



AUTODESK® PRODUCT  
DESIGN & MANUFACTURING  
COLLECTION

# 클라우드 CAM 시스템을 도입해야 하는 이유

July 06, 2020

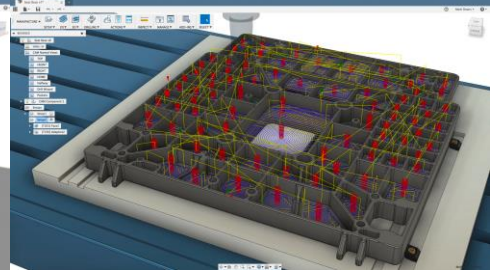
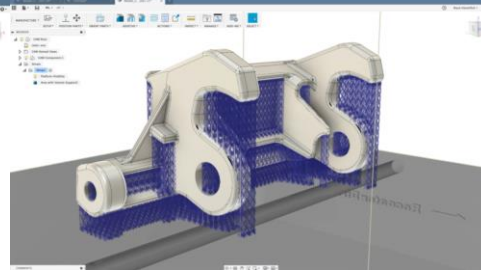
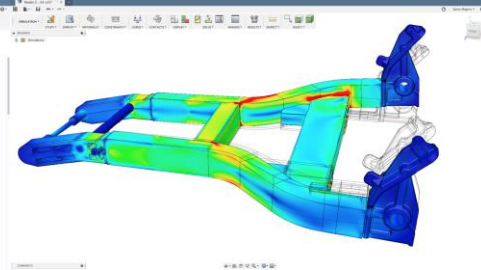
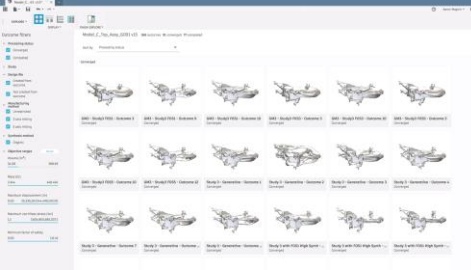
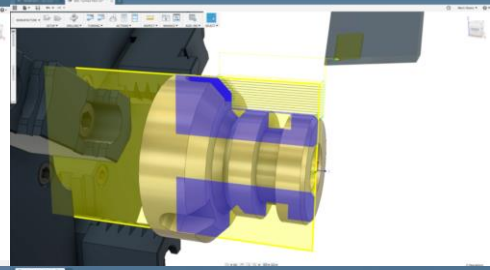
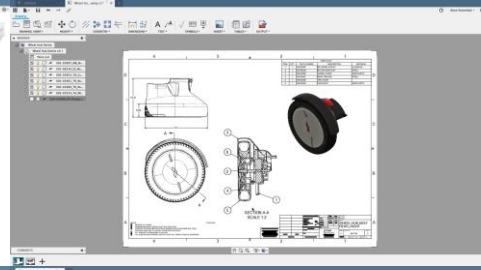
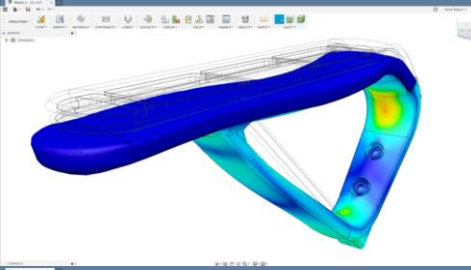
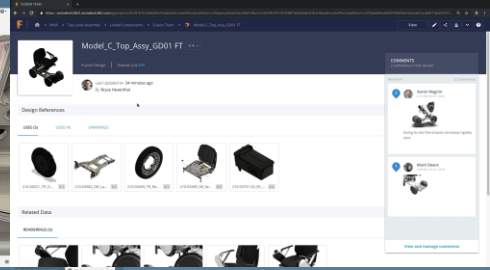
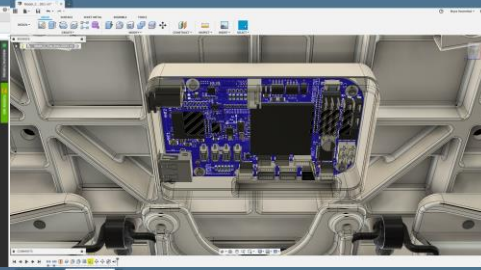
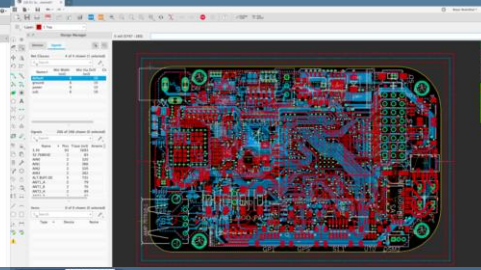
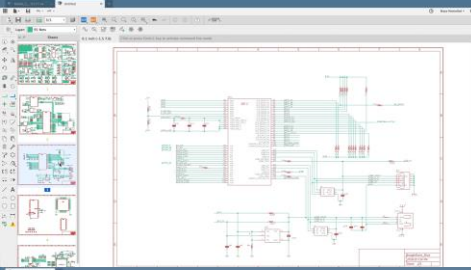
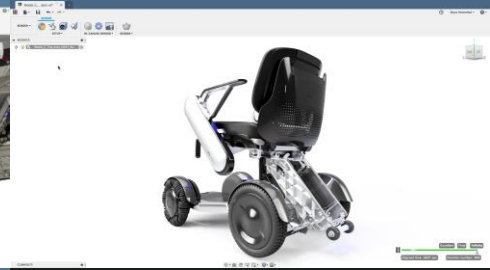
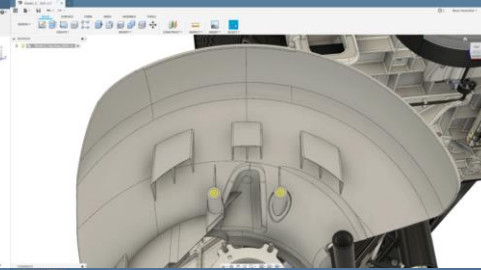
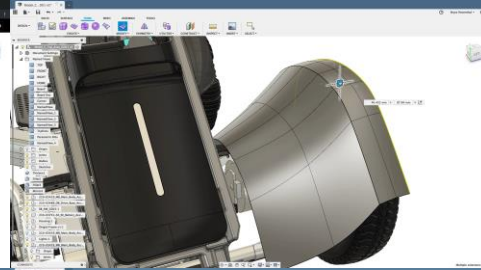


**Daniel Kim**  
Product Specialist  
Design & Manufacturing, Autodesk

# Future of Making

급격한 시장의 변화를 대비하기 위해  
설계 및 제조 방식을 재정비하고  
가속화 시킬 준비를 해야 합니다.

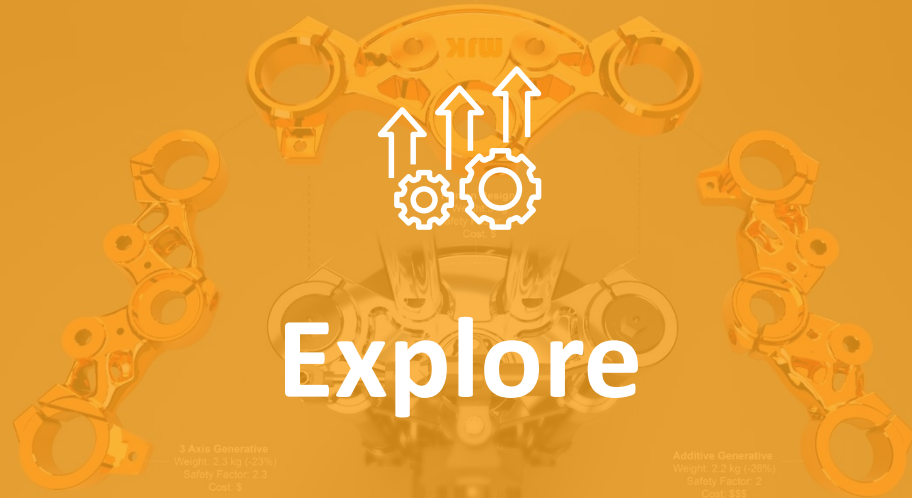








# Create



# Explore

3 Axis Generative  
Weight: 2.1 kg (~20%)  
Safety Factor: 2.3  
Cost: \$

Additive Generative  
Weight: 2.2 kg (~20%)  
Safety Factor: 2  
Cost: \$\$\$



# Connect



# Automate





How can we Spend  
More Time Innovating?



How can we  
Improve Performance?

3 Axis Generative  
Weight: 2.1 kg (-25%)  
Safety Factor: 2.3  
Cost: 3

Additive Generative  
Weight: 2.2 kg (-26%)  
Safety Factor: 2  
Cost: \$55



How can we  
Win More Business?



How do we Streamline  
Manufacturing?



# How do we Streamline Manufacturing?

# CAM에 대한 이해도 높이기



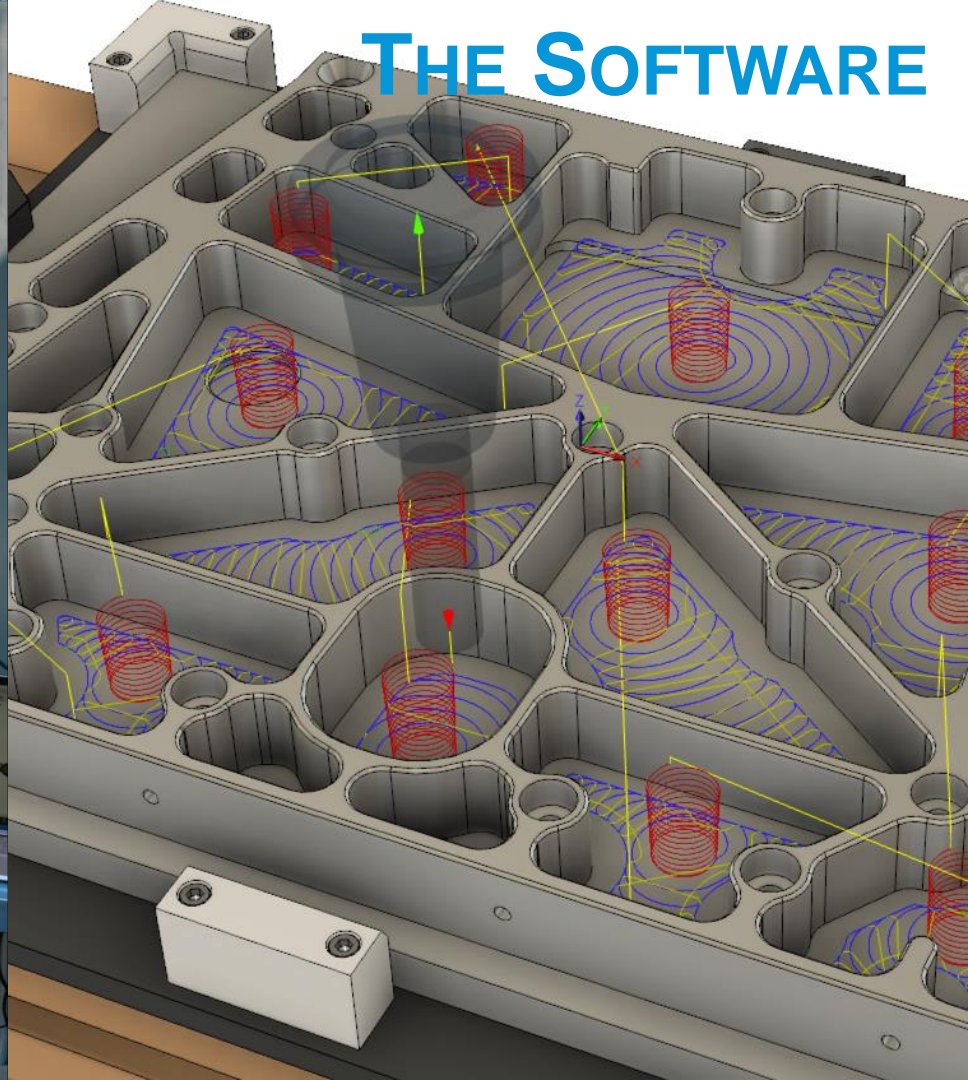


CAM





**THE MACHINES**



**THE SOFTWARE**



# THE MACHINES



# The Machines

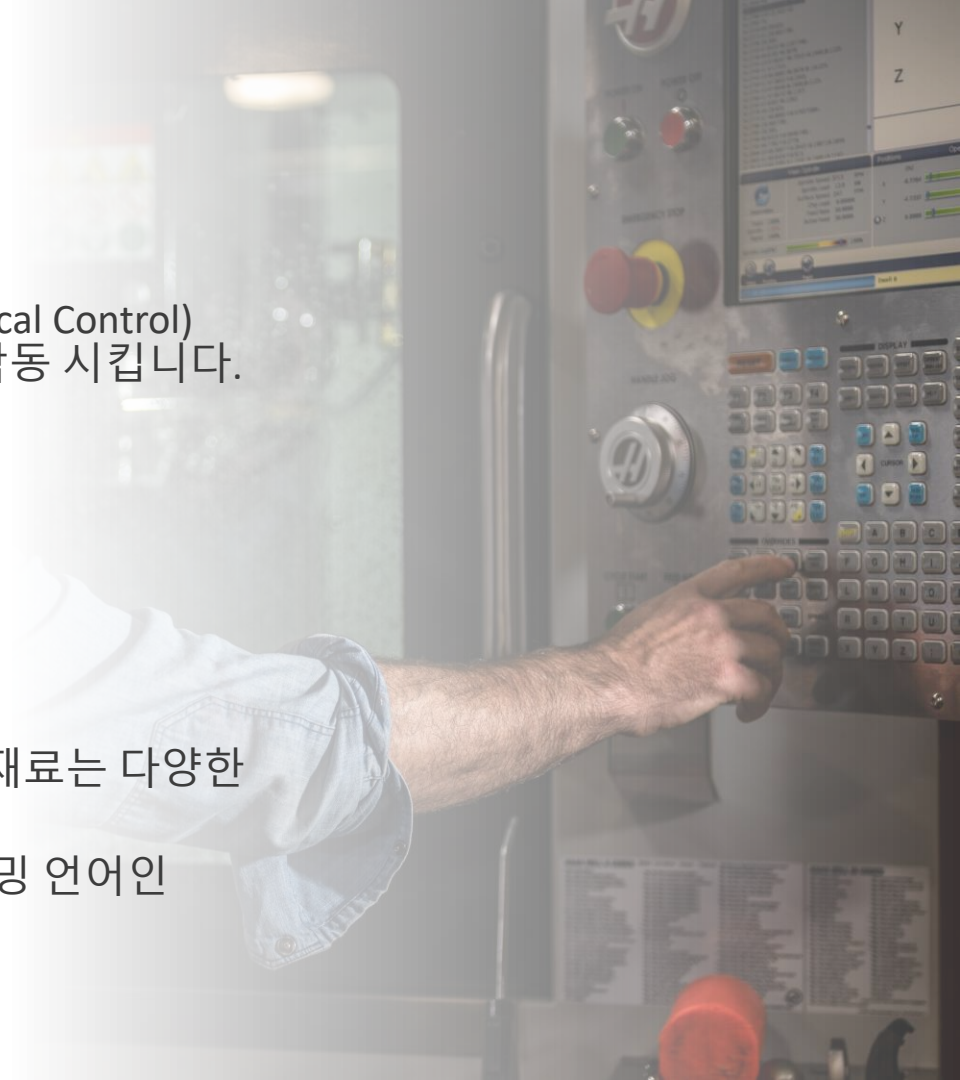
## Introduction to CAM with Autodesk

### ■ 무엇을 CNC 장비라고 할까요?

- CNC는 컴퓨터 수치 제어(Computer Numerical Control)입니다. 기계를 컴퓨터 코드를 활용해서 작동 시킵니다.
  - 밀링 장비
  - 선반 장비
  - 라우터 장비
  - 프로파일 커팅 장비

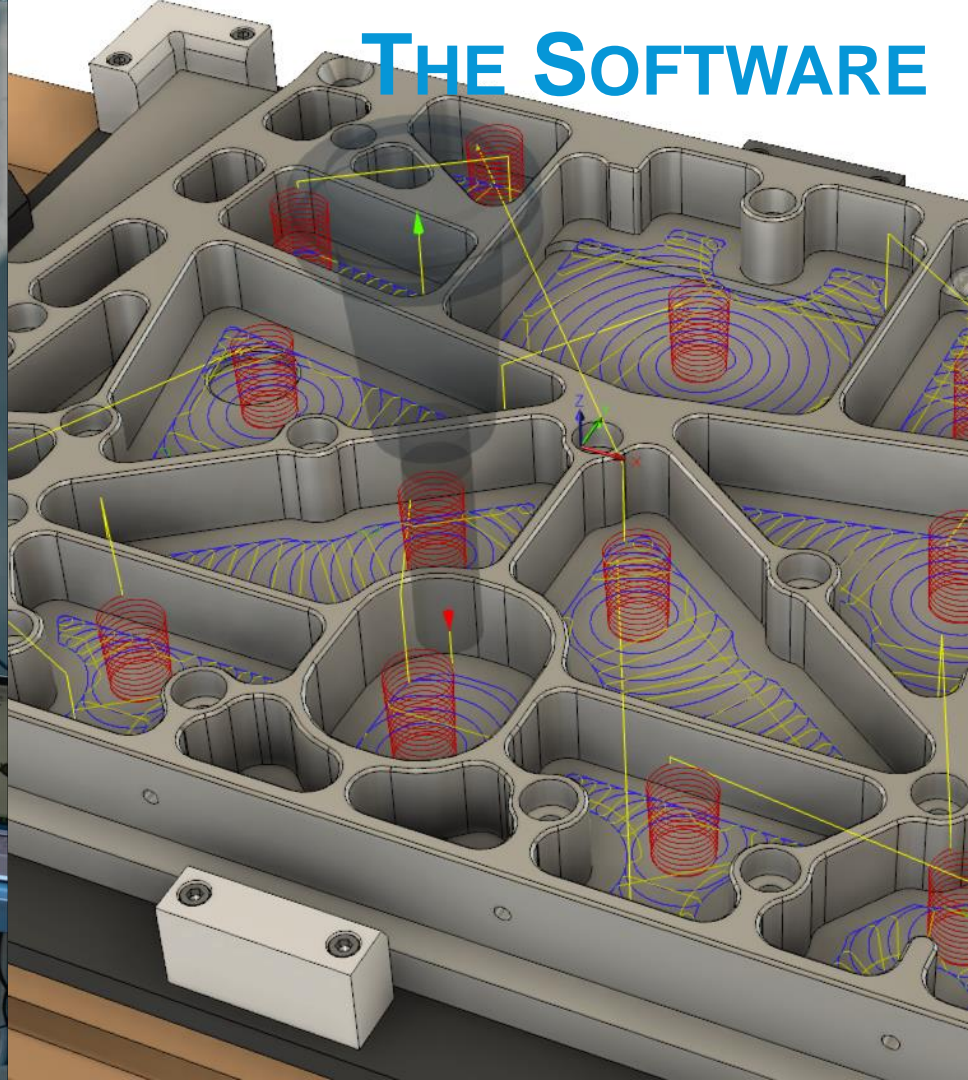
### ■ CNC 장비는 어떻게 작동하나요?

- 소재(Stock)로 알려진 블록으로 시작하여 재료는 다양한 유형의 절삭 공구를 사용하여 가공됩니다.
- 기계는 기계의 동작을 제어하는 프로그래밍 언어인 NC 코드를 읽습니다.





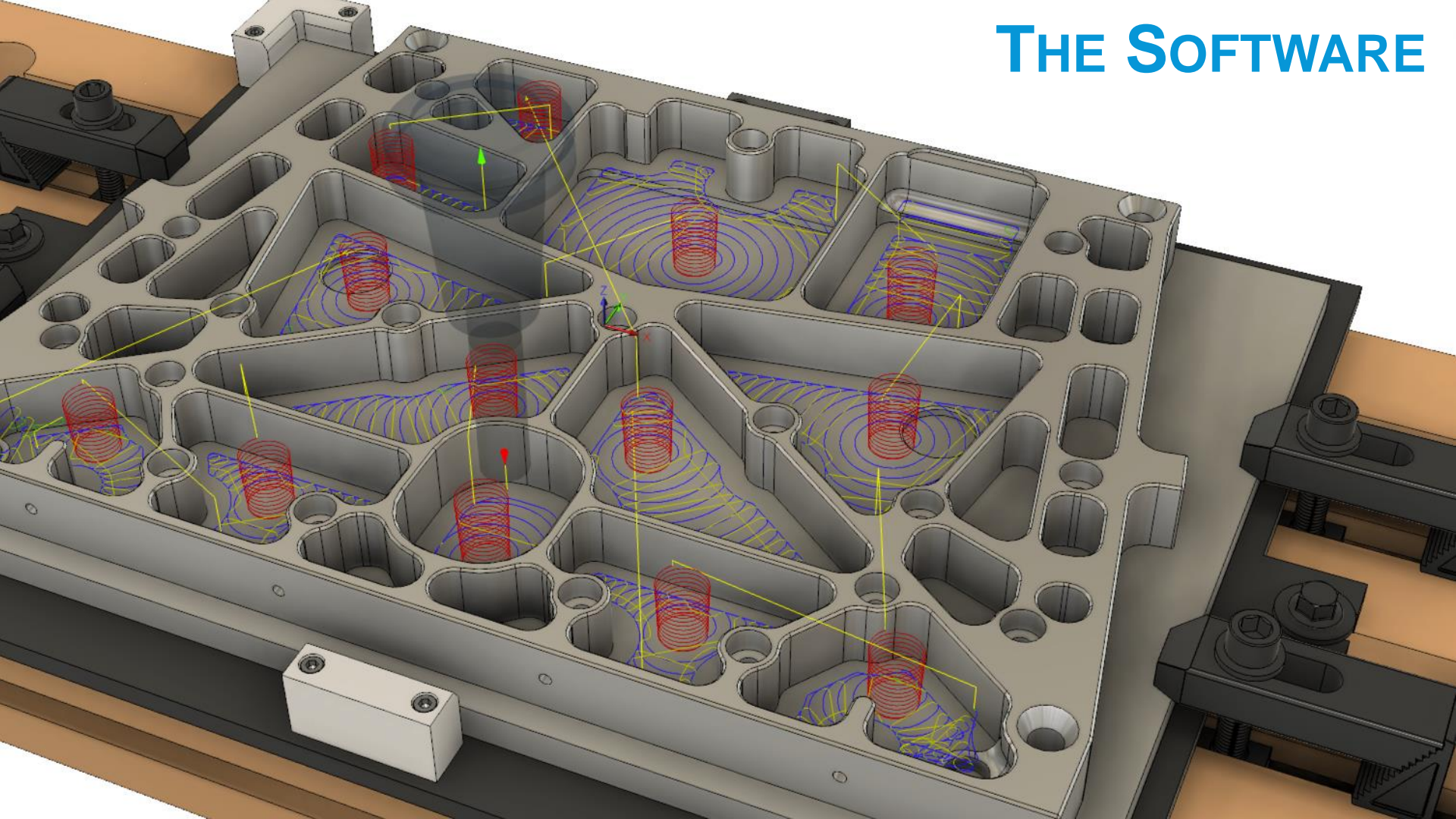
**THE MACHINES**



**THE SOFTWARE**



# THE SOFTWARE





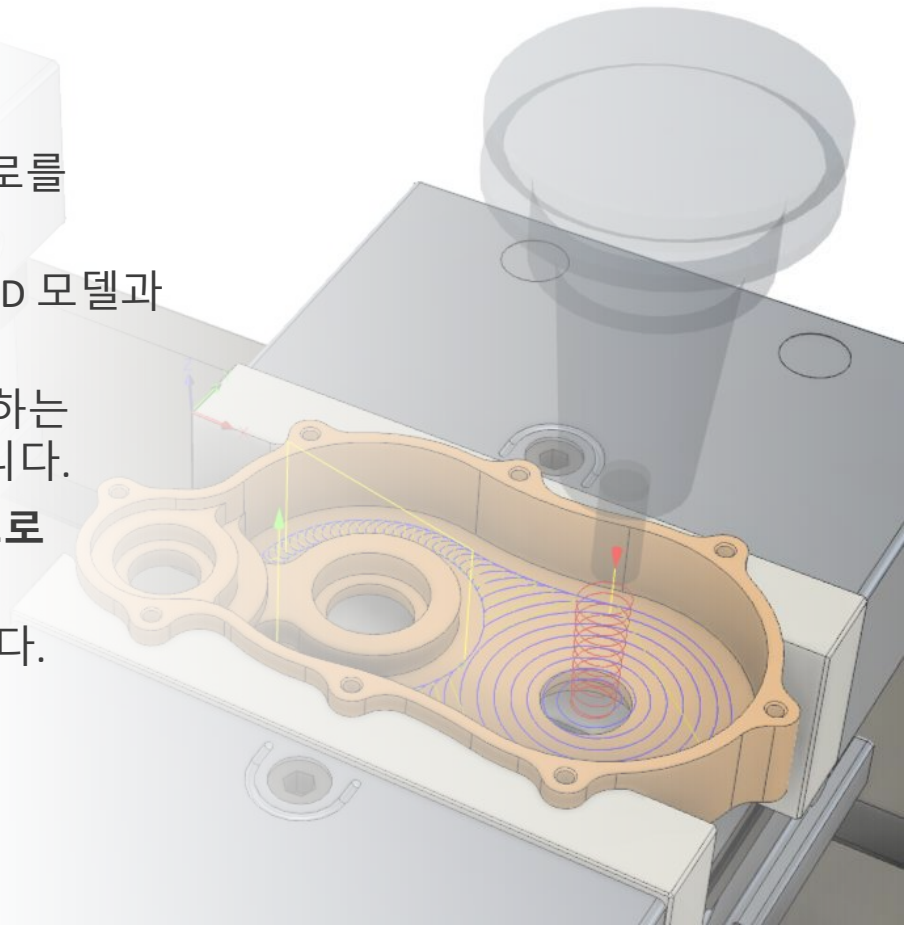
# The Software

## Introduction to CAM with Autodesk

- **CAM 소프트웨어는 어떻게 연결 되나요?**
  - 공구 경로라고하는 CNC 기계가 따라야 할 경로를 만듭니다.
  - 공구 경로는 **모델 형상을 기반으로** 하므로 CAD 모델과 연결됩니다.
  - 동작을 사전에 확인하고 충돌 위험을 최소화하는 **시뮬레이션을 사용하여** 공구 경로를 확인합니다.
  - 공구 경로는 **포스트 프로세서를 통해 NC 코드로** 출력됩니다.
  - **NC 코드를 장비에 입력하여** 장비를 가동합니다.



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# Swissomation 고객과의 협업

“모든 소스에서 CAD 파일을 완벽하게 가져옵니다”

**SWISSOMATION INC**  
MICRO MACHINING SPECIALISTS

## 문제점:

크기와 수량이 너무 다양했습니다.  
다양한 산업의 고객을 위해 부품을  
생산하는 환경에서 빠른 대응이  
절실하게 필요 했습니다.

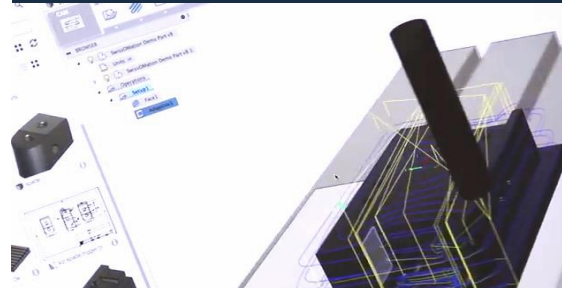
## 해결방법:

- 50 가지 이상의 파일 형식을 가져와 부품 생산을 위한 매우 정확한 형상을 캡처하여 소중한 시간을 절약합니다.
- 쉽고 강력한 CAM은 전통적인 기계 기술자보다 경쟁력을 제공합니다.
- 통합된 플랫폼이 사용 편의성을 극대화 합니다.

“우리는 모든 플랫폼에서 설계된 부분을 오토데스크 클라우드에 넣고 서로 협력할 뿐만 아니라 고객과도 협력 할 수 있습니다.

오토데스크 CAM 소프트웨어는 우리를 한 단계 업그레이드 시켰습니다.”

- Christian Welch  
Swissomation



# Backhand Bikes Designs-테스트와 제작

## “제품 개발 소프트웨어를 8개에서 1개로 줄였습니다”



### 문제점:

제품 개발 프로세스에서 8 가지 소프트웨어 프로그램을 사용한다.

CAM 공구 경로 생성에 1 시간 이상을 소비한다.

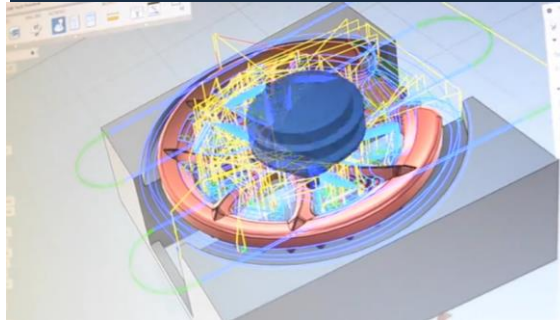
CAD/CAM 워크 플로우가 분리되어 설계 변경 후 재작업에 비용이 많이 든다.

### 해결방안:

- 8 개에서 1 개의 도구로 통합했다.
- 이제 Mac에서도 실행
- CAM 공구 경로 계산을 1 시간에서 몇 분으로 단축했다.
- CAD/CAM 통합으로 재작업 시간 제거하고 납기가 빨라졌다.

“Fusion360은 최고급 소프트웨어입니다. 항공 우주 산업으로 돌아가도 충분히 사용할 것 같습니다. Fusion 360은 내가 사용했던 설계소프트웨어 중에 가장 좋은 3D 전략을 가지고 있습니다.”

- Jeff Hooper  
Backhand Bikes





# MJK Performance- 개선된 제품 가공 시간

“Adaptive Clearing 기능은 제품 가공 시간을 개선합니다.”



## 문제점:

MCT를 운영하는데 필요한 비용을 효율적으로 개선해야 합니다.

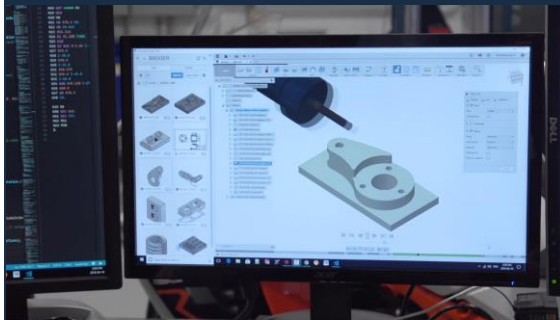
제조를 위해 부품 데이터를 가져오는 기능, 설계 및 프로그래밍하기 위해 여러 도구를 사용해야 했습니다.

## 해결방안:

- 공구에 최적의 부하를 유지하기 위해 Adaptive Clearing으로 가공 시간을 개선합니다.
- 여러 도구를 하나의 통합된 CAD / CAM 솔루션으로 통합 하였습니다.

“부품을 제작하는데 설계 단계에서 CNC 가공에 이르기까지 한 시간 안에 끝마칠 수 있습니다.”

-Phil Butterworth  
MJK Performance







# 비용을 고려한 설계(Design to Cost)

*비용을 고려한 설계(Design to Cost)는 설계단계에서 비용관리와 의사결정을 통합하기 위한 조직적 방법론*

- 모든 엔지니어링 활동의 궁극적인 목표는 주어진 설계 과제나 시장 기회에 대해 생산하기 위한 **성과와 비용 사이의 적절한 균형**을 맞추는 것.
- 엔지니어는 설계 공간을 포함하는 옵션을 완전히 탐색하기 위해 설계 문제에 사용할 수 있는 시간과 에너지가 **제한되어 있음**.



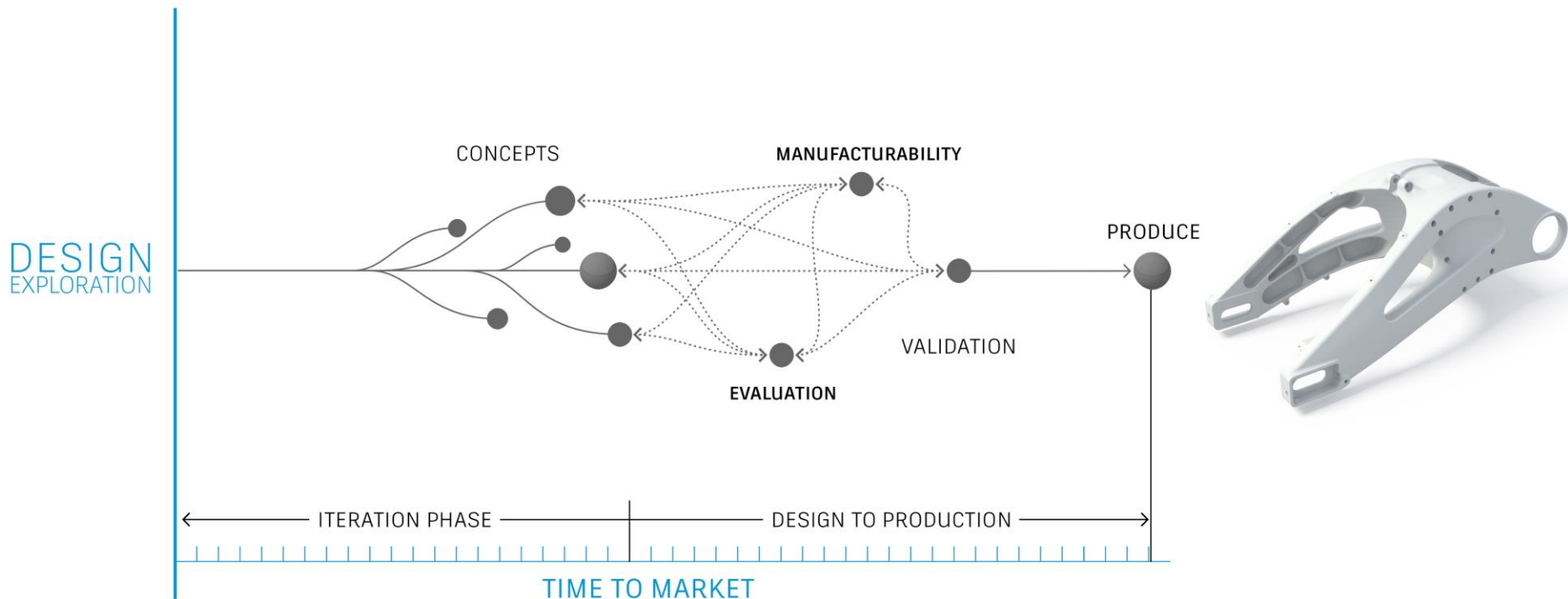
# 제품 비용

- 제품 비용에 영향을 하는 요소:
  - 재료
  - 무게
  - 제조 프로세스
  - 조립 시간
  - 복잡성
  - 생산량



# 기존 설계 프로세스

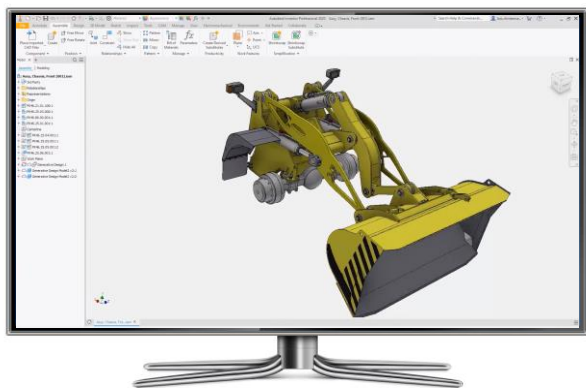
TRADITIONAL



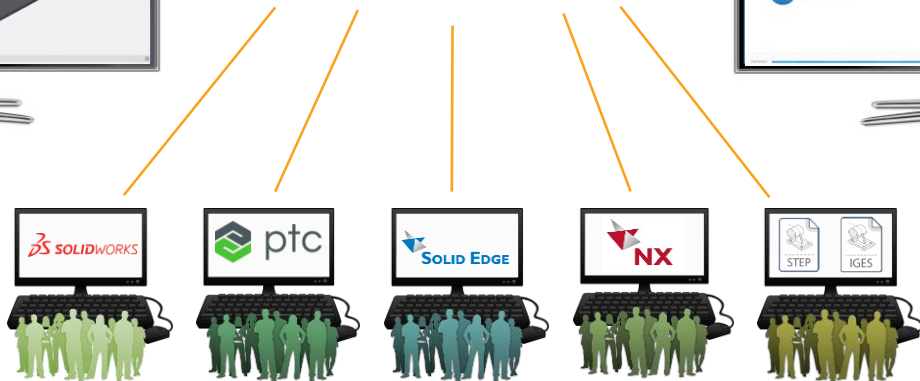
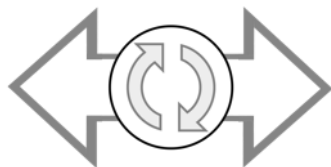
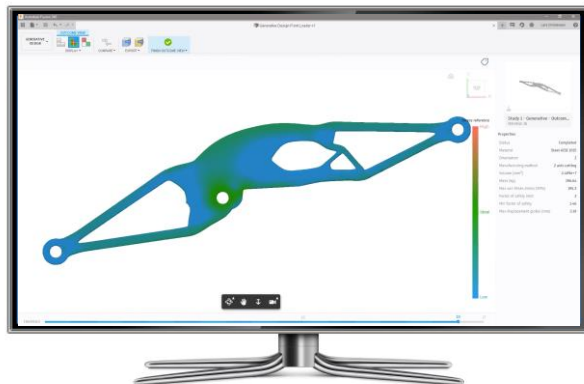


# AnyCAD 기능을 통한 설계 데이터 활용 증대

**I** AUTODESK®  
INVENTOR® PROFESSIONAL



**F** AUTODESK®  
FUSION 360™



# 다양한 제조 방법

## 제조 가능한 설계 결과

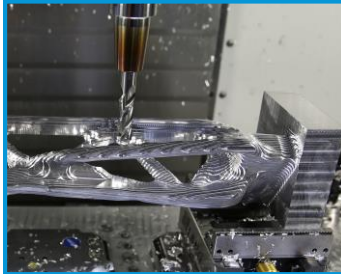
Additive  
Manufacturing



Die Casting



3 & 5 Axis Milling



2.5 Axis Milling

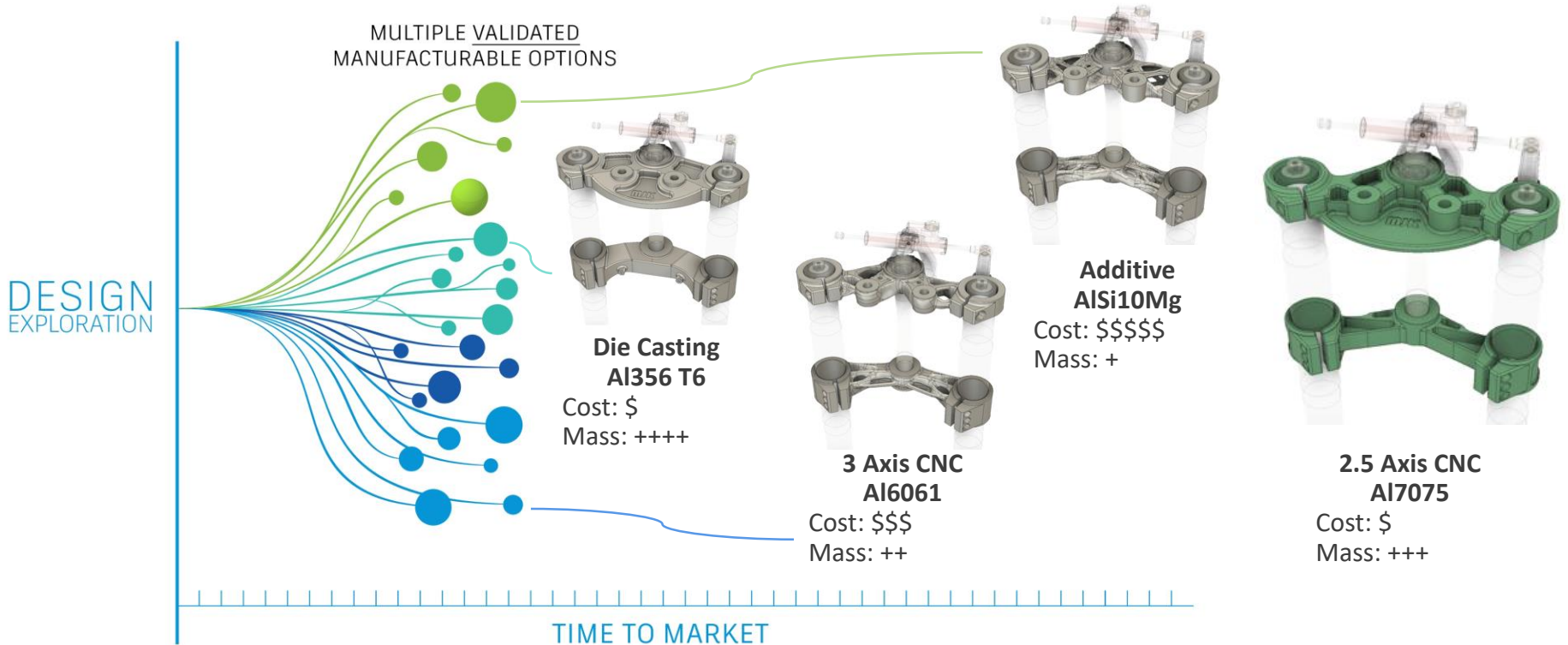


2 Axis Cutting



# AUTODESK GENERATIVE DESIGN: 생산성 향상

## GENERATIVE DESIGN





# Autodesk CAM을 사용하는 이유

고객이 실현하는 최고의 이점



## 제품 성능 개선

- 경량화
- 구조적 통합 증가
- 내구성 증가



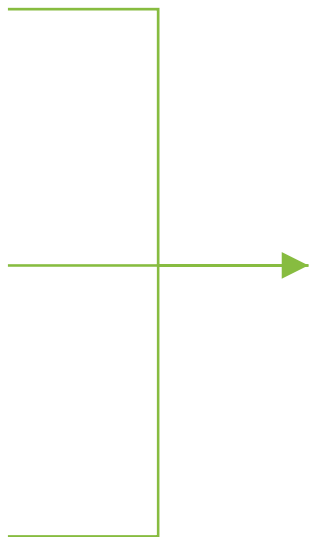
## 제품 혁신 증가

- 더 많은 설계안 탐색
- 상상력을 초월한 설계안
- 혁신적인 미적 표현



## 제품 단가 절감

- 부품 통합 설계(Part consolidation)
- 원재료 절감



- 고객 만족 향상
- 더 많은 비즈니스 성공
- 수익 개선
- **신규 시장 진입**
- **제품 경쟁력 향상**
- **제품 출시 시간 단축**

# Generative Design + Costing Example

## MJK Performance Motorcycle Triple Clamps

- 생산 측면
  - 낮은 생산량
- 성능 측면 목표
  - 무게 절감
  - 강도 증가
  - Brand 정체성 생성
  - 설계 및 제조 비용 관리



# MJK Motorcycle Example



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



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



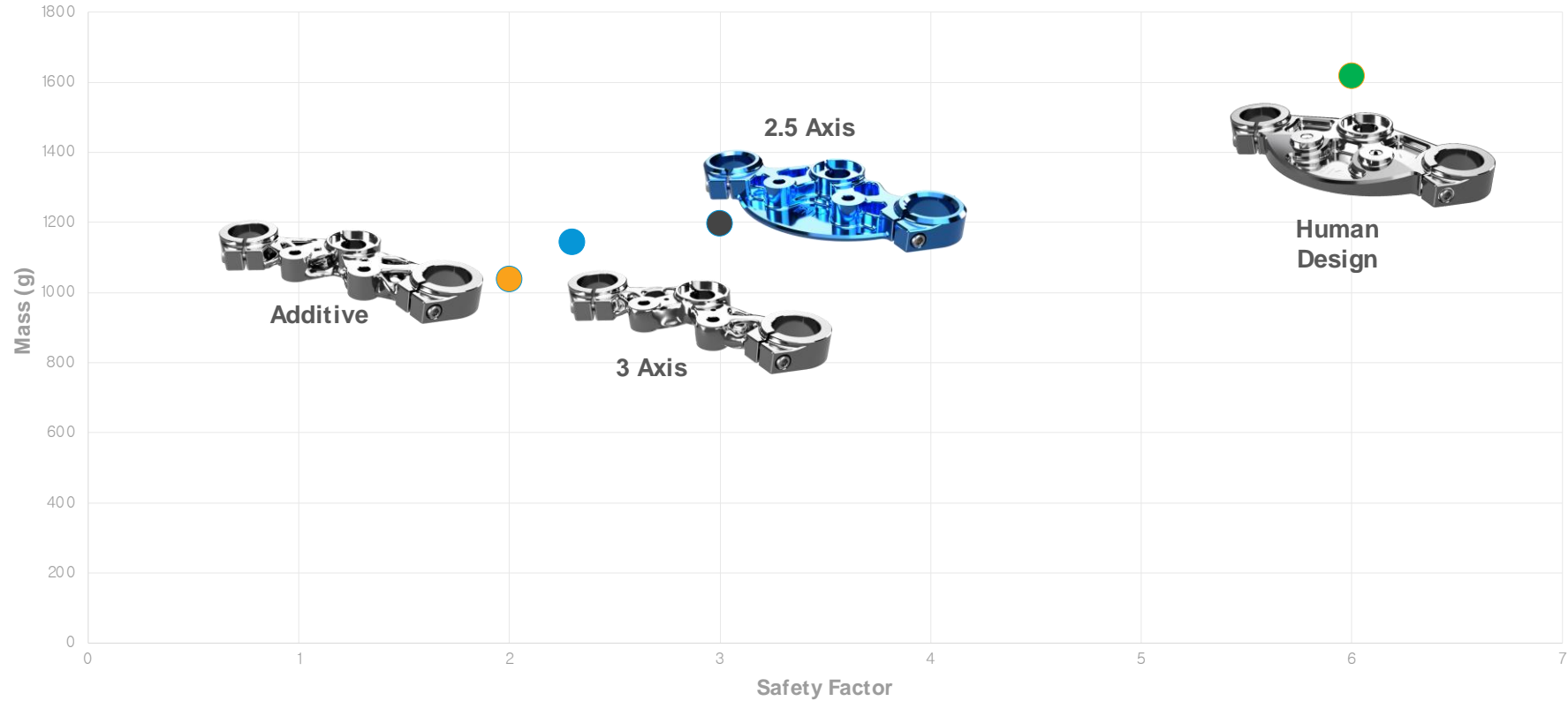
3 Axis Generative  
Weight: 2.3 kg (-23%)  
Safety factor: 2.3  
Cost: \$



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

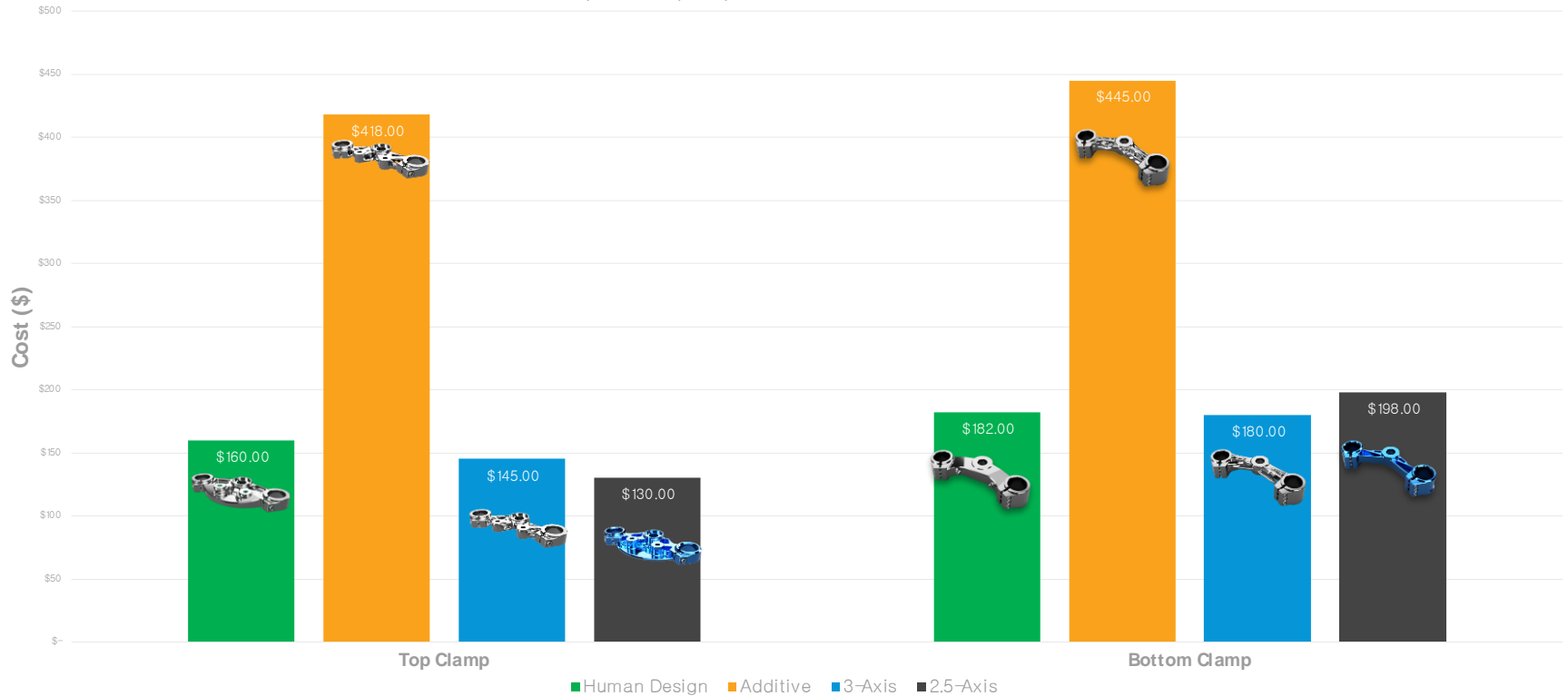


# Safety Factor vs Mass

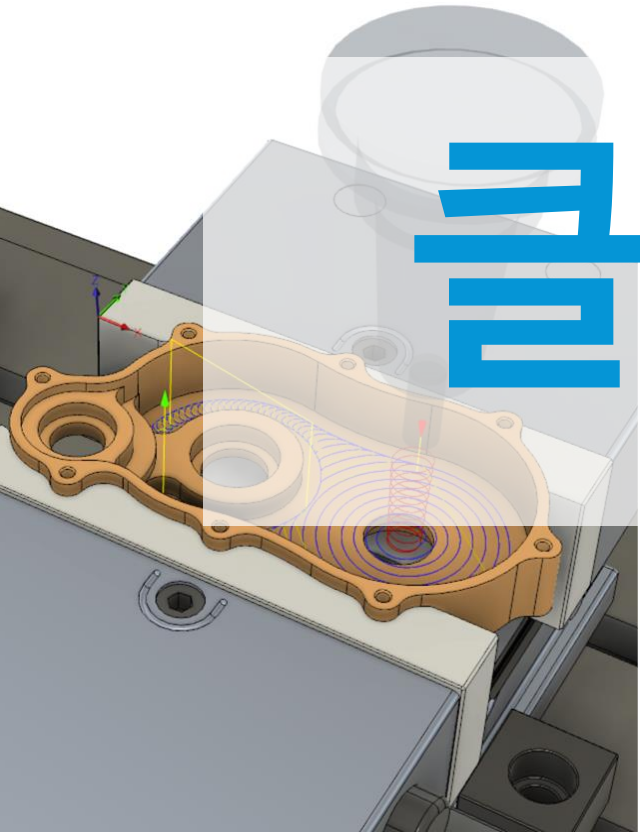


# Costing for Decision Making

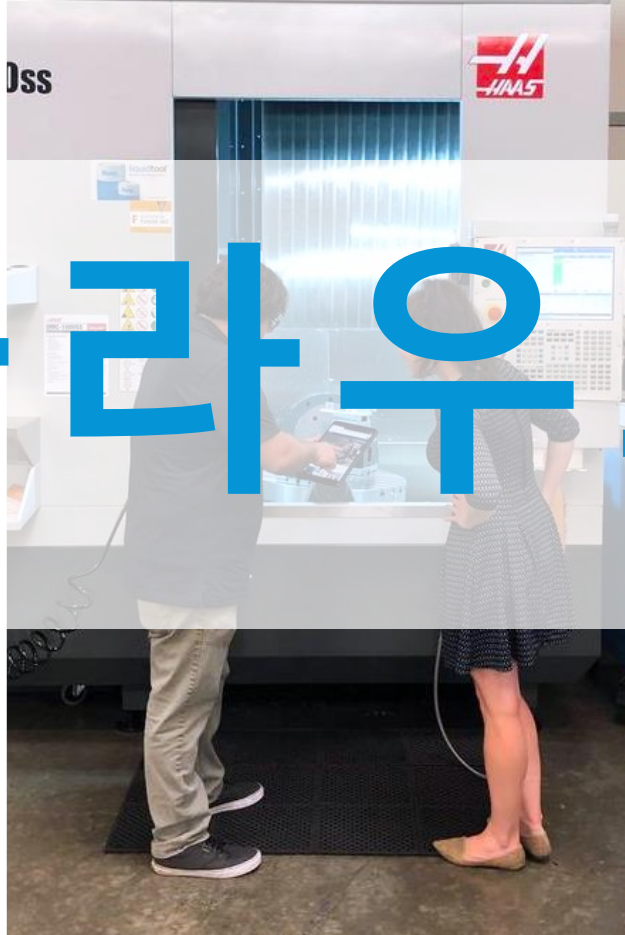
\* Batch of 1000 pieces, per piece cost estimate from aPriori



단일 환경



연계된 작업 공정



빠른 접근성



클라우드



# 클라우드 기반 단일 환경



## Favorites

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Sent Items

Deleted Items

martha.deans@autodesk.com

Inbox 1

Drafts [4]

Sent Items

Deleted Items

Archive

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Junk

Junk Email [268]

Outbox

RSS Subscriptions

Scheduled

Search Folders

## Groups

MCP-MFG

Fusion 360 Technical Demos

Customer Advocacy Organization

D&amp;M WW Data Sharing 1

BSM D&amp;M Technical Marketing 2

More...

Online Archive - martha.dea...

Search Current Mailbox Current Mailbox

Focused Other

No Date

Today

Martha Deans  
RFQ - DB360 Clutch Cover  
Drawing and SWx part file 11:56 AM

There are more items in this folder on the server

[Click here to view more on Microsoft Exchange](#)

Reply Reply All Forward



AI Whatmough Martha Deans

2 11:56 AM

RFQ - DB360 Clutch Cover

Follow up. Start by Wednesday, May 29, 2019. Due by Wednesday, May 29, 2019.

Clutch Cover.SLDPRT  
301 KB

Transmission Cover.DWG  
101 KB

Action Items

+ Get more add-ins

Drawing and SWx part file attached, please respond with quote.

**Joe Dirtbike**

Dirtbikes Ltd.

High Performance Aftermarket Parts

+1 425 555 1829

File Home Send / Receive Folder View Help Attachments Tell me what you want to do

Open Quick Print Remove Save Save Upload Upload Select Copy Show  
 Actions Attachment As Attachments Attachments All All Message  
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- 4 Favorites
- Inbox 1
  - Sent Items
  - Deleted Items
- martha.deans@autodesk.com
- Inbox 1
  - Drafts [4]
  - Sent Items
  - Deleted Items
  - Archive
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  - Junk
  - Junk Email [268]
  - Outbox
  - RSS Subscriptions
  - Scheduled
  - Search Folders
- 4 Groups
- MCP-MFG
  - Fusion 360 Technical Demos
  - Customer Advocacy Organization
  - D&M WW Data Sharing 1
  - BSM D&M Technical Marketing 2
  - More...
- Online Archive - martha.dea...

Search Current Mailbox Current Mailbox

Focused Other

No Date

Today

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 RFQ - DB360 Clutch Cover 11:56 AM  
 Drawing and SWx part file

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Action Items + Get more add-ins

Drawing and SWx part file attached, please respond with quote.

**Joe Dirtbike**  
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 High Performance Aftermarket Parts

+1 425 555 1829

Save All Attachments

Save All Attachments This PC

Organize

- Dropbox (Autode:)
- OneDrive
- This PC**
- 3D Objects
- BIM 360 Team
- Desktop
- Documents
- Downloads
- Drive
- Fusion 360
- Music
- Pictures
- Videos
- OS (C:)

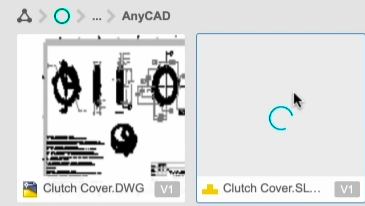
Fusion 360 OS (C:)

Folder name: This PC

Tools OK Cancel

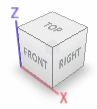


Data People Upload New Folder



Toolbar with categories: SOLID, SURFACE, SHEET METAL, TOOLS, DESIGN, CREATE, MODIFY, ASSEMBLE, CONSTRUCT, INSPECT, INSERT, SELECT.

- BROWSER: (Unsaved), Document Settings, Named Views, Origin



COMMENTS

Navigation icons: back, forward, search, zoom, etc.

Navigation icons: back, forward, search, zoom, etc.



Data | People

Upload | New Folder | Settings

CAM Study > 002. Webinar

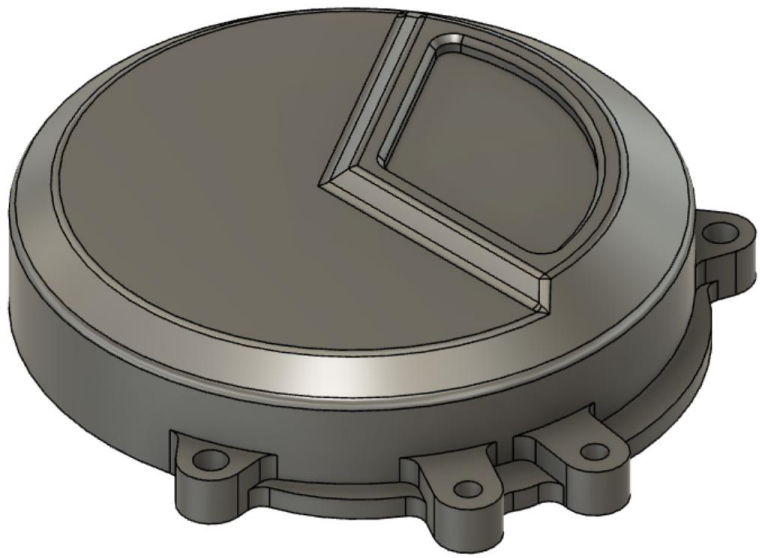
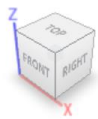
- Clutch Cover.DWG 8:36:05 PM [V1]
- Clutch Cover.SLDPRT 8:36:23 PM [V1]
- Orange Vise on VF3 Table 8:36:56 PM [V1]

DESIGN | SOLID | SURFACE | SHEET METAL | TOOLS

CREATE | MODIFY | ASSEMBLE | CONSTRUCT | INSPECT | INSERT | SELECT

BROWSER

- (Unsaved)
- Document Settings
- Named Views
- Origin
- Bodies



COMMENTS

Navigation icons: Pan, Rotate, Zoom, etc.

Timeline navigation icons: Previous, Play, Next, etc.

DESIGN

SOLID SURFACE SHEET METAL TOOLS

CREATE

MODIFY

ASSEMBLE

CONSTRUCT

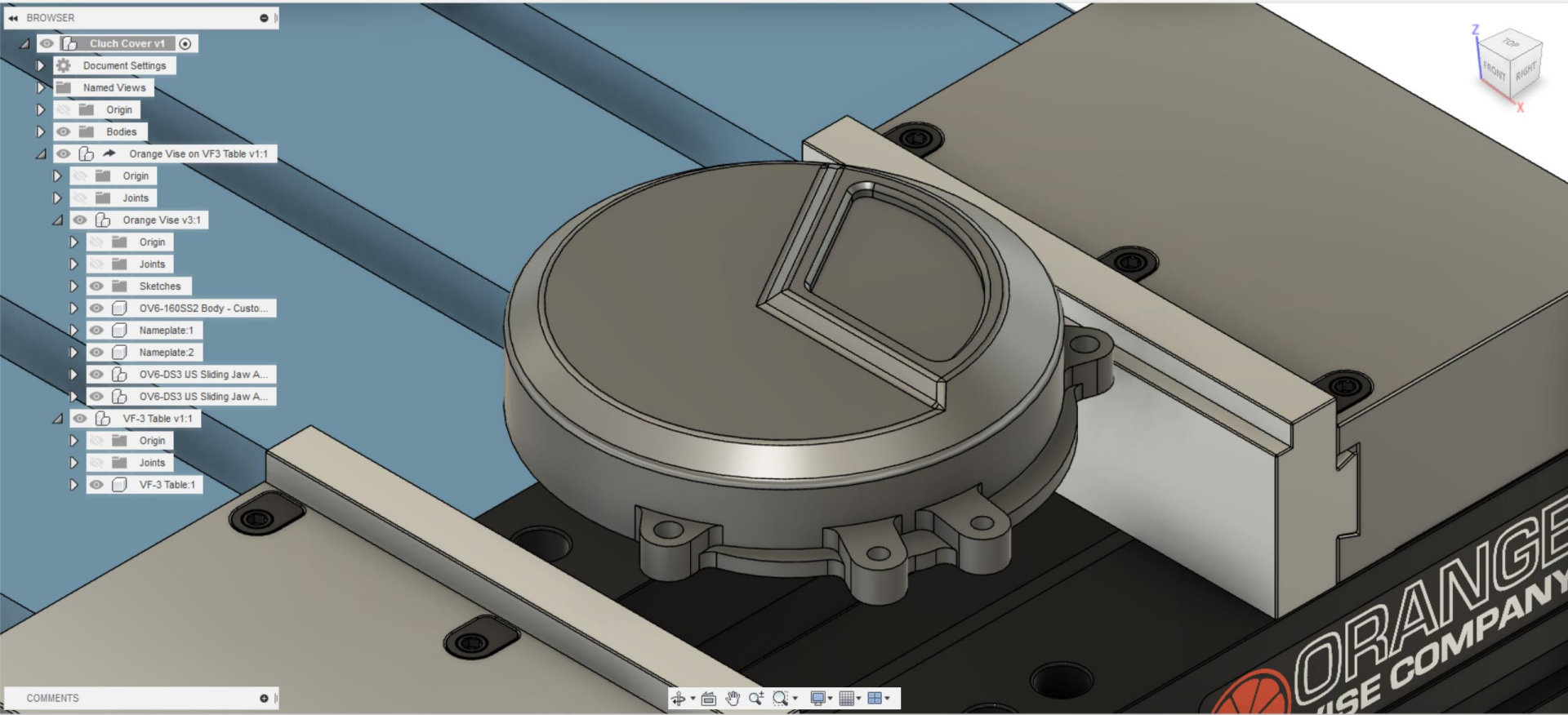
INSPECT

INSERT

SELECT

BROWSER

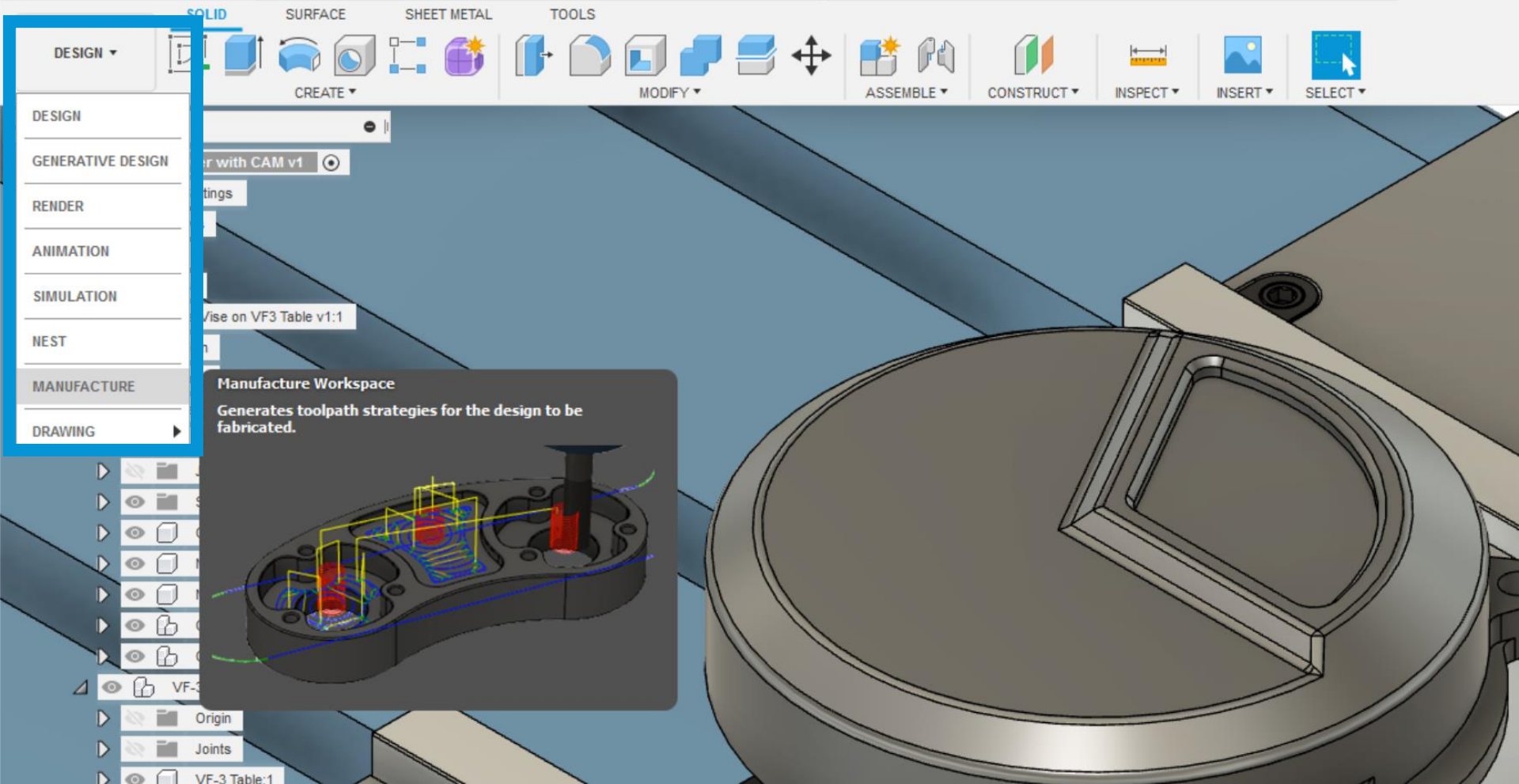
- Clutch Cover v1
  - Document Settings
  - Named Views
  - Origin
  - Bodies
- Orange Vise on VF3 Table v1:1
  - Origin
  - Joints
  - Orange Vise v3:1
    - Origin
    - Joints
    - Sketches
    - OV6-160SS2 Body - Custo...
    - Nameplate:1
    - Nameplate:2
    - OV6-DS3 US Sliding Jaw A...
    - OV6-DS3 US Sliding Jaw A...
  - VF-3 Table v1:1
    - Origin
    - Joints
    - VF-3 Table:1



COMMENTS

Navigation icons: back, forward, home, search, view, grid, and settings.

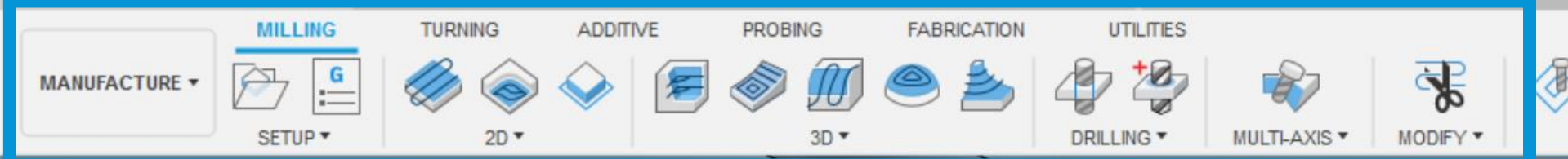




**MANUFACTURE** ▾

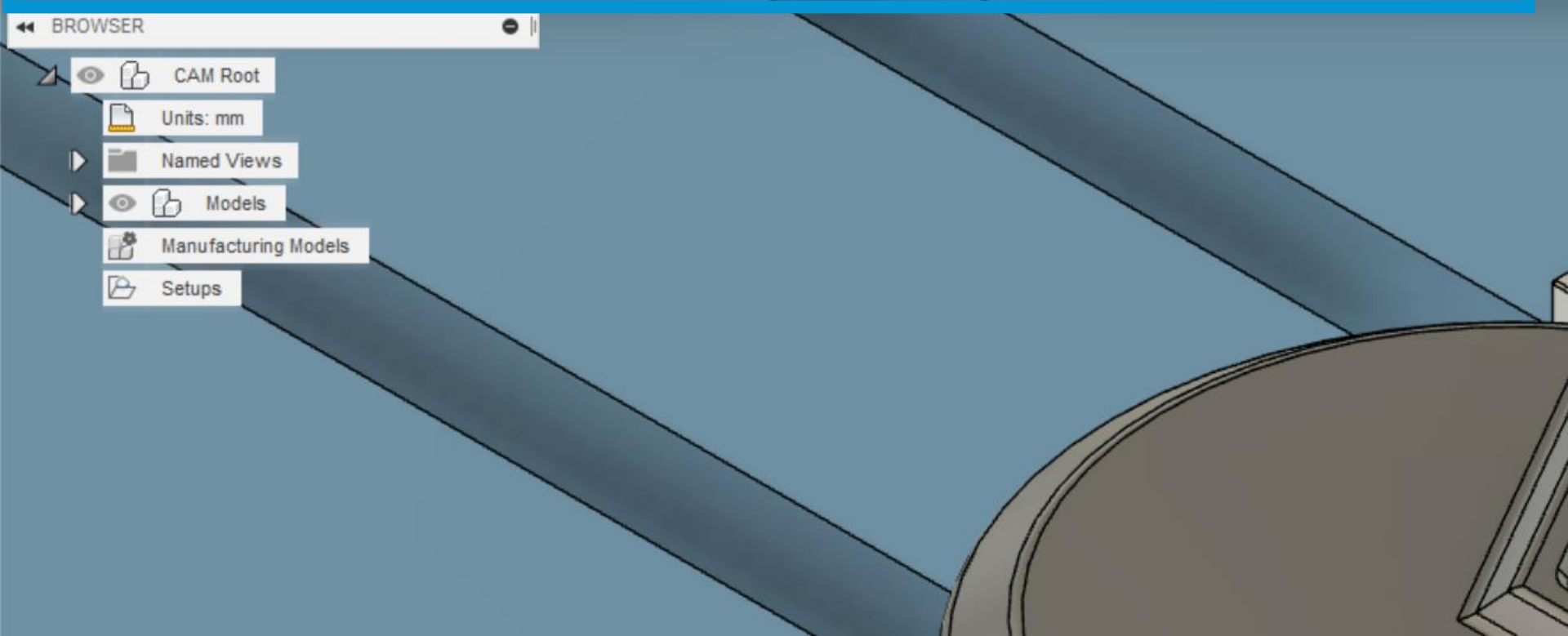
**MILLING** | **TURNING** | **ADDITIVE** | **PROBING** | **FABRICATION** | **UTILITIES**

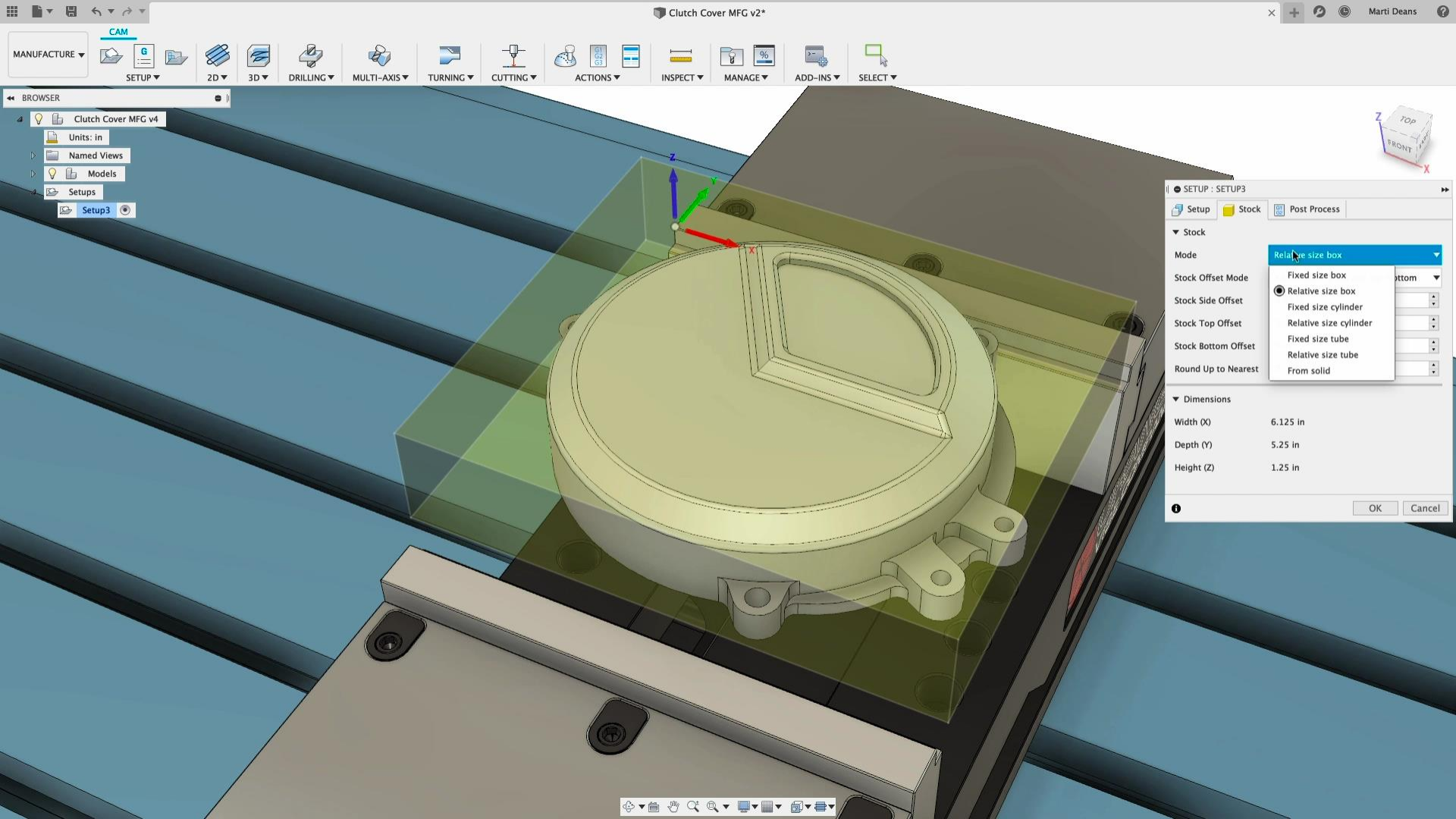
SETUP ▾ | 2D ▾ | 3D ▾ | DRILLING ▾ | MULTI-AXIS ▾ | MODIFY ▾



← BROWSER

- CAM Root
- Units: mm
- Named Views
- Models
- Manufacturing Models
- Setups





SETUP : SETUP3

Setup Stock Post Process

▼ Stock

Mode: **Relative size box**

- Fixed size box
- Relative size box
- Fixed size cylinder
- Relative size cylinder
- Fixed size tube
- Relative size tube
- From solid

Stock Offset Mode: Bottom

Stock Side Offset: [input]

Stock Top Offset: [input]

Stock Bottom Offset: [input]

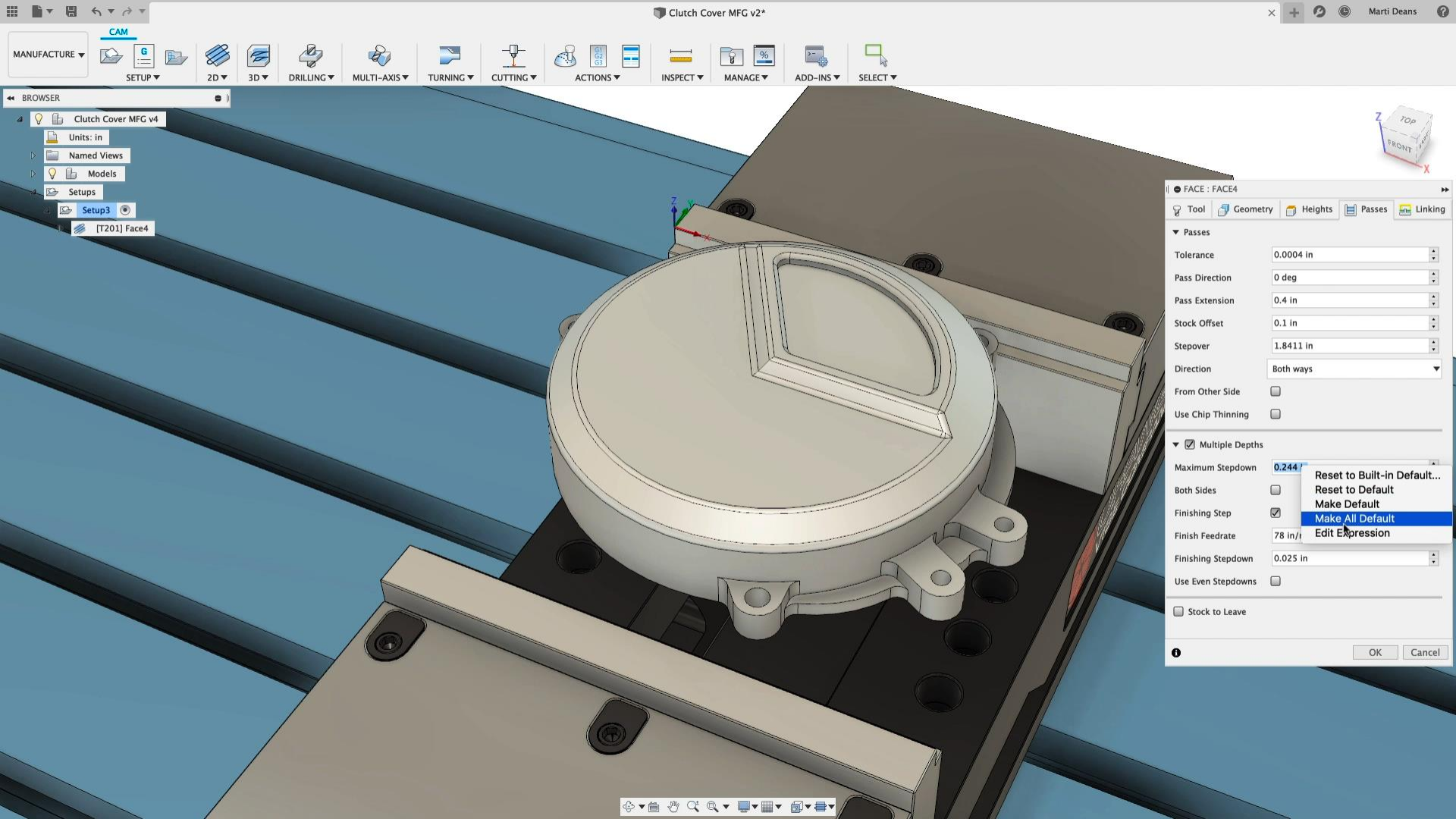
Round Up to Nearest: [input]

▼ Dimensions

Width (X)	6.125 in
Depth (Y)	5.25 in
Height (Z)	1.25 in

OK Cancel





CAM

MANUFACTURE

SETUP

2D

3D

DRILLING

MULTI-AXIS

TURNING

CUTTING

ACTIONS

INSPECT

MANAGE

ADD-INS

SELECT

BROWSER

- Clutch Cover MFG v4
  - Units: in
  - Named Views
  - Models
  - Setups
    - Setup3
      - [T201] Face4



FACE : FACE4

Tool Geometry Heights Passes Linking

Passes

Tolerance 0.0004 in

Pass Direction 0 deg

Pass Extension 0.4 in

Stock Offset 0.1 in

Stepover 1.8411 in

Direction Both ways

From Other Side

Use Chip Thinning

Multiple Depths

Maximum Stepdown 0.244

Both Sides

Finishing Step

Finish Feedrate 78 in/in

Finishing Stepdown 0.025 in

Use Even Stepdowns

Stock to Leave

OK Cancel

Context Menu:

- Reset to Built-in Default...
- Reset to Default
- Make Default
- Make All Default
- Edit Expression

# 클라우드 기반 연계된 작업 공정



## 개념 설계 및 검증



## MCAD + ECAD 활용한 상세 설계



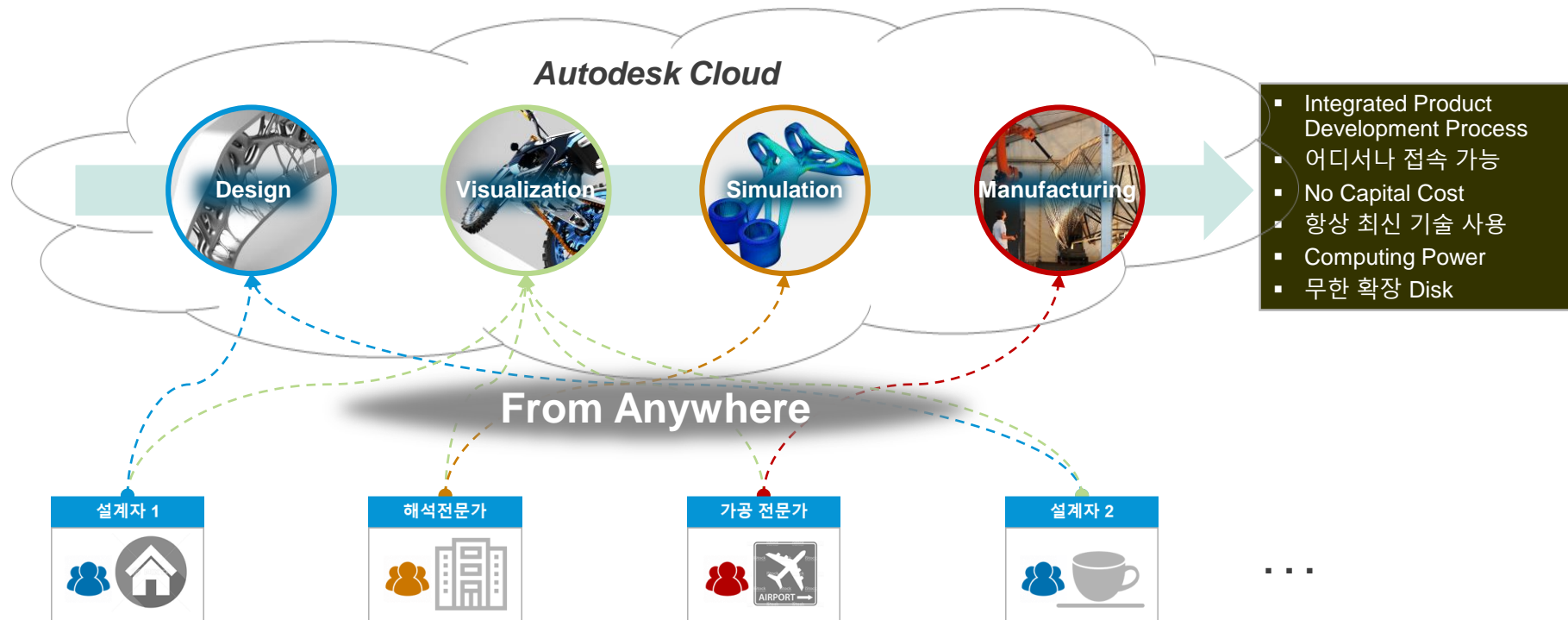
## 상세 설계 검증



## 제조 - 가공 및 측정

# Cloud 기반 Single Platform

Cloud에서 설계, 검증, 제조 및 Design Review를 위한 Visualization 까지 Full Process를 어디에서나 사용할 수 있다.

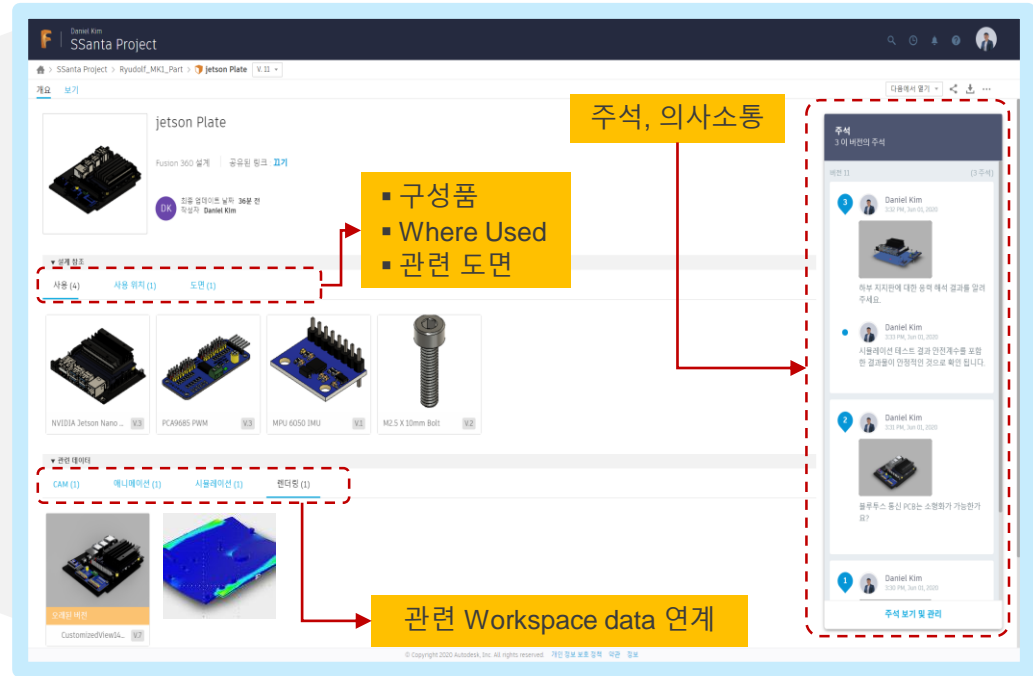
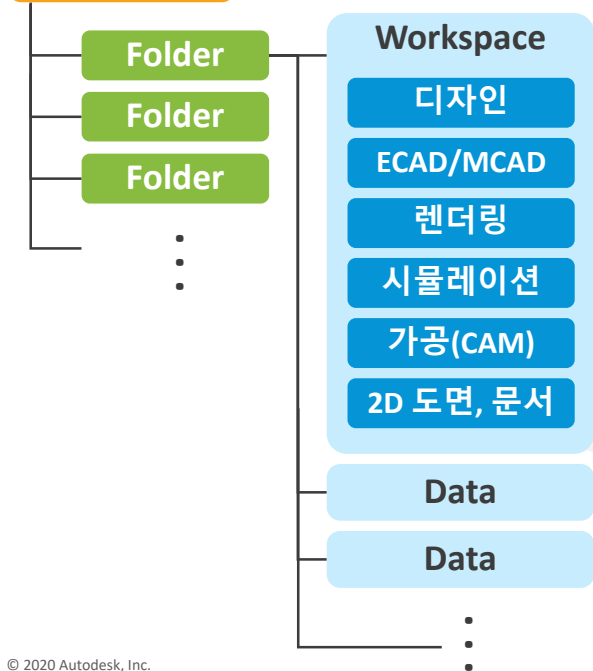




# End-to-End 기반 Single Data

Cloud에서 설계, 검증, 제조 및 Design Review를 위한 Visualization 까지 Full Process를 어디에서나 사용할 수 있다.

**Project** : 프로젝트 멤버 및 권한 관리



# 신속한 디자인 검증과 공유

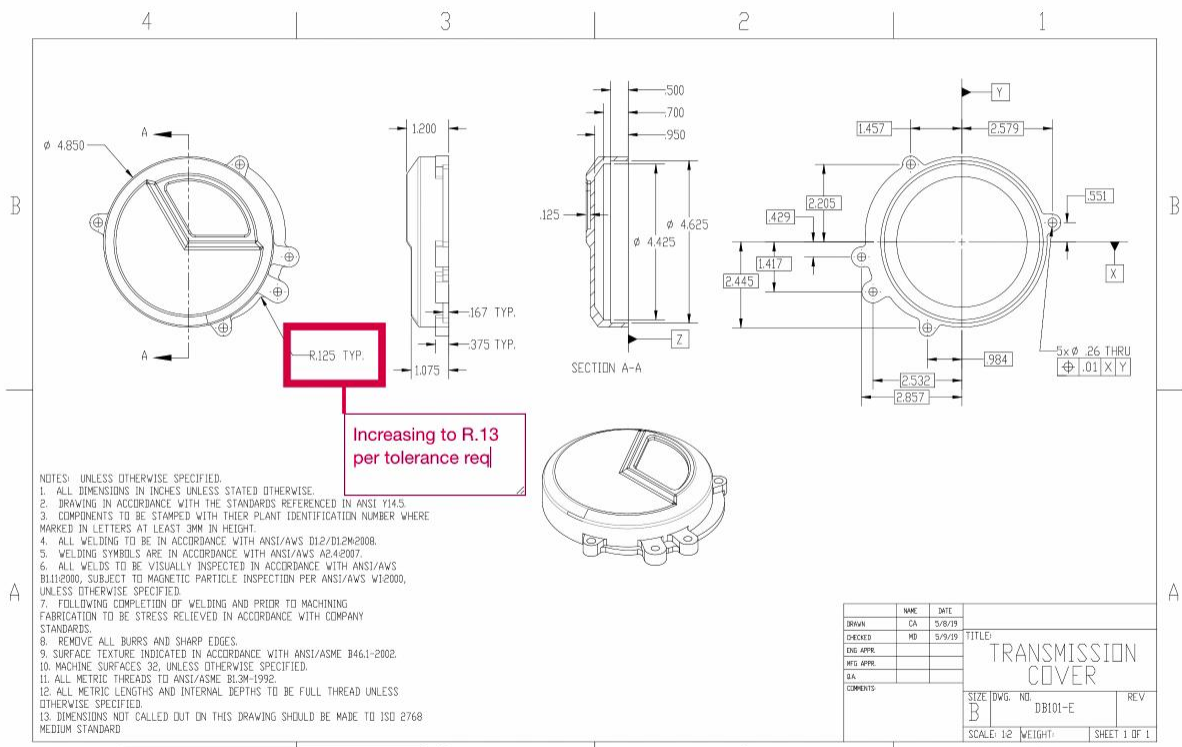
Autodesk 클라우드를 활용해 **3D Viewer** 활용이 가능하다.  
고객과 의사 소통 도구로 활용이 가능하고 실시간으로 피드백을 받을 수 있다.

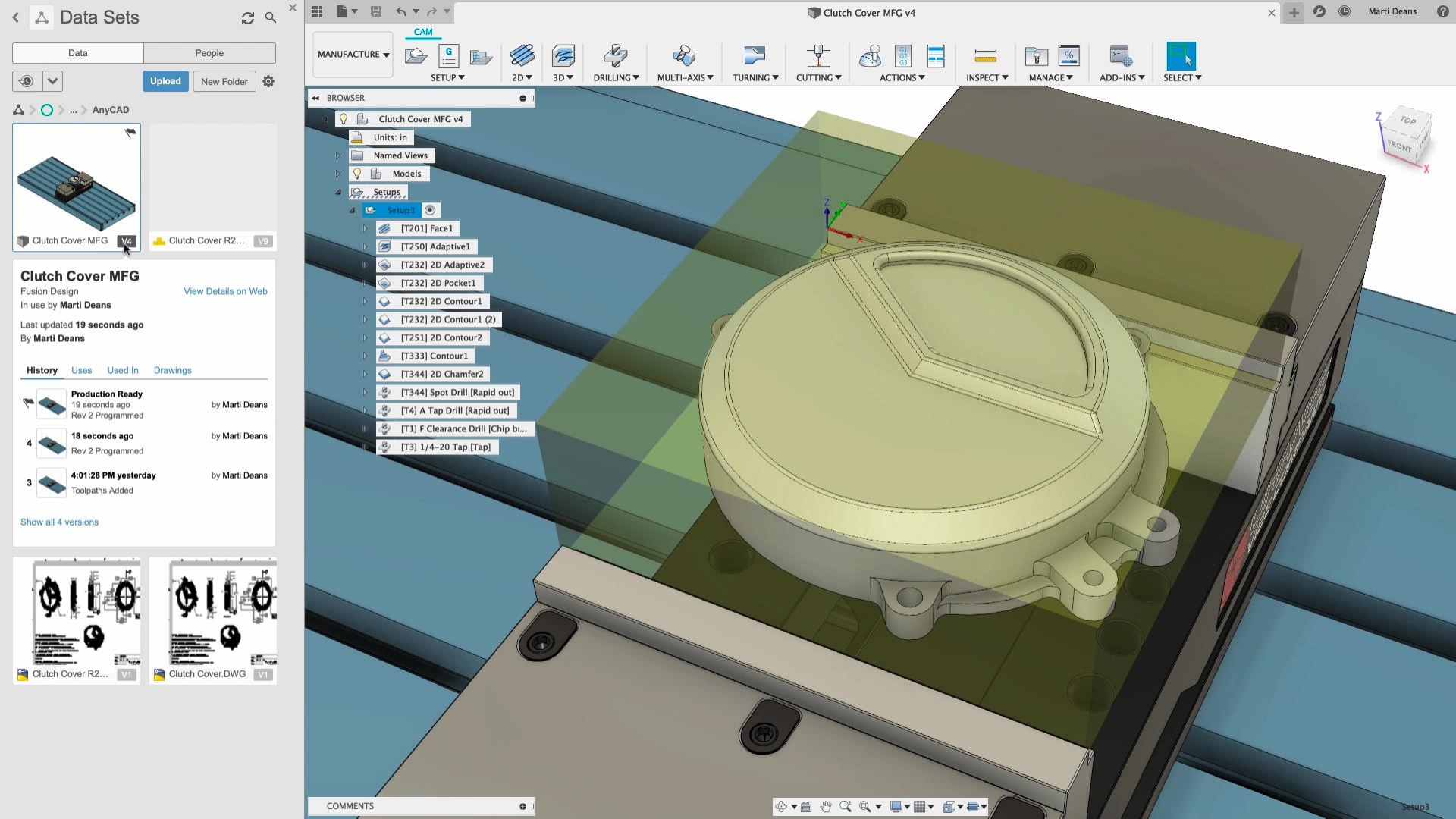


Clutch Cover  
3D Online Viewer



Continue in Browser

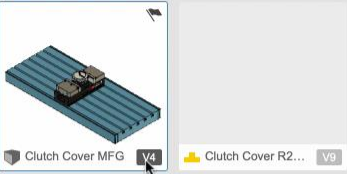




Data People

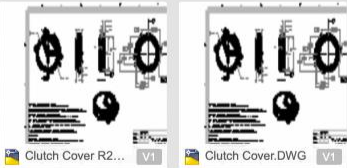
Upload New Folder

AnyCAD



**Clutch Cover MFG**  
Fusion Design  
In use by Marti Deans  
Last updated 19 seconds ago  
By Marti Deans

- History Uses Used In Drawings
- Production Ready**  
19 seconds ago  
Rev 2 Programmed  
by Marti Deans
  - 18 seconds ago**  
Rev 2 Programmed  
by Marti Deans
  - 4:01:28 PM yesterday**  
Toolpaths Added  
by Marti Deans
- Show all 4 versions



- BROWSER
- Clutch Cover MFG v4
    - Units: in
    - Named Views
    - Models
    - Setups
      - Setup1
        - [T201] Face1
        - [T250] Adaptive1
        - [T232] 2D Adaptive2
        - [T232] 2D Pocket1
        - [T232] 2D Contour1
        - [T232] 2D Contour1 (2)
        - [T251] 2D Contour2
        - [T333] Contour1
        - [T344] 2D Chamfer2
        - [T344] Spot Drill [Rapid out]
        - [T4] A Tap Drill [Rapid out]
        - [T1] F Clearance Drill [Chip b...
        - [T3] 1/4-20 Tap [Tap]





Data People

Enter email addresses Invite

Christopher Correll  
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George Roberts  
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James Ray  
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Richard Stubley  
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Steven Walker  
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Peter Maxfield  
peter.maxfield@autodesk.com

Jorge Garcia

DESIGN SOLID SURFACE SHEET METAL TOOLS

CREATE MODIFY ASSEMBLE CONSTRUCT INSPECT INSERT SELECT

BROWSER

- Sensor 2.0 Master Assembly...
- Document Settings
- Named Views
- Origin
- Analysis
- Joints
- Shell(18.12.28) v6:1
- Honeywell PM2.5 Sensor v5:1
- Cap(18.9.11) v6:1
- Diffuser v4:1
- LiPoBattery v6:1
- BottomPlate(19.04.16) v6:1
- Button(19.11.1) v3:1
- PCB(18.12.04) v4:1
- MolexCable v9:1
- WiFiModule v14:1
- V2.0\_Spacer v7:1
- V2.0\_Assembly\_Jig v5:1
- Screw3in6-32 v2:1
- Screw3in6-32 v2:2
- Screw3in6-32 v2:3
- Chassis(19.11.8) v2:1



COMMENTS

Navigation and tool icons for the CAD software interface.

Data

People

Enter email addresses

Invite



**Christopher Correll**  
chris@electroninks.com



**George Roberts**  
george.roberts@autodesk.com



**James Ray**  
james@bommer.io



**Richard Stuble**  
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**Bryce Heventhal**  
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**Edwin Robledo**  
edwin.robledo@autodesk.com



**Farsoon Americas**  
c.kennedy@farsoonam.com



DESIGN

SOLID

SURFACE

SHEET METAL

TOOLS



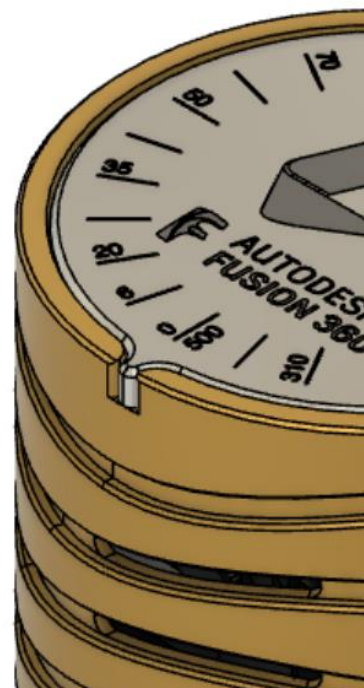
CREATE

MODIFY

BROWSER

Sensor 2.0 Master Assembly...

- Document Settings
- Named Views
- Origin
- Analysis
- Joints
- Shell(18.12.28) v6:1
- Honeywell PM2.5 Sensor v5:1
- Cap(18.9.11) v6:1
- Diffuser v4:1
- LiPoBattery v6:1
- BottomPlate(19.04.16) v6:1
- Button(19.11.1) v3:1
- PCB(18.12.04) v4:1
- MolexCable v9:1
- WiFiModule v14:1
- V2.0\_Spacer v7:1
- V2.0\_Assembly... v5:1



클라우드 기반  
빠른 접근성

# 오토데스크 포스트 프로세스 라이브러리

Autodesk Post Library - <https://cam.autodesk.com/hsmposts>



[Posts](#) [Machines](#) [Tools](#) [Certified](#) [Release Notes](#) [Downloads](#)

[Adjustments](#) [Support](#) [Manual](#) [API](#) [Examples](#) [RSS](#)

## Post Library for Autodesk Fusion 360

This is the place to find post processors for common CNC machines and controls.  
Make sure to read this [important safety information](#) before using any posts.

|  |



### HAAS (pre-NGC)

[Download](#) / [Sample](#) / [Share](#) / [RSS](#)

[Haas Automation](#)

Purpose: Milling

Version: 42831

Changed: 19 days ago

Extension: nc

Downloads: 22414

*Generic post for use with all common 3-axis HAAS mills like the DM, VF, Office Mill, and Mini Mill series. This post is for the pre-Next Generation Control. By default positioning moves will be output as high feed G1s instead of G0s. You can turn on the property 'useG0' to force G0s but be careful as the CNC will follow a dogleg path rather than a direct path.*

[Recent changes](#)



### YASNAC

[Download](#) / [Sample](#) / [Share](#) / [RSS](#)



# 오토데스크 툴 라이브러리

Autodesk Tool Post Library - <https://cam.autodesk.com/hsmtools>



[Posts](#) [Machines](#) [Tools](#) [Certified](#) [Release Notes](#) [Downloads](#)

Tools for Autodesk Fusion 360

Find your tools here

Any vendor



## Harvey Tool - End Mills



[View](#) / [For Fusion 360](#) / [For Inventor CAM & HSMWorks](#) / [Share](#)

[Harvey Tool](#)

Version: 4

Downloads: 745

Think Harvey Tool First for all of your applications. Harvey Tool's expansive tool library includes a vast product offering of hard-to-find end mills and miniature end mills designed for high precision machining. Included in this library are Miniature End Mills as small as .001" and Material Specific End Mills as large in diameter as .750". [More](#)



## Helical Solutions - End Mills



[View](#) / [For Fusion 360](#) / [For Inventor CAM & HSMWorks](#) / [Share](#)

[Helical Solutions](#)

Version: 3

Downloads: 597

Let Helical Impress You with our high-performance end mills. From Chipbreaker Roughers to Multi-Flute Finishers, Helical Solutions' high performance end mills are designed to perform specific jobs with the precision, dependability, and repeatability that machinists demand. [More](#)



## Harvey Tool - Specialty Profiles



[View](#) / [For Fusion 360](#) / [For Inventor CAM & HSMWorks](#) / [Share](#)

[Harvey Tool](#)

Version: 4

Downloads: 516

At Harvey Tool, Your Specials Are Our Standards™. This tool library, encompassing nearly 7000 tools, includes the niche tools you've always been left to specially quote, but that Harvey Tool has fully stocked at its location. Browse everything from Keyseat Cutters to Undercutting End Mills in this comprehensive tooling library. [More](#)



# 오토데스크 장비 라이브러리

Autodesk Machine Library - <https://cam.autodesk.com/machineslist>

 AUTODESK FUSION 360

[Download](#) / [Share](#)

Ultimaker

Ultimaker 3 Extended

Purpose: Additive

Version: 1.0

[Posts](#)

[Machines](#)

[Tools](#)

[Certified](#)

[Release Notes](#)

[Downloads](#)



Aconity3D Aconity Mini

[Download](#) / [Share](#)

Aconity3D

Small Flexible System

Purpose: Additive

Version: 1.0



Generic Cutting Machine

[Download](#) / [Share](#)

Generic Cutting Machine

Purpose: Waterjet / Laser / Plasma

Table axis: X, Y, Z

Version: 1.0



Generic Mill-Turn Lathe

[Download](#) / [Share](#)

Generic Mill-Turn Lathe

Purpose: Mill / Turn

Table axis: X, Y, Z

Head axis: U

Version: 1.0



Aconity3D Aconity Lab

[Download](#) / [Share](#)

Aconity3D

Mid-sized High-Temp System

Purpose: Additive

Version: 1.0



Generic FFF Machine

[Download](#) / [Share](#)

# 공구 라이브러리 컨버터

Autodesk App Store- <https://apps.autodesk.com/ko>

The screenshot displays the Autodesk App Store interface. At the top, there's a navigation bar with the Autodesk logo, 'APP STORE', and a language dropdown set to 'English'. A search bar is located in the top right. Below the navigation, a large banner for 'AutoCAD® Store' features a background image of red and white construction materials. The main content area is divided into several sections:

- Product Stores:** A vertical list of software categories including AutoCAD, Revit, BIM360, Inventor, Fusion 360, 3ds Max, Maya, Robot Structural Analysis, Autodesk Advance Steel, AutoCAD Architecture, AutoCAD Civil 3D, AutoCAD MEP, AutoCAD Mechanical, AutoCAD Electrical, AutoCAD Plant 3D, Alias, Navisworks, Vault, and Simulation.
- Featured Apps:** A grid of highlighted applications such as MatchProfiles (USD 4.99), Fast Track for Autodesk® Navisworks® (USD 50.00/Y), OptiBIM (Free), Corona Renderer 5 (Trial), Database Explained (Trial), Transfer App (Trial), Arvizio Connector (Free), and ConstructionLines (Free).
- Most Popular Apps:** A row of top-rated apps including Lumion® Liv..., BIMobject (Free), threadModeler (Free), Slicer (Free), Autodesk F... (Free), and Autodesk M... (Free).
- Most Popular Autodesk Apps:** A row of top-rated Autodesk-specific apps including Slicer (Free), Autodesk F... (Free), and Autodesk M... (Free).
- New Apps:** A row of recently added applications such as Warnings Reviewer (Free), Knurl maker (USD 20.00), Tag Legend (Trial), Quick Section View (Trial), DIN 11864 Tube Fit... (USD 25.00), KeyShot 9 Autodesk..., MathLink, Stationing polyline, Dwg Search, and Wood Framing Wall...


# 공구 라이브러리 컨버터

Autodesk App Store- <https://apps.autodesk.com/ko>

AUTODESK APP STORE 한국어 ▾

이동: 제품 스토어 선택 ▾ 앱 검색 Fusion 360 전체 표시

🏠 > 검색 결과 > 항목 상세 정보



### CAM Tool Library Converter

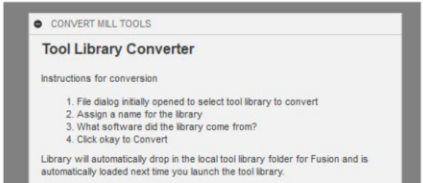
Autodesk, Inc.  
★★★★★ (1 리뷰)

Like 0 Tweet

OS: Win64  
언어: English

**설명**  
This app is for new customers to Autodesk® Fusion™ CAM that are transitioning from another cam package. It will take the native tool database and convert it into a tool database that is usable in Fusion.  
This can either be a 1 time use or can be used whenever needed.  
[도움말 문서 읽기](#)

**이 버전 정보**  
버전 1.0.1, 2019-07-31  
Initial release  
[스크린샷 및 비디오](#)



CONVERT MILL TOOLS

#### Tool Library Converter

Instructions for conversion


1. File dialog initially opened to select tool library to convert
2. Assign a name for the library
3. What software did the library come from?
4. Click okay to Convert

Library will automatically drop in the local tool library folder for Fusion and is automatically loaded next time you launch the tool library.


**무료**  
다운로드  
Add to Wishlist

다운로드 크기: 1.4 MB  
릴리즈 날짜: 2019-07-12  
마지막 업데이트 날짜: 2019-07-31  
버전 정보: 1.0.1  
웹 사이트: <http://www.autodesk.com/>  
고객 서비스: [matthew.nichols@autodesk.com](mailto:matthew.nichols@autodesk.com)


호환 제품:  
Autodesk Fusion 360

**게시자 정보**  
 Autodesk, Inc.  
171 앱

이 게시자의 앱 더 보기



Autodesk® Configurator 360™ ...  
★★★★★(3)  
구독 앱



2.0 Explode Geometry for 3ds Max  
★★★★★(1)  
무료



클라우드 CAM을  
사용해보자!

제조 시장이 빠르게 변화합니다.  
여러분의 도구도 변화가 필요합니다.



부서간 끊어진  
프로세스



원할 하지 못한  
의사 소통



늦어지는  
납기일





# 통합된 단일 환경



설계에서 가공까지 하나로 진행  
파일 변경없이 변경된 내용을 연결해서 업데이트 가능합니다.



# 고객과 협업



의사소통을 정확하고 빠르게  
설계자, 엔지니어 그리고 장비 운영자와 함께 논의합니다.

# 어디서든 접속

## HAAS ST-10

[Download](#) / [Sample](#) / [Share](#) / [RSS](#)

[Haas Automation](#)  
Purpose: Mill / Turn  
Version: 42302  
Changed: 30 days ago  
Extension: nc  
Downloads: 106  
Preconfigured HAAS ST-10 post with support for mill-turn

[Recent changes](#)

## HAAS ST-20Y

[Download](#) / [Sample](#) / [Share](#) / [RSS](#)

[Haas Automation](#)  
Purpose: Mill / Turn  
Version: 42302  
Changed: 30 days ago  
Downloads: 136  
Preconfigured HAAS ST-20Y post with support for mill-turn

[Recent changes](#)

## HAAS ST-20

[Download](#) / [Sample](#) / [Share](#) / [RSS](#)

[Haas Automation](#)  
Purpose: Mill / Turn  
Version: 42302  
Changed: 30 days ago  
Downloads: 123  
Preconfigured HAAS ST-20 post with support for mill-turn

[Recent changes](#)

## HAAS ST-30

[Download](#) / [Sample](#) / [Share](#) / [RSS](#)

[Haas Automation](#)  
Purpose: Mill / Turn  
Version: 42302  
Changed: 30 days ago  
Downloads: 97  
Preconfigured HAAS ST-30 post with support for mill-turn. You can fa

[Recent changes](#)

## HAAS ST-30Y

[Download](#) / [Sample](#) / [Share](#) / [RSS](#)

[Haas Automation](#)  
Purpose: Mill / Turn  
Version: 42302  
Changed: 30 days ago  
Downloads: 68  
Preconfigured HAAS ST-30Y post with support for mill-turn. You can fa

[Recent changes](#)

## HAAS ST-15

[Download](#) / [Sample](#) / [Share](#) / [RSS](#)

[Haas Automation](#)  
Purpose: Mill / Turn  
Version: 42302  
Changed: 30 days ago  
Downloads: 94  
Preconfigured HAAS ST-15 post with support for mill-turn. You can fa

[Recent changes](#)

## DMG Mori NLX Mill/Turn

[Download](#) / [Share](#) / [RSS](#)

[DMG Mori](#)  
Purpose: Mill / Turn  
Version: 42302  
Changed: 30 days ago  
Downloads: 1  
Preconfigured DMG Mori NLX post with support for mill-turn and a 3000 control with HMI

[Recent changes](#)

## DMG Mori CMX with FANUC control

[Download](#) / [Share](#) / [RSS](#)

[DMG Mori](#)  
Purpose: Milling  
Version: 42308  
Changed: 62 days ago  
Downloads: 1  
Preconfigured DMG Mori CMX series horizontal machining center with optional rotary table and a FANUC

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## FANUC

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[FANUC](#)  
Purpose: Milling  
Version: 42307  
Changed: 4 days ago  
Downloads: 10  
Generic post for FANUC

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## FANUC Turning

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[FANUC](#)  
Purpose: Turning  
Version: 42313  
Changed: 142 days ago  
Downloads: 1  
Generic turning post for FANUC. Use the property 'type' to switch the FANUC model A, B, and C. The i for OCTOP on X-Post. Turnet 102 for Gang Tooling on X-Post. Turnet 104 for Gang Tooling on X-Tool Post

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## HURCO

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[HURCO](#)  
Purpose: Milling  
Version: 42286  
Changed: 80 days ago  
Downloads: 3  
Generic post for HURCO. Note that this post supports both ISO/ISO NC modal and BNC/E properly. Also note that you can turn on 3D axis by enabling the allow3DAxis property so y

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## HURCO 3D

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Purpose: Milling  
Version: 42286  
Changed: 80 days ago  
Downloads: 3  
Generic post for HURCO. Note that this post supports both ISO/ISO NC modal and BNC/E properly. Also note that you can turn on 3D axis by enabling the allow3DAxis property so y

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## HAAS ST-35

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[Haas Automation](#)  
Purpose: Mill / Turn  
Version: 42302  
Changed: 30 days ago  
Downloads: 1  
Preconfigured HAAS ST-35 post with support for mill-turn. You can force i

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## HAAS ST-25

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[Haas Automation](#)  
Purpose: Mill / Turn  
Version: 42302  
Changed: 30 days ago  
Downloads: 236  
Preconfigured HAAS ST-25 post with support for mill-turn. You can force i

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## HAAS DS-30Y

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[Haas Automation](#)  
Purpose: Mill / Turn  
Version: 42302  
Changed: 30 days ago  
Downloads: 326  
Preconfigured HAAS DS-30Y post with support for mill-turn. You can i

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## HAAS ST-35Y

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[Haas Automation](#)  
Purpose: Mill / Turn  
Version: 42302  
Changed: 30 days ago  
Downloads: 209  
Preconfigured HAAS ST-35Y post with support for mill-turn. You can fa

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## HAAS ST-25Y

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[Haas Automation](#)  
Purpose: Mill / Turn  
Version: 42302  
Changed: 30 days ago  
Downloads: 263  
Preconfigured HAAS ST-25Y post with support for mill-turn. You can fa

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## HAAS DS-30SSY

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[Haas Automation](#)  
Purpose: Milling  
Version: 42302  
Changed: 30 days ago  
Downloads: 1  
Preconfigured HAAS DS-30SSY post with support for mill-turn. You can fa

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## Mitsubishi

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[Mitsubishi](#)  
Purpose: Milling  
Version: 42302  
Changed: 90 days ago  
Downloads: 2  
Generic milling post for Mitsubishi

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## Mitsubishi Turning

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[Mitsubishi](#)  
Purpose: Turning  
Version: 42307  
Changed: 202 days ago  
Downloads: 1  
Generic turning post for Mitsubishi control. Use the property 'type' to switch the Mitsubishi. Turnet 102 for OCTOP on X-Post. Turnet 103 for Gang Tooling on X-Post. Turnet 104 for Gang 7

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## Fadal

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[Fadal](#)  
Purpose: Milling  
Version: 42285  
Changed: 86 days ago  
Downloads: 1  
Generic milling post for Fadal

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## Siemens Turning

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[Siemens](#)  
Purpose: Turning  
Version: 42305  
Changed: 28 days ago  
Downloads: 1  
Generic lathe post for Siemens. Use Turnet 0 for Positional Turnet. Turnet 101 for OCTOP on X-Tool Post

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## Siemens Mill-Turn

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[Siemens](#)  
Purpose: Mill / Turn  
Version: 42310  
Changed: 25 days ago  
Downloads: 6  
Generic Siemens mill-turn post. This post must be customized for the particular capabilities

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## Siemens SINUMERIK 810D

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[Siemens](#)  
Purpose: Milling  
Version: 42302  
Changed: 10 days ago

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## Mitsubishi

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[Mitsubishi](#)  
Purpose: Milling  
Version: 42302  
Changed: 90 days ago  
Downloads: 1  
Generic milling post for Mitsub

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## Mazak Laser

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[Mazak](#)  
Purpose: Waterjet / Laser / Plasma  
Version: 42315  
Changed: 204 days ago  
Downloads: 1  
Generic post for Mazak laser cutting

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## Mazak Mill with rotary table

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[Mazak](#)  
Purpose: Milling  
Version: 42315  
Changed: 29 days ago  
Downloads: 1  
Generic milling post for Mazak with a rotary table

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## Siemens SINUMERIK 840C

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[Siemens](#)  
Purpose: Milling  
Version: 42302  
Changed: 2 days ago  
Downloads: 1  
Generic post for Siemens 840C. Note that the post will use D16 axis

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## Siemens SINUMERIK 802D

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[Siemens](#)  
Purpose: Milling  
Version: 42308  
Changed: 28 days ago  
Downloads: 1  
Generic post for Siemens SINUMERIK 802D

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## Siemens SINUMERIK 840D Insp

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[Siemens](#)  
Purpose: Milling  
Version: 42302  
Changed: 10 days ago

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모바일 접속, 클라우드 포스트 프로세스, 추가적인 서비스를 만들 수 있습니다.

# Autodesk CAM 워크플로우

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반복적이고 소모적인  
프로젝트 시간과 비용  
감소



낭비되는 자원 감소



시간 절약 및 비용 절감



고객과의 빠른 의사 결정

# Autodesk CAM 워크플로우

## Business benefits



더 큰 가치 창출과 조기 의사  
결정을 통해 고객 만족도  
향상



데이터 중심 프로세스로  
프로젝트 수명주기 비용 절감



설계 변경 감소 및 자동화  
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혁신 문화를 육성하고 최신  
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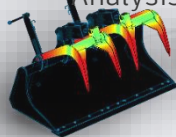
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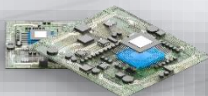
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