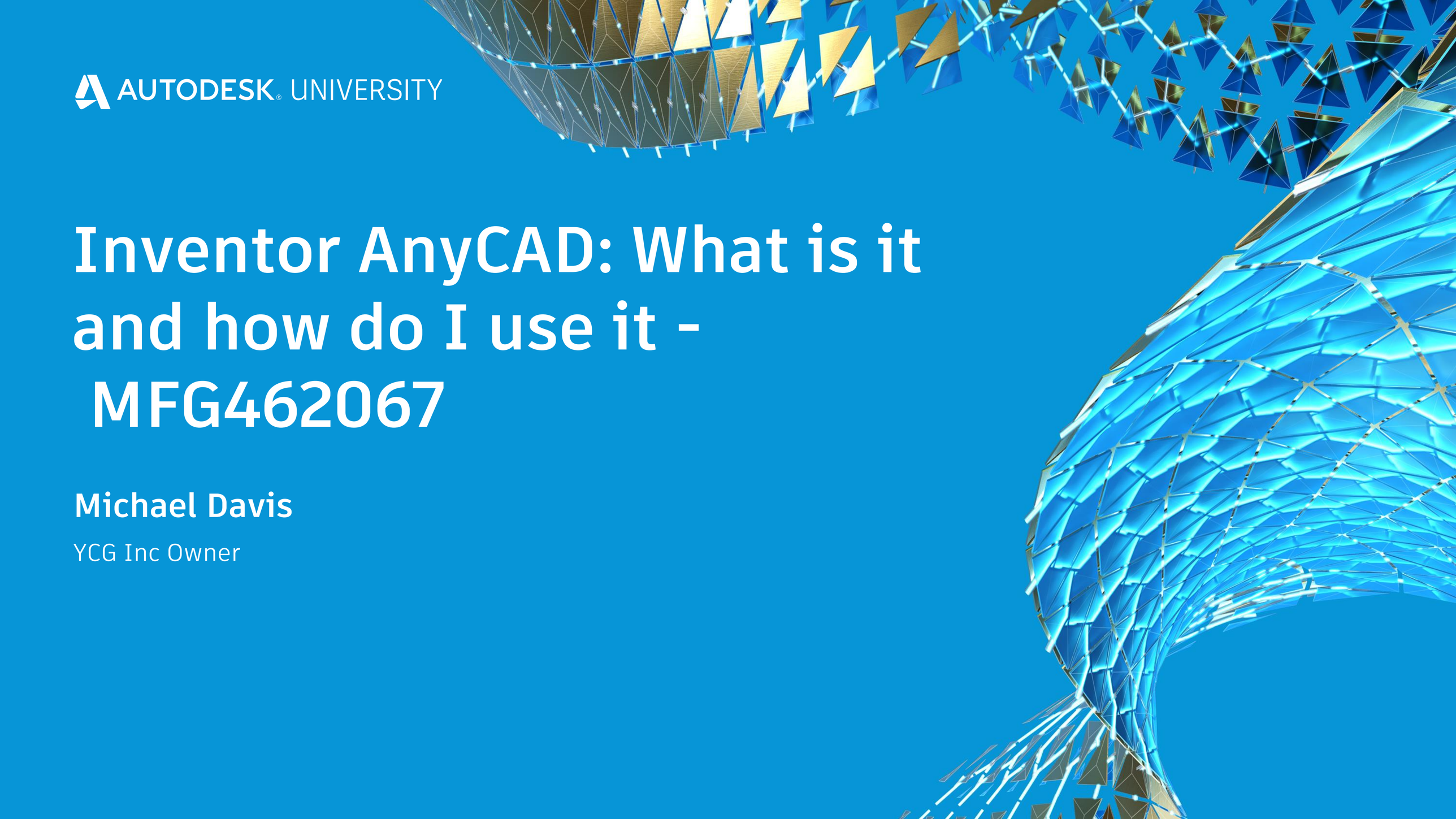
AUTODESK. UNIVERSITY

Inventor AnyCAD: What is it and how do I use it - MFG462067

Michael Davis

YCG Inc Owner



YCG
WWW.YOURCAD.GURU

AUTODESK. EXPERT ELITE

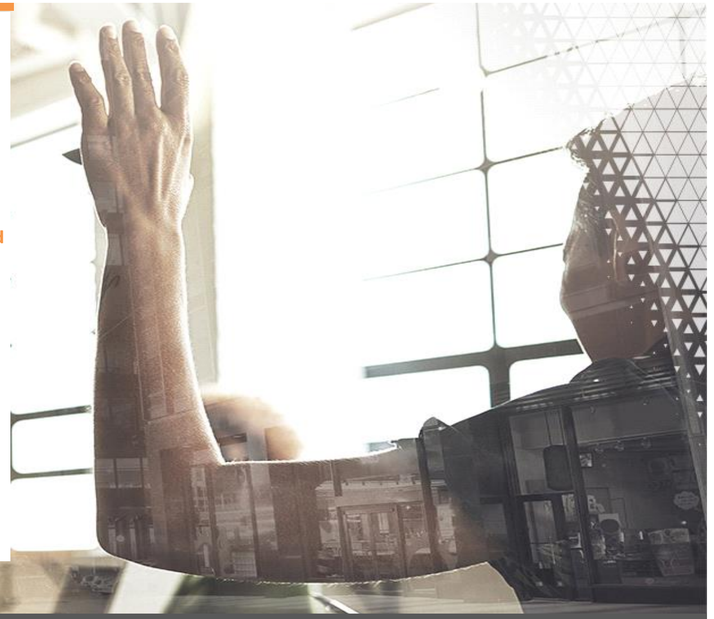
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Class summary

This class will be a basic introduction to AnyCAD.

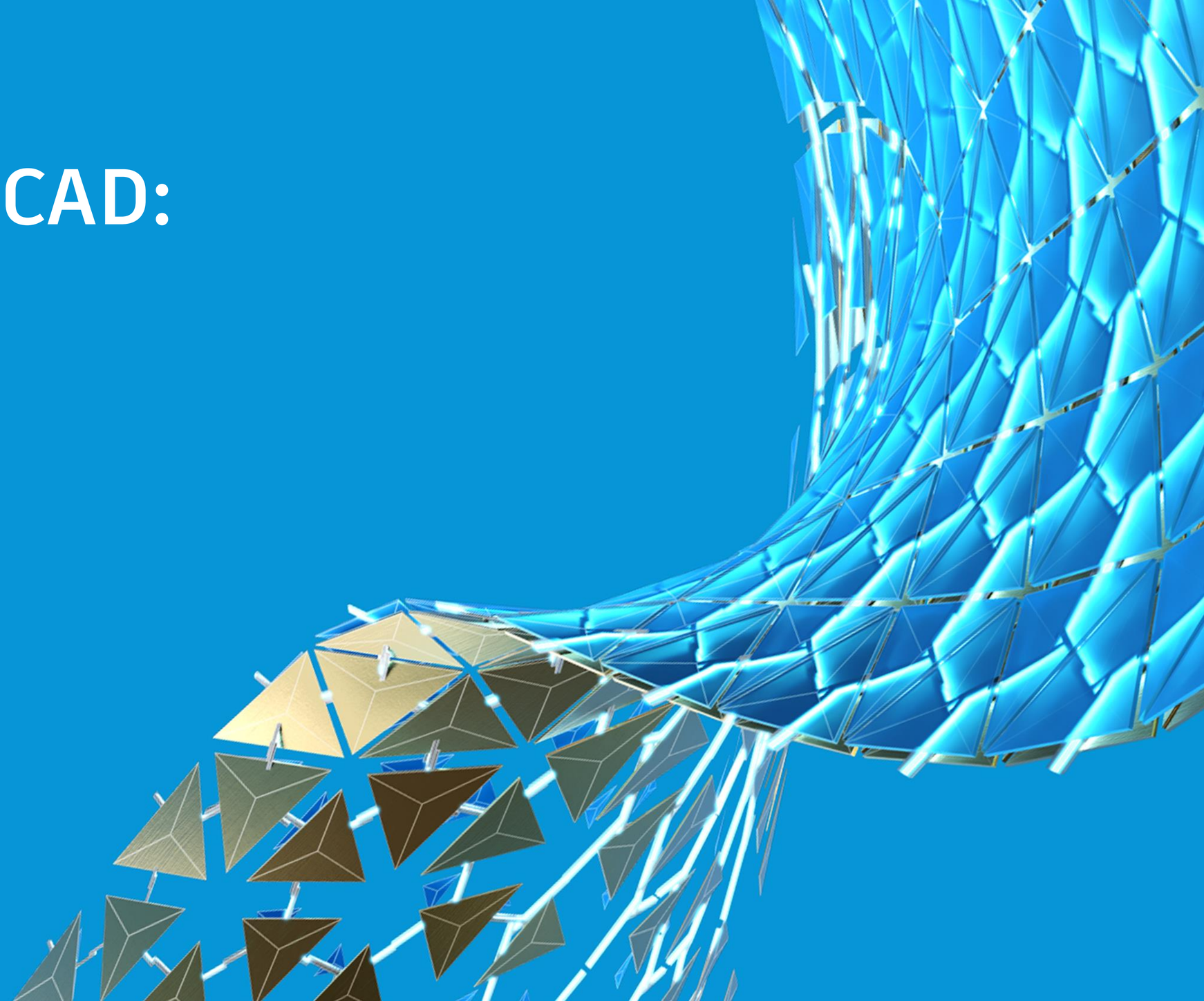
Explaining what AnyCAD is, while showing some examples of where and when to use it.

Key learning objectives

At the end of this class, you will a better understanding of:

- AnyCAD interface – dialog box
- Learn the differences between Reference and Convert
- Some helpful guidelines for AnyCAD: When to and not to use Reference
- File types and formats / versions that AnyCAD can work with
- AnyCAD Inventor Backwards Compatibility (and 2d usage) – derived model
- AnyCAD Inventor – Revit Collaboration

What is AnyCAD:

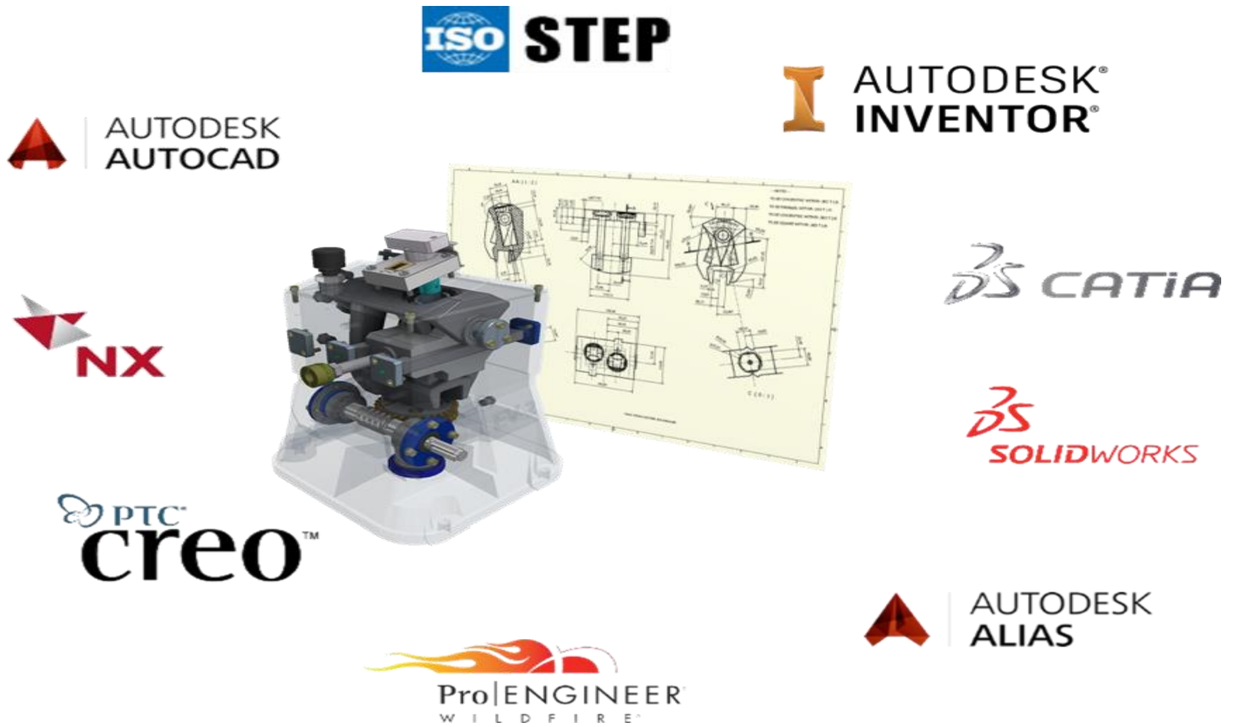


AnyCAD

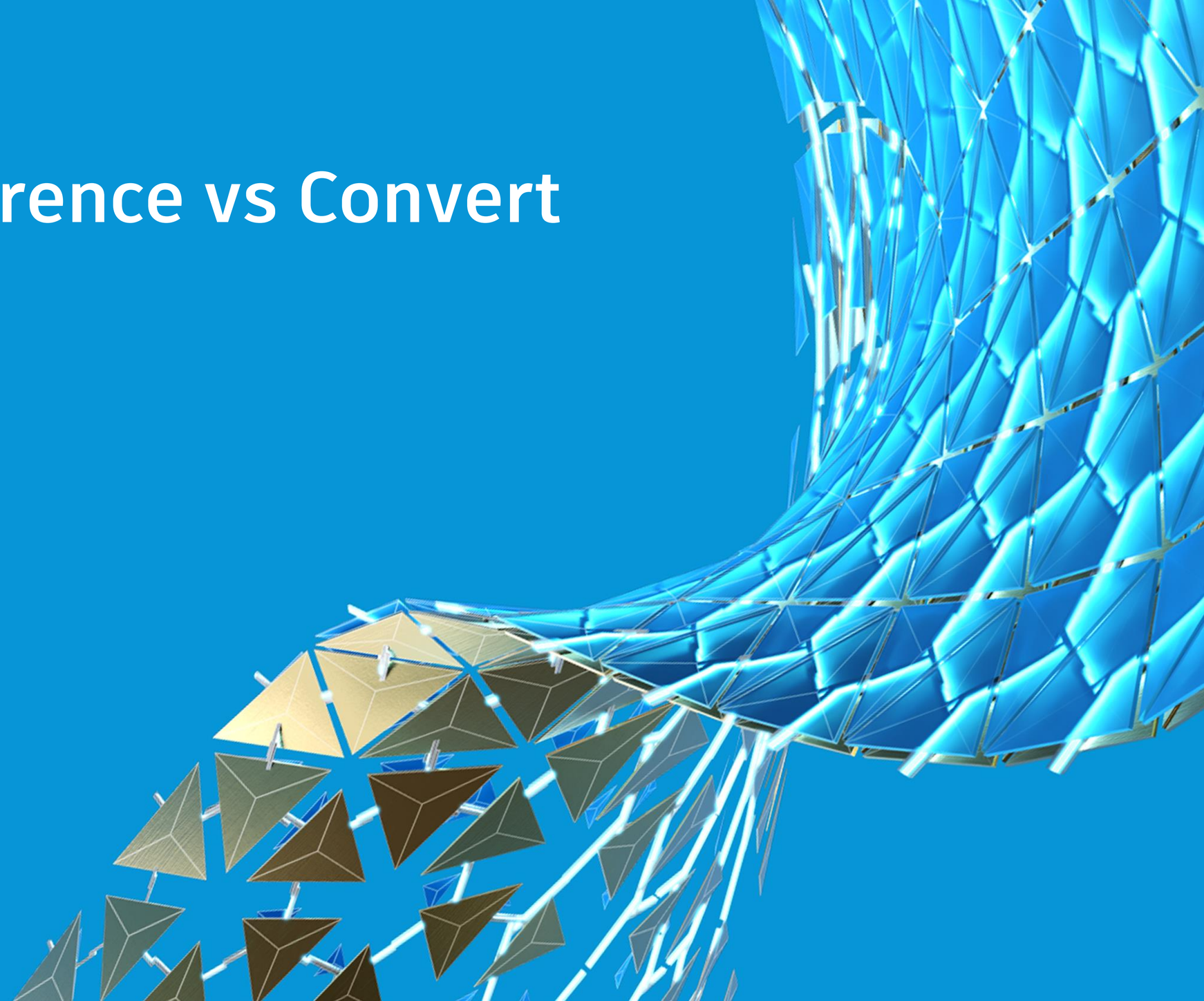
AnyCAD in Inventor

AnyCAD is a CAD interoperability solution included in Inventor that reduces the need to maintain multiple CAD systems and eliminates manual file translation and updates.

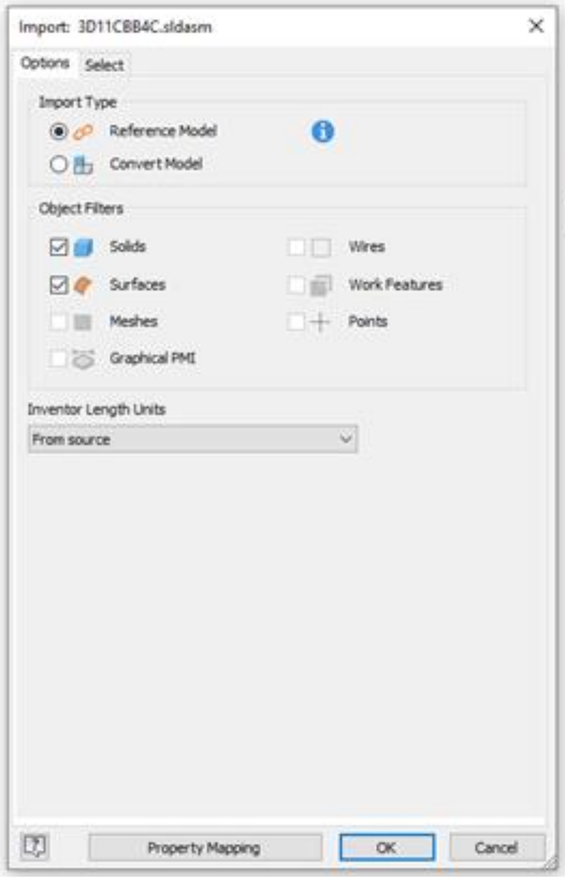
Design changes in the source CAD system get automatically updated in downstream data such as drawings and toolpaths, saving you valuable time and resources and minimizing costly translation errors.

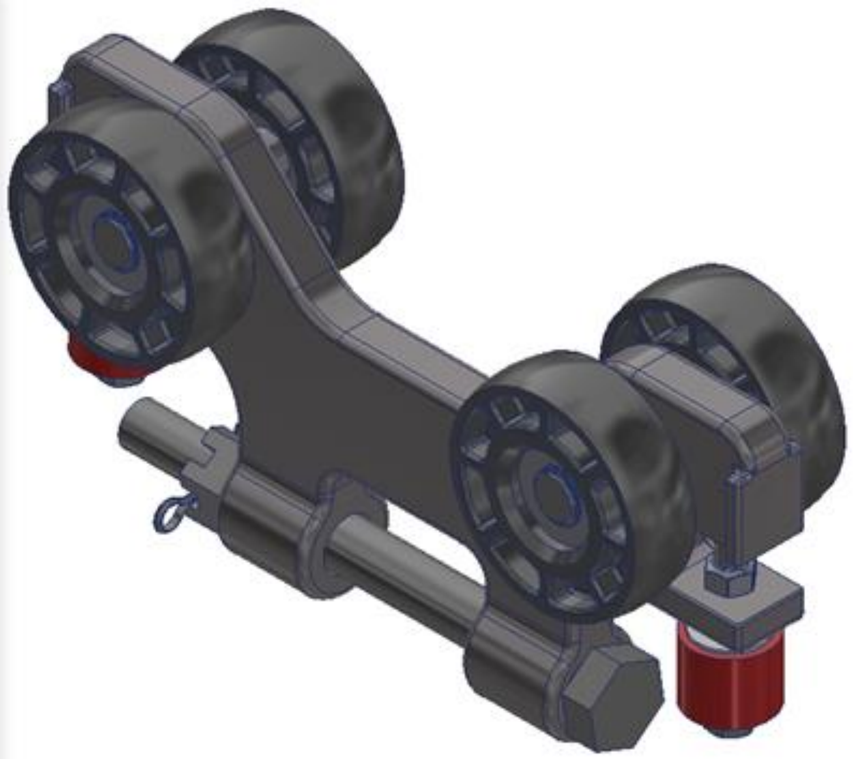


AnyCAD Reference vs Convert



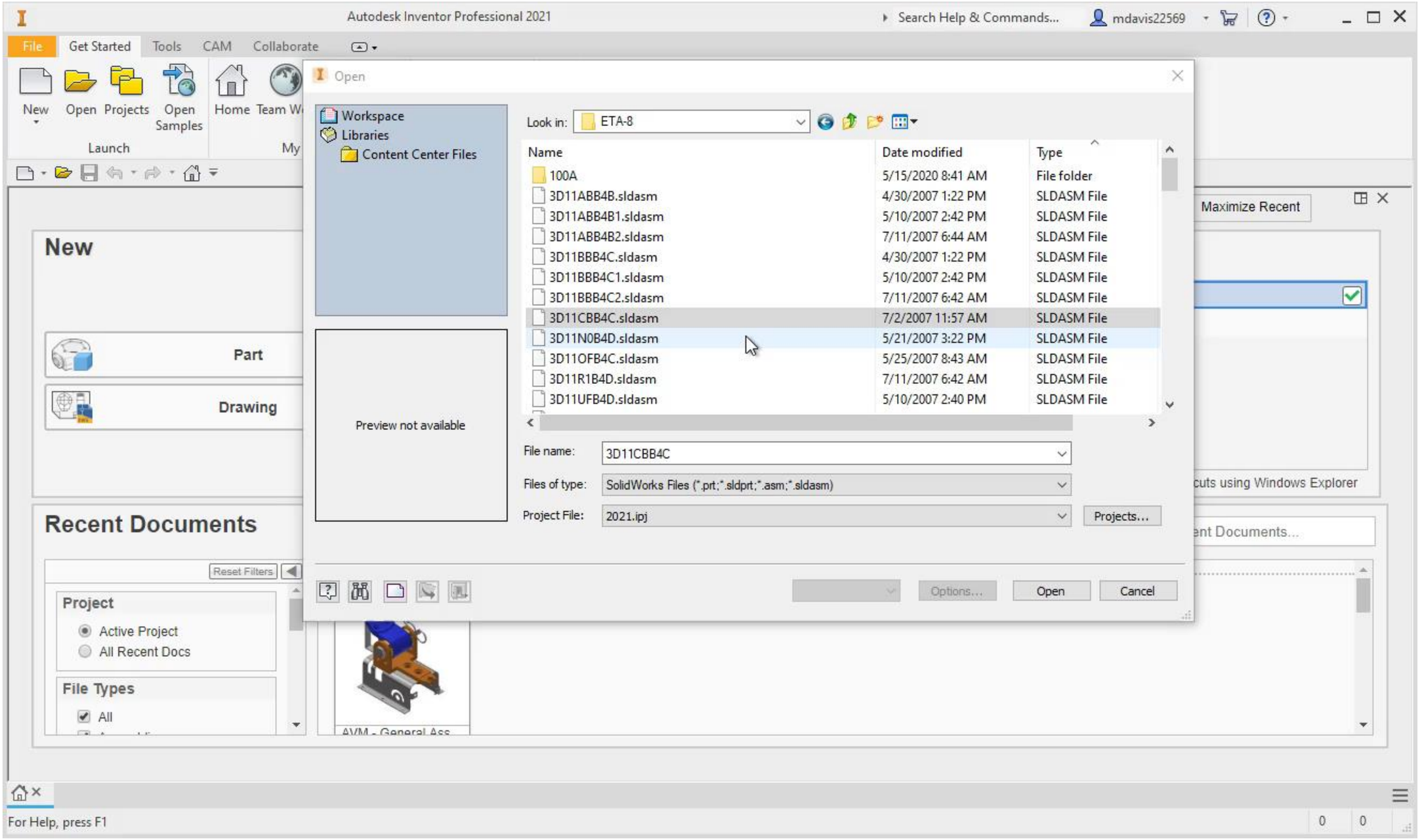
AnyCAD Import Type Reference Model



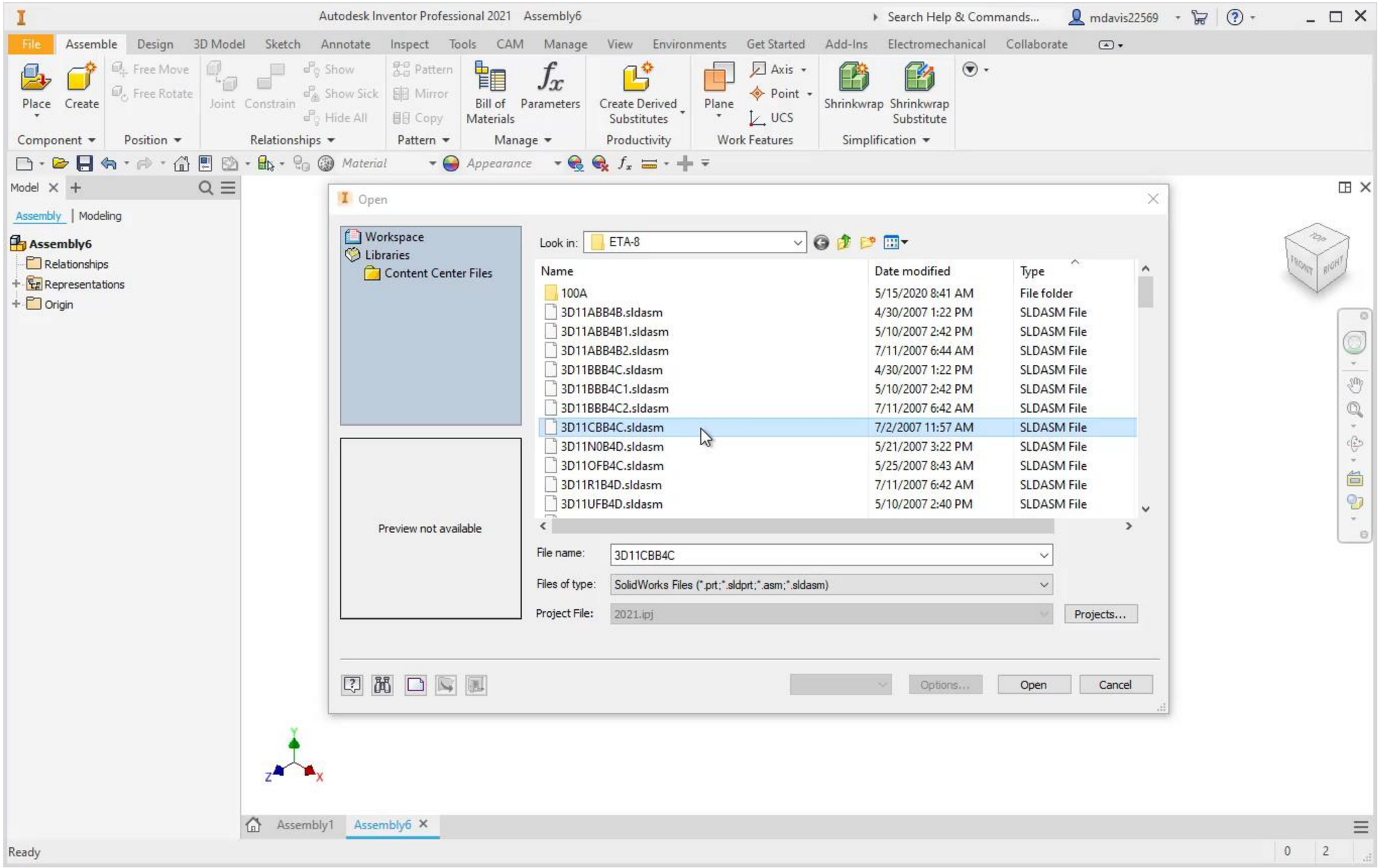


- **Reference Model:** This option maintains a link to the selected file which enables you to monitor and update as the model changes. Use this option if the design is evolving and you are not required to edit the referenced model. If changes are made to the file in its respective product after import, the Inventor file reflects the changes.

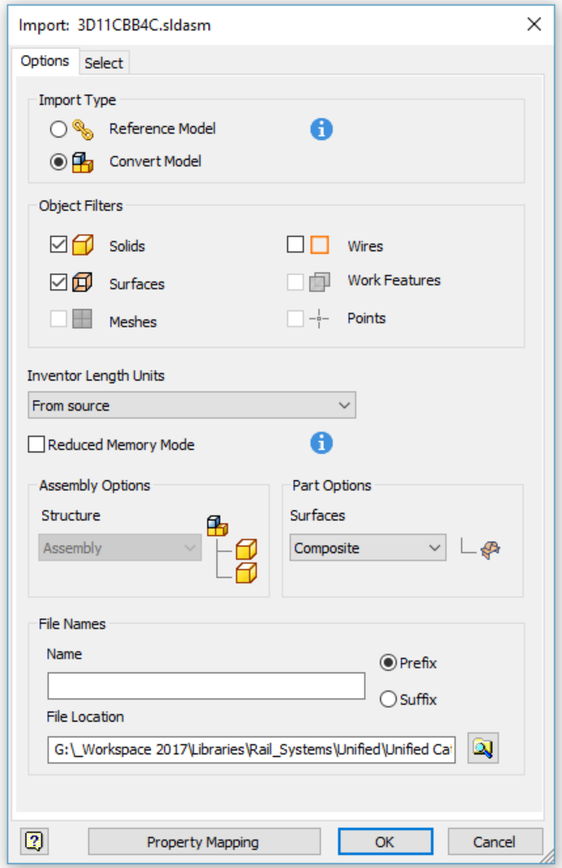
AnyCAD Reference Model

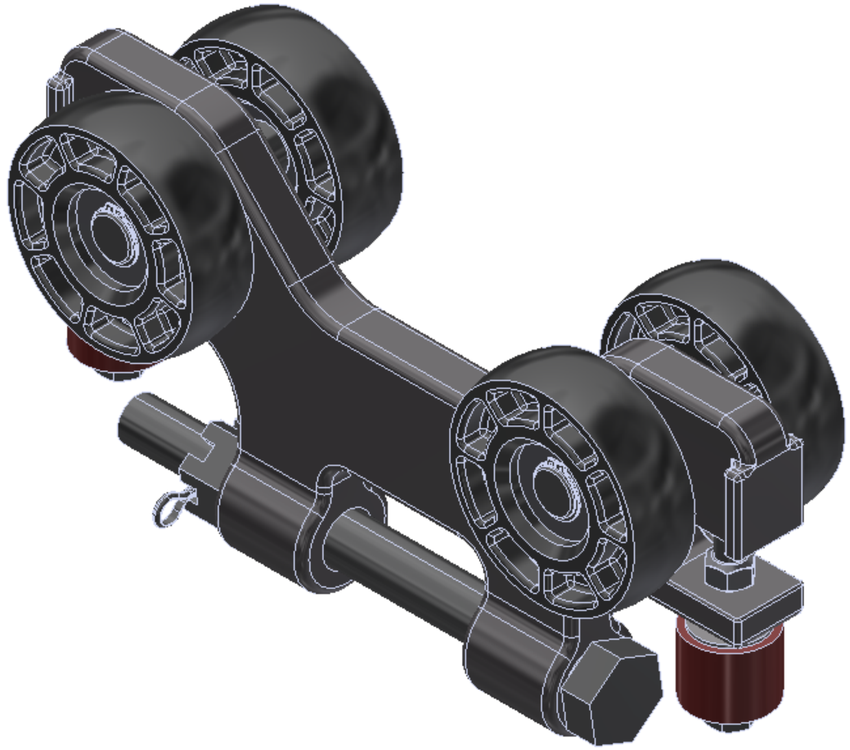


AnyCAD Reference Model



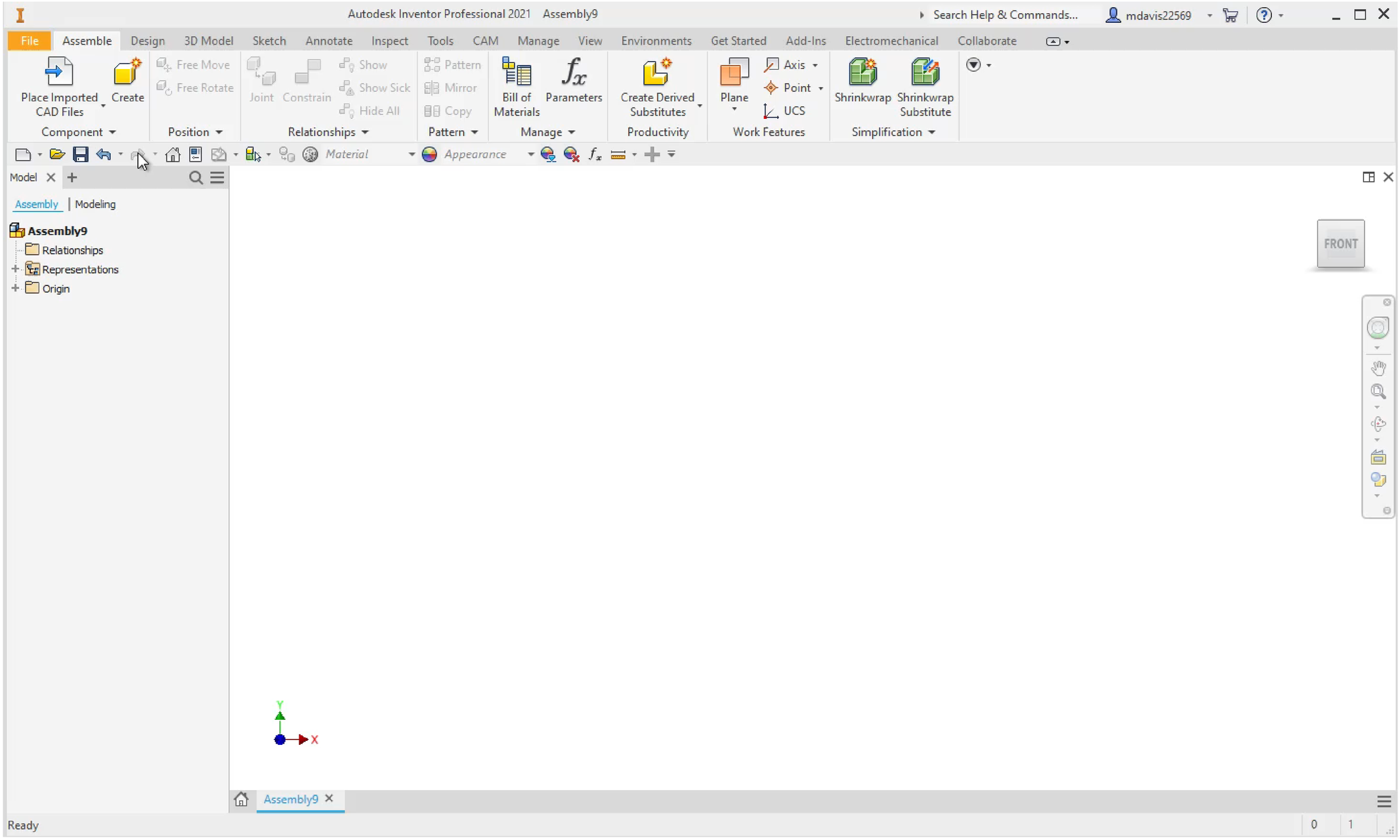
AnyCAD Import Type
Convert Model



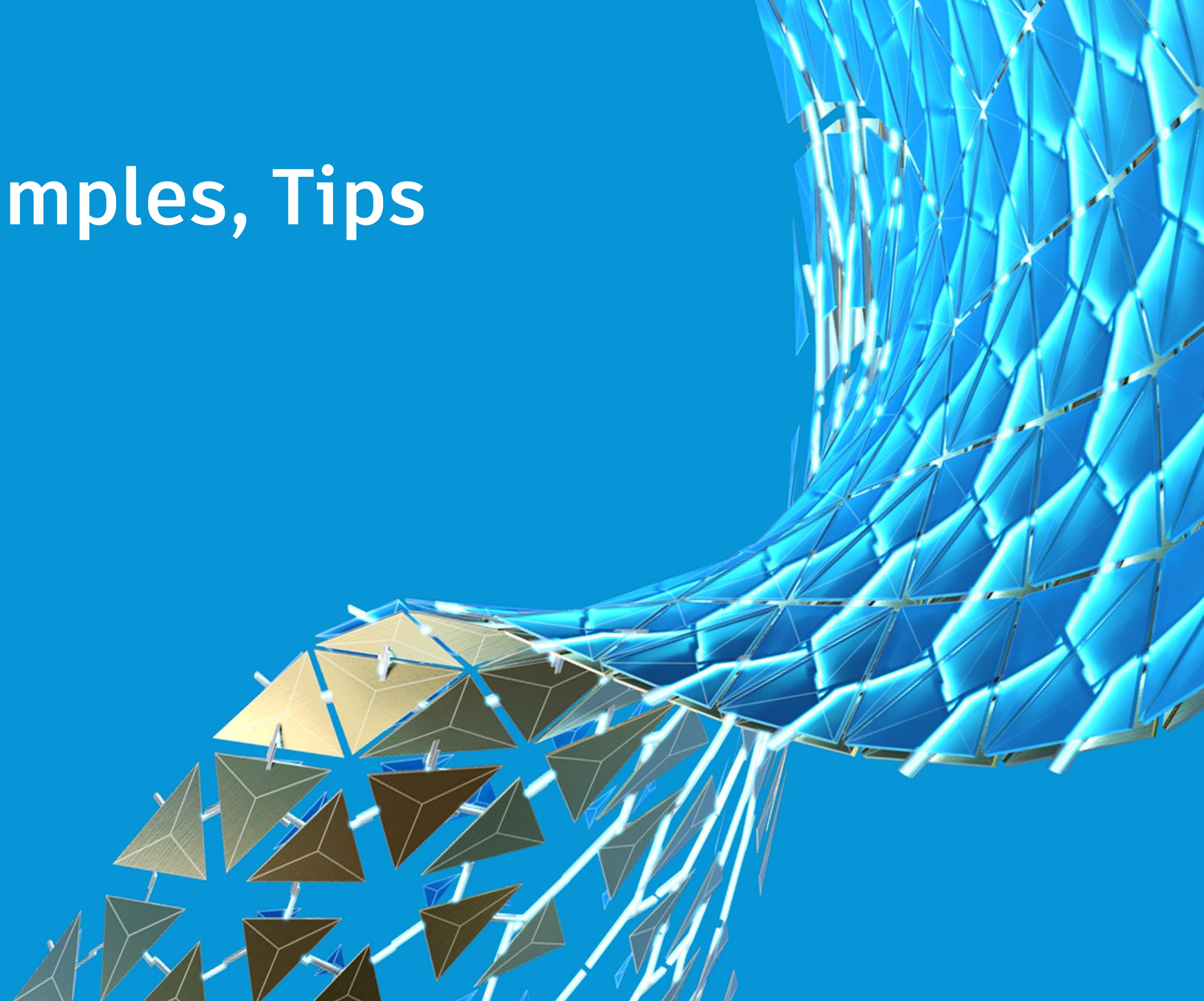


•**Convert Model:** This option creates new Inventor files which are not linked to the original. Use this option if you plan modify the model for a new design.

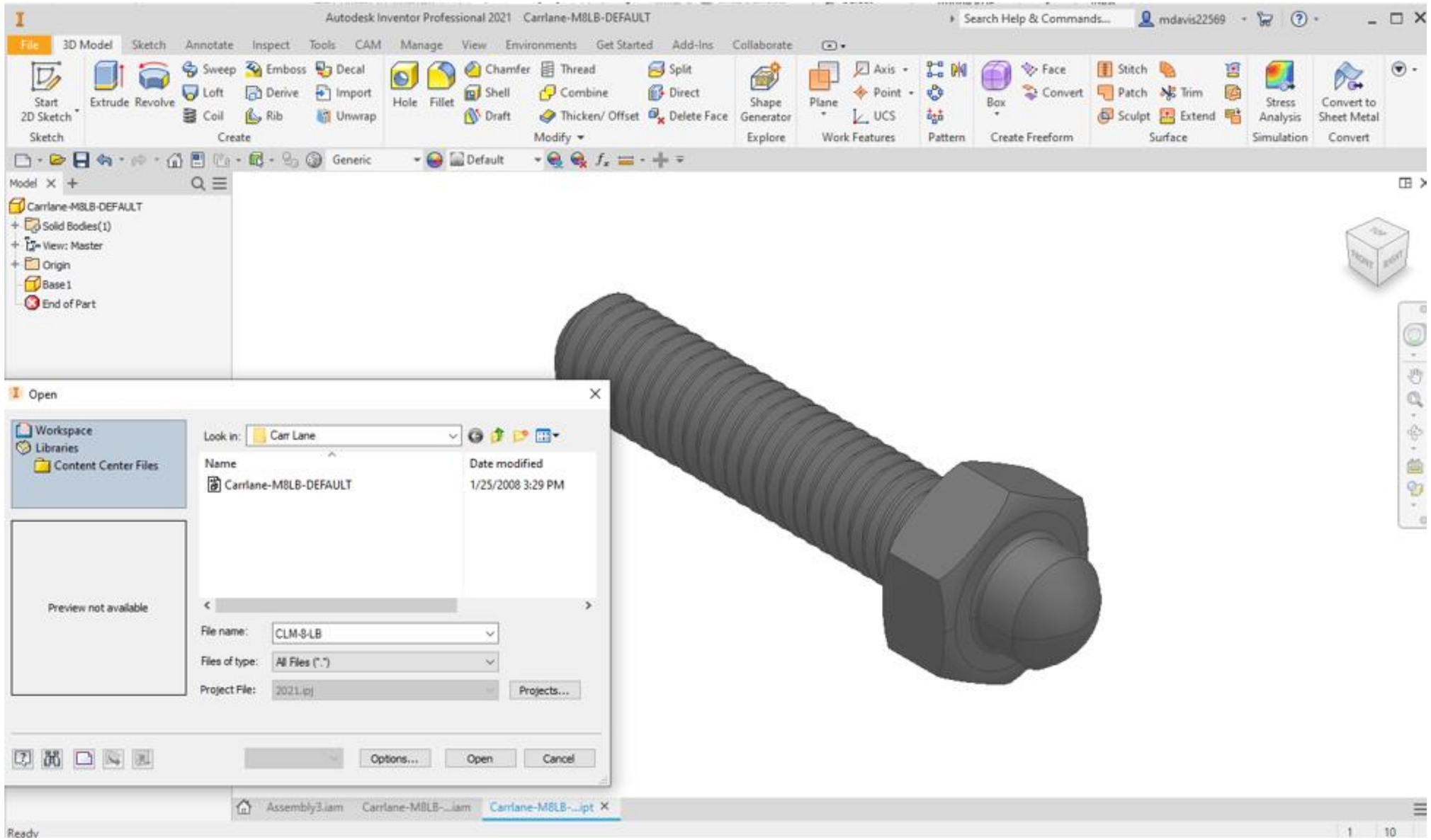
AnyCAD Convert Model



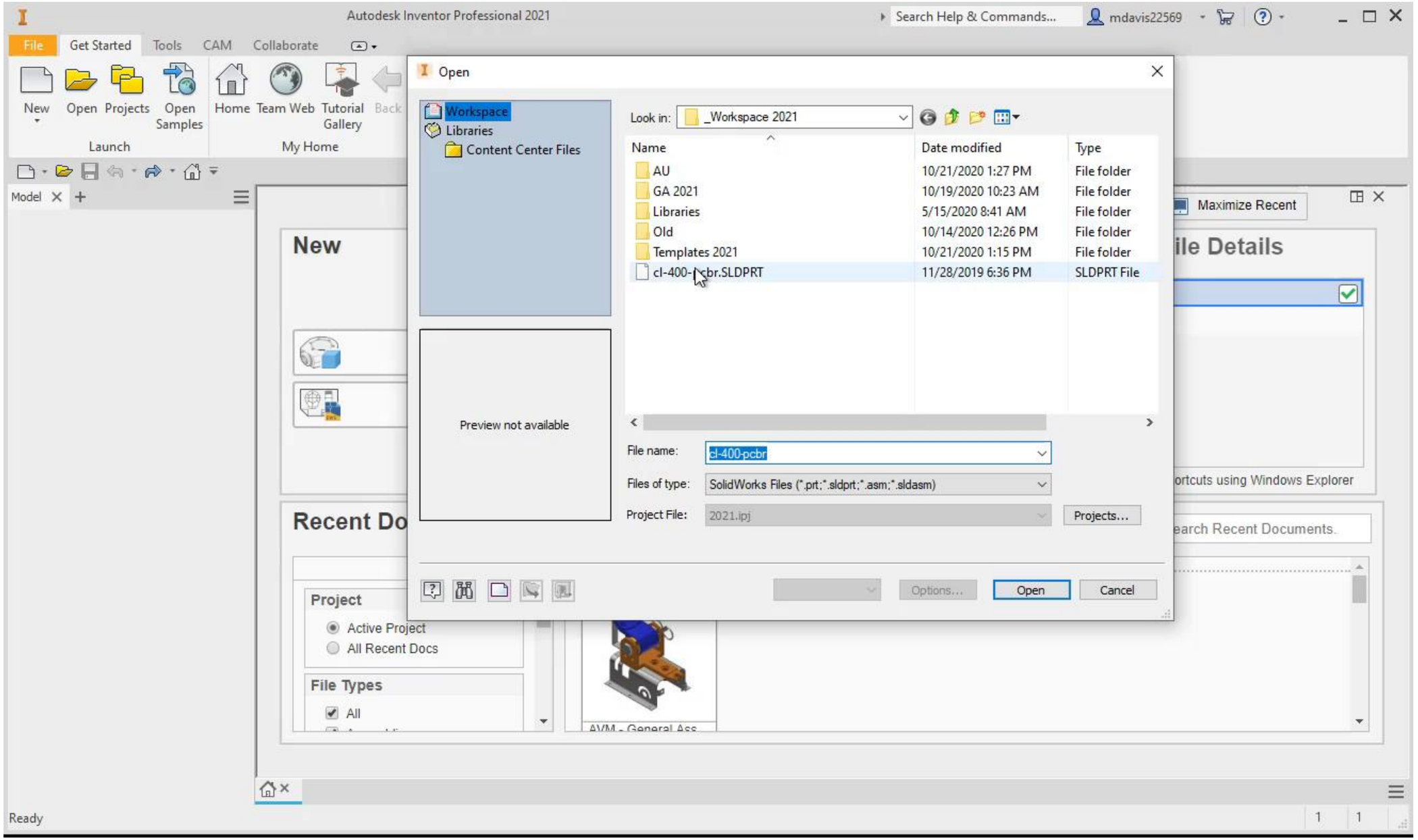
AnyCAD Examples, Tips



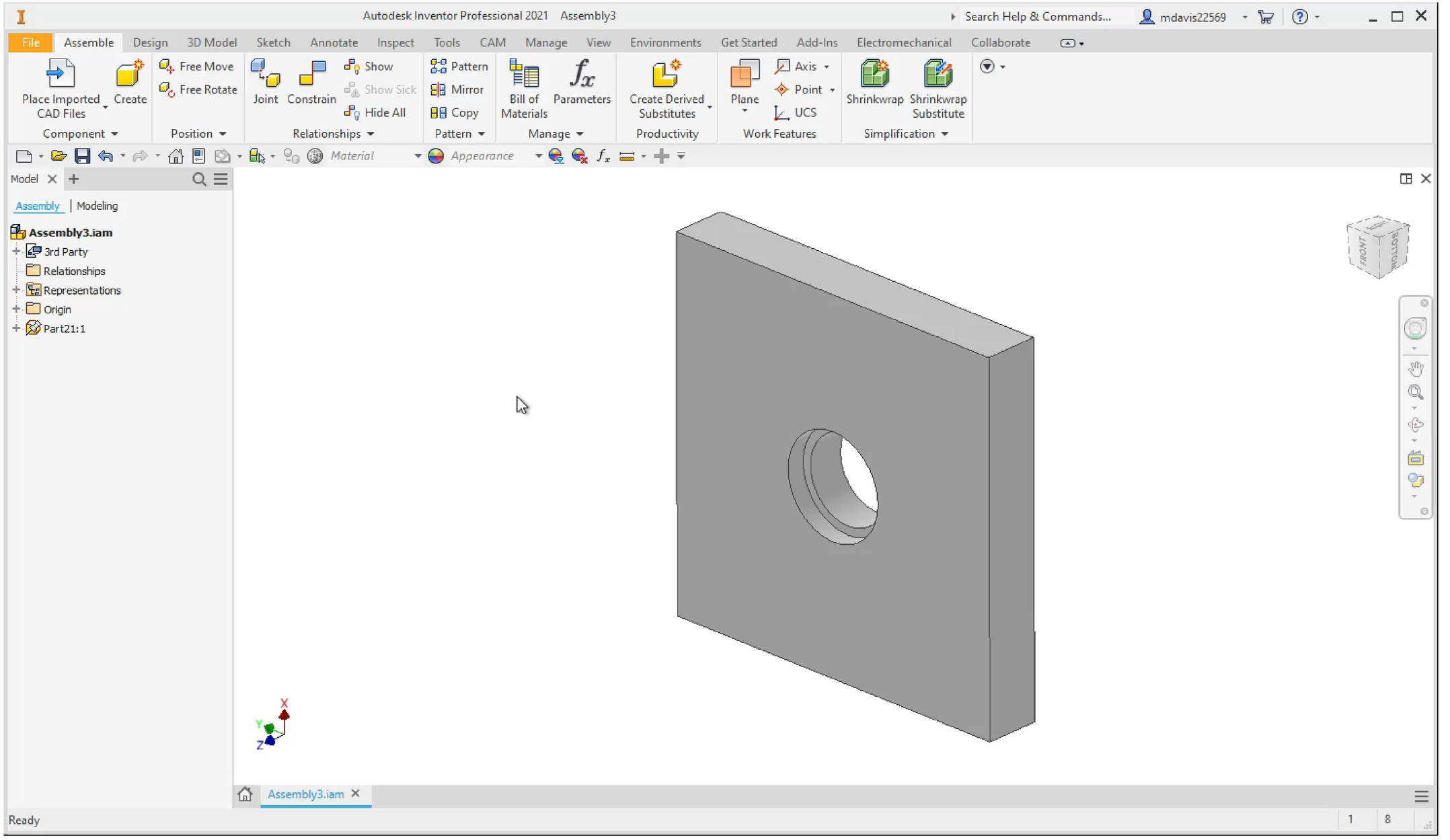
If the non-native file is never going to change, then use AnyCAD Reference. Insert the file, drop it into your assembly and forget about it. Think of these components being like content center components, if they have the right material properties, look good on the screen and are accurately sized, they can then stay the non-native file type.



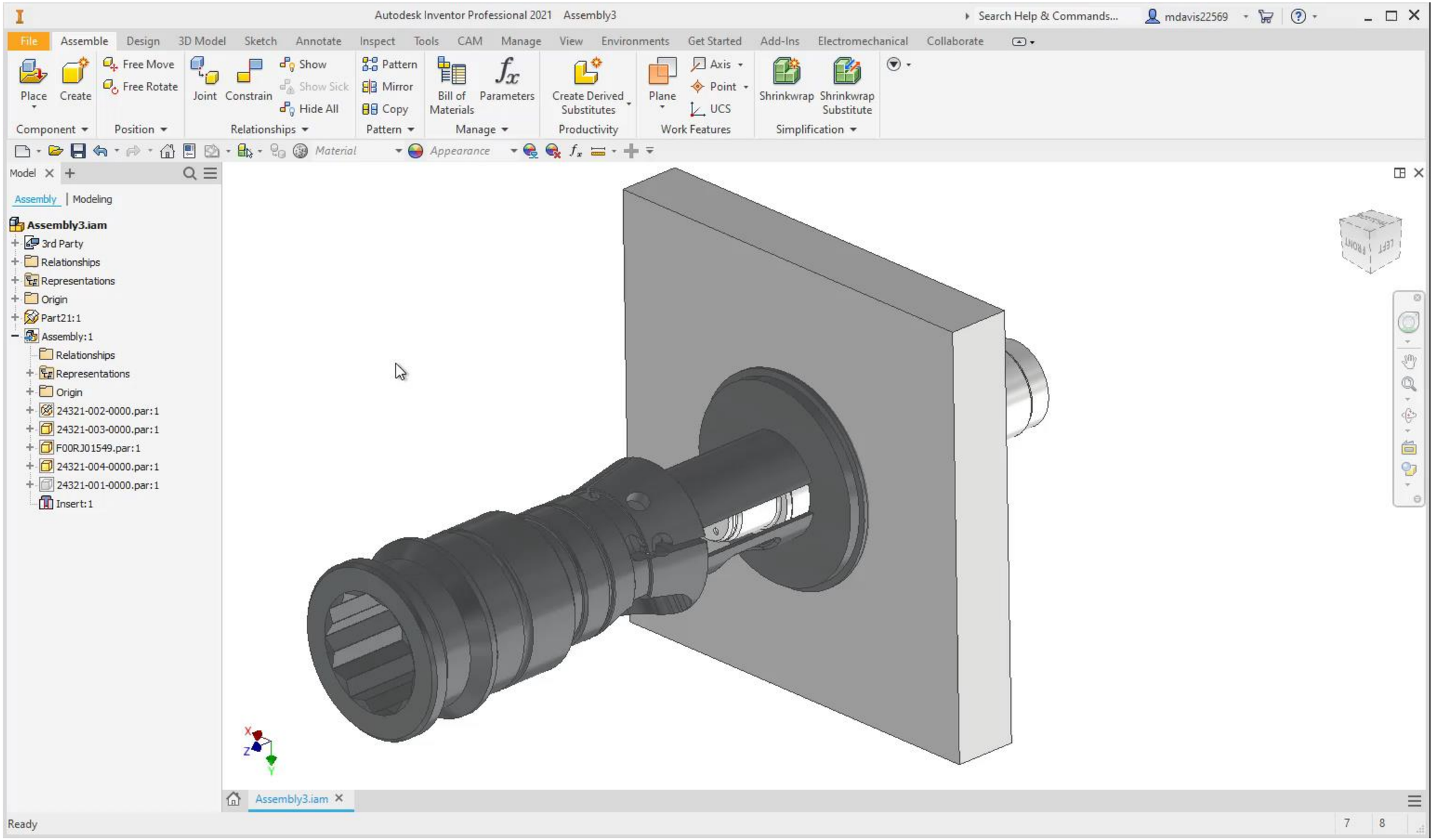
If the non-native file is going to change it doesn't mean you have to use AnyCAD Reference all the time. Example, if a component is changing drastically, meaning faces, features, connection – constraint points are getting changed – deleted, it might be better to convert it and then rebuild it. This would be a file by file decision.



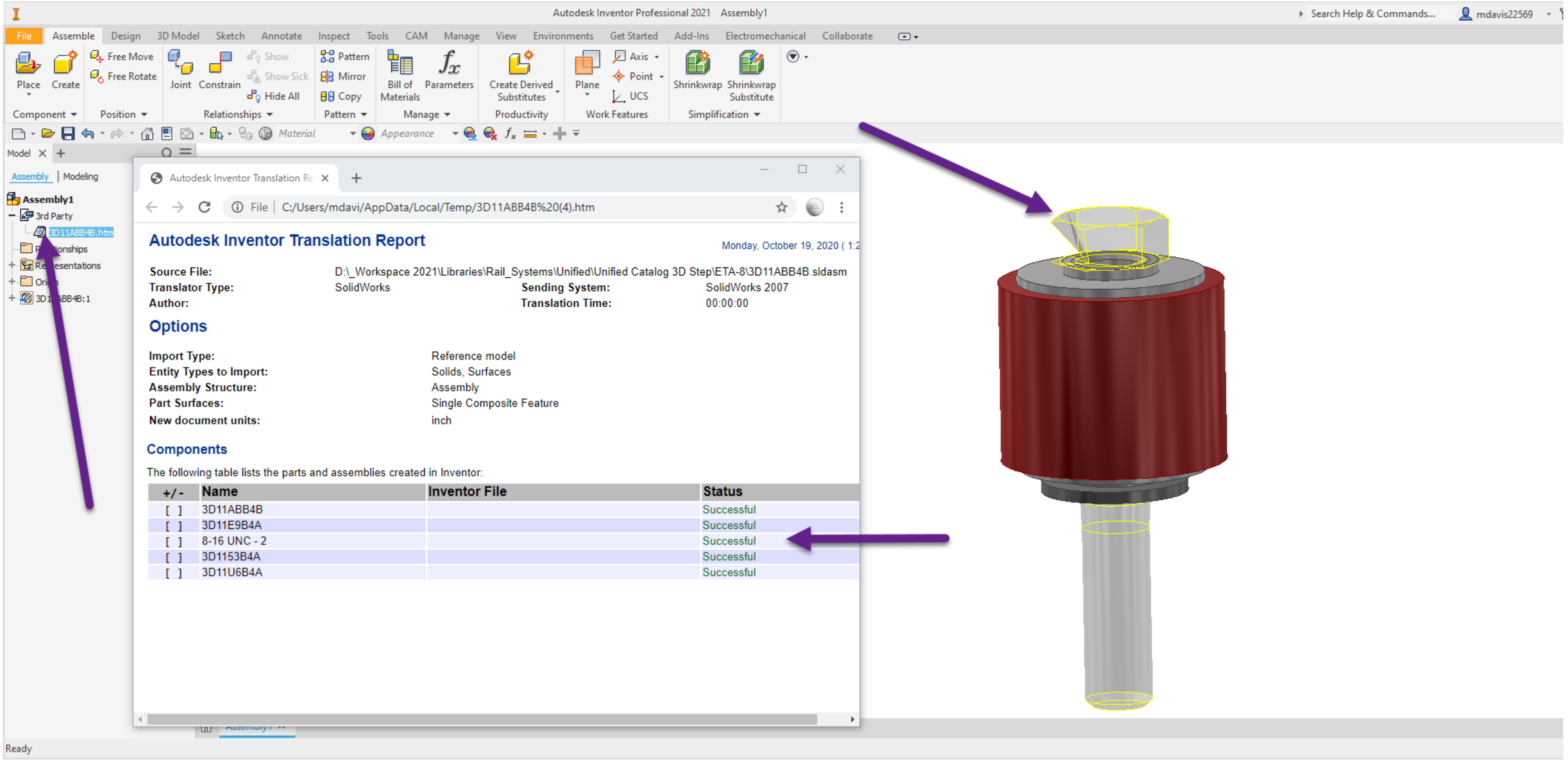
If the non-native CAD file is going to change, but the connection points you previously used for constraints aren't changing, then it's best to use AnyCAD Reference. This will save you time if the non-native file changes. You shouldn't have to rebuild – re-constrain the model.



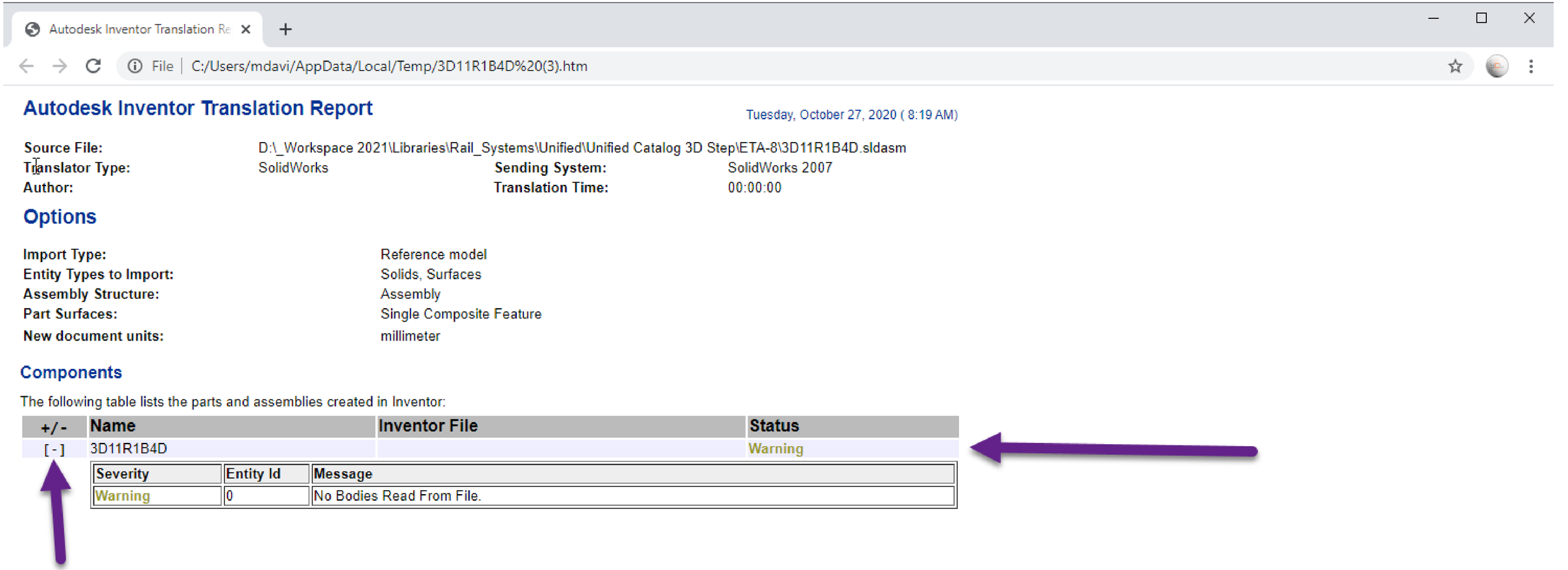
If you're going to modify your non-native CAD files (Direct Edit for example) then don't use AnyCAD Reference. It's best to use the convert option vs using Direct Editing tools, as these updates could be lost if the non-native file is updated.



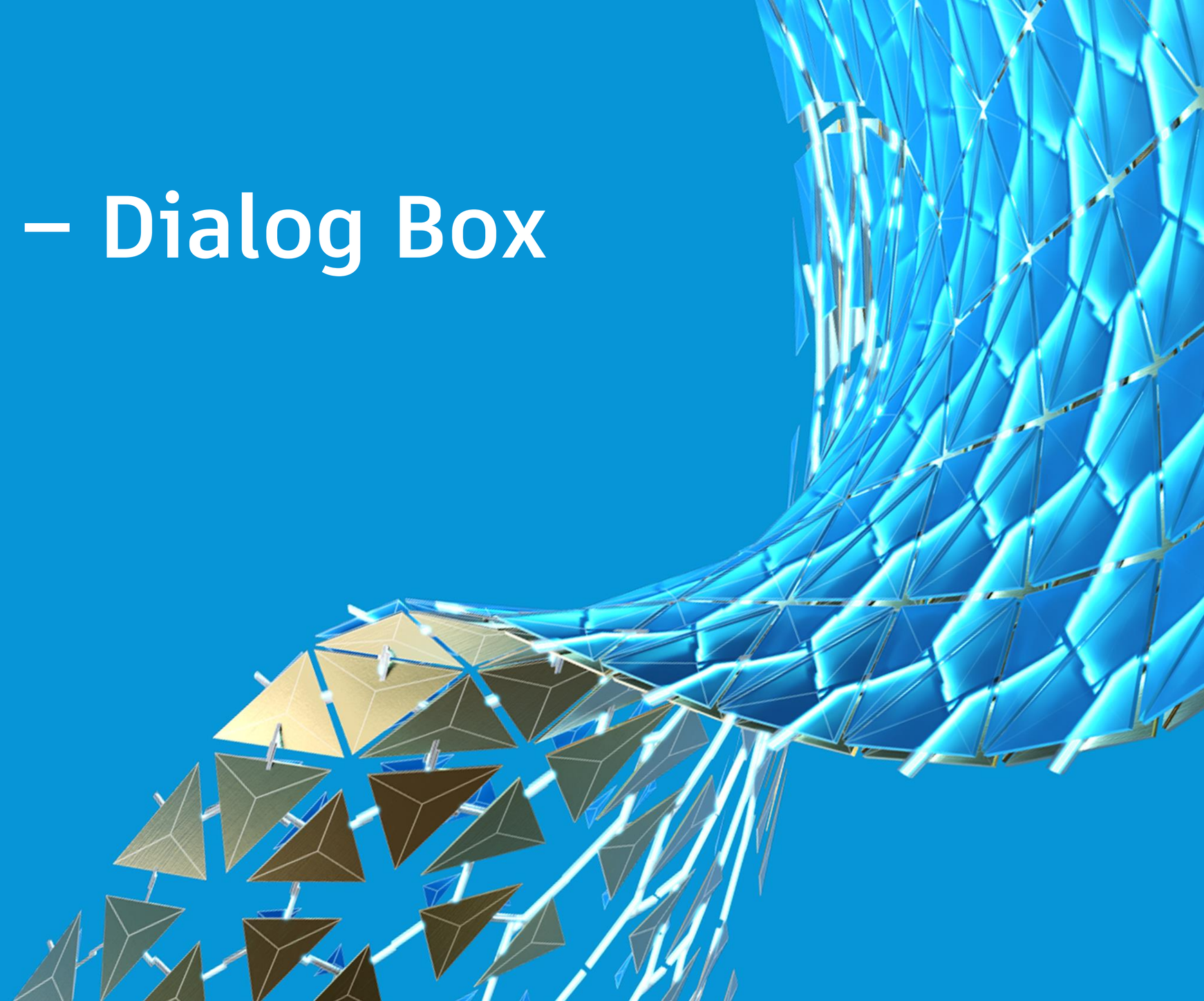
AnyCAD doesn't fix bad files. If the file is sent over bad, it will likely have errors still after you bring it in.



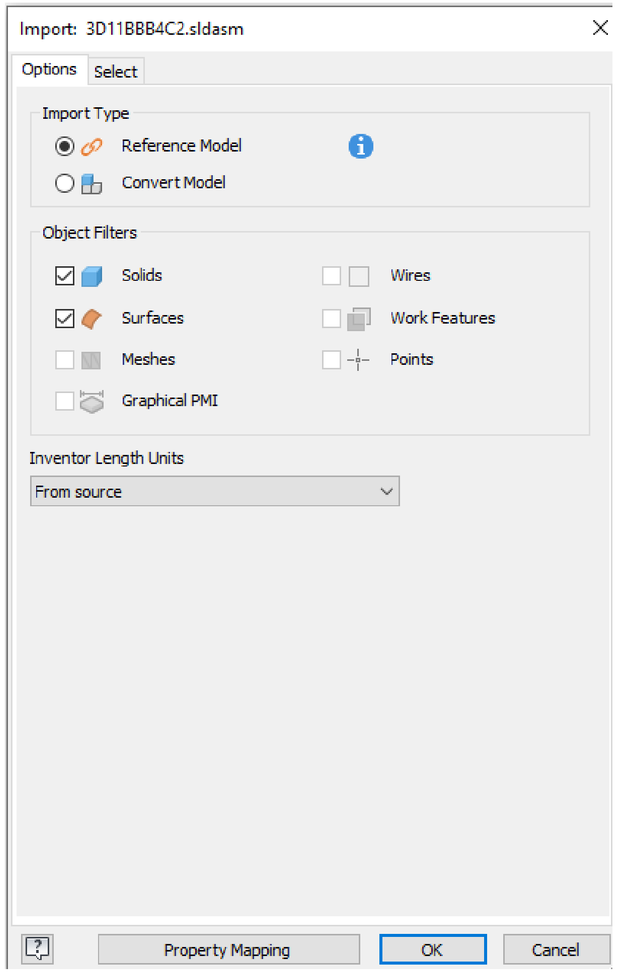
or it can fail to read the file, as shown here

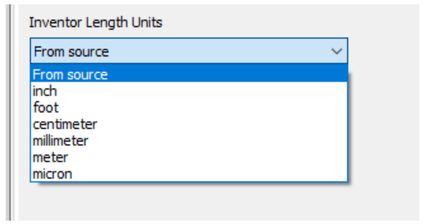


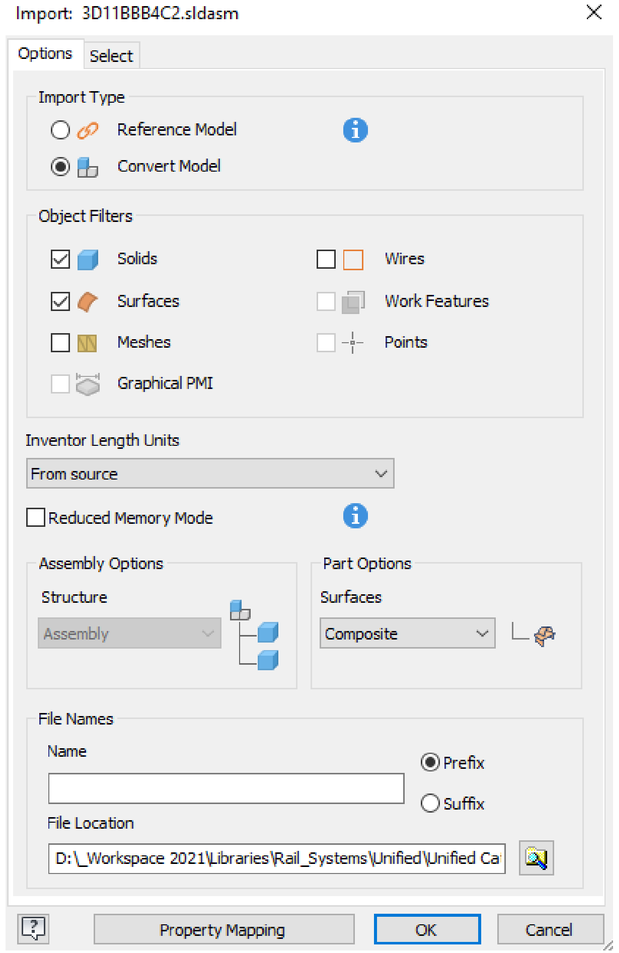
AnyCAD UI – Dialog Box

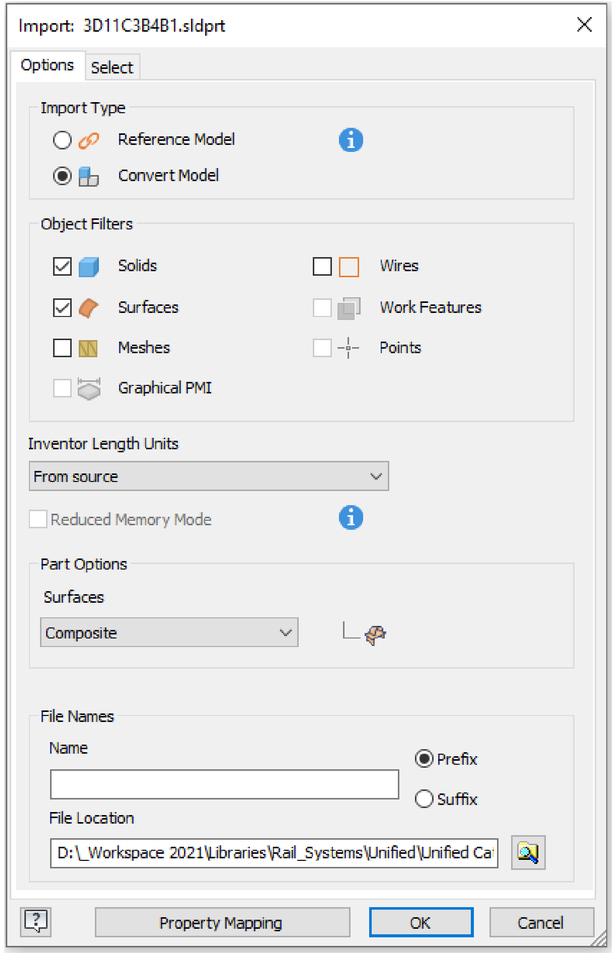


AnyCAD Reference vs Convert UI



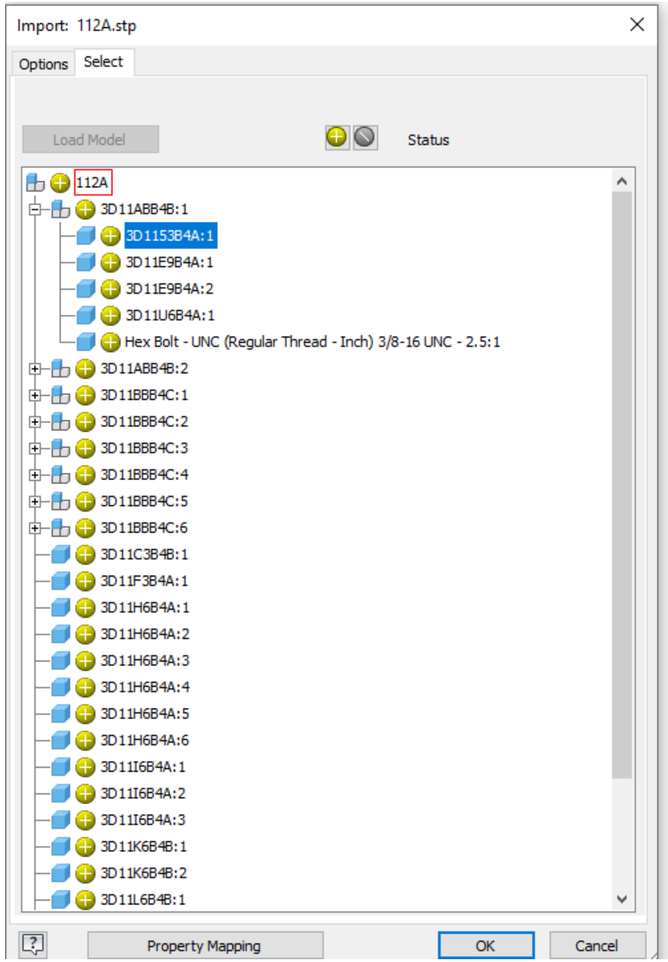


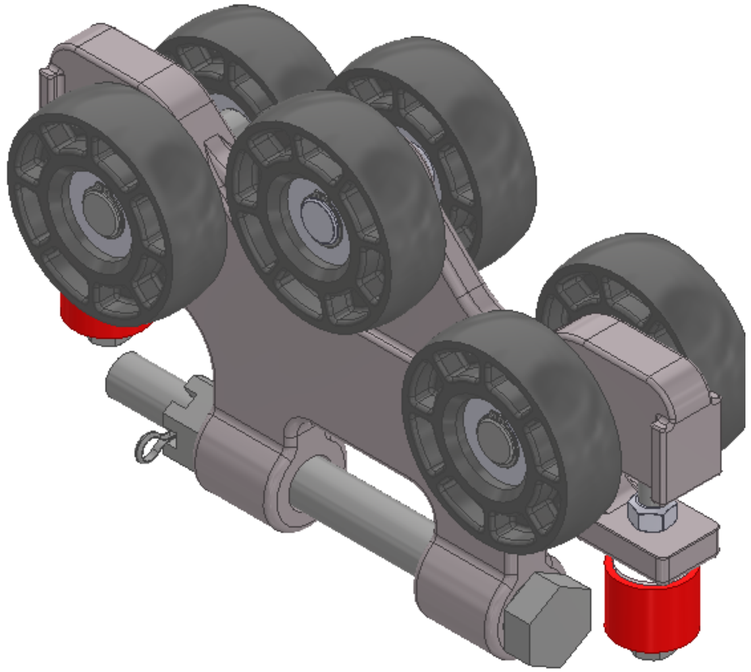




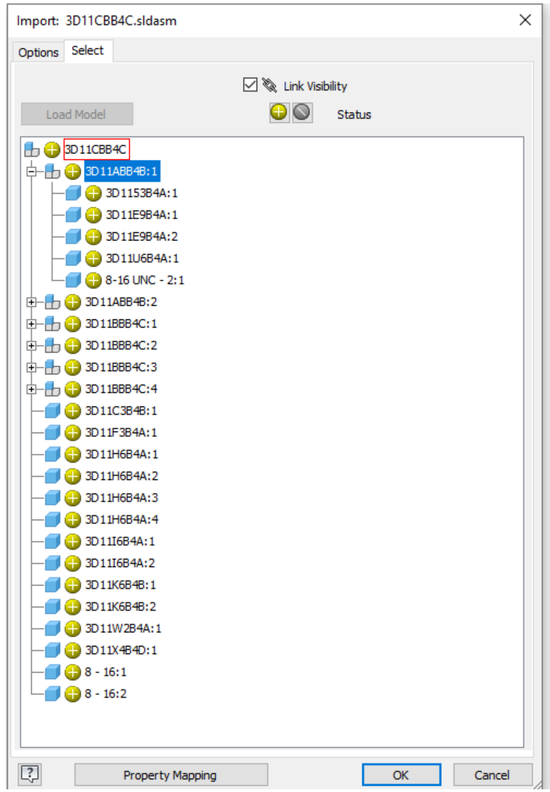
Use Reduced Memory Mode only if you are importing a large data set with limited system memory. This setting increases memory capacity and decreases performance.

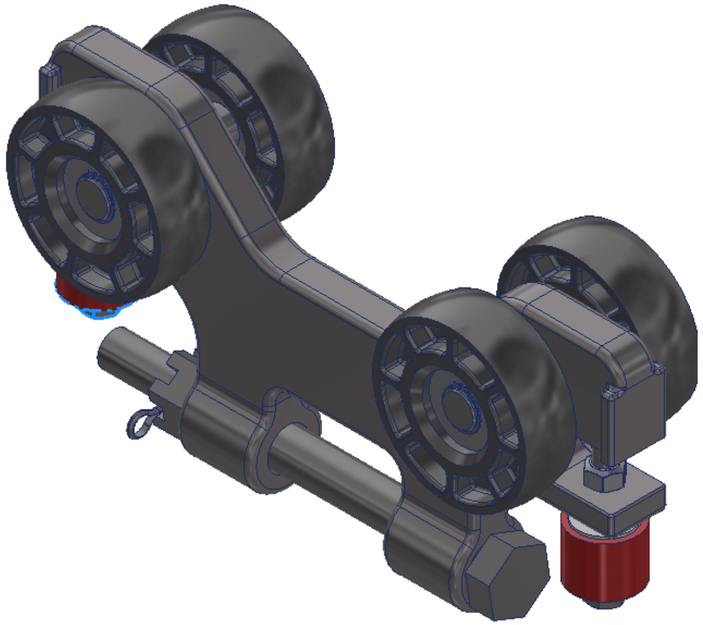
Select / Load Model





AnyCAD Linked Visibility Option





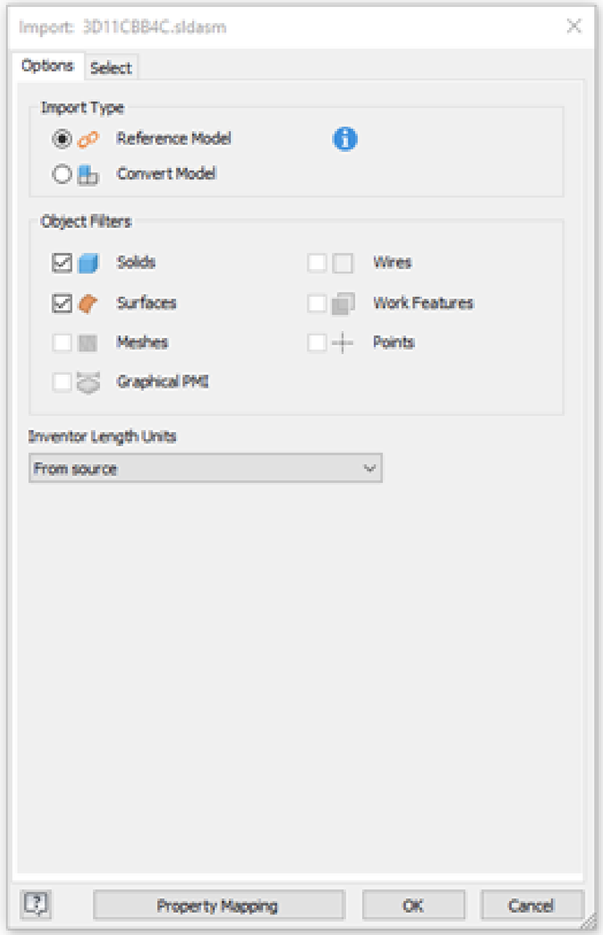
- All invisible assemblies/parts/bodies are shown in both the graphics and tree control during preview
- Show an "invisible" icon for invisible assemblies/parts/bodies in the Select page tree control
- Both visible and invisible items can be included/exclude
- After importing:
  If Link Visibility is checked, invisible items are imported and their visibility is linked to the design view created for the imported component
  If Link Visibility is not checked, then invisible items are imported as visible and they are not controlled by the DV in the imported component.
  If Link Visibility is checked, and visibility is not overridden, then changes in linked CAD file are applied after update

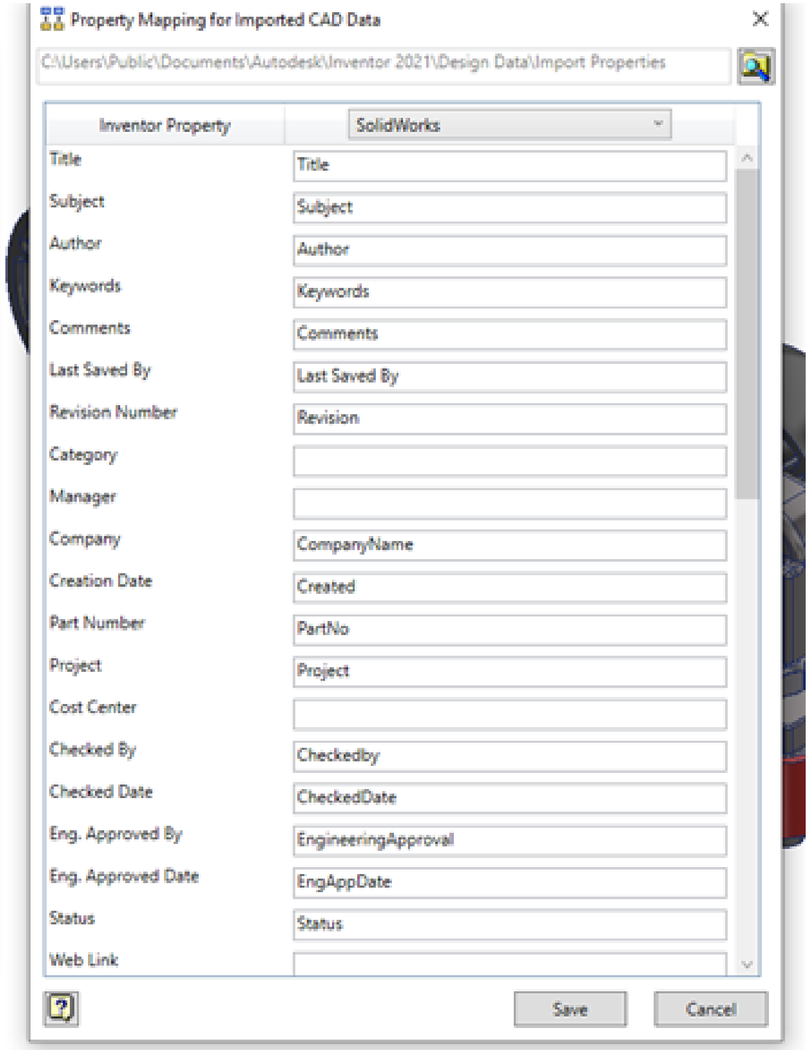
Property Mapping

Easily map properties from CATIA, Pro/Engineer and Creo parametric, NX, STEP, Solid Edge, and Solidworks to standard Inventor properties with the Property Mapping for Imported CAD Data tool.

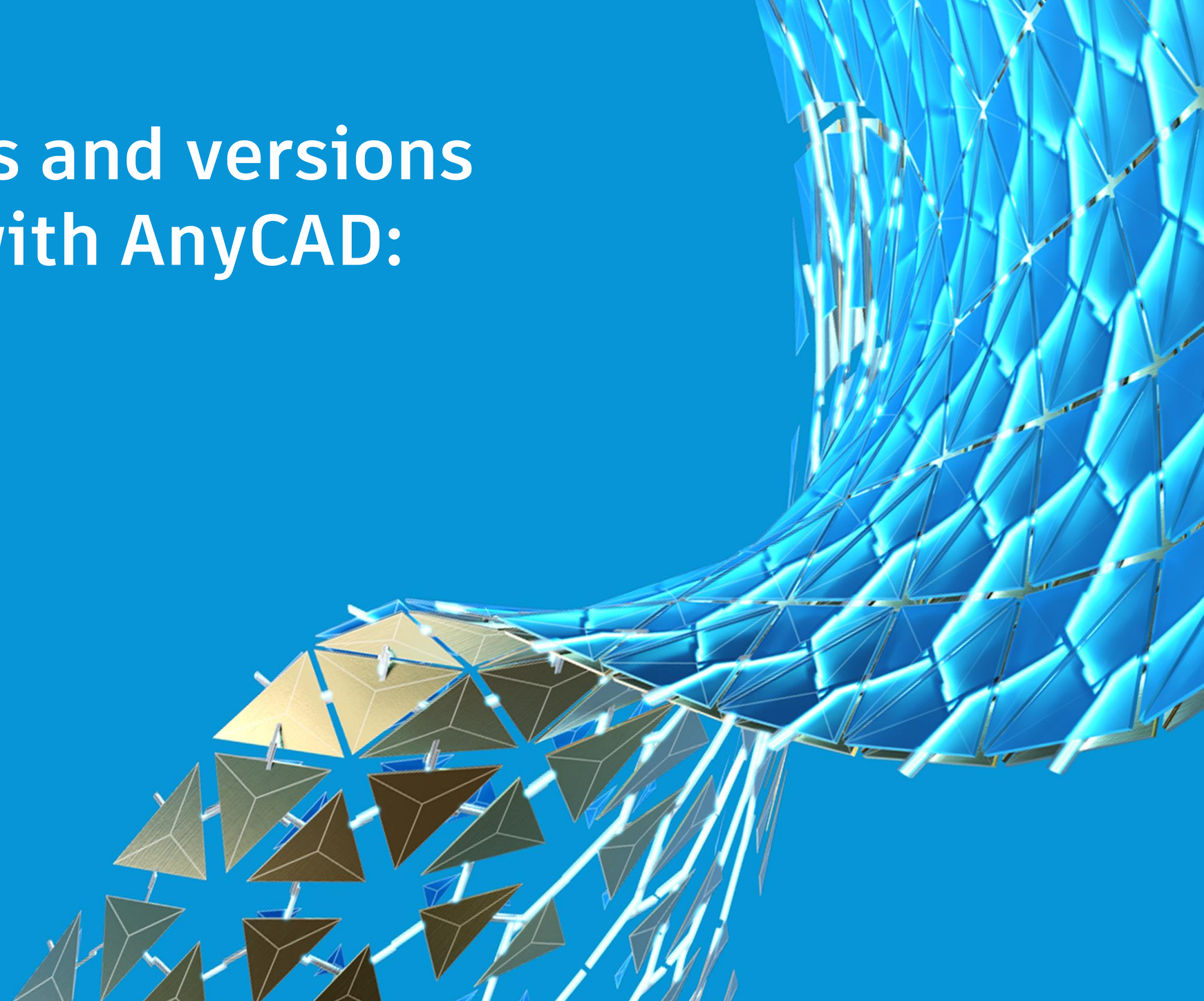
The Property Mapping for Imported CAD Data tool is an interface for modifying the CATIA, Pro/Engineer and Creo parametric, NX, STEP, Solid Edge, and Solidworks XML design data files located in Users ➤ Public ➤ Public Documents ➤ Autodesk Inventor [version] ➤ Design Data ➤ Import Properties.

1. Launch the Property Mapping for Imported CAD Data tool in one of 2 ways:
   - Click the **Property Mapping** button at the bottom of the Import dialog box. This button is only enabled if you are importing a CATIA, Pro/Engineer and Creo parametric, NX, STEP, Solid Edge, or Solidworks file into an assembly file.
   - Start menu ➤ Programs ➤ Autodesk ➤ Inventor [version] ➤ Tools ➤ Property Mapping for Imported CAD Data.
2. In the Property Mapping for Imported CAD Data dialog box, click the drop down menu and select the format you want to map the Inventor standard properties to. When the Property Mapping tool is launched from the Import dialog box, the format automatically defaults to the format of the file you are importing.





What formats and versions can we use with AnyCAD:



Inventor AnyCAD 2021

Supported AnyCAD Reference Model Formats

Format	Version	Selective Import	Associative Update
CATIA V5	R6 - V5-6R2020	✓	✓
PTC Creo	Up to 6.0	✓	✓
PTC Wildfire	Up to 5.0	✓	✓
SolidWorks	2001 Plus - 2020	✓	✓
Siemens NX	Unigraphics V13 - NX 12, NX 1899 Series	✓	✓
Alias	v11 - Later	✓	✓
AutoCAD 2d	Up to 2018		✓
STEP	AP203E2, AP214, AP242	✓	✓
Solid Edge	V18 - V20, ST1 - ST10, 2020, FrameDesign	✓	✓

Inventor AnyCAD 2020

Supported AnyCAD Reference Model Formats

Format	Version	Selective Import	Associative Update
CATIA V5	R6 - V5-6R2018	✓	✓
PTC Creo	Up to 6.0	✓	✓
PTC Wildfire	Up to 5.0	✓	✓
SolidWorks	2001 Plus - 2020	✓	✓
Siemens NX	Unigraphics V13 - NX 12, NX 1872 Series	✓	✓
Alias	v11 - Later	✓	✓
AutoCAD 2d	Up to 2018		✓
STEP	AP203E2, AP214, AP242	✓	✓
Solid Edge	V18 - V20, ST1 - ST10, 2020	✓	✓

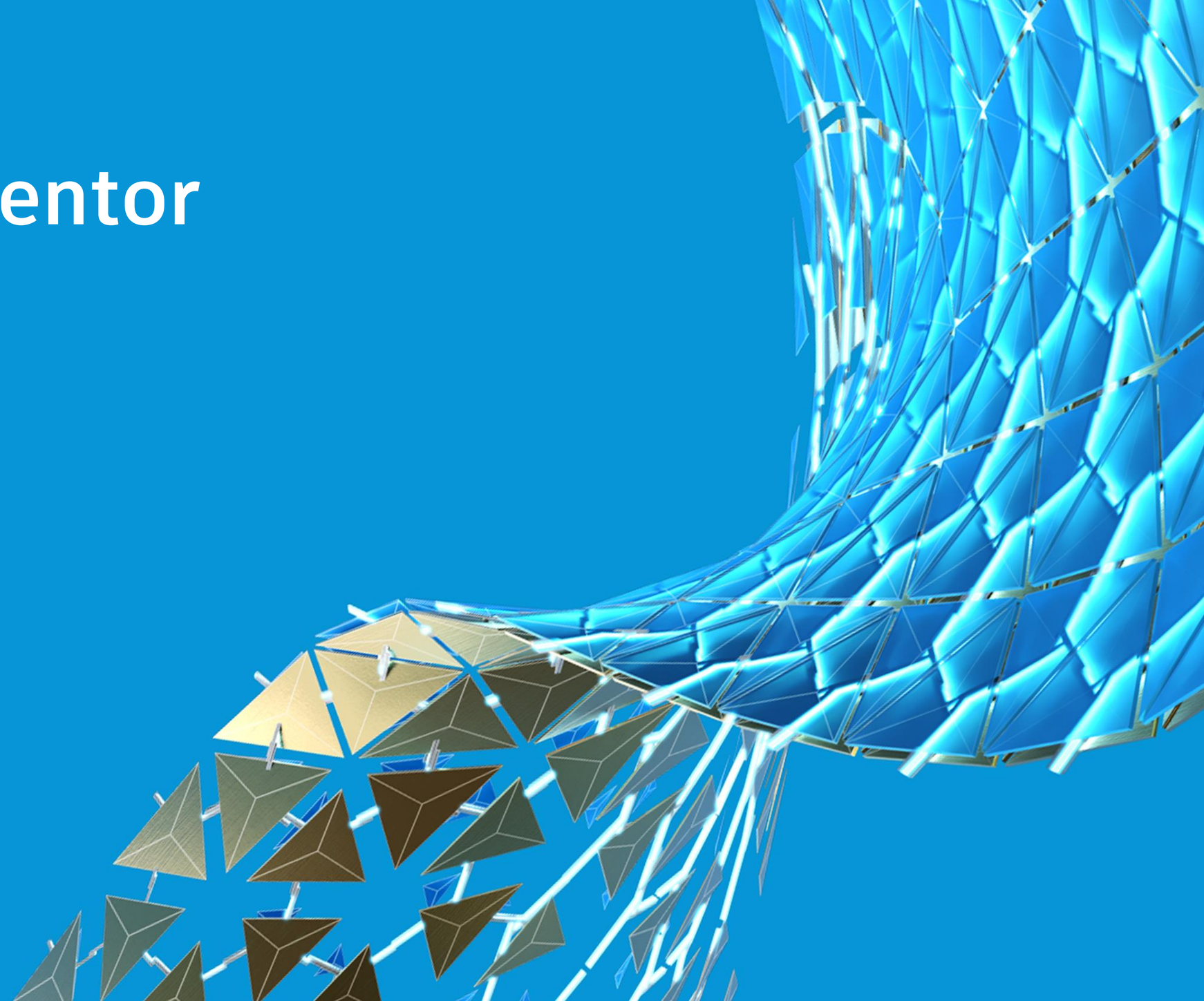
2021 Versions

Translator	Import	Export
Alias	V10 or later	
CATIA V4	All Revisions	
CATIA V5	R6 - V5-6R2020	R10 - V5-6R2020
Creo Parametric	1.0; 2.0; 3.0; 4.0, 5.0 , 6.0	
IGES	All Revisions	5.3
JT	7.0 – 10.5	8.0, 8.1, 8.2, 9.0, 9.1, 9.2, 9.3, 9.4, 9.5, 10.0, 10.1, 10.2, 10.3, 10.4, 10.5
IFC		2x3
NX	Unigraphics V13 - NX 12, NX 1899 Series	
OBJ	N/A	N/A
Parasolid	Up to 32.0	9.0 - 32.0
Pro/ENGINEER	Up to Wildfire 5.0	
Pro/ENGINEER Granite	Up to 12.0	1.0 - 12.0
Pro/ENGINEER Neutral	N/A	N/A
Rhino	Up to 6.0	
SAT	Up to 7.0	7.0
SolidWorks	2001 Plus – 2020	
Solid Edge	V18 - V20, ST1 - ST10, 2020, FrameDesign	N/A
STEP	AP203E2, AP214, AP242	AP203E2, AP214, AP242
STL	N/A	N/A
XGL/ZGL		N/A

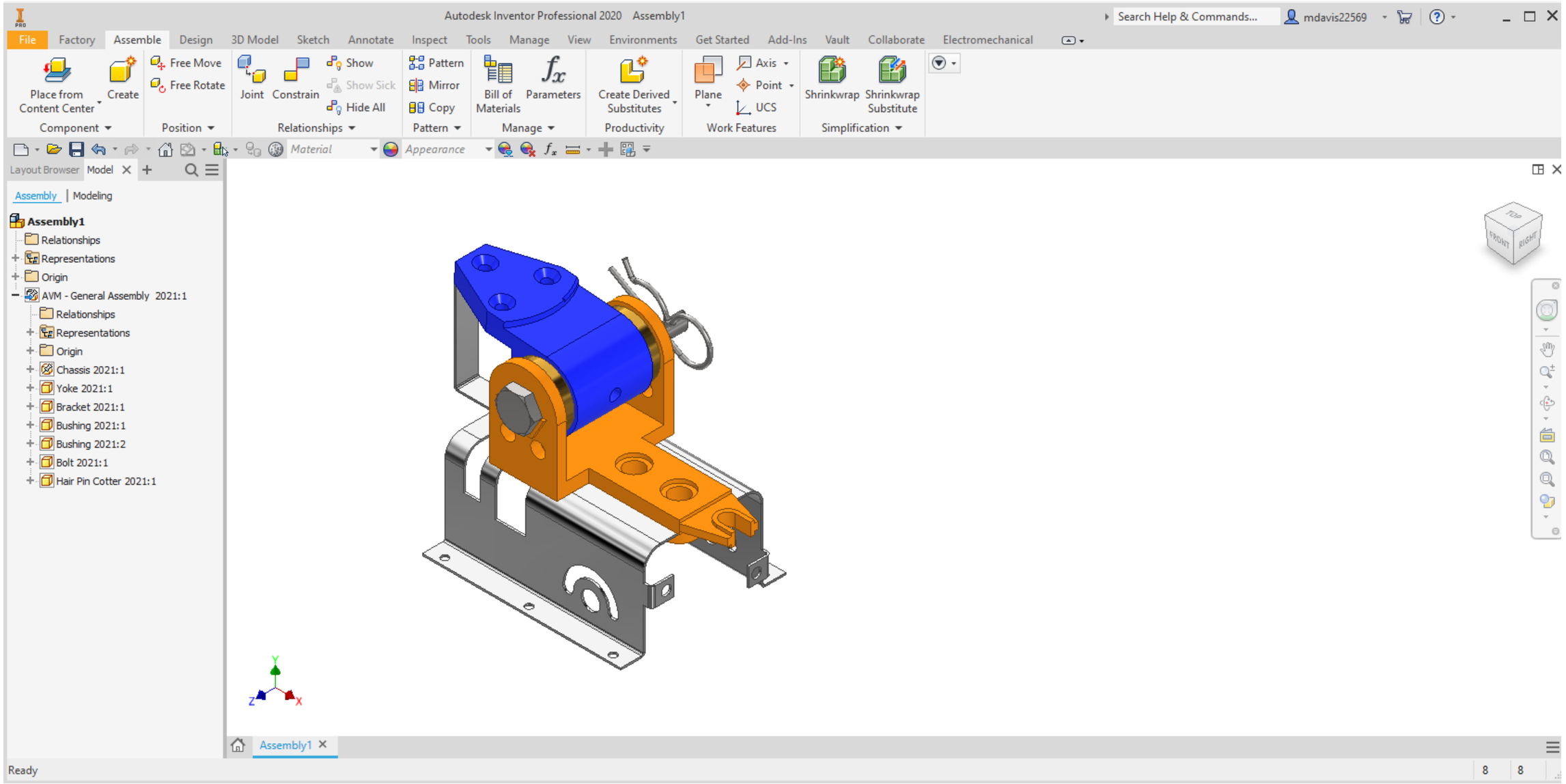
2020 Versions

Translator	Import	Export
Alias	V10 or later	
CATIA V4	All Revisions	
CATIA V5	R6 - V5-6R2019(R29)	R10 - V5-6R2019(R29)
Creo Parametric	1.0; 2.0; 3.0; 4.0, 5.0 , 6.0	
IGES	All Revisions	5.3
JT	7.0 – 10.5	8.0, 8.1, 8.2, 9.0, 9.1, 9.2, 9.3, 9.4, 9.5, 10.0, 10.1, 10.2, 10.3, 10.4, 10.5
IFC		2x3
NX	Unigraphics V13 - NX 12, NX 1872 Series	
OBJ	N/A	N/A
Parasolid	Up to 32.0	9.0 - 31.0
Pro/ENGINEER	Up to Wildfire 5.0	
Pro/ENGINEER Granite	Up to 12.0	1.0 - 12.0
Pro/ENGINEER Neutral	N/A	N/A
Rhino	Up to 6.0	
SAT	Up to 7.0	7.0
SolidWorks	2001 Plus – 2020	
Solid Edge	V18 - V20, ST1 - ST10, 2020	N/A
STEP	AP203E2, AP214, AP242	AP203E2, AP214, AP242
STL	N/A	N/A
XGL/ZGL		N/A

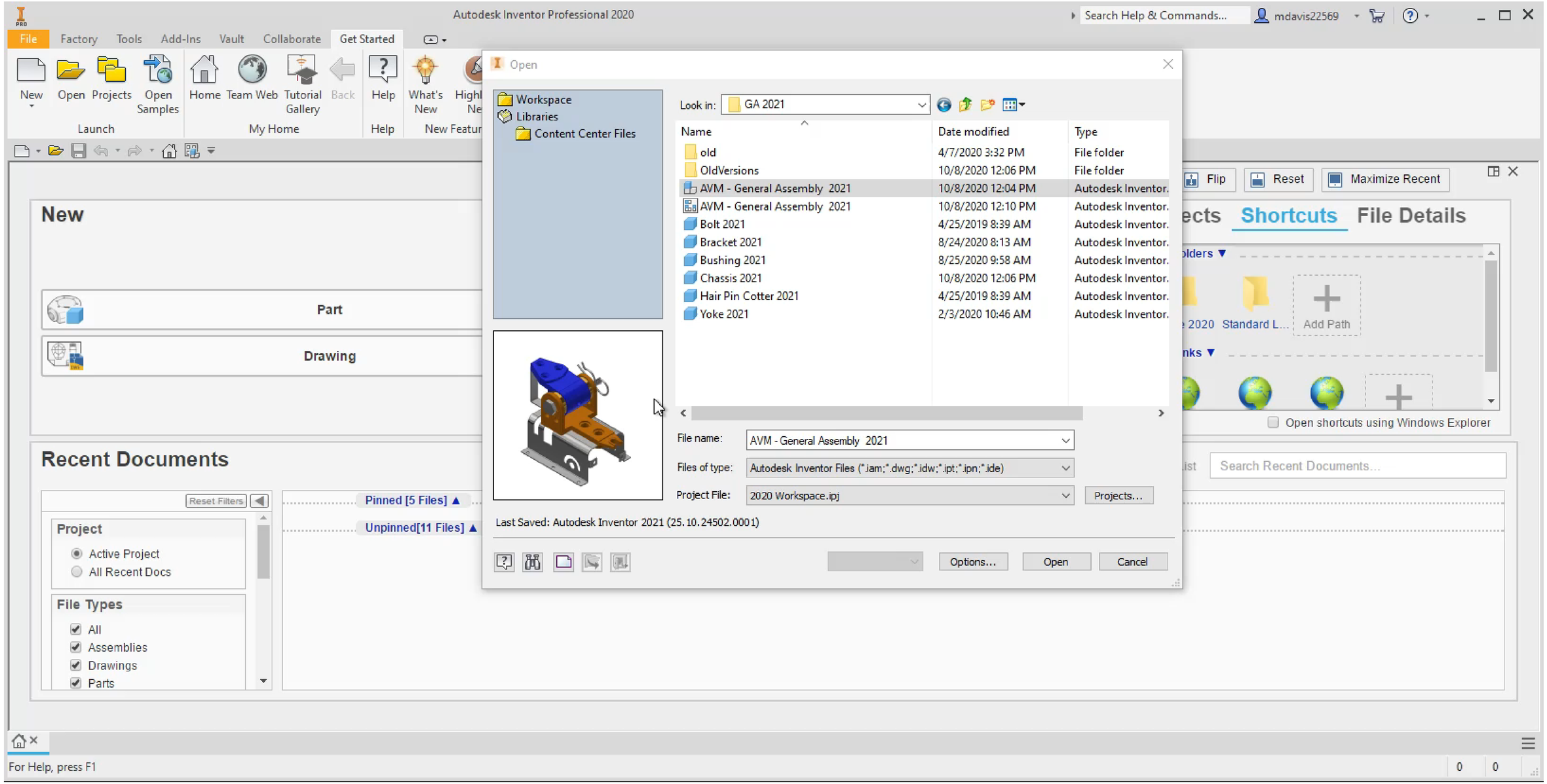
AnyCAD Inventor



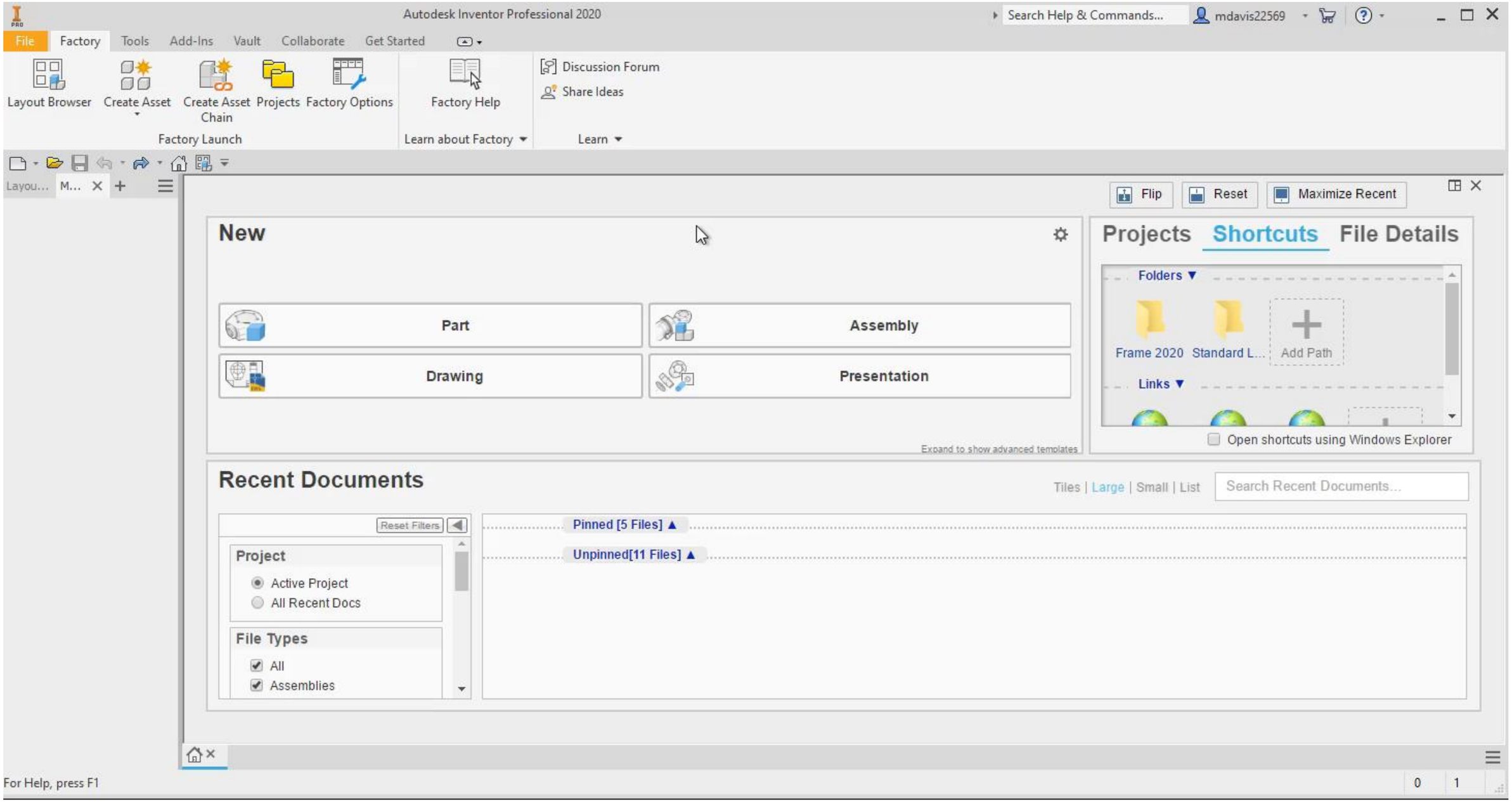
Bringing Inventor 2021 into 2020 Inventor



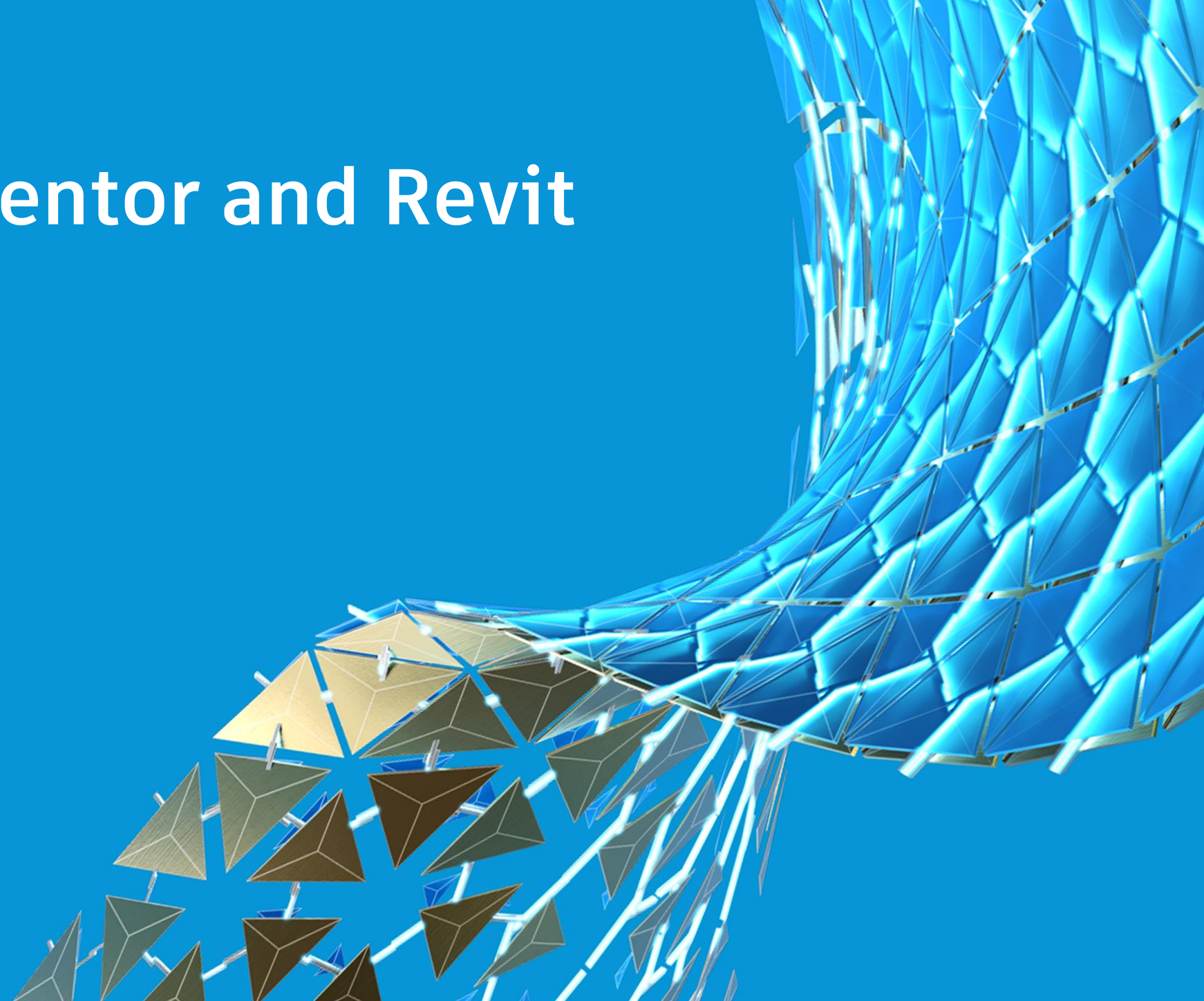
Bringing Inventor 2021 into 2020 Inventor

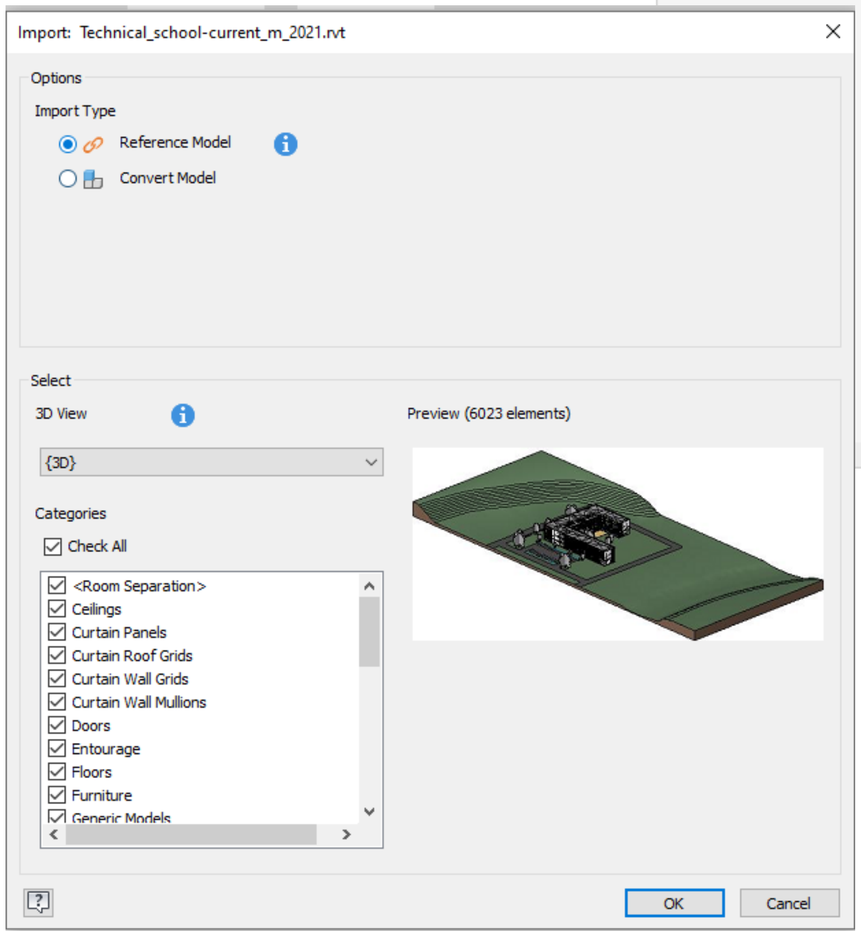


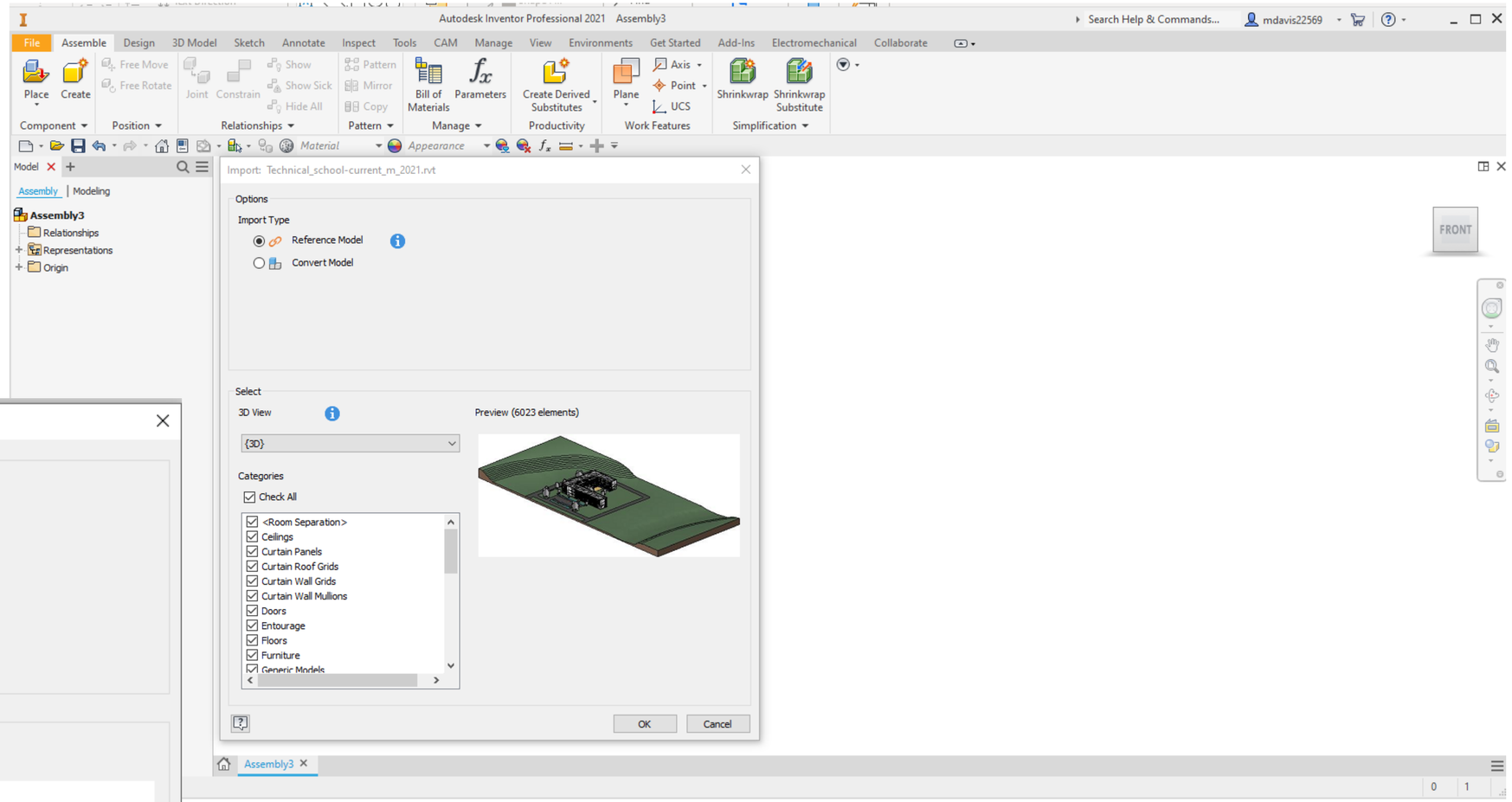
Importing of a non-native file into Inventor 3D and 2D



AnyCAD Inventor and Revit




Import: Technical_school-current_m_2021.rvt
Options
Import Type
Reference Model
Convert Model
Select
3D View
{3D}
Preview (6023 elements)
Categories
Check All
<Room Separation>
Ceilings
Curtain Panels
Curtain Roof Grids
Curtain Wall Grids
Curtain Wall Mullions
Doors
Entourage
Floors
Furniture
Generic Models
OK
Cancel


Autodesk Inventor Professional 2021 Assembly3
Search Help & Commands...
mdavis22569
File
Assemble
Design
3D Model
Sketch
Annotate
Inspect
Tools
CAM
Manage
View
Environments
Get Started
Add-Ins
Electromechanical
Collaborate
Place
Create
Free Move
Free Rotate
Joint
Constrain
Show
Show Sick
Hide All
Pattern
Mirror
Copy
Bill of Materials
Parameters
Create Derived Substitutes
Plane
Axis
Point
UCS
Shrinkwrap
Shrinkwrap Substitute
Component
Position
Relationships
Pattern
Manage
Productivity
Work Features
Simplification
Material
Appearance
Model
Assembly
Modeling
Assembly3
Relationships
Representations
Origin
Import: Technical_school-current_m_2021.rvt
Options
Import Type
Reference Model
Convert Model
Select
3D View
{3D}
Preview (6023 elements)
Categories
Check All
<Room Separation>
Ceilings
Curtain Panels
Curtain Roof Grids
Curtain Wall Grids
Curtain Wall Mullions
Doors
Entourage
Floors
Furniture
Generic Models
OK
Cancel
FRONT
Assembly3

Select

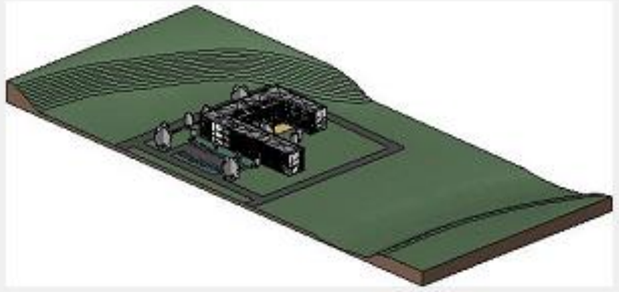
3D View

Preview (6023 elements)

{3D}

{3D}
03 - Floor Public - Day Rendering
03 - Floor Public - Night Rendering
Balcony View
Building Courtyard
From Parking Area
Outside Balcony
(Everything)

Curtain Panels
Curtain Roof Grids



Import: Technical_school-current_m_2021.rvt

Options

Import Type

Reference Model

Convert Model

Select

3D View

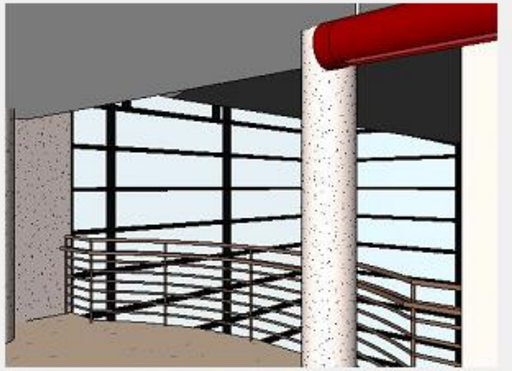
Preview (6025 elements)

Balcony View

Categories

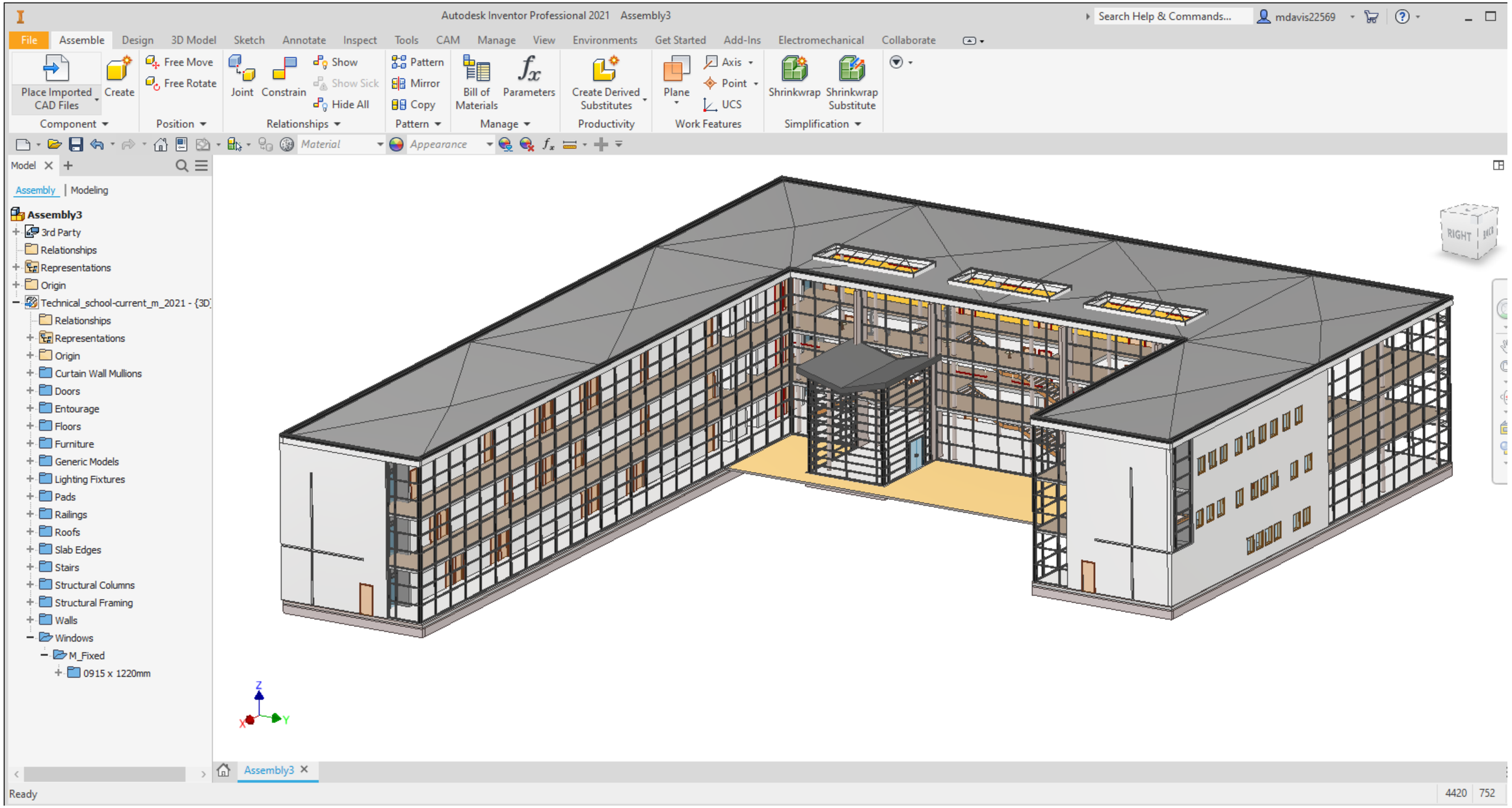
Check All

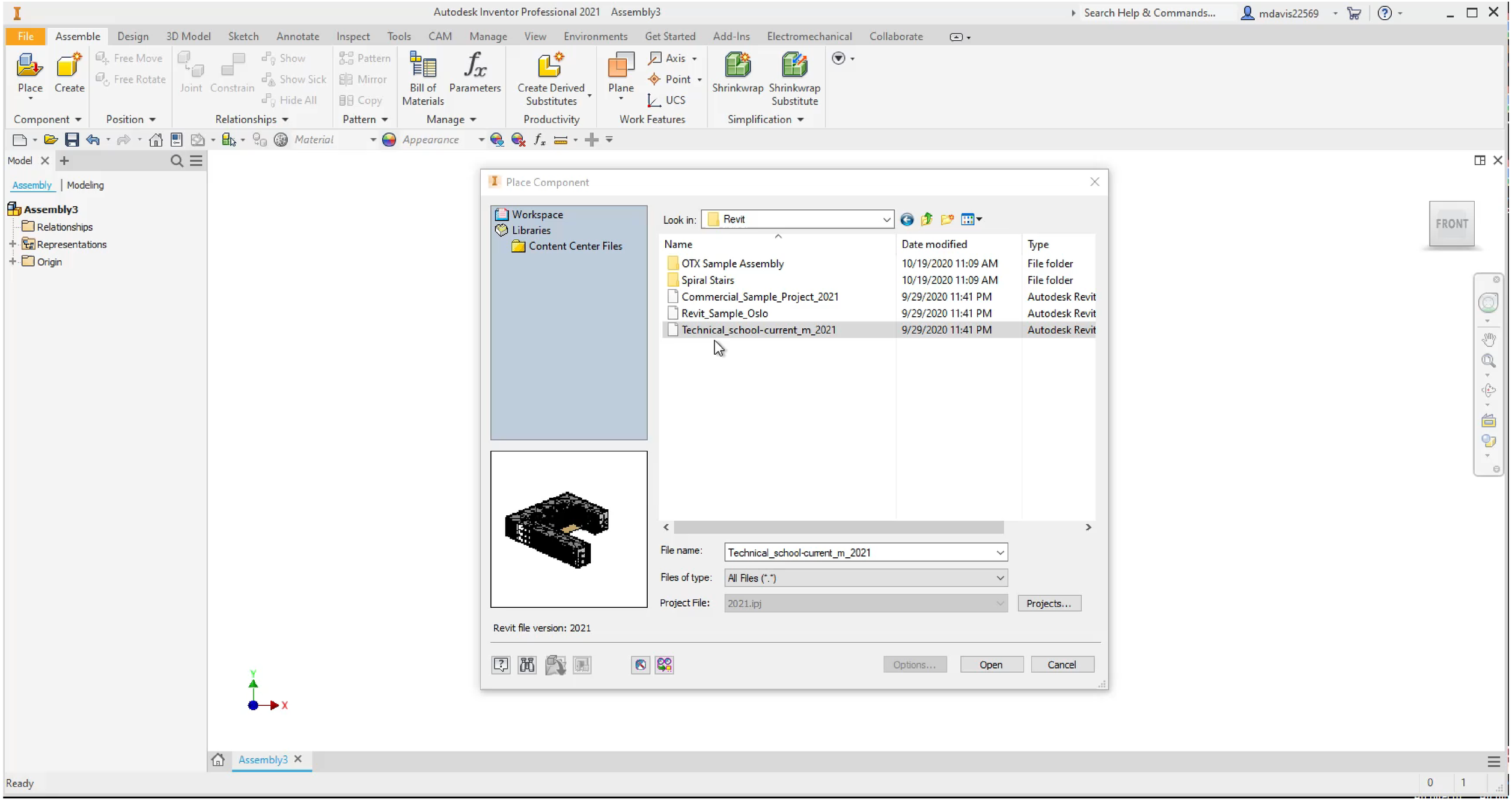
<Room Separation>
Ceilings
Curtain Panels
Curtain Roof Grids
Curtain Wall Grids
Curtain Wall Mullions
Doors
Entourage
Floors
Furniture
Generic Models

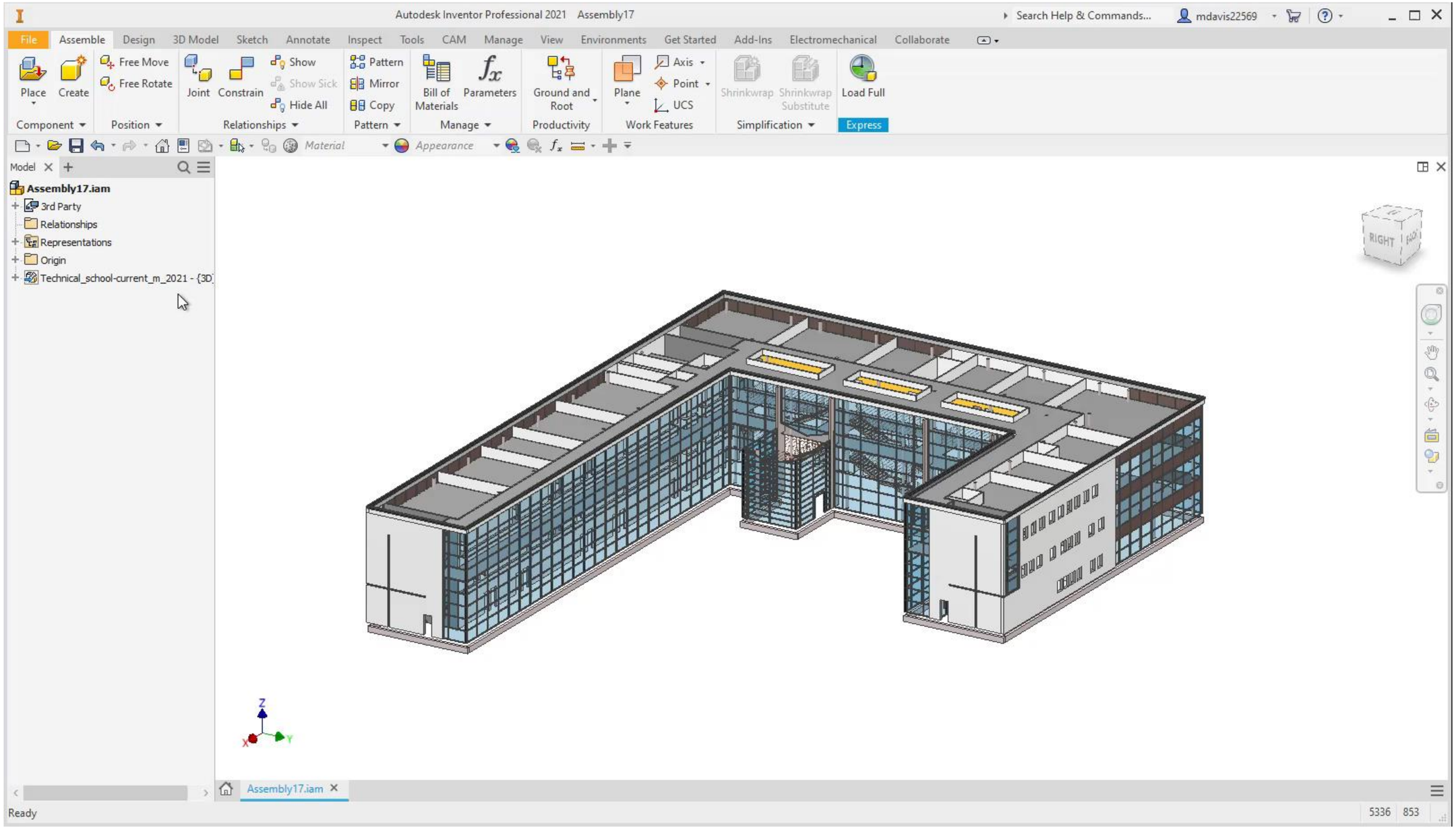


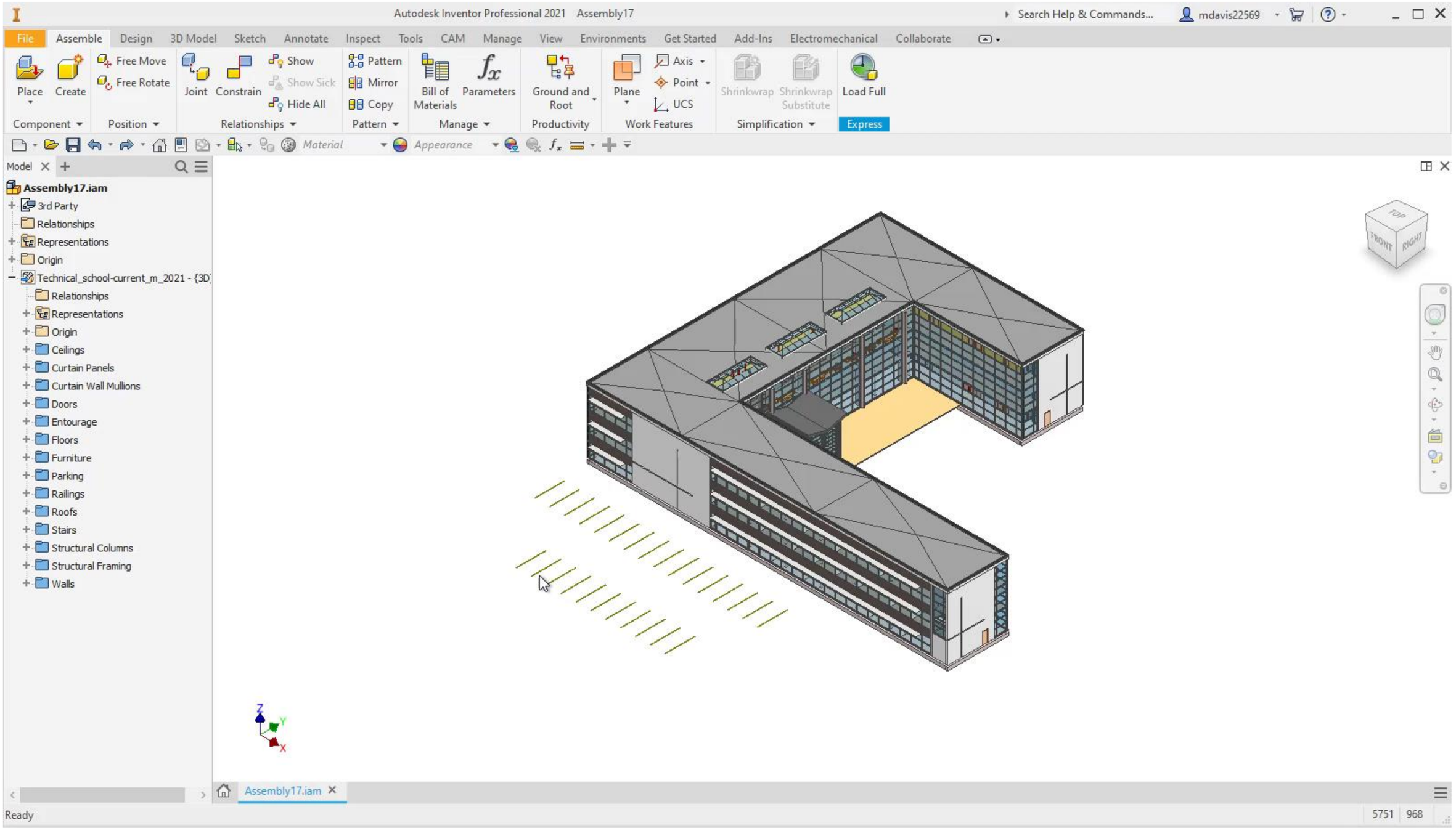
OK

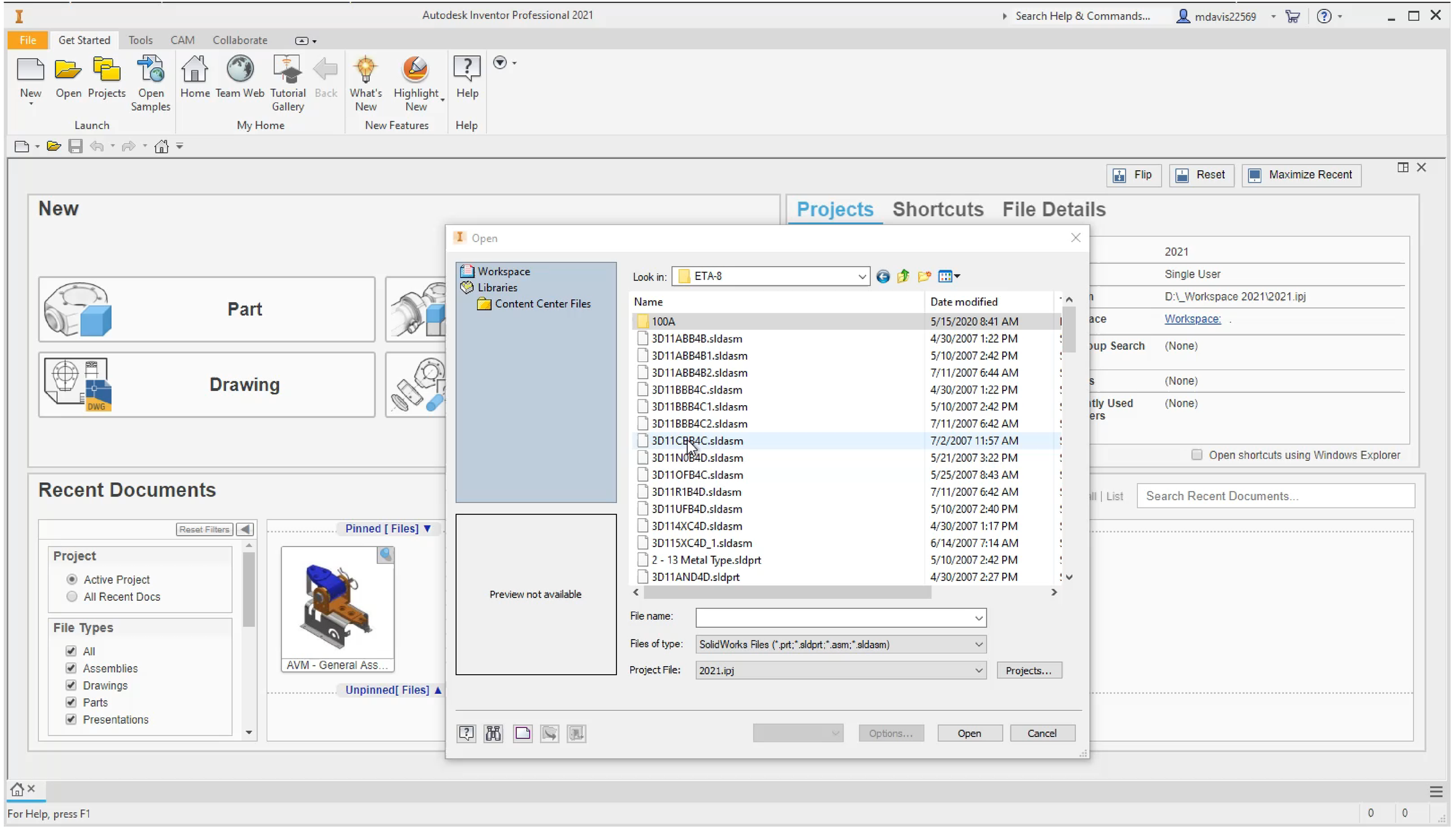
Cancel


Autodesk Inventor Professional 2021 Assembly3
Search Help & Commands...
mdavis22569
File
Assemble
Design
3D Model
Sketch
Annotate
Inspect
Tools
CAM
Manage
View
Environments
Get Started
Add-Ins
Electromechanical
Collaborate
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Create
Free Move
Free Rotate
Joint
Constrain
Show
Show Sick
Hide All
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Mirror
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Parameters
Create Derived Substitutes
Plane
Axis
Point
UCS
Shrinkwrap
Shrinkwrap Substitute
Component
Position
Relationships
Pattern
Manage
Productivity
Work Features
Simplification
Material
Appearance
Model
Assembly
Modeling
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Relationships
Representations
Origin
Technical_school-current_m_2021 - {3D}
Relationships
Representations
Origin
Curtain Wall Mullions
Doors
Entourage
Floors
Furniture
Generic Models
Lighting Fixtures
Pads
Railings
Roofs
Slab Edges
Stairs
Structural Columns
Structural Framing
Walls
Windows
M_Fixed
0915 x 1220mm
RIGHT
Z
X
Y
Assembly3
Ready
4420
752


Autodesk Inventor Professional 2021 Assembly3
Search Help & Commands...
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Collaborate
Place
Create
Free Move
Free Rotate
Joint
Constrain
Show
Show Sick
Hide All
Pattern
Mirror
Copy
Bill of Materials
Parameters
Create Derived Substitutes
Plane
Axis
Point
UCS
Shrinkwrap
Shrinkwrap Substitute
Component
Position
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Manage
Productivity
Work Features
Simplification
Material
Appearance
Model
Assembly
Modeling
Assembly3
Relationships
Representations
Origin
Place Component
Workspace
Libraries
Content Center Files
Look in:
Revit
Name
Date modified
Type
OTX Sample Assembly
10/19/2020 11:09 AM
File folder
Spiral Stairs
10/19/2020 11:09 AM
File folder
Commercial_Sample_Project_2021
9/29/2020 11:41 PM
Autodesk Revit
Revit_Sample_Oslo
9/29/2020 11:41 PM
Autodesk Revit
Technical_school-current_m_2021
9/29/2020 11:41 PM
Autodesk Revit
File name:
Technical_school-current_m_2021
Files of type:
All Files (*.*)
Project File:
2021.ipj
Projects...
Revit file version: 2021
Options...
Open
Cancel
FRONT
Assembly3
Ready


Autodesk Inventor Professional 2021 Assembly17
Search Help & Commands...
mdavis22569
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Plane
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Point
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Shrinkwrap
Shrinkwrap Substitute
Load Full
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Manage
Productivity
Work Features
Simplification
Express
Material
Appearance
Model
Assembly17.iam
3rd Party
Relationships
Representations
Origin
Technical_school-current_m_2021 - {3D
RIGHT
Z
X
Y
Assembly17.iam
Ready
5336
853


Autodesk Inventor Professional 2021 Assembly17
Search Help & Commands...
mdavis22569
File
Assemble
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3D Model
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Shrinkwrap
Shrinkwrap Substitute
Load Full
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Productivity
Work Features
Simplification
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Material
Appearance
Model
Assembly17.iam
3rd Party
Relationships
Representations
Origin
Technical_school-current_m_2021 - {3D}
Relationships
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Ceilings
Curtain Panels
Curtain Wall Mullions
Doors
Entourage
Floors
Furniture
Parking
Railings
Roofs
Stairs
Structural Columns
Structural Framing
Walls
TOP
FRONT
RIGHT
Z
Y
X
Assembly17.iam
Ready
5751
968


Autodesk Inventor Professional 2021
Search Help & Commands...
mdavis22569
File
Get Started
Tools
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New
Open
Projects
Open Samples
Home
Team Web
Tutorial Gallery
Back
What's New
Highlight New
Help
Launch
My Home
New Features
Help
Flip
Reset
Maximize Recent
New
Part
Drawing
Projects
Shortcuts
File Details
2021
Single User
D:_Workspace 2021\2021.ipj
Workspace:
(None)
(None)
(None)
Open shortcuts using Windows Explorer
Recent Documents
Reset Filters
Project
Active Project
All Recent Docs
File Types
All
Assemblies
Drawings
Parts
Presentations
Pinned [Files]
AVM - General Ass...
Unpinned[Files]
Search Recent Documents...
Open
Workspace
Libraries
Content Center Files
Look in:
ETA-8
Name
Date modified
100A 5/15/2020 8:41 AM
3D11ABB4B.sldasm 4/30/2007 1:22 PM
3D11ABB4B1.sldasm 5/10/2007 2:42 PM
3D11ABB4B2.sldasm 7/11/2007 6:44 AM
3D11BBB4C.sldasm 4/30/2007 1:22 PM
3D11BBB4C1.sldasm 5/10/2007 2:42 PM
3D11BBB4C2.sldasm 7/11/2007 6:42 AM
3D11CBB4C.sldasm 7/2/2007 11:57 AM
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3D11OFB4C.sldasm 5/25/2007 8:43 AM
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3D114XC4D.sldasm 4/30/2007 1:17 PM
3D115XC4D_1.sldasm 6/14/2007 7:14 AM
2 - 13 Metal Type.sldprt 5/10/2007 2:42 PM
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Preview not available
File name:
Files of type: SolidWorks Files (*.prt;*.sldprt;*.asm;*.sldasm)
Project File: 2021.ipj
Projects...
Options...
Open
Cancel
For Help, press F1

So in closing:

AnyCAD allows you to more effectively use non-native CAD files and is part of Inventor. It's an additional add-on and does not require any special expertise to run. So the next time you get a file from a vendor – customer .. try using AnyCAD inside of Inventor and see how it works for you.


THANK
YOU!

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