

# MA2274 - Beyond Design and into Manufacturing with Autodesk Design Suites

Scott Moyse & Gavin Bath

MFG Technical Specialists

@scottmoyse & @gavinbath

Credit Dmitry Kalinovsky – 123rf.com





# Introduction

Credit Dmitry Kalinovsky – 123rf.com

# SCOTT MOYSE

- Proud Cornishman
- Motorsport Engineering
- New Zealand
- Marine Industry
- 10 Yrs of  
CAD/CAM/CNC
- CADPRO – 2 Months



Credit Kernow



Credit Kernow



# GAVIN BATH

- CADPRO, Christchurch, NZ
- Inventor since R4
- Vault Pro since Productstream
- Aerospace / Defense / Primary Industries Materials Handling
- Vault / Inventor Customisation
- Coffee / CNC / UAVs / Geocaching



Credit No Credit



Credit No Credit

# TOPICS COVERED

- **iProperties**
- **BOM**
- **Sheet Metal**
- **2D**
- **3D**
- **Vault**
- **HSM Express**
- **HSM Works**



Credit Dmitry Kalinovsky – 123rf.com





# iPropWiz – Leveraging Metadata

Credit Dmitry Kalinovsky – 123rf.com

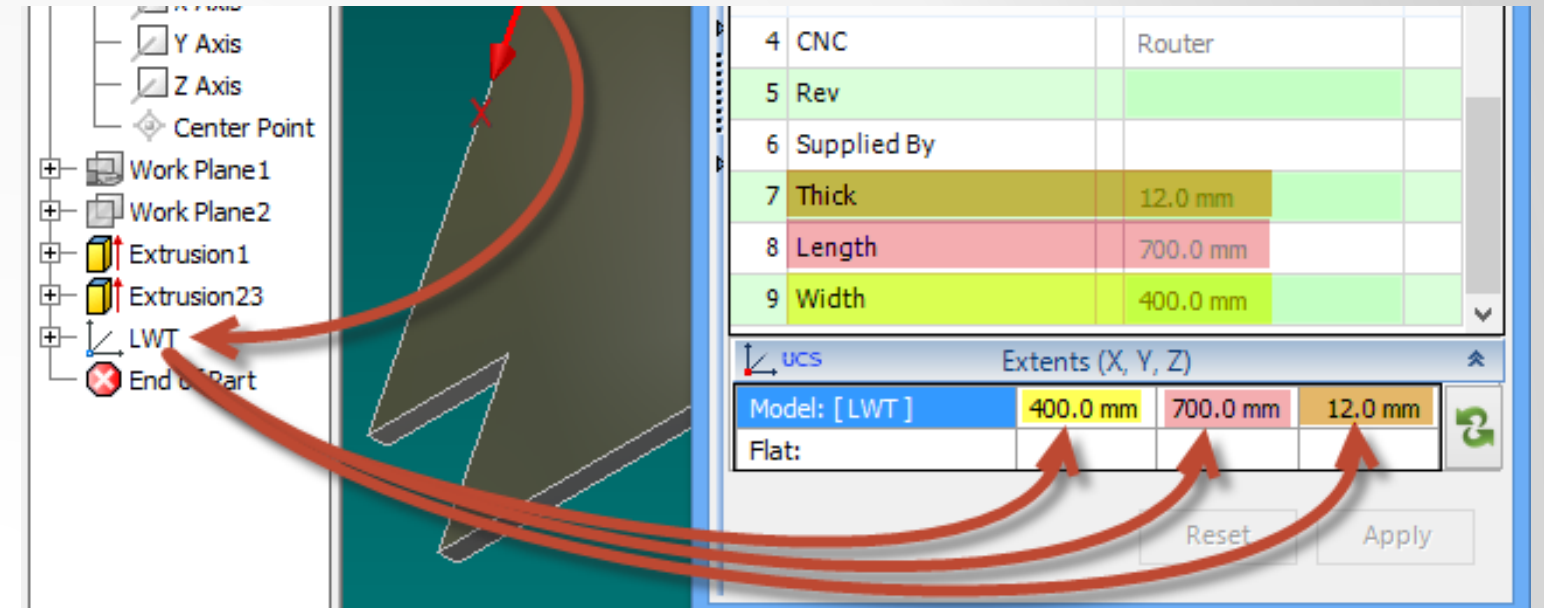


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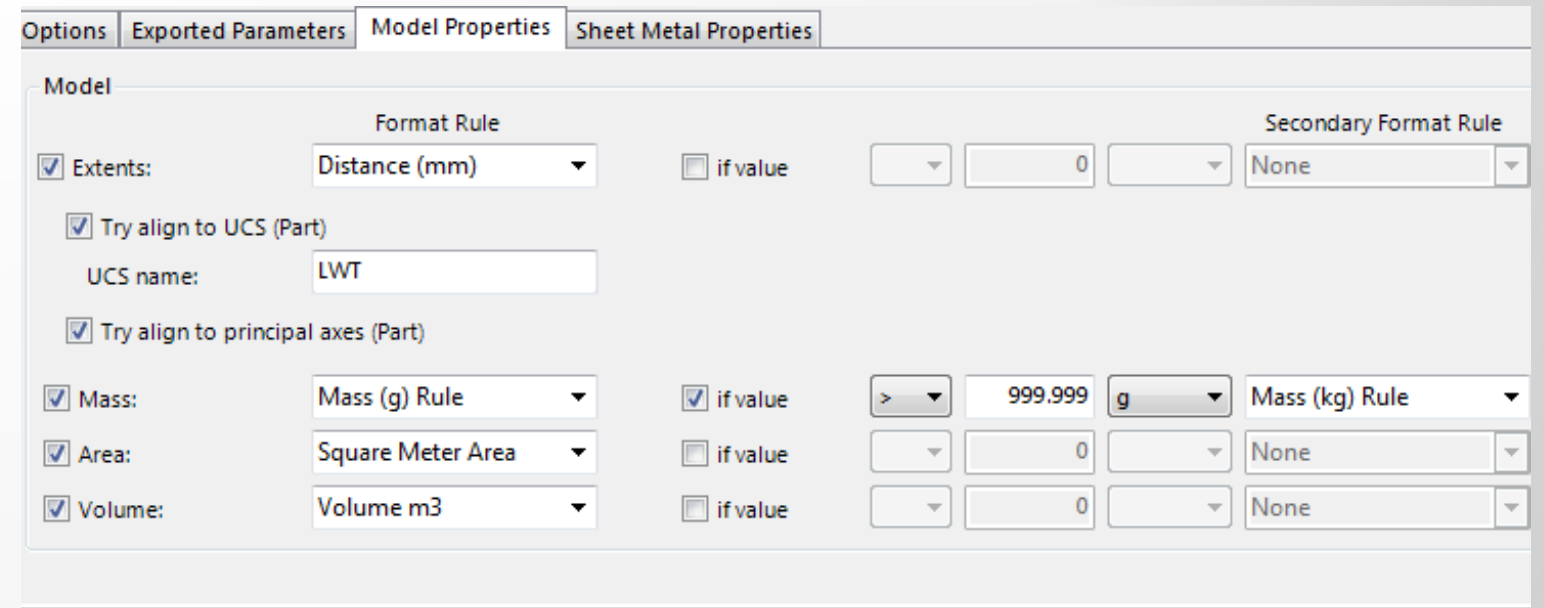
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# iPROPWIZ – LEVERAGING METADATA

- Configuration
- Lists
- Expressions
- Component Extents
- UCS
- BOM



Credit Scott Moyse – designandmotion.net



Credit Scott Moyse – designandmotion.net



A close-up photograph of a CNC machine's tool head, which is a complex assembly of metal components. It is positioned above a workpiece, and a high-pressure spray of clear coolant is directed at the cutting area, creating a misty atmosphere. The background is blurred, showing more of the industrial environment.

# 2D CNC Cut Files

Credit Dmitry Kalinovsky – 123rf.com



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# 2D CNC CUT FILES

- **Flat Patterns**
- **Exporting Faces**
- **Exporting Sketches**
- **Using Drawings**
- **Centreline Text**



Credit Tomasz Nieweglowski – 123rf.com



Credit Andrey Eremin – 123rf.com



# FLAT PATTERN EXPORT

- Manual creation
- Layer Control
- Format Options
- Demo

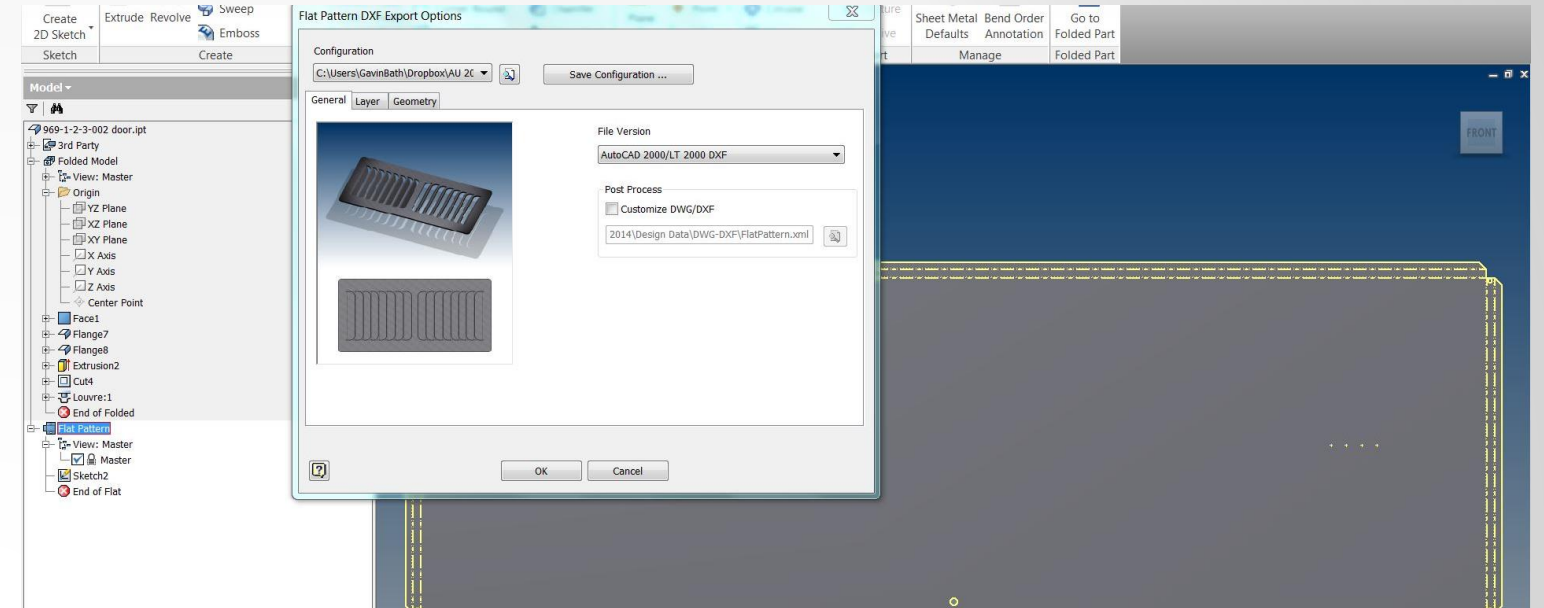


Image courtesy of CADPRO Systems

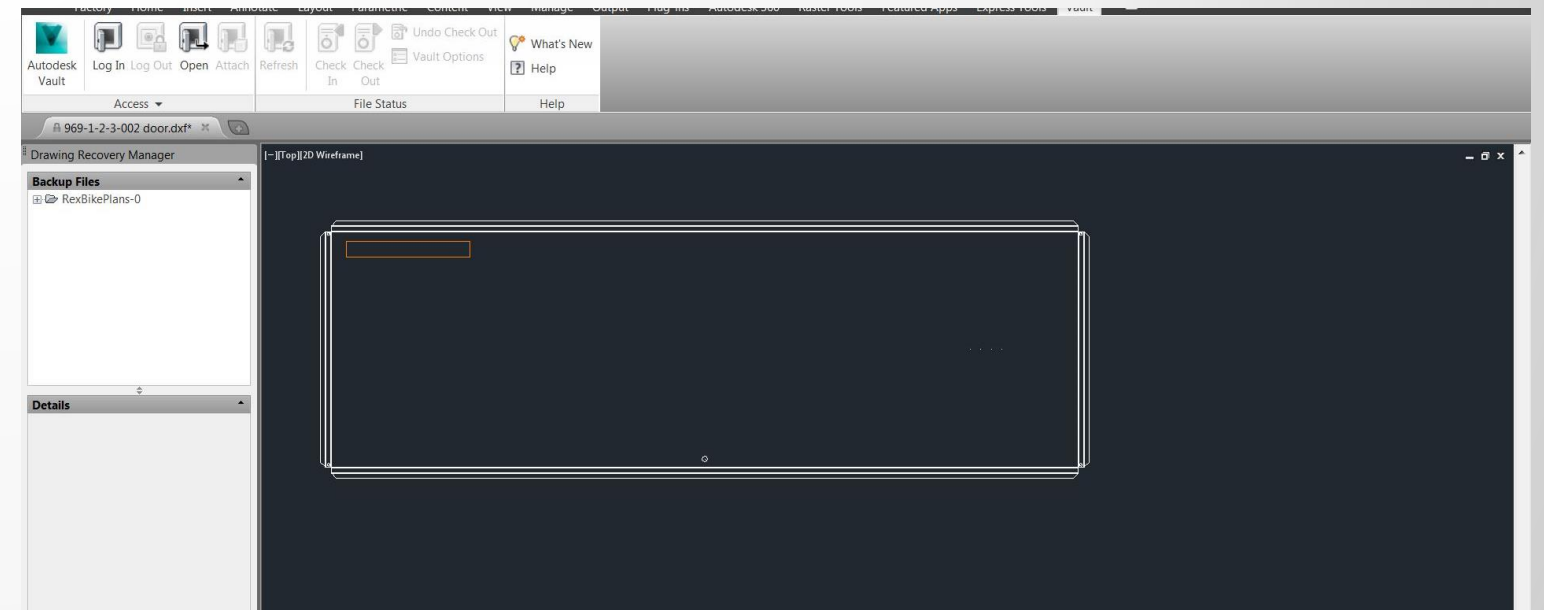


Image courtesy of CADPRO Systems



# FLAT PATTERN EXPORT

- Automation Opportunity
- Supplier Requirements
- Output Formats
- Metadata Requirements
- Data Transmittal

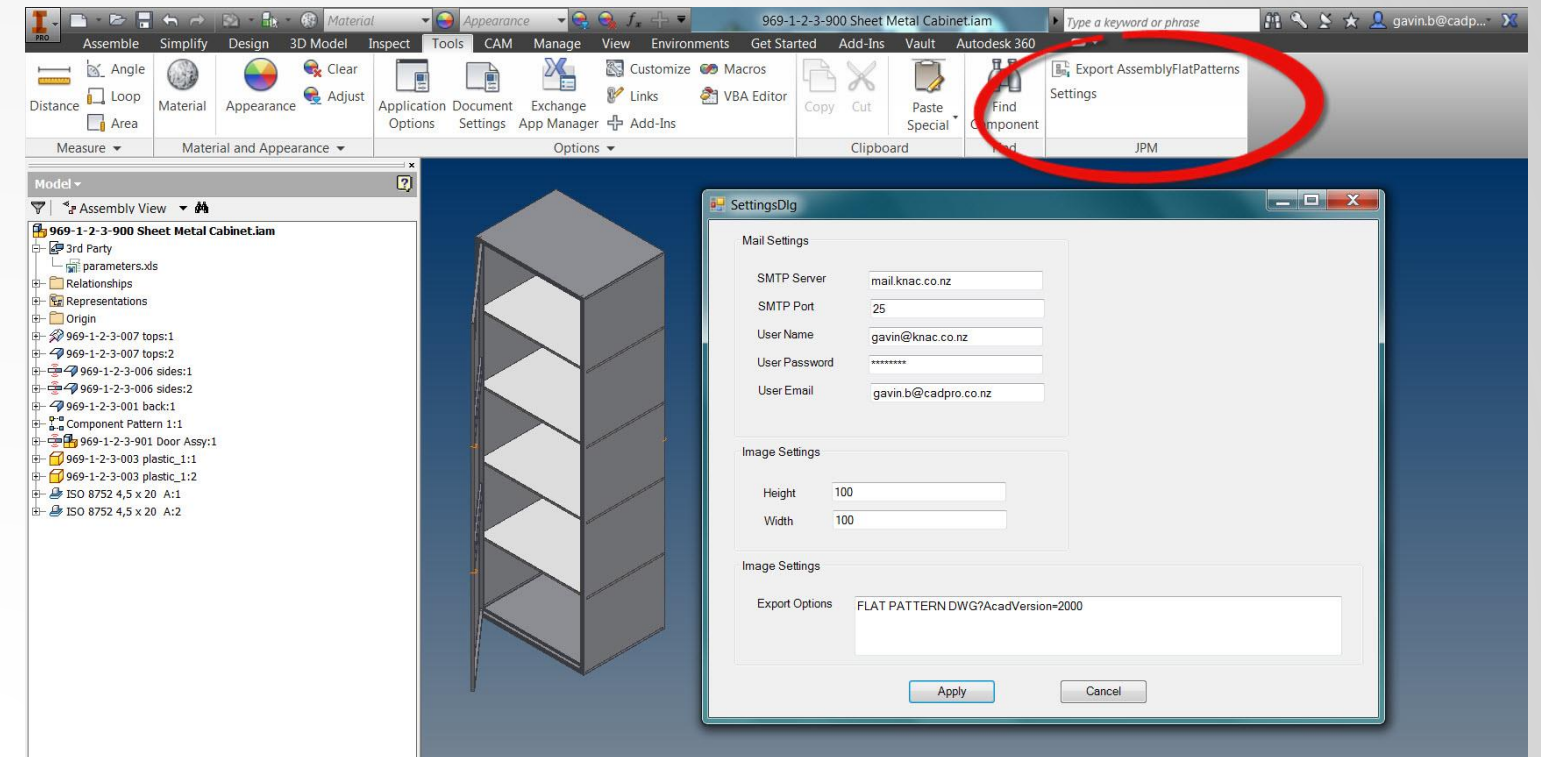


Image courtesy of CADPRO Systems

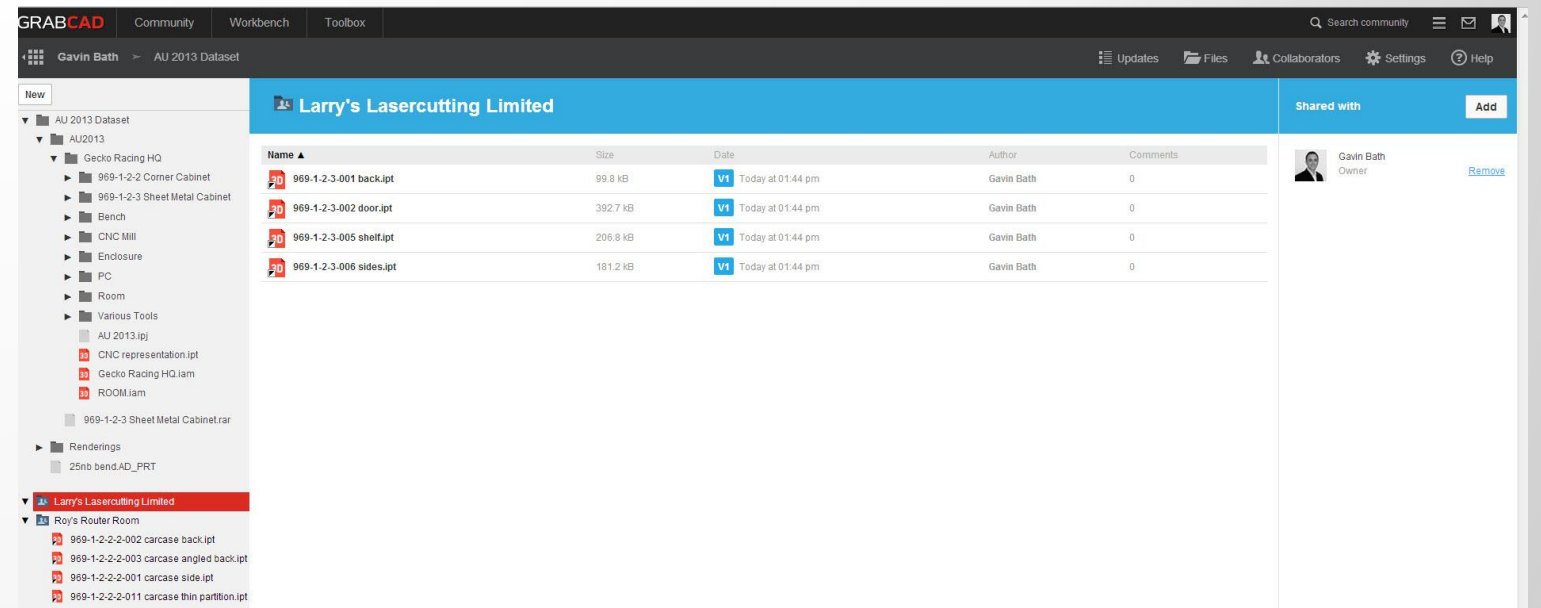


Image courtesy of GrabCAD



# FLAT PATTERN EXPORT ADD-IN

## Pros:

- 1-Click from Assembly
- Quantity Accuracy
- All Profiles Attached
- Ready to Forward to Supplier

## Cons:

- Files Stored in Email Chains
- Can't "Fudge" Quantities

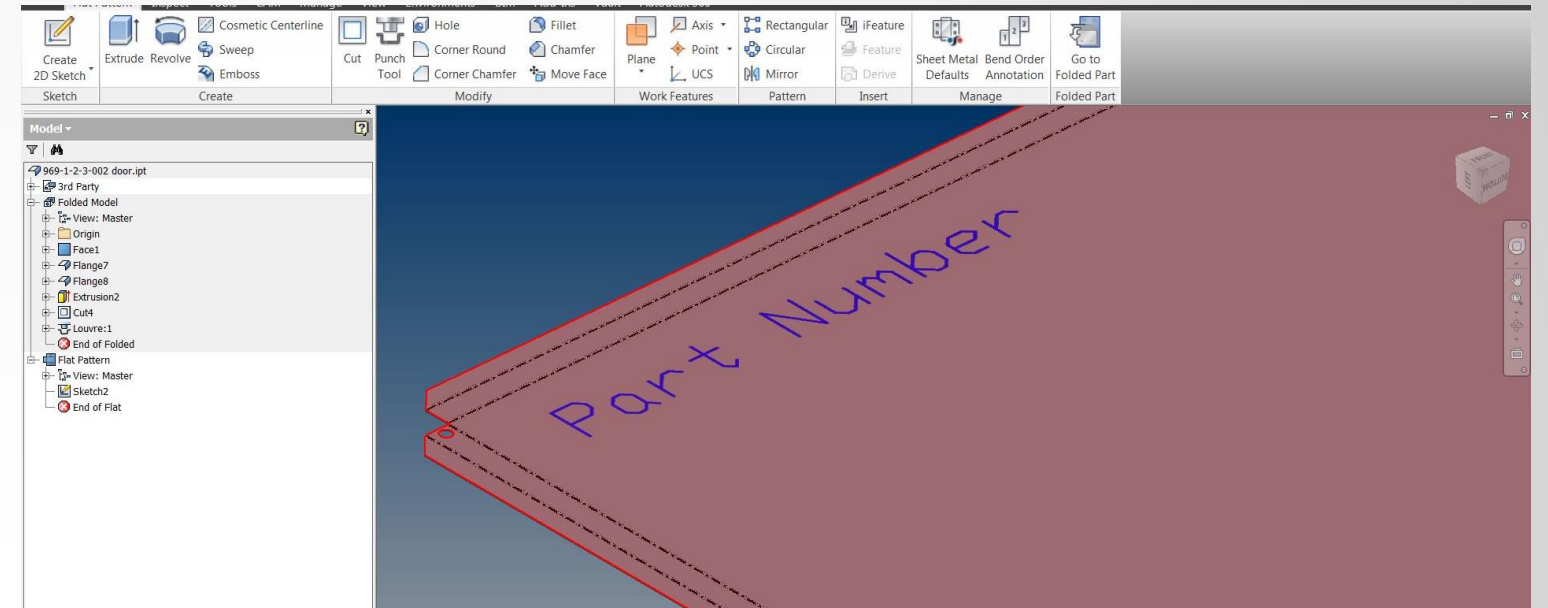


Image courtesy of CADPRO Systems

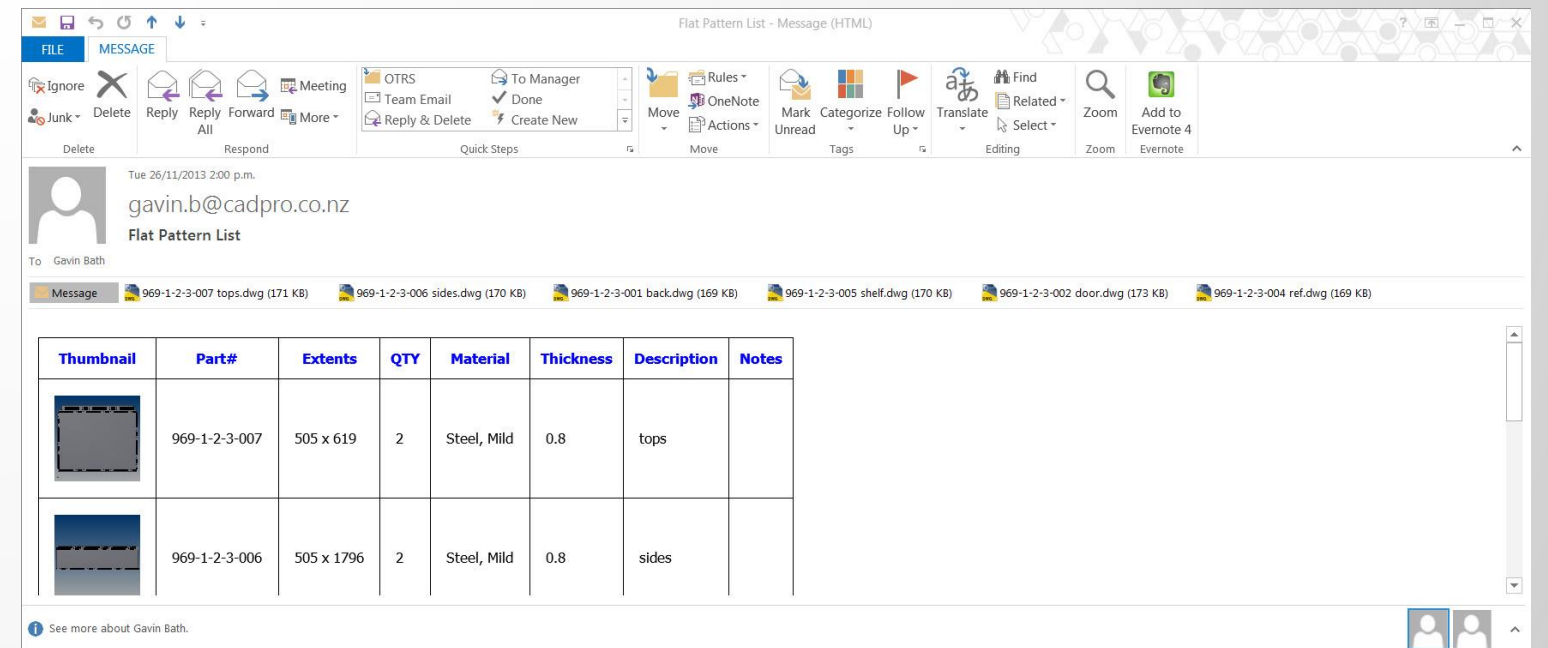
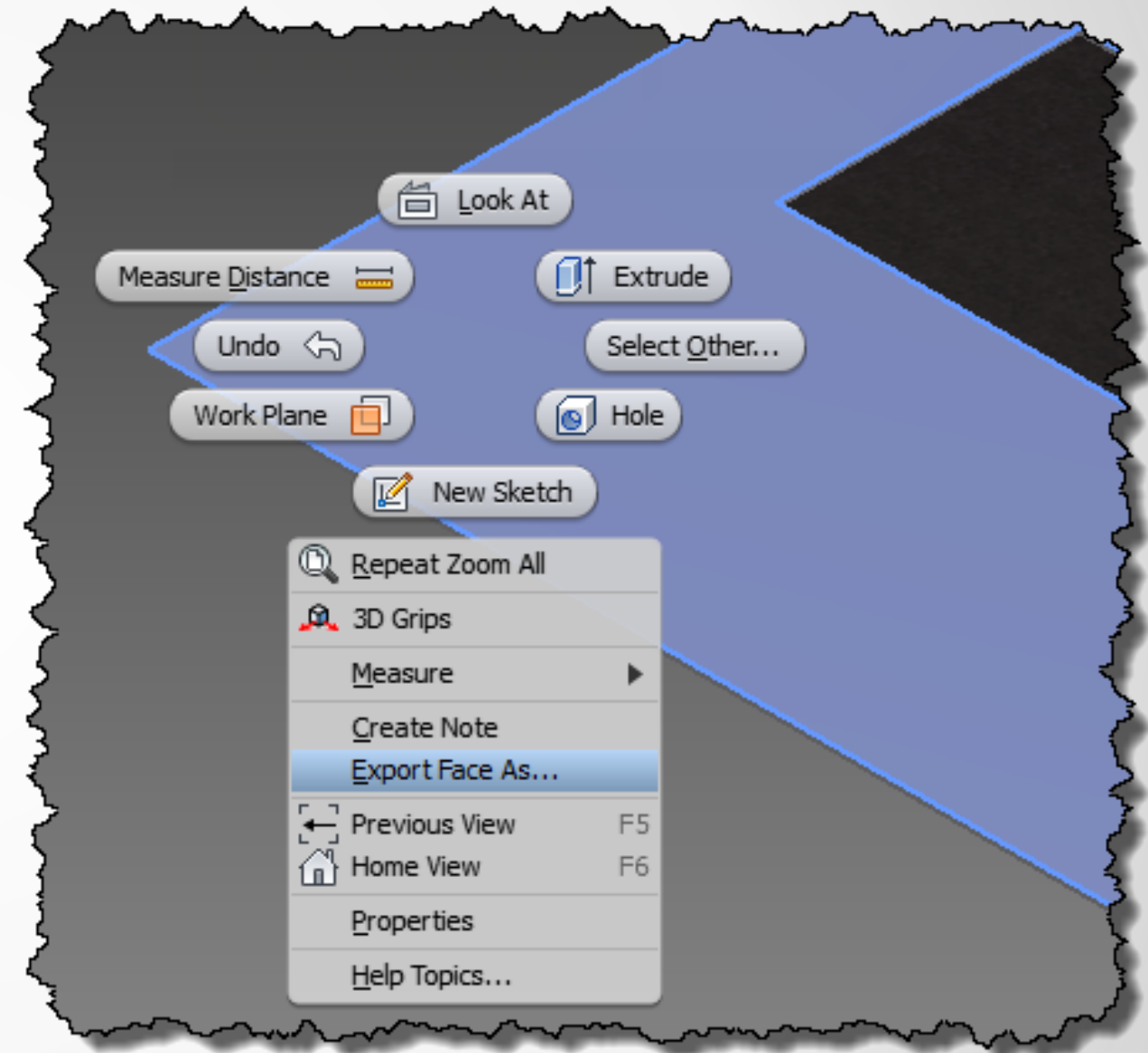


Image courtesy of CADPRO Systems



# EXPORT FACE

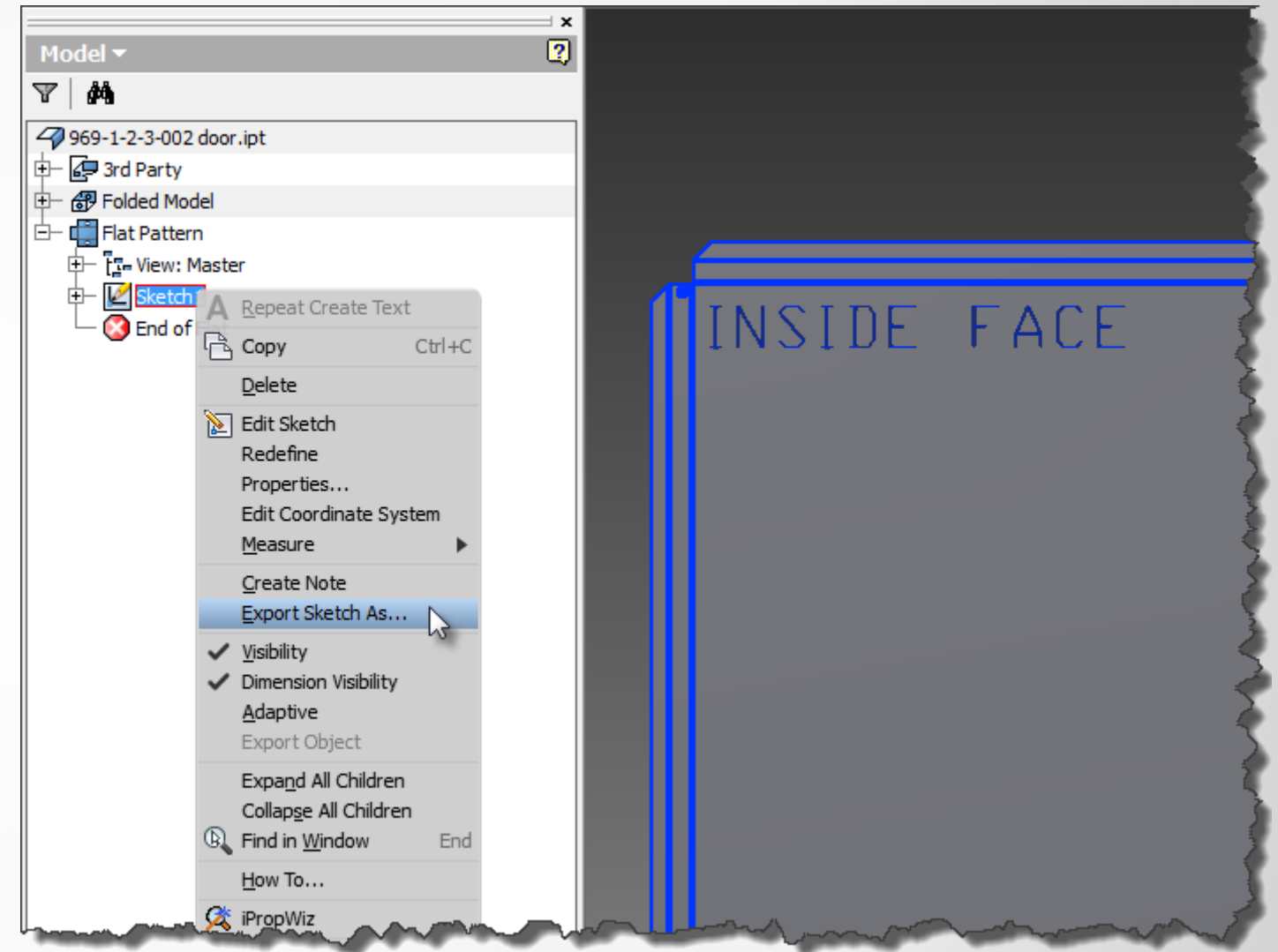
- Simple
- Closed Polygons
- No Features
- No Text Export



Credit Scott Moyse – designandmotion.net

# EXPORT SKETCH

- Simple
- Feature Projection
- No Layer Control
- No Text Export

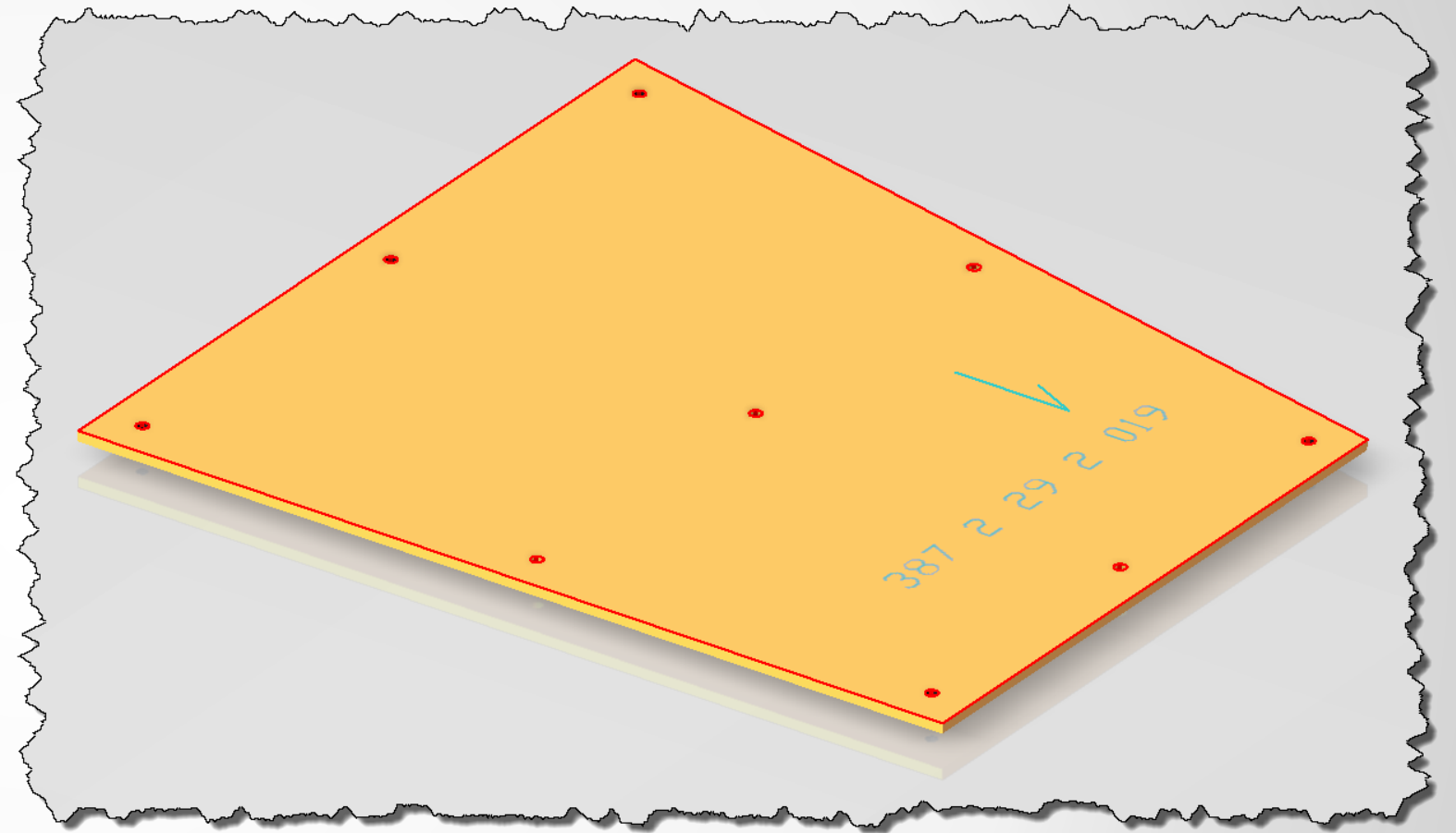


Credit Scott Moyse – designandmotion.net



# CREATE A DRAWING

- **Associative Cut Files**
- **Color/Layer Control**
- **Center line Text**
- **Open Geometries**
- **A Single File**



Credit Scott Moyse – [designandmotion.net](http://designandmotion.net)



# Delivering Manufacturing Information

Credit Dmitry Kalinovsky – 123rf.com

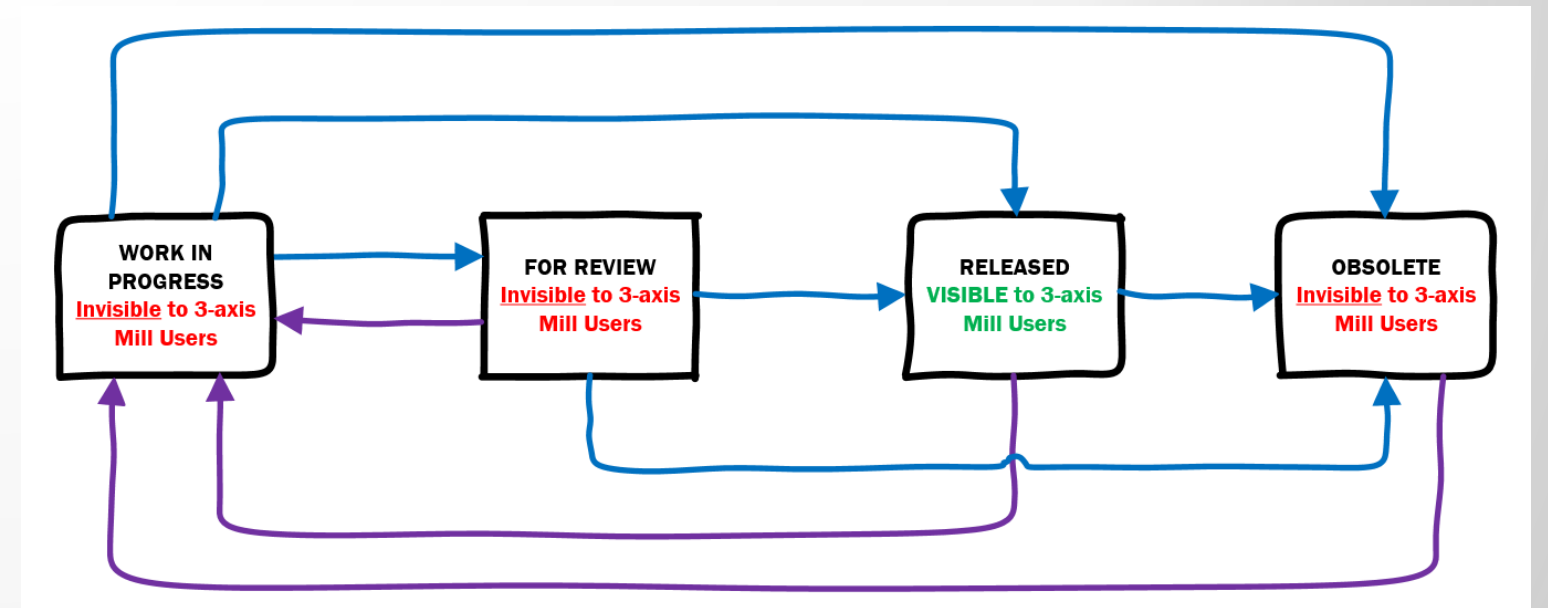


# DELIVERING MANUFACTURING INFORMATION

- **Vault Basic**
  - Custom Views
  - View Filters
- **Vault Professional**
  - Users
  - Grouping
  - Categories
  - Lifecycle
  - Security/Access

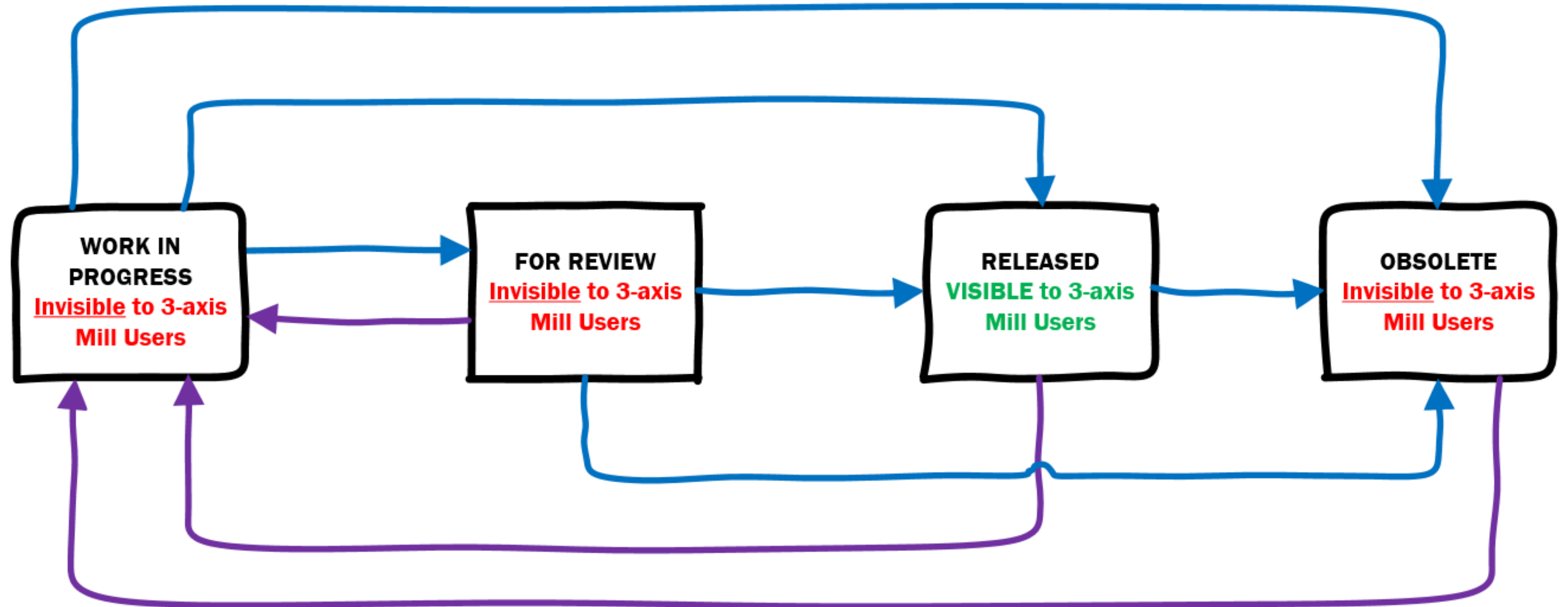


Credit Autodesk



Credit CADPRO Systems Ltd

# GENERIC VAULT PROFESSIONAL LIFE CYCLE







# 3D CNC Cut Files

Credit Dmitry Kalinovsky – 123rf.com



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# 3D CNC CUT FILES

- Leveraging Metadata
- Component Sorting
- Assemblies for CAM
- Inventor Toolpathing



Credit Stepan Popov – 123rf.com



Credit Stefan77 – 123rf.com

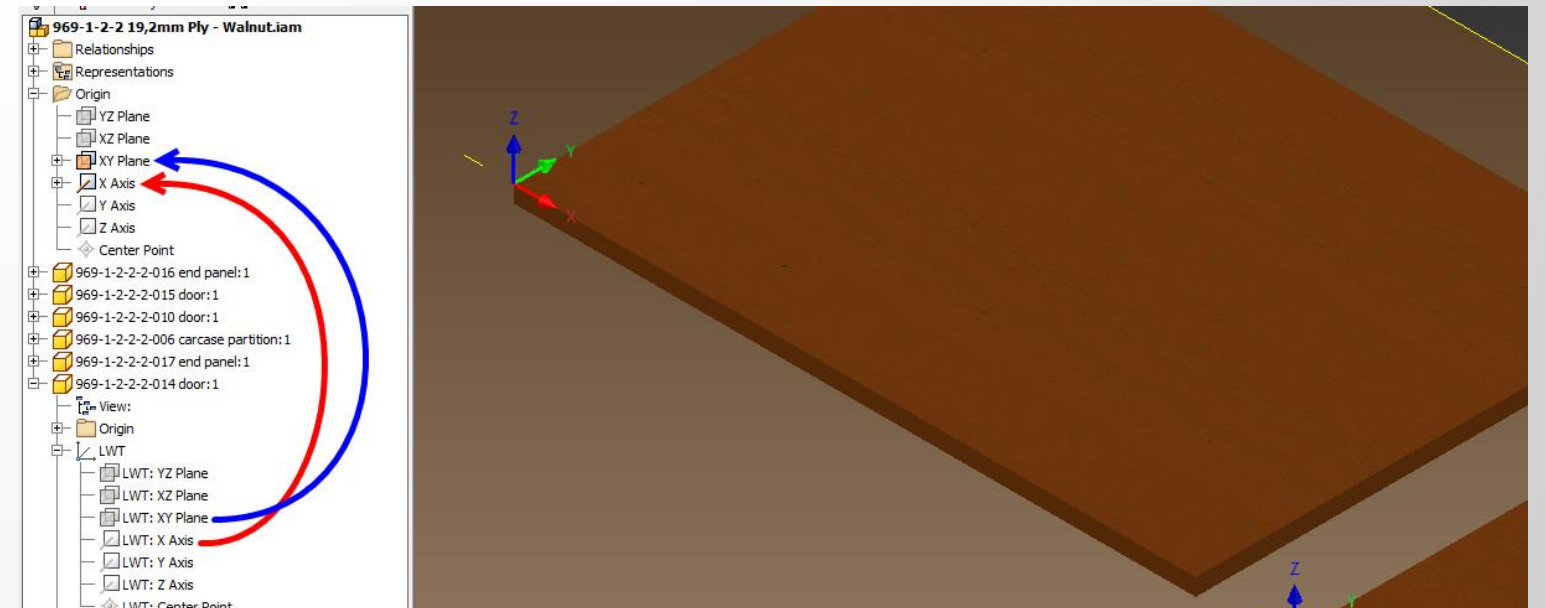


# ASSEMBLY CUT FILES

- **Associative Cut Files**
- **Component Extents**
- **Feature based Machining**
- **Manual Constraints**
- **No Center Line Text**



Credit CADPRO Systems



Credit CADPRO Systems

# INVENTOR HSM EXPRESS

- Free Addin for Inventor
- 2.5D Machining
- Fully integrated
- Try before you buy

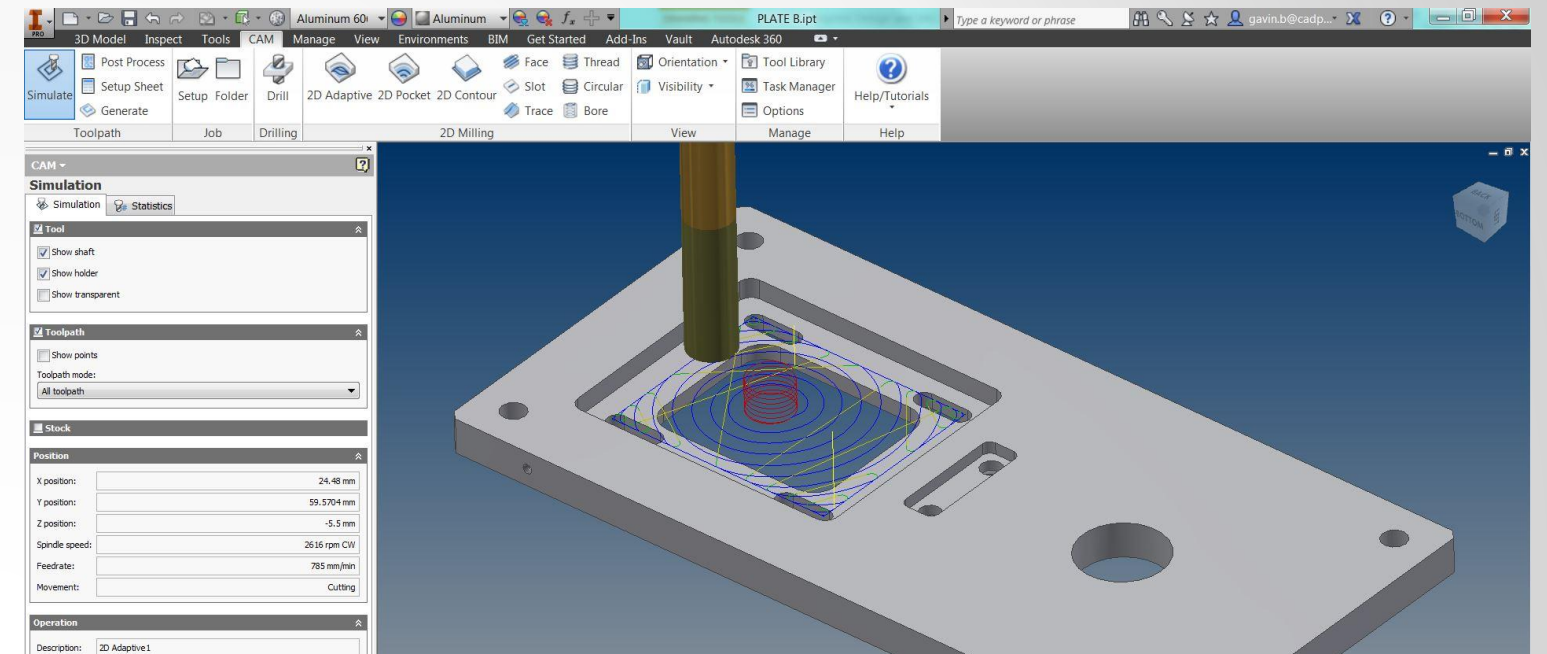


Image courtesy of CADPRO Systems

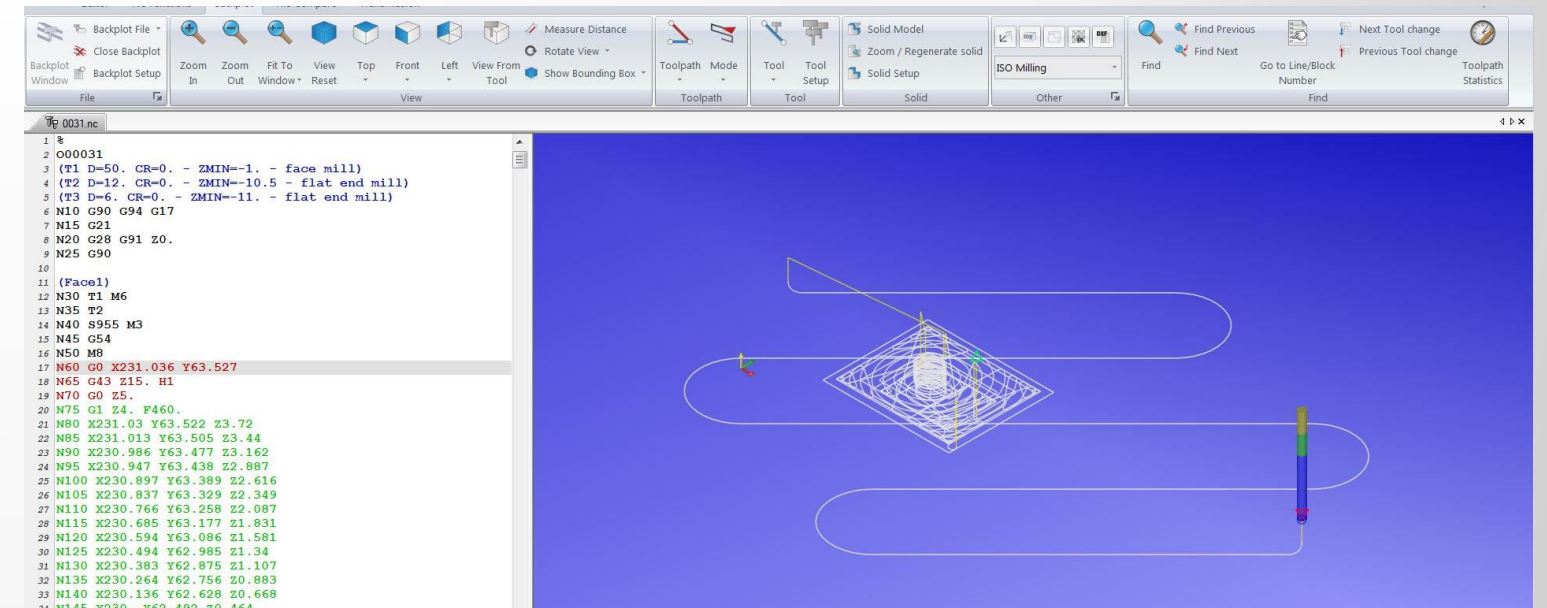
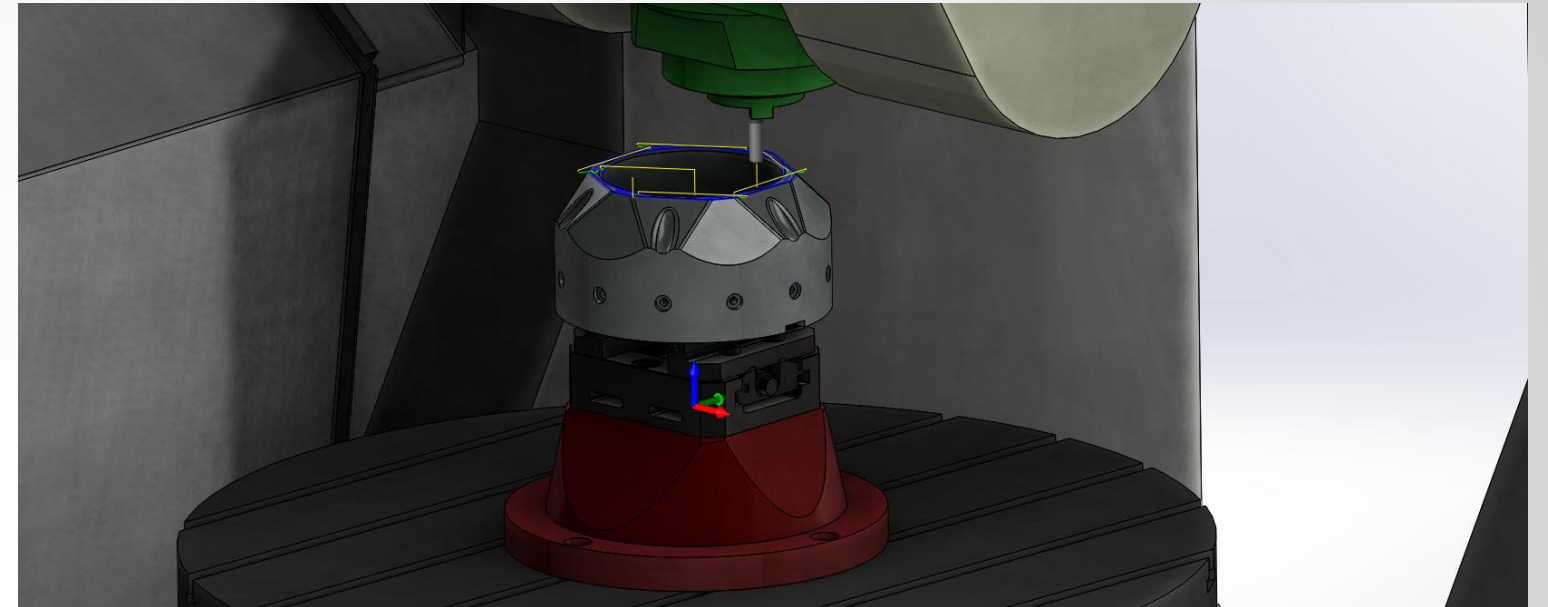


Image courtesy of Jay Shuster



# HSM WORKS

- **5 Axis Machining (3+2)**
- **Multi-axis Simultaneous**
- **Stock / Machine Simulation**
- **3D Operations**
- **Turning**

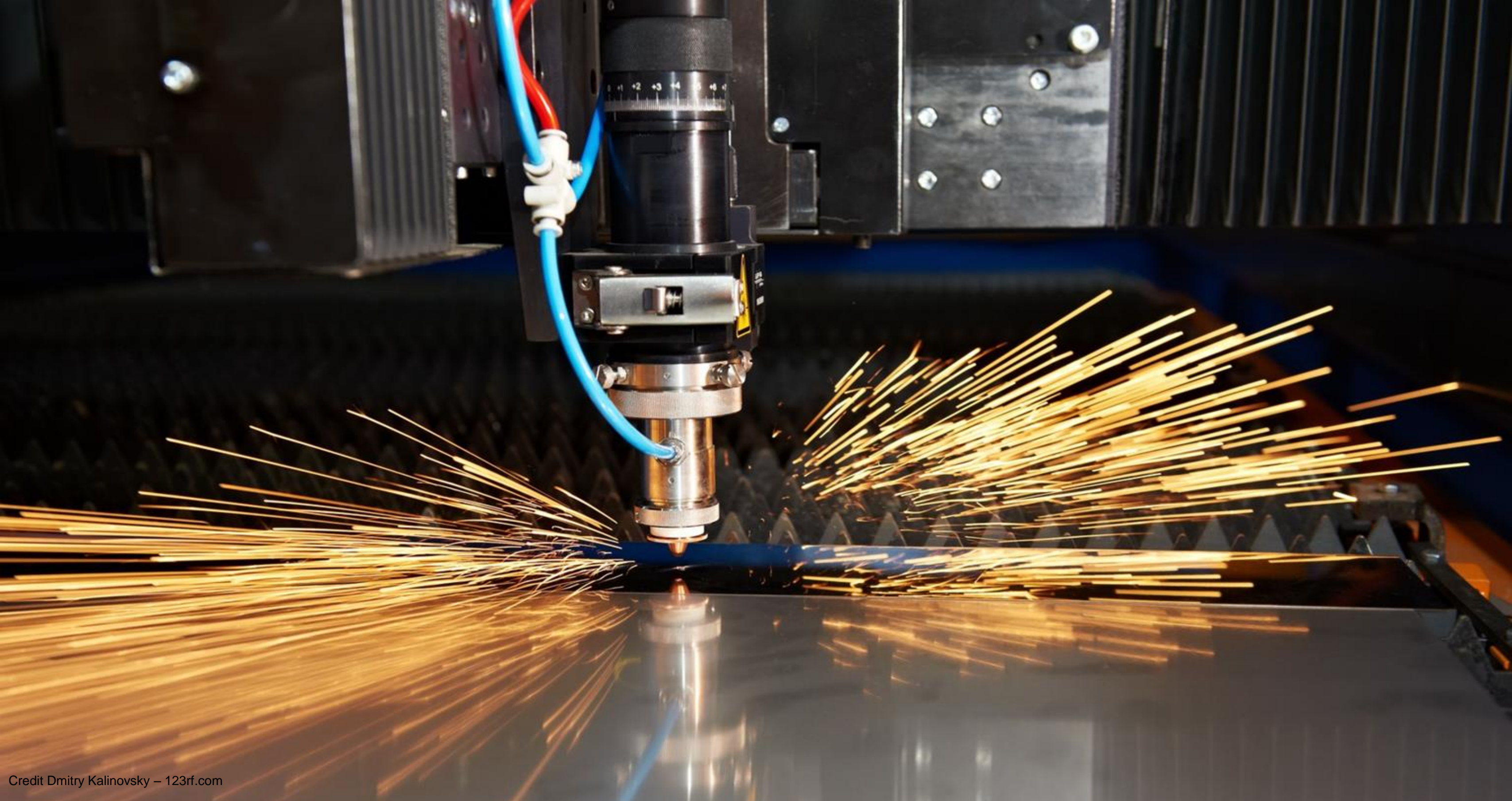


Credit engineering.com



Credit Autodesk





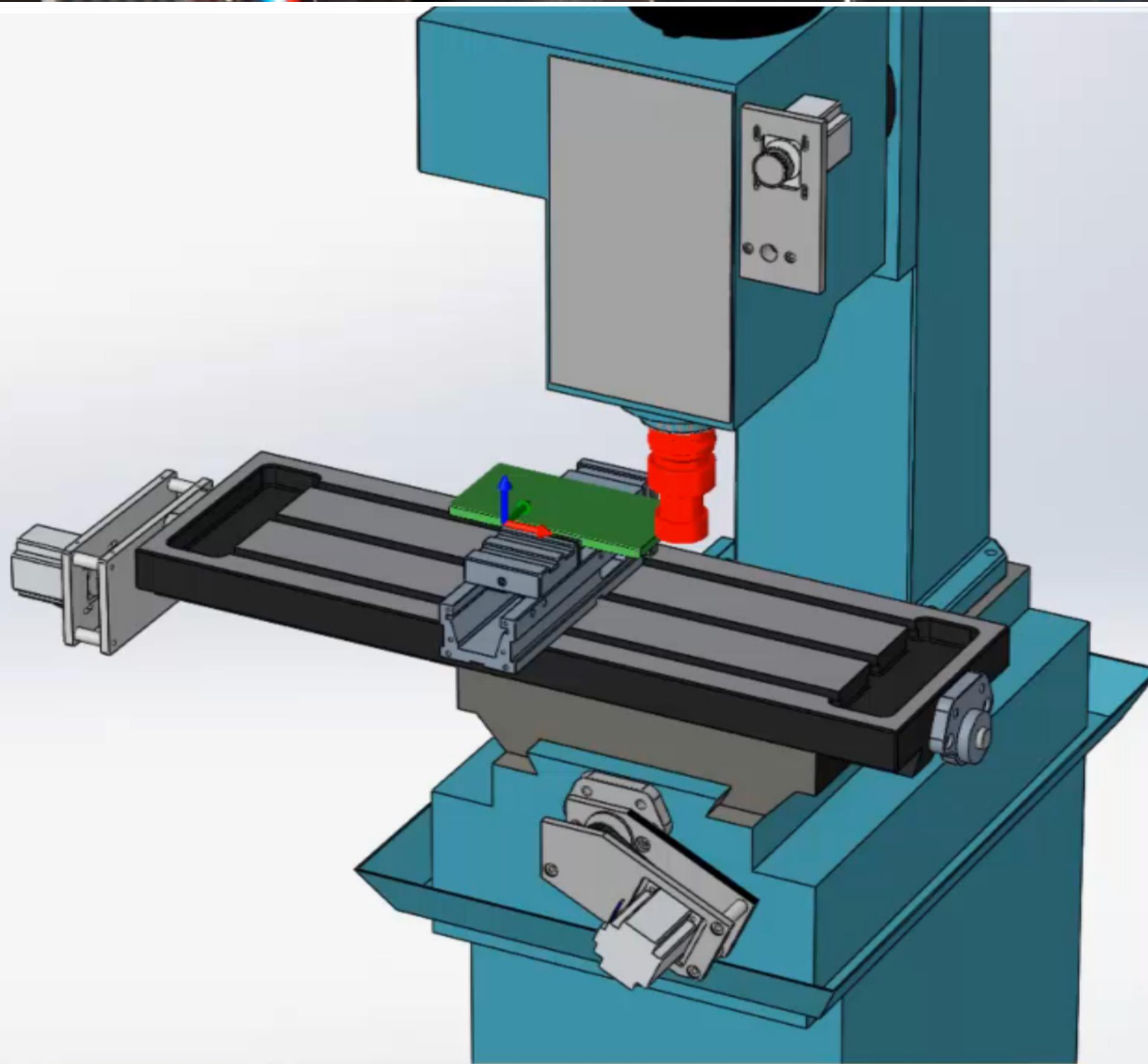
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