

Share, Collaborate, and Design with a Cloud Connected Inventor

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About the speakers



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Joined Autodesk in 2012.

Over 20 years working with the Autodesk manufacturing portfolio.

Product focus is the Product Design and Manufacturing Collection, Vault & Vred



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Joined Autodesk in 2016.

Prior to Autodesk, 5 years as a Solidworks technical consultant & a degree in Motorsport Engineering

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Class Objective

- Understand how Inventor users can collaborate via the cloud.
- Gain knowledge of the tools and workflows required to make it work for your organization.
- Understand different use cases that could greatly benefit a collaborative design workflow.



Class Agenda

- What options are there today
- Glossary
- Connecting Inventor to the Cloud
- Shared Views
- Connecting Vault to the Cloud
- Inventor and Fusion 360
- Use Case Examples
- Q&A

What file sharing options are available today?

There are lots of file sharing options available today. Each platform offers various storage space options and the ability to apply relevant user permissions.

These are great for sharing individual files but not so great for CAD data as viewing and understanding references will be limited.

What are we going to look at today ?

Technology Glossary

- **Autodesk Drive**
 - Replacement for A360 Drive, suitable for an individual & comes with simple user permissions.
- **Desktop Connector**
 - Desktop service that integrates Drive, Fusion Team & BIM 360 Team as a virtual drive within Explorer.
- **Fusion 360**
 - Cloud based 3D CAD, CAM and CAE platform that works on both Mac and PC.
- **Fusion Team**
 - Project based collaboration platform with enhanced viewing, mark-up, versioning & user access controls.
- **Inventor Professional**
 - Desktop based CAD software offering 3D mechanical design, documentation & simulation tools.
- **Shared Views**
 - Enables sharing & review of 3D models without uploading the native CAD file.

Connecting Inventor to the Cloud

How can you design AND collaborate with external parties.

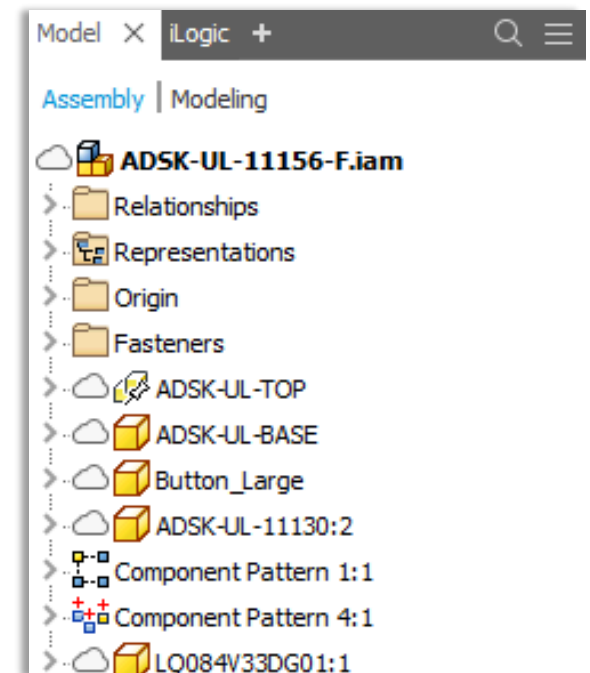
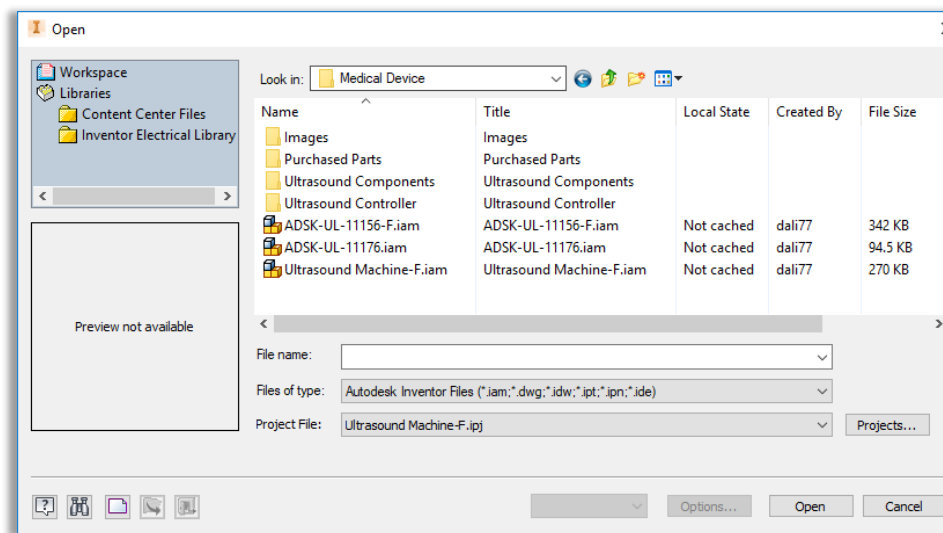
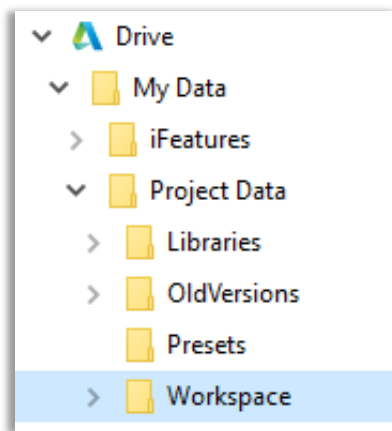
Always have your data viewable on connected devices.

Reference external users models (including other formats) and always stay up to date.



Did you know ?

- As Inventor 2018.2, a subscriber can open, place & save natively to the cloud.
- Wherever you are, if you're connected or cached offline, you can work on your data.
- **Drag & Drop, Save or Pack & Go** your model via Windows Explorer as normal.
- Only files that are new or edited upload/download.



What Autodesk technology is required?

- Autodesk Inventor Subscription (or Product Design & Manufacturing Collection)
- Autodesk Desktop Connector
- Autodesk Drive OR a Fusion Team Subscription



Autodesk Drive

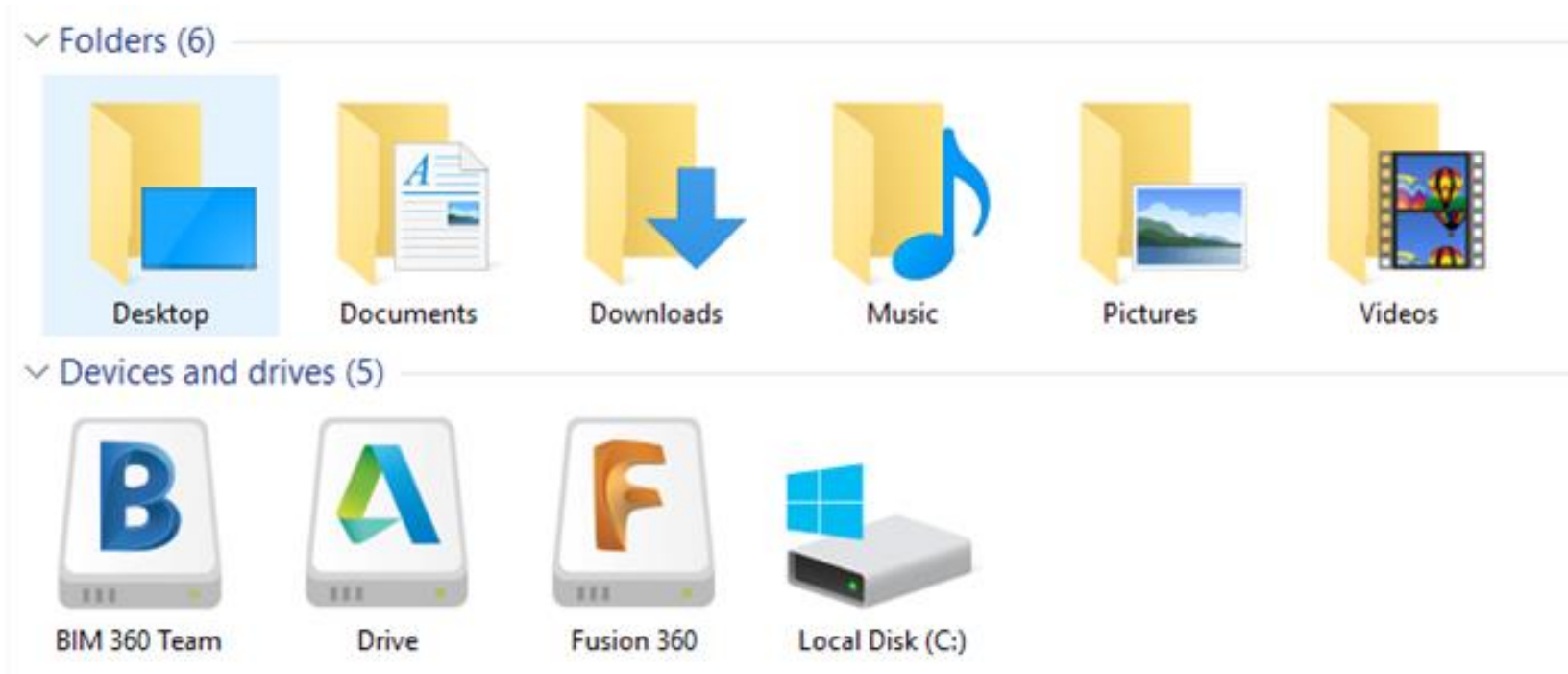
- Available as part of a supported subscription (Inventor, Vault Workgroup / Pro)
- CAD-aware 25Gb cloud storage for individuals and small teams
- Supports over 60 types of Autodesk and 3rd party files
- View and organize files stored in Autodesk Drive from your desktop



Autodesk Desktop Connector

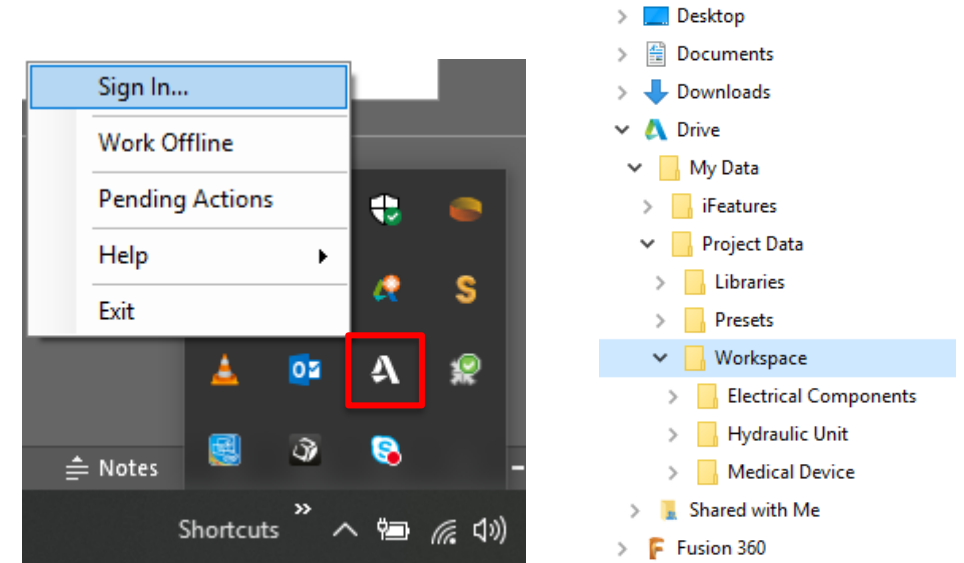
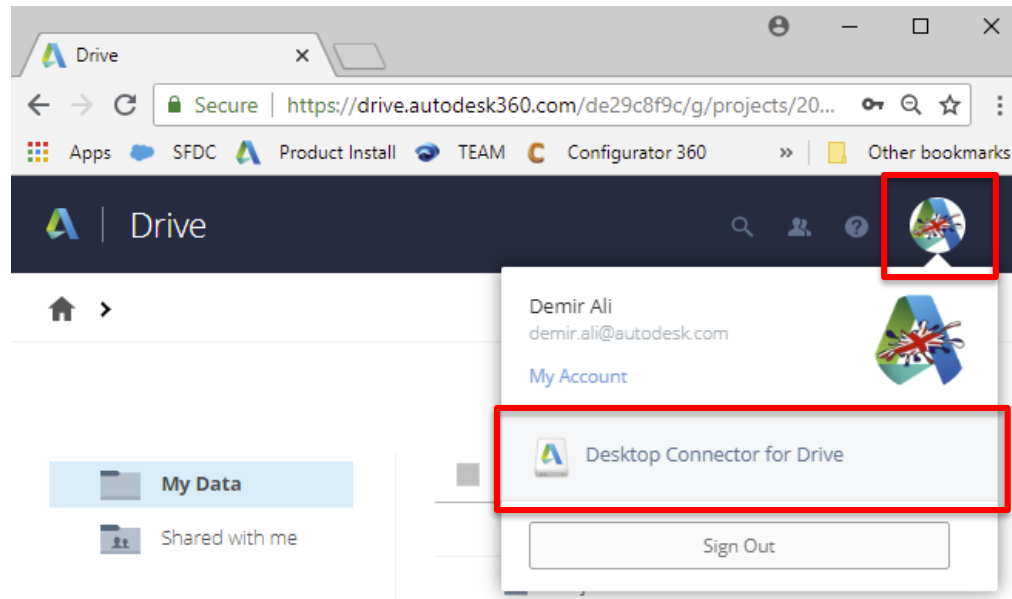


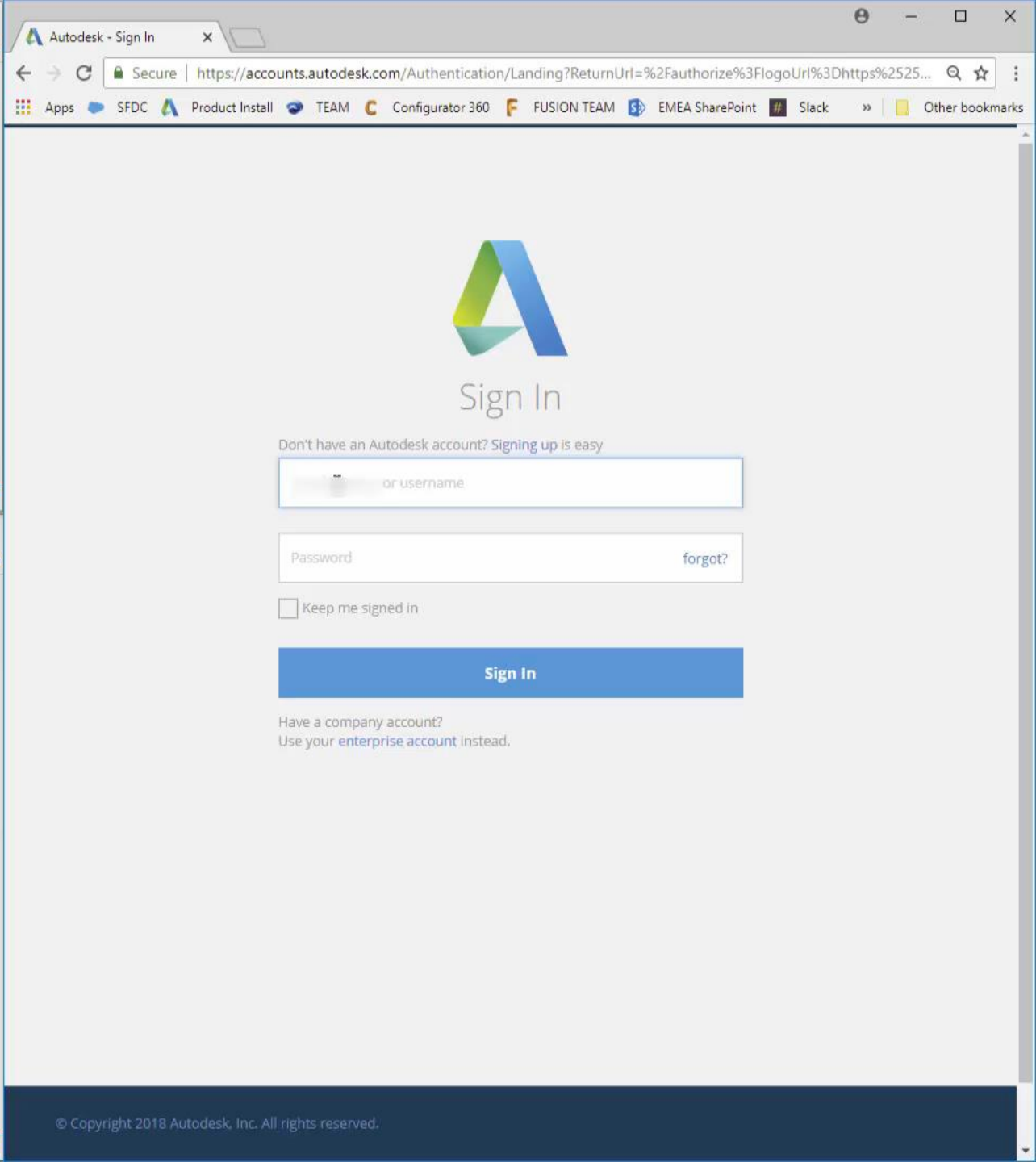
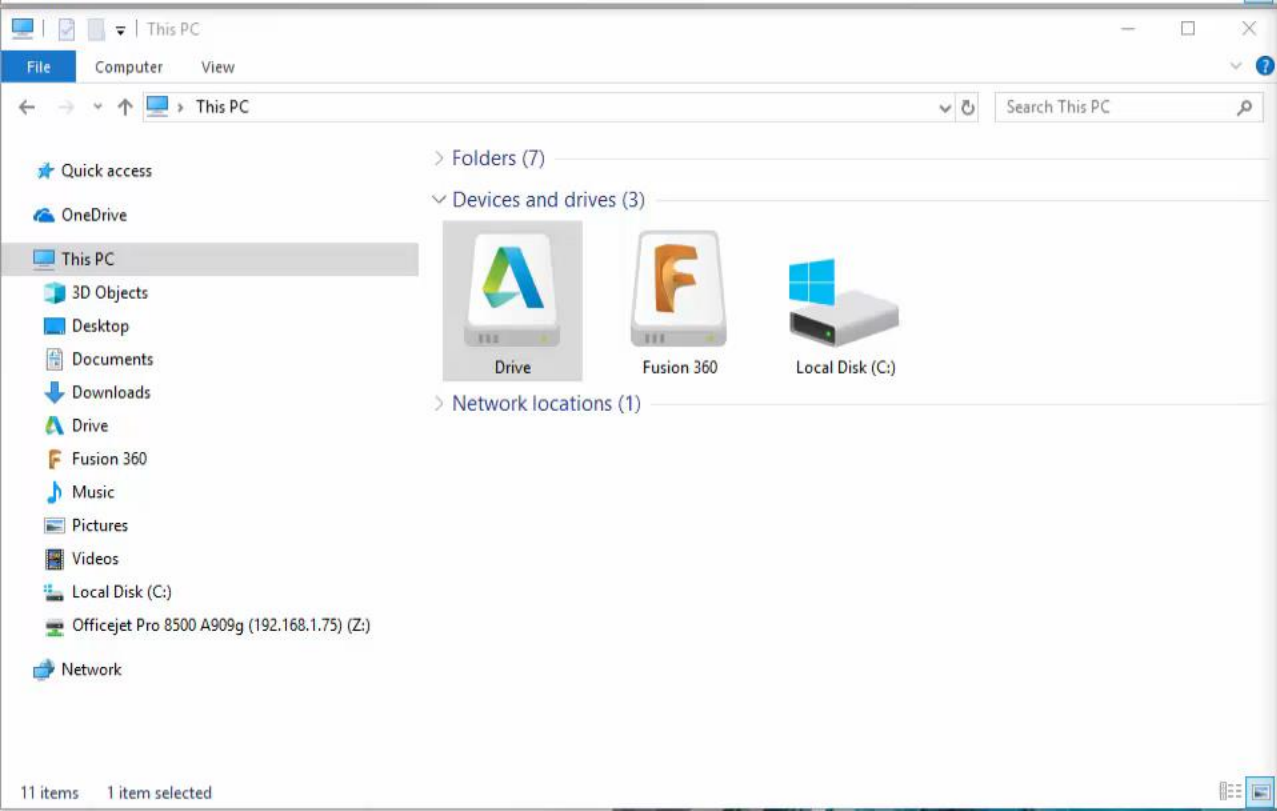
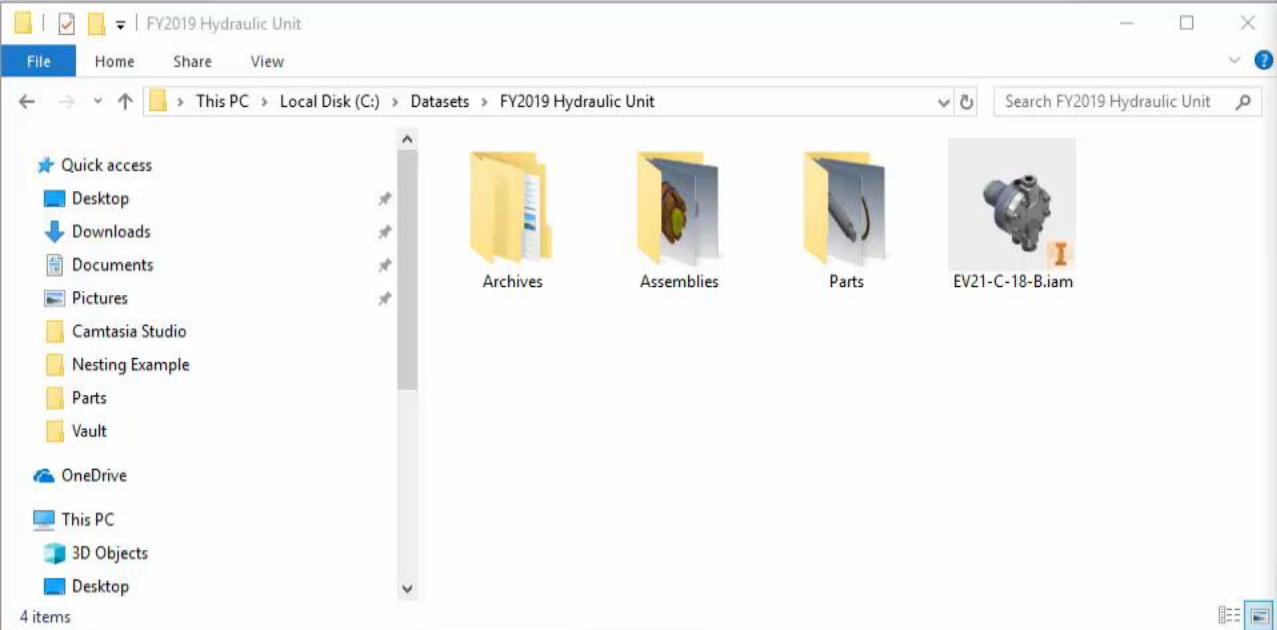
Creates virtual 'drives' within Explorer, to directly work, open, save pack & go to / from Autodesk Drive, BIM360 Team / Docs & Fusion Team



What do you need to do?

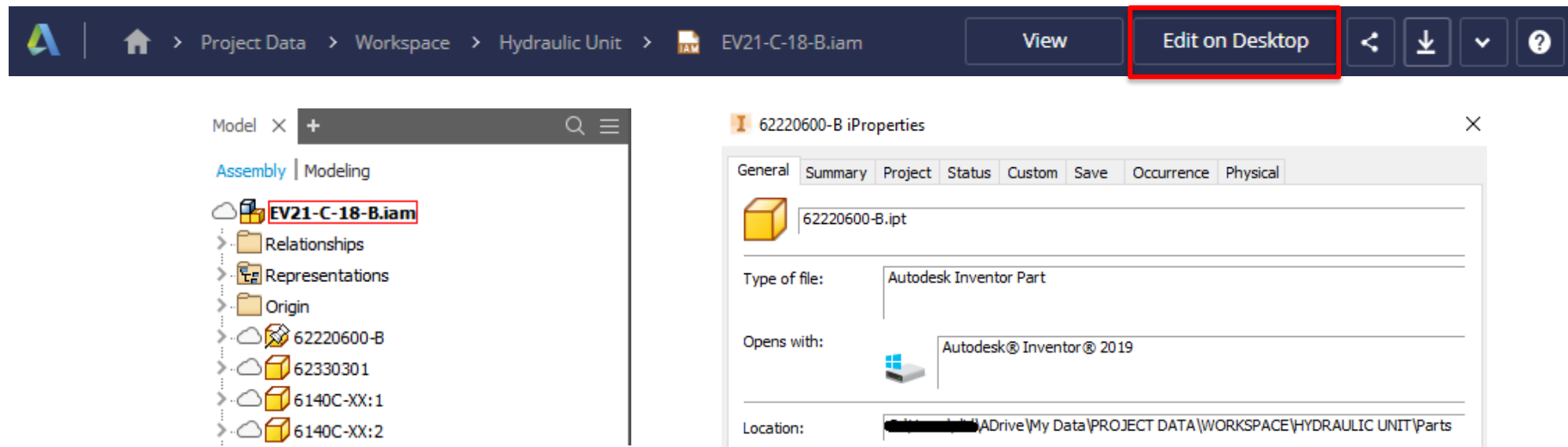
- A companies contract manager must allow user access to **Autodesk Drive**.
- Go to <https://drive.autodesk360.com> & sign in with your Autodesk ID.
- Install the **Desktop Connector** by clicking down from your profile picture within Drive.
- Sign In to the Desktop Connector with your Autodesk ID.
- Load up some data or invite collaborators to share their data, and off you go.



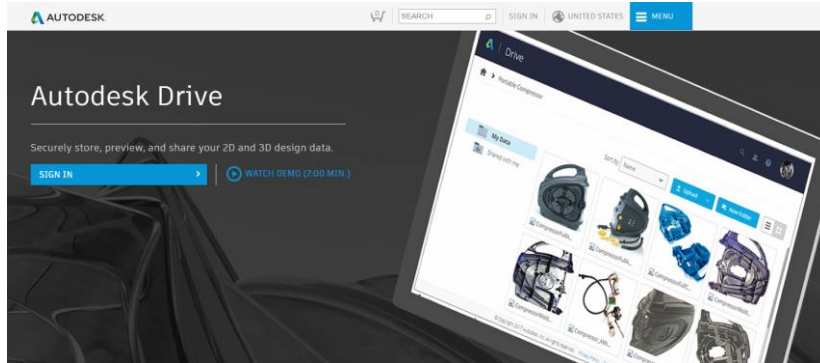


Desktop Connector & 'Edit on Desktop'

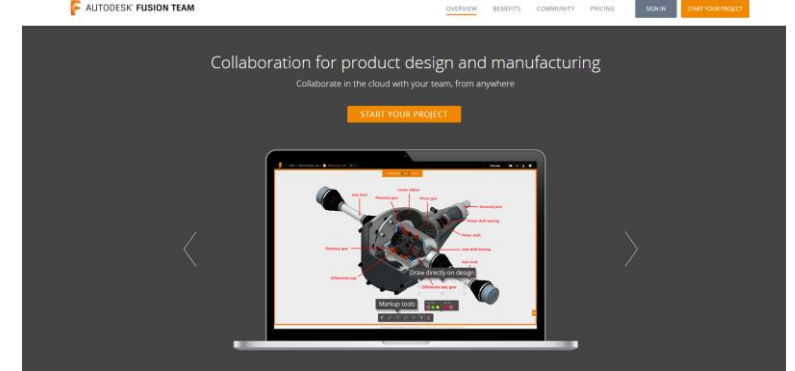
- Currently (June 2018) by uploading native Inventor models using the Desktop Connector, once uploaded, the file references are no longer reliant on an Inventor Project.
- The files can be moved within Drive / Fusion Team, but any file references are no longer associated to a Windows explorer 'relative' path.
- On opening the cloud edited assembly, it will resolve paths back to the known cloud location.



Autodesk Drive VS Fusion Team



- Subscription benefit for the **individual**
- 25Gb of storage
- Simple solution, low barrier to entry
- Simple user admin – unique links or see all
- Design sharing with customers/stakeholders



- Subscription benefit of Fusion 360*
- **OR** available as a separate subscription
- Commercial solution for **teams**
- 500Gb of storage **per** subscription user
- User administration & project permissions
- Version, markup, comment & live review
- 'Enables' Fusion 360 & Inventor AnyCAD

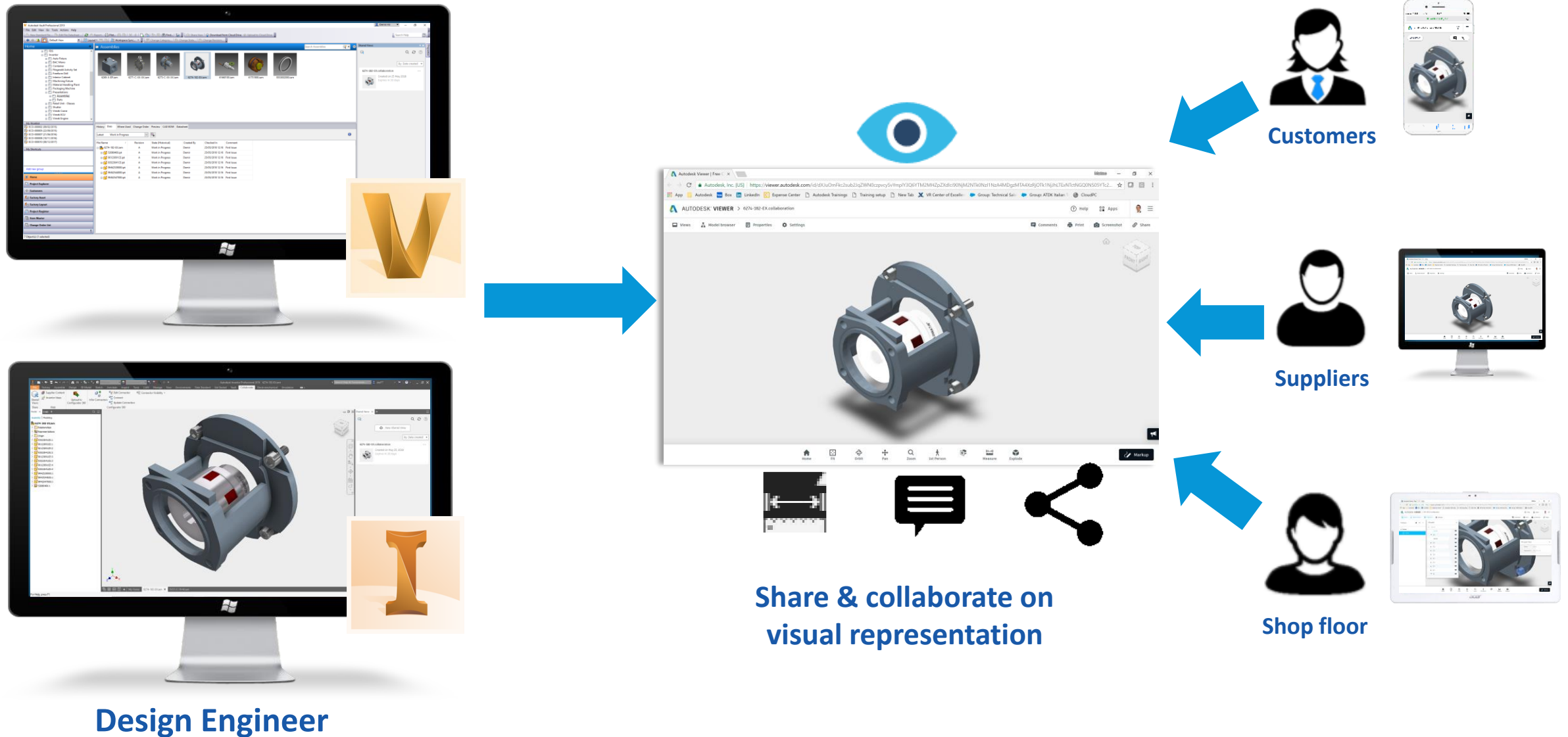
* Fusion 360 is also a benefit of Product Design and Manufacturing Collection

Shared Views

What if you want to collaborate with external parties, easily have them comment and review your design, without sharing your native data?

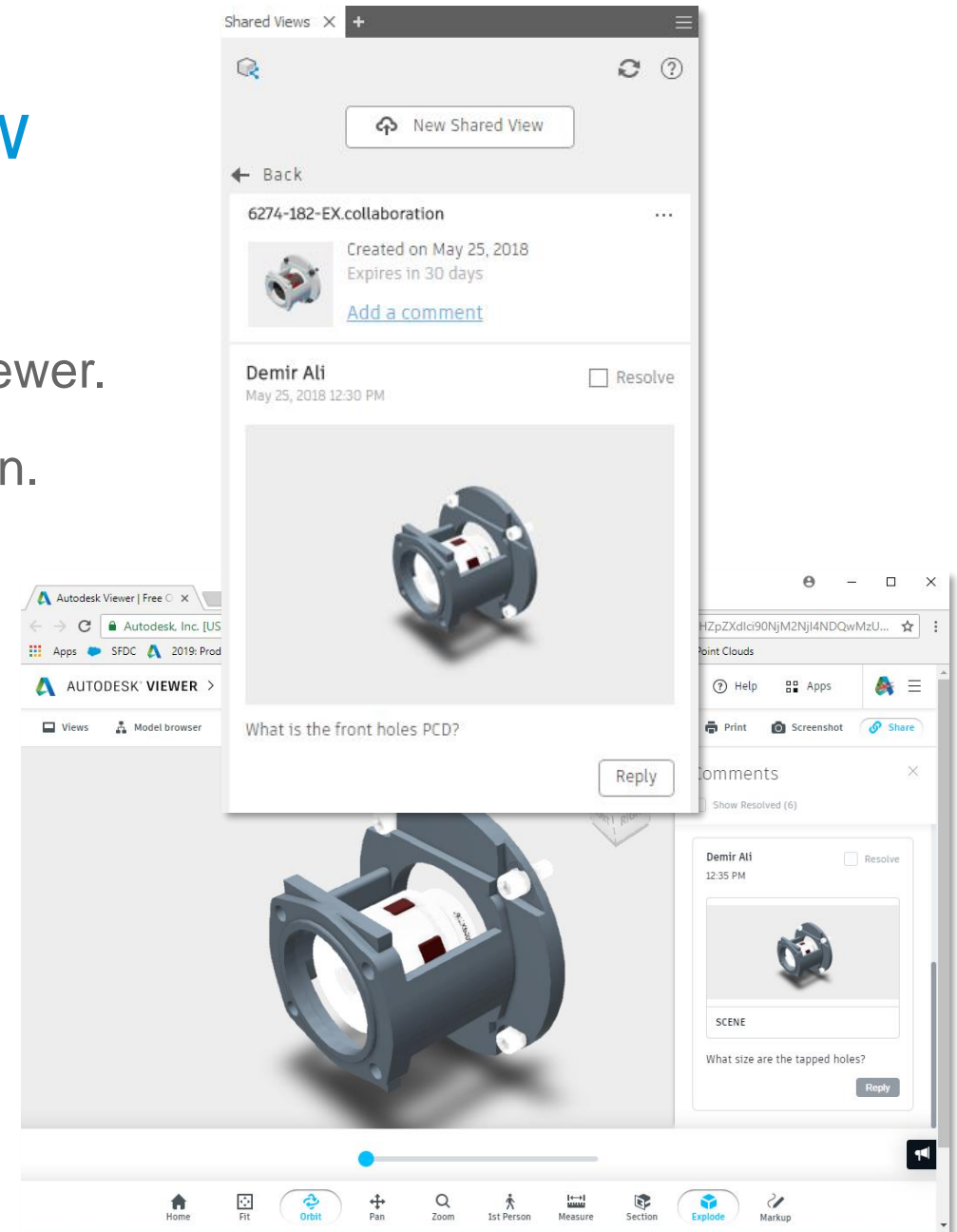


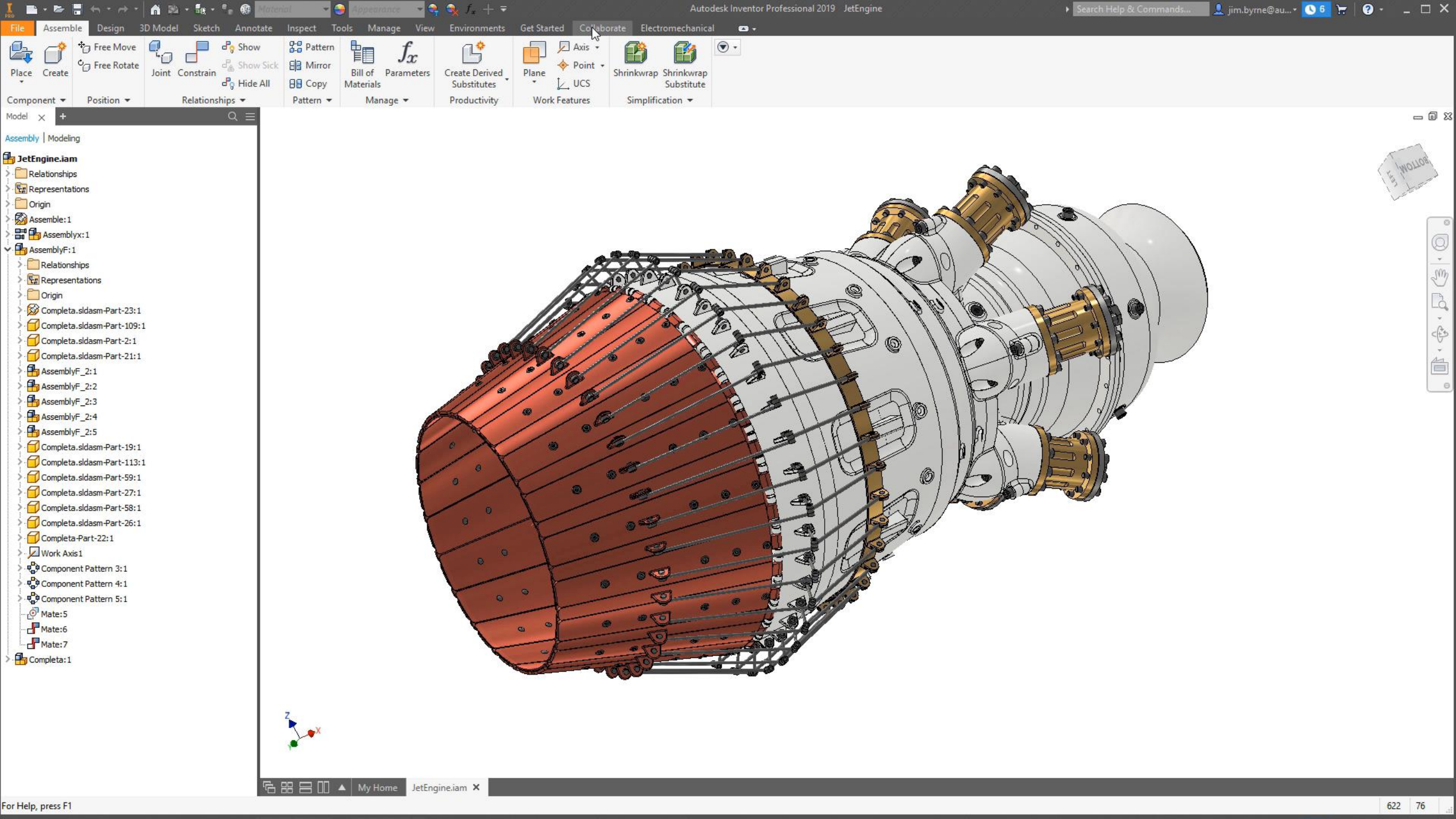
Simplify and Speed up Review Cycles



Shared View

- Create and Share a viewable to the Autodesk Viewer.
 - Creates a unique URL with 30-day expiration.
- Activity feed within the application panel.
- Access to service controlled by administrator.
- Same experience across Autodesk Products:
 - Inventor
 - Vault
 - AutoCAD
 - Alias
 - 3ds Max
 - Civil 3D
 - FeatureCAM
 - PowerMill
 - PowerShape
 - Moldflow
 - Infraworks

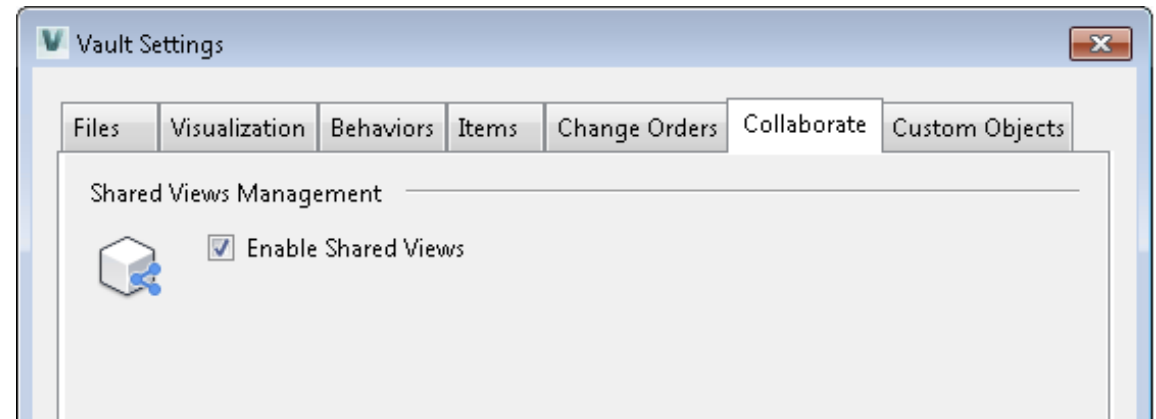
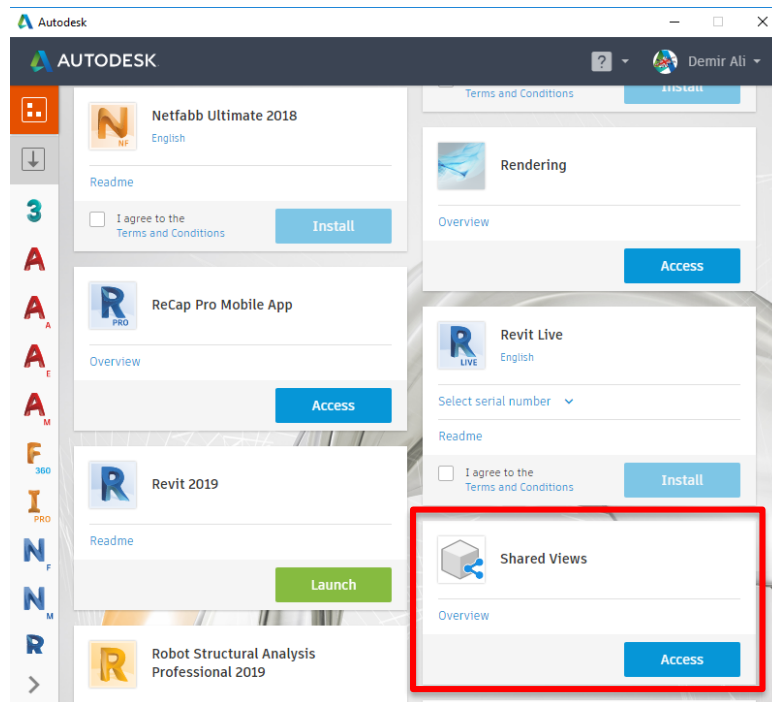




How does a user gain access to Shared Views ?

- You contract manager must have allowed your user access to **Shared Views**.
- If a user doesn't have access and tries to share a view they will get a message

"You're not assigned access to Shared Views. Ask your administrator for access to Shared Views".



Admin controls within Autodesk Vault Workgroup & Pro

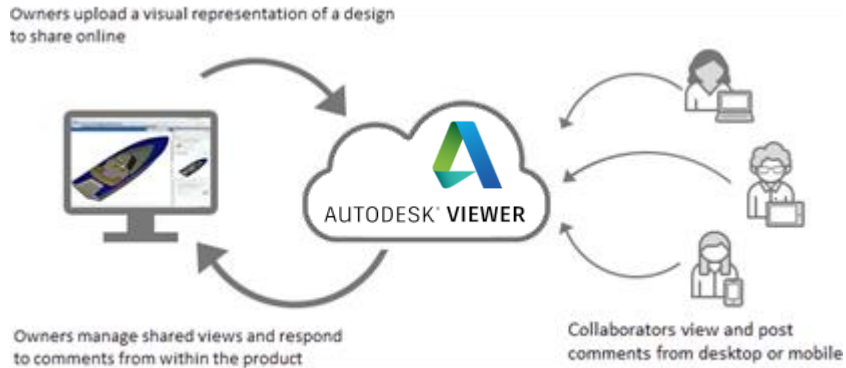
Connecting Vault to the Cloud

What if you are controlling the lifecycle of your models.
But you need to supply your native data to external parties using a controlled process.
Also requiring the ability to update your designs based upon external users changes.

**Attend the
"Utilise Vault & Cloud to address your collaboration challenges"
session for more detail on this topic
Wed 20th June 2018 - 11:30 to 12:25 | Session RM7**

Vault - External Collaboration Options

Option #1 - Design Share*



Share and collaborate on visual representation using Autodesk Viewer

Available with Vault 2018.1 Update

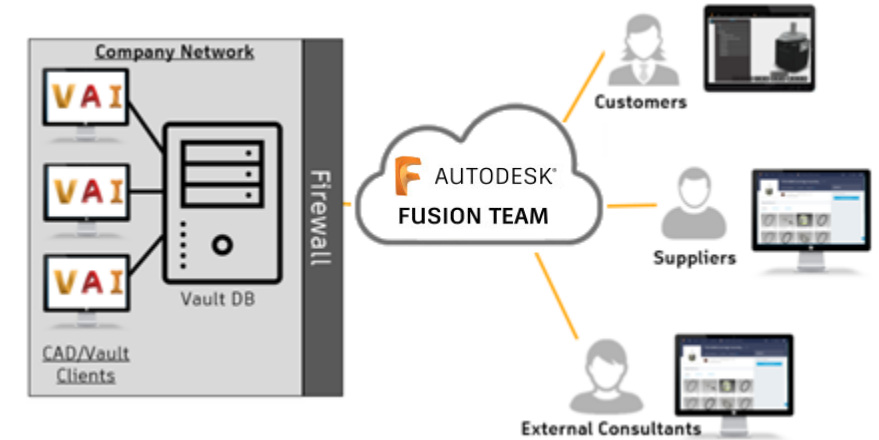


Share your 2D and 3D design data deliverables with customers and suppliers using Autodesk Drive

Available with Vault 2018.2 Update

Option #2 – Pack & Go to Cloud*

Option #3 – Sync by condition**



Bi-directional triggered design data exchange with suppliers and design contractors leveraging Fusion Team

Available with Vault 2019 release

* requires Vault Workgroup and Vault Professional subscriptions

** requires Vault Professional and access to Fusion team



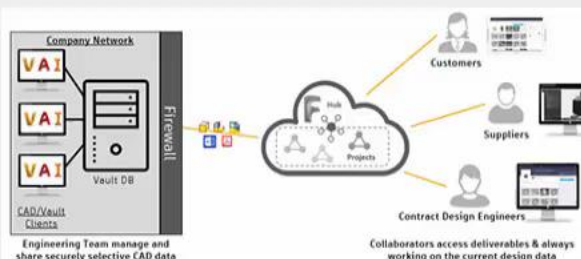
PRODUCT DESIGN &
MANUFACTURING COLLECTION

Image courtesy of Salter Pacific

Autodesk Vault includes customer-requested enhancements to help engineering teams create and manage their data effectively and efficiently. To support external design collaboration, a new capability to sync engineering design data with manufacturing suppliers and external consultants has been added. In addition, the 2019 release marks the next step forward with an enhanced design experience for CAD users. Finally new custom role capabilities were added to allow administrators to create and manage additional roles.

Companies need to collaborate on CAD documents with external consultants, customers, and suppliers. The documents are often shared and collaborated on across a company firewall. Easily exchange data with external collaborators with the Project Sync update for Vault Professional 2019 with Fusion Team. Project Sync provides file and folder synchronization between Vault and supported Autodesk cloud storage locations.

- CAD relationship awareness and reference handling
- Define and manage multiple mappings
- Synchronization works in a single direction or bi-directionally
- Option to schedule synchronization
- Selectively filter files for synchronization



Shared Views (new in Vault 2018.1) are a different option that's simple, fast, and secure. Shared Views are rich multi-sheet 2D or 3D viewables opened on virtually any cloud-connected desktop or mobile device via simple web links. They avoid the need for reviewers to install anything and provide a built-in feed that makes comments visible right inside the Vault client.

For more details see: [Shared Views with Autodesk Vault](#)



Inventor and Fusion 360

What if you are working in a distributed design team.

The team creating the manufacturing level of detail, documentation and Bills of Materials are using Autodesk Inventor.

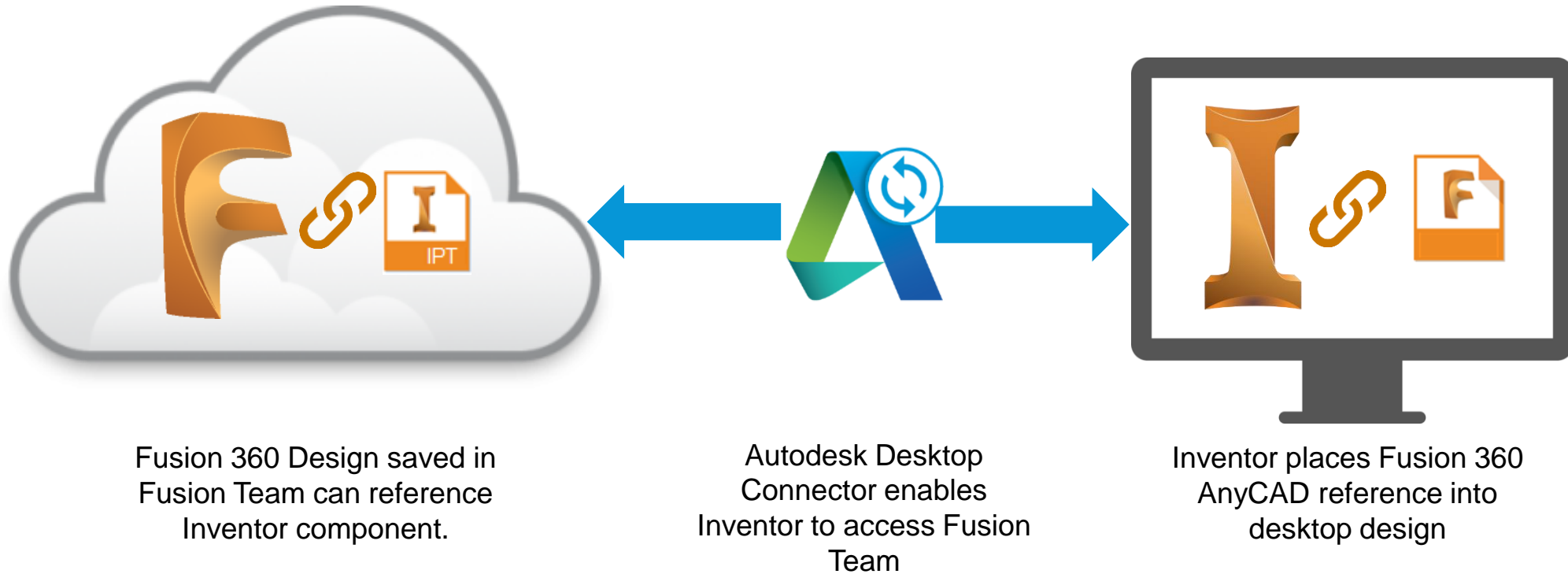
A parallel team prefer the flexibility of a cloud based tool and are creating the initial designs within Fusion 360.

Both sets of design files need to be co-ordinated and combined together.



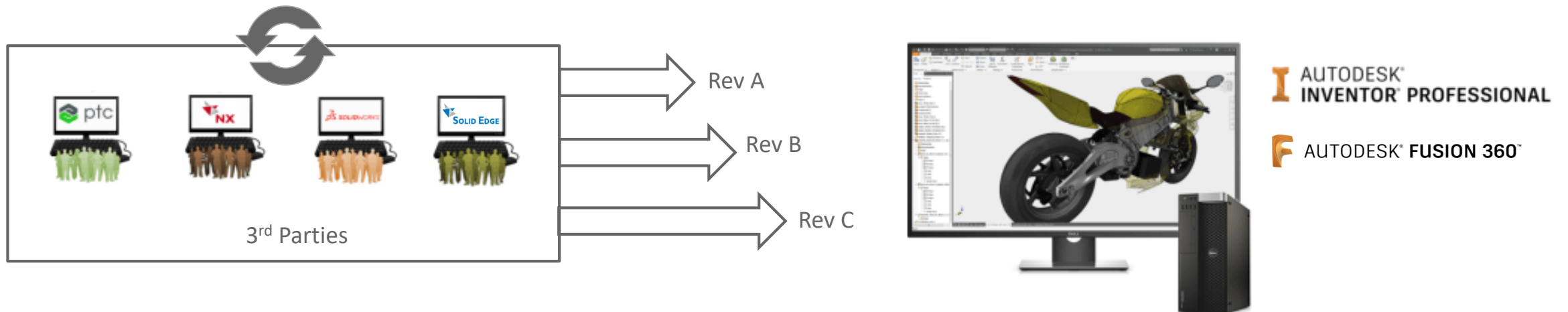
Inventor and Fusion 360 AnyCAD

- Autodesk Inventor now supports AnyCAD references from Fusion 360
- Fusion 360 now supports references from Autodesk Inventor



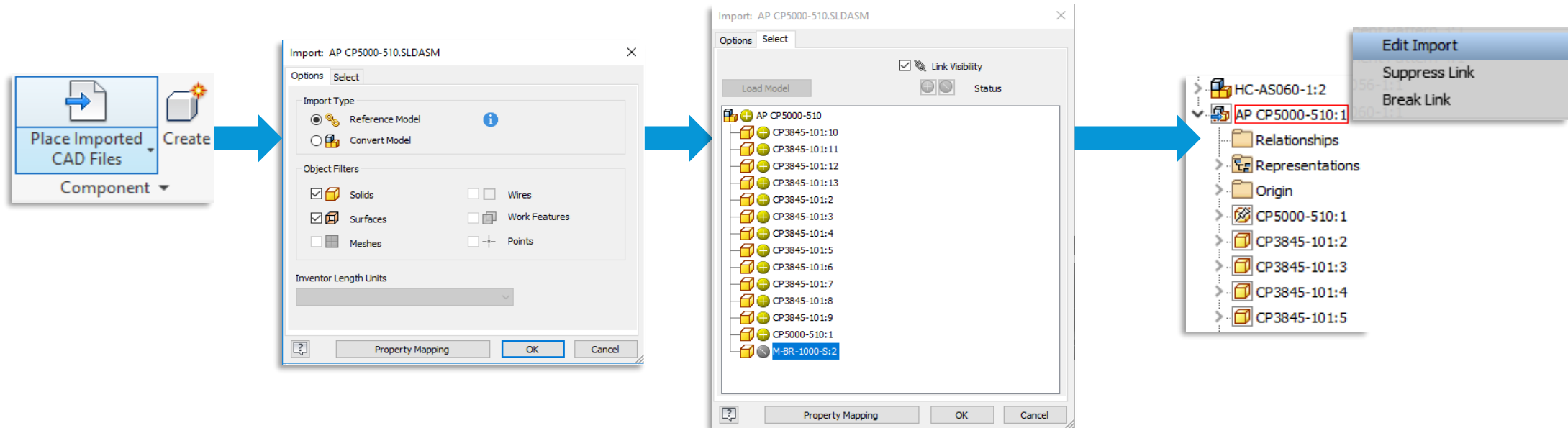
What is AnyCAD ?

- Most Autodesk applications can **IMPORT** a variety of 3rd party file formats
- AnyCAD refers to the ability to **REFERENCE** (link) the file rather than translate.
- Any changes in the native file system can then be updated
- It also helps maintain file properties for accurate Bill of Material generation

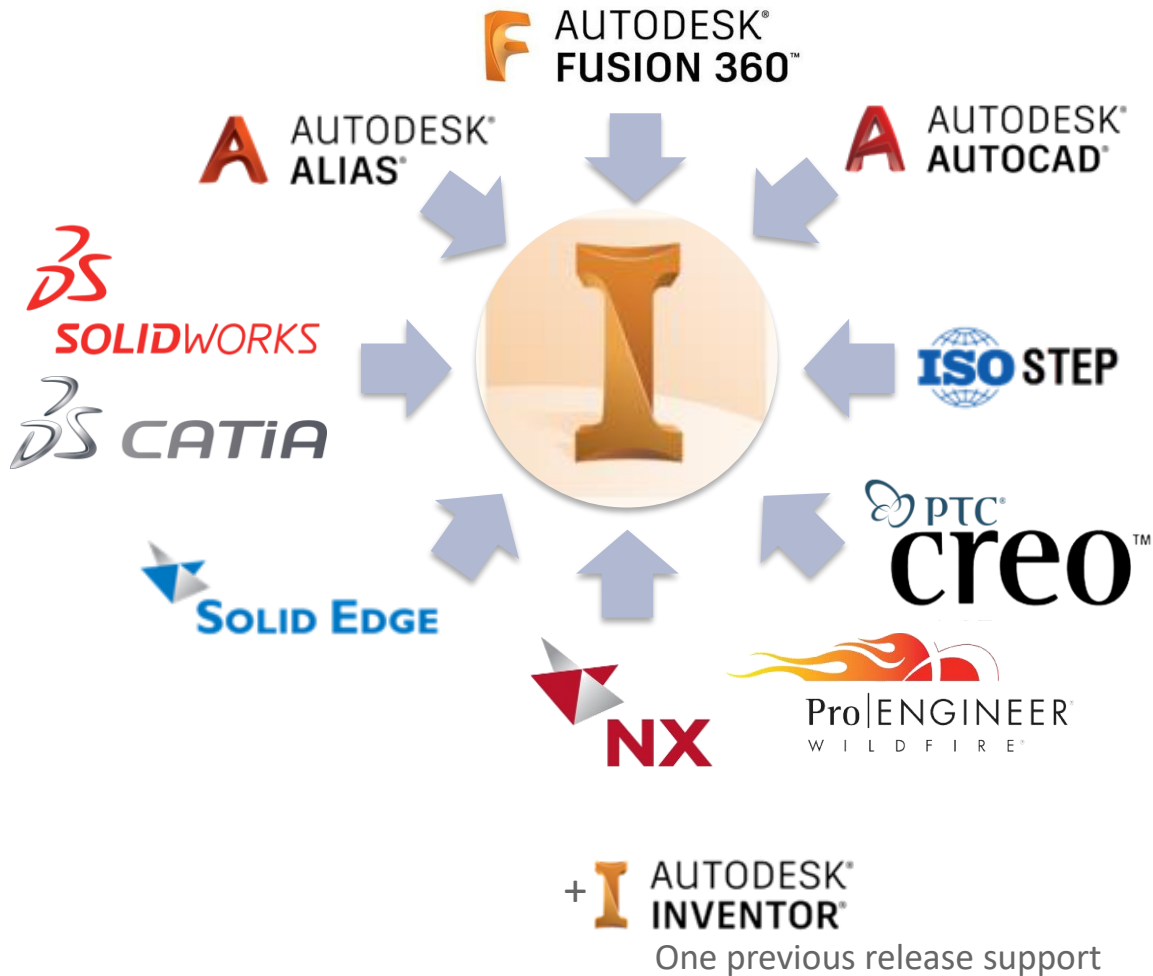


What else do you need to know?

- AnyCAD is aimed at **linking** to 3rd party data, not translating a **part** feature tree
- Features can be added (including direct edits) to referenced **part files**
- Users can edit the reference or break the link if later required
- Components in a referenced assembly can also be suppressed



AnyCAD Supported Formats



Autodesk Inventor



Autodesk Fusion 360

*As of May 2018 - Fusion 360 AnyCAD can reference 3rd party part files. Assembly support in progress.

Inventor and Fusion 360 AnyCAD

What is it aimed at addressing ?

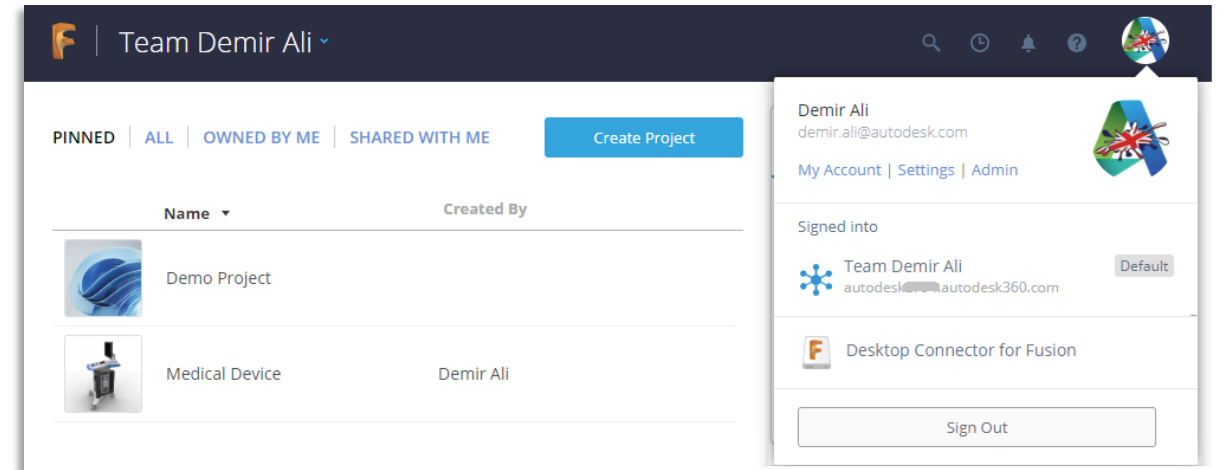
- Capability that allows customers to bring together designs from Fusion and Inventor.
- Associative consumption via AnyCAD.
- Ability for data to flow 1 of 2 ways:
 - Inventor parts into Fusion 360
 - Fusion 360 models into Inventor

What it is NOT intended to address

- Native feature tree editing of imported or linked models.
- Roundtripping from:
 - Fusion → Inventor → Fusion
 - Inventor → Fusion → Inventor

What Autodesk technology is required?

- Fusion Team (be a member of a project)
- Autodesk Desktop Connector
- Inventor 2018.2 onwards
- Fusion 360



So how do you get Fusion Team?

- Fusion Team is a benefit to **Fusion 360** users.
- **Product Design and Manufacturing Collection** subscribers have Fusion 360.
- For these users, access can be requested manually.
 - Request access [link here](#)
- What if you are an Inventor only user?
 - Subscribe to it via: <https://fusionteam.autodesk.com>

Autodesk Fusion Team Request

Please complete the following information to request a new Fusion Team for your customer. You are no longer required to obtain a url name from the customer.

*Required

Email address *

Your email address

Your Name [NOT YOUR CUSTOMER'S NAME] *

*If you are with an Autodesk Reseller, Please include the reseller name with your name.

Your answer

Customer's Company Name *

Example: ACME, Inc

Your answer

Quantity of Fusion Subscriptions: *

Choose ▼

Administrator's First and Last Name *

Your answer

Fusion Team Administrator's domain email address: *

For security reasons, do not use an email alias or personal email accounts. Do not use emails like info@acme.com, sales@acme.com, jdoe@gmail.com or jdoe@hotmail.com

Your answer

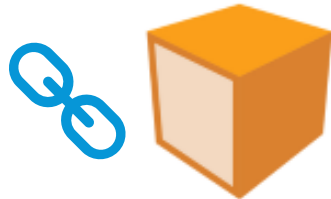
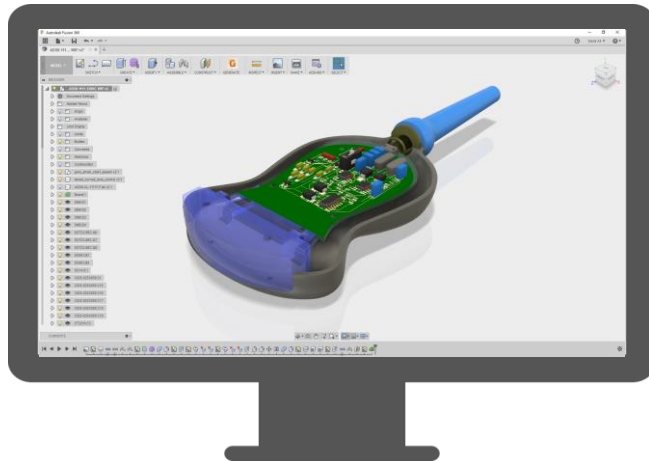
A copy of your responses will be emailed to the address that you provided.

SUBMIT

Never submit passwords through Google Forms.

#1 - Inventor using Fusion 360 AnyCAD reference

 AUTODESK® FUSION 360™



.fusiondesign file

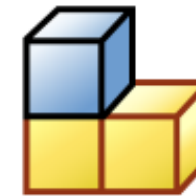
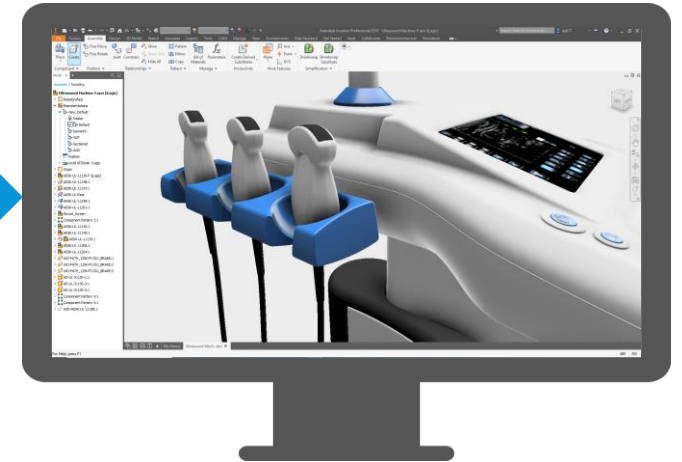


Fusion
Team



Within Inventor,
Place or Insert as a
reference
directly from Fusion Team

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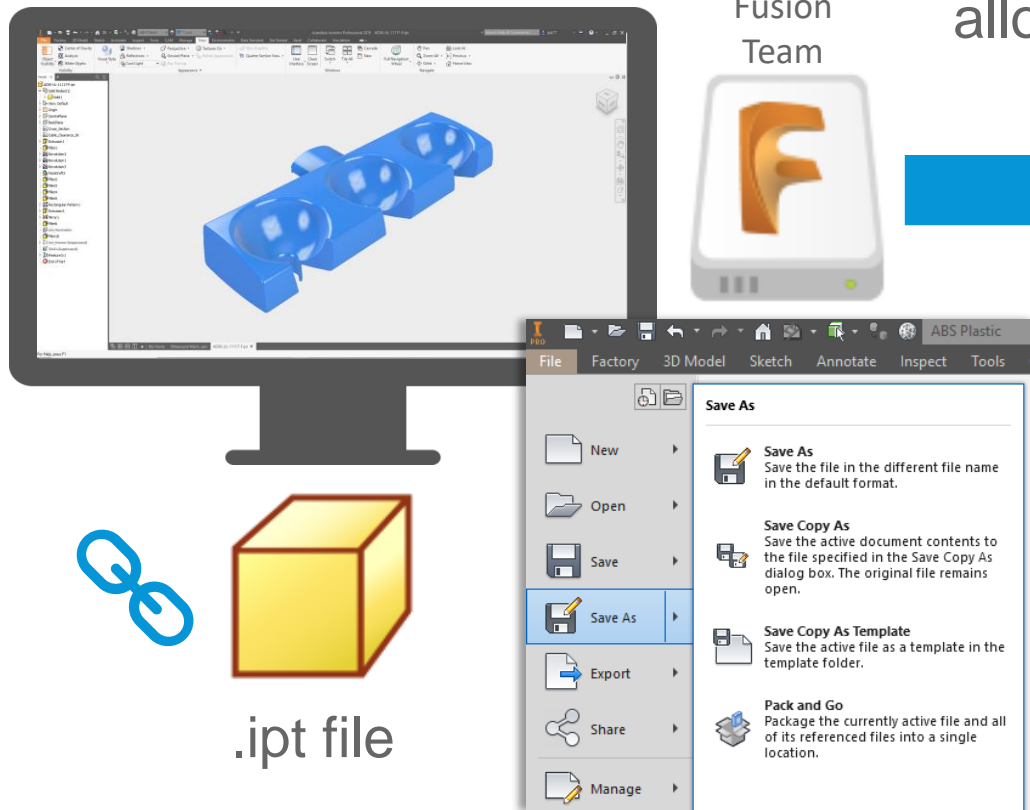
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#2 – Fusion 360 using Inventor AnyCAD reference

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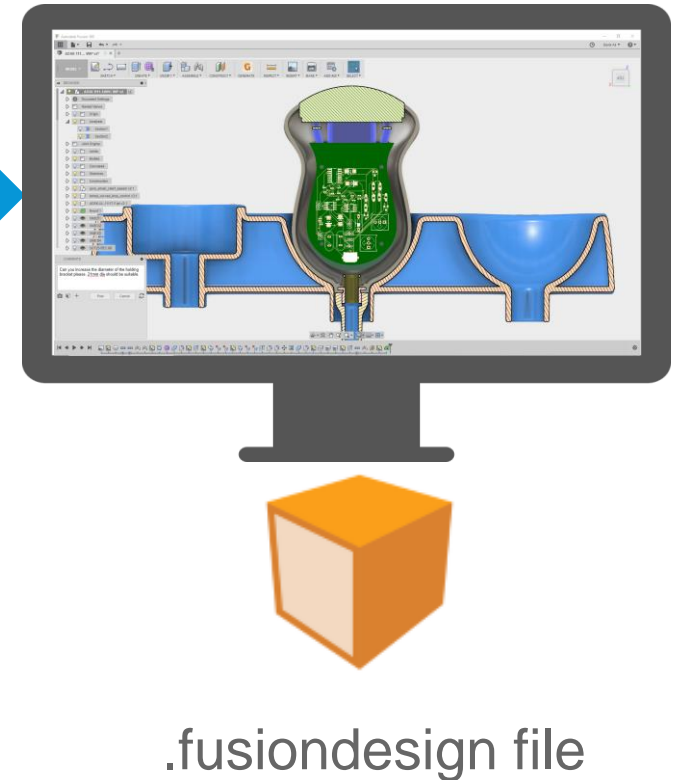


Fusion
Team



Inventor component must
reside on Fusion Team to
allow Fusion 360 to
reference it

 AUTODESK® FUSION 360™



Method #1 – From Inventor **Pack & Go** or **Save** the component onto a Fusion Team drive

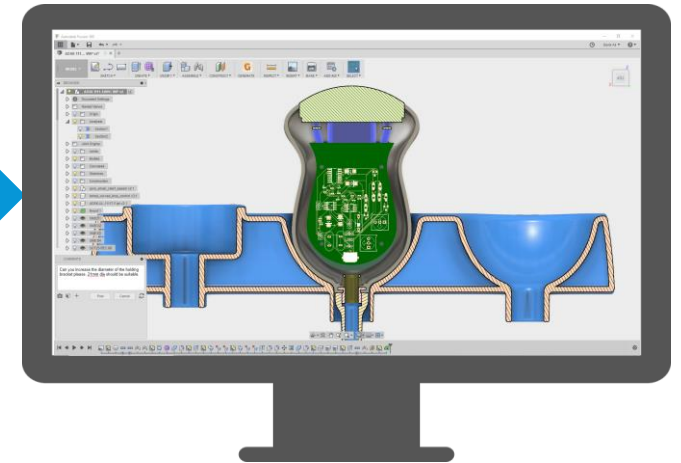
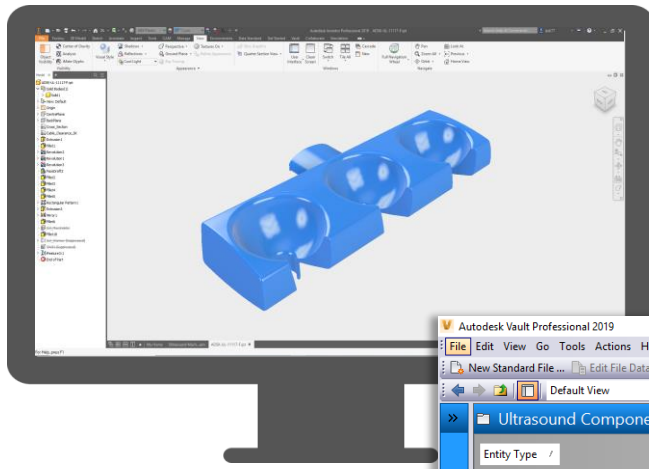
#2 – Fusion 360 using Inventor AnyCAD reference

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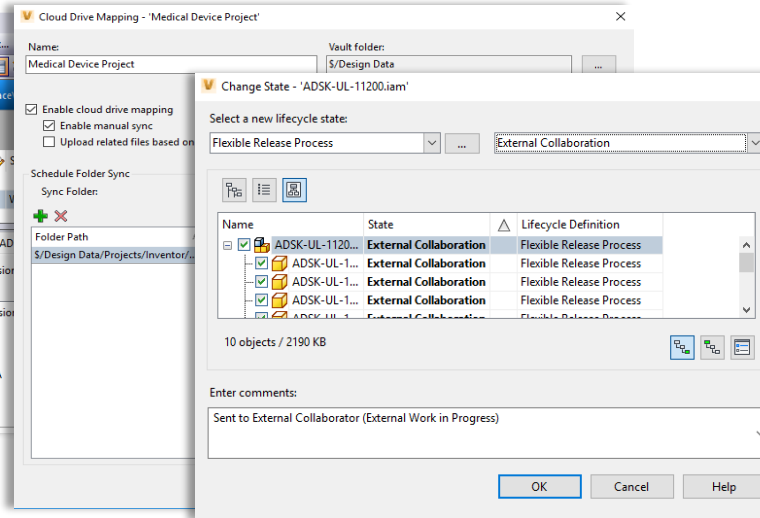
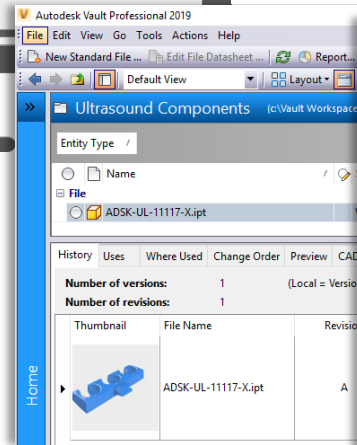
Fusion
Team

Inventor component must
reside on Fusion Team to
allow Fusion 360 to
reference it

 AUTODESK® FUSION 360™



.ipt file



.fusiondesign file

Method #2 - Pack & Go from Vault OR Upload to Cloud using Project Sync with Vault Pro

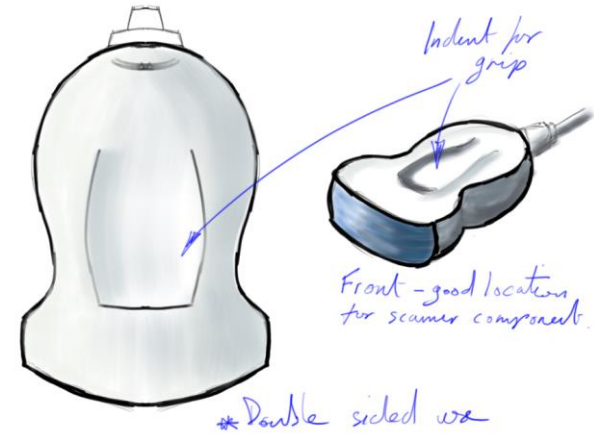
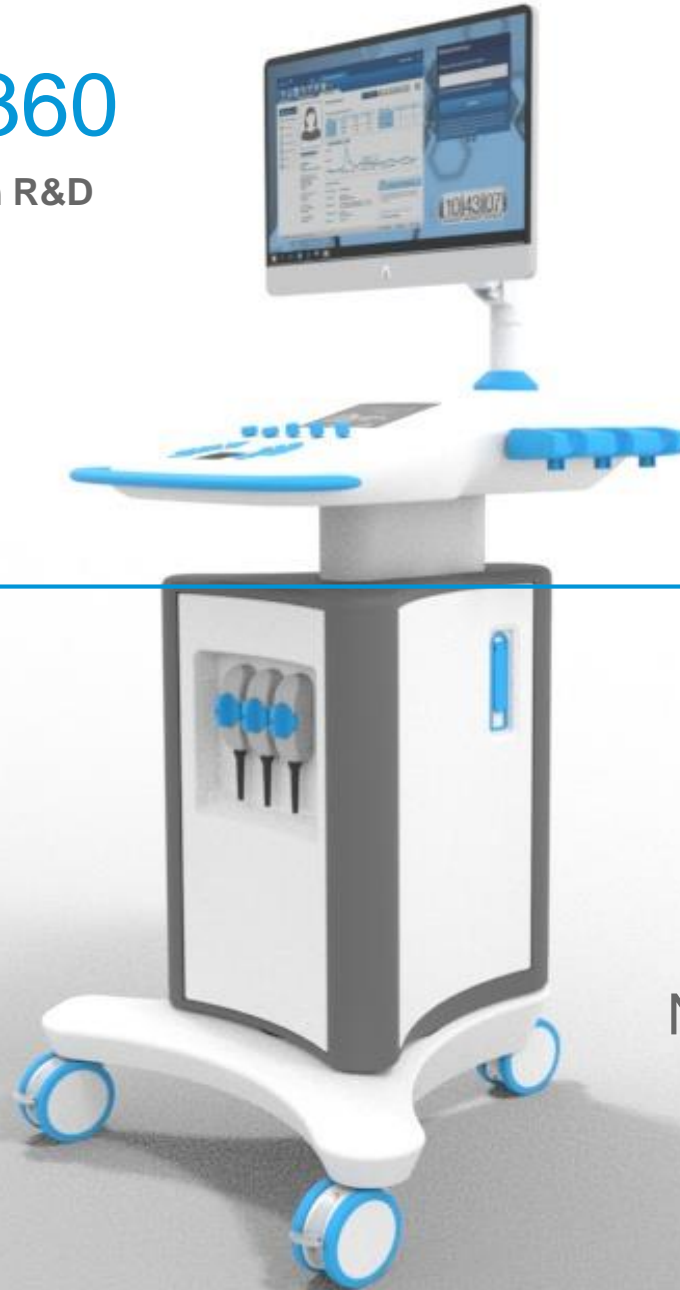
Inventor to Fusion 360

Use Case # 1- Developing a new product in R&D



Design & Manufacturing

Existing product on the market.
New product is required for a
product refresh



R&D

Need is to develop a new concept
and verify it's suitable for the
existing product.

Live Example of Workflow

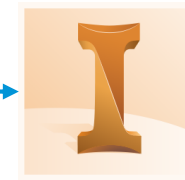
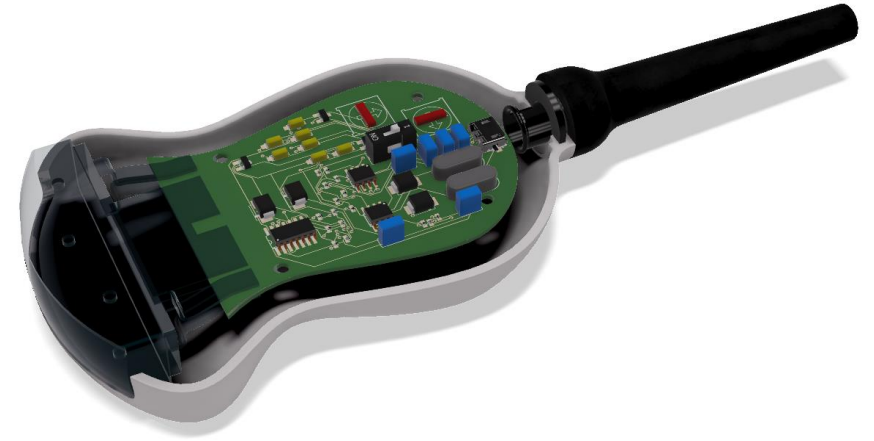
Fusion 360 to Inventor

Use Case # 2- PCB & Enclosure Design into Engineering



R&D

Need is to develop the PCB and associated housing.



Design & Manufacturing
Reference and reuse the R&D design to complete digital representation.

Live Example of Workflow

Class Summary

- Understand how Inventor users can collaborate via the cloud
- Gain knowledge on the tools and workflows required to make it work for you
- Understand some different scenarios that can greatly benefit the design workflow



Q & A



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