

Work with Legacy Data or Data from other CAD Systems in different Ways

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Account Manager ITI



About the speaker

Manuela Zelinka - Autodesk Munich

Manuela Zelinka has a degree in mechanical engineering. She started her career at a SolidWorks reseller in 1997. She joined Autodesk in 2002 as a Technical Specialist in the Technical Sales Team in Munich. She has been in the CAD industry for over 20 years and brings in a lot of experience for her Presales role. Her focus is in Autodesk PD&M Collection.



About the speaker

Rene Bosiacki

Rene has been with ITI for over four years in the role of the Account Manager for European Business activities with key focus on the DACH region. Rene has extensive experience in supporting the sales process, including new business development and managing existing accounts across ITI's CAD interoperability software solution and services product line.

Work with Legacy Data or Data from other CAD Systems in different Ways

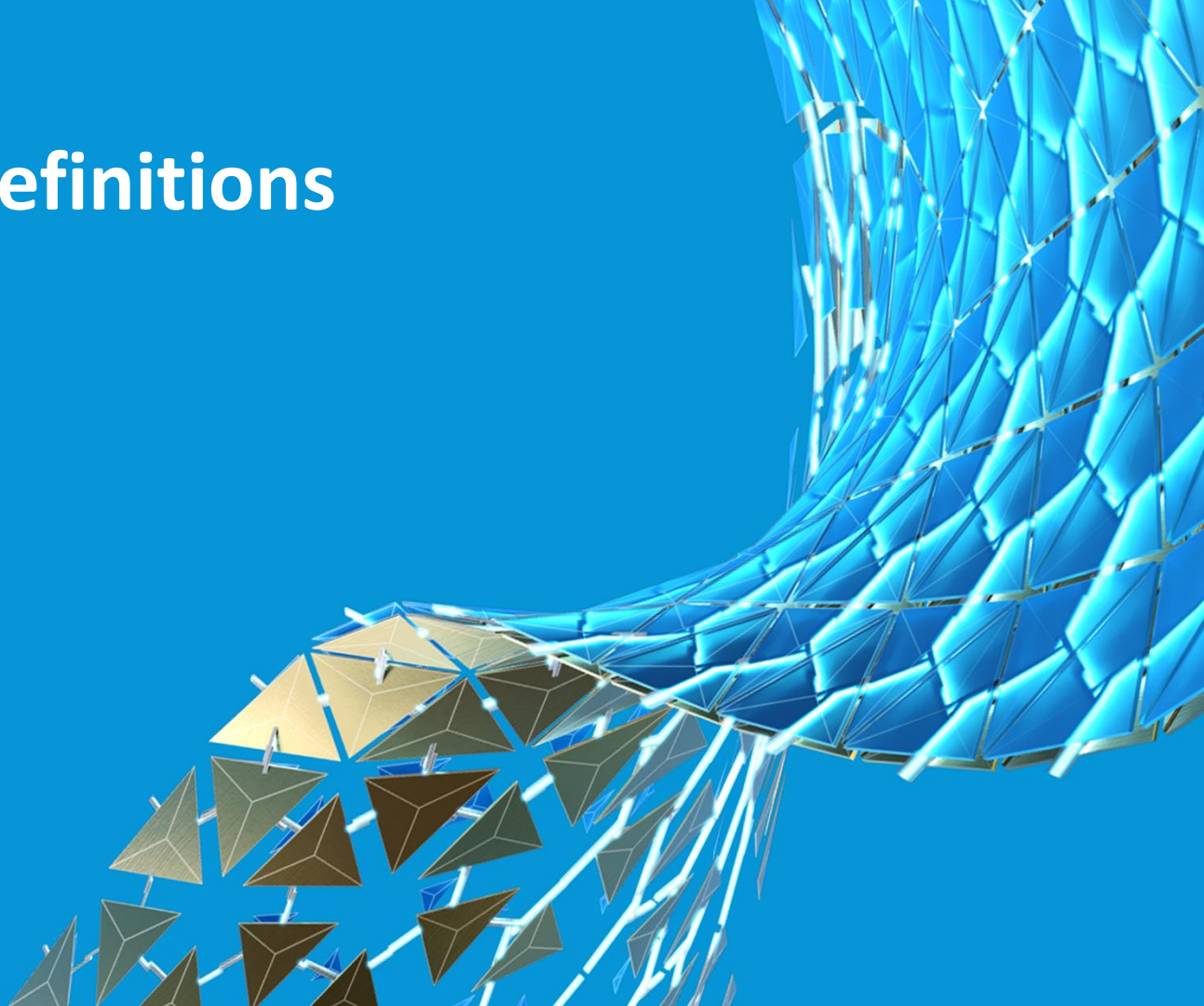
LEARNING OBJECTIVES

- Learn how to work with data from other CAD Systems in Inventor using AnyCAD functionality
- Feature out how BREP data can be used downstream or can be edited.
- Know how to address challenges associated with CAD conversion projects
- Get to know ITI's GoToINVENTOR solution for automated feature-based CAD

AGENDA

- Terms & Definitions
- Holistic view
- CAD Data Migration
- CAD Data Exchange
- CAD Data Conversion

Terms and Definitions



Terms and Definitions – Conversion / Migration



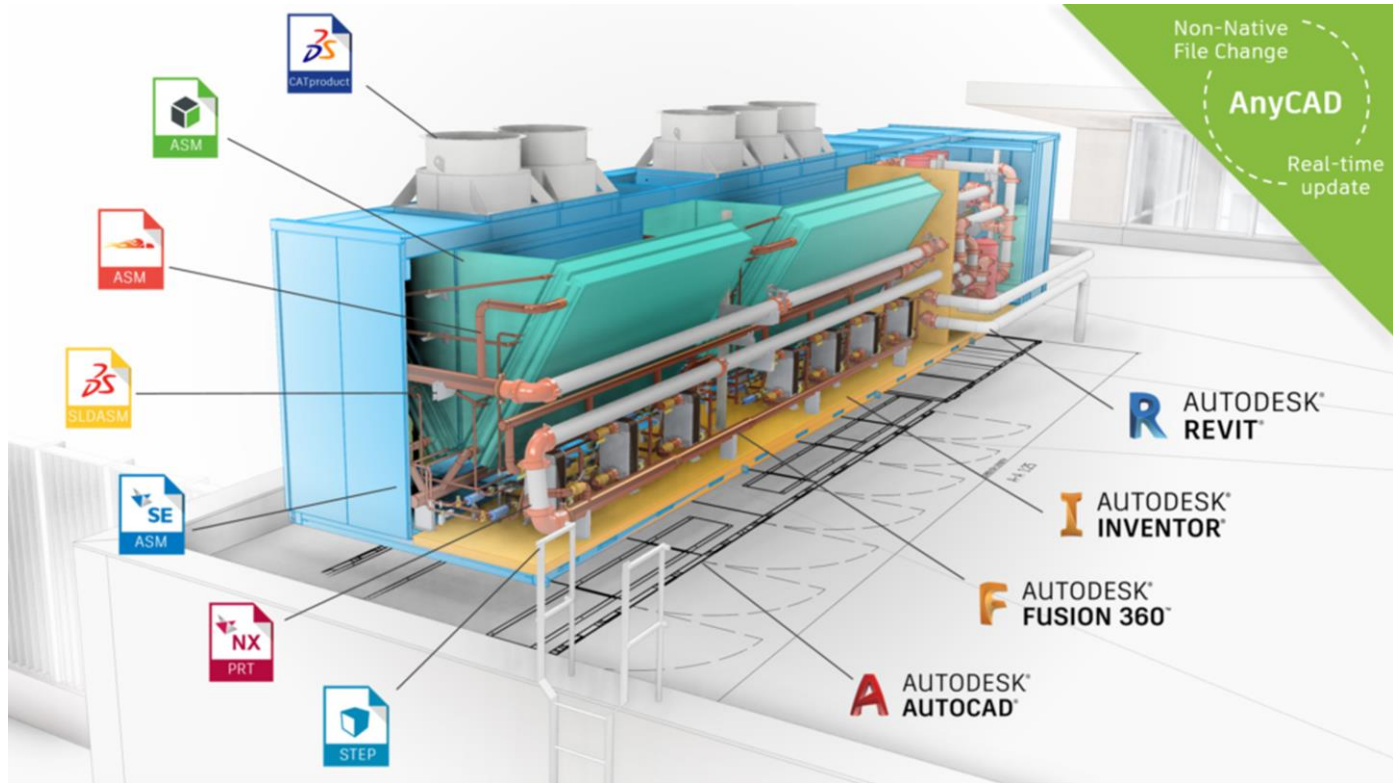
CAD Data **CONVERSION** - external data -

- Take over CAD data from one CAD to another CAD system
- Geometry / solid / Breps
- Direct edit
- **Feature recognition**
- Feature based conversion / history / model tree
- Associative drawings

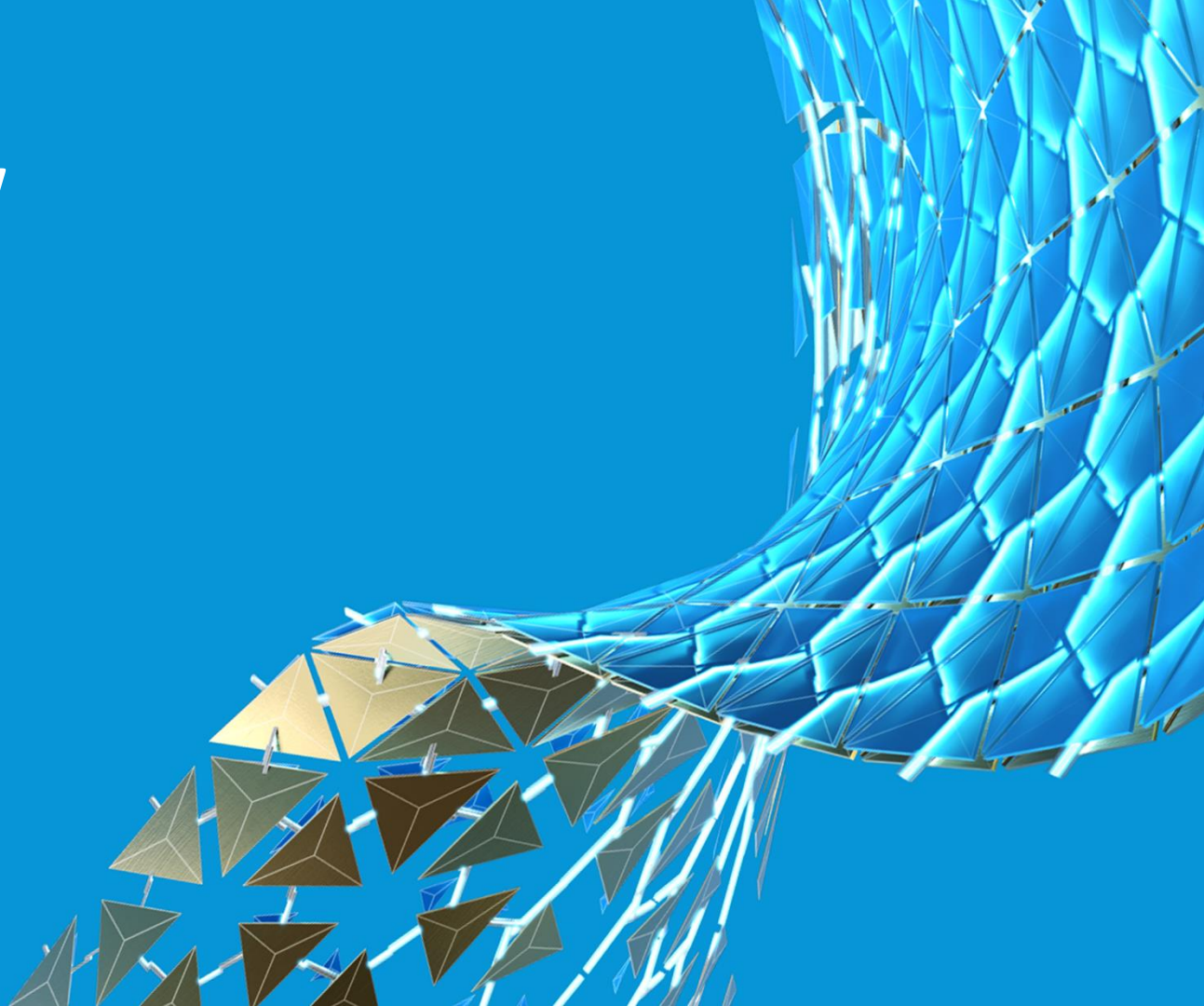
CAD **Data MIGRATION** – legacy Data -

- CAD Update
 - E.g. Version 2018 to Version 2021
- Kernel changes
- „dot“-releases
- Changing the CAD format
- ZIM (Zero Impact Migration)

Terms and Definitions – Data Referencing - AnyCAD



Holistic view



Reason for handle data

MIGRATE

TO A NEW RELEASE

- New tools
- workflows
- Zero impact strategy

DATA EXCHANGE

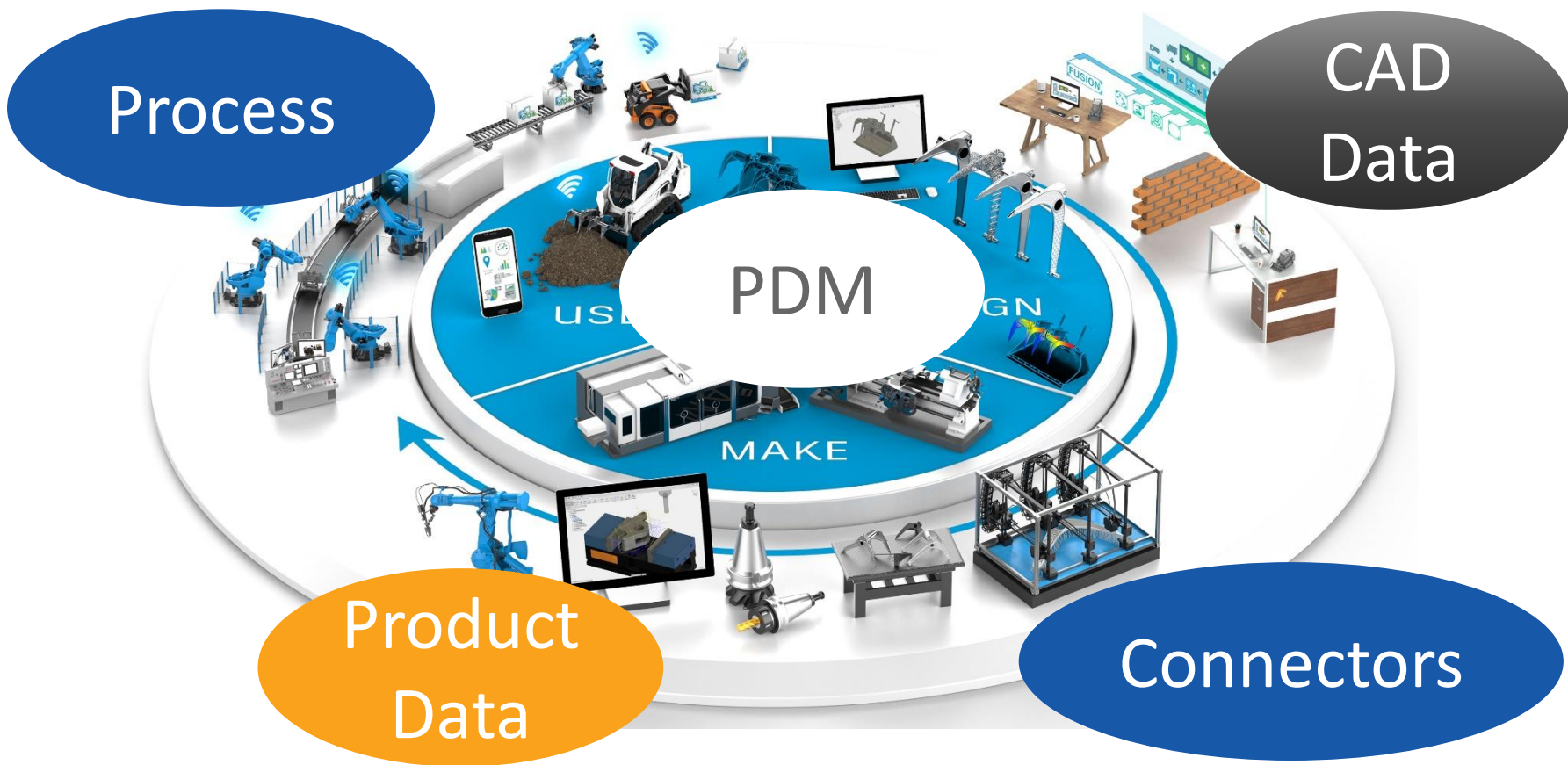
OTHER CAD DATA

- Legacy data
- cooperation with external partners
- use of supplier data

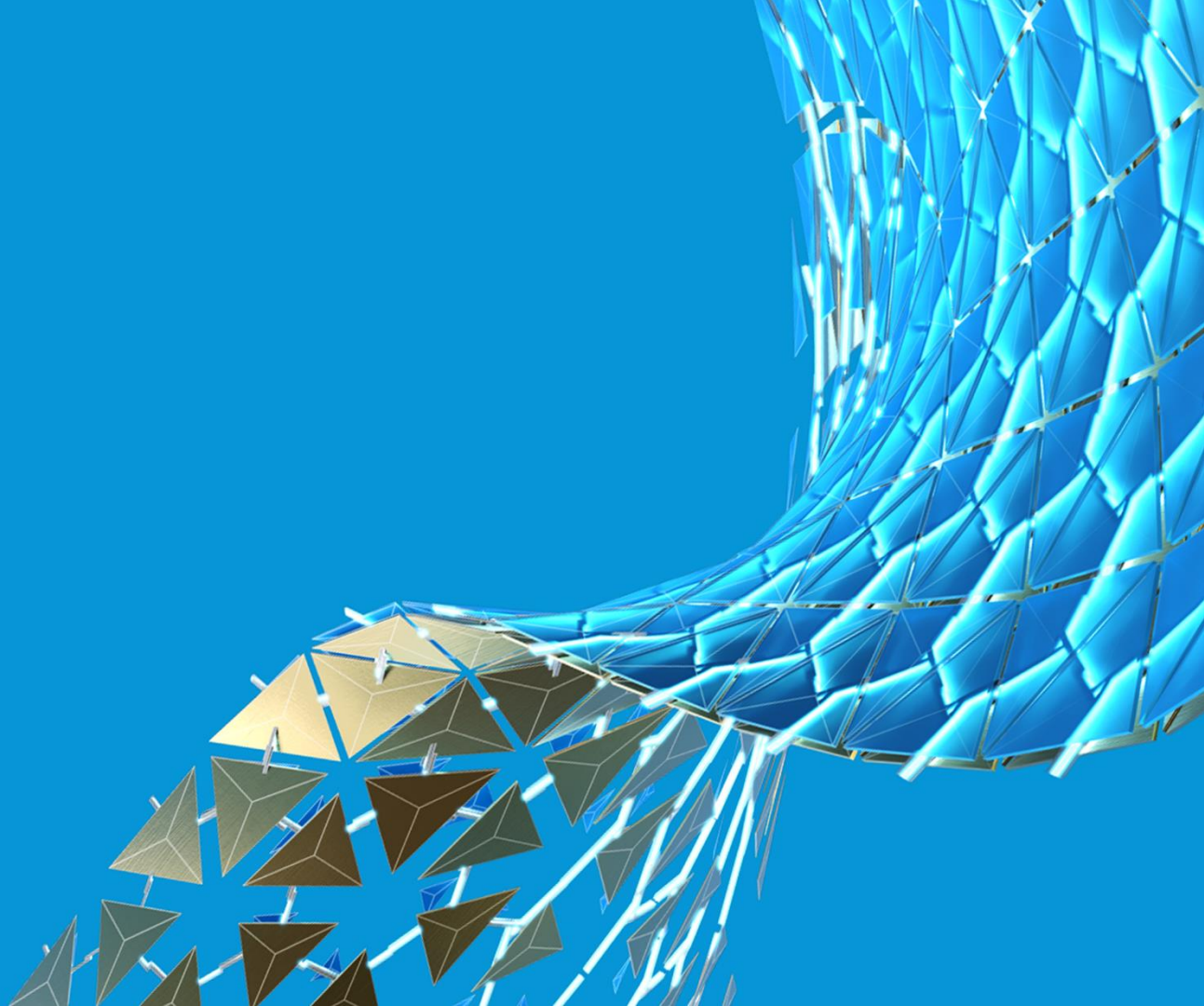
CONVERT

CAD CONSOLIDATION

- acquisition of other companies
- historically grown landscape

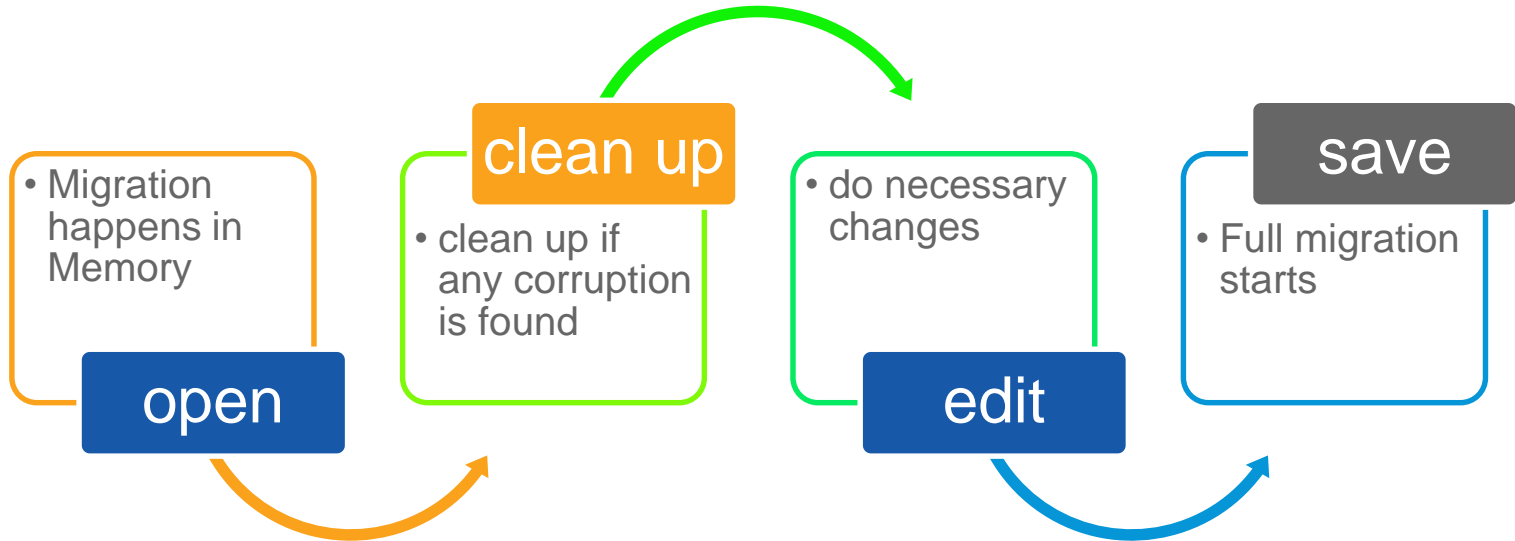


Migration



Zero Migration Impact

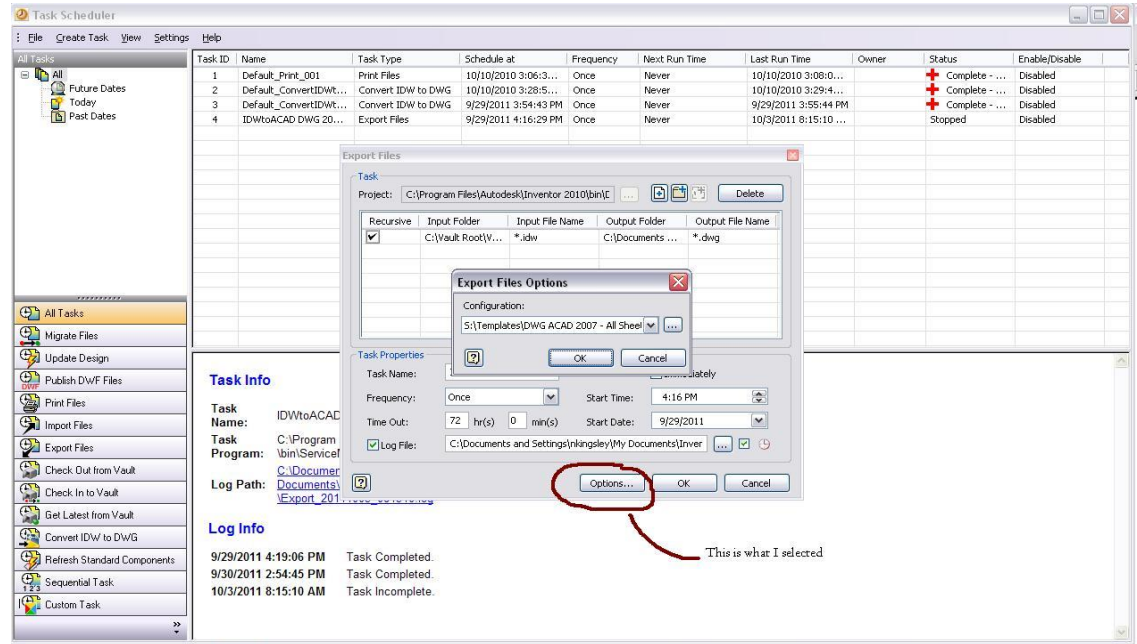
Working with Inventorregardless wether Vault is in place...
MIGRATION IS NOT MANDATORY



PDM working with apprentice in background need Migration

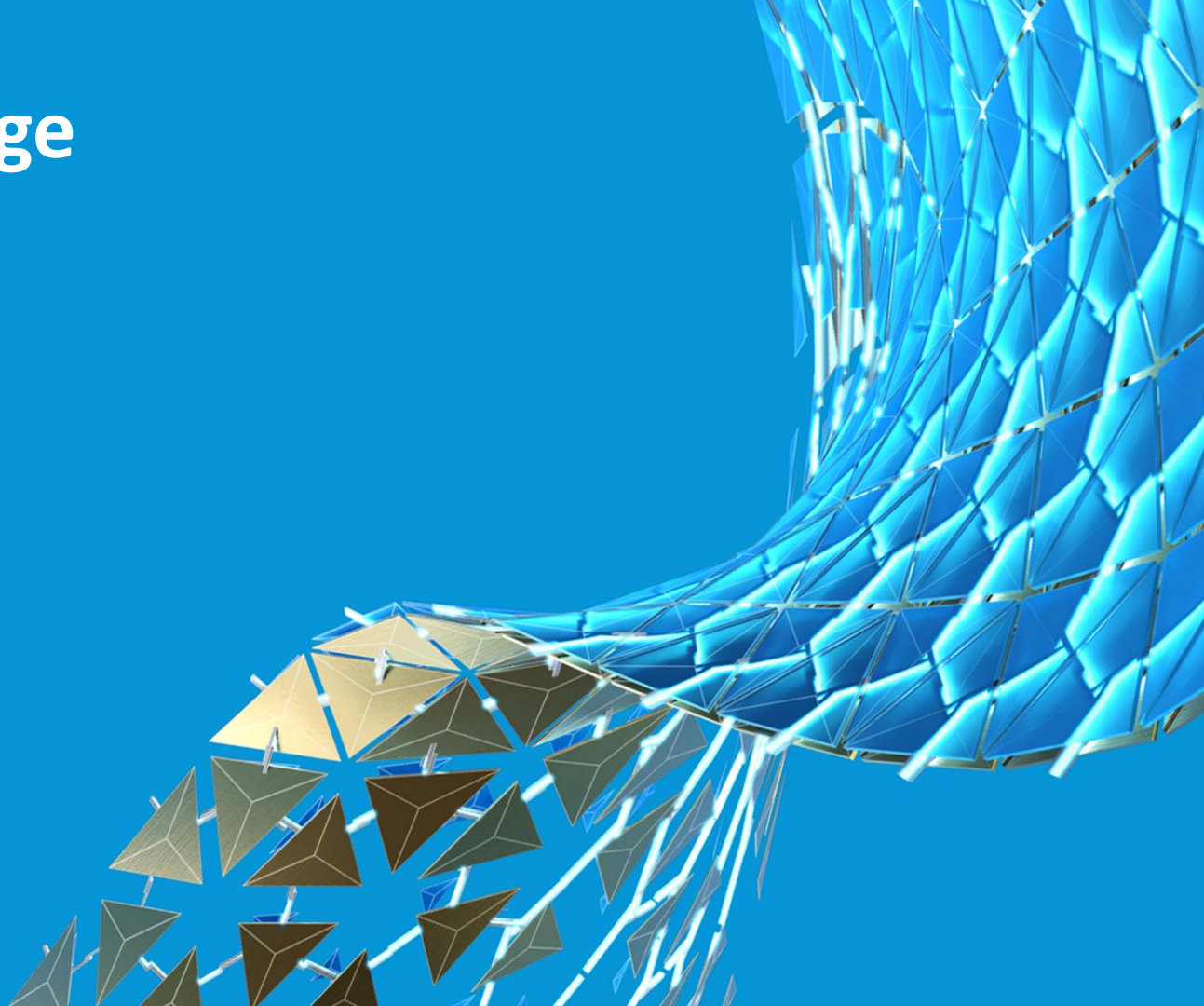
Task Scheduler

- We have to improve
 - Still 32 bit
 - Old technologies

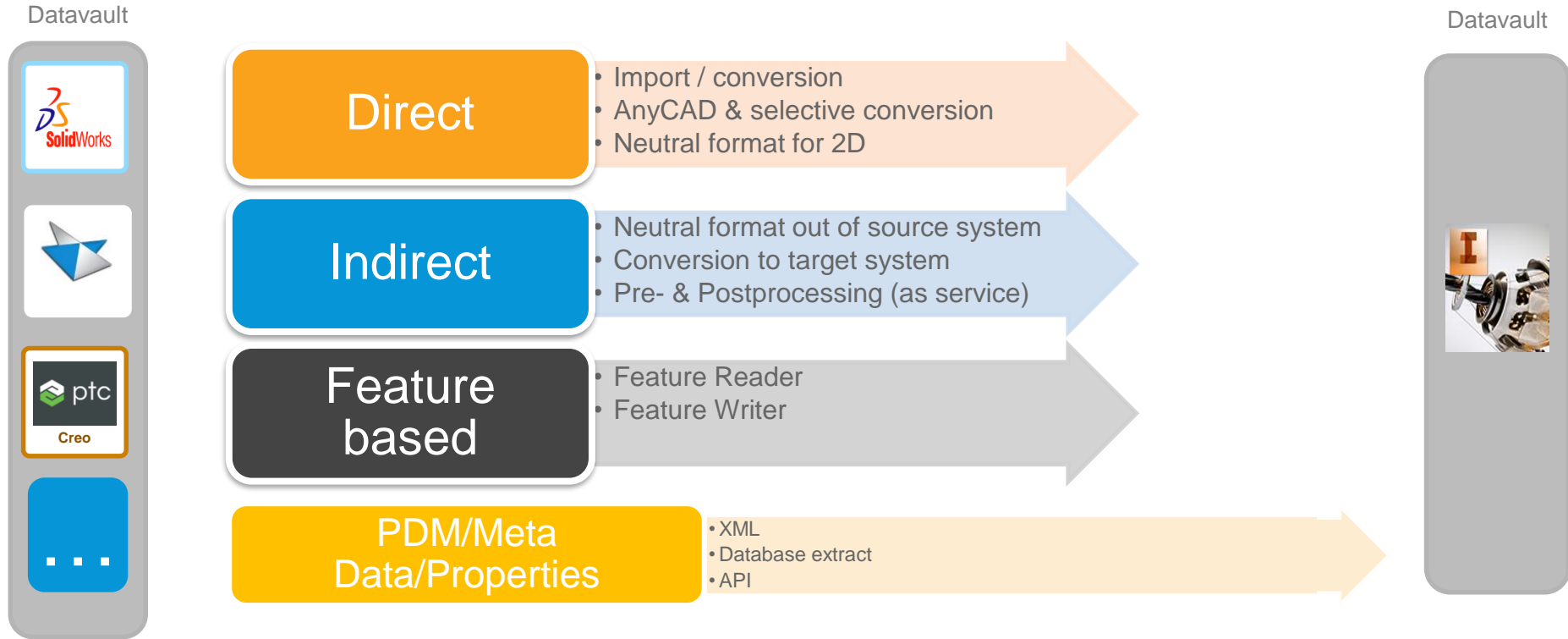


At time evaluation in Productmanagement

Data exchange



Common Approaches

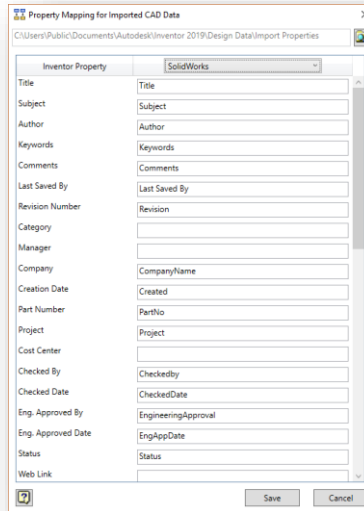
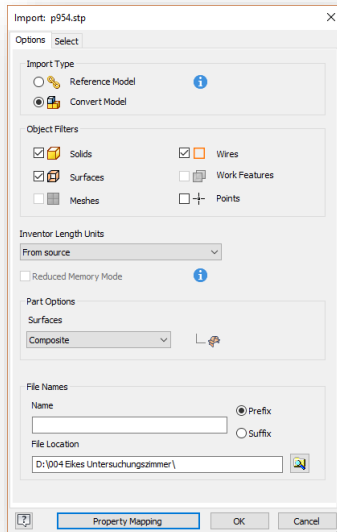


Common Approaches

- 3D Model: Import / Referencing AnyCAD
- 3D Model: Direct Edit
- 3D Model: Feature Recognition
- Drawing: DWG Underlay (AnyCAD)
- GoToINVENTOR: Feature based conversion

3D Model: Import / Referencing

- Importing source format direct
- Assembly structure remains
- Extracting meta data (source format)

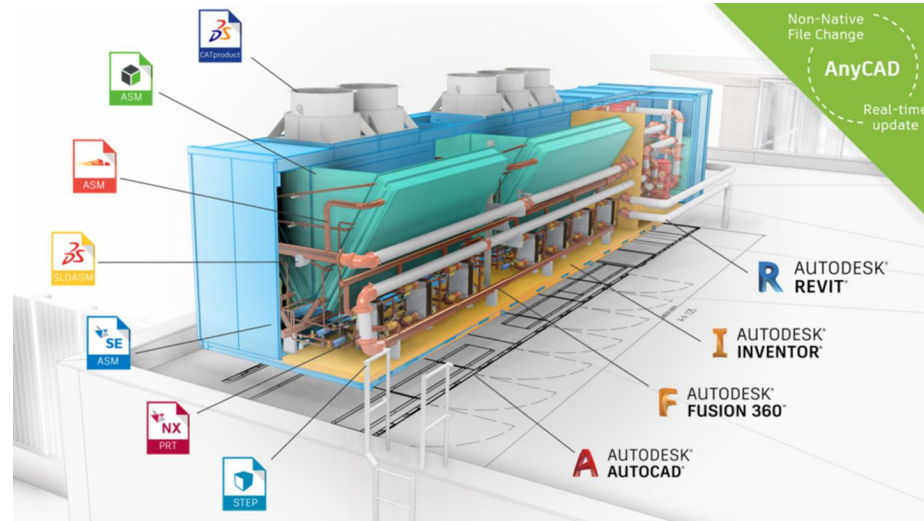


Translator	Import	Export
Alias	V10 or later	
CATIA V4	All Revisions	
CATIA V5	R0 - V5-0R2020	R10 - V5-0R2020
Creo Parametric	1.0; 2.0; 3.0; 4.0, 5.0 , 6.0	
IGES	All Revisions	5.3
JT	7.0 - 10.5	8.0, 8.1, 8.2, 9.0, 9.1, 9.2, 9.3, 9.4, 9.5, 10.0, 10.1, 10.2, 10.3, 10.4, 10.5
IFC		2x3
NX	Unigraphics V13 - 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

3D Model: Import / Referencing

- AnyCAD – referencing source-CAD-data
- import on demand
- Ideal for small and mid size assemblies

Format	Version	Selective Import	Associative Update
CATIA V5	R0 - V5-0R2020	✓	✓
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	✓	✓



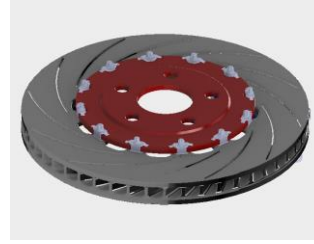
In the past...



Got CAD data by e-mail



Imported data and doubled files



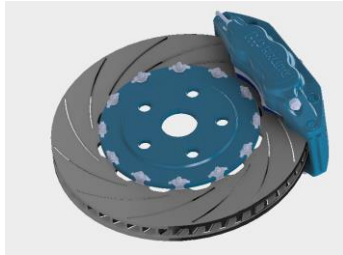
Cleaned up the design



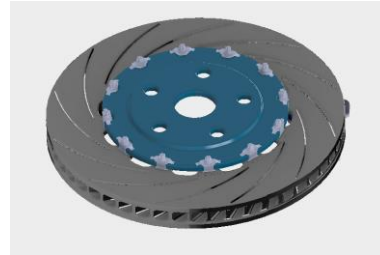
Insert and constrained



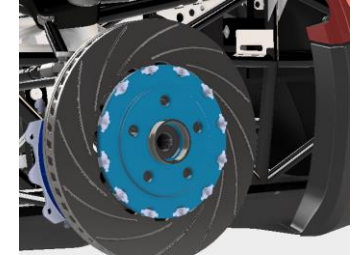
Oh no! A new update!



Import data from scratch
And double files again

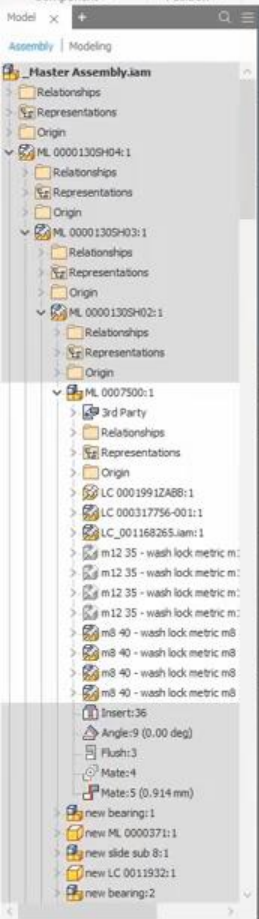
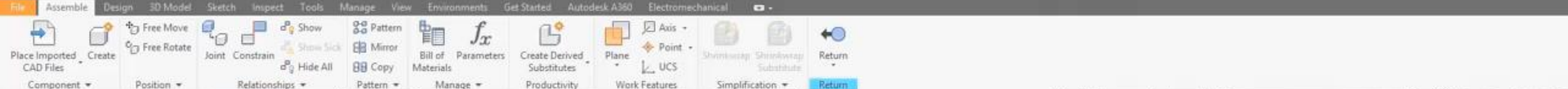


Again, cleaning up...



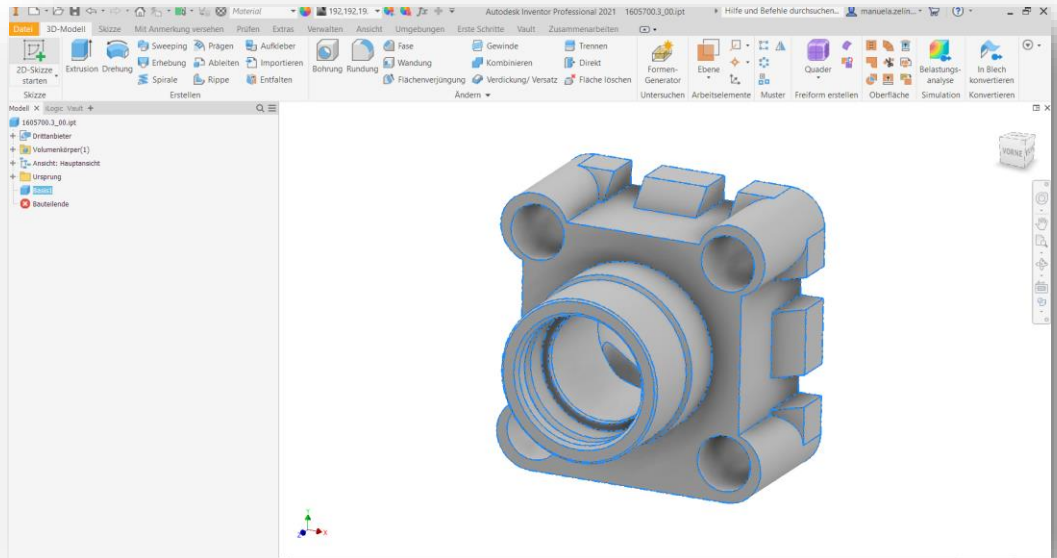
Delete, insert and
constrain design
again

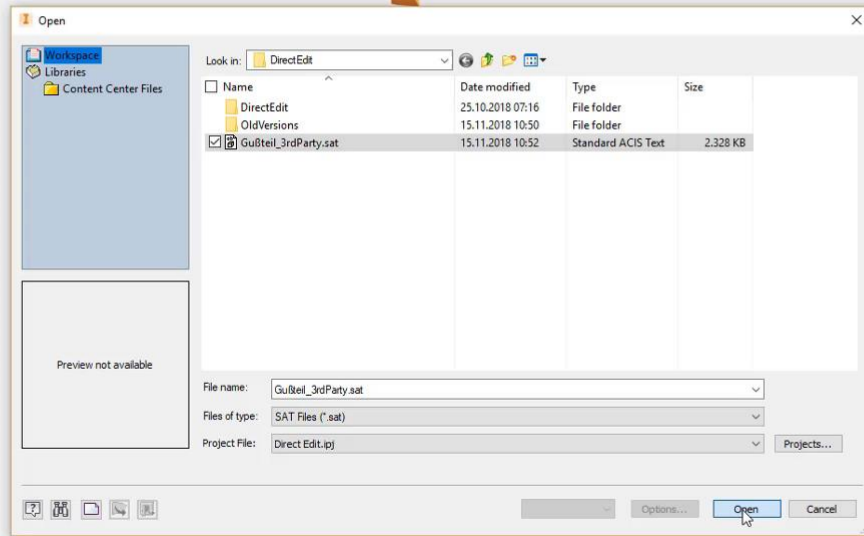
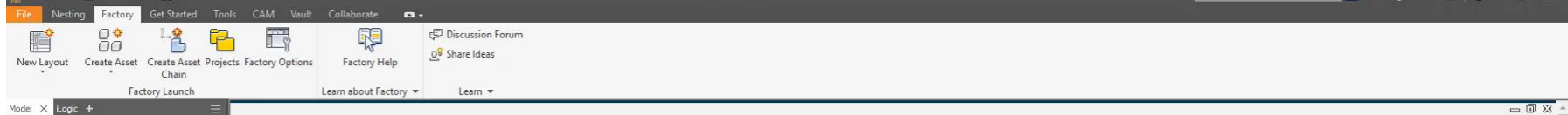
AnyCAD simplifies this process



3D Model: Direct Edit

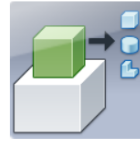
- **Import Solid/body as BREP (no features, no parameters)**
- **Direct Edit**
 - Resize Geometry
 - Delete Face
 - Move Face
 - Remove Details





3D Model: Feature Recognition

- Autodesk APP Store



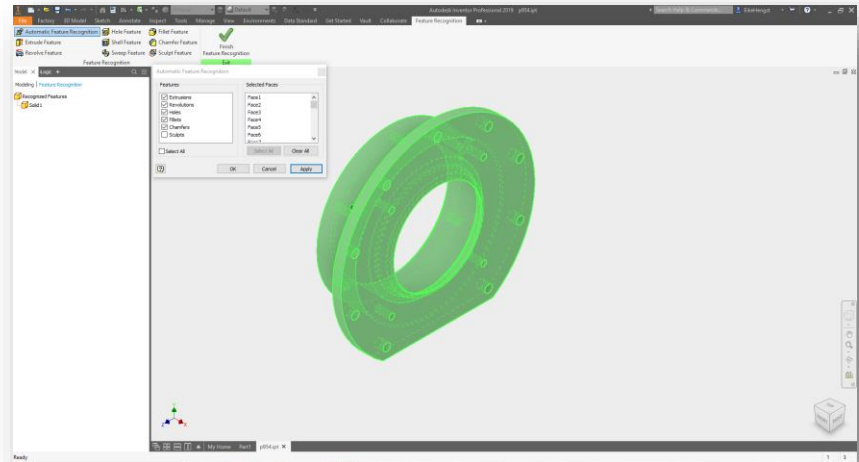
Feature Recognition

Autodesk, Inc.

★★★★★ (23 Bewertungen)



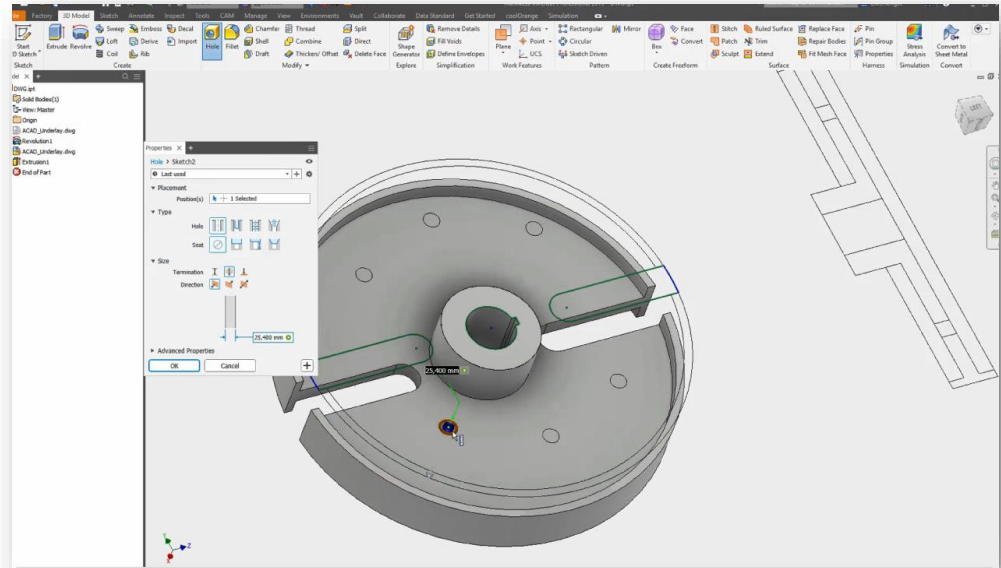
- Post-feature-recognition
- Manual or automatic
- Get features / sketches

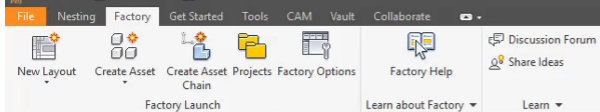


Not the recommended approach.
Feature tree does not reflect the design intent

2D Data: AnyCAD - DWG Underlay

- Reuse existing 2D for rebuild part
- Full access to all layers
- Easy to align with origin
- Changes can be done in
 - AutoCAD or
 - Inventor





Model x +

Full Screen



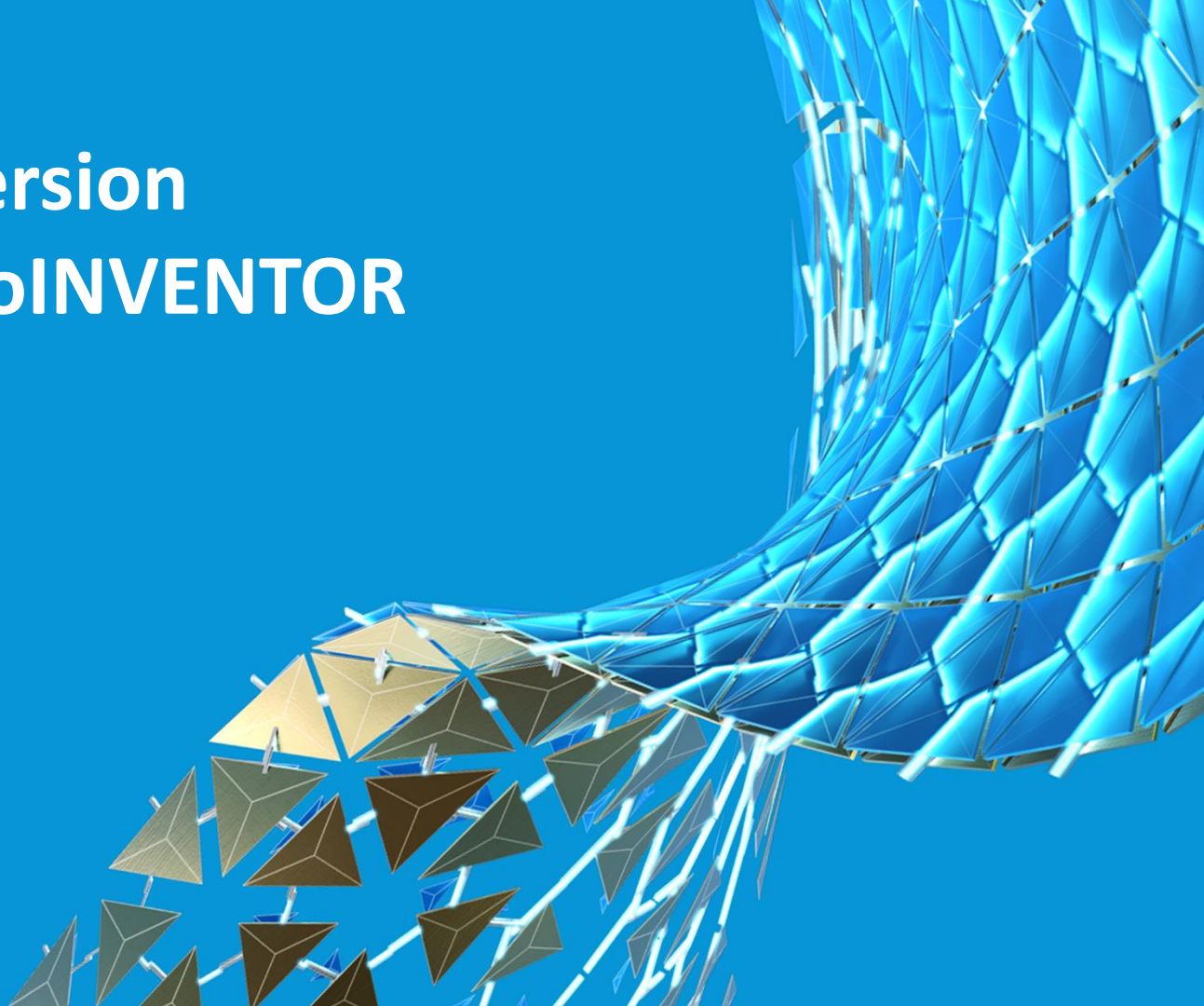
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Direct Conversion with ITI GoToINVENTOR



CAD Consolidation

You need reusable CAD data in Inventor.....

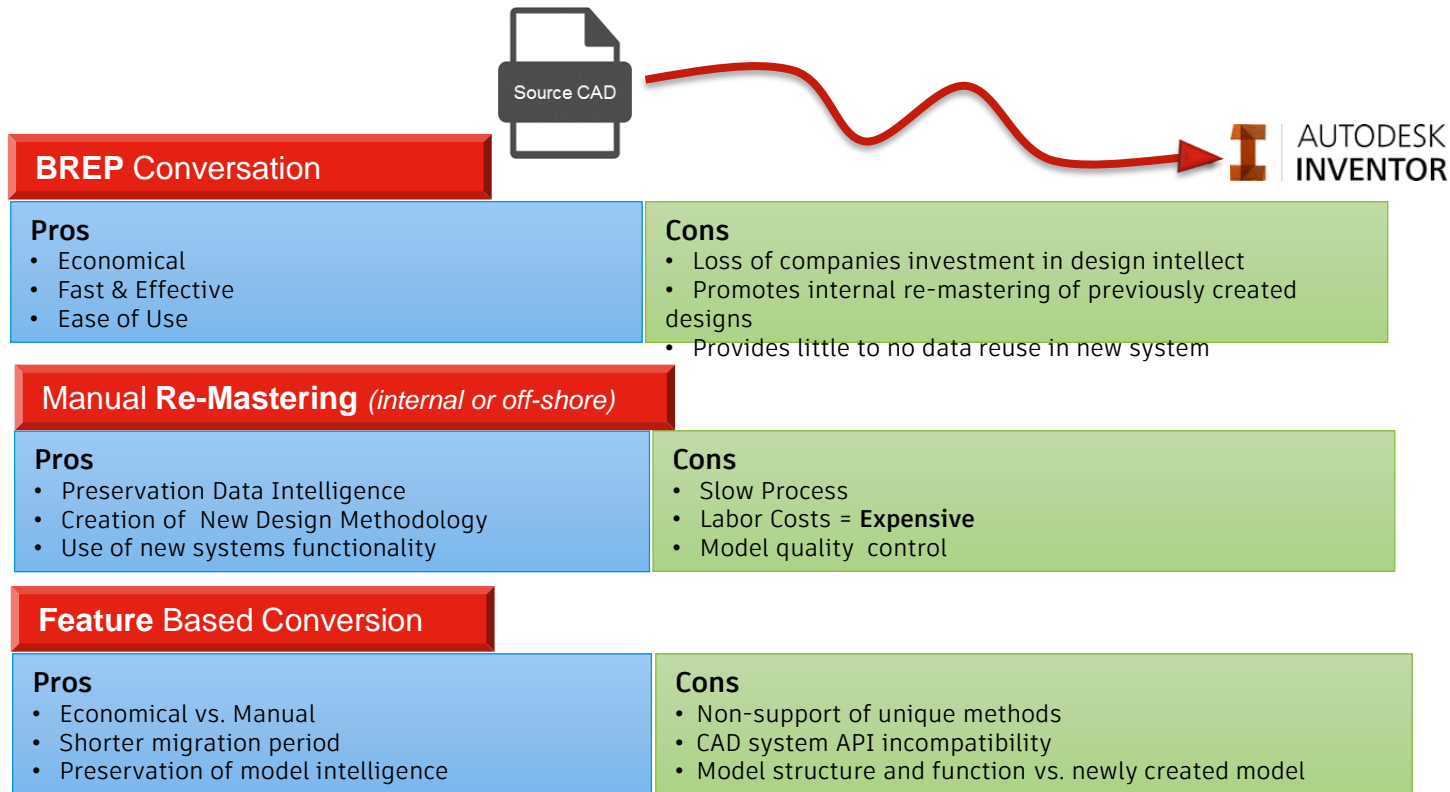


Common customer project requirements:

- **Preservation of intellectual property**
- **RE-USE of legacy data in Inventor**
- Assessment of what legacy CAD objects data need to be converted
- Analyzing the content of a customers legacy design data
- Understanding what CAD conversion options are available
- Identifying the conversion methodologies functionality/technology gaps
- Establishing a project time-line
- Determining the cost of conversion

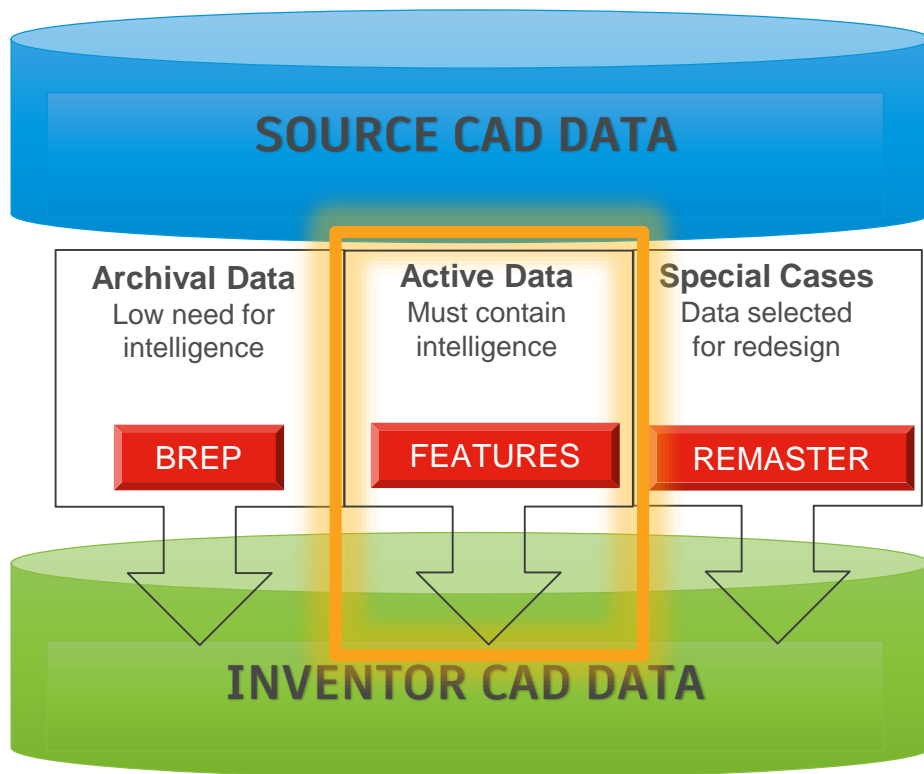
CAD Conversion Options

Common conversion methodologies for a mass migration



Project Conversion Methods

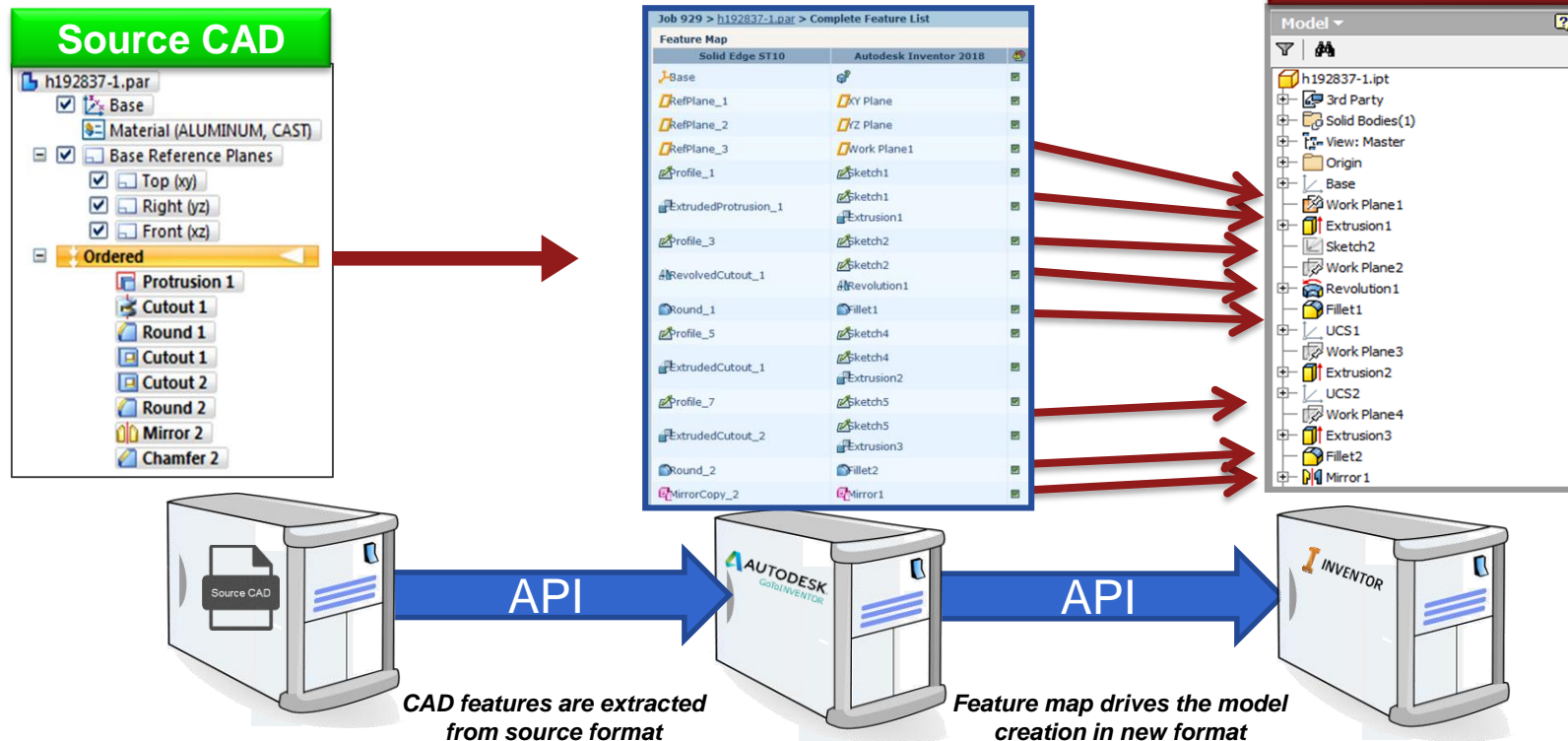
mass CAD migration Combination of methods



GoToINVENTOR Technology

Feature Mapping Technology

A feature map is created from source data

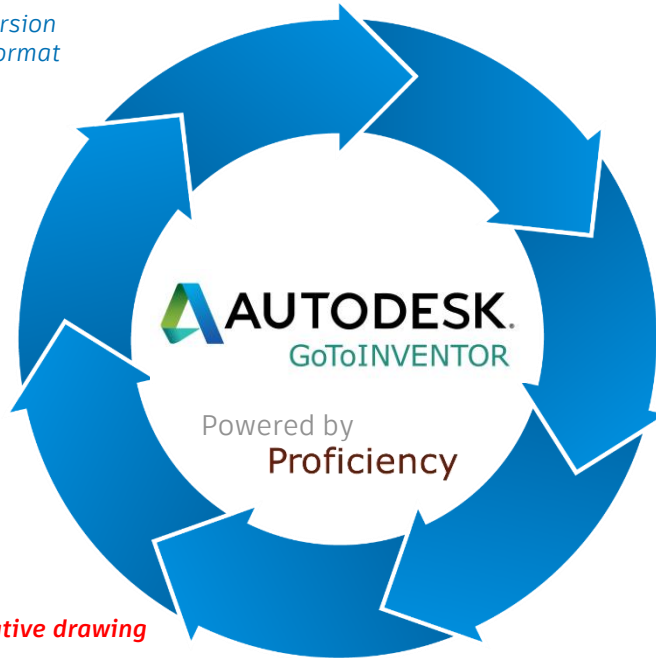


GoToINVENTOR Migration Solution

GoToINVENTOR IS the only feature based conversion software that supports Solid Edge as a source format



GoToINVENTOR supports associative drawing conversion

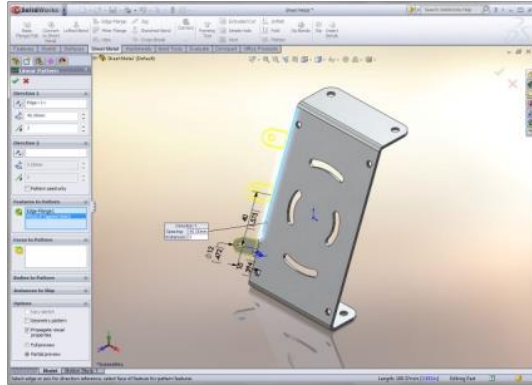


The Autodesk InVENTOR logo, consisting of a stylized orange 'I' icon followed by the word "INVENTOR" in black capital letters.

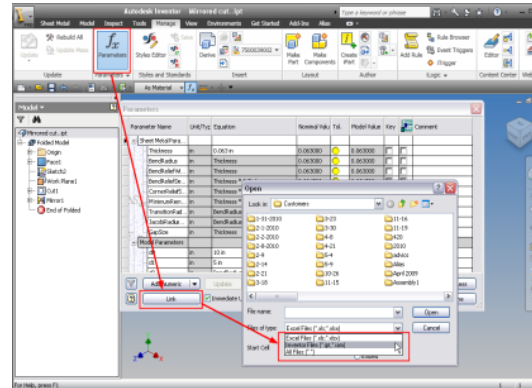
Some Technology Challenges

GoToINVENTOR, with some limitations

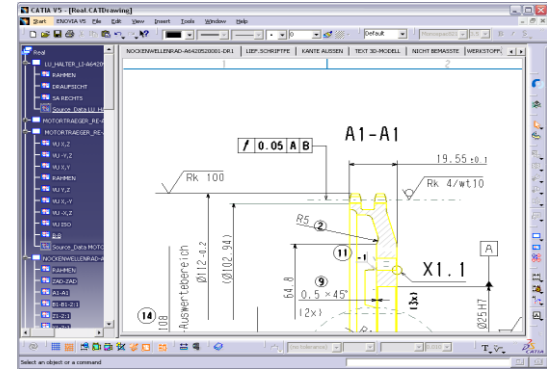
Sheetmetal



Family Tables



Associative Drawings



There are several options and methods to address these common challenges

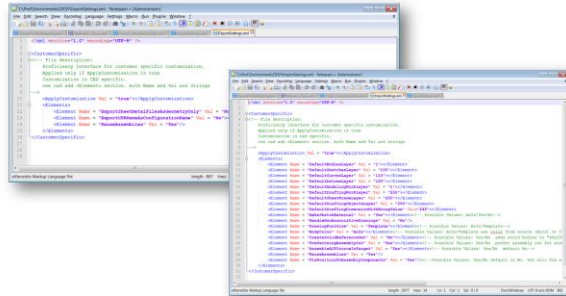
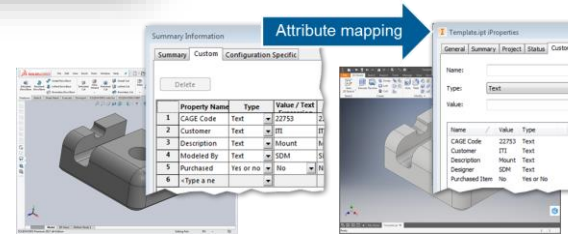
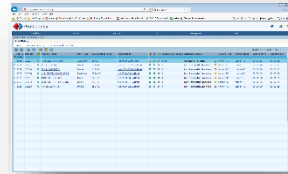
Re-Use Functionality

Parts that are used in multiple instances are ONLY converted once!



Advanced Migration Support

- File Naming/Renaming
- Attribute Mapping
- Customer Specific Environment Support





Value Proposition



- Support for CAD system harmonization, consolidation and standardization
- Preservation of intellectual property
- Re-use of legacy designs in Inventor
- **Automation provides up to a 75% cost savings vs. manual remastering**
- Data quality assurance

Business options

Software Licensing



● Term Licensing

- GoToINVENTOR is licensed to a customer of a designated period of usage
- Maintenance and support is included in term licensing price
- 12-month term (*plus installation & training*)

● Perpetual Licensing

- Pricing consists of an initial licensing fee plus annual maintenance
- Annual maintenance and support (MES) is 20% of the software licensing fee

ITI Conversion Services



- Cost effective option for on-demand or low-mid range volume projects
- For the client that seeks to outsource the conversion
- Multiple conversion options available (Bronze – Silver – Gold – Platinum)
- Fast delivery, no software implementation or training required by the customer

Wrap Up

- **MIGRATION** when doing a release update - Zero migration impact !
- Inventor **AnyCAD** for associative Workflows- 3D and 2D
- Inventor **DIRECT EDIT** allows you to edit non paramteric parts
- **ITI GoToINVENTOR** supports an automated feature-based conversion and preserves your intellectual property



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