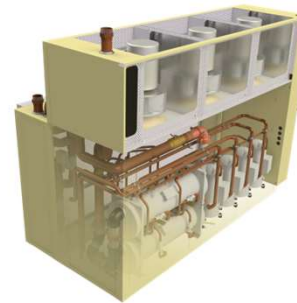
# Inventor Professional

## BIM Interoperability

Reference Revit projects to help co-ordination.

Convert configurable 3D CAD models into BIM objects that make it easy for architects and contractors to specify the use of your products in their projects

- Simplify your designs
- Author BIM objects
- Automate product configurations

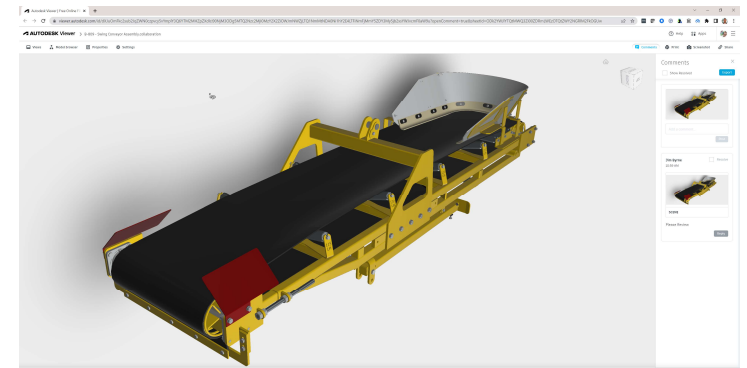
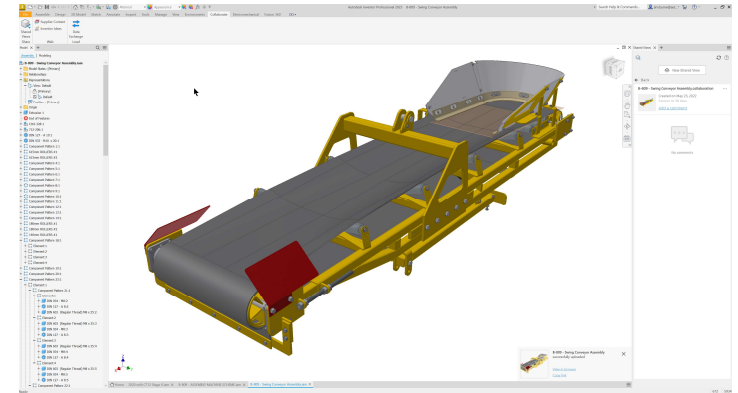
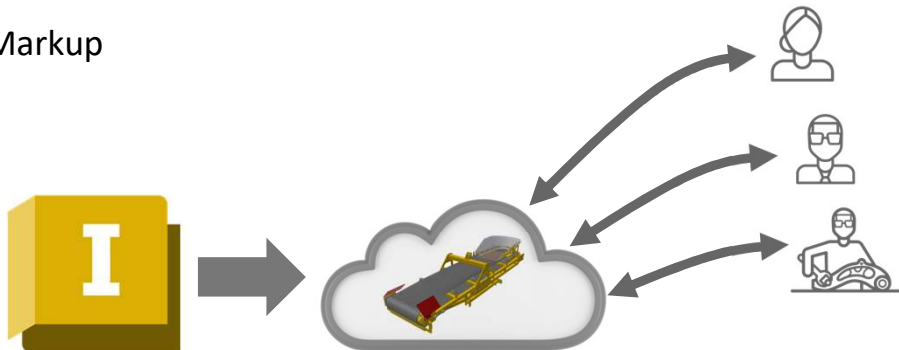


# Inventor

## Shared Views

Collaborate on a visual representation of your design online.

- View
- Comment
- Measure
- Section
- Explode
- Markup







Autodesk | Product Design & Manufacturing Collection

# FS-Elliott

## Customer Story

FS Elliott uses the power of iLogic technology to automate the 3D modeling process for several of their most complex products.

*“iLogic is key to our continued success as being the premier global provider of centrifugal compressor solutions. We utilize iLogic to drive complex model automation, increasing our efficiency and accuracy. Thus, helping us achieve our goal of being the premier global provider of centrifugal compressor solutions.”*





**AUTODESK**  
Inventor

Extended Capabilities



**AUTODESK**  
Inventor Tolerance  
Analysis



**AUTODESK**  
Factory Design  
Utilities



**AUTODESK**  
Inventor Nastran



**AUTODESK**  
Inventor CAM



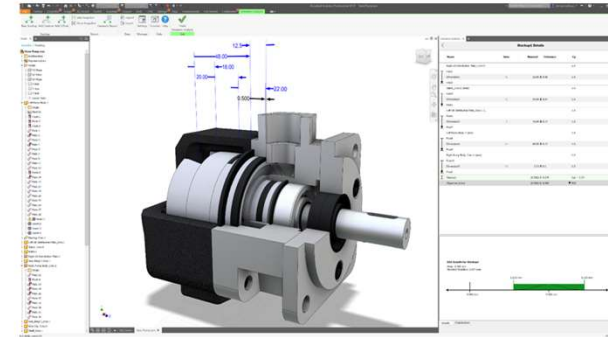
**AUTODESK**  
Inventor Nesting

# Extended Capabilities

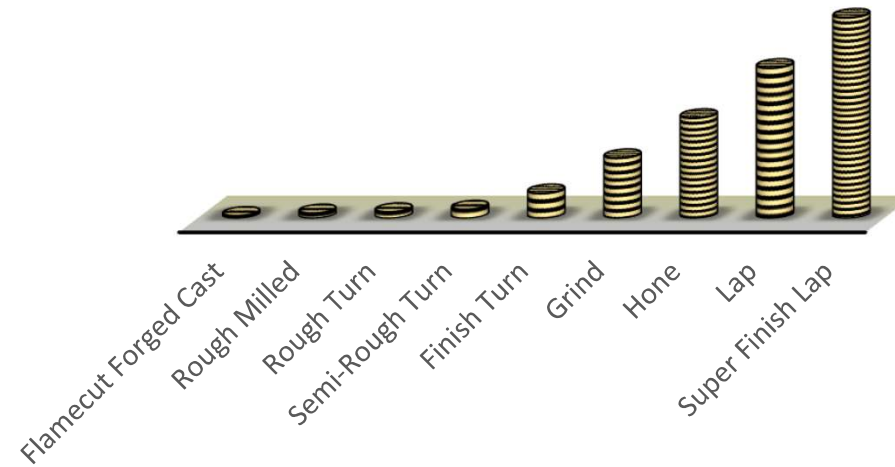
## Tolerance Analysis

Understand the cost impact of dimensional variation

- Reduce tolerance issues
- Report generation
- Advanced statistical results
  - RSS
  - Cpk
  - Sigma
  - % Yield
  - DPMO



INCREASING COST FOR MACHINING PROCESSES



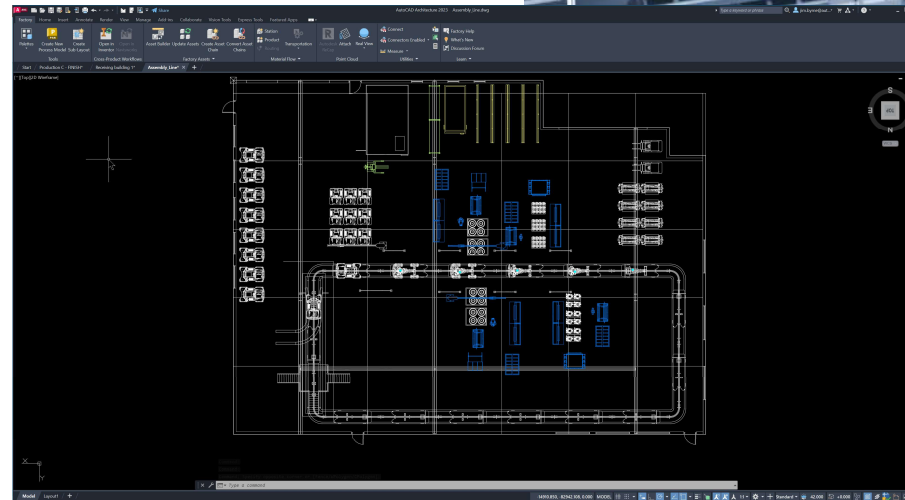


# Extended Capabilities

## Factory Layout

Plan and validate factory layouts for efficient equipment placement to improve production performance

- Analyze processes
- Optimize material flow
- Check for clashes
- Reduce time to volume

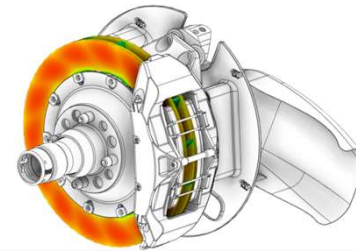


# Extended Capabilities

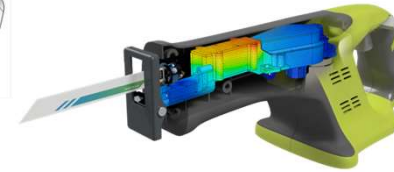
## Advanced Simulation

Access to advanced finite element analysis tools for designers and analysts

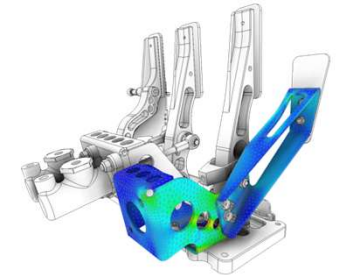
- Nonlinear
- Fatigue
- Thermal
- Vibration
- Dynamics



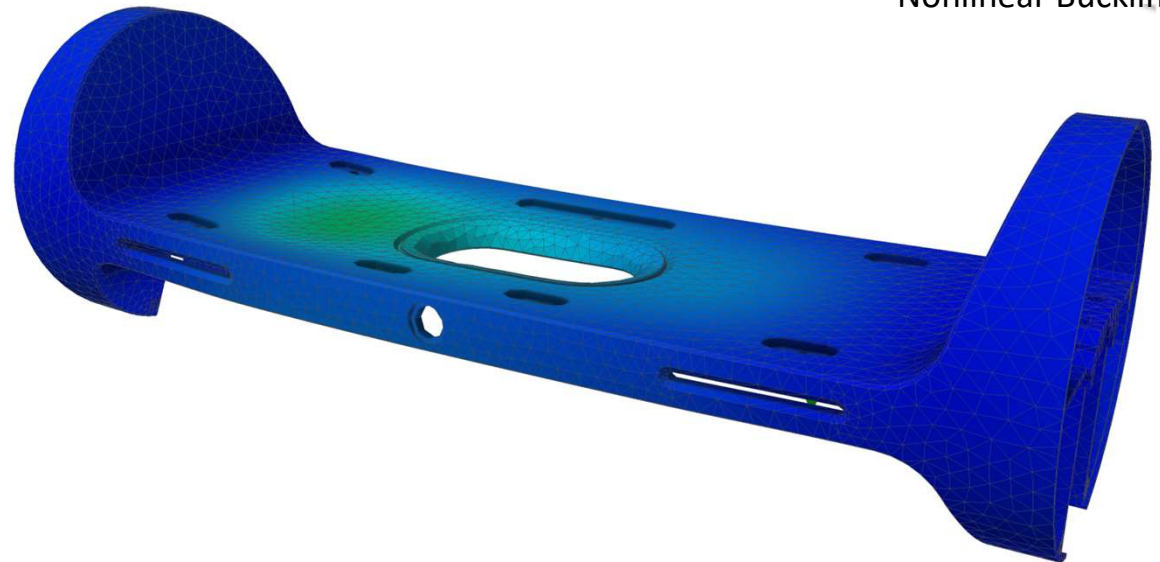
Thermal



Vibration



Nonlinear Buckling



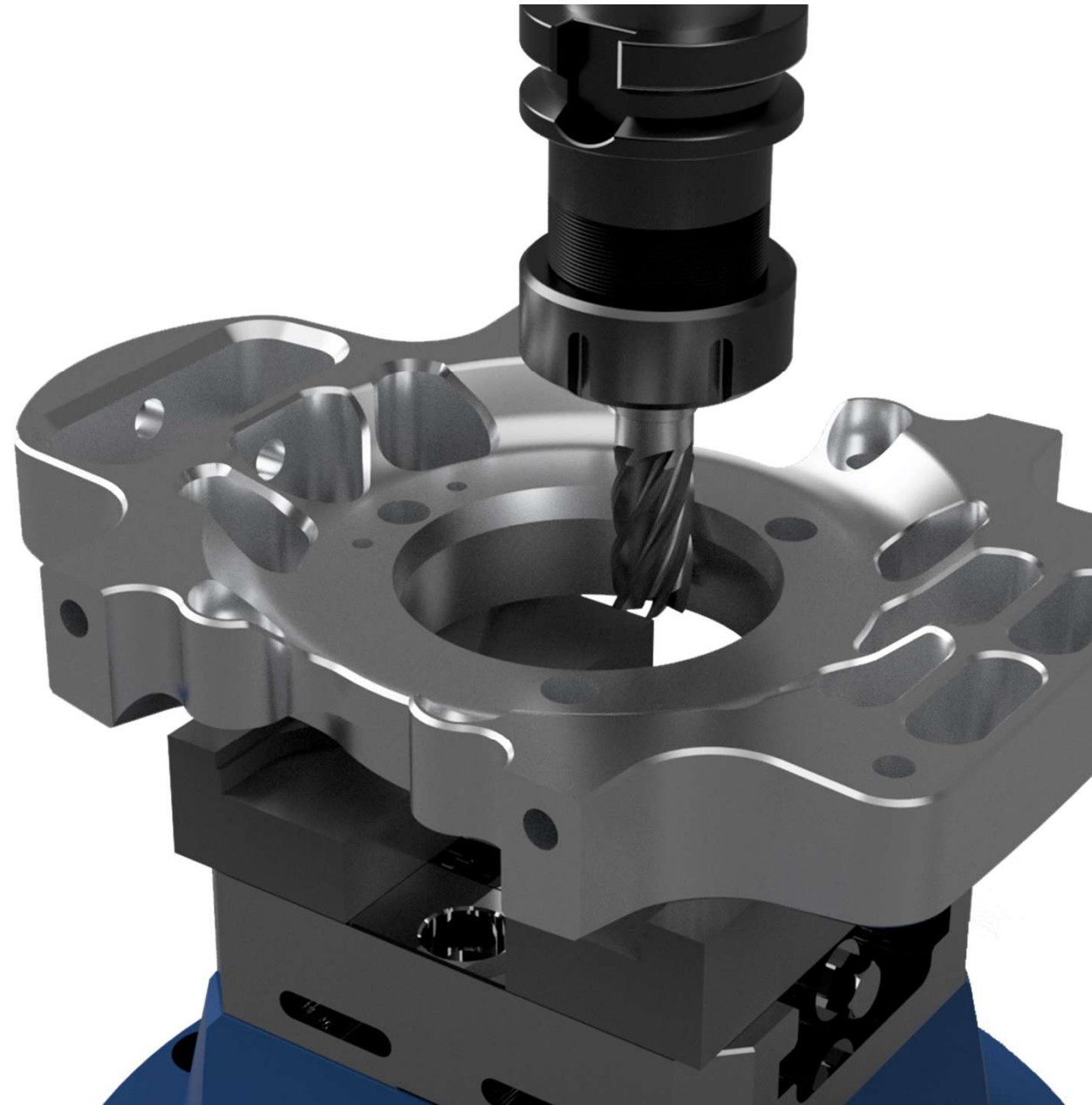
Autodesk | Product Design & Manufacturing Collection

# Extended Capabilities

## CAM

Simplify your machining workflow with integrated 2.5-axis to 5-axis CAM

- Multi-axis operations
- Adaptive clearing
- Turning and mill-turn



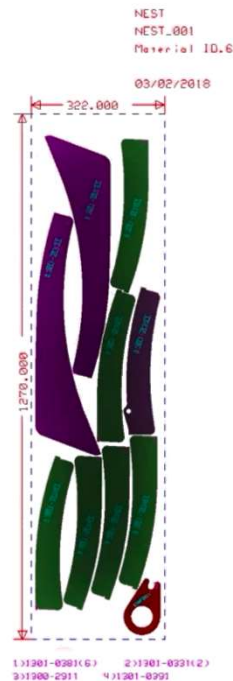
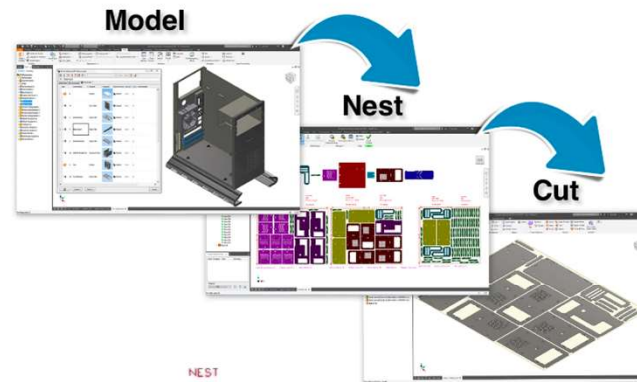


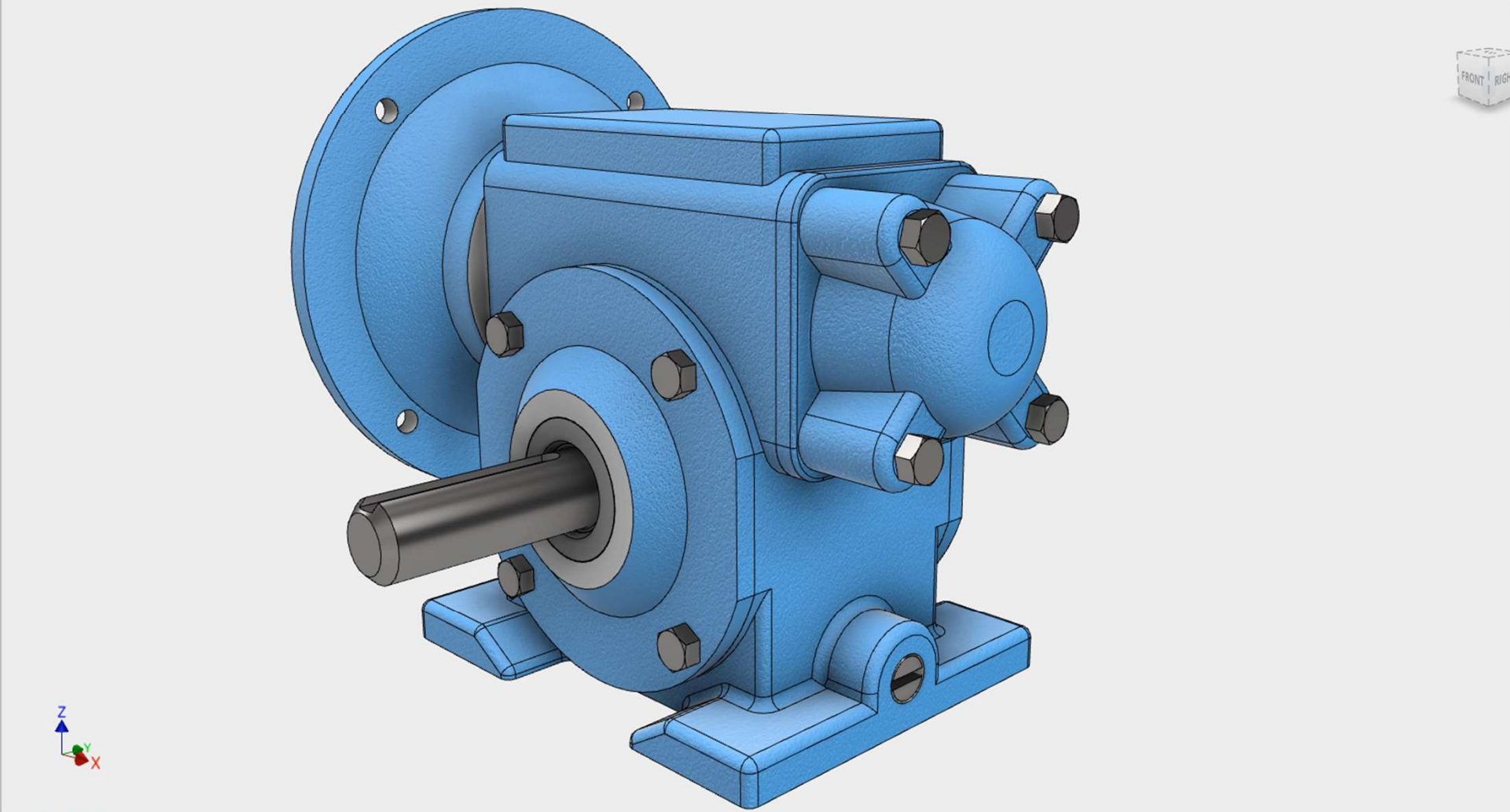
# Extended Capabilities

## Nesting

CAD-embedded, true-shape nesting software that helps you optimize yield from raw material

- Generate cutting paths with Inventor CAM
- Review and compare reports





File Factory Assemble Design 3D Model Sketch Annotate Inspect Tools CAM Manage View Environments Data Standard Get Started Vault Electromechanical Collaborate Simulation

Place Create Free Move Free Rotate Joint Constrain Show Show Sick Hide All Pattern Mirror Copy Pattern Manage Create Derived Substitutes Productivity Plane Axis Point UCS Simplify

Layout Browser Model Logic

- Assembly | Modeling
- FEOD-00270098.iam (X1)
- Model States: X1
- Relationships
- Representations
  - View: Main Assy
    - Master
    - Vorgabe
    - Simulation
    - Main Assy
  - Position
- Origin
- FEOD-00197029:1 (X1)
- FEOD-00199670:1
- FEOD-00199700:1 (X1)
- FEOD-00199700:2 (X1)
- FEOD-00270087:1



FEOD-00270098.iam X



Autodesk | Product Design & Manufacturing Collection

# Can Lines Engineering Customer Story

Streamlining manufacturing processes to get conveyor lines up and running quickly for clients

*"Inventor has sped up our processes and made them more repeatable."*





**I** **AUTODESK**  
Inventor

Connected Applications

**A** **AUTODESK**  
AutoCAD

**N** **AUTODESK**  
Navisworks Manage

**3** **AUTODESK**  
3ds Max

**R** **AUTODESK**  
ReCap Pro

**V** **AUTODESK**  
Vault Basic



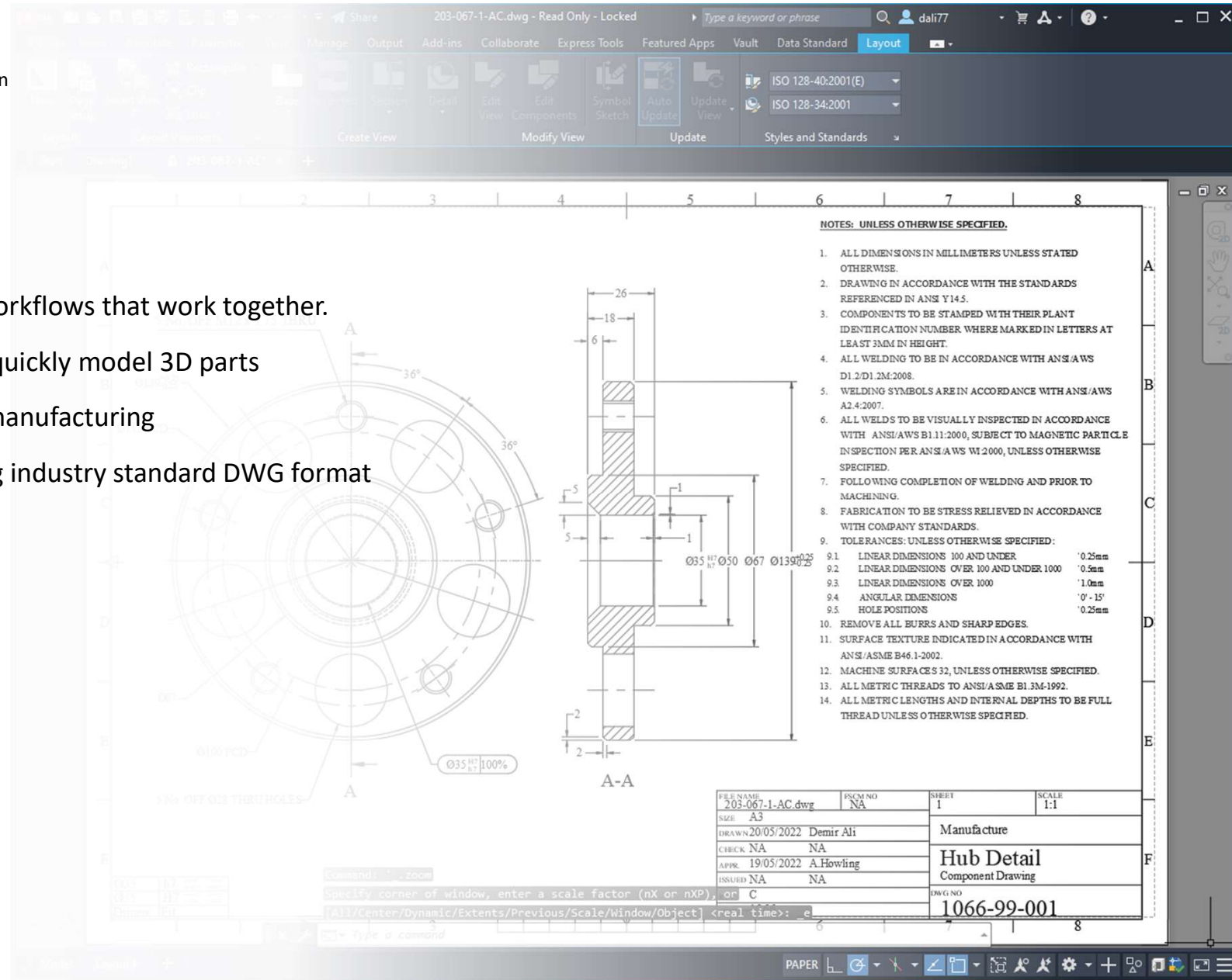
Autodesk Product Design & Manufacturing Collection

# Connected Tools

## AutoCAD and Inventor

Take advantage of 2D and 3D workflows that work together.

- Use existing 2D drawings to quickly model 3D parts
- Document your designs for manufacturing
- Collaborate with others using industry standard DWG format



Autodesk Product Design & Manufacturing Collection

# Connected Tools

## Navisworks

Collaborate across multiple project disciplines

- Aggregate data
- Large scale design reviews
- Clash management
- Scheduling installation



Autodesk Product Design & Manufacturing Collection

# Connected Tools

## Electromechanical

Connect electrical and mechanical design data associatively

- Route cable
- Wire harness
- Nail board drawings
- Schematics
- Live link

**AUTODESK**  
Inventor

**AUTODESK**  
AutoCAD





Autodesk Product Design & Manufacturing Collection

## Connected Tools

### Cinematic Animations and Renderings

Produce professional, photorealistic renderings and cinematic animations for customers and marketing material

**3** **AUTODESK**  
3ds Max

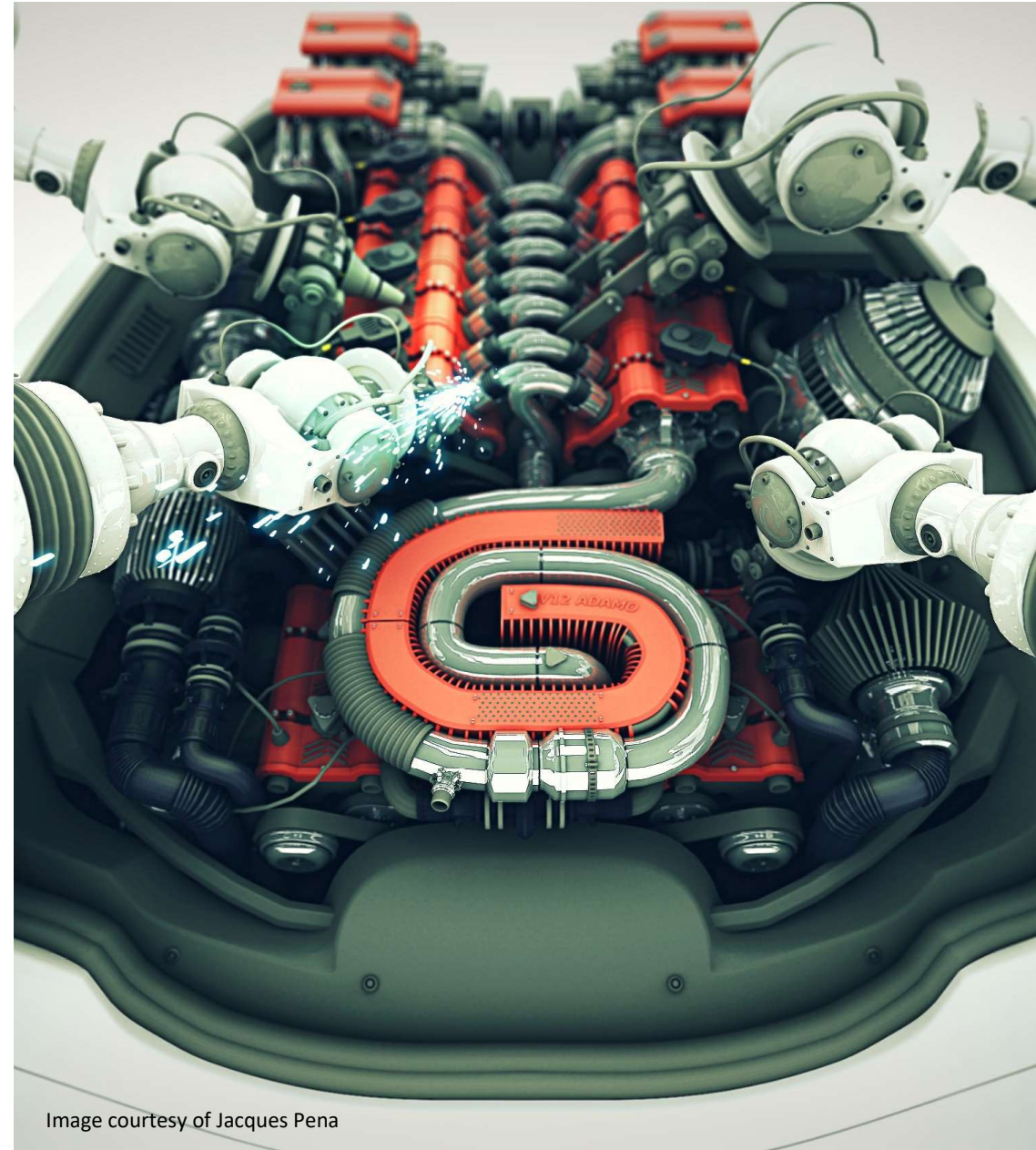
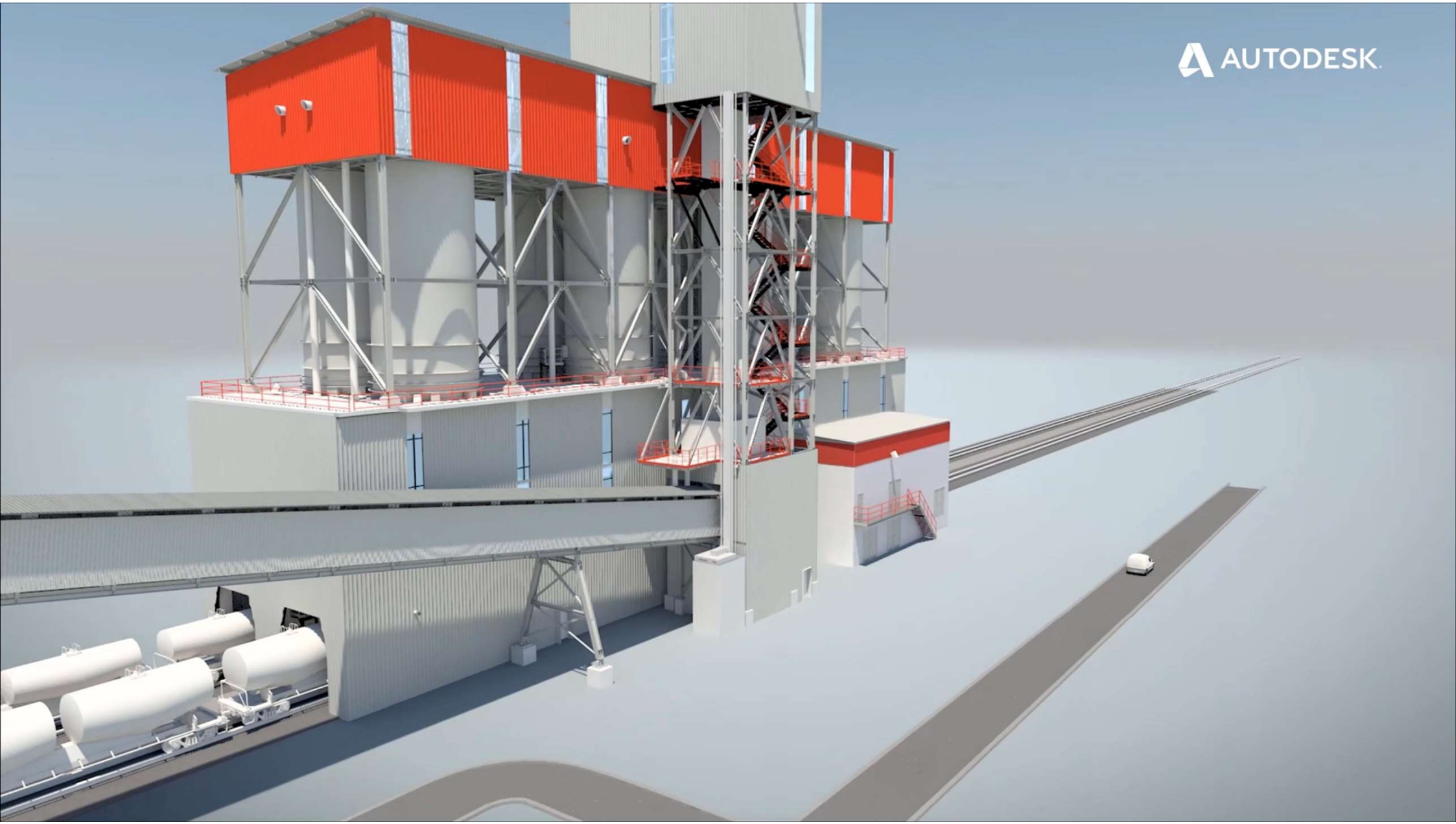


Image courtesy of Jacques Pena









**AUTODESK**  
Inventor



**AUTODESK**  
Fusion 360

Connected Workflows



# Inventor and Fusion 360

## Generative Design

Autodesk generative design is a design exploration technology

Simultaneously generate multiple CAD-ready solutions based on real-world manufacturing constraints and product performance requirements



Human Design  
Weight: 3 kg  
Safety factor: 2.7  
Cost: \$



2.5 Axis Generative  
Weight: 2.3 kg (-23%)  
Safety factor: 2.2  
Cost: \$



3 Axis Generative  
Weight: 2.3 kg (-23%)  
Safety factor: 2.3  
Cost: \$



Additive Generative  
Weight: 2.2 (-26%)  
Safety factor: 2  
Cost: \$\$\$



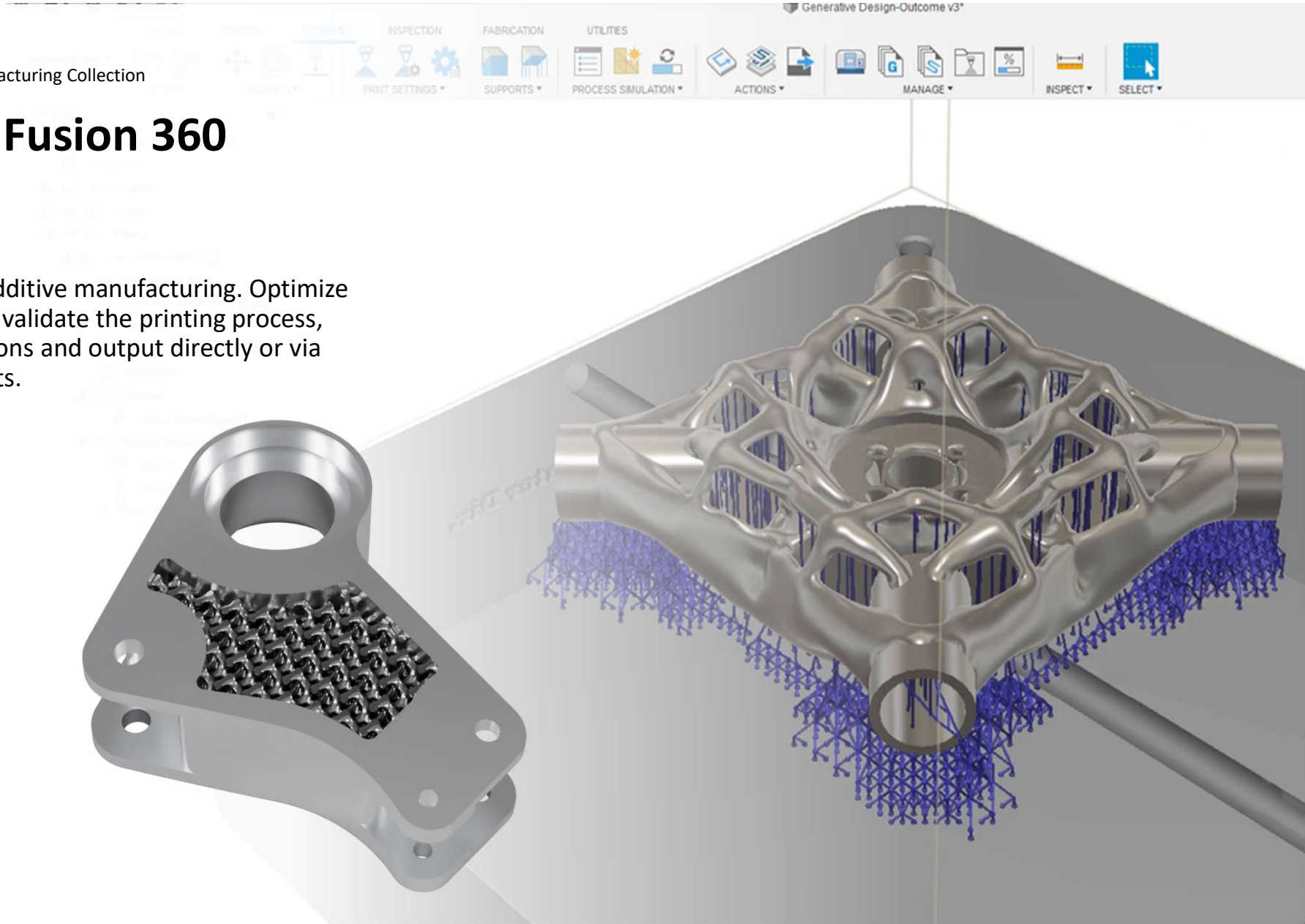


Autodesk Product Design & Manufacturing Collection

# Inventor and Fusion 360

## Additive

Prepare parts for additive manufacturing. Optimize support structures, validate the printing process, generate build options and output directly or via standard file formats.



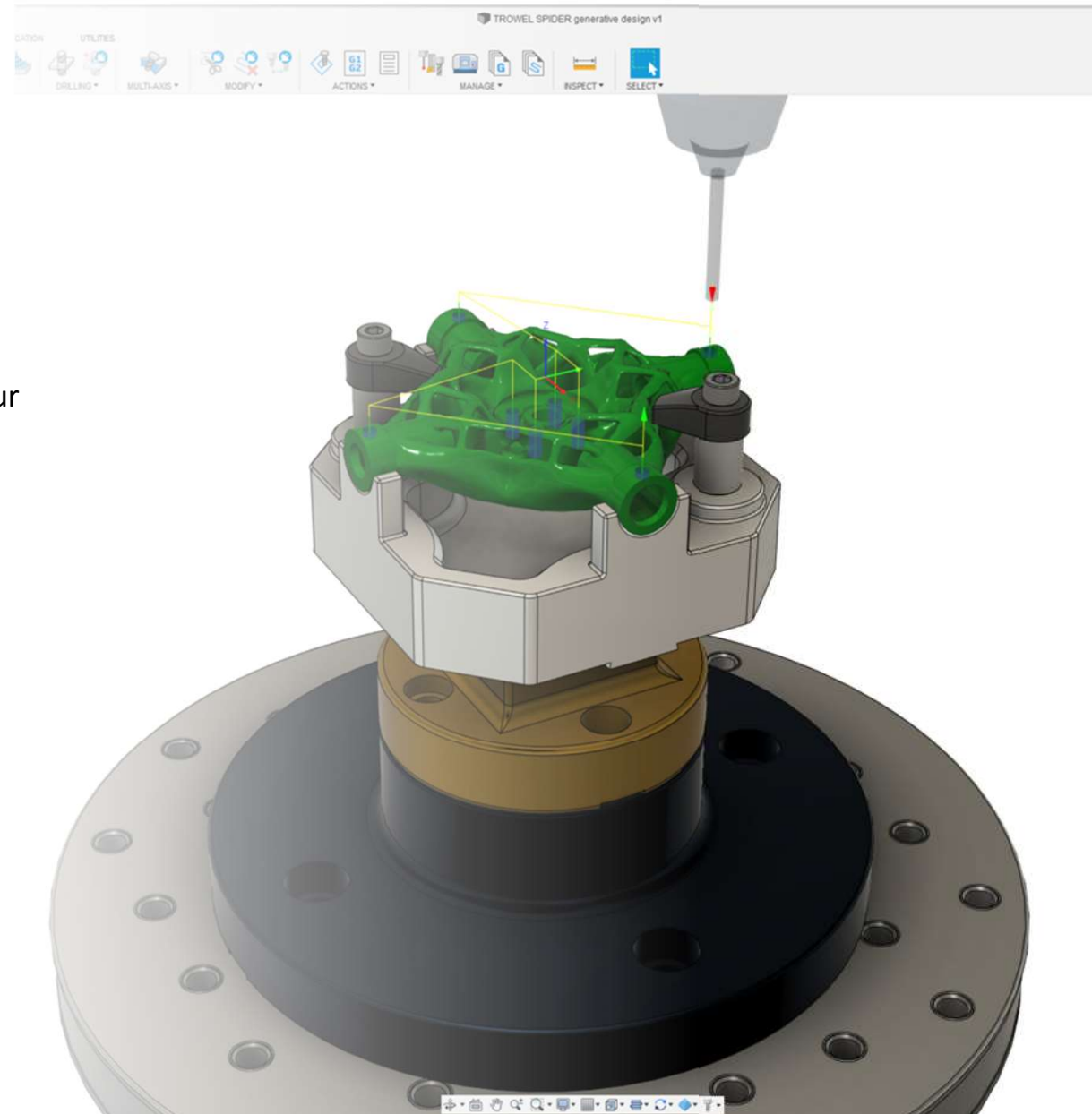
Autodesk Product Design & Manufacturing Collection

# Inventor and Fusion 360

## CAM

Produce high-quality CNC machined parts and choose from a variety of manufacturing techniques to make your design a reality.

Automate processes such as alignment and define downstream processes such as the finished part inspection.



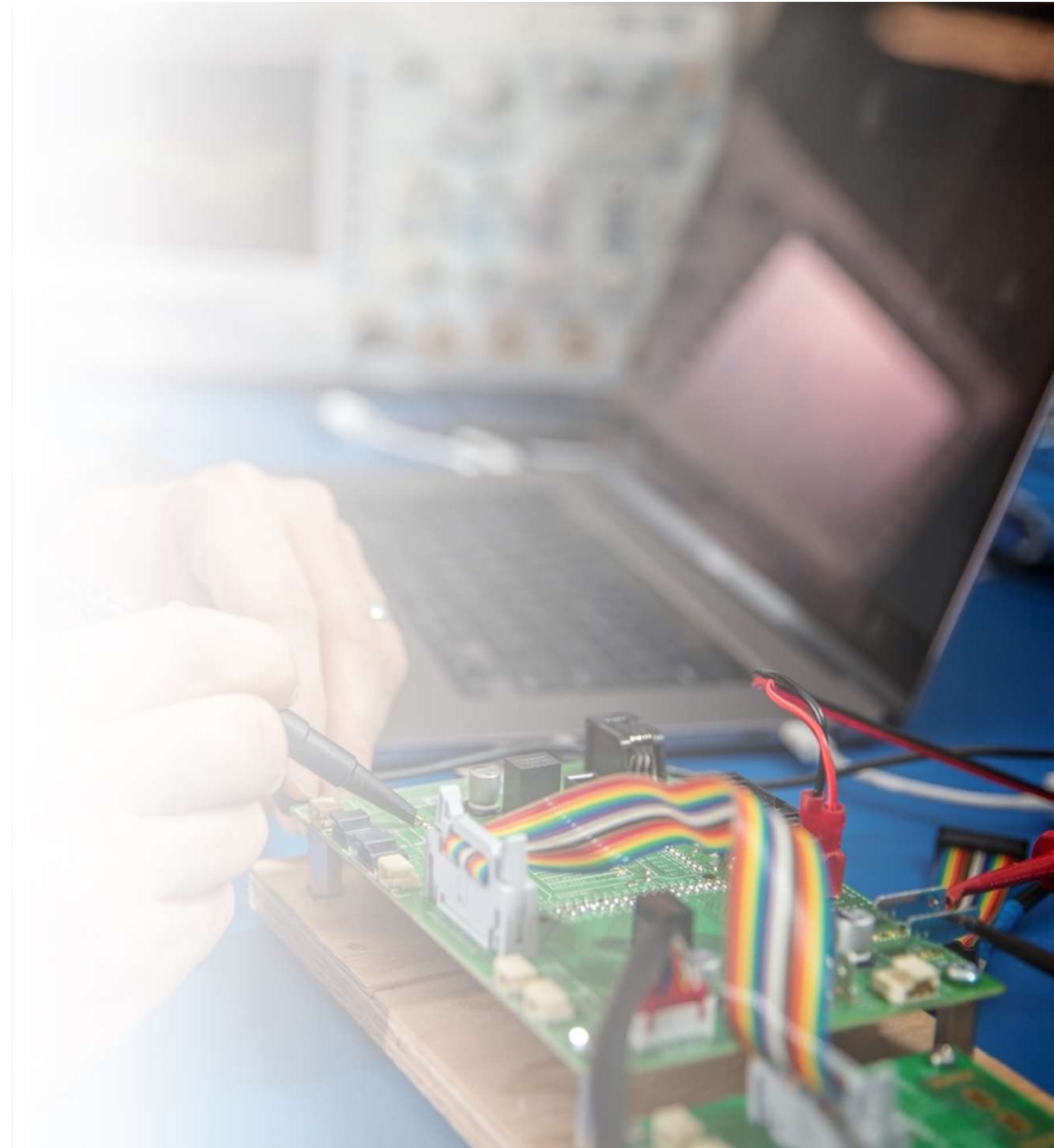
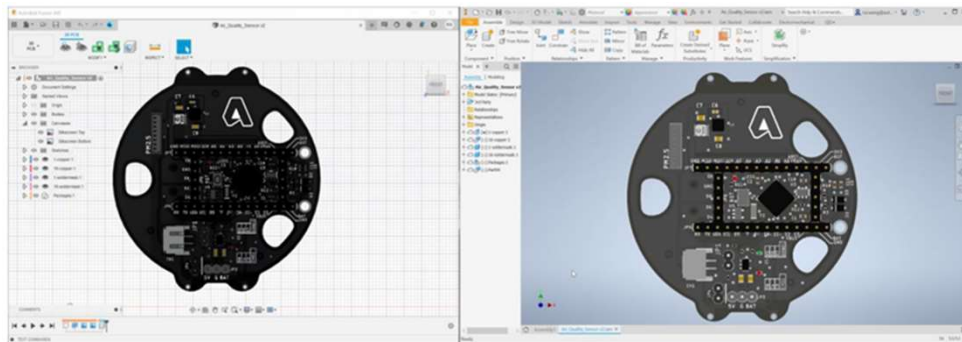
Autodesk Product Design & Manufacturing Collection

# Inventor and Fusion 360

## Electronics

Gain access to comprehensive electronics and PCB design tools in one product development platform. Engineer, design, and build anything.

- True PCB Design
- ECAD to MCAD

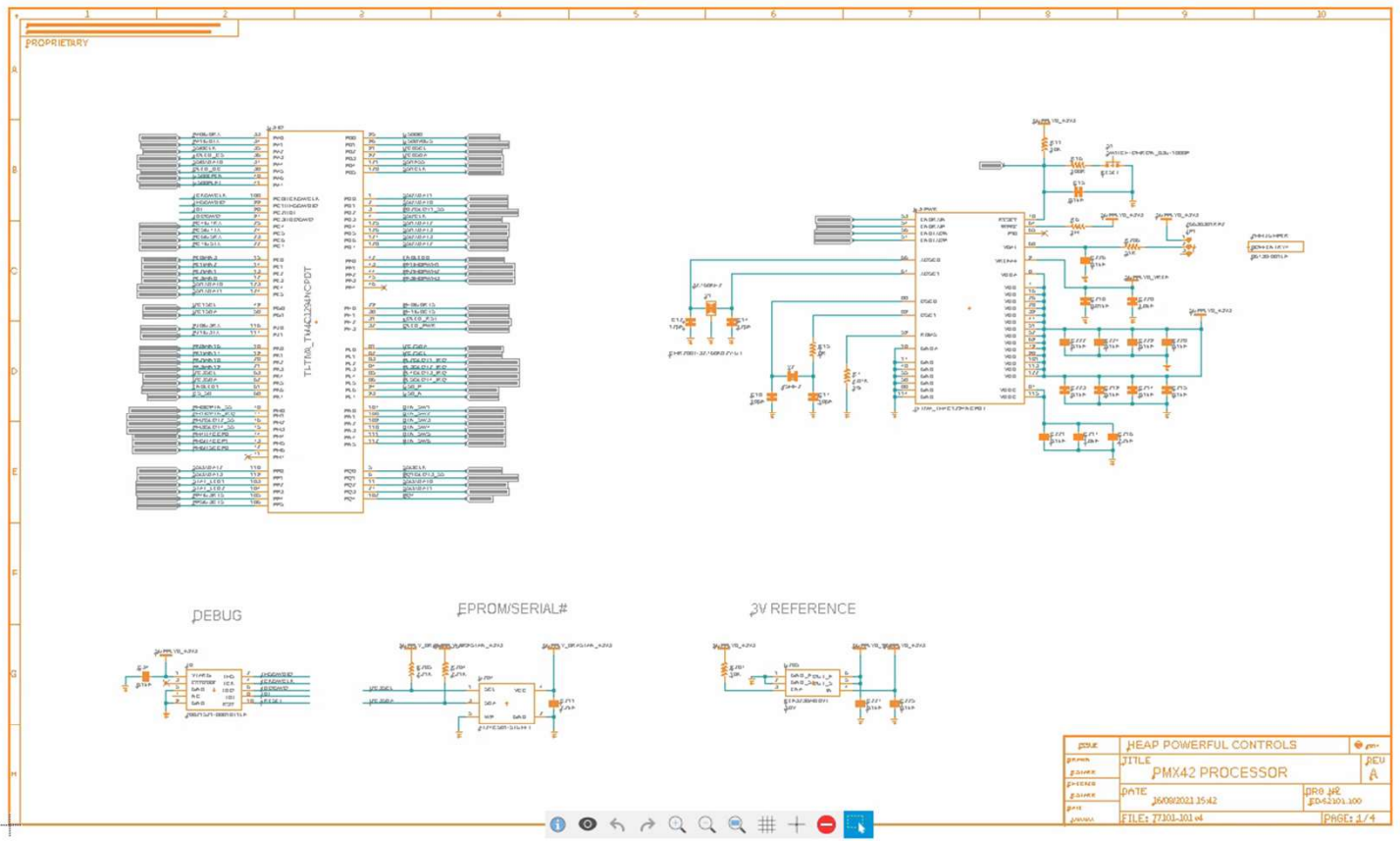


DESIGN DOCUMENT VALIDATE AUTOMATE LIBRARY

SWITCH VIEW EDIT PLACE CONNECT SIMULATE MODIFY SELECT

91 Nets 0.1 inch (-1.5 6.7) Click or press Slash to activate command line mode

INSPECTOR Nothing Selected



NAME	HEAP POWERFUL CONTROLS	REV	
SYMBOL	JTILE	REV	A
DESCRIPTION	PMX42 PROCESSOR		
DATE	3/6/2021 15:42	DIR	J42
DESIGNER		REV	200.100
FILE	77101-101 v4	PAGE	1 / 4

SELECTION FILTER

Types

- Attribute
- Bus Wire
- Circle
- Dimension
- Frame
- Group
- Junction
- Label
- Line
- Module Instance
- Part
- Polygon Edge
- Probe
- Rectangle
- Text
- Wire

Left-click & drag to define group

SHEETS

1 2 3 4

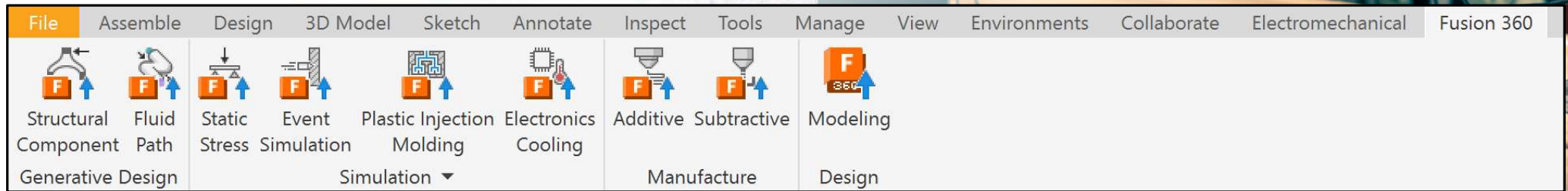


Autodesk Product Design & Manufacturing Collection

# Inventor and Fusion 360

## Simulation

Connect with the scalability of the cloud, analysing design performance and manufacturability, ensuring they meet the demands of real-world conditions with structural, thermal, and explicit simulation tools.



## Resources

Autodesk University:

<https://www.autodesk.com/autodesk-university/conference/overview>

Community Forum:

<https://forums.autodesk.com/t5/inventor-forum/bd-p/78>

Inventor Feedback Community:

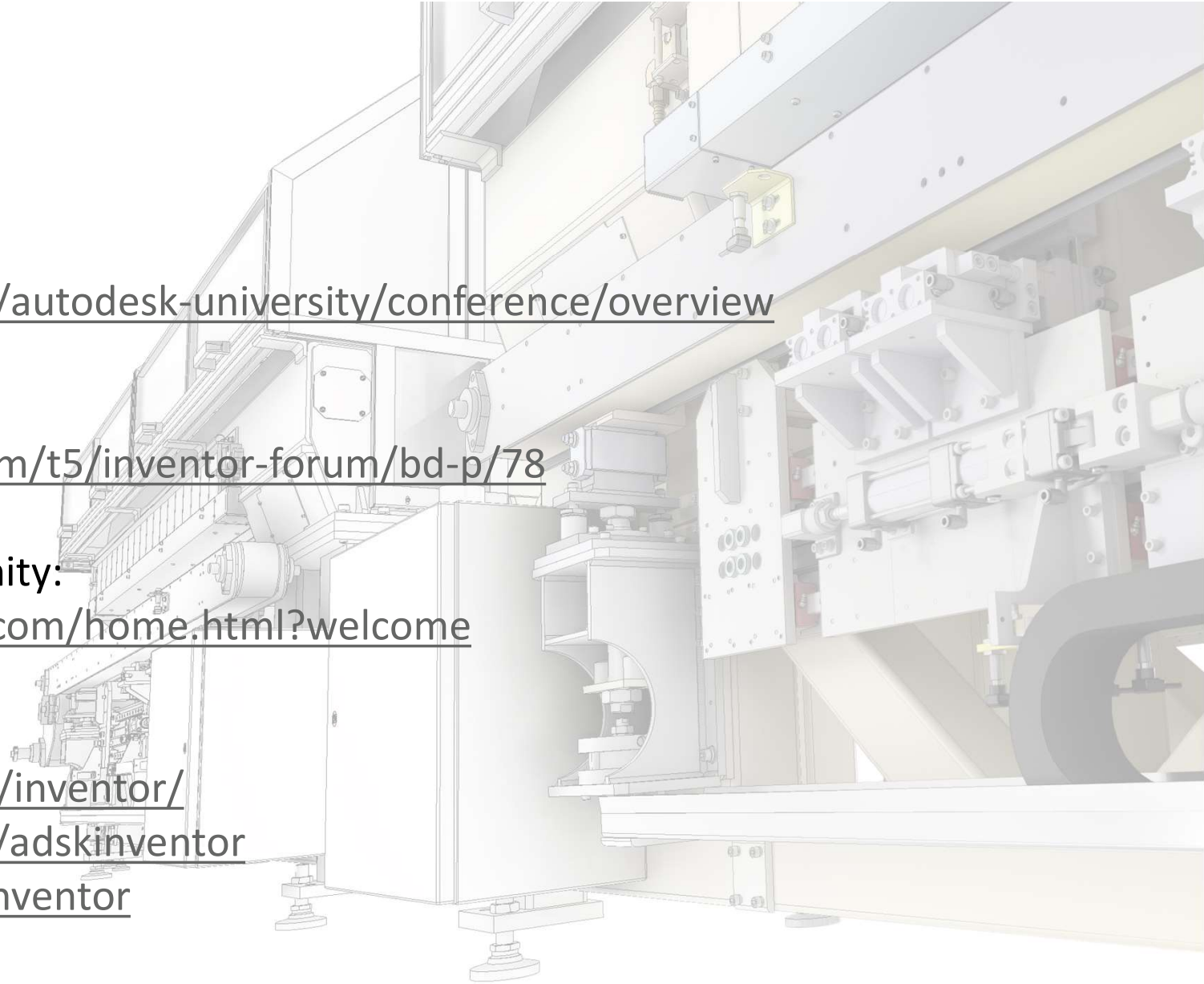
<https://feedback.autodesk.com/home.html?welcome>

Social:

<https://blogs.autodesk.com/inventor/>

<https://www.facebook.com/adskinventor>

[https://twitter.com/ADSK\\_Inventor](https://twitter.com/ADSK_Inventor)





# Flexible subscription options

Powerful mechanical design software



The ultimate set of engineering apps



## Monthly

Ideal for those who enjoy greater payment flexibility



## Annual

Our most popular and cost-effective



## Multi-year

Best for established teams on long-term projects

## What's more?

- Pay as you go with Flex
- 30-day money-back guarantee
- Purchase with financing



Talk to our sales team  
1-844-311-3002 (North America)  
+44 203 318 4259 (EMEA)



Discover the Product Design & Manufacturing Collection  
[www.autodesk.com/pdmc](http://www.autodesk.com/pdmc)

