

AutoCAD Plant 3D 툴셋과 Industry Collection 확장 Workflow

이경미 (KyungMi Lee)

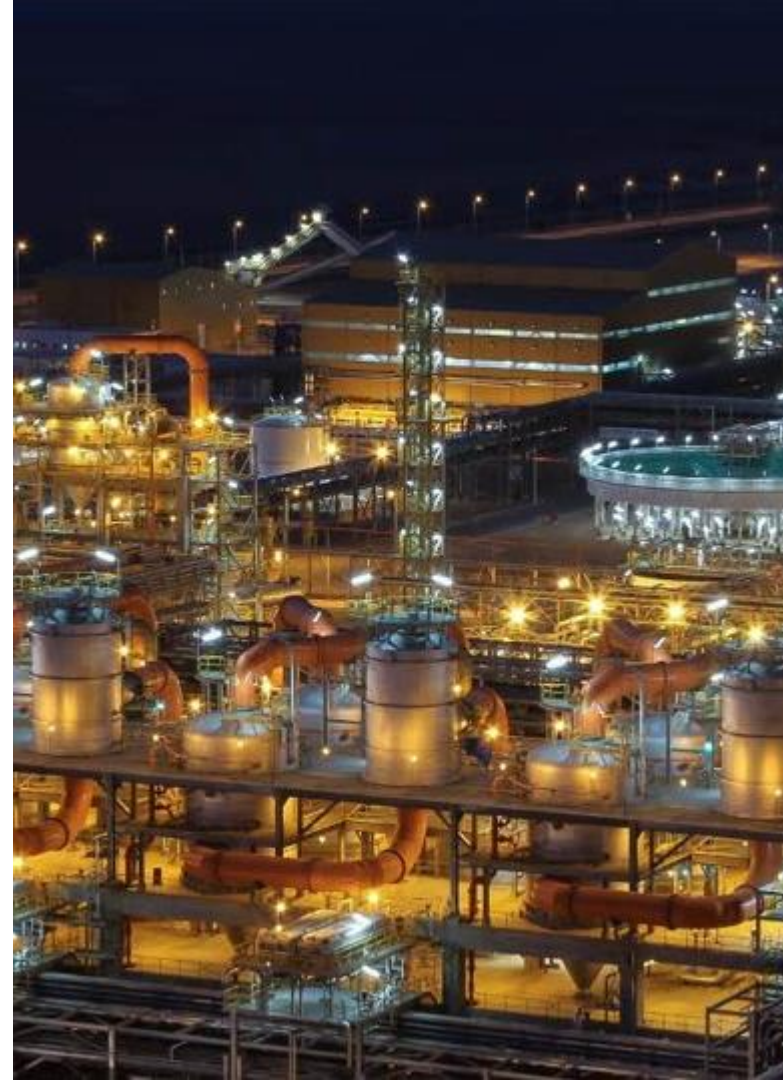
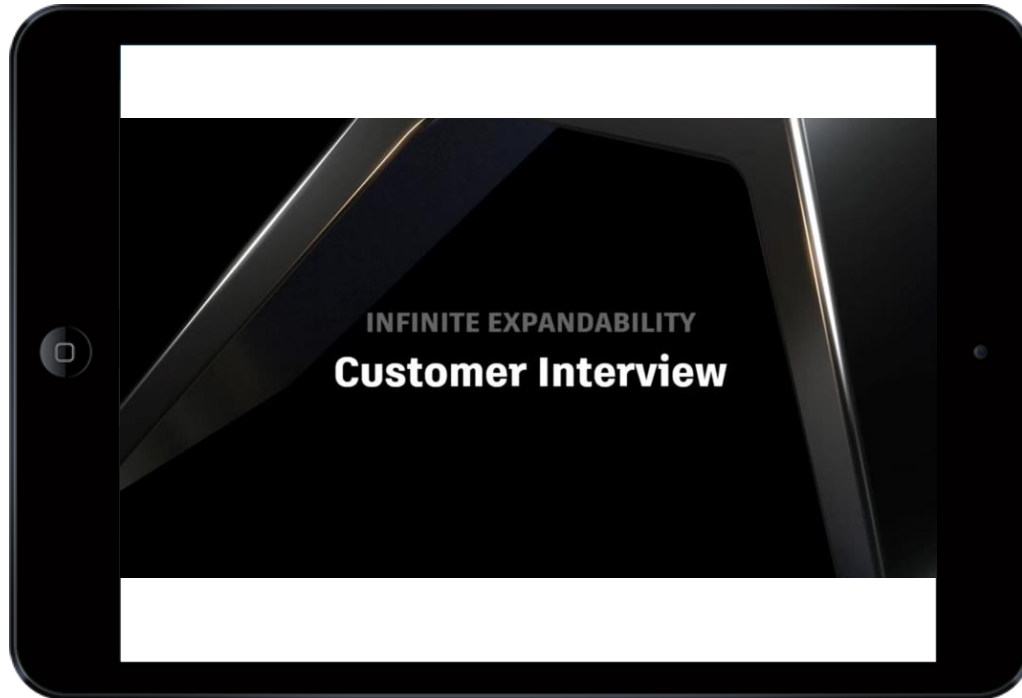
부장 | SCK

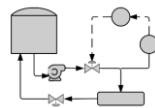
INFINITE EXPANDABILITY

Customer Interview

Customer Interview

필즈엔지니어링





공정



배관



계장



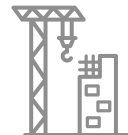
전기



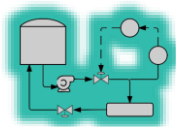
기계



토목



건축



공정



배관



기계



건축



AutoCAD
Plant 3D



토목



계장

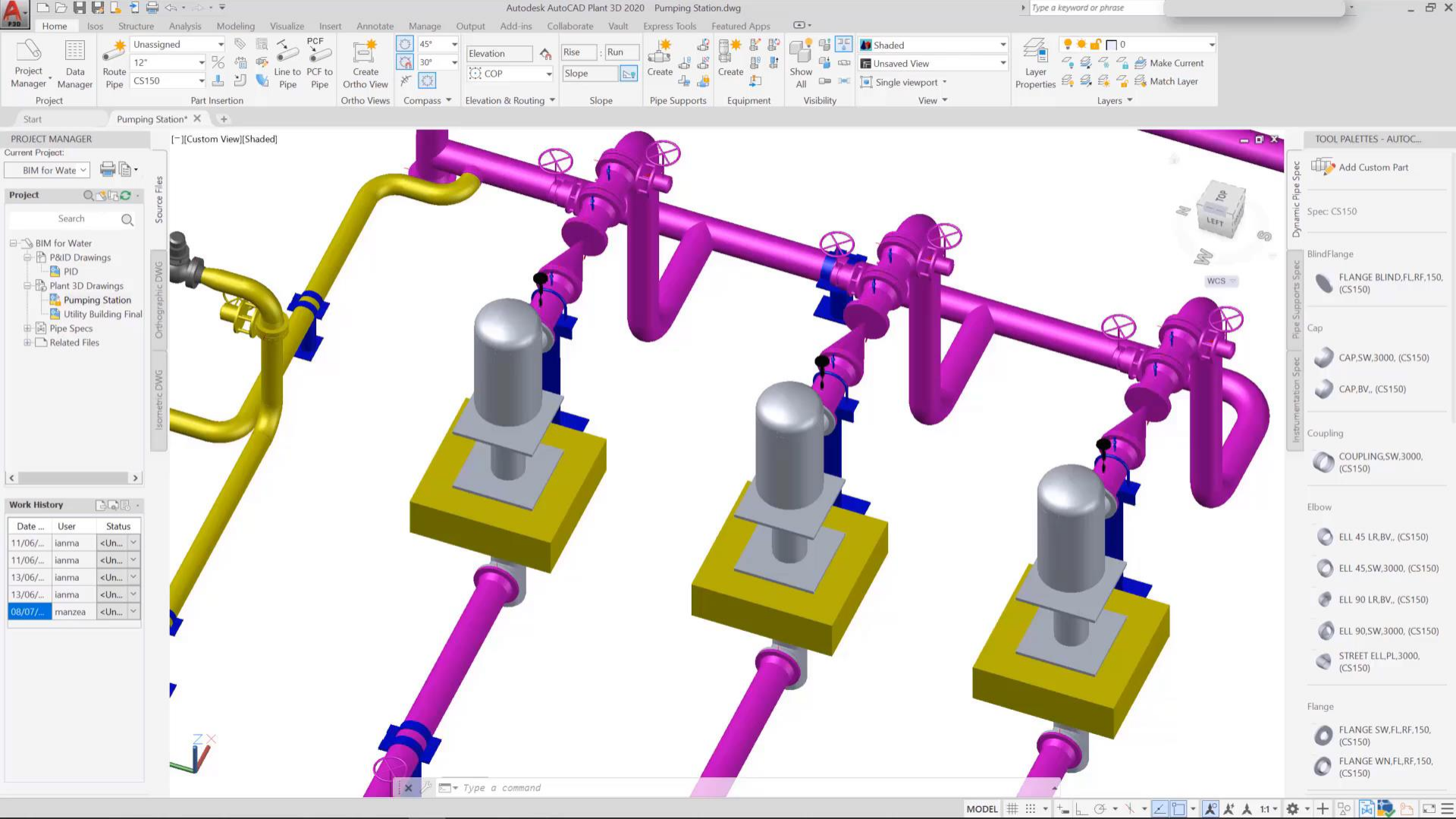


전기

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AutoCAD Plant 3D Main Function Overview

| AutoCAD Plant 3D |



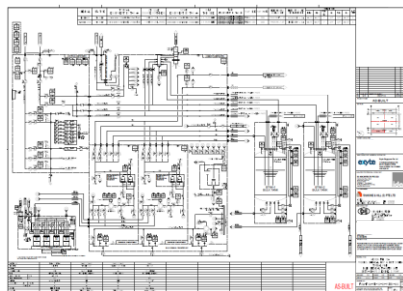
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Smart P&ID, Smart Piping Modeling. What else?

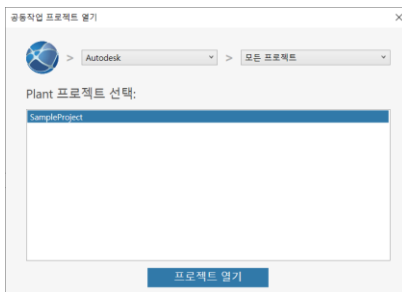
| AutoCAD Plant 3D to Revit |

Smart P&ID, Smart Piping Modeling

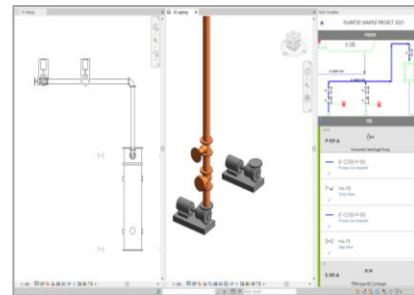
Work Process



A AUTODESK® AUTOCAD® PLANT 3D

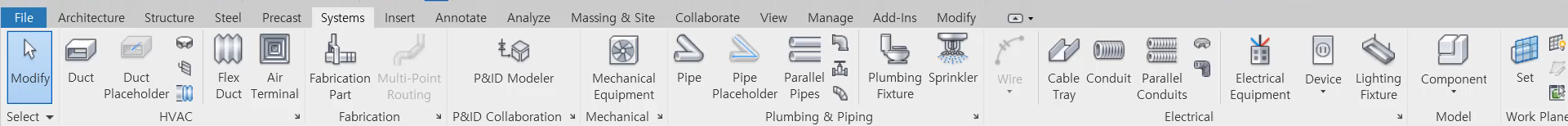


C AUTODESK® BIM COLLABORATE PRO



R AUTODESK® REVIT®

	P & ID 작성	Piping Model
설계내용	• P&ID 설계 및 Draft	• Piping 설계 및 모델링
설계성과품	• P&ID Drawing • Part BOM	• ISO Drawing • BOM • 제작도면
As-Is	AutoCAD (2D CAD)	타사 제품 또는 2D 설계만 진행
To-Be	AutoCAD Plant 3D	Revit / BIM Collaborate Pro



Properties

3D View: 3D-piping

3D View: 3D-piping

Graphics

View Scale	1 : 100
Scale Value 1:	100
Detail Level	Fine
Parts Visibility	Show Original
Visibility/Graphic...	Edit...
Graphic Display ...	Edit...
Discipline	Coordination
Show Hidden Li...	By Discipline
Default Analysis ...	None
Show Grids	Edit...
하위 분야	Piping
Sun Path	☐

Extents

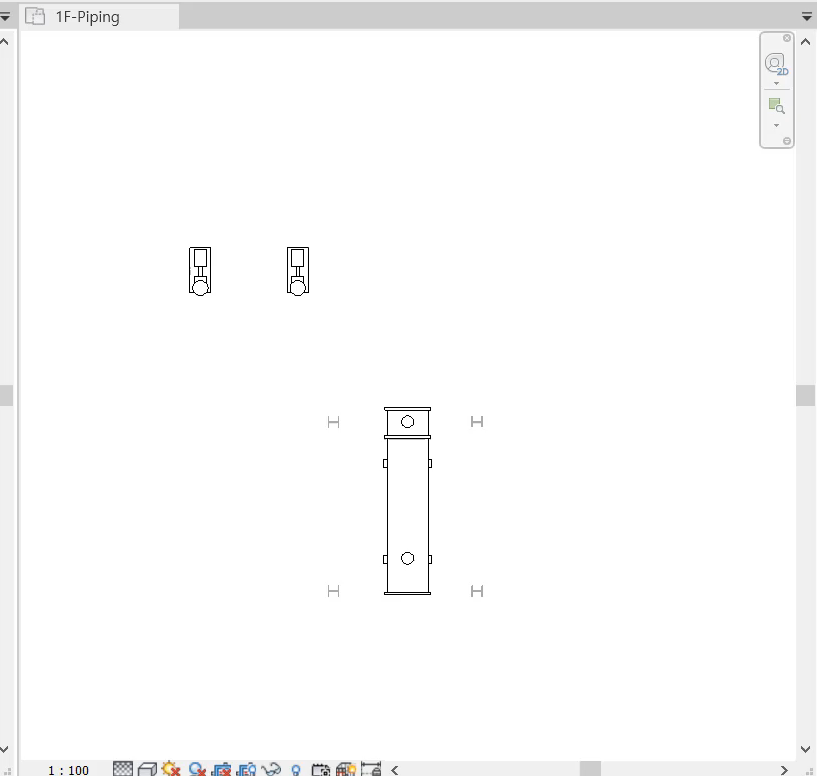
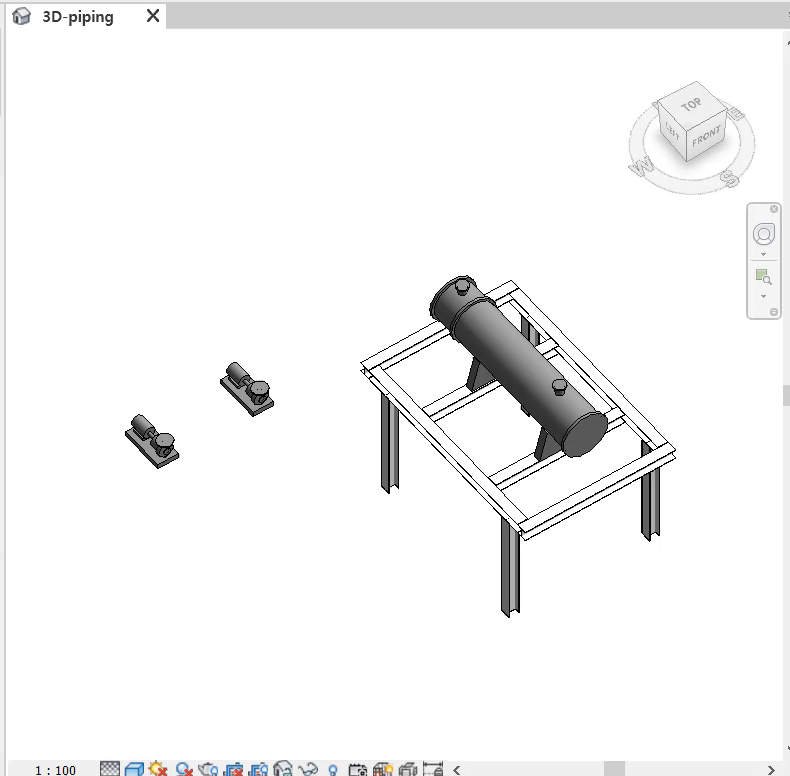
Crop View	☐
Crop Region Vis...	☐
Annotation Crop	☐
Far Clip Active	☐
Far Clip Offset	304800.0
Scope Box	None
Section Box	☐

Camera

Rendering Settin...	Edit...
Locked Orientati...	☐
Projection Mode	Orthographic

Properties help

Apply



Smart P&ID, Smart Piping Modeling

Summary

- 산업플랜트 배관에서 적용 가능한 Workflow
- P&ID Modeler 사용을 위해서는 Autodesk BIM Collaborate Pro 라이선스가 필요
- P&ID 콘텐츠를 Revit 콘텐츠에 매핑
- Piping Routing 작업 시 MH 절감 및 Human Error 절감
- Autodesk BIM Collaborate Pro 사용으로 원활한 협업 지원

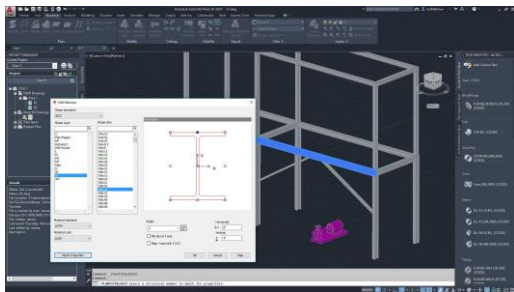
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철골 상세 설계도 똑딱!

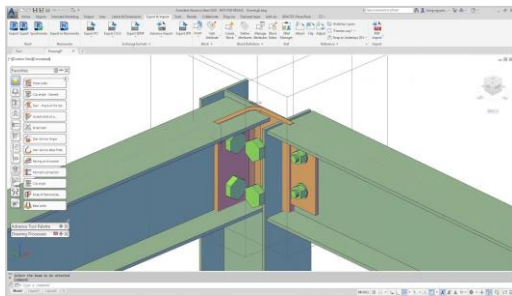
| AutoCAD Plant 3D to Advance Steel |

철골 상세설계도 똑딱!

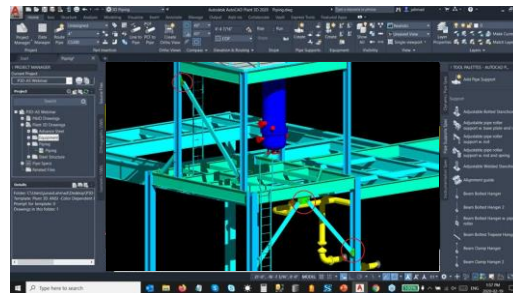
Work Process



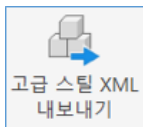
A AUTODESK® AUTOCAD® PLANT 3D



A AUTODESK® ADVANCE STEEL

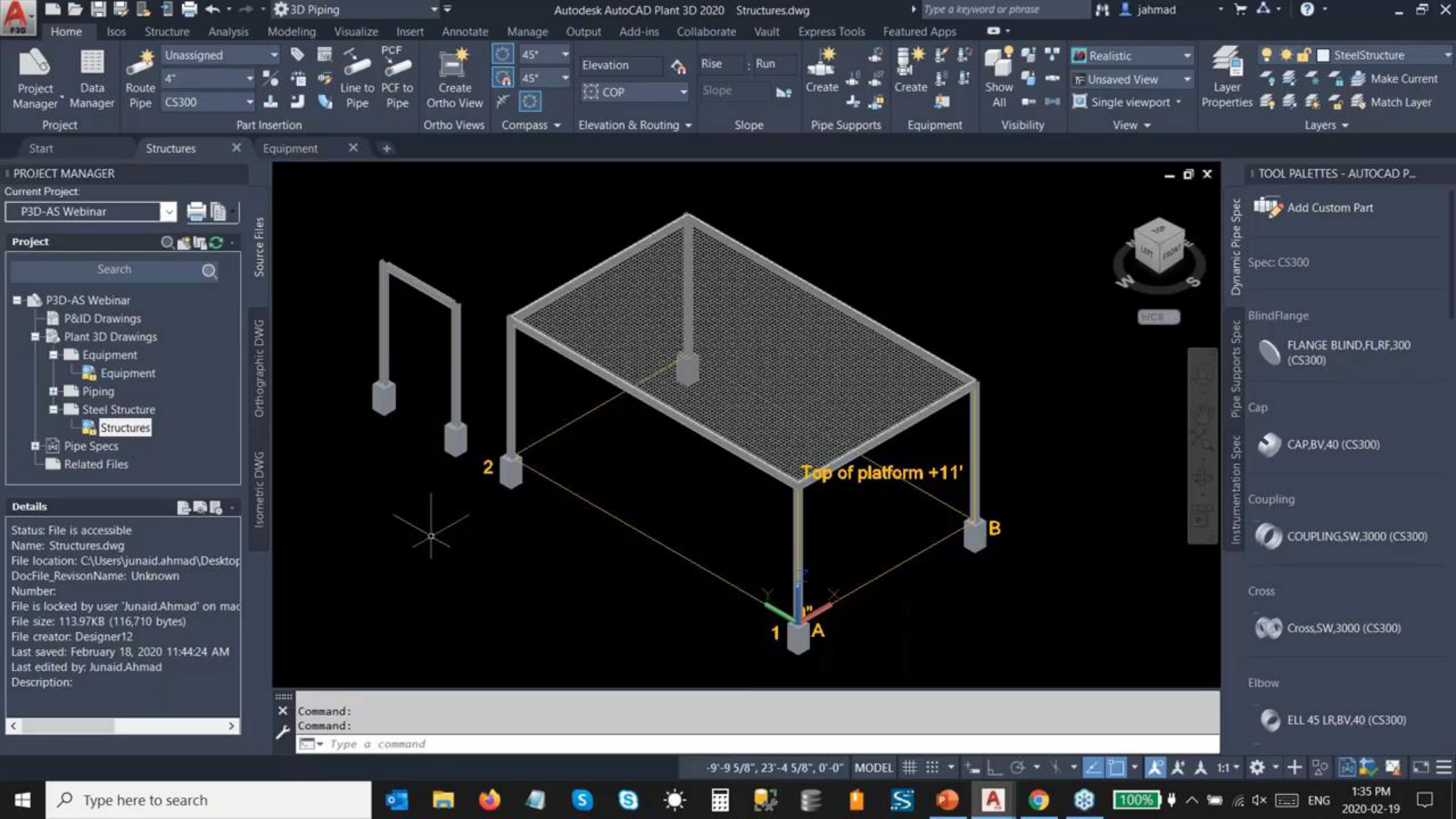


A AUTODESK® AUTOCAD® PLANT 3D



양방향 설계 가능!

- 주요 구조 부재
- 난간 (Handrail)
- 래더 (Ladder) → Cage는 내보낼 수 없음
- 계단 (Stair)
- 플레이트 (Plate)



철골 상세설계도 똑딱!

Summary

- 철골 상세 설계로 Workflow 연계
- Pre-construction 개념의 공종간 정확한 간섭 체크가 가능
- Advance Steel에서 GA Drawing, 물량 등 성과품 산출 가능

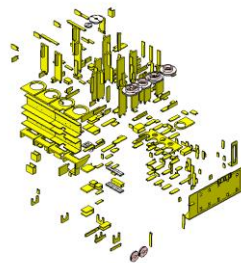
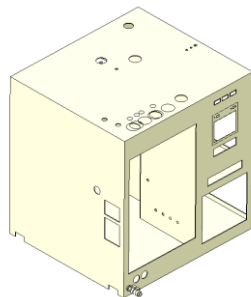
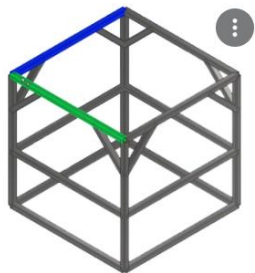
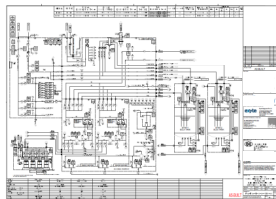
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3rd Party 를 통한 Plant 기계 Modeling

| AutoCAD Plant 3D to Inventor |

3rd Party 를 통한 Plant 기계 Modeling

Work Process



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I AUTODESK® INVENTOR®

I AUTODESK® INVENTOR®

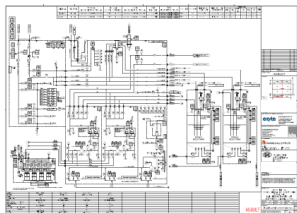
I AUTODESK® INVENTOR®

	P & ID 작성	Frame Model	Body Model	Support Model
설계내용	• P&ID 설계 및 Draft	• Frame 설계 및 모델링	• Body(판재) 설계 및 모델링 • 기타 액세서리 설계 및 모델링	• Support 설계 및 모델링
설계성과품	• P&ID Drawing • Part BOM	• 제작도면 • BOM	• 제작도면 • BOM	• 제작도면 (배치도 및 단품도) • BOM
As-Is	AutoCAD (2D CAD)	타사 프로그램	타사 프로그램	타사 프로그램
To-Be	AutoCAD Plant 3D (Intelligent P&ID)	Autodesk Inventor	Autodesk Inventor	Autodesk Inventor

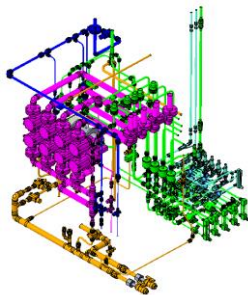
3rd Party 를 통한 Plant 기계 Modeling

프로그램별 산출물

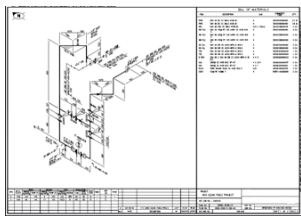
AutoCAD Plant3D



P&ID

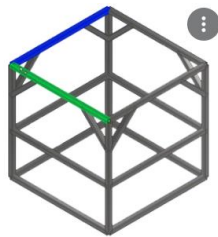


Piping

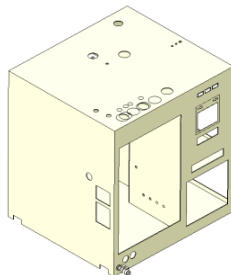


ISO / BOM

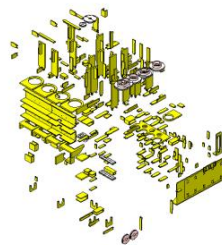
Inventor



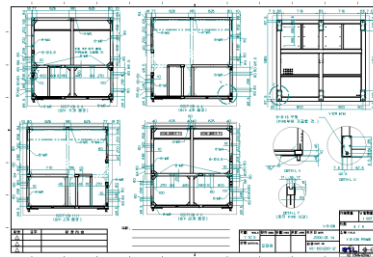
Frame



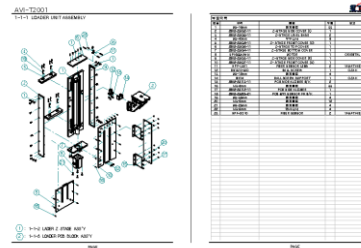
Body



Support



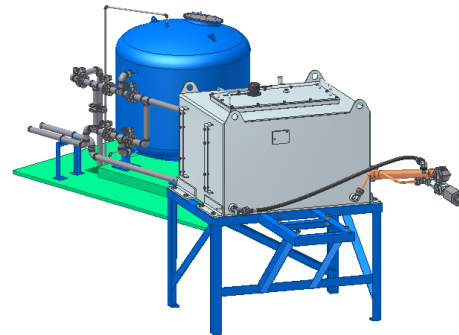
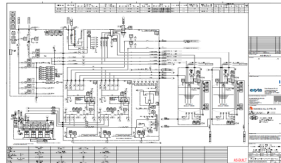
Production DWG



BOM

3rd Party 를 통한 Plant 기계 Modeling

Work Process



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- P&ID Drawing
- Piping Model
- ISO Drawing
- Equipment Model

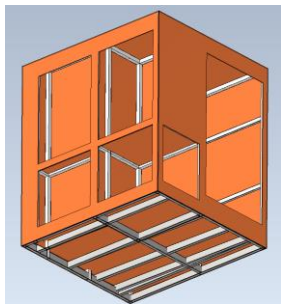
Plant 3D - Inventor
데이터 변환(*.BXF)

I AUTODESK® INVENTOR®

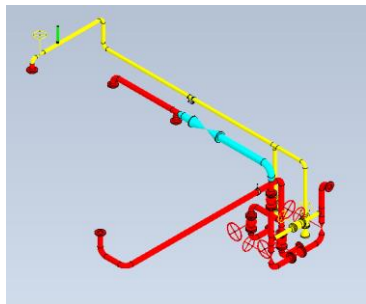
- Frame, Body Model
- Plant 3D data Import (*.BXF)
- Support Model
- BIM Exchange

3rd Party 를 통한 Plant 기계 Modeling

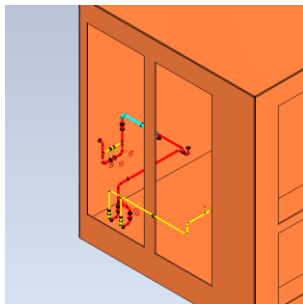
Inventor 와 BIMDeX 데이터를 활용한 설계



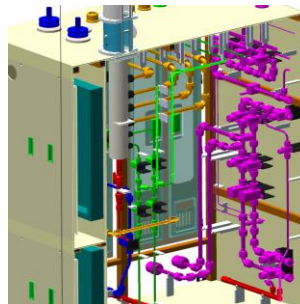
Body 및 Frame 설계



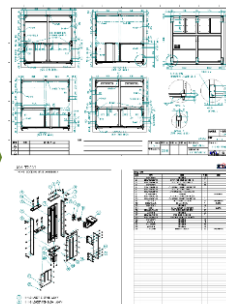
Pipe 불러오기(bxf)



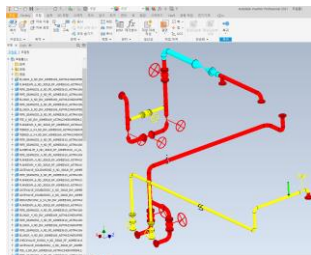
조립



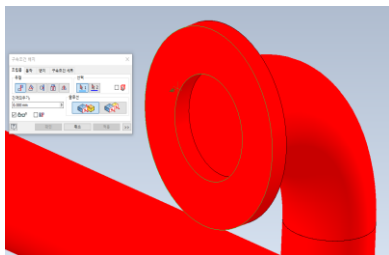
서포트 설계



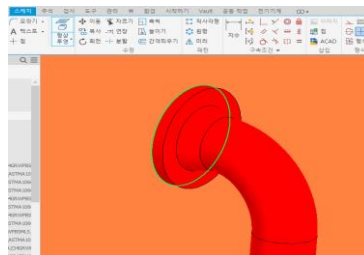
도면/BOM



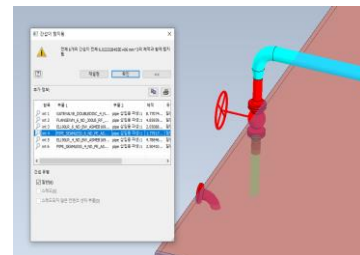
부품 별 Solid 형태로
삽입



구속조건을 통하여 조립
가능



형상 참조 가능



Body와 Pipe 간
간섭체크 가능

3rd Party 를 통한 Plant 기계 Modeling

Summary

- 플랜트 산업에서 Package item 제작 업체에 적합한 Workflow
- P&ID와 Plant 3D Modeling을 연계 함으로써 Workflow의 간소화
- AutoCAD Plant 3D와 Inventor의 데이터 호환을 위한 최적의 솔루션

The background of the image features a dark, almost black, space filled with several large, metallic, geometric shapes. These shapes, which resemble stylized computer monitors or architectural components, are positioned at the corners and edges, creating a sense of depth and modernity. They have sharp edges and reflective surfaces that catch the light, giving them a three-dimensional appearance.

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