Fusion 360
CAM Fundamental Workflows

Presenter: Kevin Lee

Managing Director

LeeVerage Integration Inc.

@leeverageintegration

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MFG321690

About the speaker

Kevin Lee – Managing Director

LeeVerage Integration Inc.

LEEVERAGE INTEGRATION INC.
CAD/CAM solutions
www.leeverage.ca

- 20 years experience, CNC programmer/CNC machinist
- Disciplined in multiple Cad/Cam software’s
- Past part-time College Professor –cnc manufacturing
- Specializing in Autodesk Integrated CAM Training & Consulting
- Integrated CAM Consulting Support
- Fusion 360 Software Solutions

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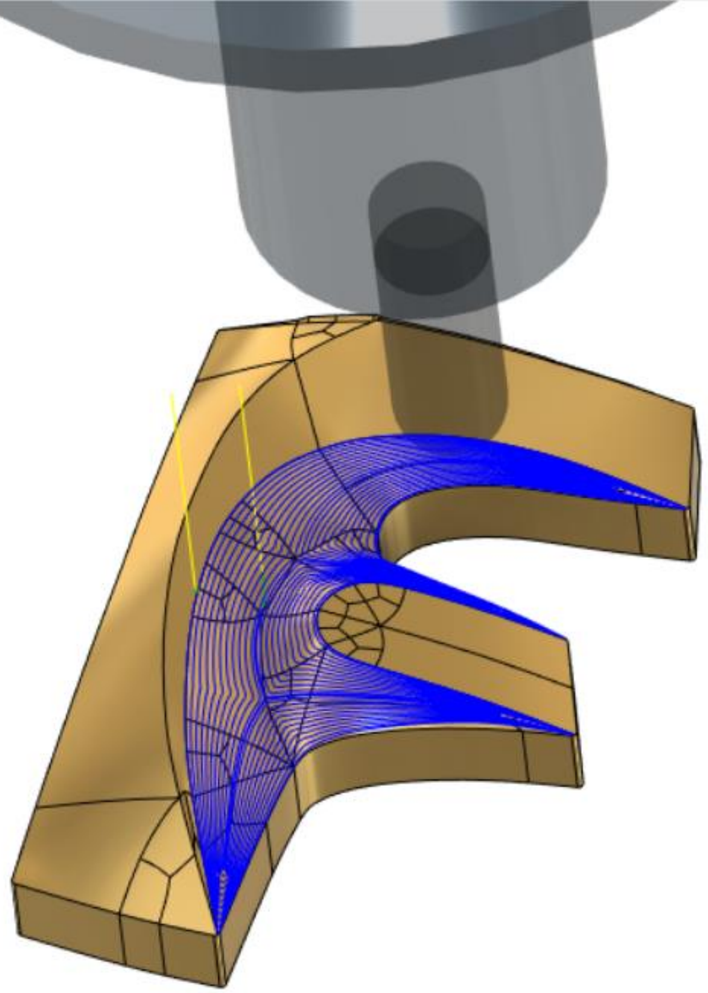
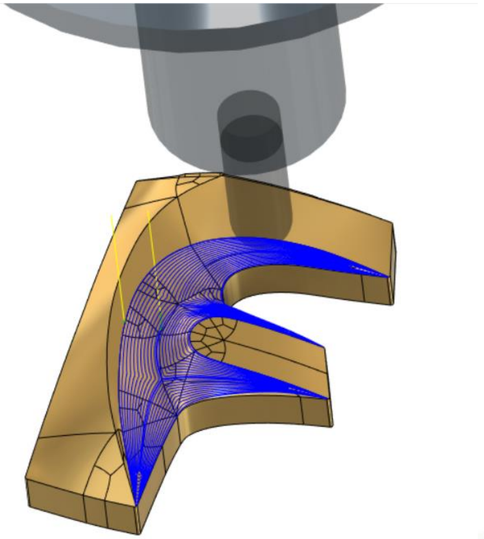


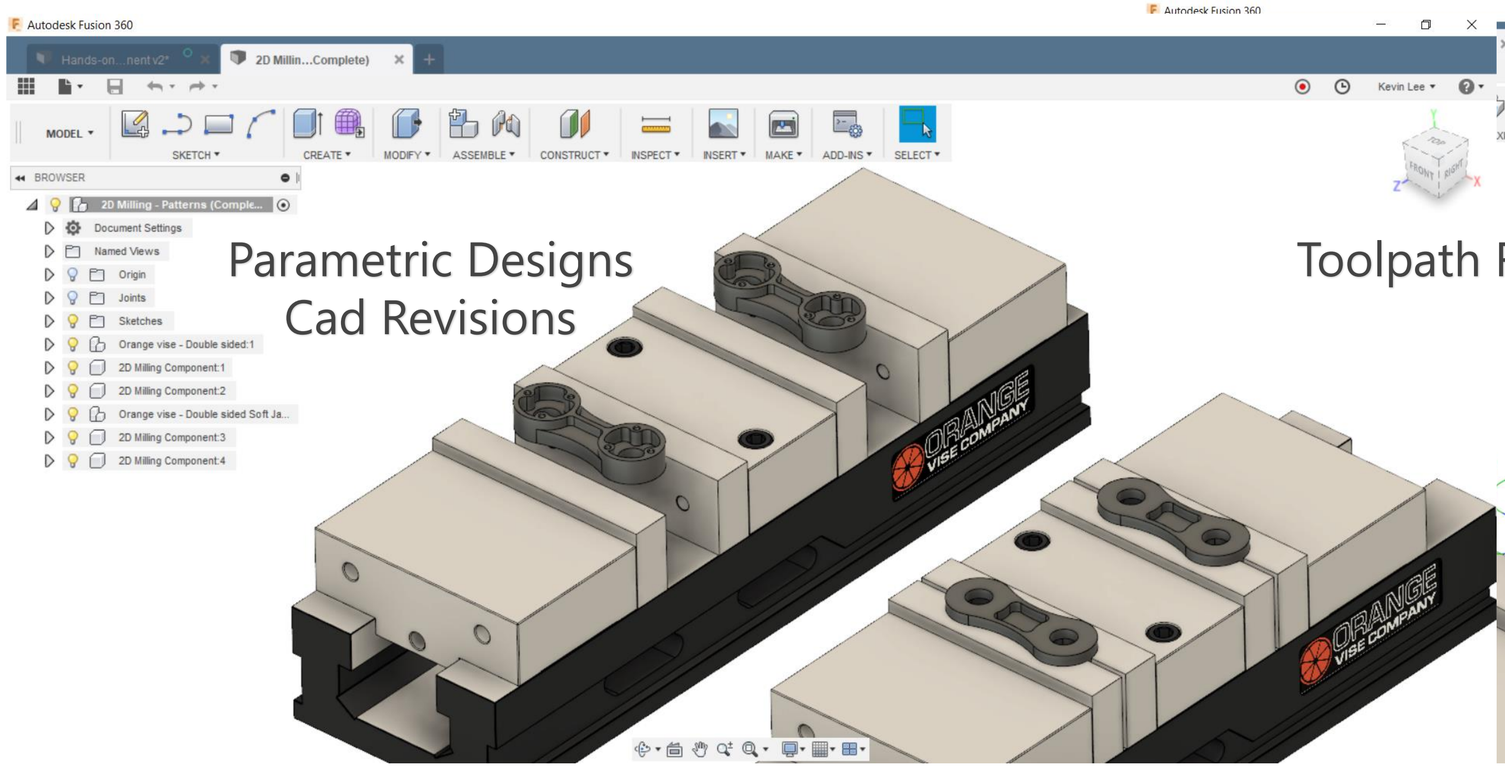
Q & A

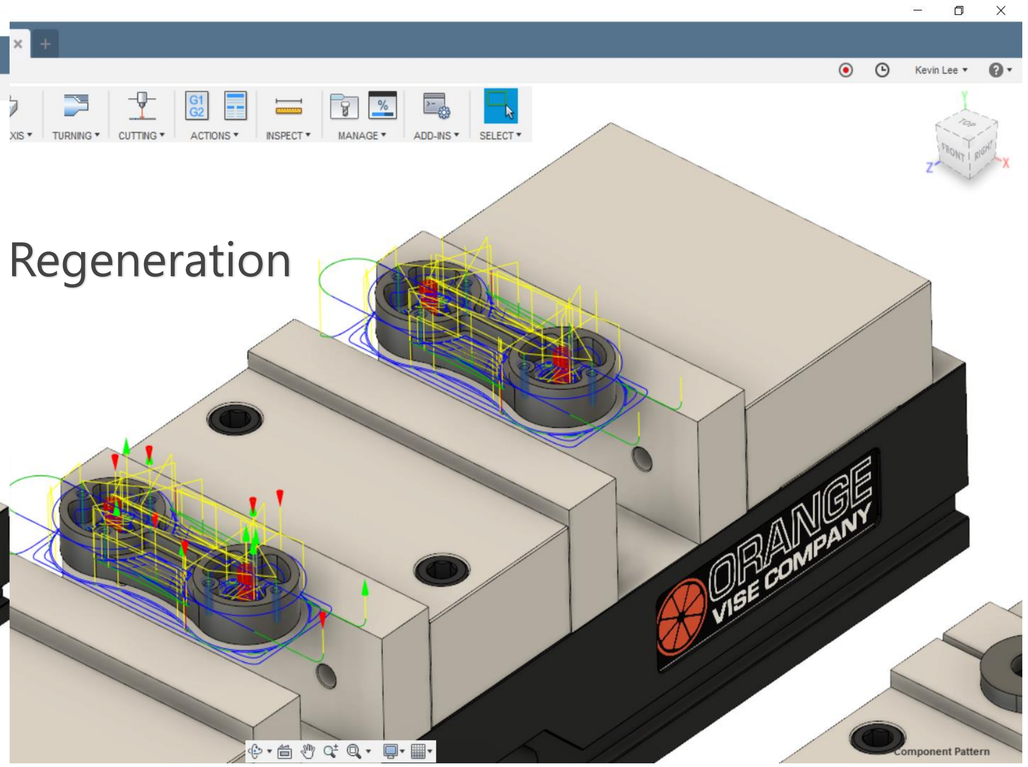
Learning Objectives



- Discover CAM Milling and Turning Setups with defining Stock and WCS
- Discover the differences between turning and milling operations
- Learn effective workflows with geometry-driven operation templates
- Learn to verify an efficient integrated approach to product development

Integrated CAM Technology ….What is it?





Model Workspace

Cam Workspace

Seamless Integration

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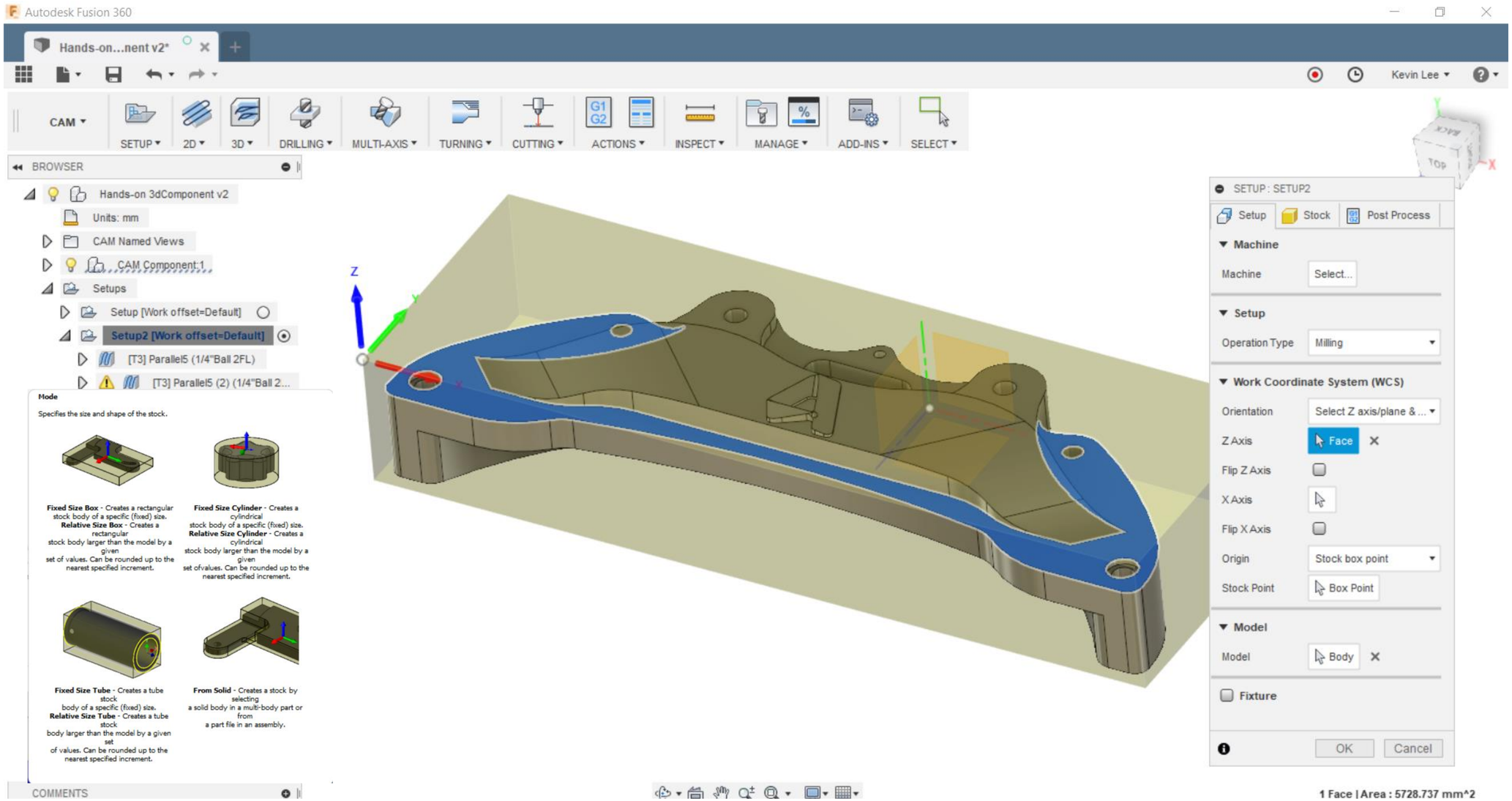
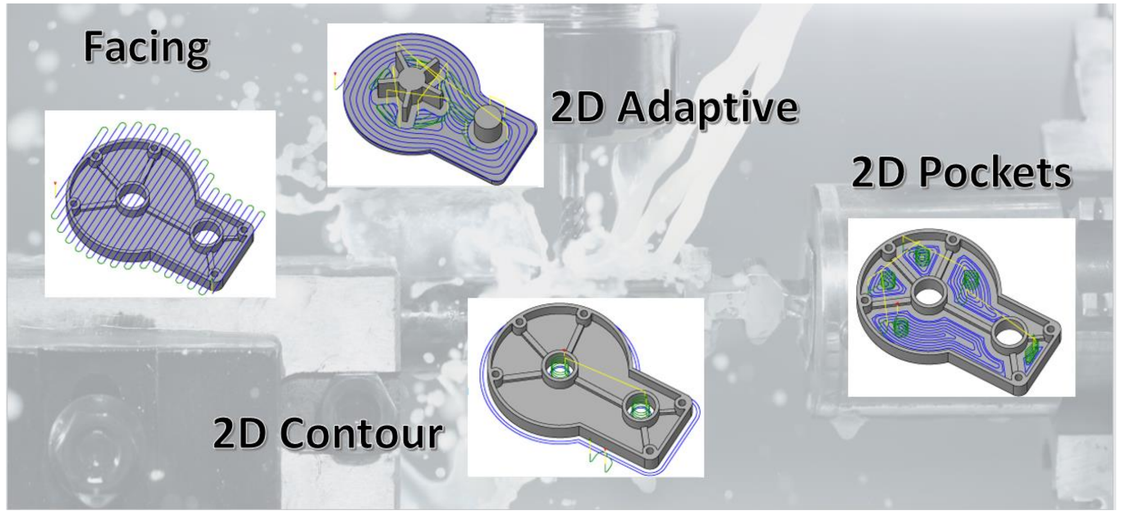
Fusion 360
Importing CAD Data

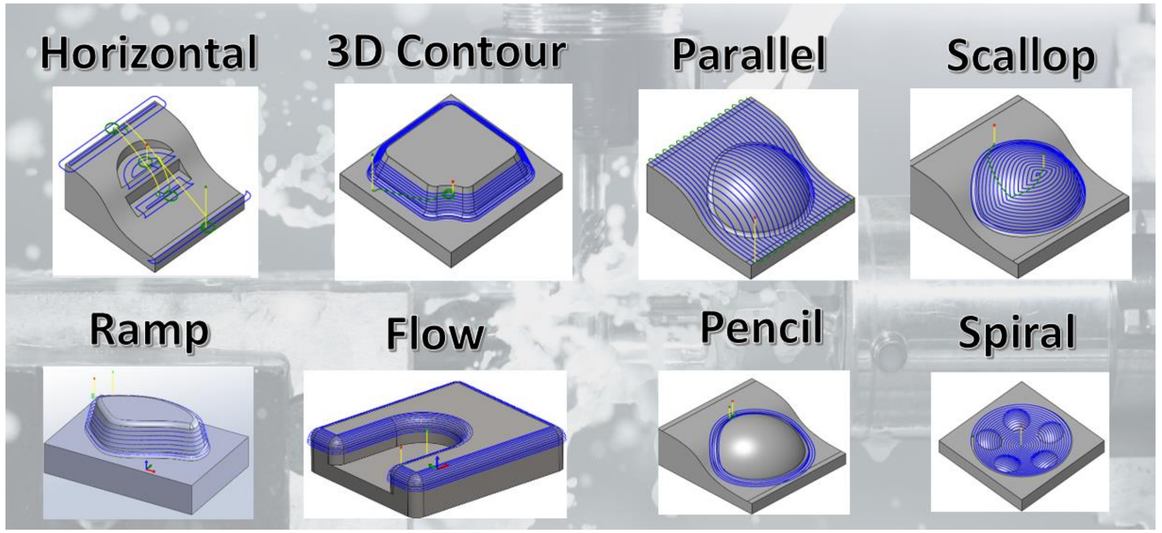
Creating a Setup, Defining Stock, Align WCS



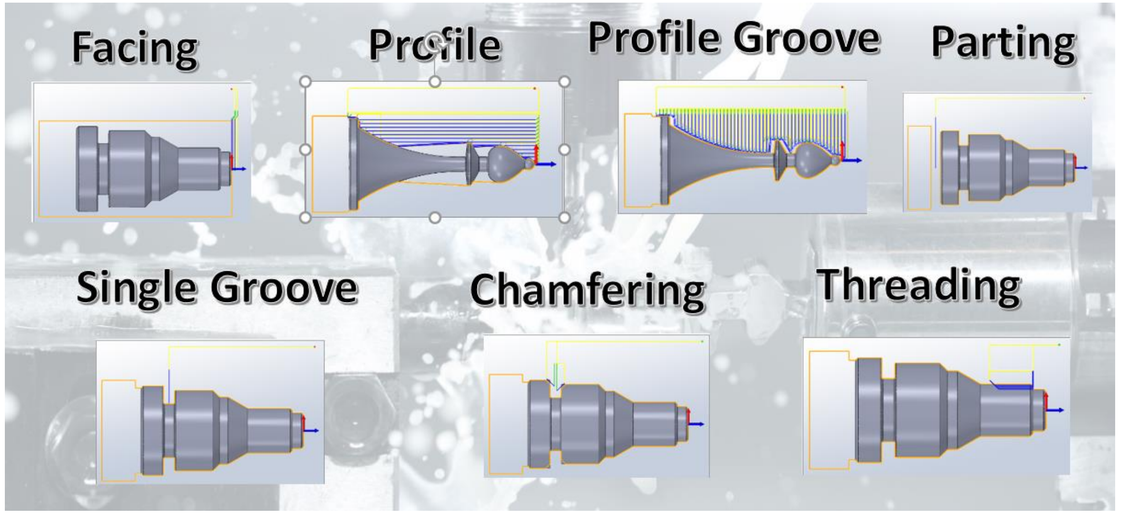
Creating a Setup, Defining Stock, Align WCS



2D Milling Operations



3D Milling Operations



Turning Operations

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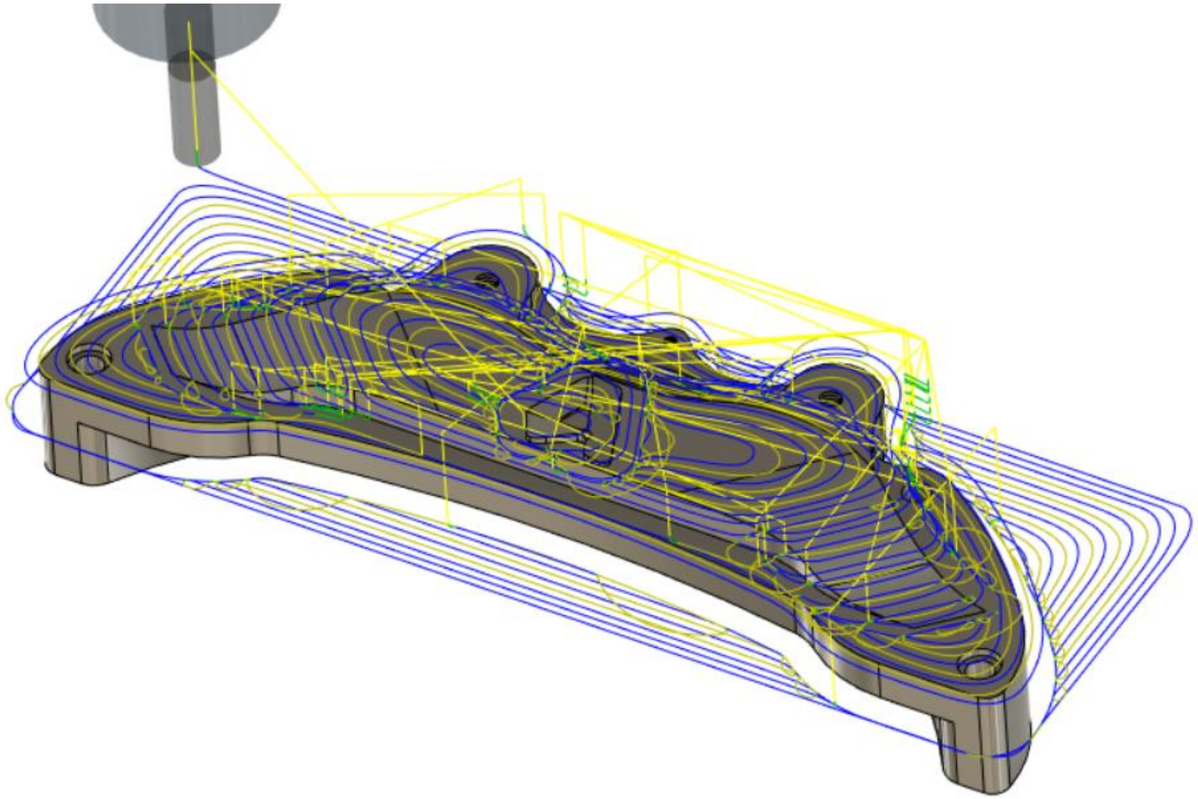
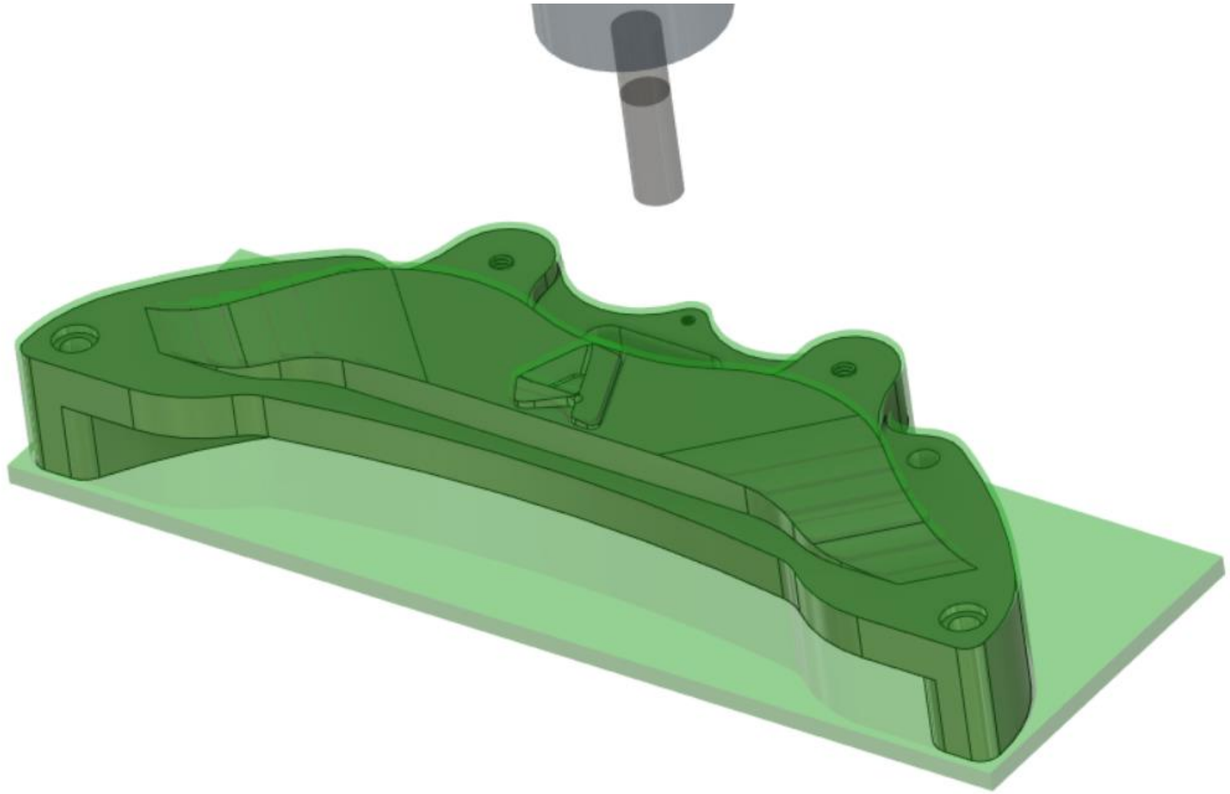
Toolpath Simulation ~> Full Stock Verification





Generating Setup Sheets

Setup Sheet for Program 001

Program Comment: Test Fusion
Job Description: Setup2
Document Path: Bearing Mounting Plate CAM v26

Setup

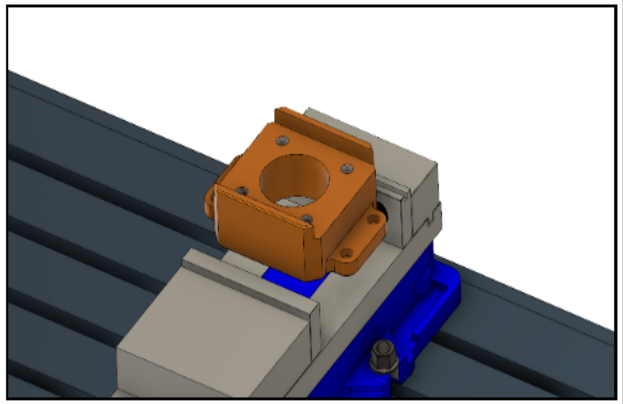
WCS: #0

Stock:
DX: 7in
DY: 6in
DZ: 2.25in

Part:
DX: 7in
DY: 5in
DZ: 2in

Stock Lower in WCS #0:
X: 0in
Y: -6in
Z: -2.25in

Stock Upper in WCS #0:
X: 7in
Y: 0in
Z: 0in

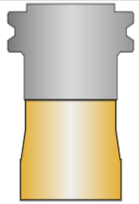


Total

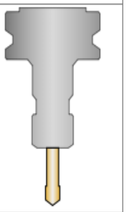
Number Of Operations: 21
Number Of Tools: 8
Tools: **T1 T2 T3 T4 T7 T9 T10 T19**
Maximum Z: 0.969in
Minimum Z: -2.105in
Maximum Feedrate: 65in/min
Maximum Spindle Speed: 6500rpm
Cutting Distance: 3563.745in
Rapid Distance: 807.967in
Estimated Cycle Time: 2h:10m:53s

Tools

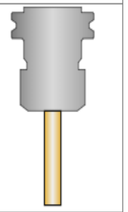
T1 D1 L1
Type: face mill
Diameter: 2in
Length: 1.563in
Flutes: 5
Description: 2" Face Mill
Vendor: Maritool
Product: MSAP16-D050A05R-25.4
Minimum Z: -0.03in
Maximum Feed: 65in/min
Maximum Spindle Speed: 6500rpm
Cutting Distance: 74.696in
Rapid Distance: 1.66in
Estimated Cycle Time: 1m:9s (0.9%)
Holder: Maritool CAT40-FMA1.0-1.5M
Vendor: Maritool
Product: CAT40-FMA1.0-1.5M



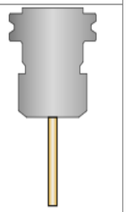
T2 D2 L2
Type: spot drill
Diameter: 0.375in
Tip Angle: 118°
Length: 1.181in
Flutes: 3
Minimum Z: -0.605in
Maximum Feed: 19.685in/min
Maximum Spindle Speed: 6500rpm
Cutting Distance: 2.2in
Rapid Distance: 30.311in
Estimated Cycle Time: 7s (0.1%)
Holder: BT40 - B4C4-0016



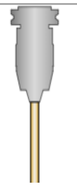
T3 D3 L3
Type: flat end mill
Diameter: 0.5in
Length: 2.25in
Flutes: 3
Minimum Z: -2.03in
Maximum Feed: 30in/min
Maximum Spindle Speed: 6500rpm
Cutting Distance: 3424.295in
Rapid Distance: 555.083in
Estimated Cycle Time: 2h:3m:54s (94.7%)
Holder: Maritool CAT40-ER32-2.35
Vendor: Maritool
Product: CAT40-ER32-2.35



T4 D4 L4
Type: flat end mill
Diameter: 0.25in
Length: 2in
Flutes: 3
Minimum Z: -1.78in
Maximum Feed: 40in/min
Maximum Spindle Speed: 6500rpm
Cutting Distance: 5.458in
Rapid Distance: 50.333in
Estimated Cycle Time: 13s (0.2%)
Holder: Maritool CAT40-ER32-2.35
Vendor: Maritool
Product: CAT40-ER32-2.35



T7 D7 L7
Type: drill
Diameter: 0.422in
Tip Angle: 118°
Length: 4.319in
Flutes: 1
Description: 27/64
Minimum Z: -1.657in
Maximum Feed: 29in/min
Maximum Spindle Speed: 6500rpm
Cutting Distance: 10.811in
Rapid Distance: 100.935in
Estimated Cycle Time: 24s (0.3%)
Holder: Maritool CAT40-APU13 Drill Chuck
Vendor: Maritool
Product: CAT40-APU13



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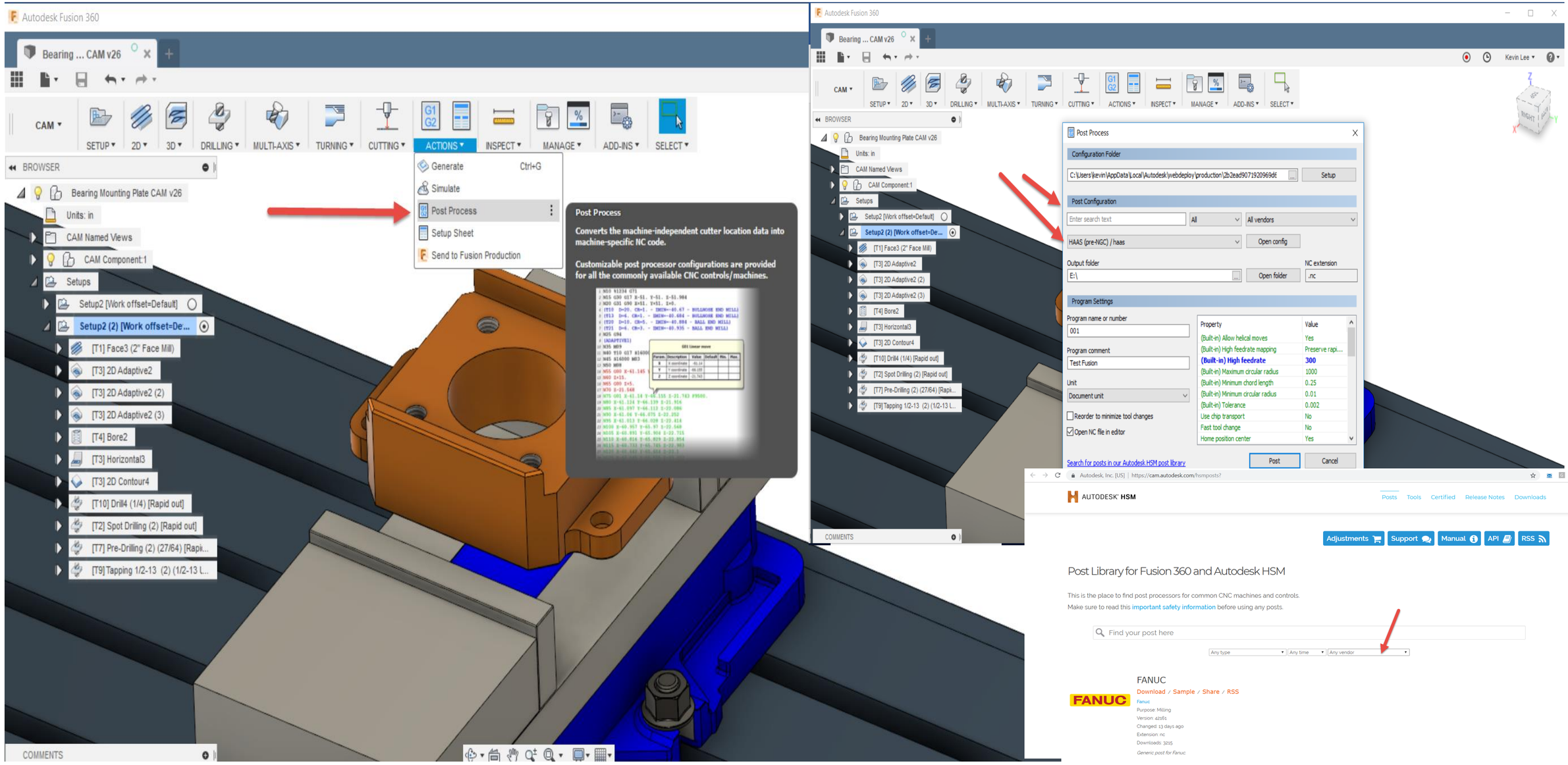
Post Processing G Code for Machines



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Fusion 360
Turning CAM Fundamentals

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Fusion 360
Milling CAM Fundamentals

Fusion 360

Efficient Workflows…

…Capture Them

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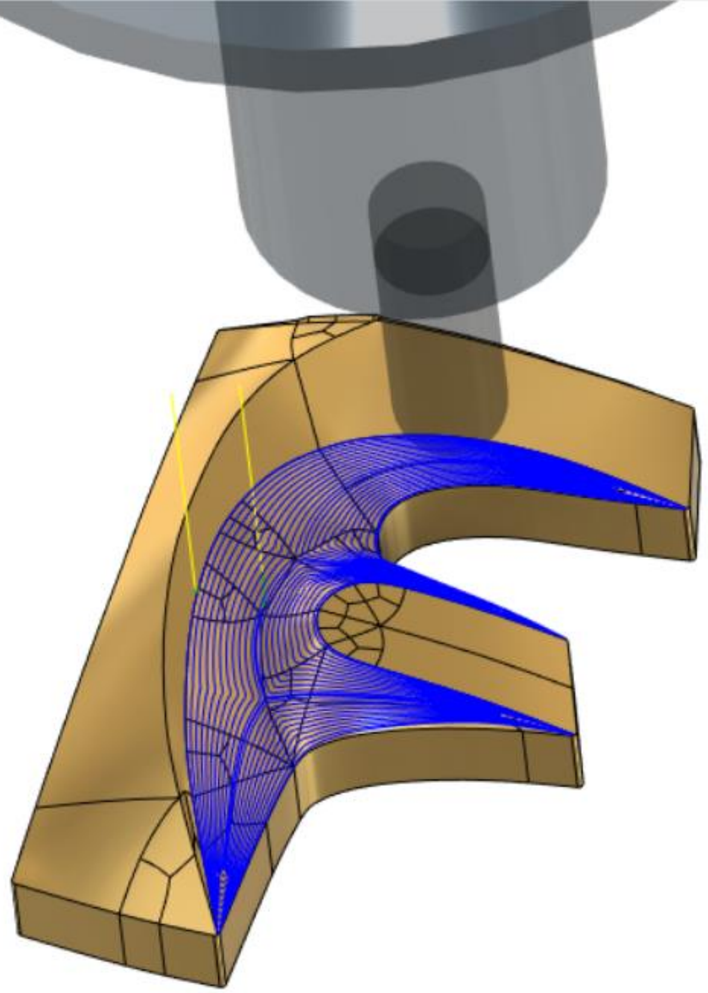
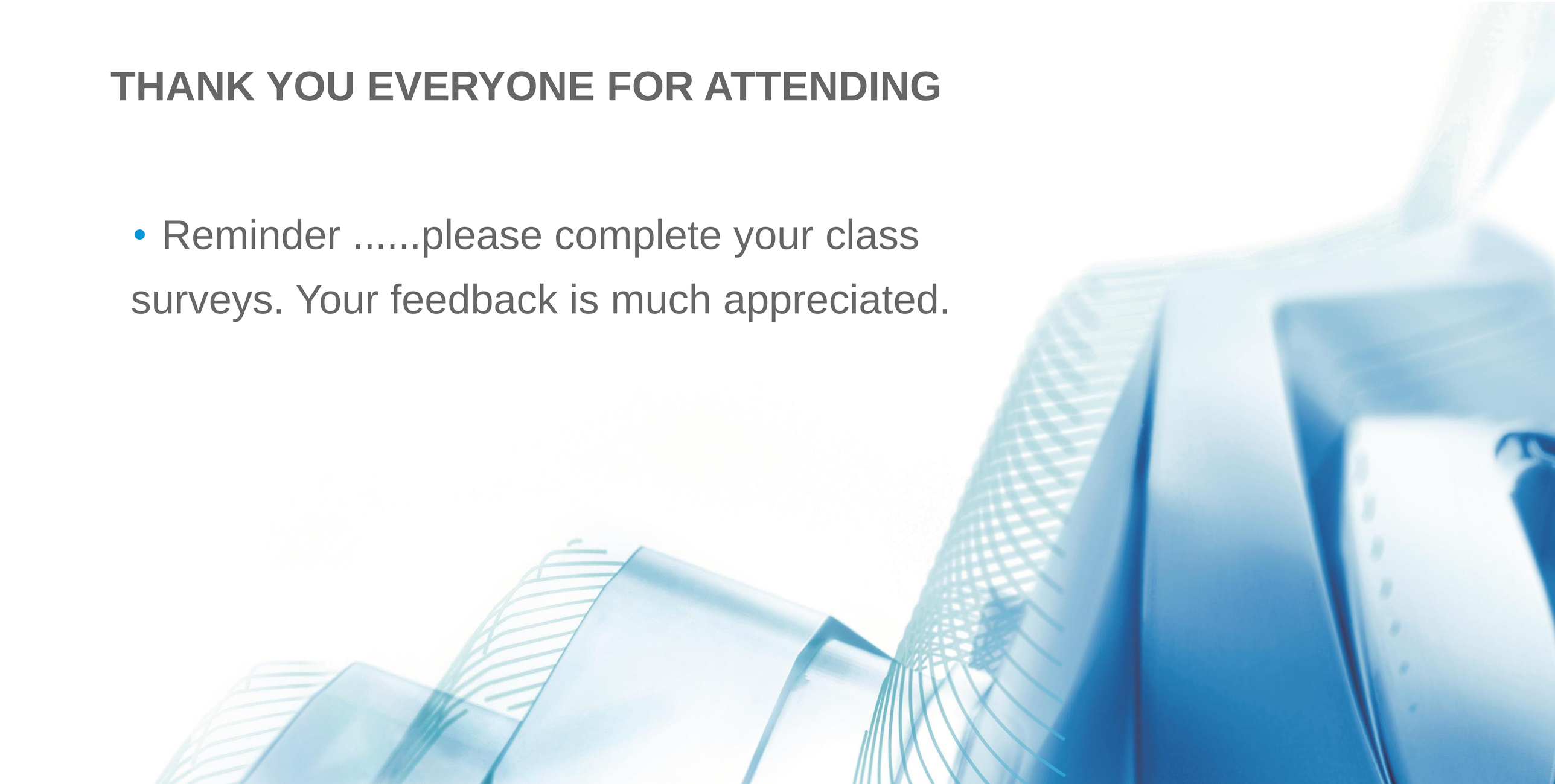


Q & A

THANK YOU EVERYONE FOR ATTENDING

- Reminder .....please complete your class surveys. Your feedback is much appreciated.



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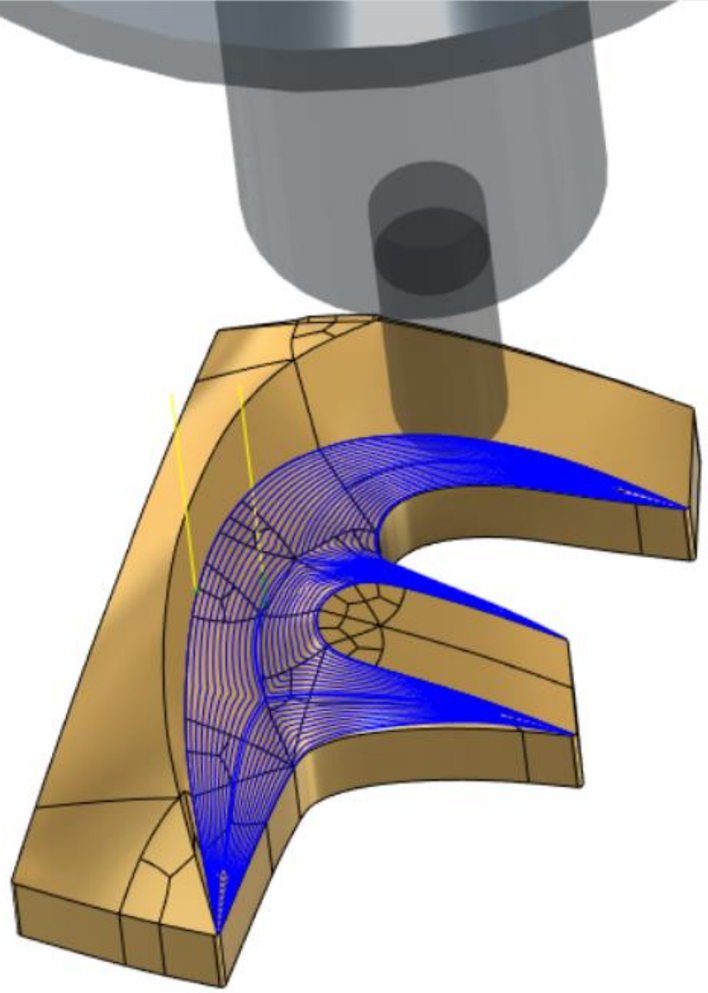

Q & A

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