



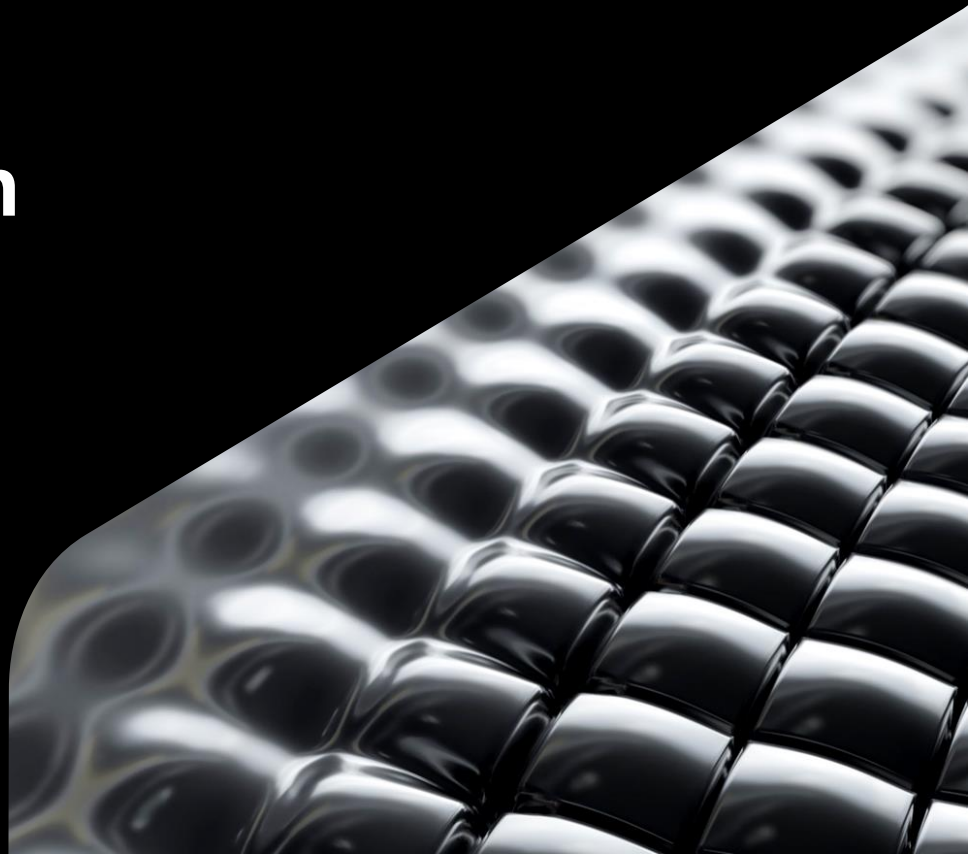
Data Exchange and Management Between Inventor, AutoCAD Electrical, and Vault

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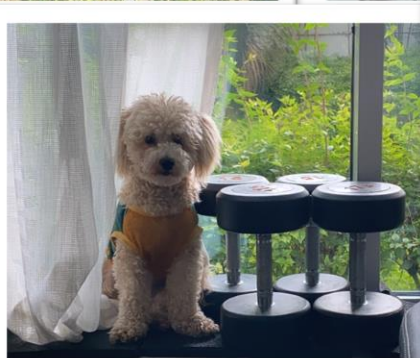
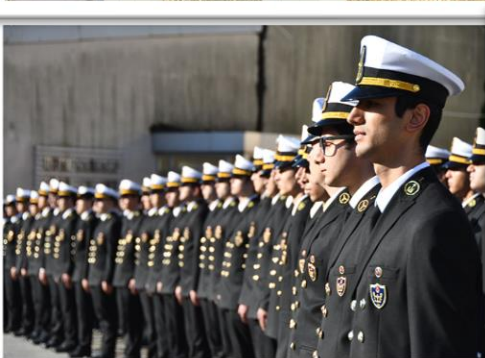
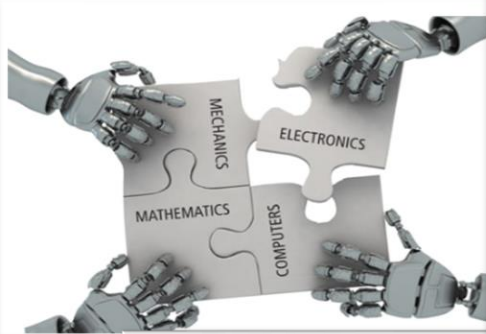
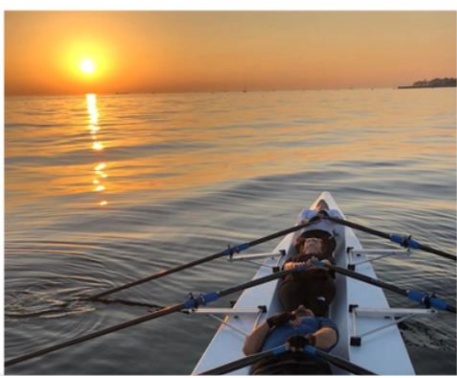
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Agenda



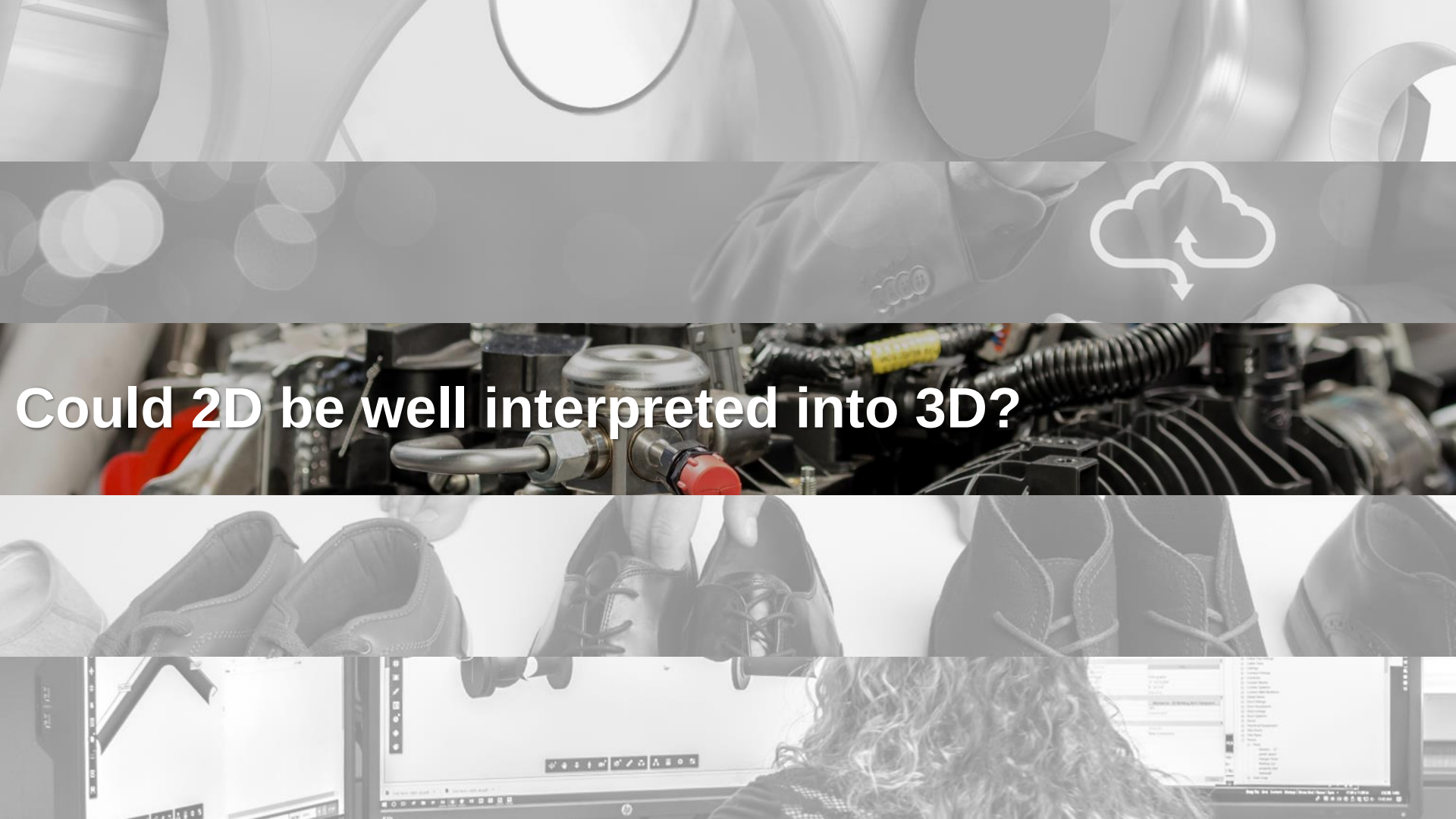


From Ideas to Production



Where it All Begins





Could 2D be well interpreted into 3D?



Let the Computer Do All the Work



Cooperation, the Lifeline of Ideas



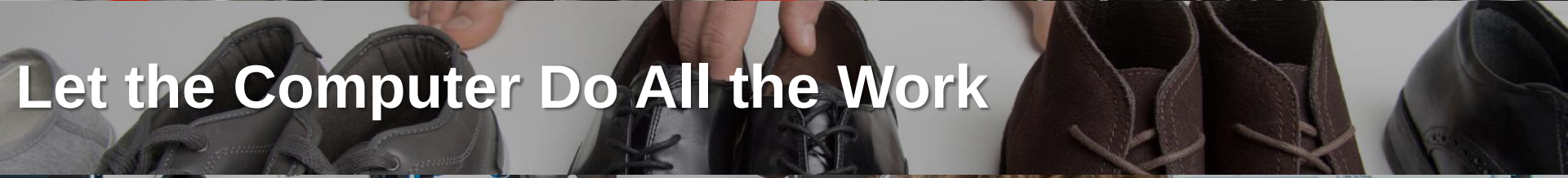
From Ideas to Production



Where it All Begins



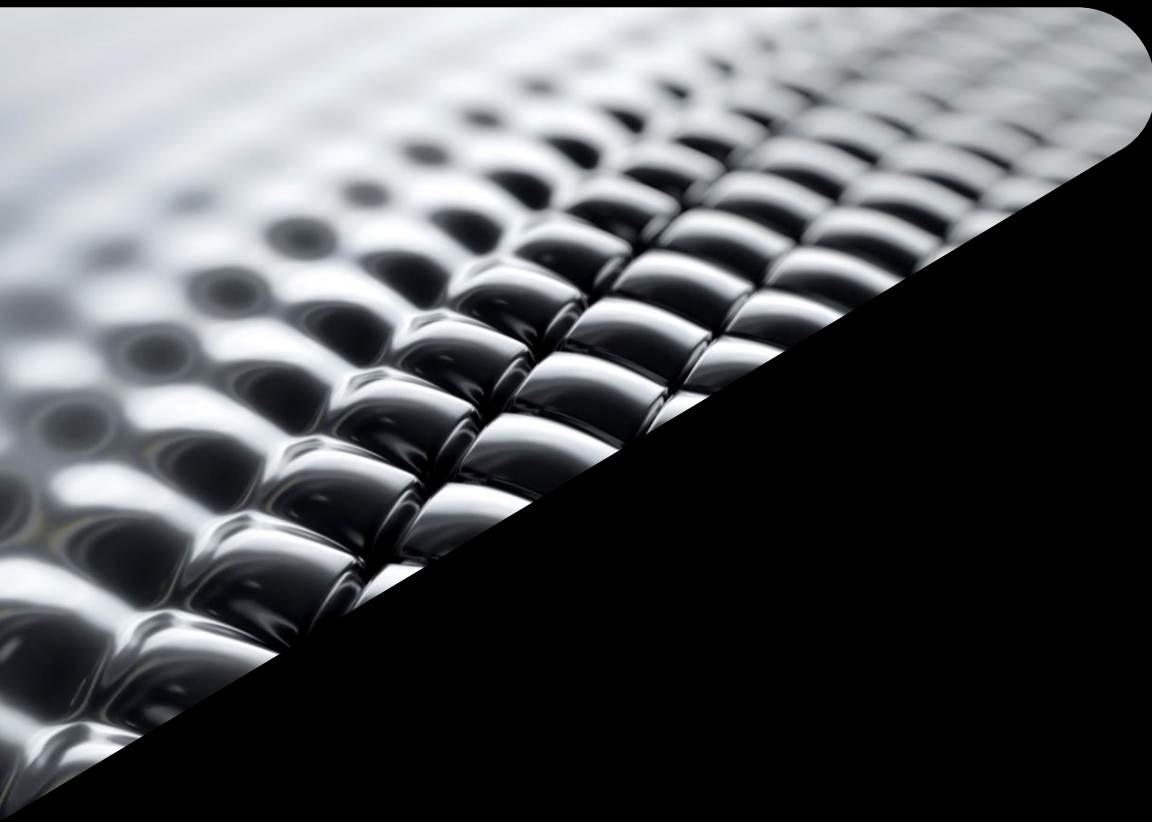
Could 2D be well interpreted into 3D?



Let the Computer Do All the Work



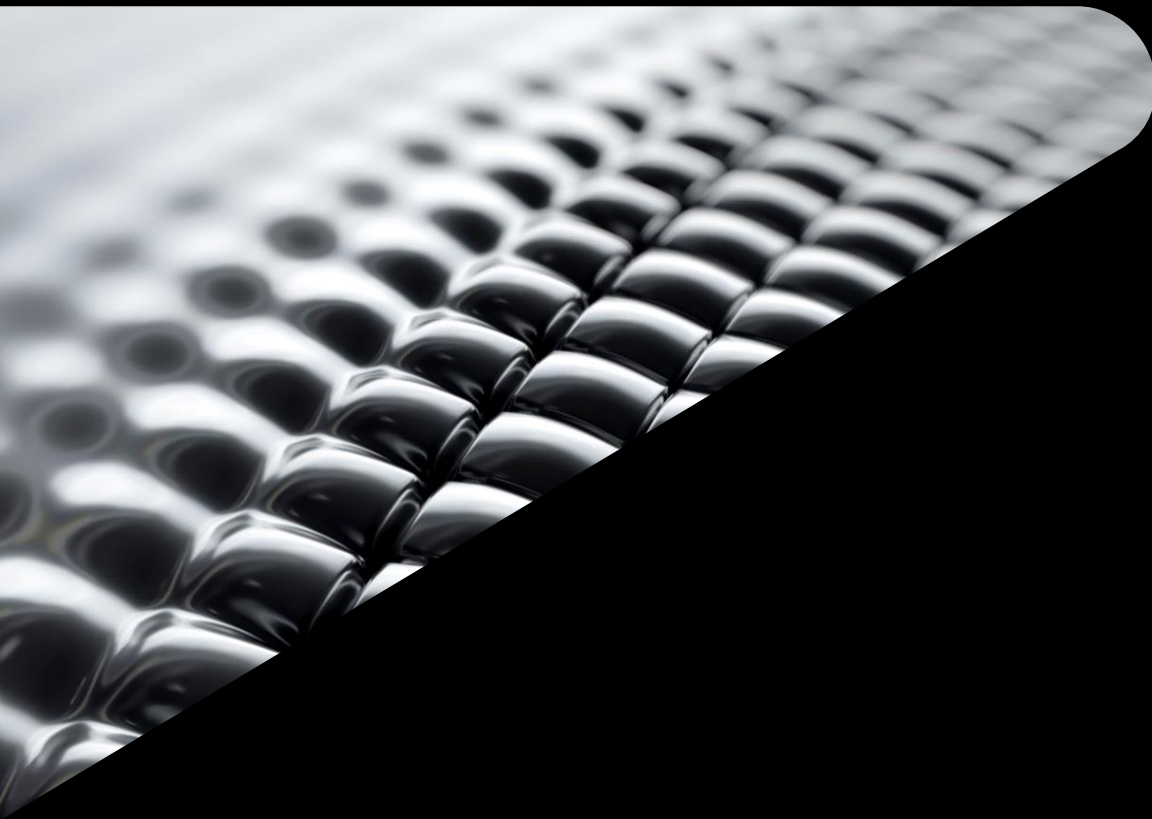
Cooperation, the Lifeline of Ideas



From Ideas to Production

From Ideas to Production





**Where it All
Begins**



Distribution

Implementation

Scheme



Vault

Inventor

ACAD Elec.

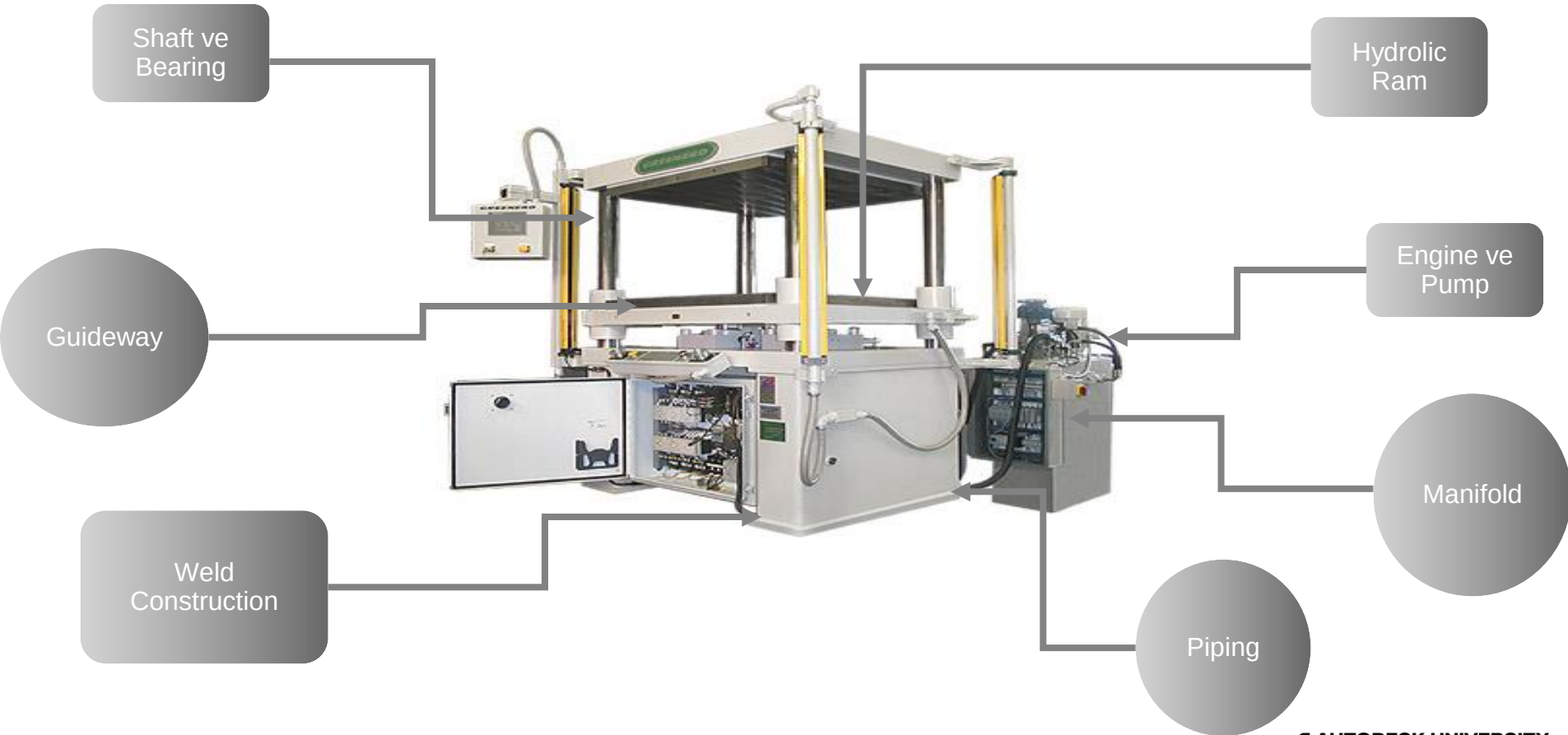


A background image of industrial machinery, possibly a robotic arm or assembly line component, rendered in a light, semi-transparent style. A dark grey rounded rectangle is overlaid in the center, containing white text.

**If you manufacture machinery,
Collaboration is a must for increasing
the speed of production.**

How?





Operation Panel

Position Indicator

Safety Indicator

Valve

Stop Button

Control Panel

Control Button



PROJECT MANAGER

CIRCUIT_DIAGRAM_SWITCH_CABINET

Projects

- CIRCUIT_DIAGRAM_SWITCH_CABINET
 - Circuit_diagram_Switch_cabinet-1.dwg
 - Circuit_diagram_Switch_cabinet-2.dwg
 - Circuit_diagram_Switch_cabinet-3.dwg**
 - Circuit_diagram_Switch_cabinet-4.dwg
- EXTRA LIBRARY DEMO
- GBDEMO
- IEC60617DEMO
- IECDEMO
- IEEEDEMO
- JSDDEMO
- NFPADDEMO
- POINT2POINT

Details

Status: Accessible

Sheet:

Description: Bedienpanel

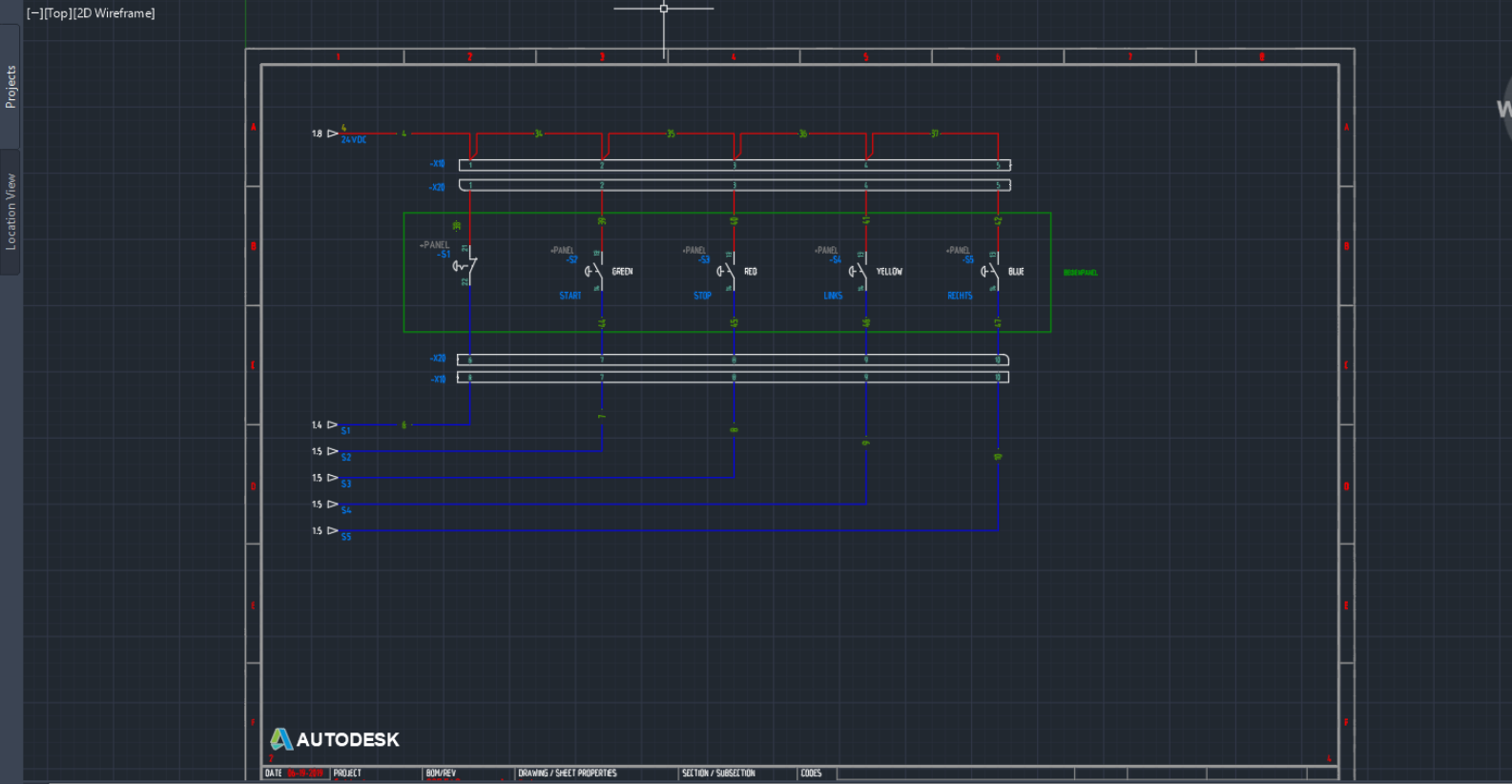
File Name: Circuit_diagram_Switch_cabinet-3.dwg

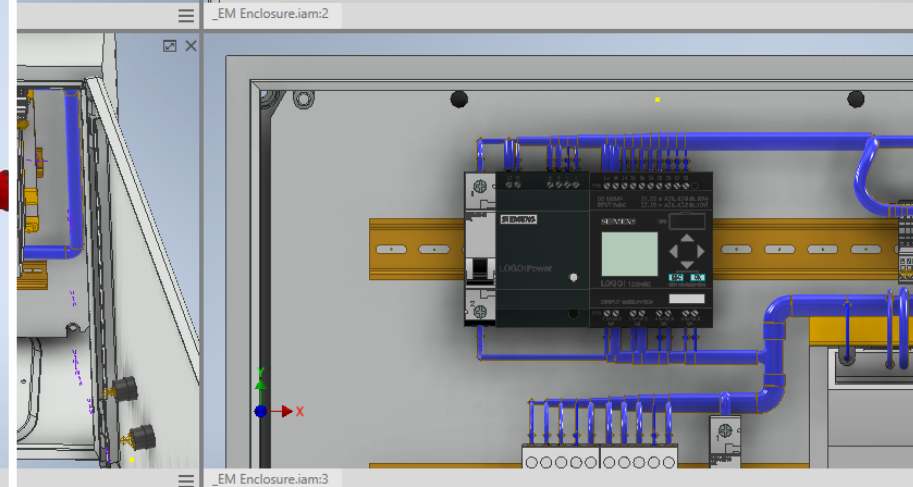
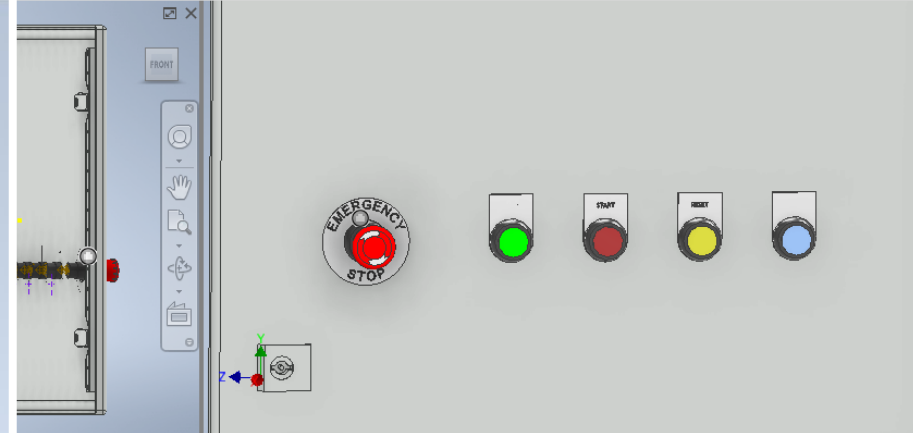
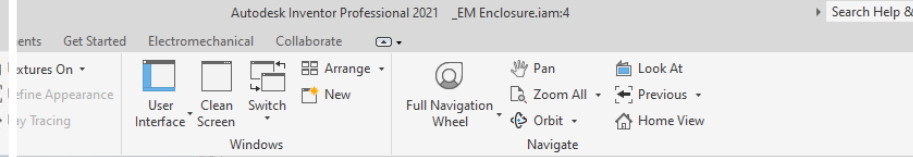
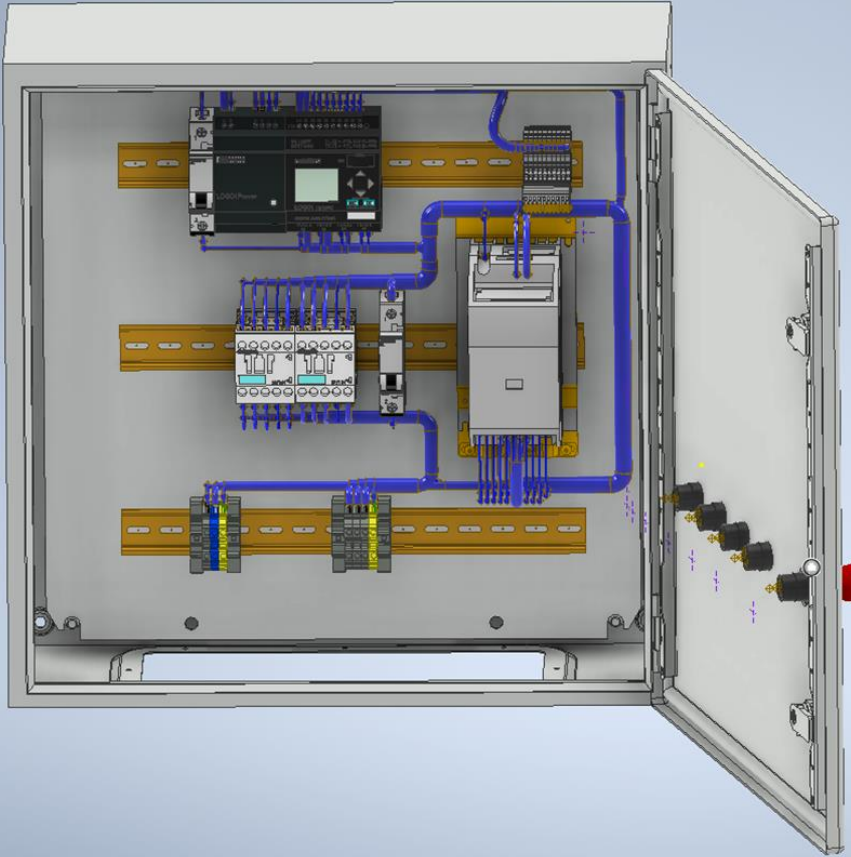
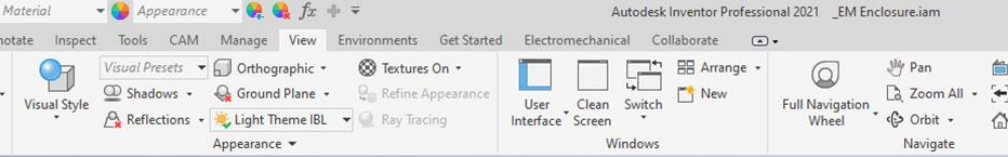
Location: C:\Users\Melike Ozdemir\Desktop\Electrical_Cabin\Mechatronic\ELECTRICAL

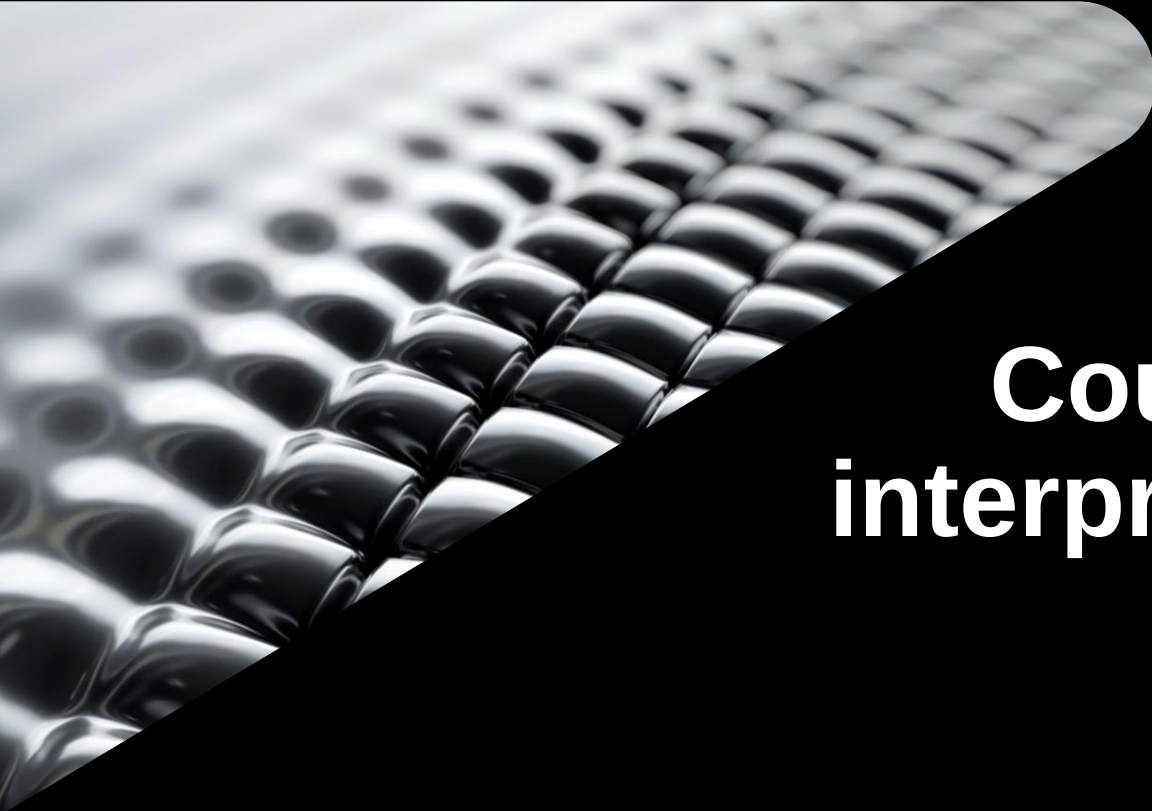
File Size: 148KB (152443 bytes)

Last Saved: 18.07.2020 18:24:46

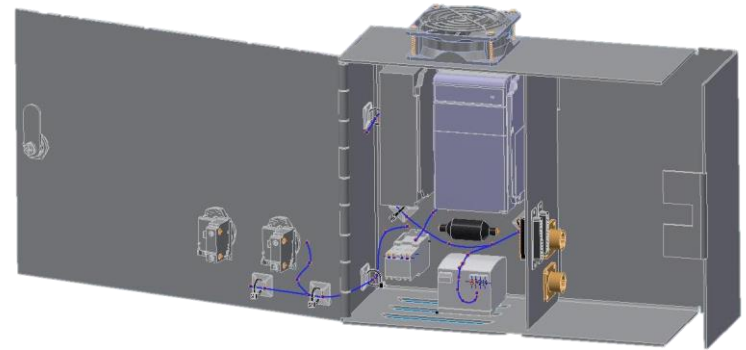
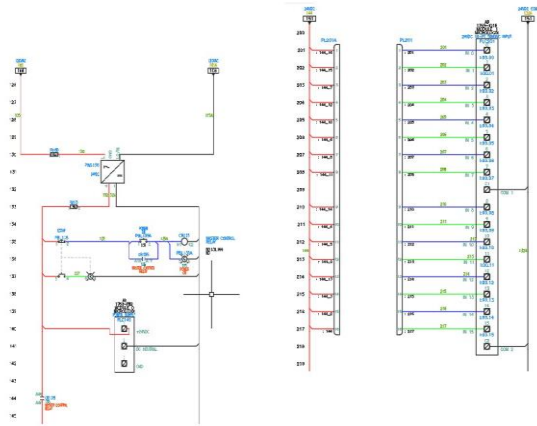
Last Edited By:





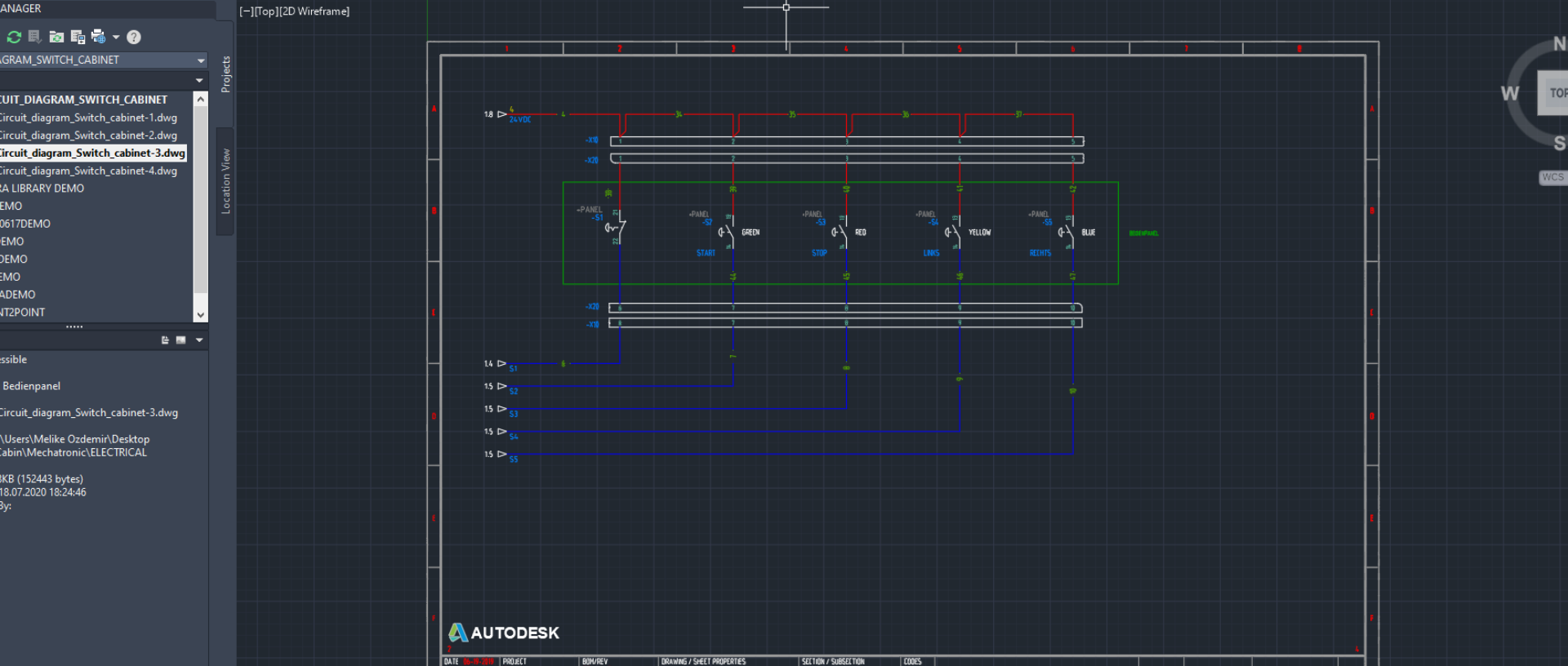


**Could 2D be well
interpreted into 3D?**

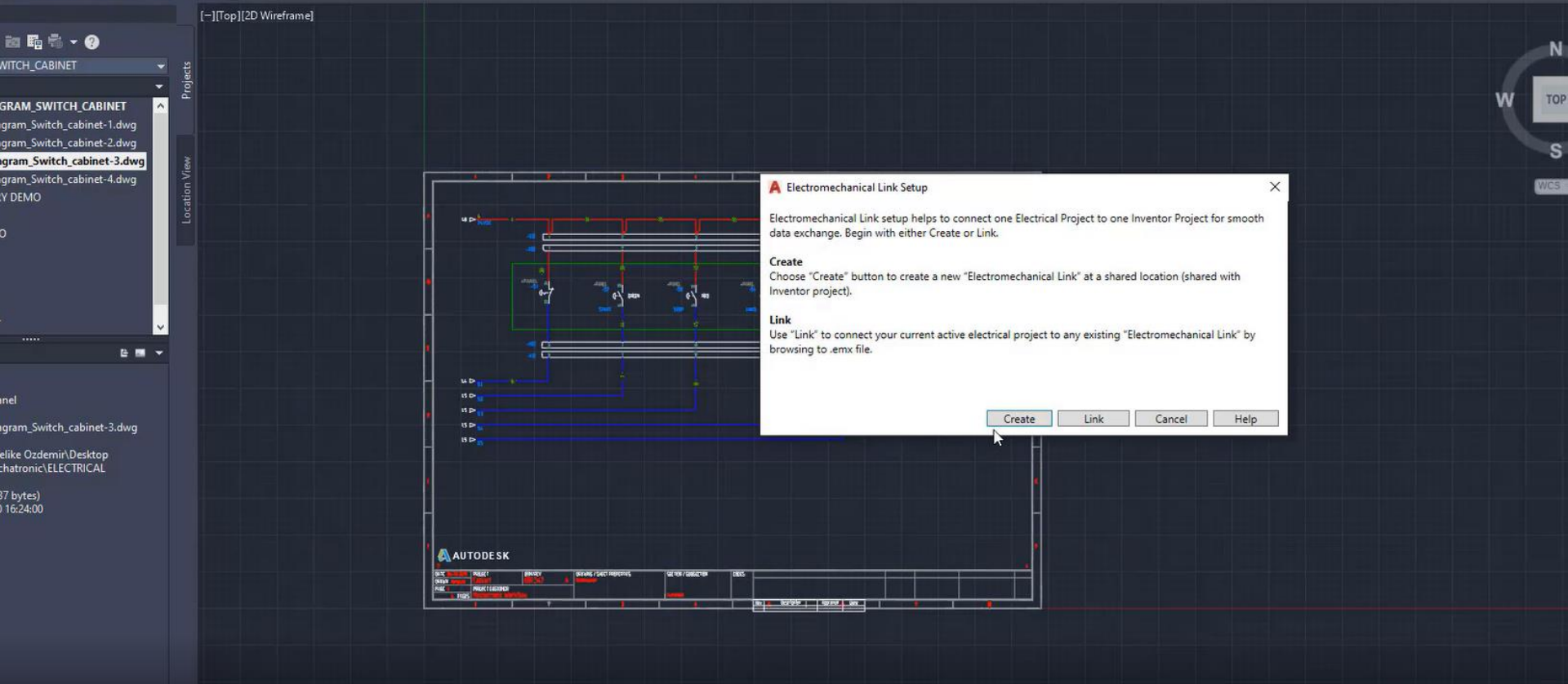


anical
ip

Circuit_diagram_Switch_cabinet-3* x



Circuit_diagram_Switch_cabinet-3* [Top] [2D Wireframe]



A Electromechanical Link Setup

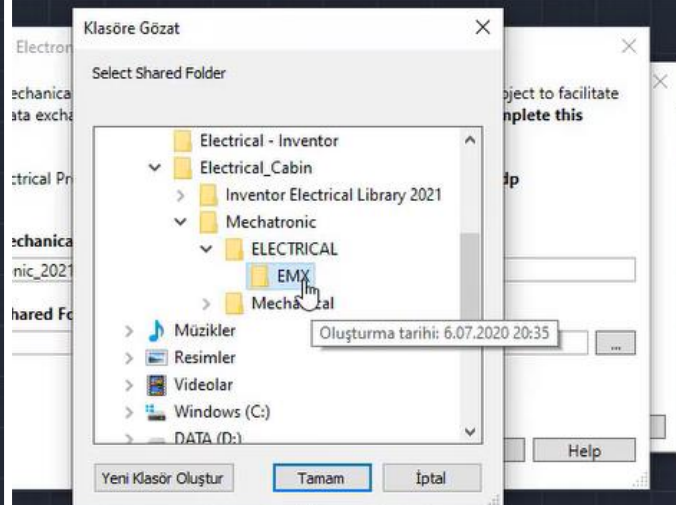
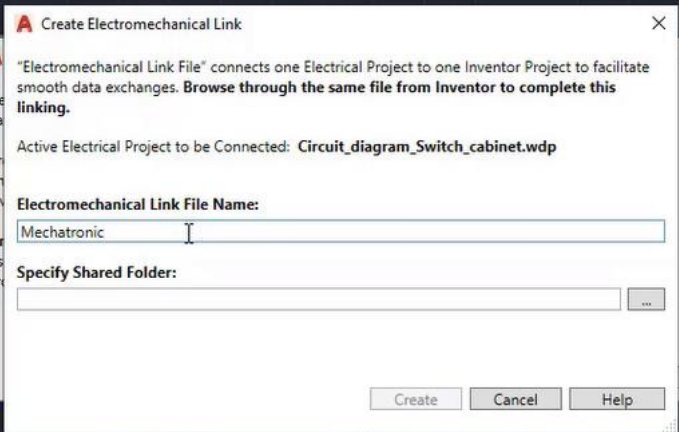
Electromechanical Link setup helps to connect one Electrical Project to one Inventor Project for smooth data exchange. Begin with either Create or Link.

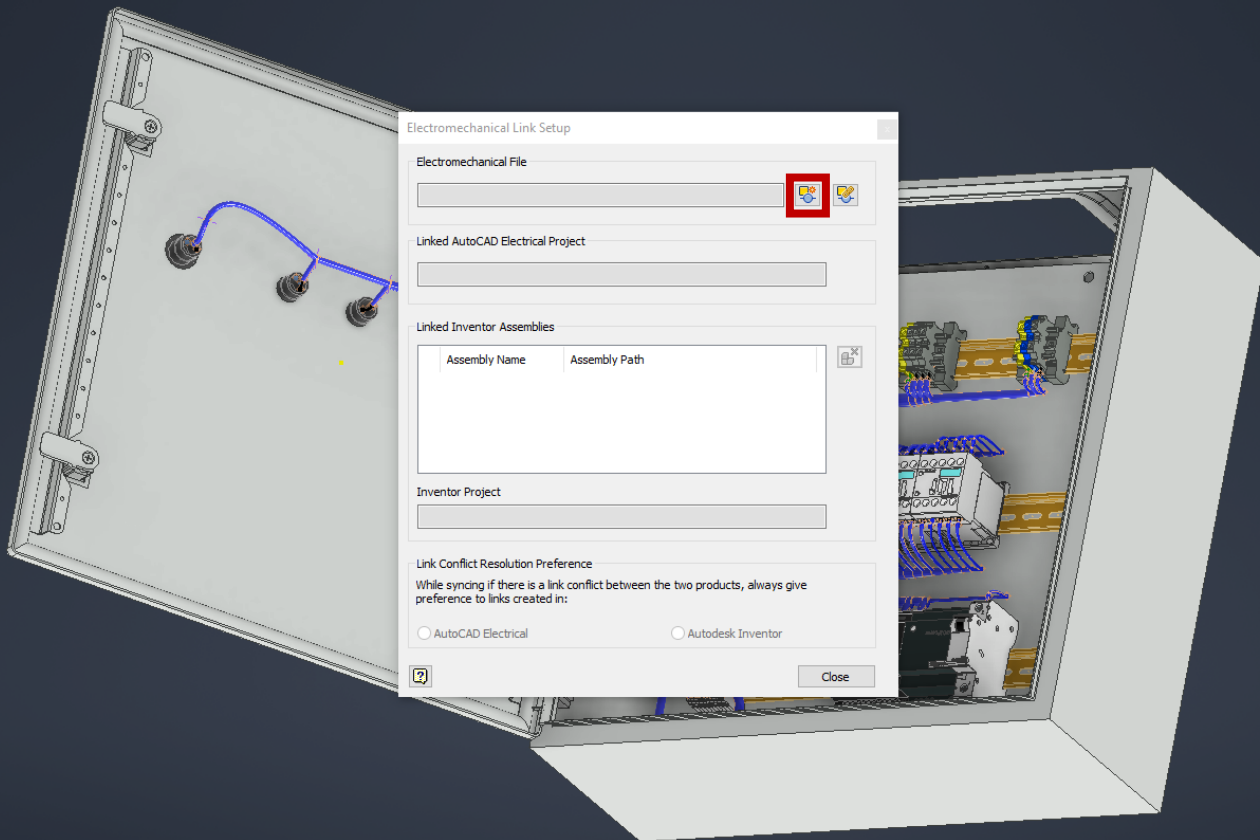
Create
Choose "Create" button to create a new "Electromechanical Link" at a shared location (shared with Inventor project).

Link
Use "Link" to connect your current active electrical project to any existing "Electromechanical Link" by browsing to .emx file.

CreateLinkCancelHelp

Command: Checking files for any marked in-use/read-only ...





Get Started Tools CAM Collaborate

New Open Projects Open Samples Home Team Web Tutorial Gallery Back What's New Highlight New

Launch My Home New Features

ew

Part

Drawing

Recent Documents

Reset Filters

Pinned [0 Files]

Unpinned [0 Files]

Project

- Active Project
- All Recent Docs

File Types

- All
- Assemblies
- Drawings
- Parts
- Presentations

Sort By

- Recently Opened
- Date Modified
- Name
- Location
- Size

Projects

Project name	Project location
✓ Default	
Default	C:\Users\Public\Documents\Autodesk\Inventor 2020\
Inventor Electrical Project	C:\Users\Public\Documents\Autodesk\Inventor 2020\
Inventor Electrical Project	C:\Users\Public\Documents\Autodesk\Inventor 2021\

Project

- Type = Single User
- Included file =
- Use Style Library = Read-Write
- Appearance Libraries
- Material Libraries
- Workspace
- Workgroup Search Paths
- Libraries**
 - E-C - C:\Users\Melike Ozdemir\Desktop\Electrical_Cabin\Inventor Electrical Library 2021
- Folder Options
- Options

New Browse... Save Apply Done

File Details

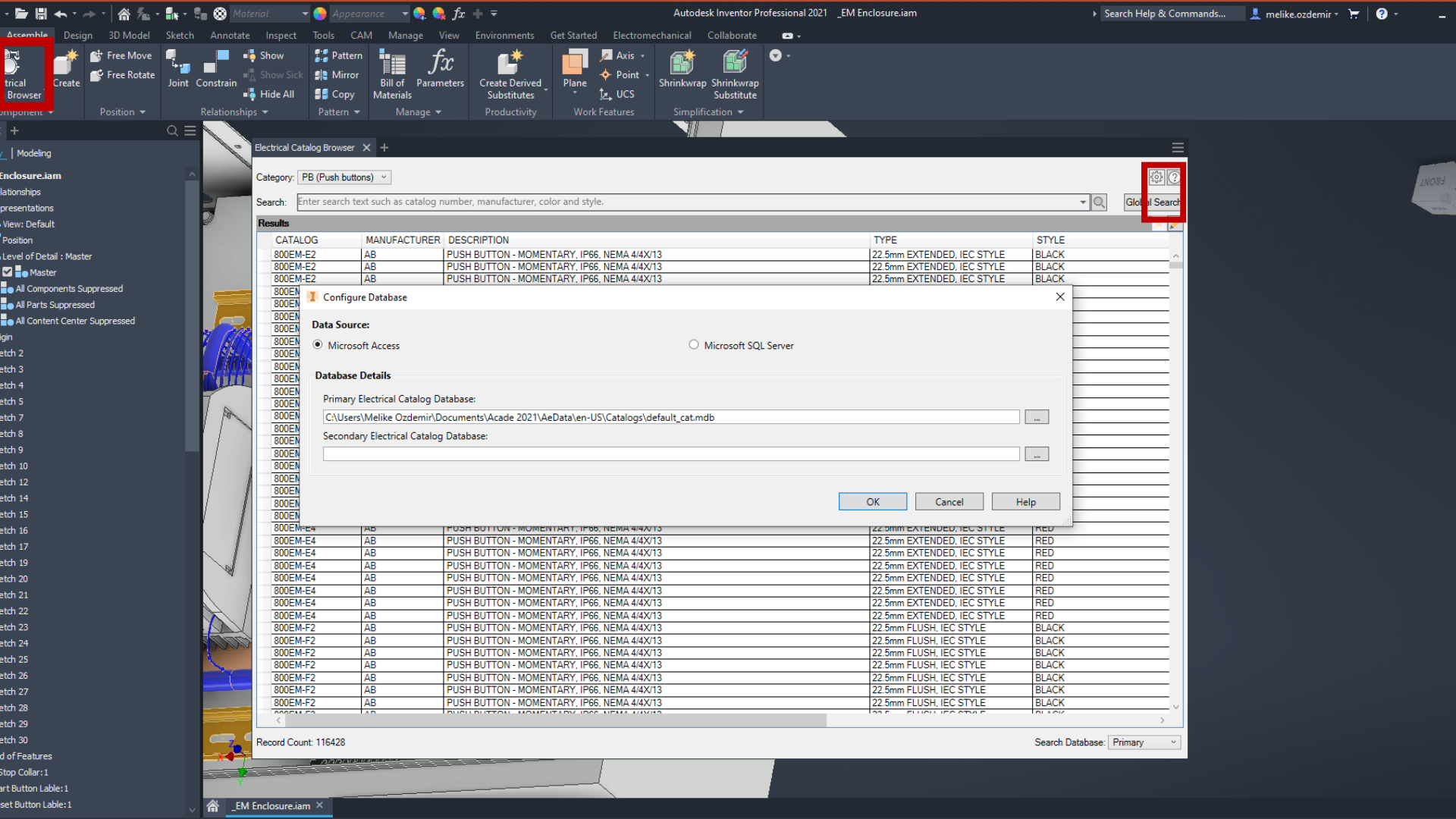
Flip Reset Maximize Recent

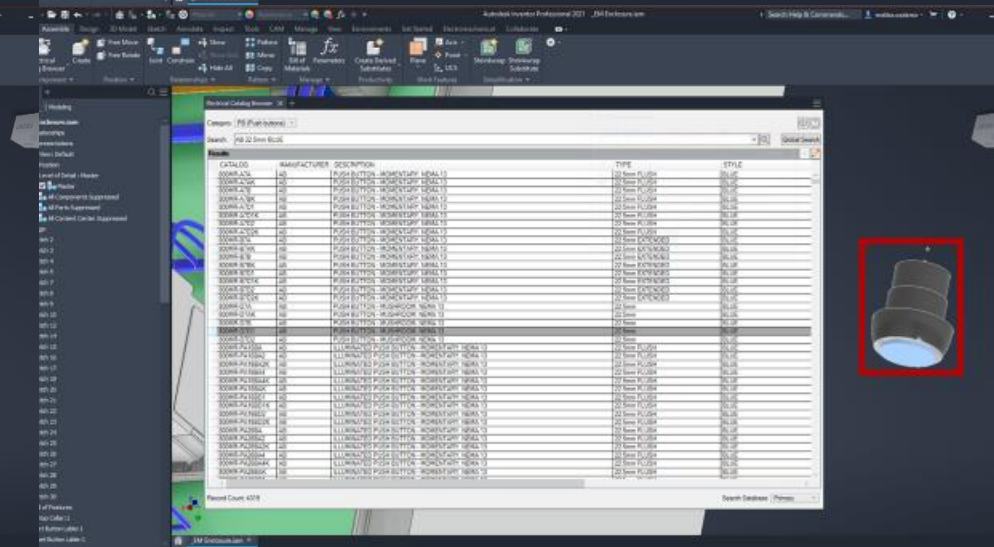
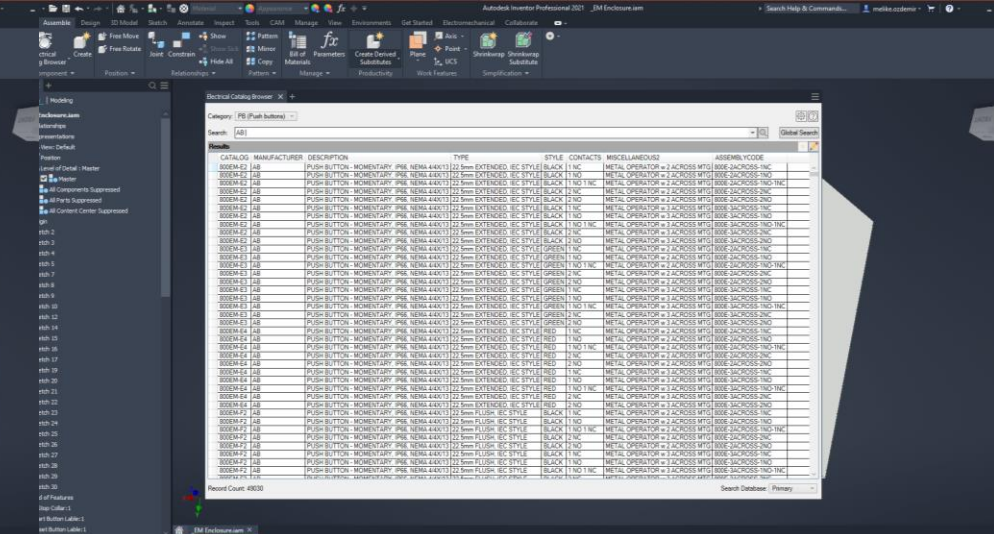
Name	Default
Type	Single User
Location	C:\Users\Public\Documents\Autodesk\Inventor 2021\Default.lpj
Workspace	(None)
Workgroup Search Paths	(None)
Libraries	E-C C:\Users\Melike Ozdemir\Desktop\Electrical_Cabin\Inven...
Frequently Used Subfolders	(None)

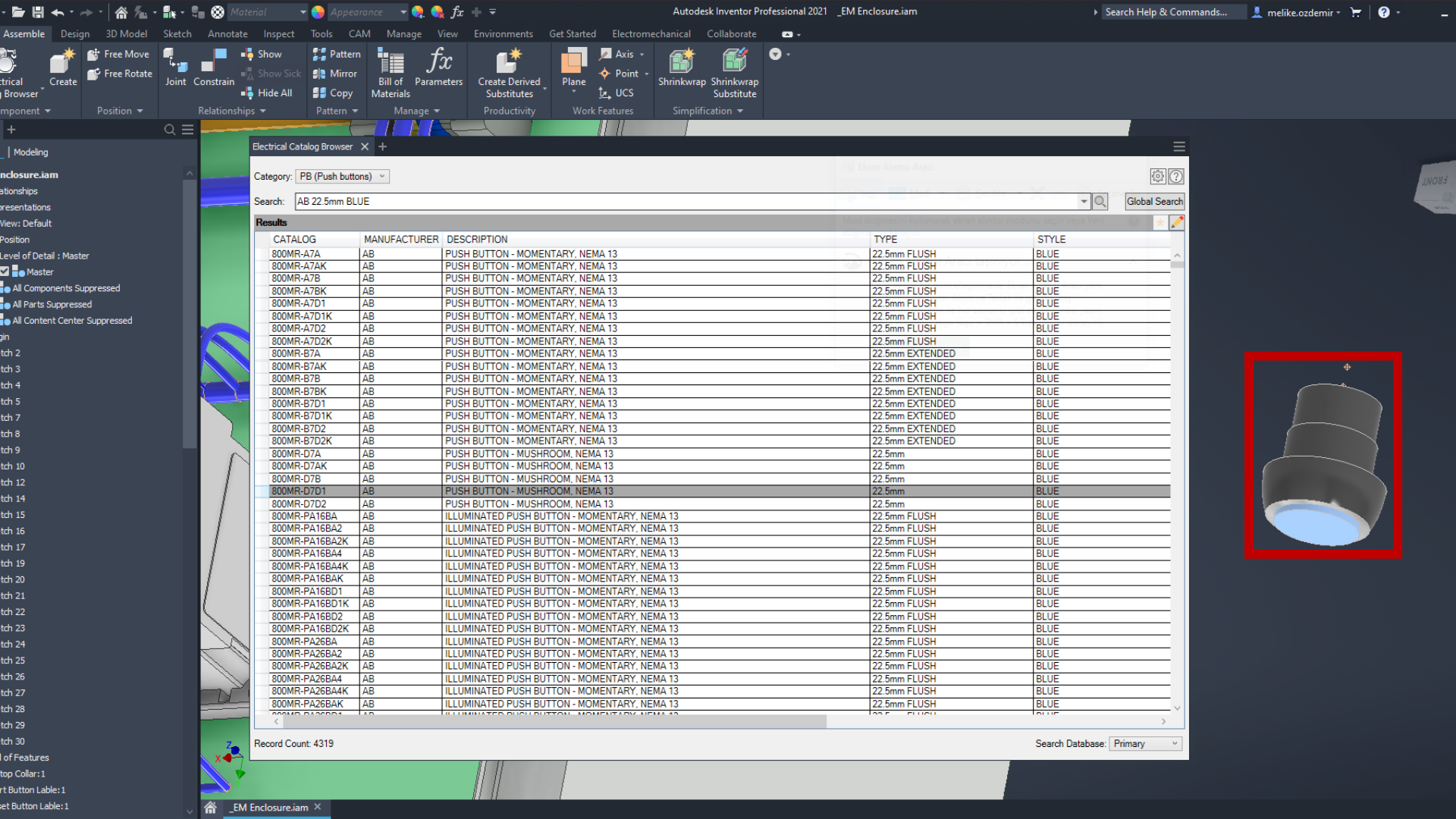
Open shortcuts using Windows Explorer

Tiles | Large | Small | List

Search Recent Documents...







Electrical Catalog Browser X +

Category: PB (Push buttons)

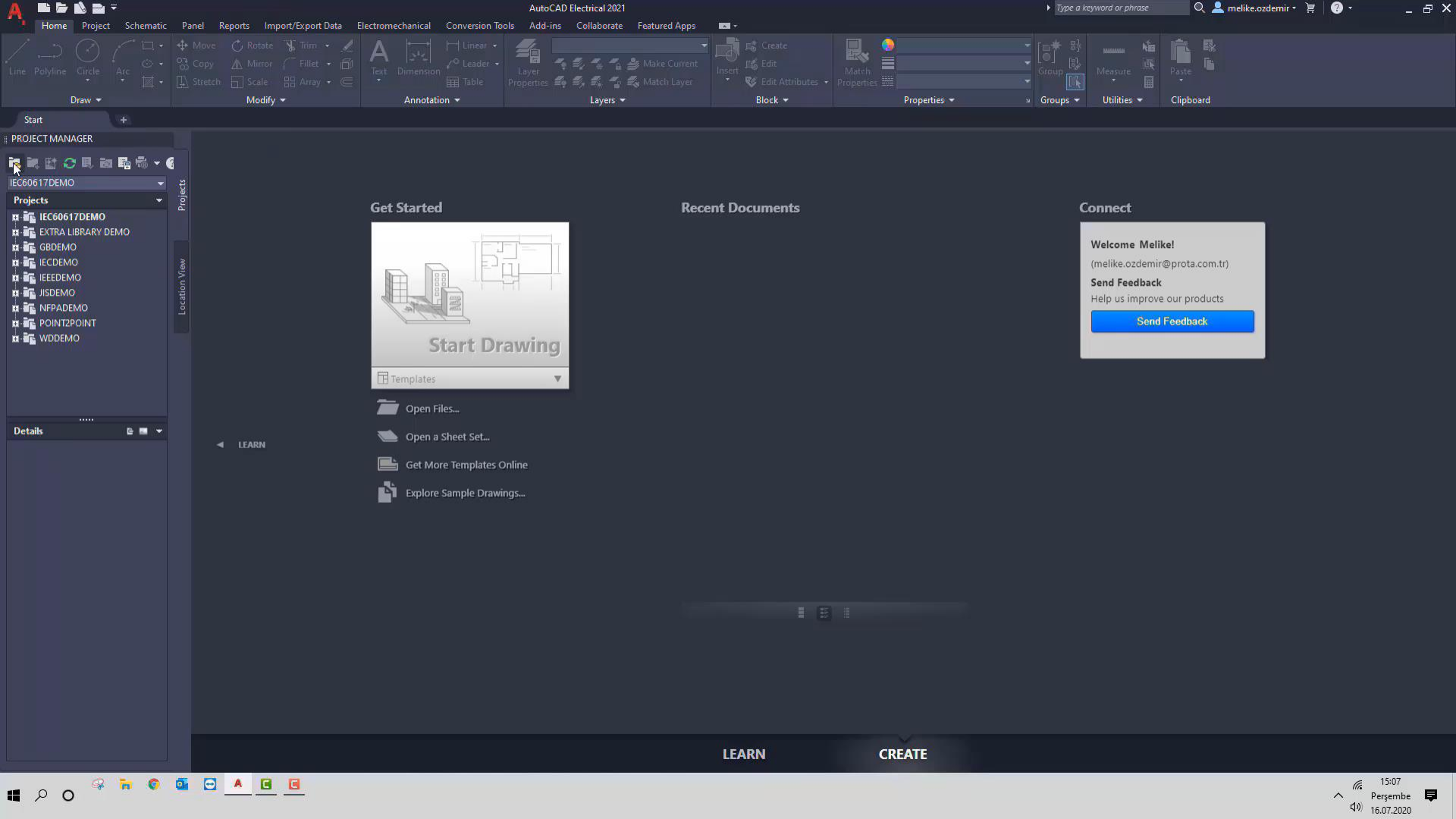
Search: AB 22.5mm BLUE

Results

CATALOG	MANUFACTURER	DESCRIPTION	TYPE	STYLE
800MR-A7A	AB	PUSH BUTTON - MOMENTARY, NEMA 13	22.5mm FLUSH	BLUE
800MR-A7AK	AB	PUSH BUTTON - MOMENTARY, NEMA 13	22.5mm FLUSH	BLUE
800MR-A7B	AB	PUSH BUTTON - MOMENTARY, NEMA 13	22.5mm FLUSH	BLUE
800MR-A7BK	AB	PUSH BUTTON - MOMENTARY, NEMA 13	22.5mm FLUSH	BLUE
800MR-A7D1	AB	PUSH BUTTON - MOMENTARY, NEMA 13	22.5mm FLUSH	BLUE
800MR-A7D1K	AB	PUSH BUTTON - MOMENTARY, NEMA 13	22.5mm FLUSH	BLUE
800MR-A7D2	AB	PUSH BUTTON - MOMENTARY, NEMA 13	22.5mm FLUSH	BLUE
800MR-A7D2K	AB	PUSH BUTTON - MOMENTARY, NEMA 13	22.5mm FLUSH	BLUE
800MR-B7A	AB	PUSH BUTTON - MOMENTARY, NEMA 13	22.5mm EXTENDED	BLUE
800MR-B7AK	AB	PUSH BUTTON - MOMENTARY, NEMA 13	22.5mm EXTENDED	BLUE
800MR-B7B	AB	PUSH BUTTON - MOMENTARY, NEMA 13	22.5mm EXTENDED	BLUE
800MR-B7BK	AB	PUSH BUTTON - MOMENTARY, NEMA 13	22.5mm EXTENDED	BLUE
800MR-B7D1	AB	PUSH BUTTON - MOMENTARY, NEMA 13	22.5mm EXTENDED	BLUE
800MR-B7D1K	AB	PUSH BUTTON - MOMENTARY, NEMA 13	22.5mm EXTENDED	BLUE
800MR-B7D2	AB	PUSH BUTTON - MOMENTARY, NEMA 13	22.5mm EXTENDED	BLUE
800MR-B7D2K	AB	PUSH BUTTON - MOMENTARY, NEMA 13	22.5mm EXTENDED	BLUE
800MR-D7A	AB	PUSH BUTTON - MUSHROOM, NEMA 13	22.5mm	BLUE
800MR-D7AK	AB	PUSH BUTTON - MUSHROOM, NEMA 13	22.5mm	BLUE
800MR-D7B	AB	PUSH BUTTON - MUSHROOM, NEMA 13	22.5mm	BLUE
800MR-D7D1	AB	PUSH BUTTON - MUSHROOM, NEMA 13	22.5mm	BLUE
800MR-D7D2	AB	PUSH BUTTON - MUSHROOM, NEMA 13	22.5mm	BLUE
800MR-PA16BA	AB	ILLUMINATED PUSH BUTTON - MOMENTARY, NEMA 13	22.5mm FLUSH	BLUE
800MR-PA16BA2	AB	ILLUMINATED PUSH BUTTON - MOMENTARY, NEMA 13	22.5mm FLUSH	BLUE
800MR-PA16BA2K	AB	ILLUMINATED PUSH BUTTON - MOMENTARY, NEMA 13	22.5mm FLUSH	BLUE
800MR-PA16BA4	AB	ILLUMINATED PUSH BUTTON - MOMENTARY, NEMA 13	22.5mm FLUSH	BLUE
800MR-PA16BA4K	AB	ILLUMINATED PUSH BUTTON - MOMENTARY, NEMA 13	22.5mm FLUSH	BLUE
800MR-PA16BAK	AB	ILLUMINATED PUSH BUTTON - MOMENTARY, NEMA 13	22.5mm FLUSH	BLUE
800MR-PA16BD1	AB	ILLUMINATED PUSH BUTTON - MOMENTARY, NEMA 13	22.5mm FLUSH	BLUE
800MR-PA16BD1K	AB	ILLUMINATED PUSH BUTTON - MOMENTARY, NEMA 13	22.5mm FLUSH	BLUE
800MR-PA16BD2	AB	ILLUMINATED PUSH BUTTON - MOMENTARY, NEMA 13	22.5mm FLUSH	BLUE
800MR-PA16BD2K	AB	ILLUMINATED PUSH BUTTON - MOMENTARY, NEMA 13	22.5mm FLUSH	BLUE
800MR-PA26BA	AB	ILLUMINATED PUSH BUTTON - MOMENTARY, NEMA 13	22.5mm FLUSH	BLUE
800MR-PA26BA2	AB	ILLUMINATED PUSH BUTTON - MOMENTARY, NEMA 13	22.5mm FLUSH	BLUE
800MR-PA26BA2K	AB	ILLUMINATED PUSH BUTTON - MOMENTARY, NEMA 13	22.5mm FLUSH	BLUE
800MR-PA26BA4	AB	ILLUMINATED PUSH BUTTON - MOMENTARY, NEMA 13	22.5mm FLUSH	BLUE
800MR-PA26BA4K	AB	ILLUMINATED PUSH BUTTON - MOMENTARY, NEMA 13	22.5mm FLUSH	BLUE
800MR-PA26BAK	AB	ILLUMINATED PUSH BUTTON - MOMENTARY, NEMA 13	22.5mm FLUSH	BLUE

Record Count: 4319

Search Database: Primary



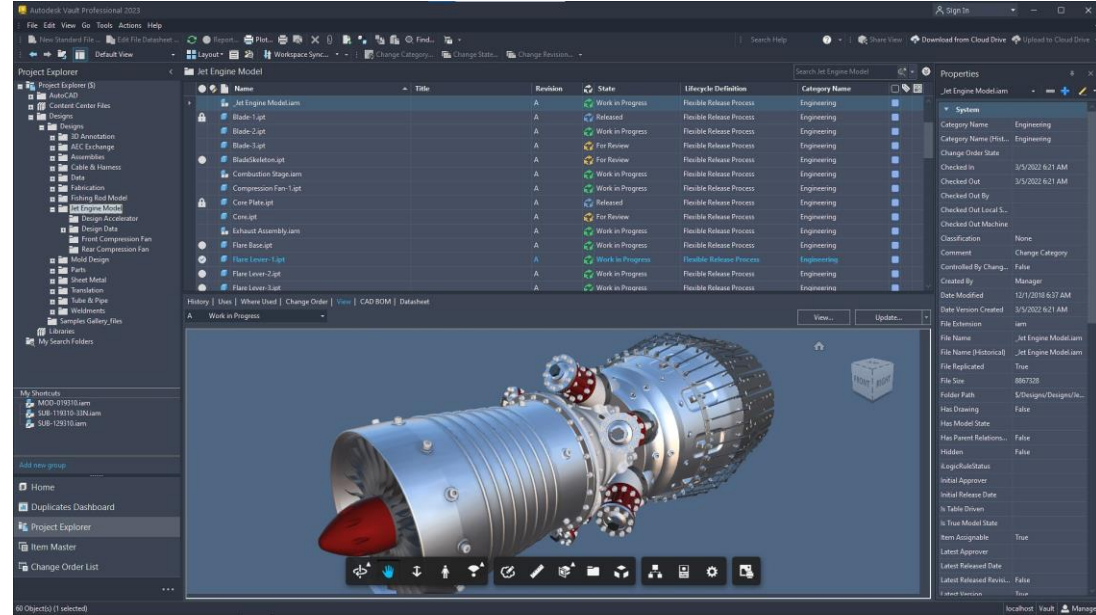


**Let the Computer Do
All the Work**

About Vault Professional

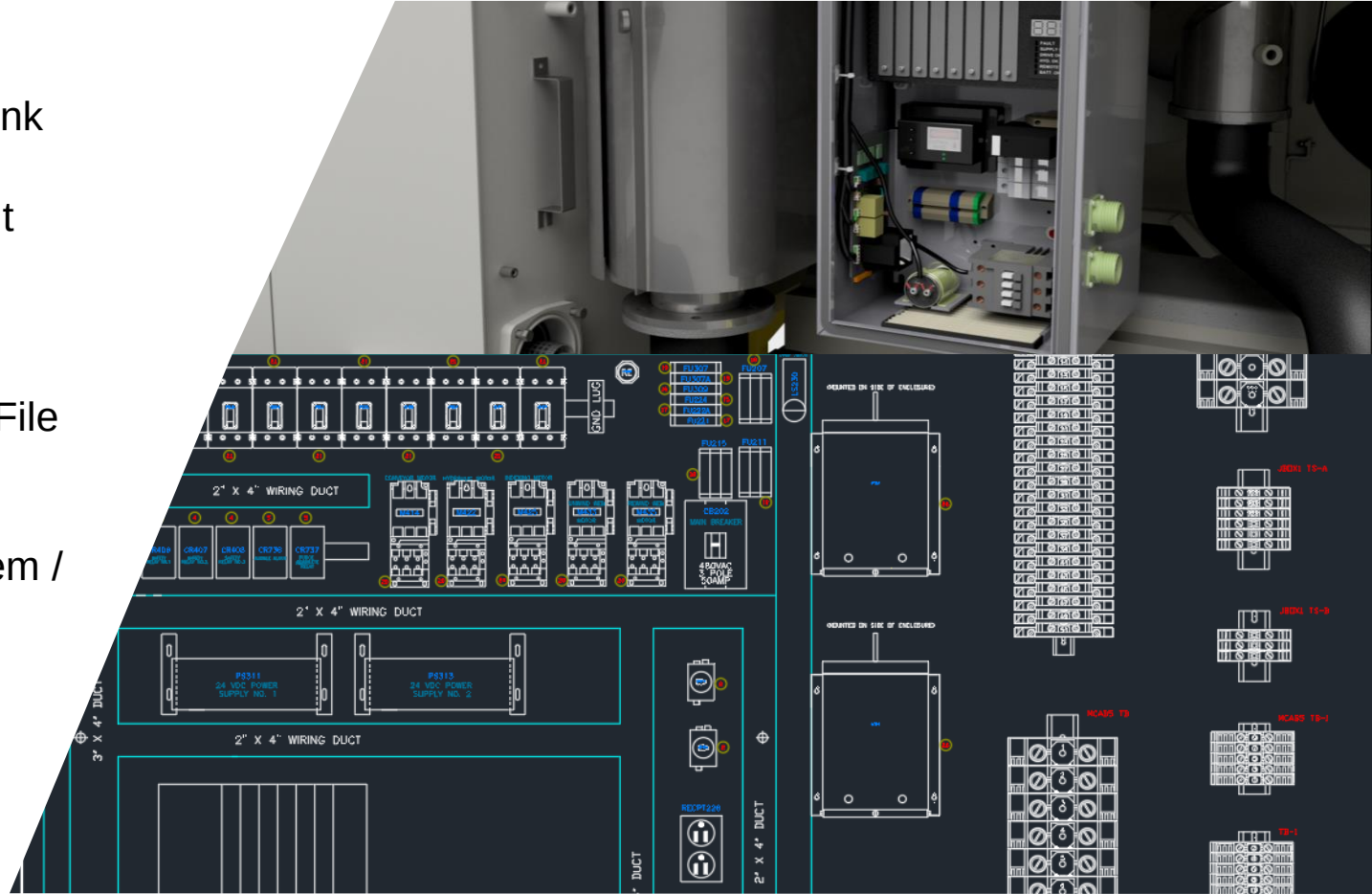
Vault Professional release management system

- Bill of Material Management
- Release Management
- Change Management.



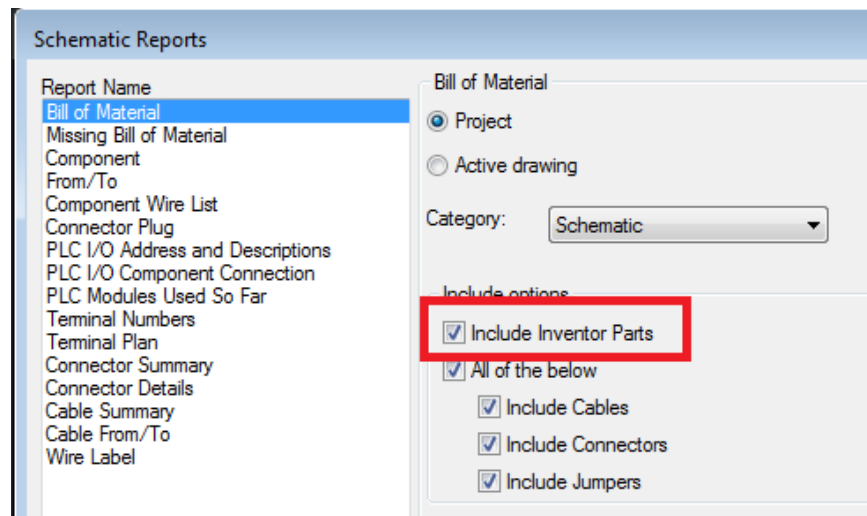
Electromechanical Workflow with Vault

- Electromechanical Link
- Catalog Management
- BOM Management
- Setup Project–Vault File Mapping
- Vault Professional Item / BOM



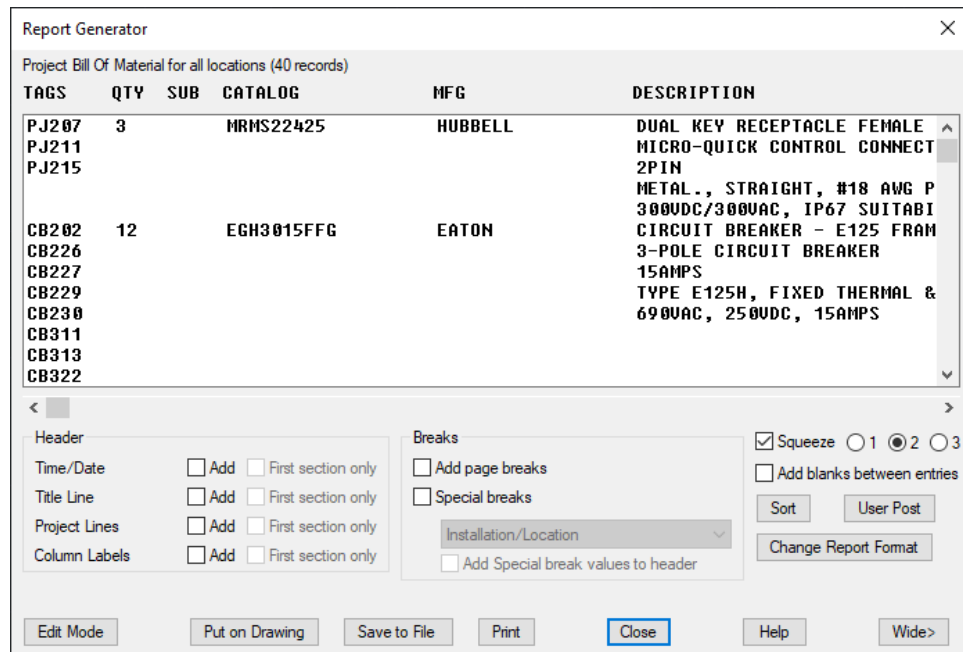
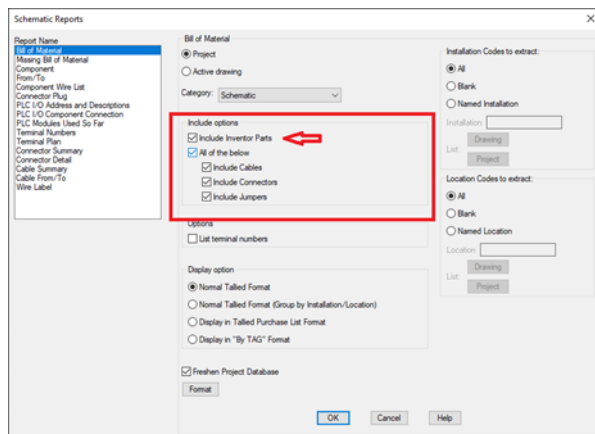
BOM Management

- AcadE BOM
 - Electrical only components
 - Inventor only components
 - Electrical Inventor linked components
- BOM Inventor components:
 - Unlinked
 - Linked



BOM Management

- Workflow
 - Insert 3D component
 - Link / Attach in schematics
 - BOM Reports AcadE Item BOM Vault



BOM Management

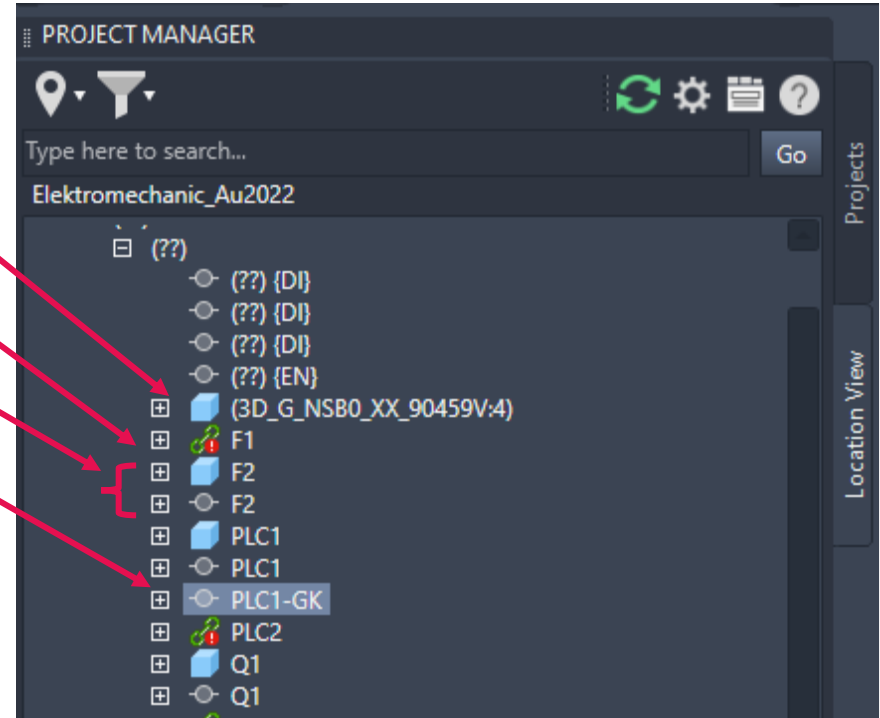
- Components

Inventor Component

Inventor & AcadE Component linked

Inventor & AcadE Component not linked

AcadE Component



BOM Management

- Result in AcadE BOM Report
 - Q1 is listed twice (Electrical & Inventor)
 - 3D-G... is listed once (Inventor)
 - X20 is listed once (linked)

Report Generator

Project Bill Of Material for all locations (20 records)

TAGS	INST	SOURCE	QTY	SUB	CATALOG	MFG
-X20	LINKED	1			2010-1201	WAGO
-F2	LINKED	1			2010-1202	WAGO
-(3D_G_NSB0_XX_90459U:4)	INVENTOR	1			3RU1011-0KA10	SIEME
-PLC1	INVENTOR	1			3RT1015-1BB42	SIEME
-Q1	INVENTOR	1			6EP1331-1SH03	SIEME
-Q1	INVENTOR	1			3RT10 16-1BB42	SIEME
-Q1	ELECTRICAL	2			3RT10 16-1BB42	SIEME
-Q2	LINKED					

Header

Time/Date ☐ Add ☐ First section only

Title Line ☐ Add ☐ First section only

Project Lines ☐ Add ☐ First section only

Column Labels ☐ Add ☐ First section only

Line 12

Breaks

☐ Add page breaks

☐ Special breaks

Installation/Location

☐ Add Special break values to header

☒ Squeeze ☐ 1 ☐ 2 ☐ 3

☐ Add blanks between entries

Sort User Post

Change Report Format

Edit Mode Put on Drawing Save to File Print Close Help Wide>

- Result in Vault Pro BOM
 - Q1 is listed (Electrical)
 - 3D-G... is not listed (Inventor)
 - X20 is listed (linked)

Circuit_diagram_Switch_cabinet.wdp - Work in Progress - Item (Read Only)

File Edit View Actions Help

Electrical Bill of Materi... Compare Circuit_diagram_Switch... Latest

General History Bill of Materials Where Used Change Order View Associated Files Datasheet

Latest Work in Progress Today Parts Only On Rows Only

Installation Location

Number	Tag	Quantity	Title (Item,CO)	Revision	State (Historical)
800MR-D5D1	S3	1	22 MM PUSH BUTTON...	A	Work in Progress
800MR-D1D1	S2	1	22 MM PUSH BUTTON...	A	Work in Progress
5911 086-7	S1	1	5911 086-7	A	Work in Progress
MCBH-011	S1	1	MCBH-011	A	Work in Progress
G1MMPMP3-11R	S1	1	G1MMPMP3-11R	A	Work in Progress
Location: EXTERNAL					
1LA7060-4AB10	M1	1	1LA7060-4AB10	A	Work in Progress
Location:					
2010-1201	X20	1	2010-1201	A	Work in Progress
3045114	X2	1	3045114	A	Work in Progress
3044102	X2	3	3044102	A	Work in Progress
3022218	X2	2	3022218	A	Work in Progress
2010-1202	X10	1	2010-1202	A	Work in Progress
3044115	X1	1	3044115	A	Work in Progress
3045114	X1	1	3045114	A	Work in Progress
3044102	X1	1	3044102	A	Work in Progress
3022218	X1	2	3022218	A	Work in Progress
65L3211-0AB13-7BA1	T1	2	65L3211-0AB13-7BA1	A	Work in Progress
3RT10 16-1BB42	Q2	1	3RT10 16-1BB42	A	Work in Progress
3RT10 16-1BB42	Q1	1	3RT10 16-1BB42	A	Work in Progress
6ED1-052-1MD00-0BA6	PLC2	1	6ED1-052-1MD00-0BA6	A	Work in Progress

Header

Time/Date ☐ Add ☐ First section only

Title Line ☐ Add ☐ First section only

Project Lines ☐ Add ☐ First section only

Column Labels ☐ Add ☐ First section only

Line 12

Breaks

☐ Add page breaks

☐ Special breaks

Installation/Location

☐ Add Special break values to header

☒ Squeeze ☐ 1 ☐ 2 ☐ 3

☐ Add blanks between entries

Sort User Post

Change Report Format

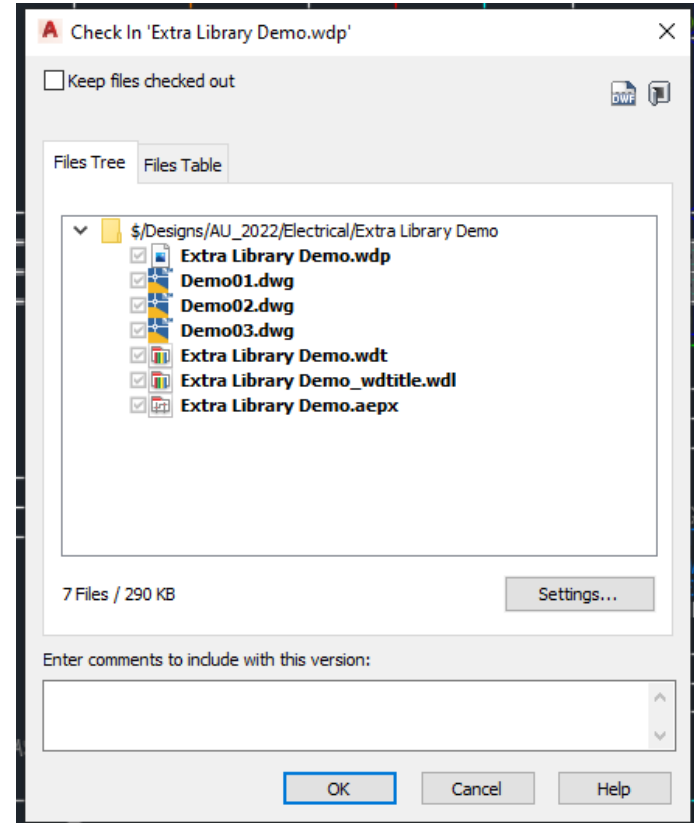
Edit Mode Put on Drawing Save to File Print Close Help Wide>

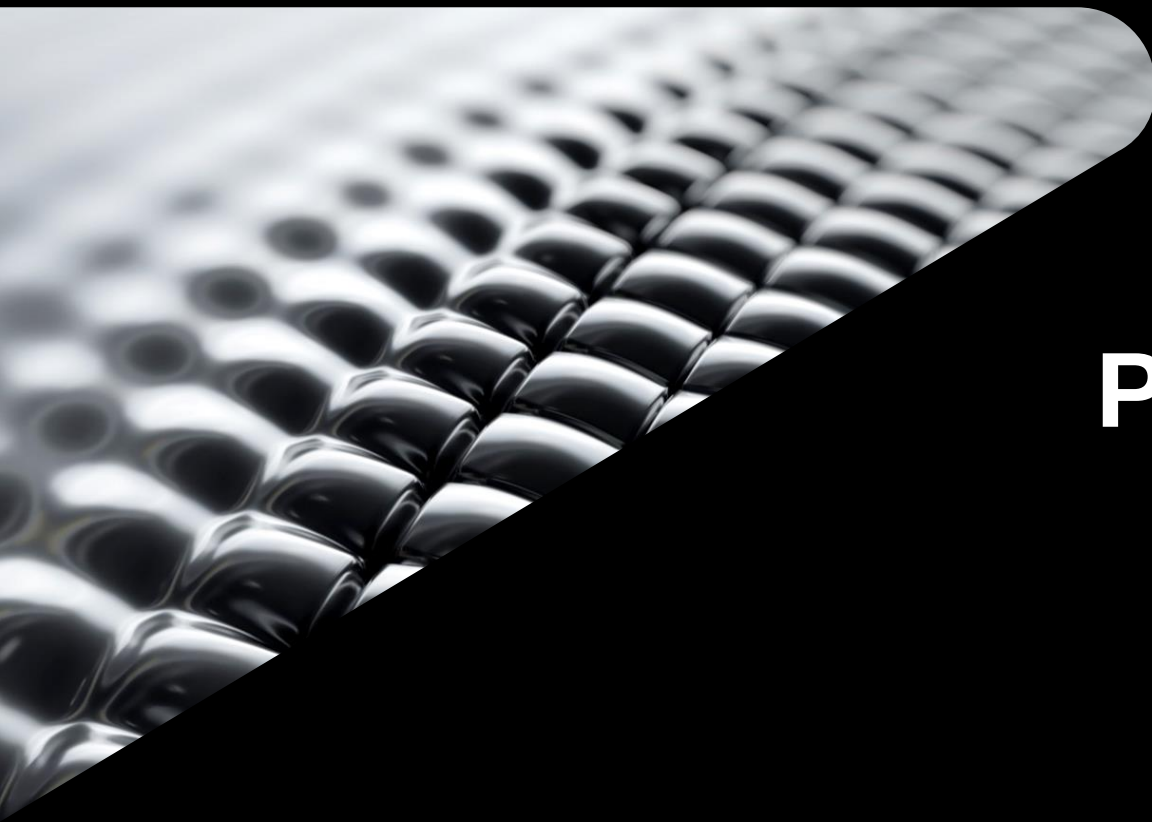
AutoCAD Electrical Project Files

- Check in Children
 - Electrical Project.wdp file
 - All DWG files
 - *.wdt file
 - *.wdl file
 - *.aepx file

And

- Emx files (these files are not listed but send to the vault)





File and Item Properties and Mapping

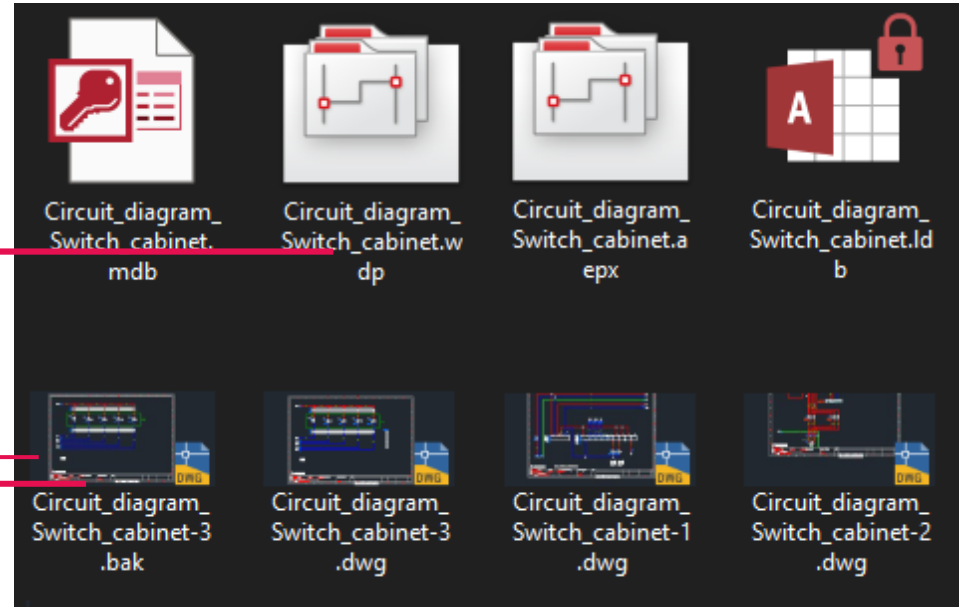
AutoCAD Electrical File and Item Management

- File Category

- Electrical Project
- Electrical Drawing

- Item Category

- Electrical
- Electrical Project



AutoCAD Electrical Vault Item Management

- Electrical

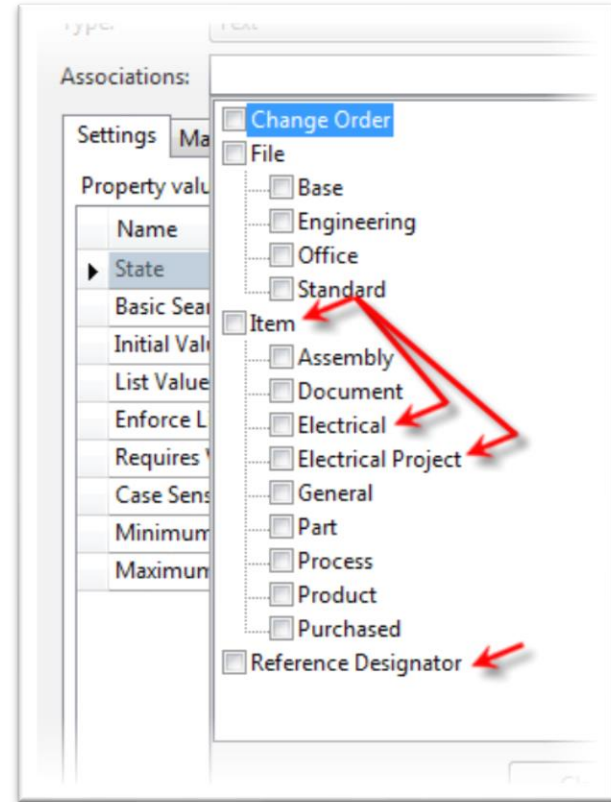
Used to map to AutoCAD Electrical drawing files and extract Bill of Material data .

- Electrical Project

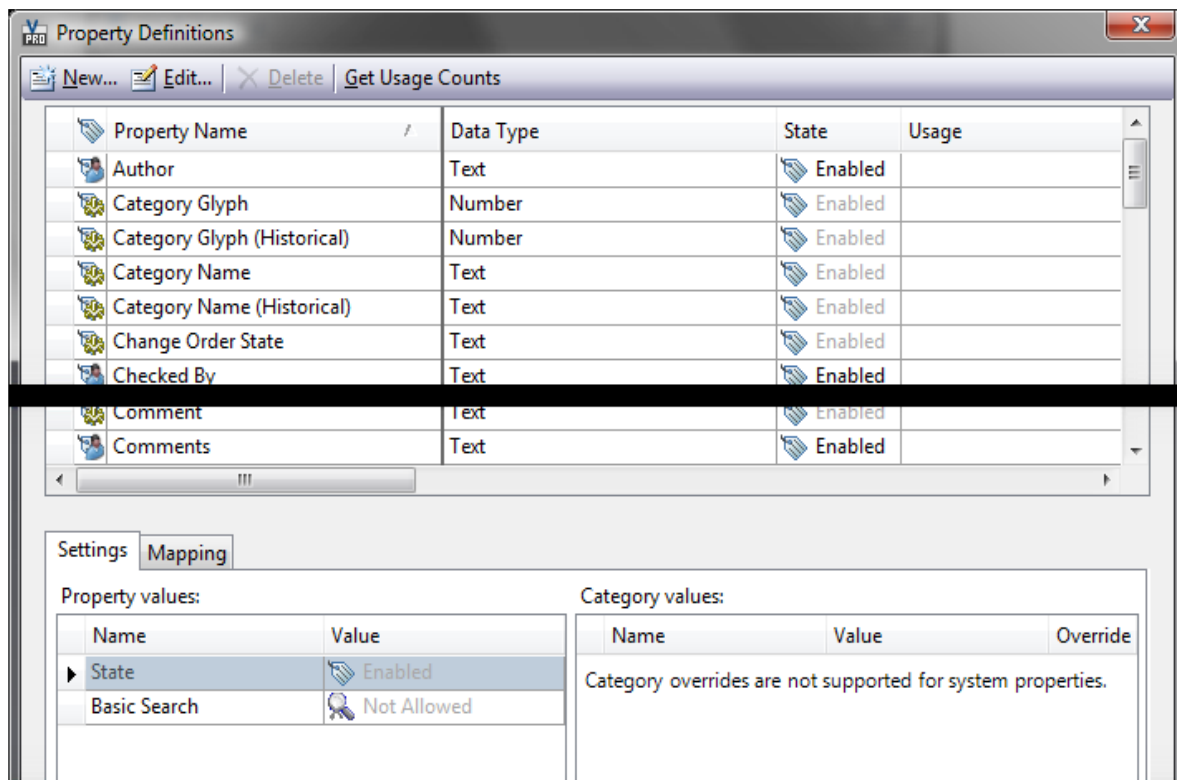
Used to map to AutoCAD Electrical project file and extract project line data

- Reference Designator

Used to map to AutoCAD Electrical drawing files and extract Description and Rating data



Mapping Vault Professional Item Properties



Project Explorer

- Project Explorer (S)
- Content Center Files
- Designs
 - 1
 - 2
 - AU_2022
 - ELECTRICAL**
 - Electrical Components
 - Gokhan
- Inventor Electrical Library
- Libraries
 - Library1
 - Library2
- My Search Folders

My Shortcuts

- Electrical

Add new group

Home

Duplicates Dashboard

Project Explorer

ProjectName

Item Master

Change Order List

ELECTRICAL (C:\Vault\Designs\AU_2022\ELECTRICAL)

Search ELECTRICAL

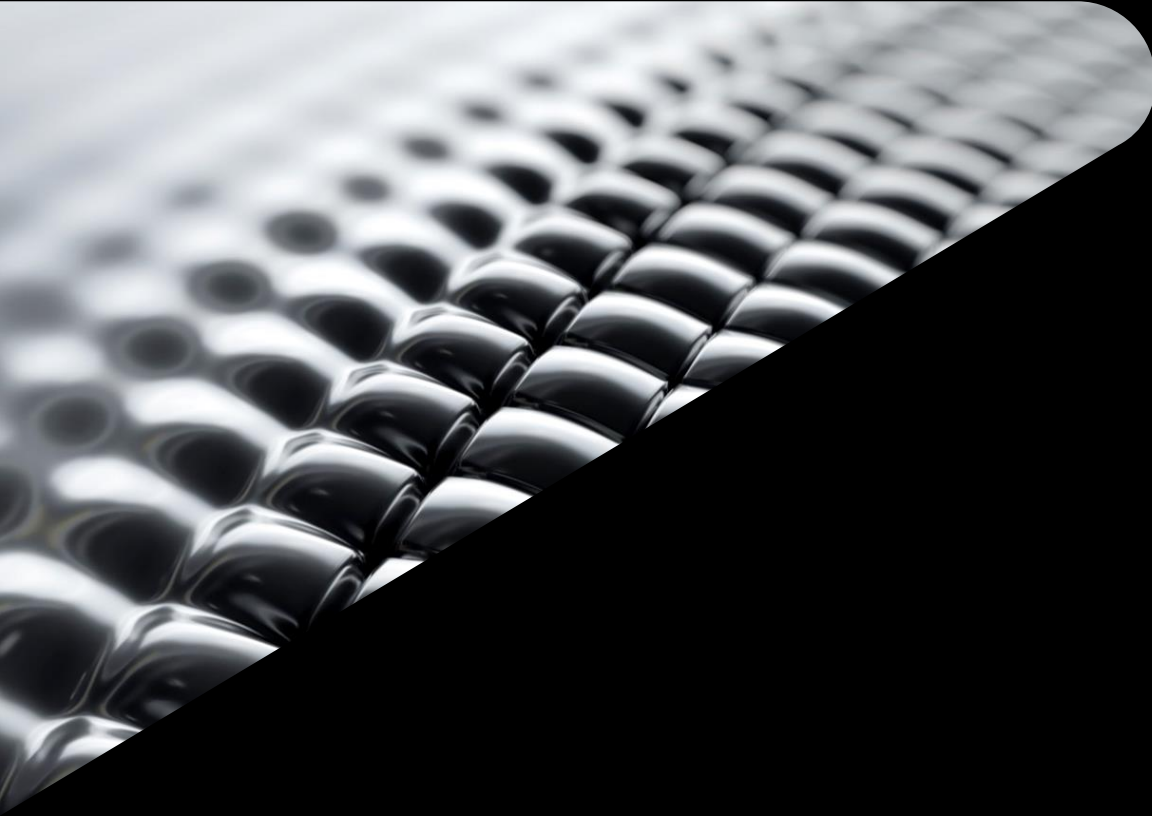
Name	State	Revision
File		
Circuit_diagram_Switch_cabinet.aepx		
Circuit_diagram_Switch_cabinet.wdp		
Circuit_diagram_Switch_cabinet.wdtitle.wdl		
Circuit_diagram_Switch_cabinet-1.dwg		
Circuit_diagram_Switch_cabinet-2.dwg		
Circuit_diagram_Switch_cabinet-3.dwg		
Circuit_diagram_Switch_cabinet-4.dwg		

Properties

7 Object(s) (0 selected)

localhost GK_Vault administrator

2:52 AM 9/4/2022

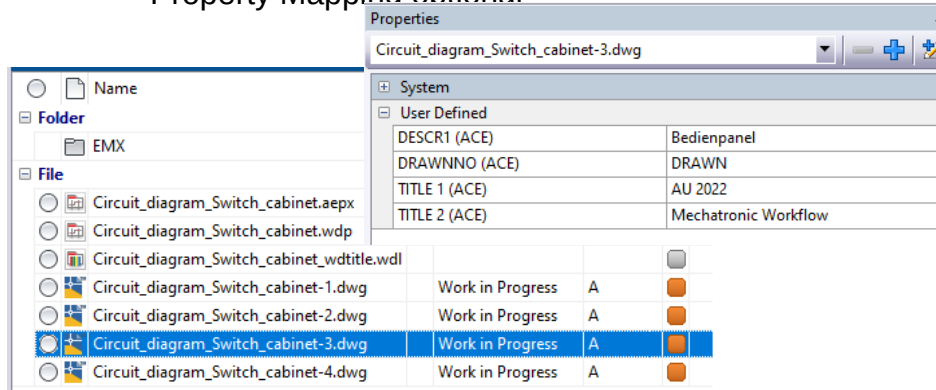


Item & BOM management

Lifecycle & Revision Management

- File Management

- Electrical Project Category
 - Lifecycle File Release Process
 - No Property Mapping
- Electrical Drawing Category
 - Lifecycle File Release Process
 - Property Mapping optional

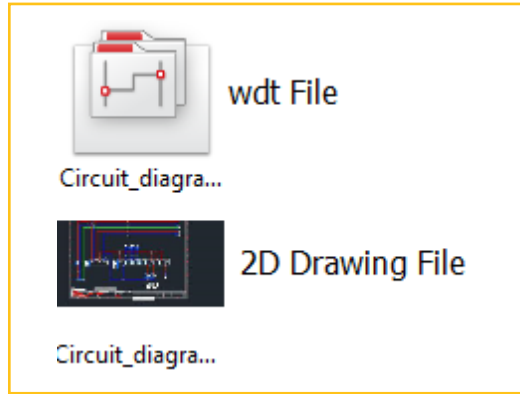


- Item Management

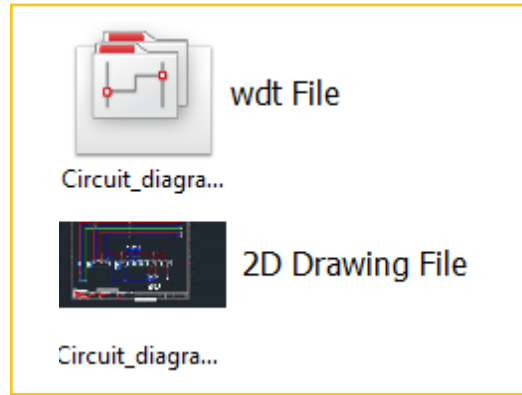
- Electrical Project Category
 - Project BOM
 - Property Mapping
 - Lifecycle Item Release Process
 - Check Point Linked File Released?

Number	Revision	State	DEC1	MFG	Title (Item,CO)	Project ...	Project Dec
6SL3211-0AB13-7BA1	A	Work in Progress		SIEMENS	6SL3211-0AB13-7BA1		
3RT10 16-1BB42	A	Work in Progress	IEC CONTAC...	SIEMENS	3RT10 16-1BB42		
6ED1-052-1MD00-0BA6	A	Work in Progress		SIEMENS	6ED1-052-1MD00-0BA6		
6EP1331-1SH03	A	Work in Progress		SIEMENS	6EP1331-1SH03		
3RV1011-0KA10	A	Work in Progress		SIEMENS	3RV1011-0KA10		
199-DR1	A	Work in Progress	ZINC/STEEL ...	AB	199-DR1		
AE1050.500MP	A	Work in Progress		RITTAL	AE1050.500MP		
Circuit_diagram_Switch_cabinet.wdp	A	Work in Progress			Circuit_diagram_Switch_ca...	AU 2022	Mechatronic Workflow

Lifecycle & Revision Management

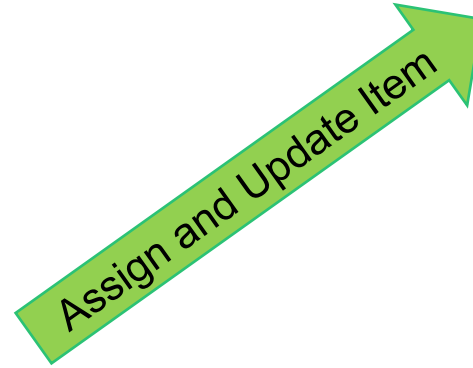


Lifecycle & Revision Management



Released

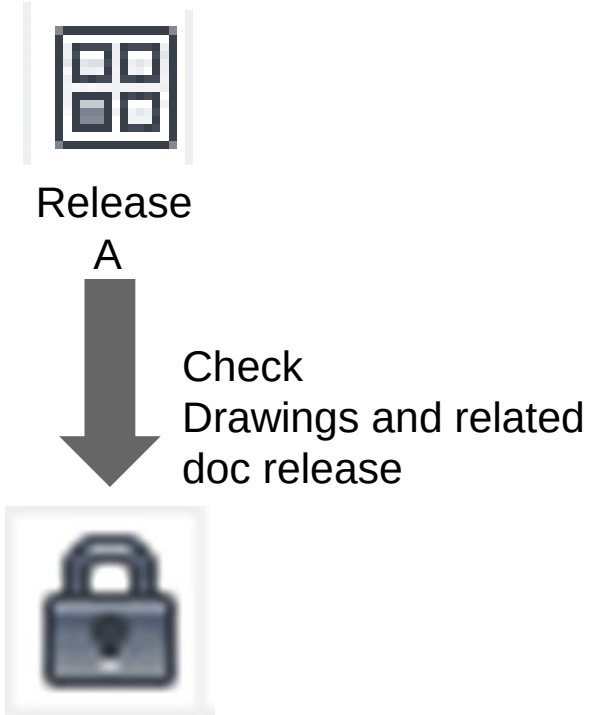
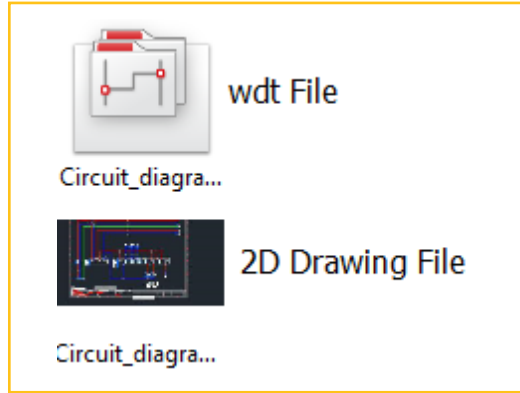
A



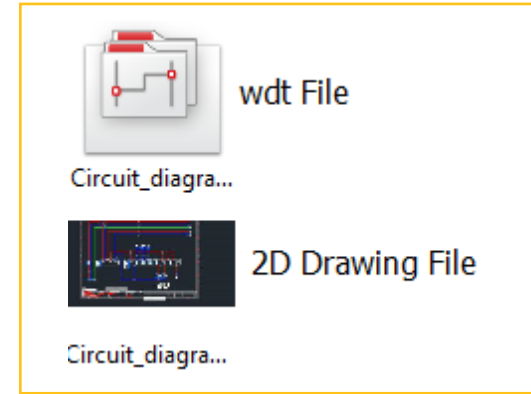
Work in Progress

A

Lifecycle & Revision Management



Lifecycle & Revision Management



Revise



Work in Progress

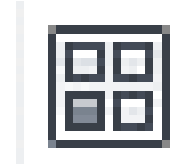
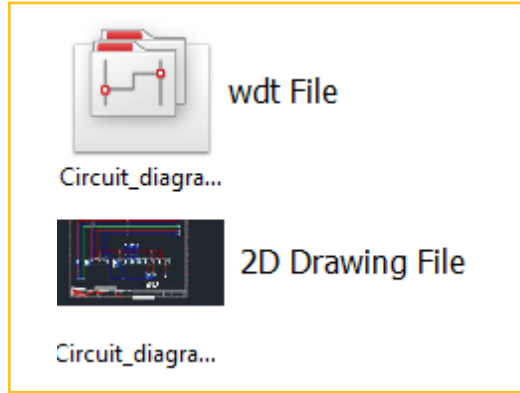
B



Release
A



Lifecycle & Revision Management



Revise



Work in Progress

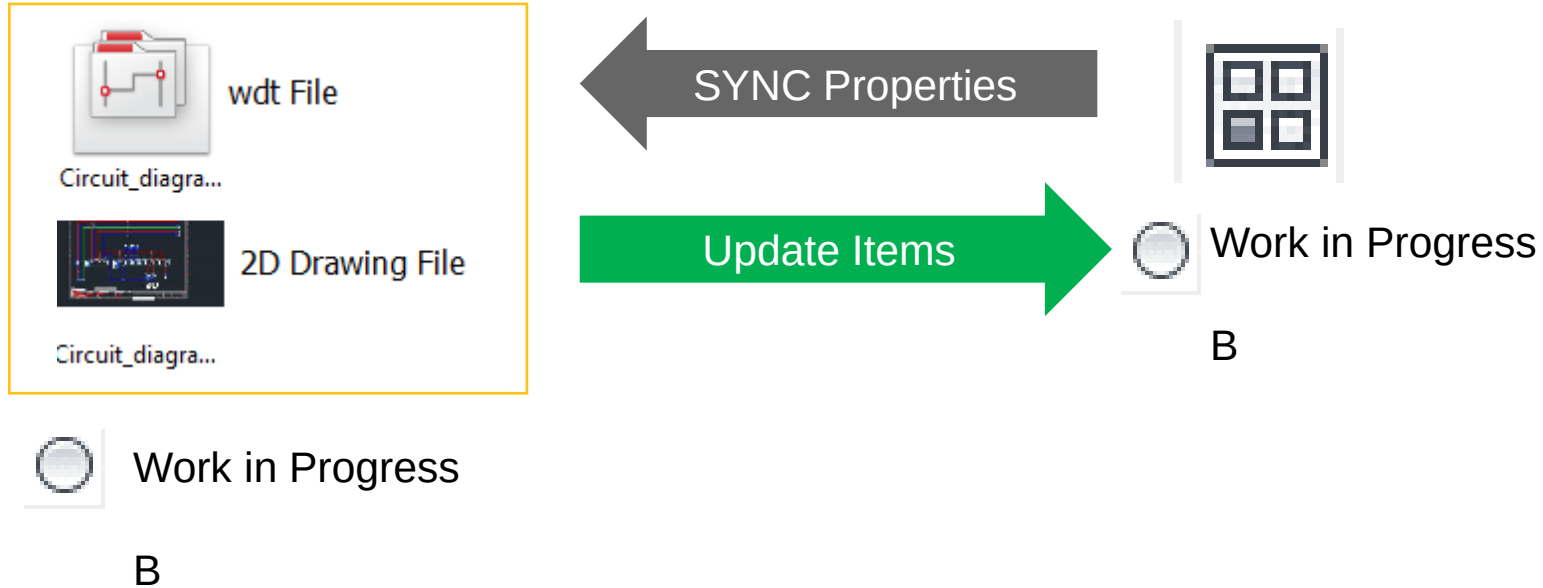
B



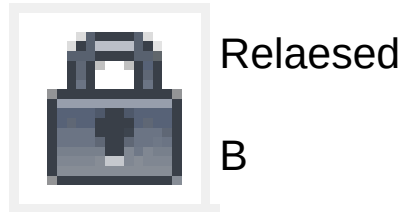
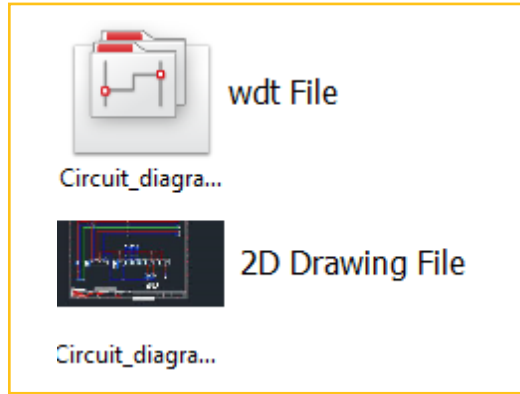
Work in Progress

B

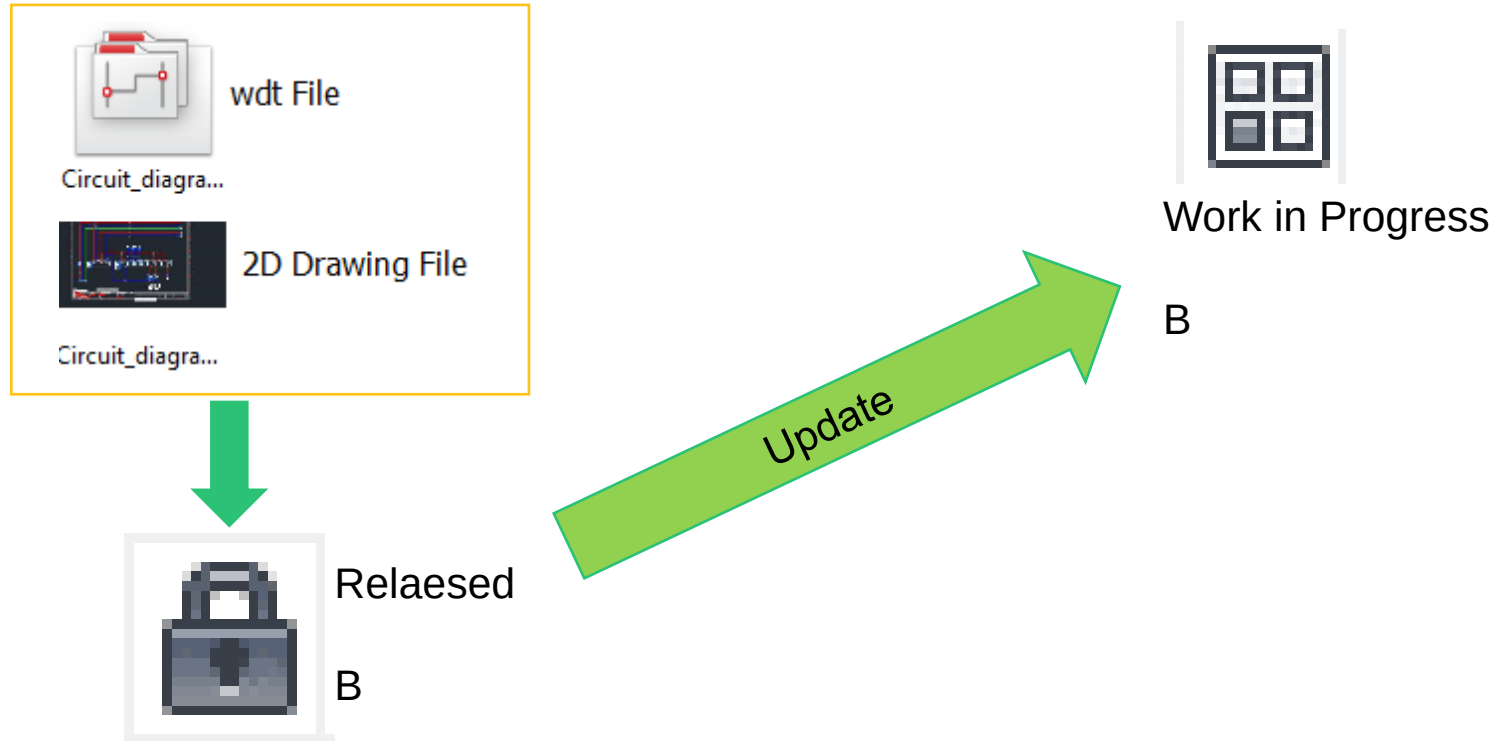
Lifecycle & Revision Management



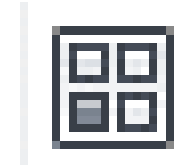
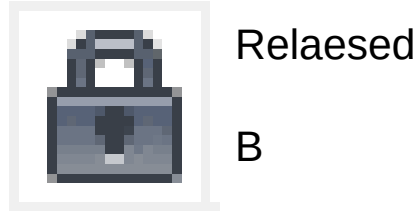
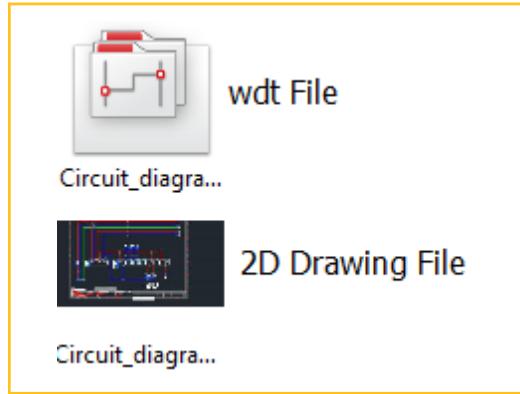
Lifecycle & Revision Management



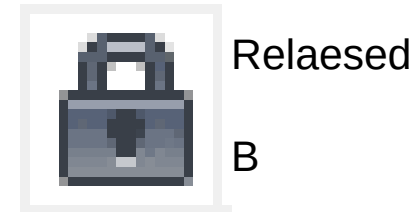
Lifecycle & Revision Management



Lifecycle & Revision Management



Release



Lifecycle & Revision Management



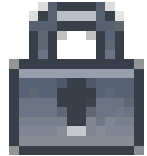
wdt File

Circuit_diagra...



2D Drawing File

Circuit_diagra...



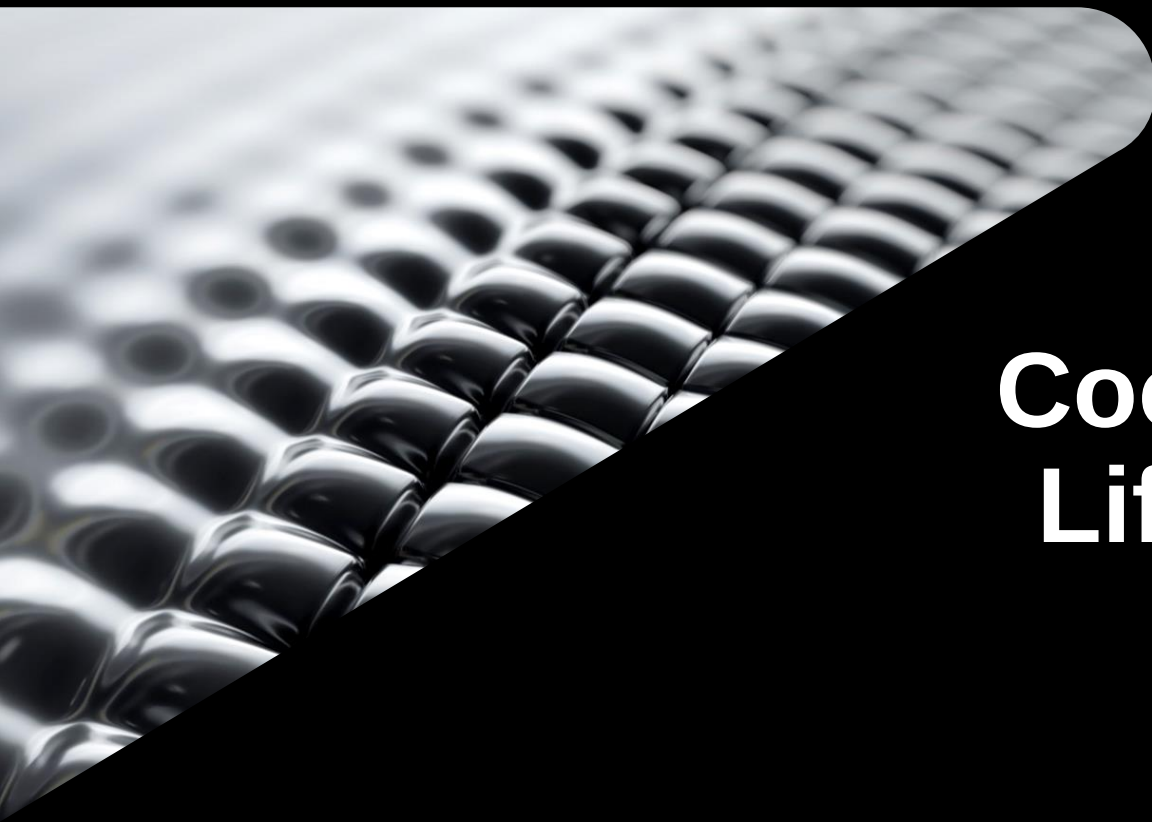
Released

B



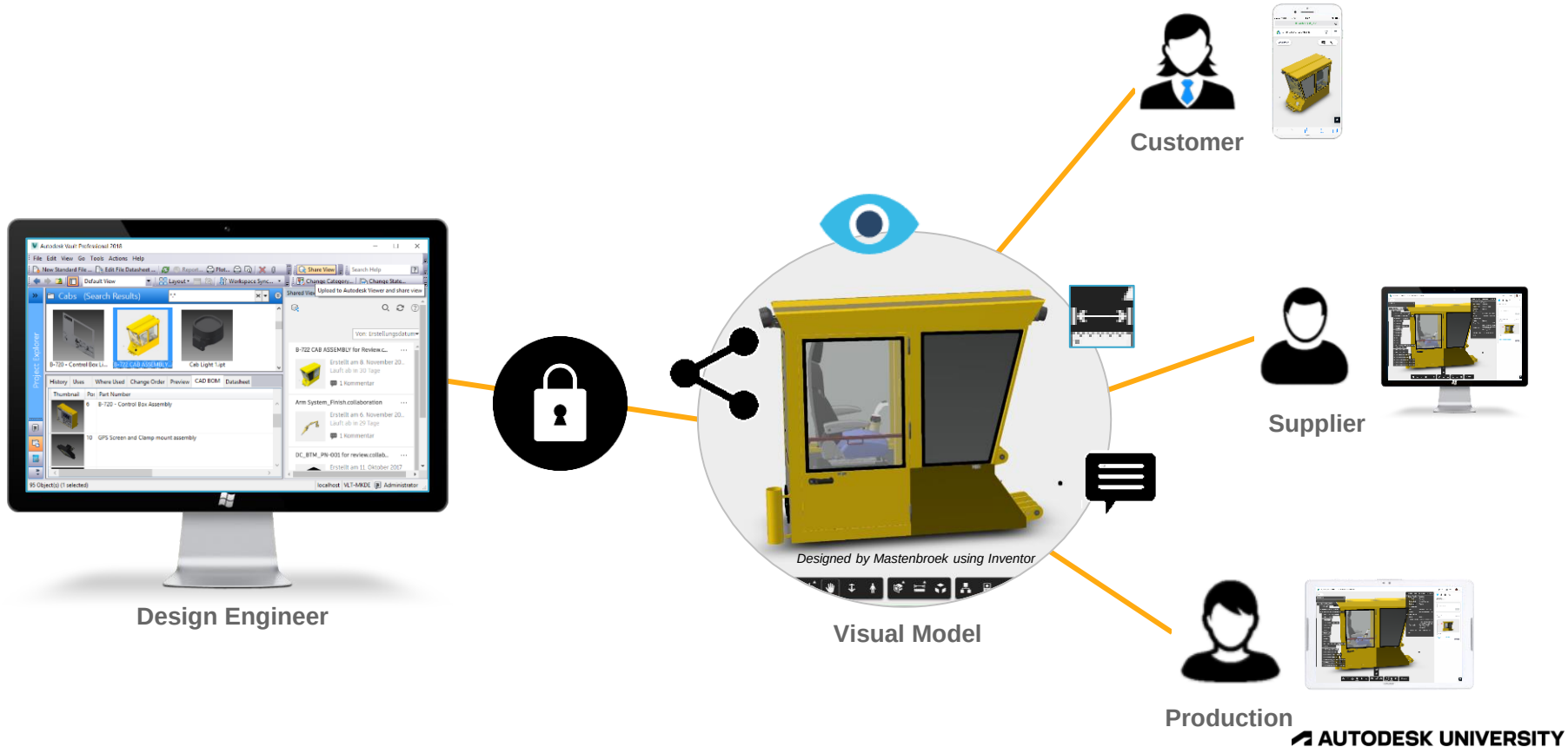
Released

B

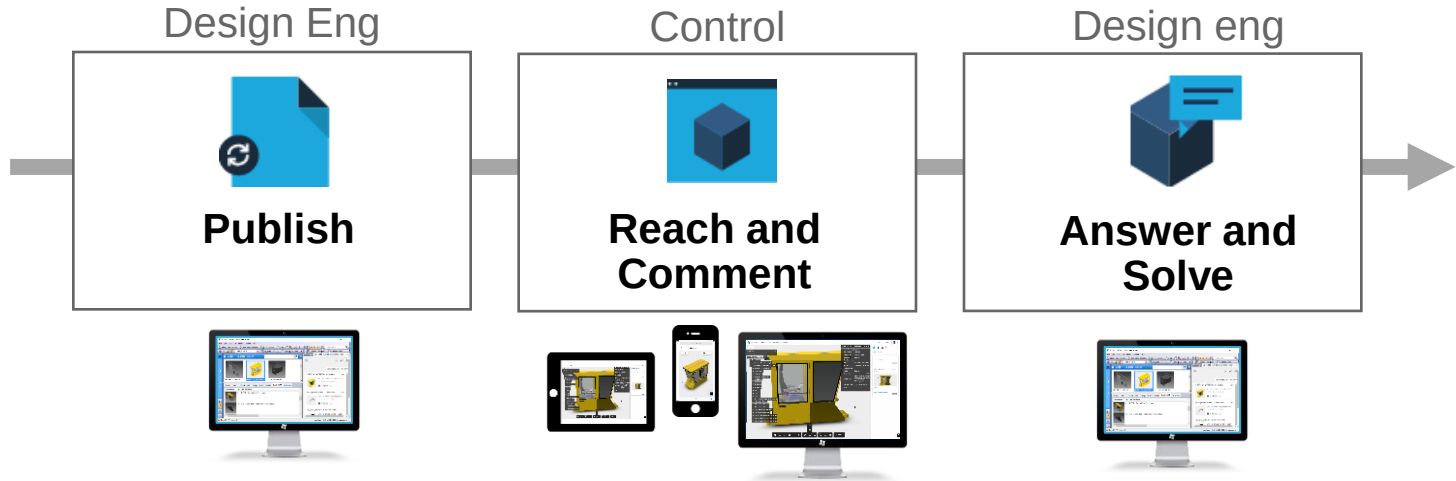


Cooperation, the Lifeline of Ideas

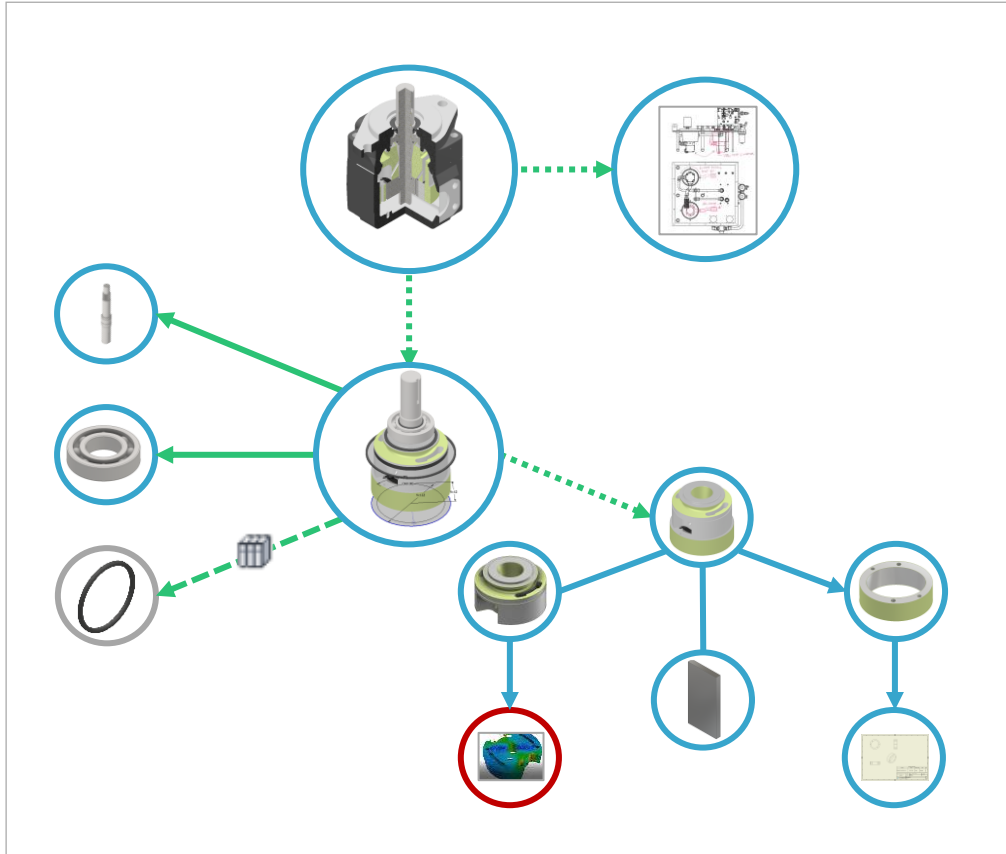
Simple and Quick

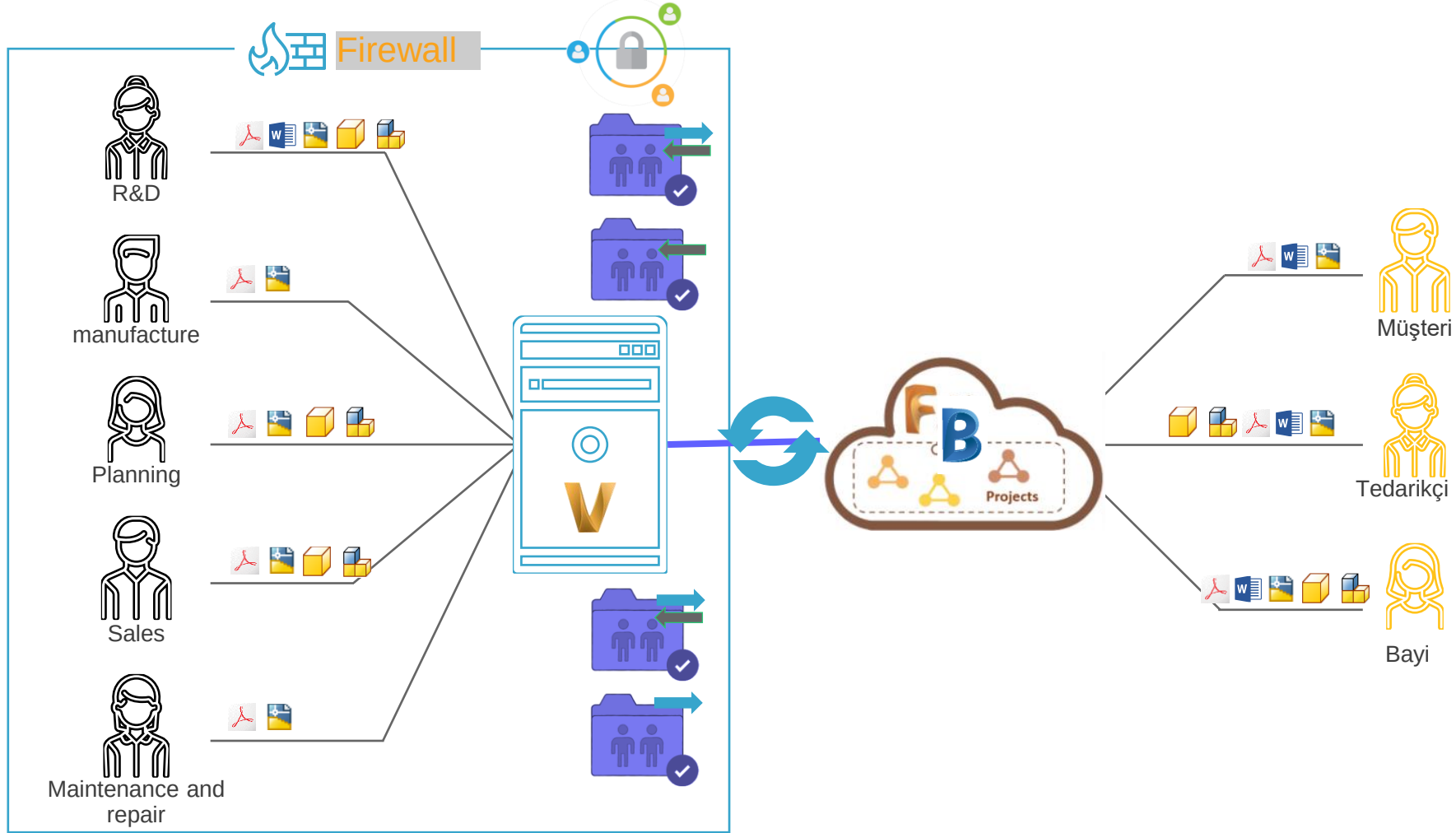


Workflow



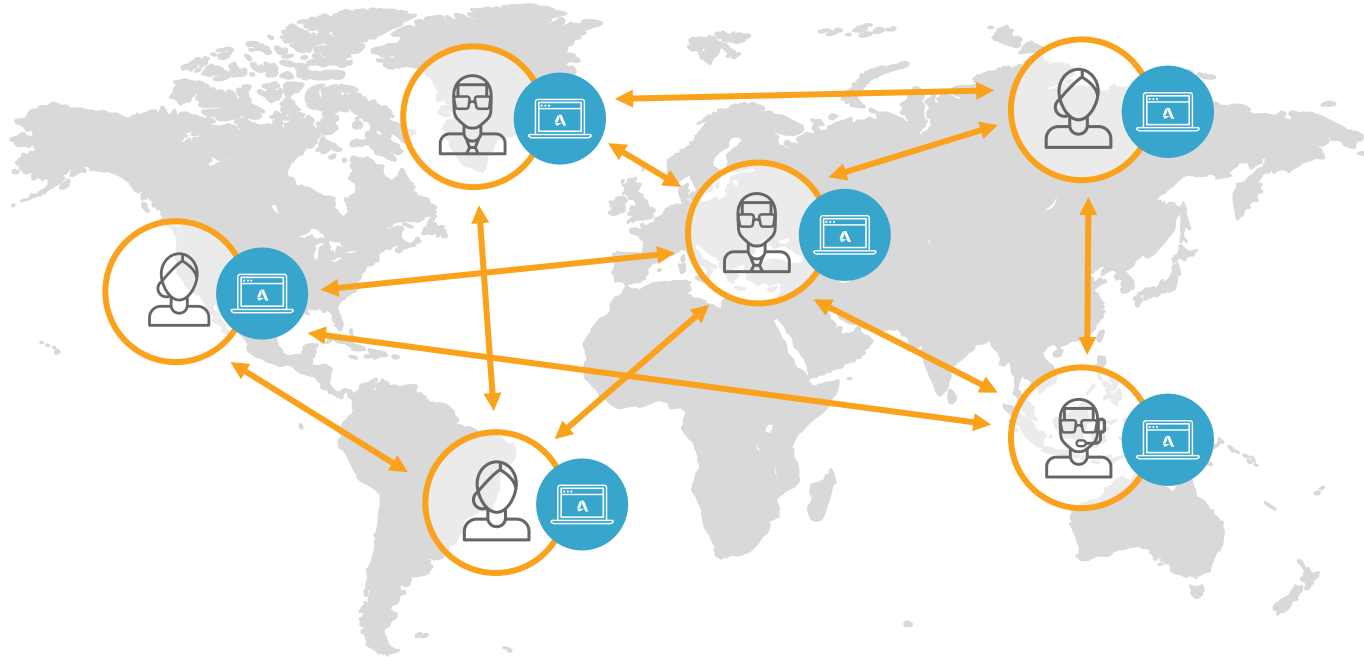
The Soul of Engineering comes from cooperation!





Multidimensional Workflow

Global communication all around the world with the use of Vault





AUTODESK

Melike Ozdemir

D&M Technical Sales Specialist at Autodesk

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Prota Altar



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