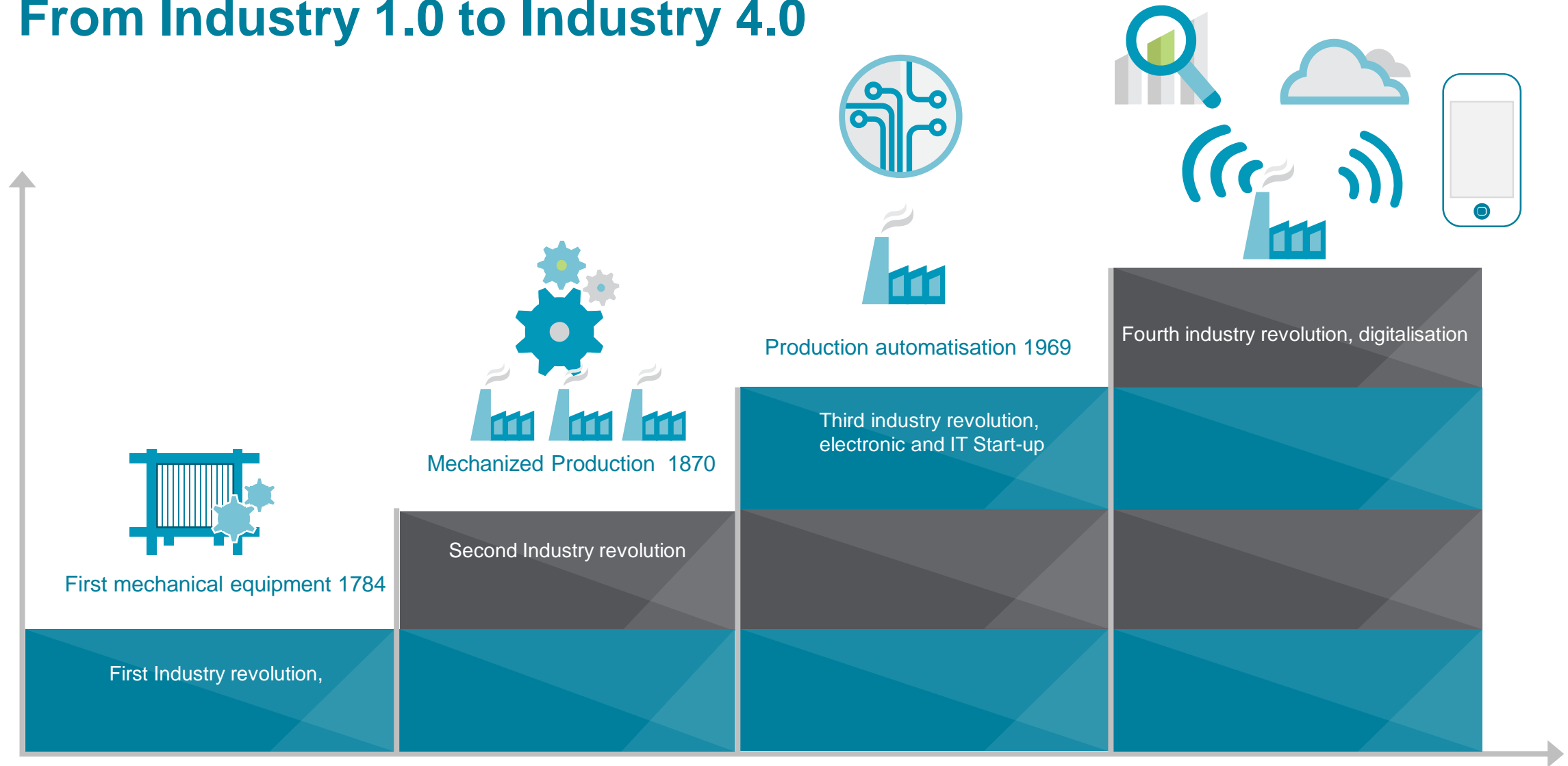


An aerial night view of a city, likely Dubai, with a network of white dots and lines overlaid on the image, suggesting a digital or data network. The city lights are visible, and the network lines connect various points across the urban landscape.

Hexagon's Visualization Approach for the Digital Transformation Era

Waldir Pimentel JUNIOR - Business Development Consultant
Finland - 2018

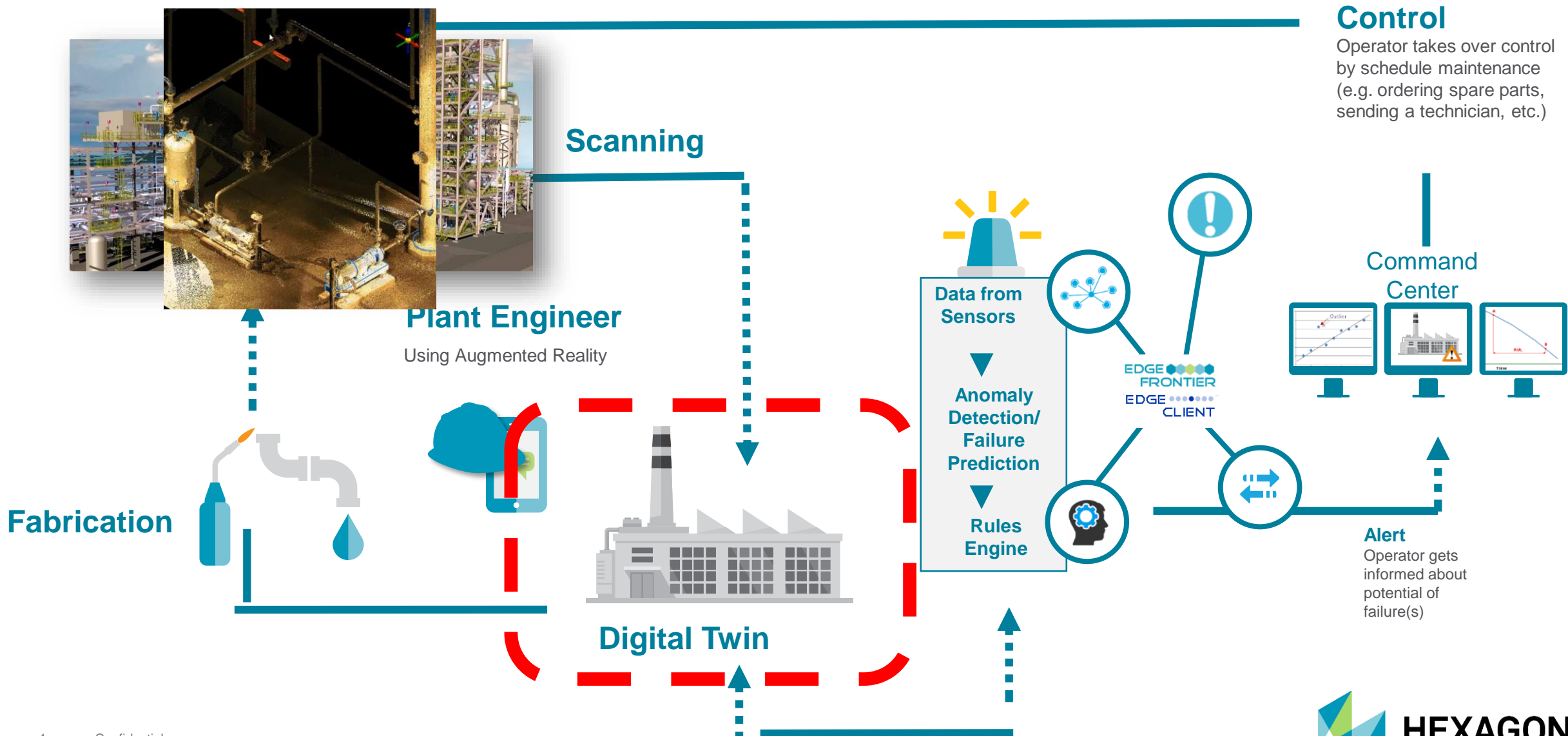
From Industry 1.0 to Industry 4.0



What does Industry 4.0 mean for plant engineering?



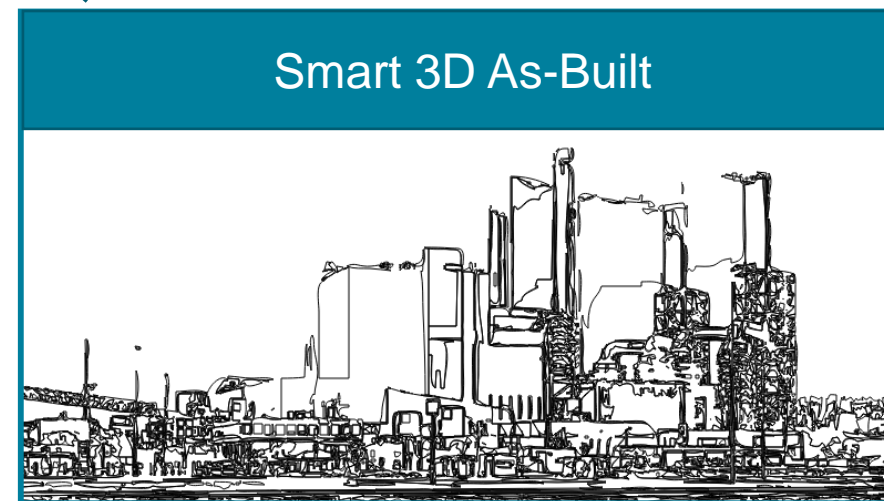
Creating the Digital Twin





Sample: Creating the DT (focus on 3D)

Use the power of Smart 3D 2018



Point Cloud

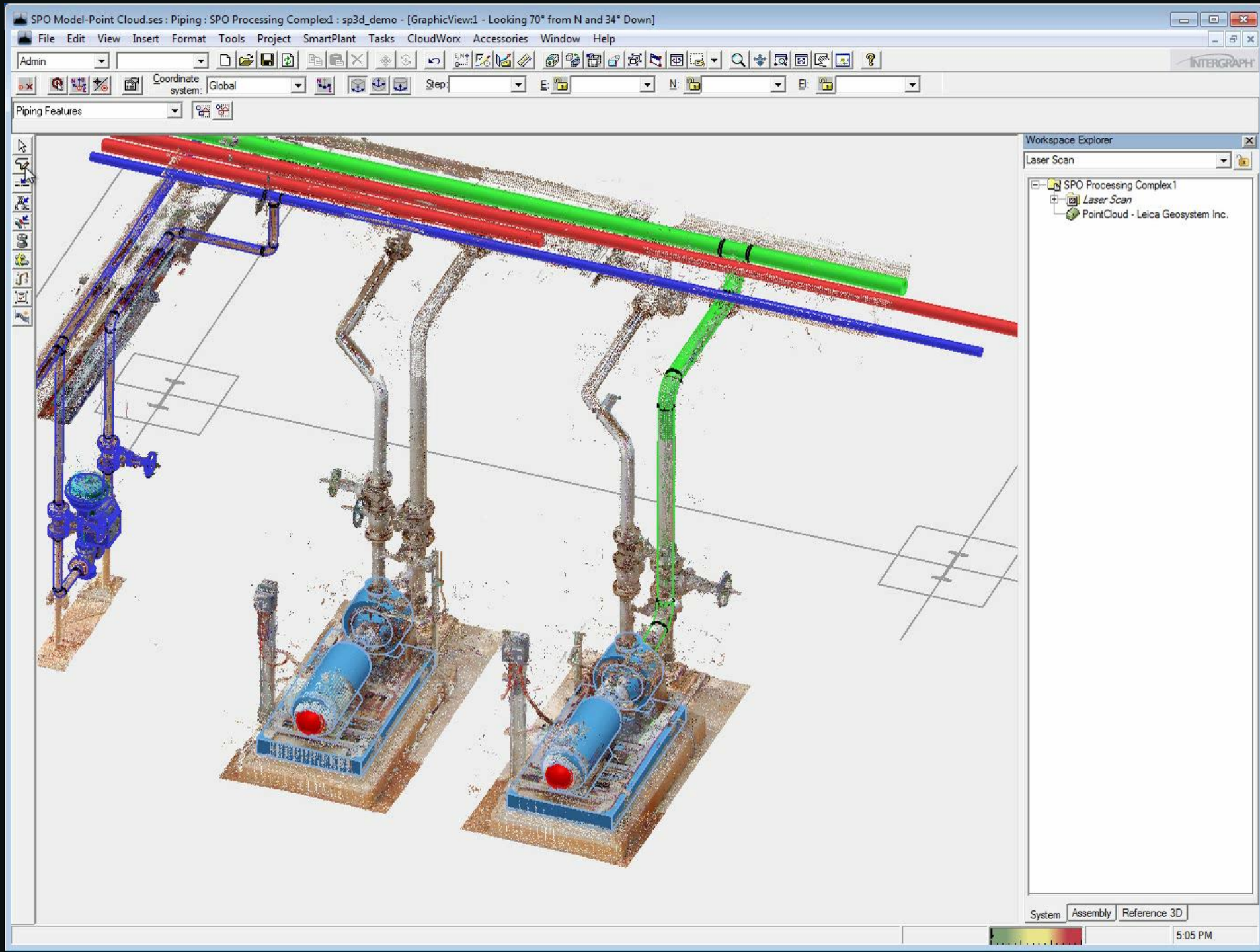
Smart 3D

PDS

PDMS



HEXAGON
PPM





Documents



Incoming Project Communication



Internal Project Communication



Laser Scans



Outgoing Project Communication



Review Plans



Reports



Tags, Assets and Models



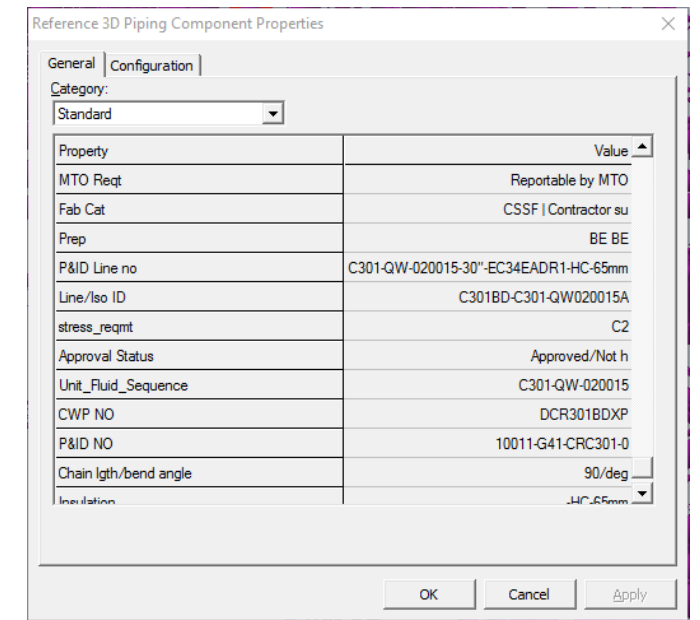
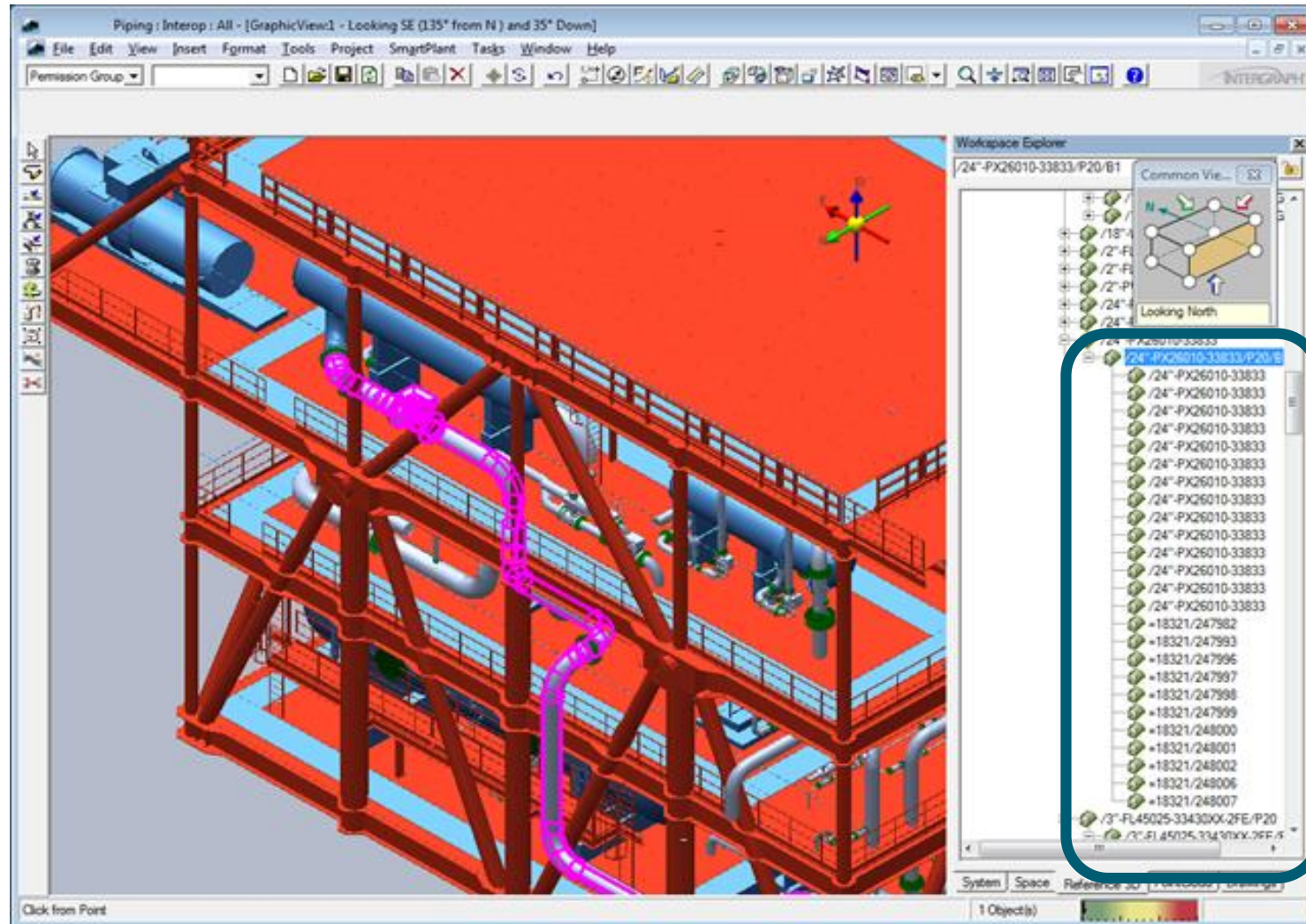
Work Packages

Demolish Portions of Point Cloud or 3D model and Model in Place!

- Create demolish volumes (for point clouds)
- Demolish points in volumes and/or delete objects
- Model Replacement

Big savings in time (and \$)

New Interoperability (SIO) S3D 2018



Convert Native Data to Smart 3D As Built

Smart 3D

PDS

PDMS

The screenshot shows the SPIOP interface with two main sections: 'Source Files' and 'Smart Models'.

Source Files:

Name	Location	Source File Type
PDS		
pipe1m1.zxf	\\S3DPOH1\SPOData\Source_Files\PDS_PDS_published	PDS3DMM
pipe1m2.zxf	\\S3DPOH1\SPOData\Source_Files\PDS_PDS_published	PDS3DMM
pipe1m3.zxf	\\S3DPOH1\SPOData\Source_Files\PDS_PDS_published	PDS3DMM
res1m1.zxf	\\S3DPOH1\SPOData\Source_Files\PDS_PDS_published	PDS3DMM
res1m2.zxf	\\S3DPOH1\SPOData\Source_Files\PDS_PDS_published	PDS3DMM
pipe1m1_Demo.zxf	\\S3DPOH1\SPOData\Source_Files\PDS_PDS_demo	PDS3DMM
pipe1m2_Demo.zxf	\\S3DPOH1\SPOData\Source_Files\PDS_PDS_demo	PDS3DMM
Smart 3D		
PDS_38	\\S3DPOH1\SPOData\Source_Files\2018_SIO\Prepater\Bspider	Smart 3D
PDS_39	\\S3DPOH1\SPOData\Source_Files\2018_SIO\Plant\PDS	Smart 3D
PDS_40	\\S3DPOH1\SPOData\Source_Files\2018_SIO\Plant\PDS	Smart 3D
U01	\\S3DPOH1\SPOData\Source_Files\2018_SIO\Plant\2018_SIO_Train	Smart 3D
U05	\\S3DPOH1\SPOData\Source_Files\2018_SIO\Plant\2018_SIO_Train	Smart 3D
U07	\\S3DPOH1\SPOData\Source_Files\2018_SIO\Plant\2018_SIO_Train	Smart 3D
PDS_40	\\S3DPOH1\SPOData\Source_Files\2018_SIO\Plant\2018_SIO_Train	Smart 3D
U14	\\S3DPOH1\SPOData\Source_Files\2018_SIO\Plant\2018_SIO_Train	Smart 3D

Smart Models:

Name	Location	Type	Translation Status	Translation Date	SPF Publish
PDS_SIO					
PDS_STABILIZER	\\S3DPOH1\SPOData\Smart_Models\2018_SIO\PDMS	vse	Complete	3/15/2018 11:22:00 AM	None
SIO_SIO					
PDS	\\S3DPOH1\SPOData\Smart_Models\2018_SIO	vse	Complete	3/13/2018 2:32:39 PM	None
PDS_38	\\S3DPOH1\SPOData\Smart_Models\2018_SIO	vse	Complete	3/13/2018 2:33:57 PM	None
PDS_39	\\S3DPOH1\SPOData\Smart_Models\2018_SIO	vse	Complete	3/20/2018 4:58:14 PM	None
PDS_40	\\S3DPOH1\SPOData\Smart_Models\2018_SIO	vse	Complete	3/13/2018 2:36:13 PM	None
U01	\\S3DPOH1\SPOData\Smart_Models\2018_SIO\Plant\2018_SIO_Train	vse	Complete	3/13/2018 2:37:16 PM	None
U05	\\S3DPOH1\SPOData\Smart_Models\2018_SIO\Plant\2018_SIO_Train	vse	Complete	3/13/2018 2:38:22 PM	None
U07	\\S3DPOH1\SPOData\Smart_Models\2018_SIO\Plant\2018_SIO_Train	vse	Complete	3/13/2018 2:39:25 PM	None
PDS_40	\\S3DPOH1\SPOData\Smart_Models\2018_SIO\Plant\2018_SIO_Train	vse	Complete	3/13/2018 2:41:28 PM	None
U02	\\S3DPOH1\SPOData\Smart_Models\2018_SIO\Plant\2018_SIO_Train	vse	Complete	3/20/2018 12:56:17 AM	None
U13	\\S3DPOH1\SPOData\Smart_Models\2018_SIO\Plant\2018_SIO_Train	vse	Complete	3/13/2018 2:43:55 PM	None
U14	\\S3DPOH1\SPOData\Smart_Models\2018_SIO\Plant\2018_SIO_Train	vse	Complete	3/13/2018 2:44:00 PM	None

SPIOP

The dialog box is titled 'GENERATE SMART INTEROP MODEL'. It contains the following fields:

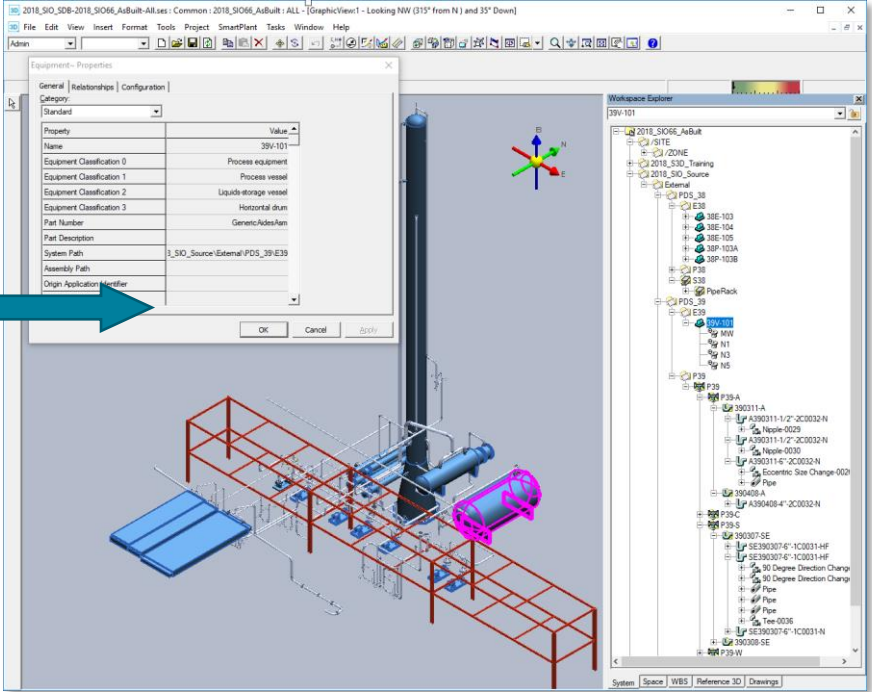
- Source Folder:** \\GCI1570894\R3D_Models\2018_SIO\PDMS_w_Ports
- Target Model Information:**
- Site:** 2018SIO_SDB
- Model:** 2018SIO66_Projects
- Permission Group:** SIO
- Status:**
Decompressing graphic files in \\GCI1570894\R3D_Models\2018_SIO\PDMS_w_Ports
Initializing data import for all data files in \\GCI1570894\R3D_Models\2018_SIO\PDMS_w_Ports
Building SmartInterop objects for all data files in \\GCI1570894\R3D_Models\2018_SIO\PDMS_w_Ports

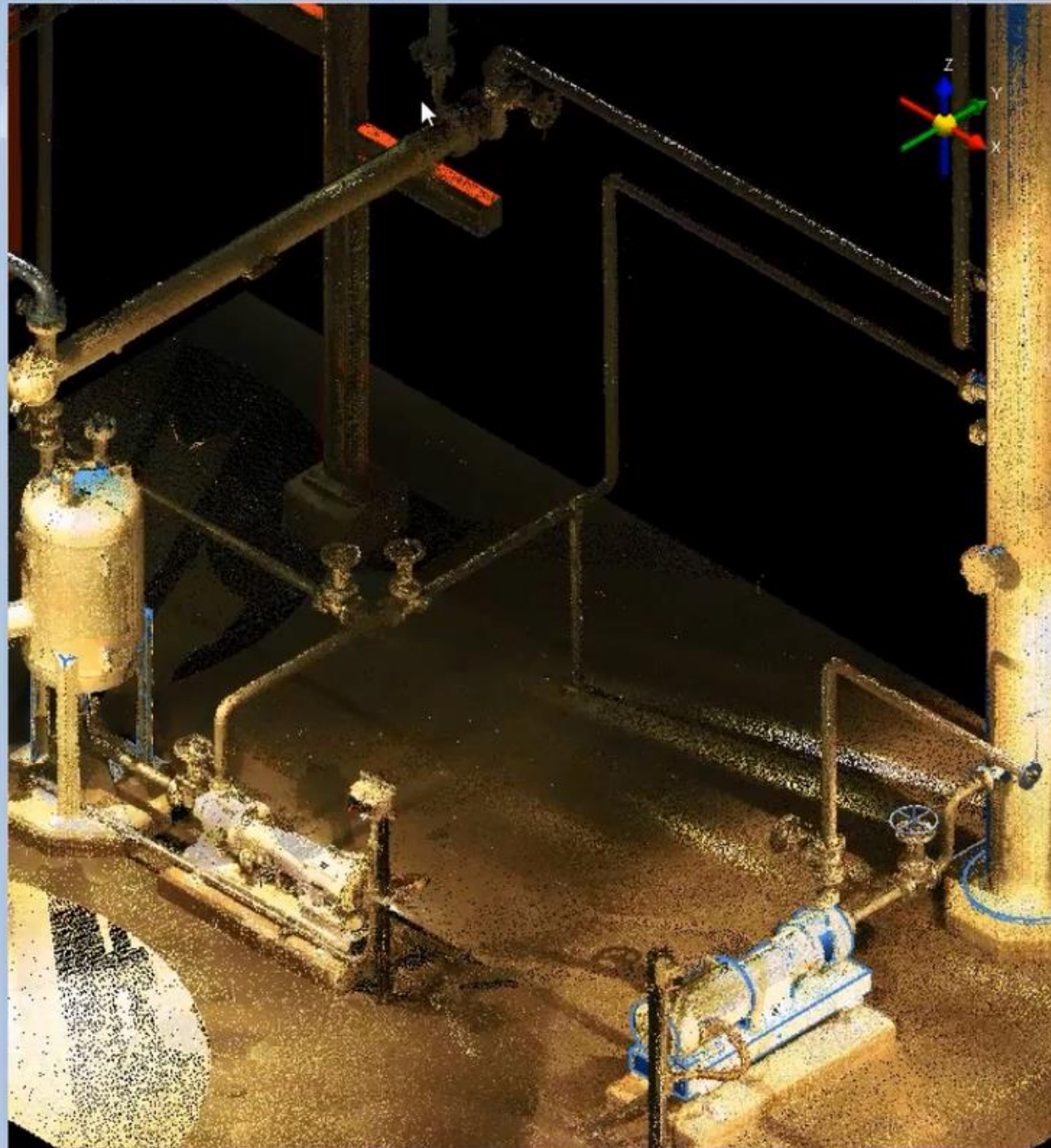
Buttons: Generate, Close

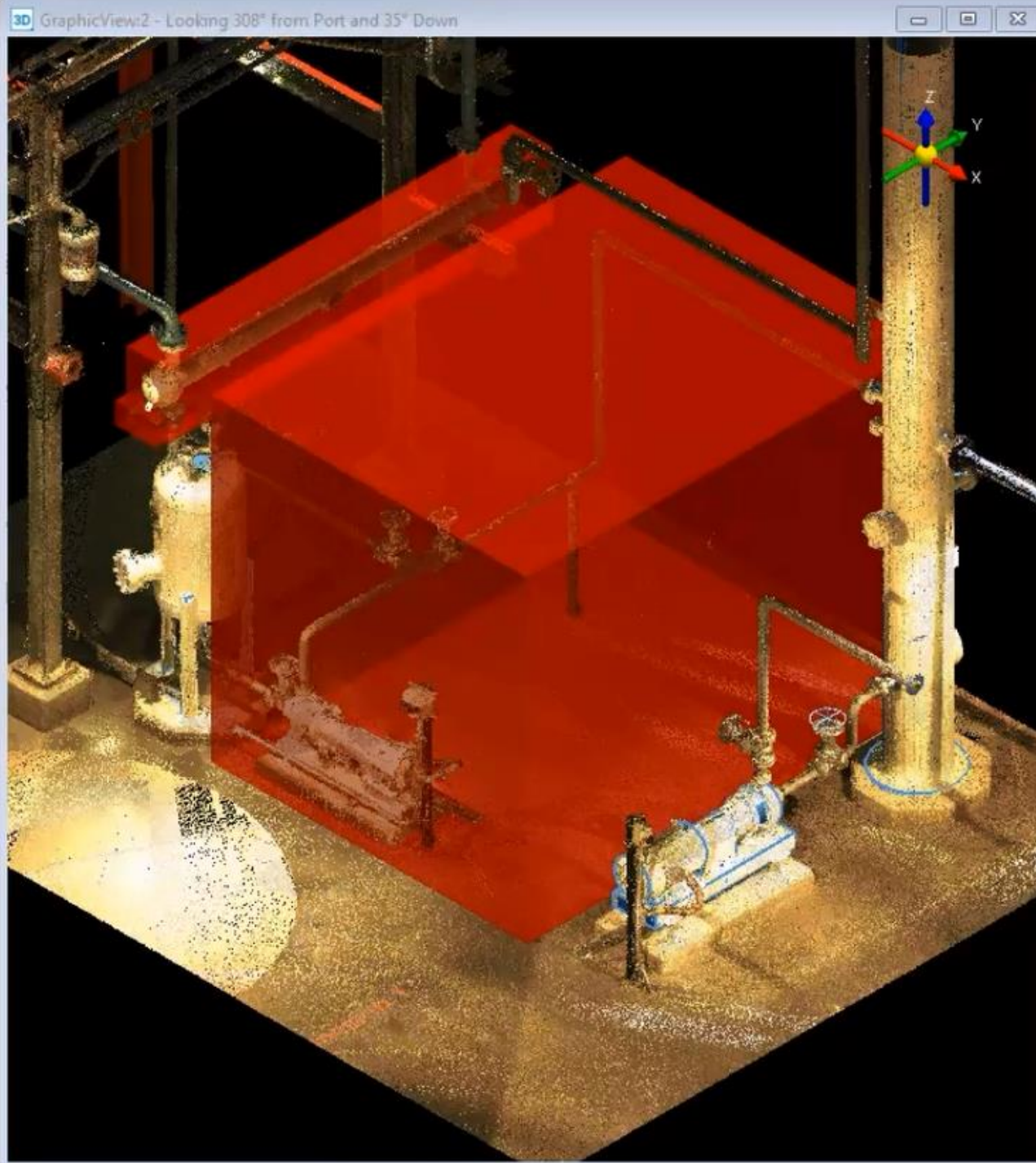
Generate Smart Interop

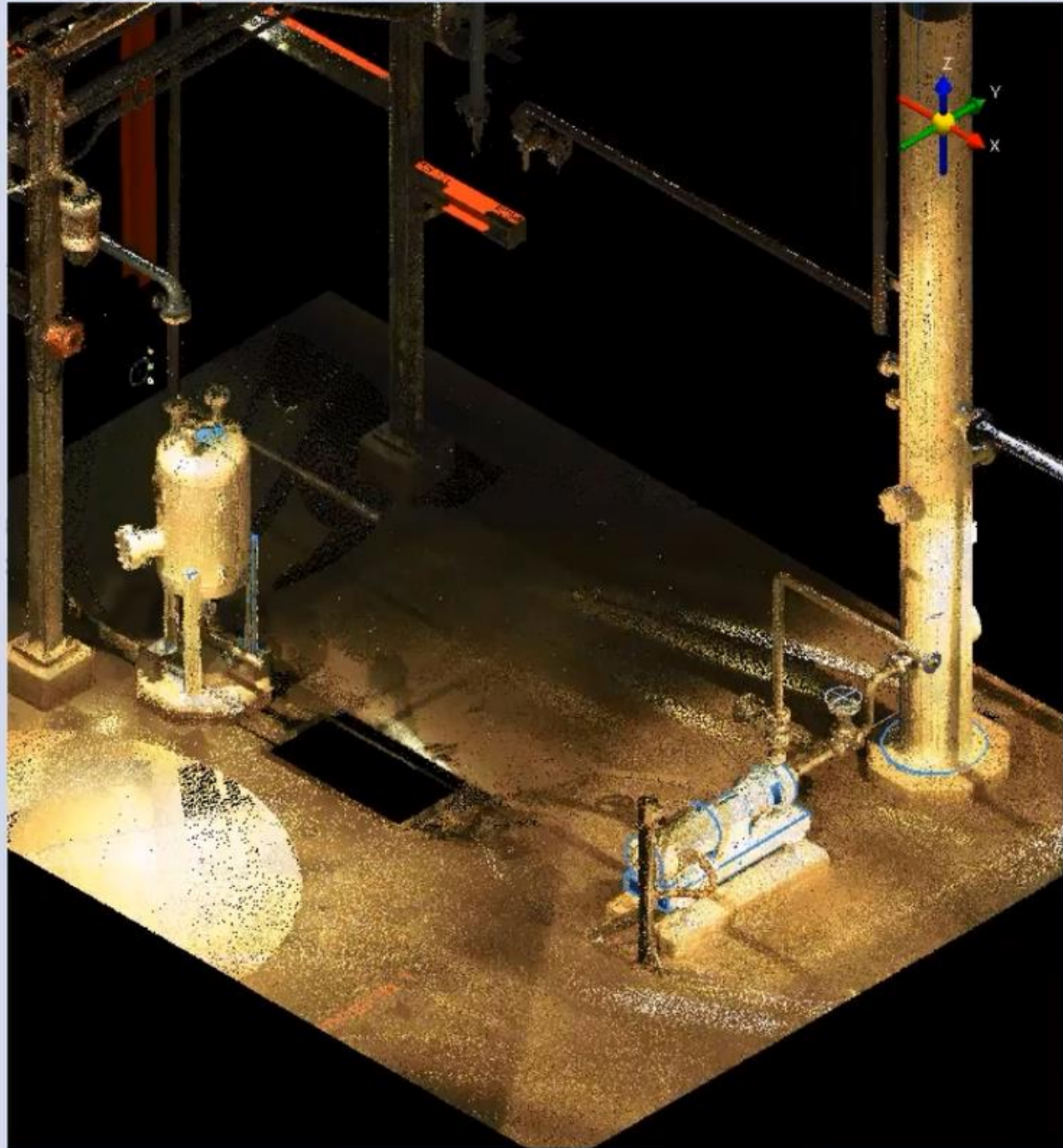
Interoperability

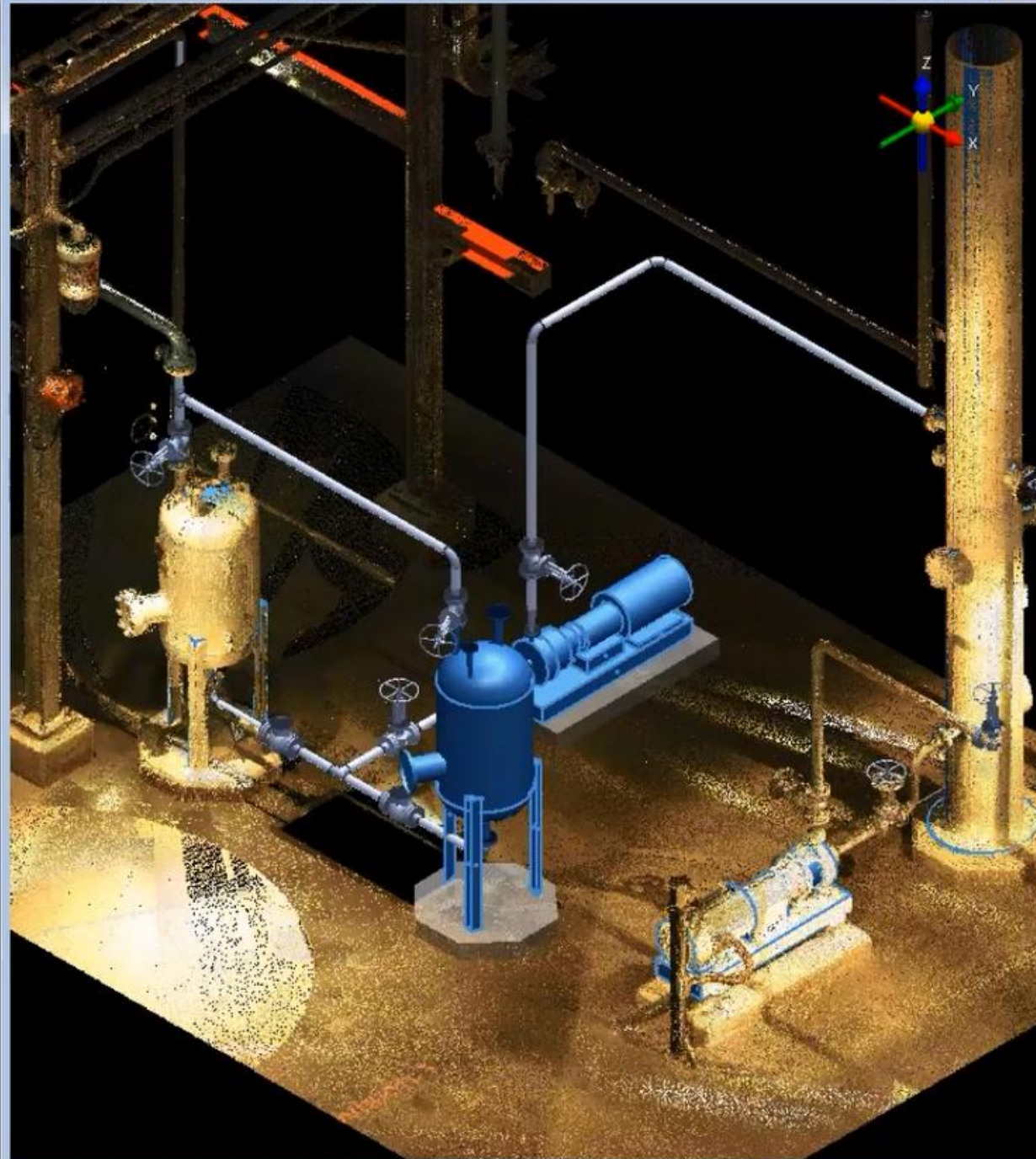
Smart 3D As-Built (SIO)

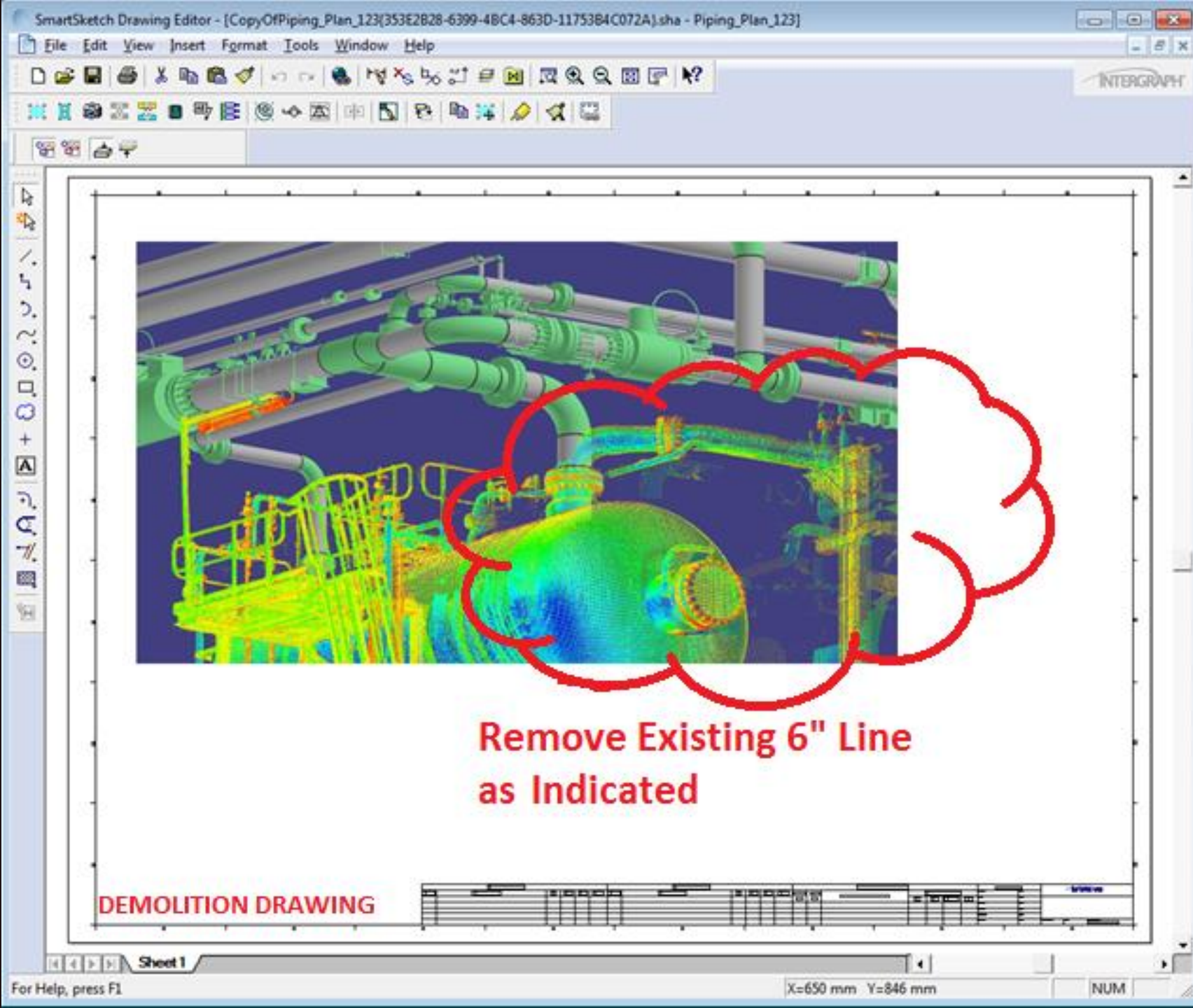


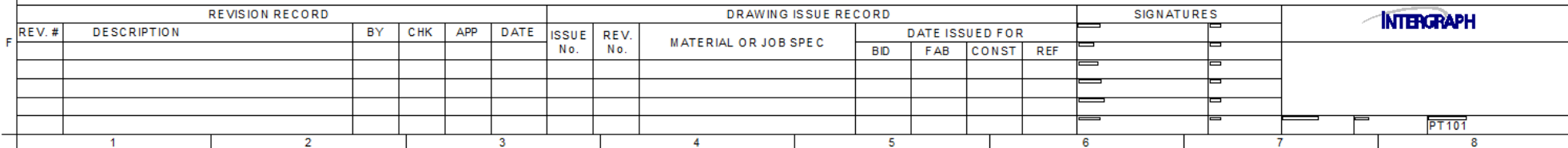






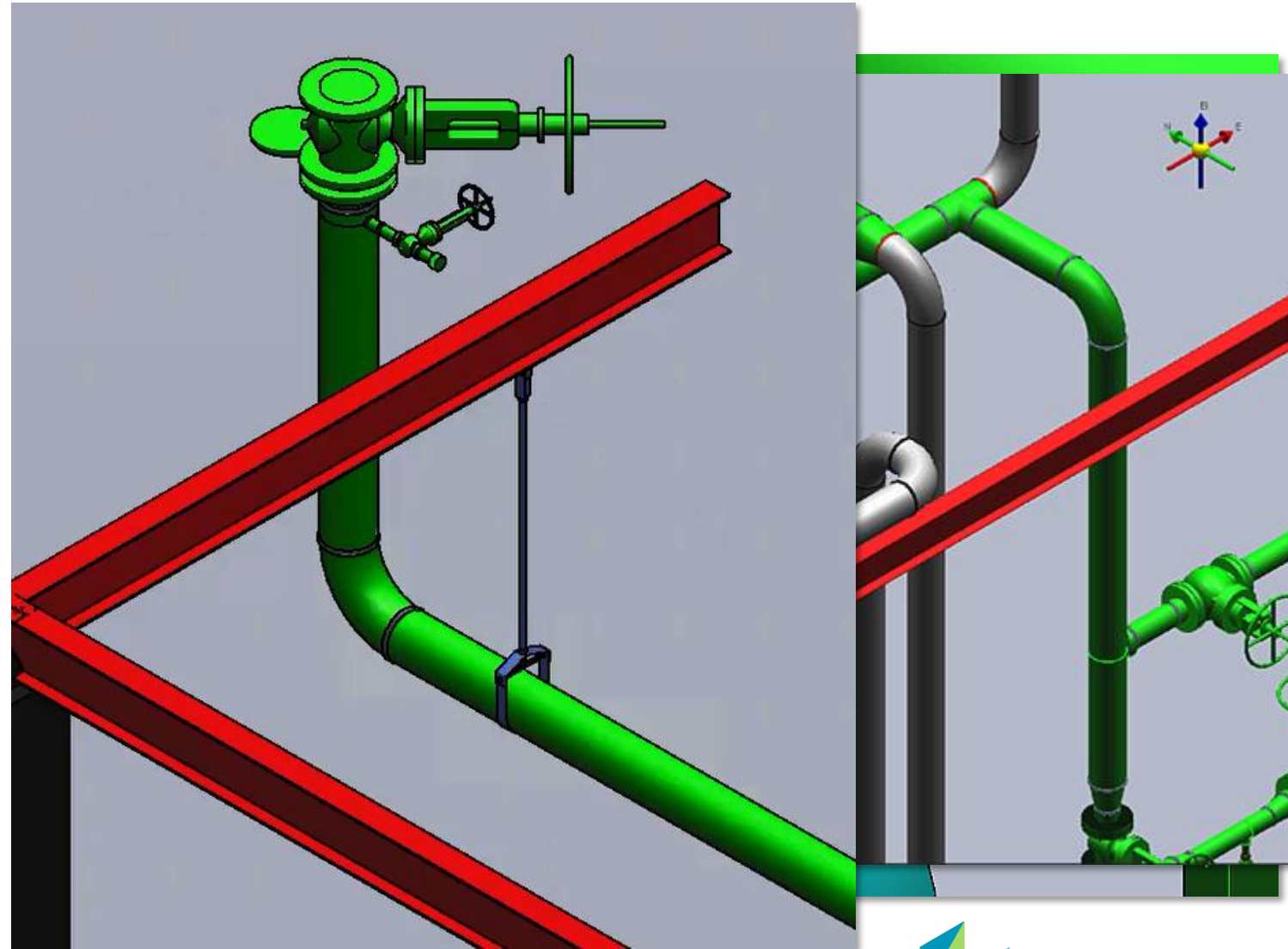






Model Piping Connecting to As-Built

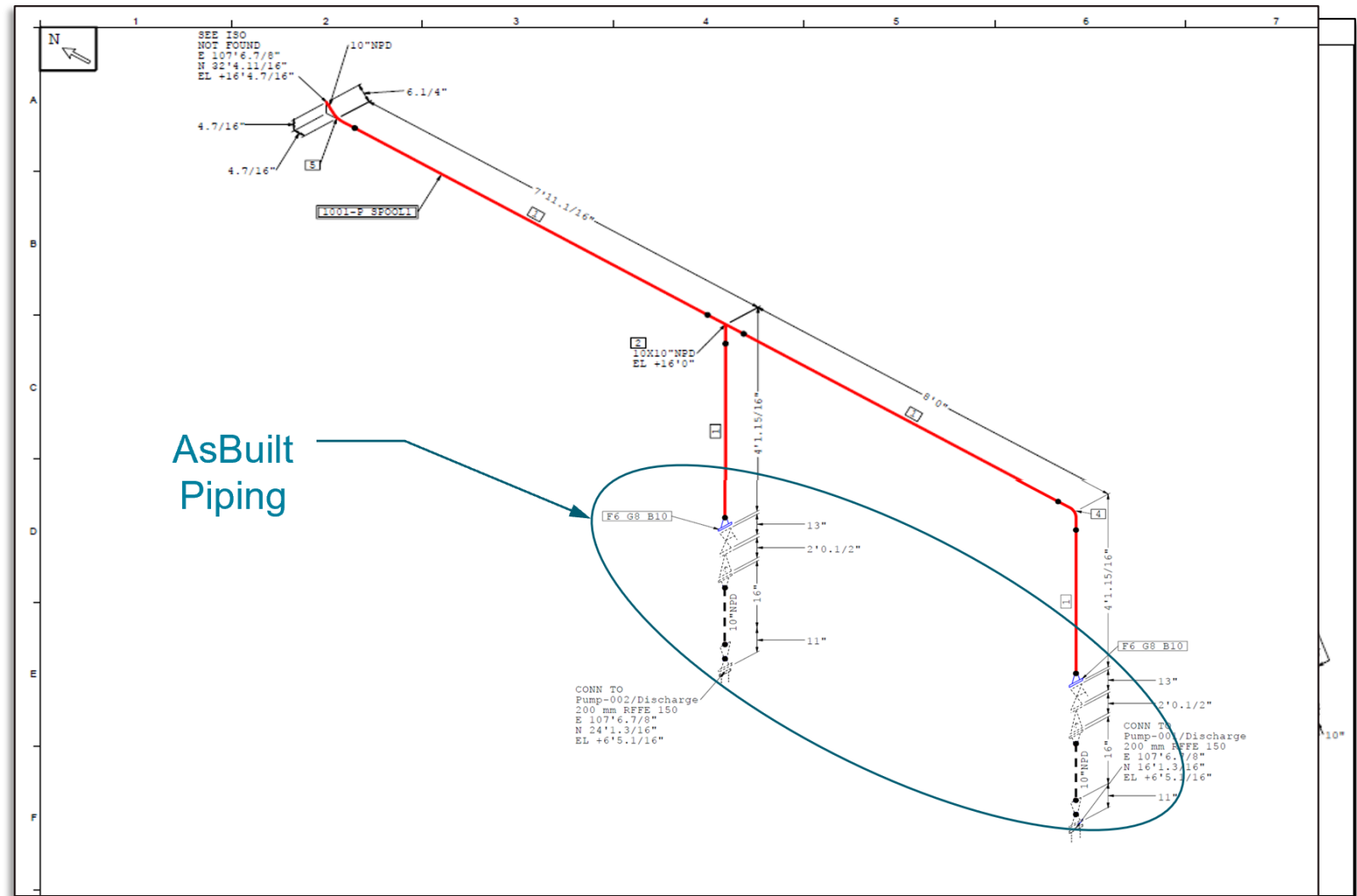
- Route out of As-Built Nozzle
- Branch into As-Built Piping
- Supports from As-Built Steel



Generate Deliverables from As-Built

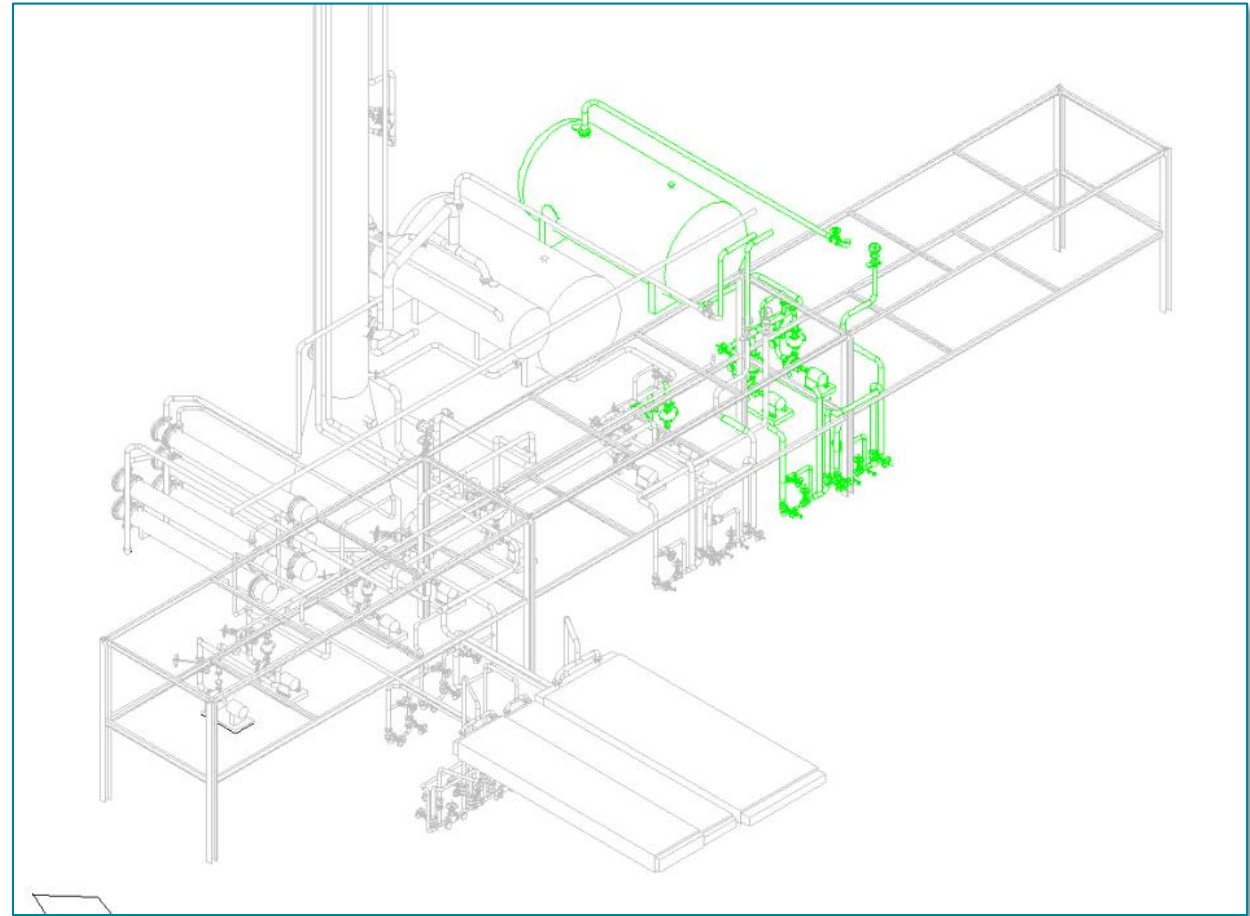
Automated Drawings & Deliverables

- Generate Isometrics from As-Built Model
- Generate Fabrication Iso for Project Changes with existing As-Built shown for context



Generate Deliverables from As-Built

- Generate GA Drawings of As-Built and Native

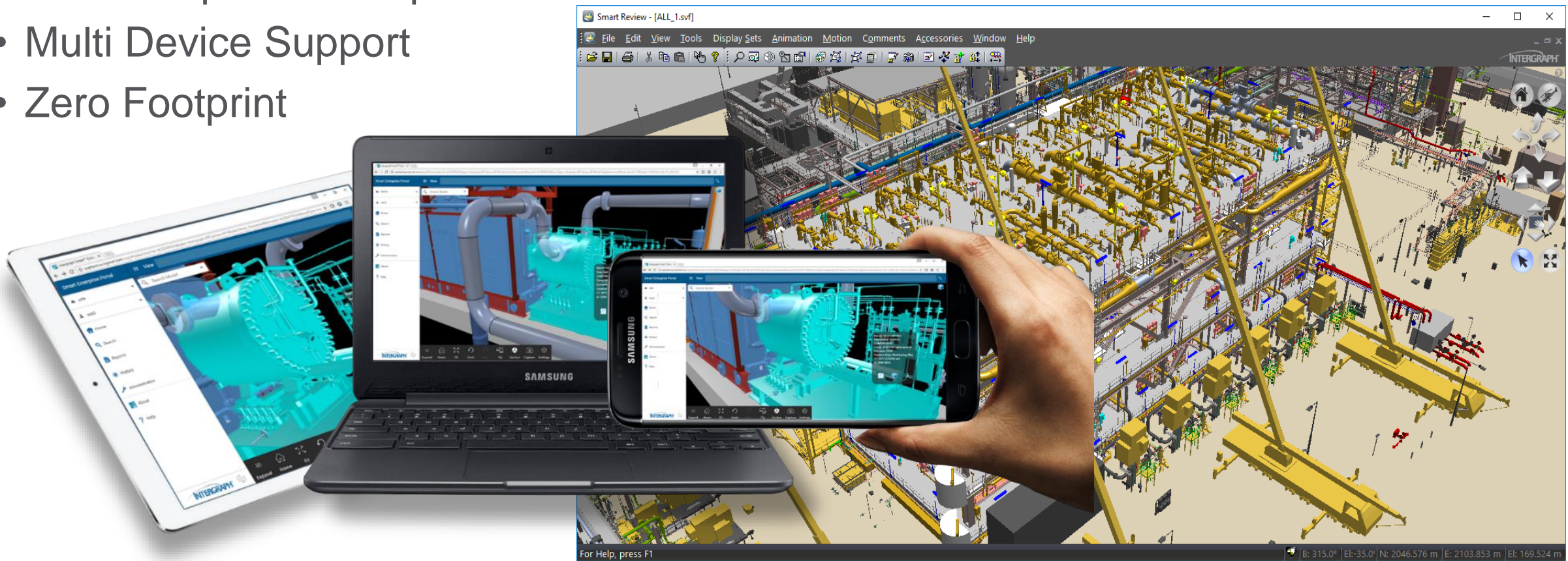


An abstract graphic on the left side of the slide, composed of numerous overlapping triangles in various shades of blue, ranging from dark navy to light sky blue, creating a complex, crystalline or low-poly effect.

Visualizing the Digital Twin

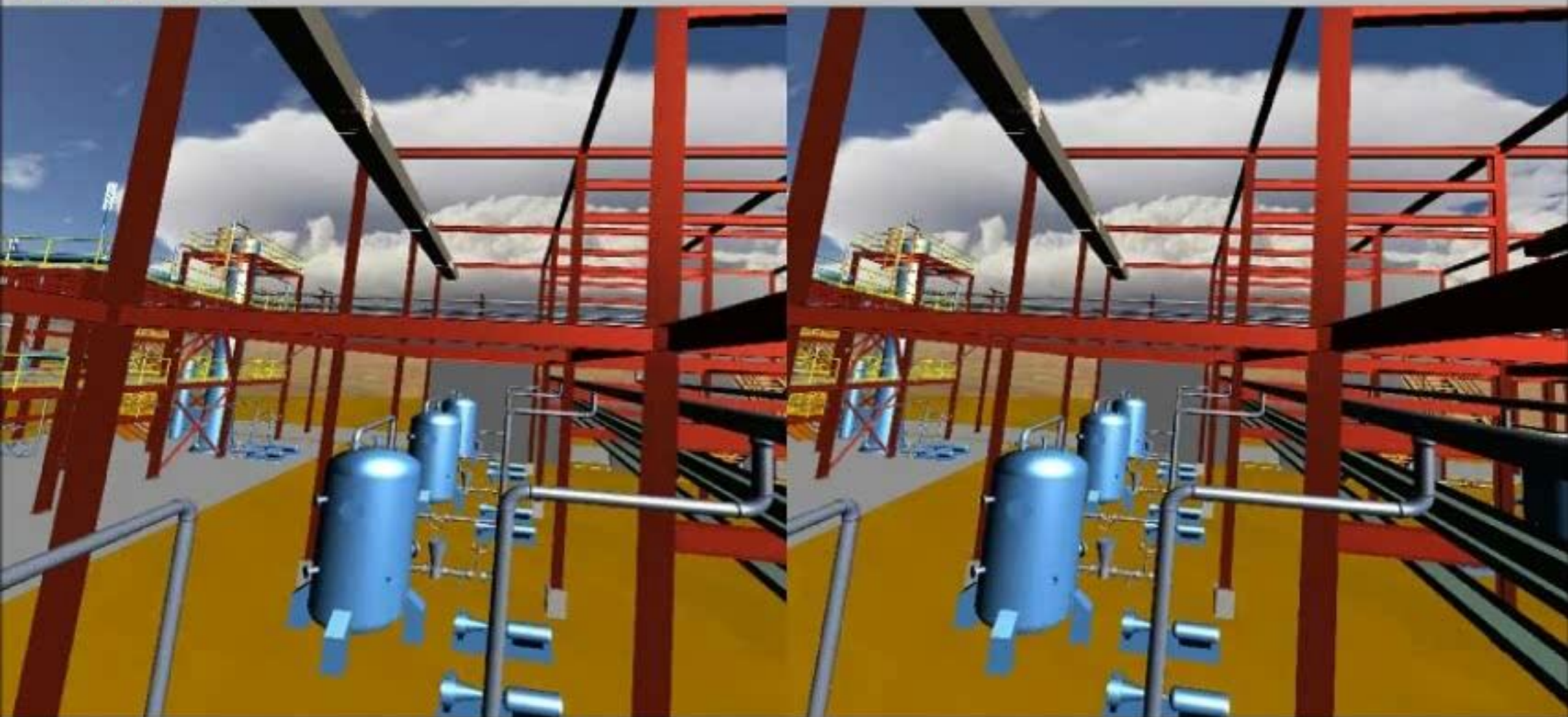
Visualising the Digital Twin

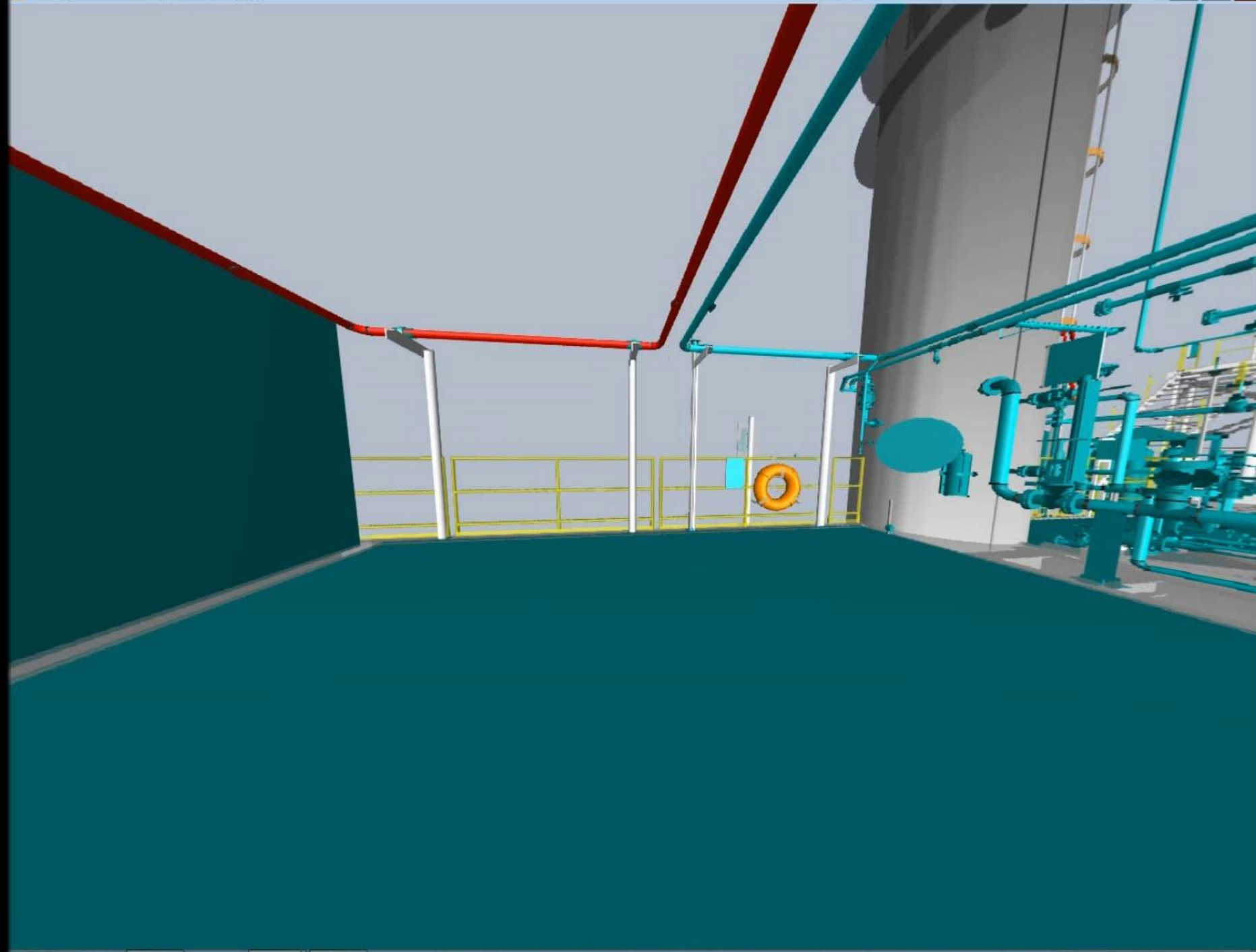
- Faster Improved Graphics
- Multi Device Support
- Zero Footprint

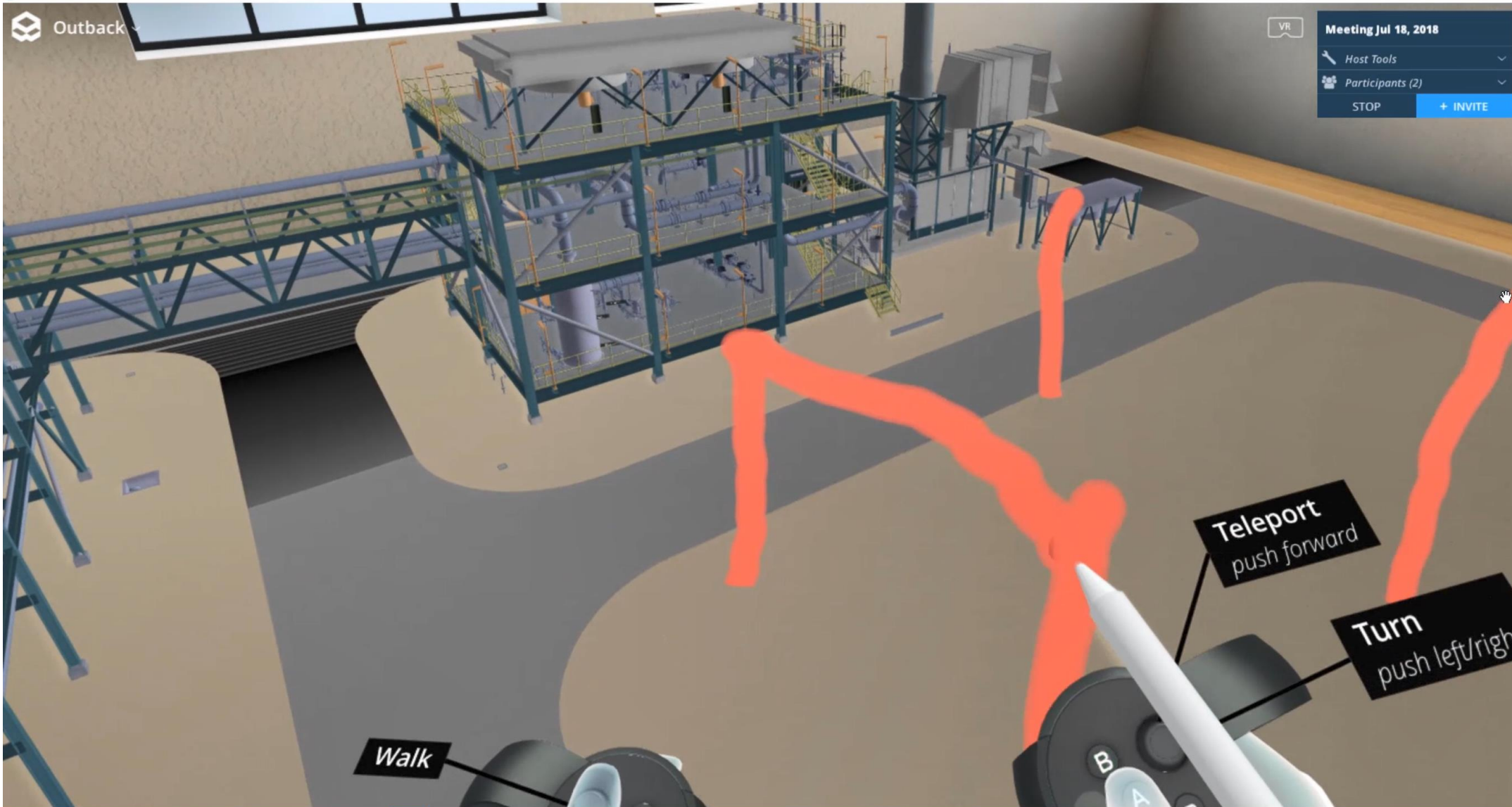


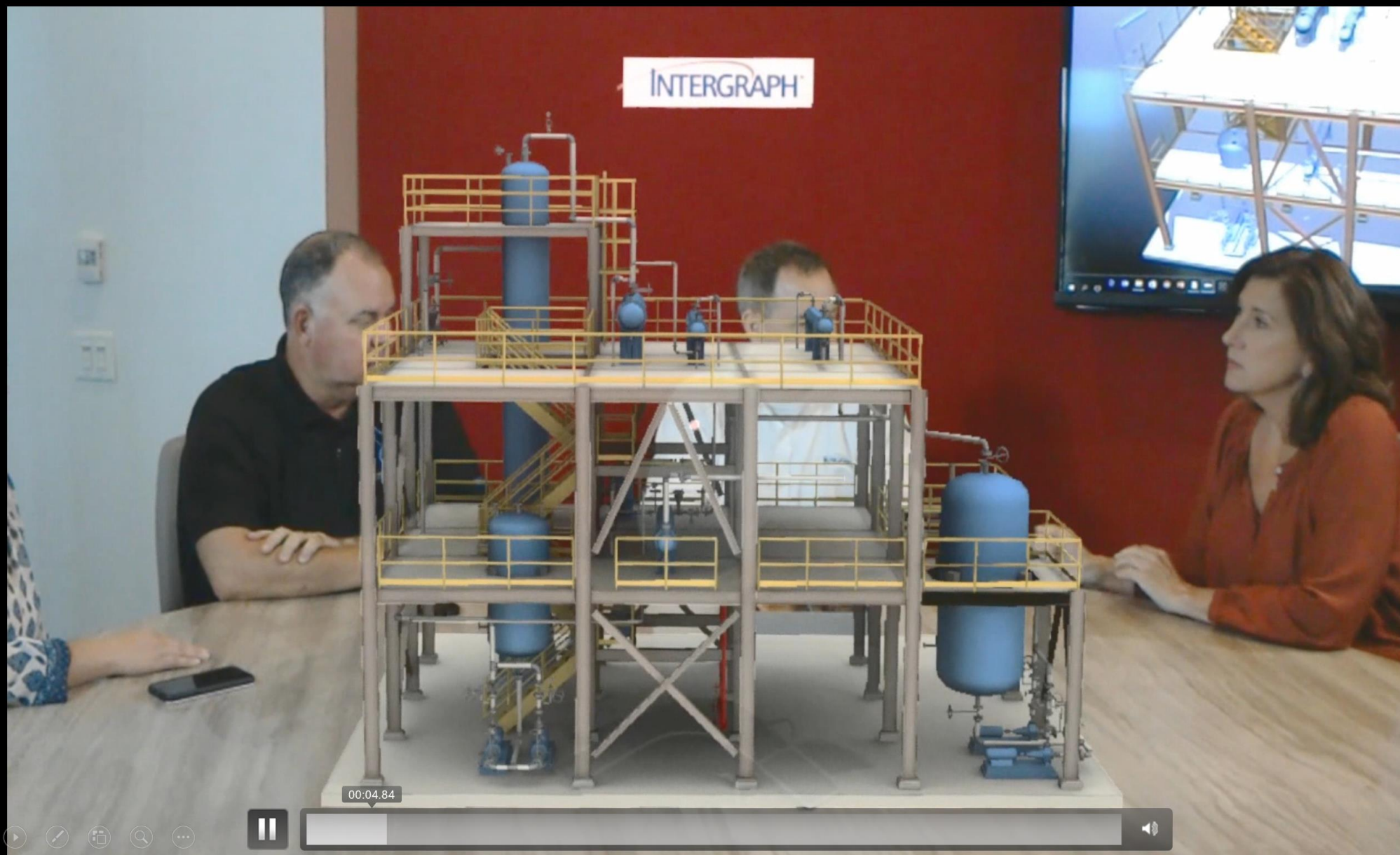
It's happening many things!

















HEXAGON AR demo by myVR Software
Confidential - Internal use only



View



Search Model

Name: 77-P-7703A
Description: Condensate Pump
Criticality Process: non-critical
Diameter: 3 ft
Quality Status: Unknown
Height: 1 ft
Transfer Status: None
Length: 3 ft
Manufacturer: FLOWERVE
Model Number: 956007



Expand

Draft

FRA approved

Verified

Authorised

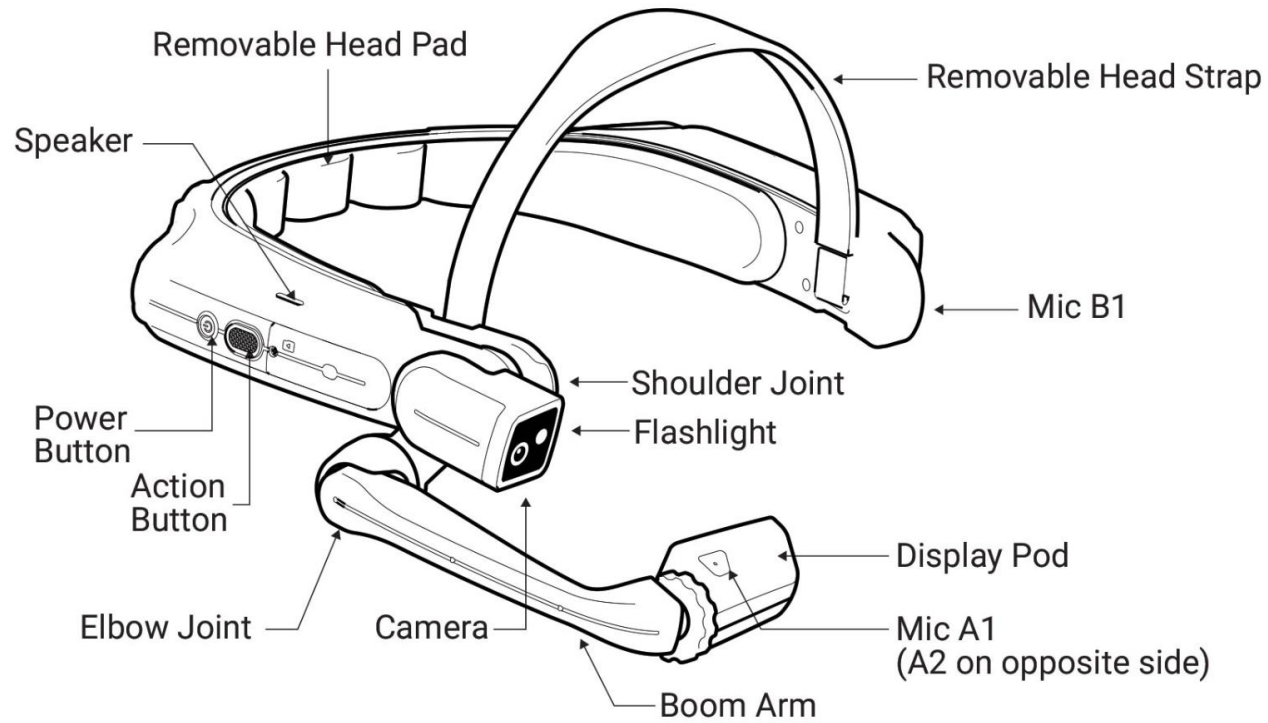
Issued

Use

Suspended

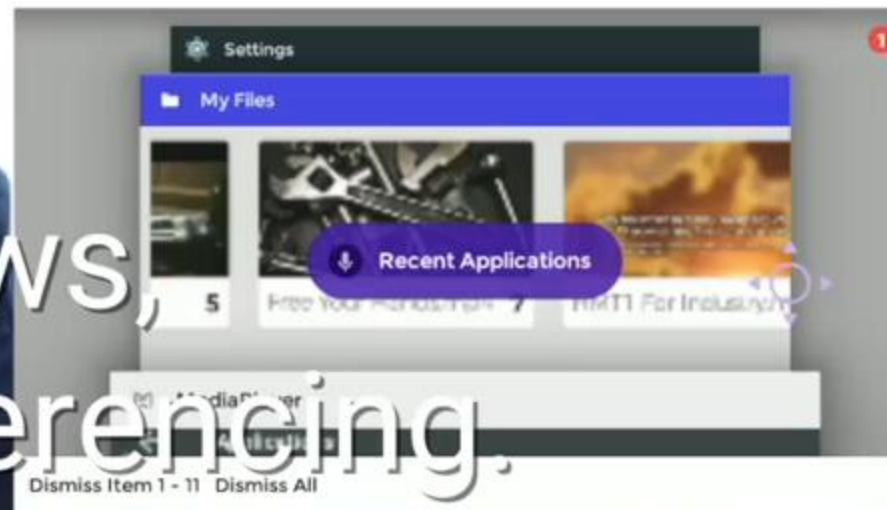
Complete

hmt-1





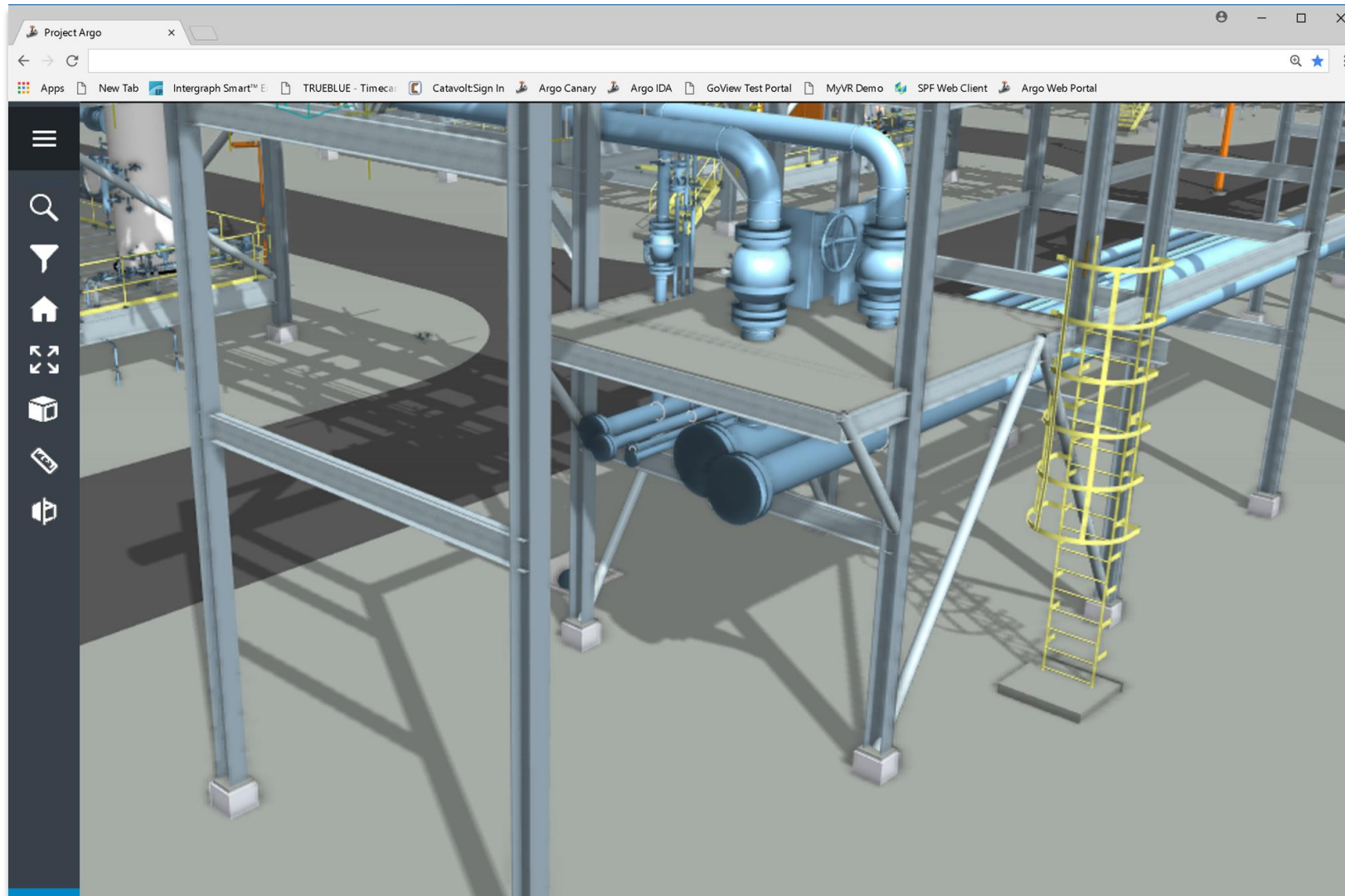
Access documents,
augmented reality workflows,
and hands-free video conferencing.





The Future

Project Argo





*Robot testing at Takenaka
Corp. construction site.*

Boston Dynamics



Kiitos
