

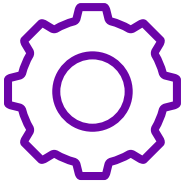
MAY 18, 2022

Smart Engineering Design Veolia Water

Presented by : Hakim Bouhali

AVEVA

APAC Smart Engineering Design



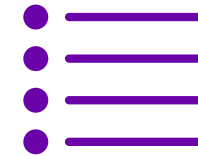
Challenges

- Design all together on all APAC area
- Manage the Aveva licenses easily
- Get the engineer information's in real time for all APAC engineering
- Give all engineering documents for tender in 24H
- Give all engineering documents for Project in 24 D



Solution

- Aveva Connect
- **CALM** : Client Activated License Management
- Aveva Diagrams intelligent P&ID
- Aveva E3D Design
- Aveva Instrumentation
- Aveva Electrical
- Aveva asset Information Management



Benefits

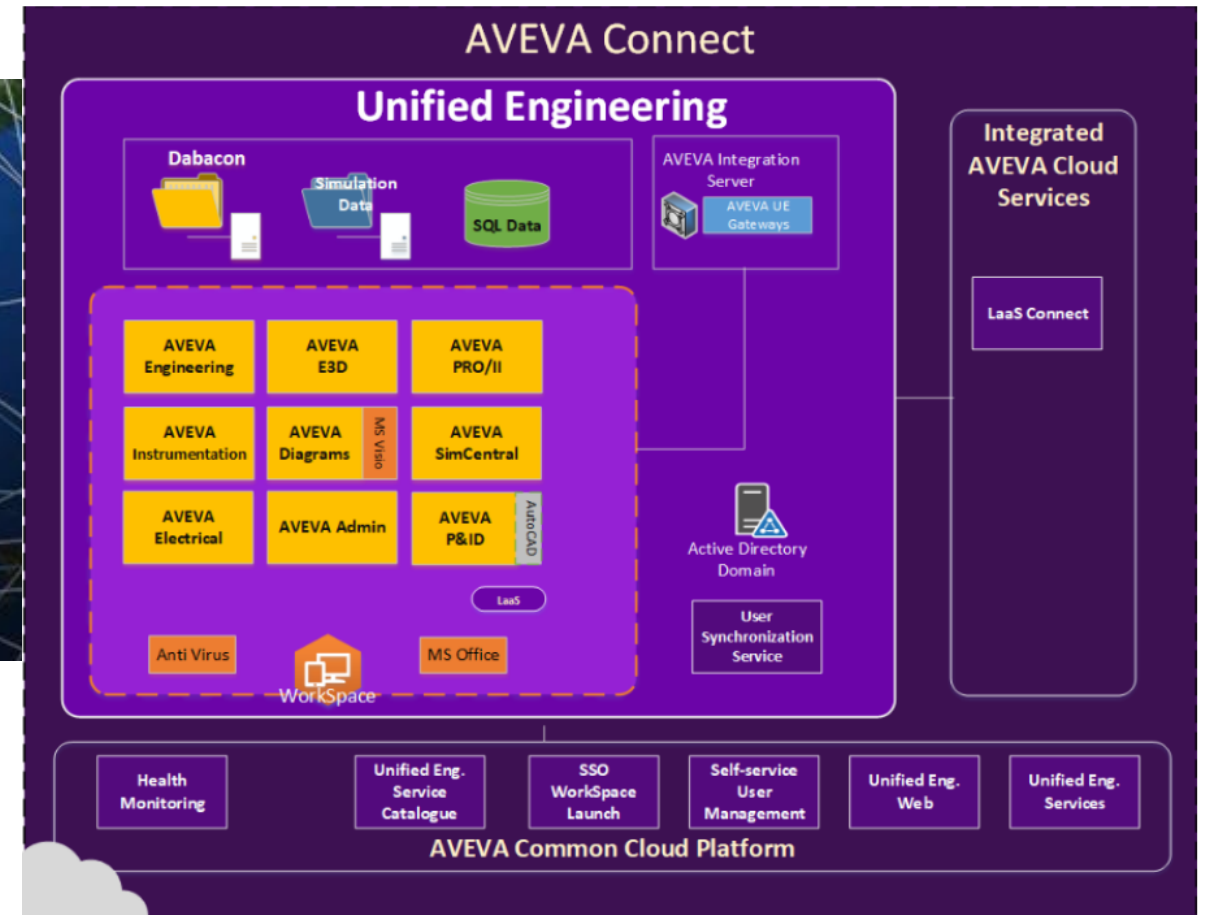
- Increase quality
- Speed up process's
- Increase Design Accuracy
- Increased production
- operational efficiency
- reduced costs

APAC Smart Engineering Design

Tools Integration Principle Magic Cloud



- Calm Licence in the cloud
- Data in the cloud
- Software in the cloud



Our Teams have access to all Project and Tender in real time from everywhere

CALM : Client Activated License Management

AVEVA

APAC Smart Engineering Design

Overview - Smart Tools One Database

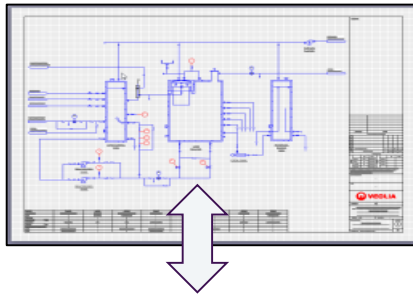
Access all information
in real time everywhere
in the World



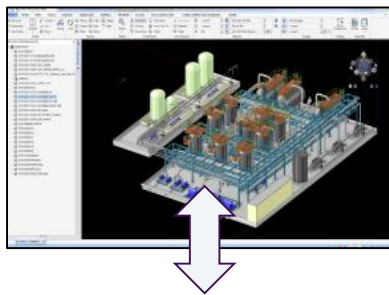
: Used by APAC



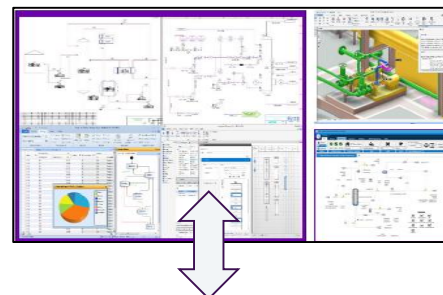
Diagrams intelligent
P&ID



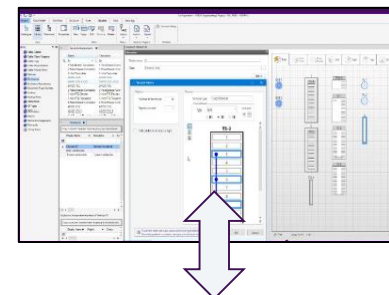
E3D Design



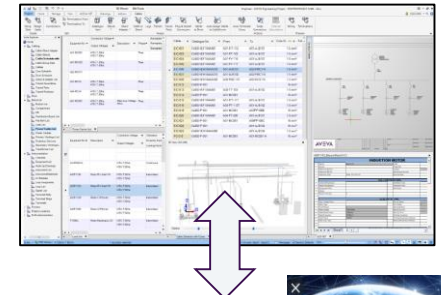
Tag Engineering



Instrumentation



Electrical



KL Singapore Jakarta
Sydney Beijing Shanghai

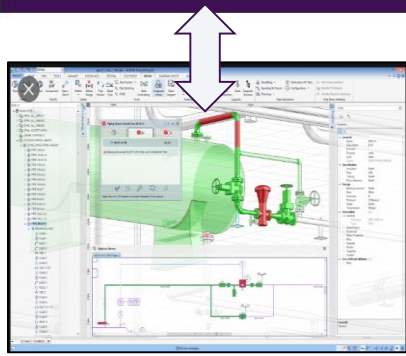


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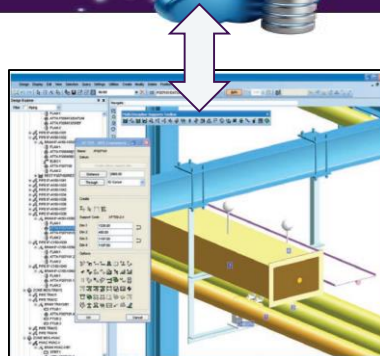


Dabacon

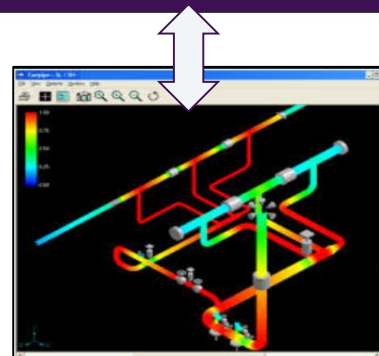
Access all information
in real time everywhere
in the World



Integrator



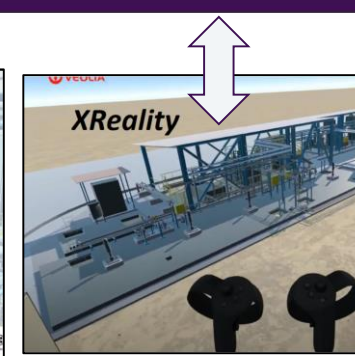
MDS
Discipline Supports



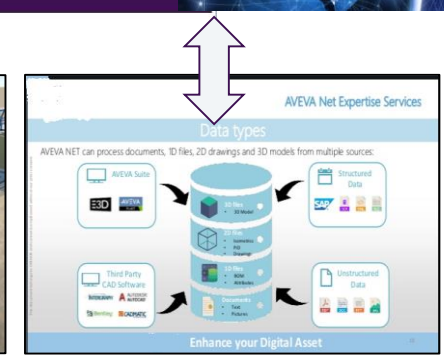
PSI
Pipe Stress Interface



Engage



XR
Extended Reality



Asset Information
Management

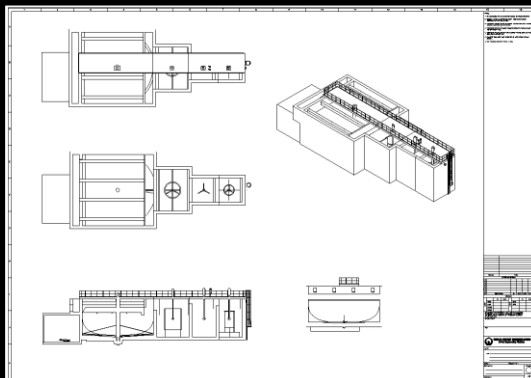
AVEVA

Smart Engineering Design Tender & Project

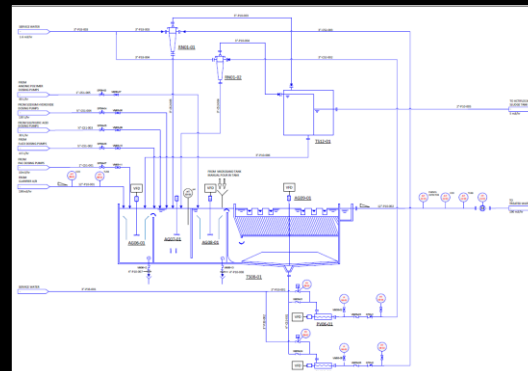




CIVIL GUIDE DRAWINGS



SMART P&ID



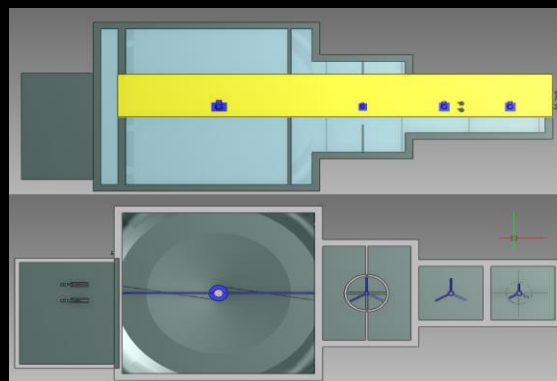
EQUIPMENT LIST

P & ID	TAG	DESCRIPTION
/Q-SD-CAD-P3-006rA0.	TS08-01	ActifloCarb
/Q-SD-CAD-P3-006rA0.	AG06-01	Mixer for PAC Contact Tank
/Q-SD-CAD-P3-006rA0.	AG07-01	Mixer for Coagulation Tank
/Q-SD-CAD-P3-006rA0.	AG08-01	Mixer for Flocculation Tank
/Q-SD-CAD-P3-006rA0.	AG09-01	Scraper for Sedimentation Tank
/Q-SD-CAD-P3-006rA0.	PV06-01	Actiflocarb Recirculation Pump A
/Q-SD-CAD-P3-006rA0.	PV06-02	Actiflocarb Recirculation Pump B
/Q-SD-CAD-P3-006rA0.	TS12-01	Splitbox
/Q-SD-CAD-P3-006rA0.	RN01-01	Hydrocyclone A
/Q-SD-CAD-P3-006rA0.	RN01-02	Hydrocyclone B
/Q-SD-CAD-P3-006rA0.	JL01-01	Launders for Actiflocarb
/Q-SD-CAD-P3-006rA0.	MP01-01	Lamellas for Actiflocarb

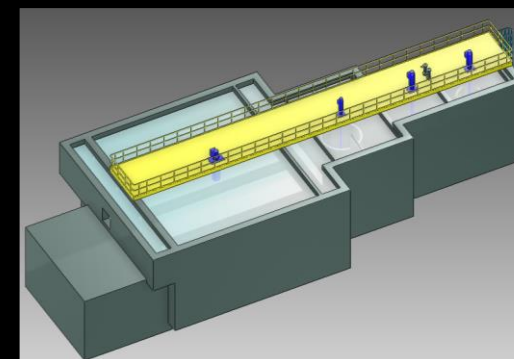
CIVIL BOQ

	A	B
1	Name	Civil Vol(mm3)
2	Contact Tank	52850000000
3	Coagulant Tank	52850000000
4	Flocculation Tank	72000000000
5	Sedimentation Tank	222100000000
6	Pump Room	70895370000

CONCEPT DESIGN



3D VIEW



APAC Industrial SMART Tender Overview



INPUT

Master Design Package

Item No.	Item Description	Unit	Qty	Material	Remarks
1	Process Flow Diagram (PFD)	Set	1	Engineering	
2	Process Data Sheet (PDS)	Set	1	Engineering	
3	Process Flow Diagram (PFD)	Set	1	Engineering	
4	Process Data Sheet (PDS)	Set	1	Engineering	
5	Process Flow Diagram (PFD)	Set	1	Engineering	
6	Process Data Sheet (PDS)	Set	1	Engineering	
7	Process Flow Diagram (PFD)	Set	1	Engineering	
8	Process Data Sheet (PDS)	Set	1	Engineering	
9	Process Flow Diagram (PFD)	Set	1	Engineering	
10	Process Data Sheet (PDS)	Set	1	Engineering	

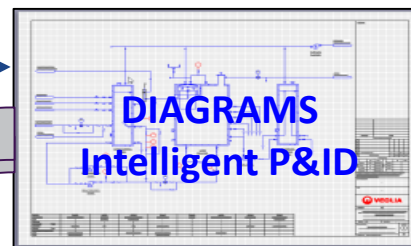
Parametric Input

Item No.	Item Description	Unit	Qty	Material	Remarks
1	Process Flow Diagram (PFD)	Set	1	Engineering	
2	Process Data Sheet (PDS)	Set	1	Engineering	
3	Process Flow Diagram (PFD)	Set	1	Engineering	
4	Process Data Sheet (PDS)	Set	1	Engineering	
5	Process Flow Diagram (PFD)	Set	1	Engineering	
6	Process Data Sheet (PDS)	Set	1	Engineering	
7	Process Flow Diagram (PFD)	Set	1	Engineering	
8	Process Data Sheet (PDS)	Set	1	Engineering	
9	Process Flow Diagram (PFD)	Set	1	Engineering	
10	Process Data Sheet (PDS)	Set	1	Engineering	

Tag, Type, Line No,
Pipe Spec/Size

Tag, Type, Desc

OUTPUT

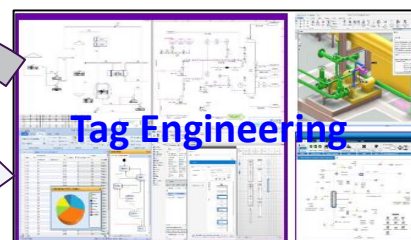


P&ID

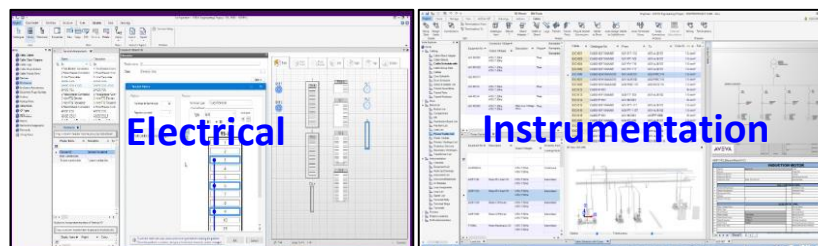


Pipe Spec/
Size, Desc,
Flowrate,
Press, Temp

General Arrangement
Civil Guide Dwg
Layout Dwg
Cable Tray 3D
Cable 3D (TBC)



Equipment List
Line List
Valve List
Equipment Datasheets



Instrument List
Instrument Datasheets
Load List
IO List
Cable Schedules
VFD List

APAC Industrial Smart Project

New Project Using Smart Tender 24h \Rightarrow 24 Days



DEMO - Information Transfer

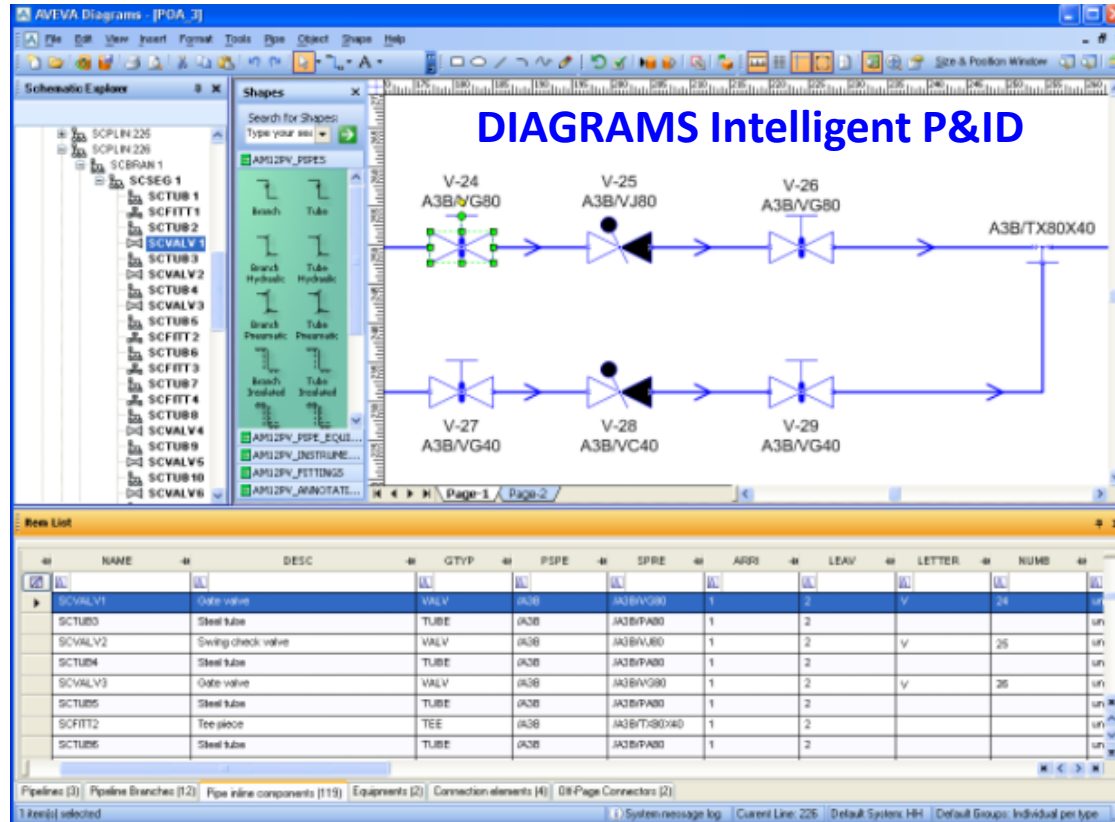
Change In	What to Change	Reflected In
Diagrams SMART P&ID	Tag Number (Equipment, Instrument, Electrical)	E3D, Engineering, Instrumentation, Electrical
Tag Engineering	Equipment / Instrument Description, Flowrate	Diagrams intelligente P&ID, Instrumentation,
	Weight	E3D - Equipment Layout
	Dimension	Datasheet in Tag Engineering
Electrical	kW	Tag Engineering, Diagrams intelligente P&ID
E3D Design	Parametric Dimension Change (Actiflo, UASB)	E3D

DEMO - Checking

Software	Using	Check s with	Checks for Discrepancies in	E.g.
Diagrams Intelligente P&ID	Integrator	E3D	Tag, Pipe Size, Pipe Spec	Add/Remove Valve Change Pipe Size
MDS Multi- Discipline Supports		E3D	Integrity and Clash Check for Pipe Supports	

APAC Smart Engineering Design

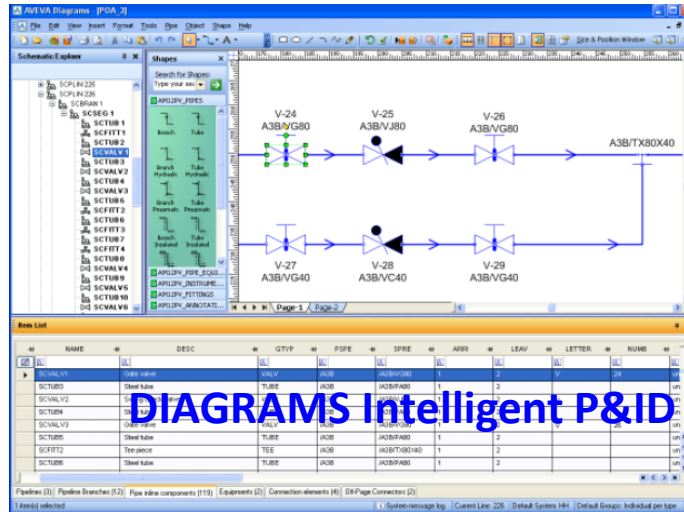
Digrams Intelligent P&ID Efficiency



- Pipe Spec Driven
 - Pipe Spec can be changed in 1 click
- Addition of Manual Valve / Auto Valve
 - Auto insertion
 - Auto Tag
 - Auto checking
- Change of Pump Name
 - Auto Update in Smart P&ID

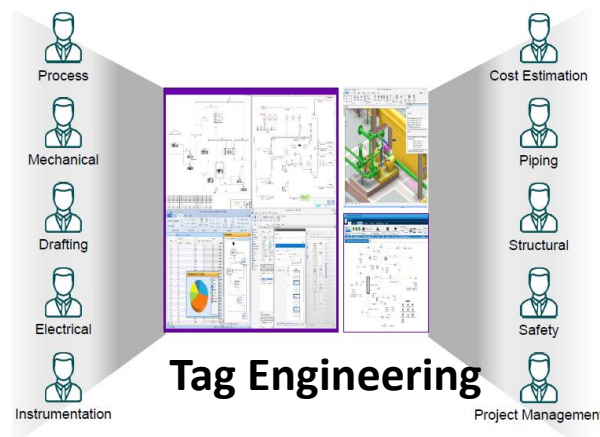
APAC Smart Engineering Design

Change In Engineering from Diagrams Intelligent P&ID



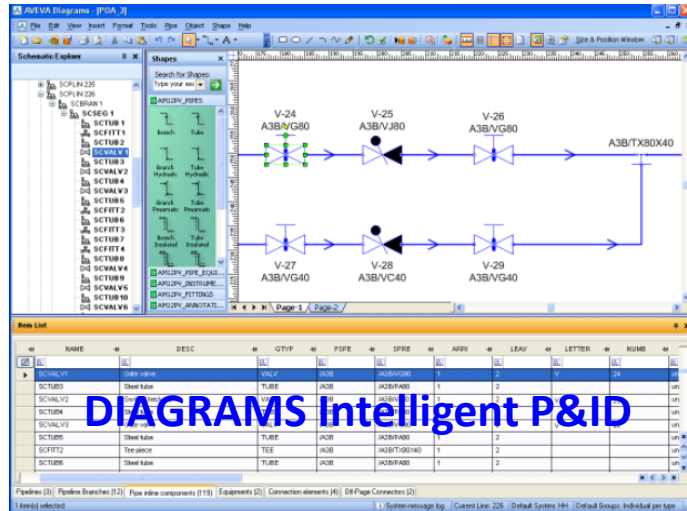
DIAGRAMS Intelligent P&ID

- Change in Diagrams intelligente P&ID - Update TO Engineering
 - Add new valves
 - Update of the valve list (Show Valve List)
 - New Tag for the pump 1
 - Pump tag update (show pump list & datasheet)

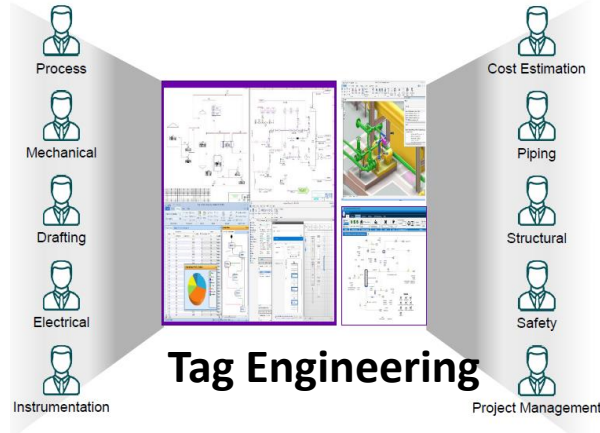


APAC Smart Engineering Design

Update from Engineering to diagram Intelligent P&ID



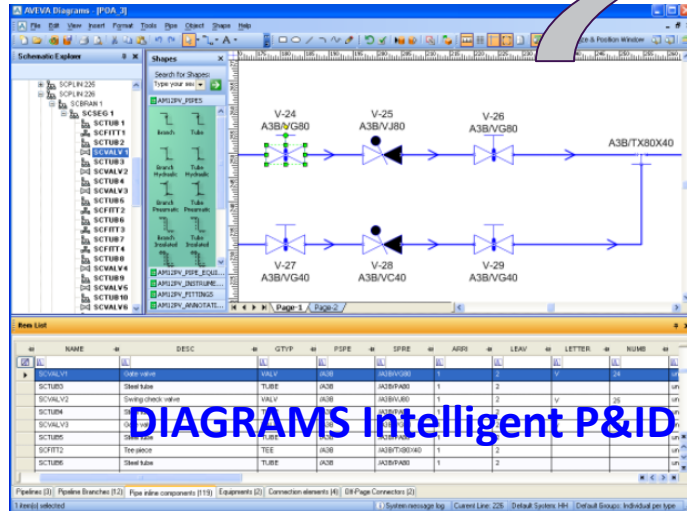
DIAGRAMS Intelligent P&ID



- Change in Engineering - Update **TO** Diagrams intelligent P&ID
 - Change pump name
 - Change kW (Show Smart P&ID)
 - Change loading (Show Equipment Loading Layout)

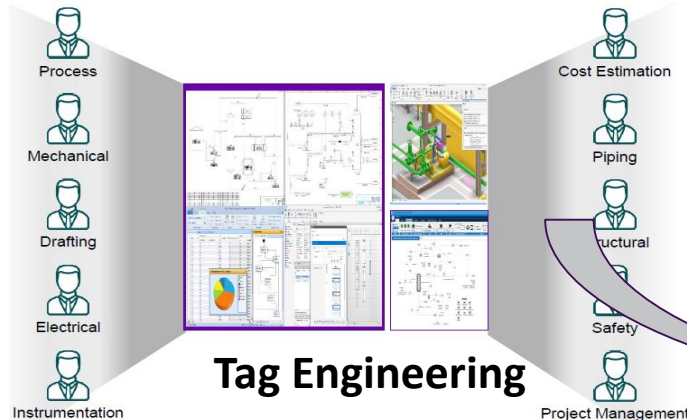
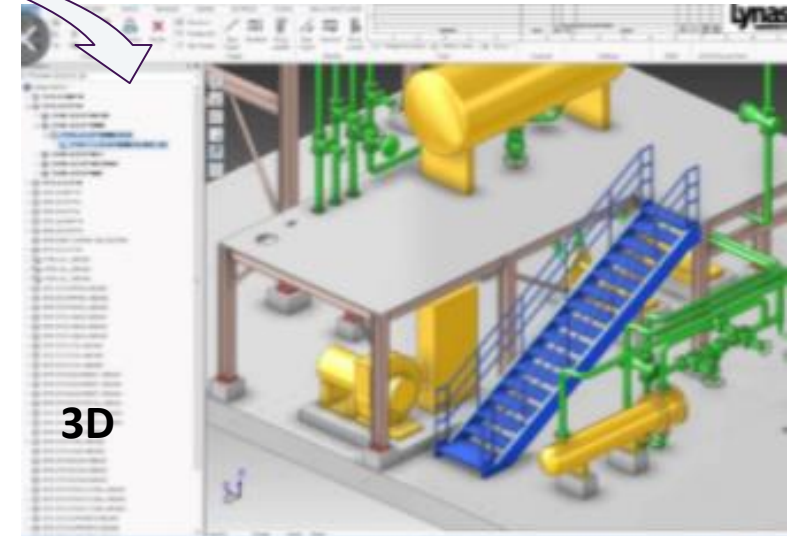
APAC Smart Engineering Design

Change Tag Number



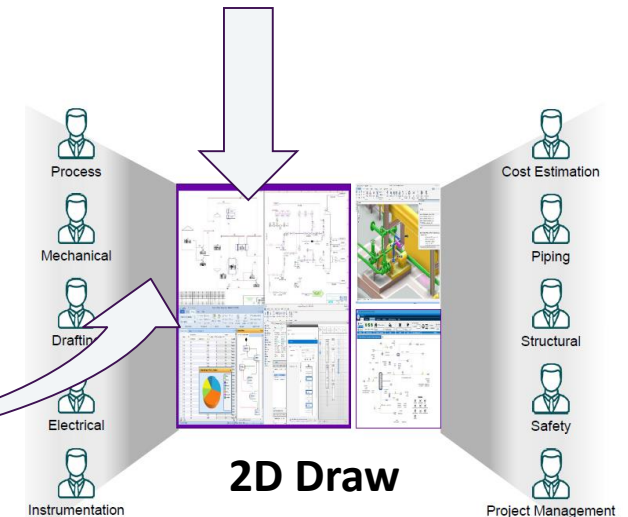
DIAGRAMS Intelligent P&ID

- Spec Driven
- Add valve manual valve ⇒ Auto insertion auto Tag auto checking
- Add auto valve
- Change tag Name Pump
- Change the pipe spec in one click



Tag Engineering

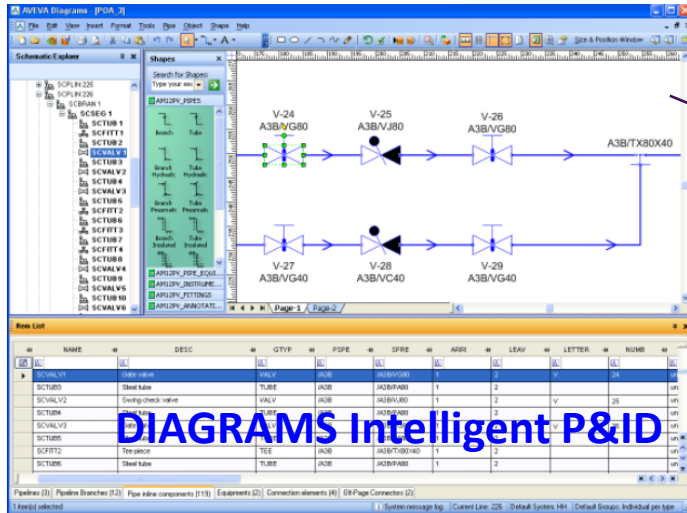
Change weight in 2D draw (Loading Layout) from Engineering



2D Draw

APAC Smart Engineering Design

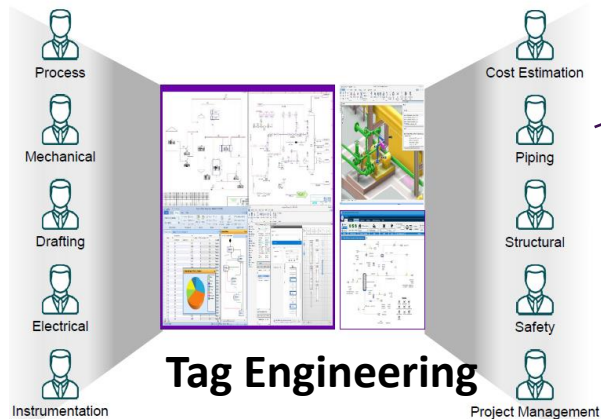
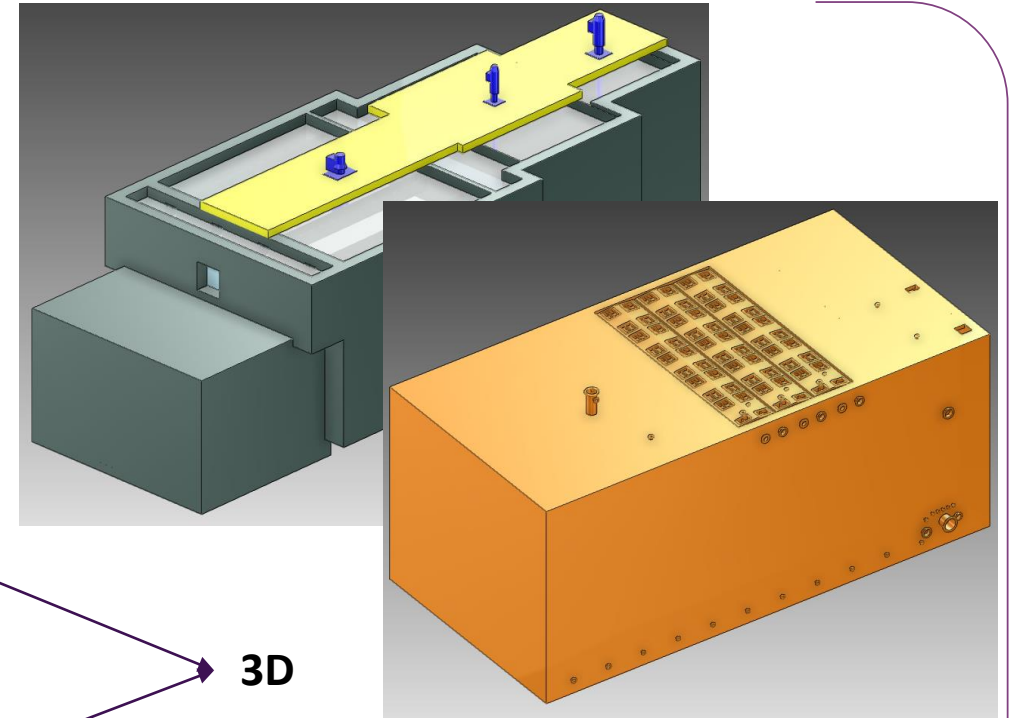
3D Parametric



Actiflo Mutiflo
UASB
MBBR

3D Parametric

3D



Parametric Input

Item	Description	Unit	Value	Category	Remarks
1	100mm dia. steel pipe	m	100	Piping	
2	150mm dia. steel pipe	m	150	Piping	
3	200mm dia. steel pipe	m	200	Piping	
4	250mm dia. steel pipe	m	250	Piping	
5	300mm dia. steel pipe	m	300	Piping	
6	350mm dia. steel pipe	m	350	Piping	
7	400mm dia. steel pipe	m	400	Piping	
8	450mm dia. steel pipe	m	450	Piping	
9	500mm dia. steel pipe	m	500	Piping	
10	550mm dia. steel pipe	m	550	Piping	
11	600mm dia. steel pipe	m	600	Piping	
12	650mm dia. steel pipe	m	650	Piping	
13	700mm dia. steel pipe	m	700	Piping	
14	750mm dia. steel pipe	m	750	Piping	
15	800mm dia. steel pipe	m	800	Piping	
16	850mm dia. steel pipe	m	850	Piping	
17	900mm dia. steel pipe	m	900	Piping	
18	950mm dia. steel pipe	m	950	Piping	
19	1000mm dia. steel pipe	m	1000	Piping	
20	1050mm dia. steel pipe	m	1050	Piping	
21	1100mm dia. steel pipe	m	1100	Piping	
22	1150mm dia. steel pipe	m	1150	Piping	
23	1200mm dia. steel pipe	m	1200	Piping	
24	1250mm dia. steel pipe	m	1250	Piping	
25	1300mm dia. steel pipe	m	1300	Piping	
26	1350mm dia. steel pipe	m	1350	Piping	
27	1400mm dia. steel pipe	m	1400	Piping	
28	1450mm dia. steel pipe	m	1450	Piping	
29	1500mm dia. steel pipe	m	1500	Piping	
30	1550mm dia. steel pipe	m	1550	Piping	
31	1600mm dia. steel pipe	m	1600	Piping	
32	1650mm dia. steel pipe	m	1650	Piping	
33	1700mm dia. steel pipe	m	1700	Piping	
34	1750mm dia. steel pipe	m	1750	Piping	
35	1800mm dia. steel pipe	m	1800	Piping	
36	1850mm dia. steel pipe	m	1850	Piping	
37	1900mm dia. steel pipe	m	1900	Piping	
38	1950mm dia. steel pipe	m	1950	Piping	
39	2000mm dia. steel pipe	m	2000	Piping	
40	2050mm dia. steel pipe	m	2050	Piping	
41	2100mm dia. steel pipe	m	2100	Piping	
42	2150mm dia. steel pipe	m	2150	Piping	
43	2200mm dia. steel pipe	m	2200	Piping	
44	2250mm dia. steel pipe	m	2250	Piping	
45	2300mm dia. steel pipe	m	2300	Piping	
46	2350mm dia. steel pipe	m	2350	Piping	
47	2400mm dia. steel pipe	m	2400	Piping	
48	2450mm dia. steel pipe	m	2450	Piping	
49	2500mm dia. steel pipe	m	2500	Piping	
50	2550mm dia. steel pipe	m	2550	Piping	
51	2600mm dia. steel pipe	m	2600	Piping	
52	2650mm dia. steel pipe	m	2650	Piping	
53	2700mm dia. steel pipe	m	2700	Piping	
54	2750mm dia. steel pipe	m	2750	Piping	
55	2800mm dia. steel pipe	m	2800	Piping	
56	2850mm dia. steel pipe	m	2850	Piping	
57	2900mm dia. steel pipe	m	2900	Piping	
58	2950mm dia. steel pipe	m	2950	Piping	
59	3000mm dia. steel pipe	m	3000	Piping	
60	3050mm dia. steel pipe	m	3050	Piping	
61	3100mm dia. steel pipe	m	3100	Piping	
62	3150mm dia. steel pipe	m	3150	Piping	
63	3200mm dia. steel pipe	m	3200	Piping	
64	3250mm dia. steel pipe	m	3250	Piping	
65	3300mm dia. steel pipe	m	3300	Piping	
66	3350mm dia. steel pipe	m	3350	Piping	
67	3400mm dia. steel pipe	m	3400	Piping	
68	3450mm dia. steel pipe	m	3450	Piping	
69	3500mm dia. steel pipe	m	3500	Piping	
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71	3600mm dia. steel pipe	m	3600	Piping	
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73	3700mm dia. steel pipe	m	3700	Piping	
74	3750mm dia. steel pipe	m	3750	Piping	
75	3800mm dia. steel pipe	m	3800	Piping	
76	3850mm dia. steel pipe	m	3850	Piping	
77	3900mm dia. steel pipe	m	3900	Piping	
78	3950mm dia. steel pipe	m	3950	Piping	
79	4000mm dia. steel pipe	m	4000	Piping	
80	4050mm dia. steel pipe	m	4050	Piping	
81	4100mm dia. steel pipe	m	4100	Piping	
82	4150mm dia. steel pipe	m	4150	Piping	
83	4200mm dia. steel pipe	m	4200	Piping	
84	4250mm dia. steel pipe	m	4250	Piping	
85	4300mm dia. steel pipe	m	4300	Piping	
86	4350mm dia. steel pipe	m	4350	Piping	
87	4400mm dia. steel pipe	m	4400	Piping	
88	4450mm dia. steel pipe	m	4450	Piping	
89	4500mm dia. steel pipe	m	4500	Piping	
90	4550mm dia. steel pipe	m	4550	Piping	
91	4600mm dia. steel pipe	m	4600	Piping	
92	4650mm dia. steel pipe	m	4650	Piping	
93	4700mm dia. steel pipe	m	4700	Piping	
94	4750mm dia. steel pipe	m	4750	Piping	
95	4800mm dia. steel pipe	m	4800	Piping	
96	4850mm dia. steel pipe	m	4850	Piping	
97	4900mm dia. steel pipe	m	4900	Piping	
98	4950mm dia. steel pipe	m	4950	Piping	
99	5000mm dia. steel pipe	m	5000	Piping	
100	5050mm dia. steel pipe	m	5050	Piping	

APAC Smart Engineering Design

Virtual Reality Link to Aveva AIM

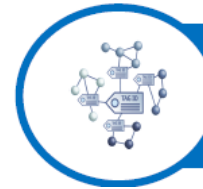
- AIM is a multi-source and multi-user data collection, search, visualization and comparison tool for technical documents from a WEB interface
- Bring together 98% of engineering data at a single point of access
- Reduce the time required to search for information by 50 to 70%

Digitally Transform Operator Tasks

- Render a Digital Twin–A complete high fidelity digital representation of a physical asset within an Augmented Reality (AR), Virtual Reality (VR) or a Mixed Reality (MR) environment
- A digital twin provides a safe, reliable environment to study, inspect, and test asset maintenance and optimization strategies prior to implementation.
- Offers a powerful toolset based on Microsoft Visual Studio, DirectX, and the Windows API

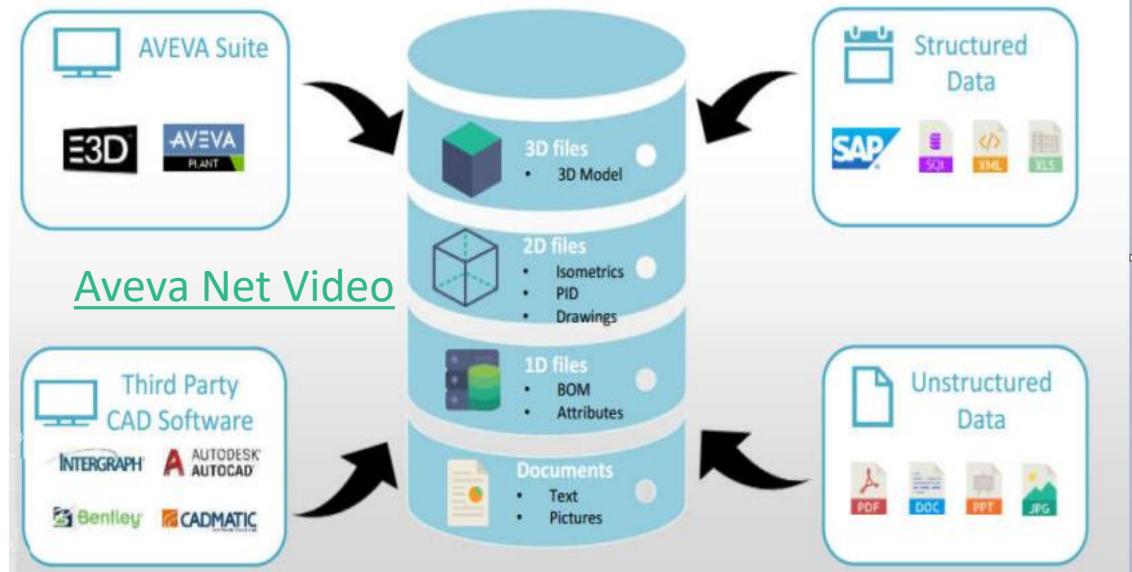


In the future for a
Full Engineering Digitalisation



BIM Portal – Aveva AIM

Aveva AIM can process documents, 1D files, 2D drawings and 3D models from multiple sources:



AIM : Asset Information Management **AVEVA**

APAC Smart Engineering Design
Smart Design you must use

May the Smart Tools
Design be with you



Qualite / Speed Design / Accuracy
Increase our Revenue

APAC Smart Engineering Design Engineering Smart Tools



**May the Smart Tools
Design be with you**





Bouhali Hakim

Engineering Director Apac Industrial

- Veolia Water Technology
- Hakim.bouhali@Veolia.com

“Just as any divided kingdom is soon undone, so any Design that divides into several different studies becomes confused and weakened.”

Léonard De Vinci

THANK YOU

謝謝

DZIĘKUJĘ CI

NGIYABONGA

TEŞEKKÜR EDERİM

DANKIE

TERIMA KASIH

GRACIES

WHAKAWHETAI KOE

DANKON

TANK

TAPADH LEAT

SALAMAT

SPASIBO

GRAZIE

MATUR NUWUN

ХВАЛА ВАМ

MULTUMESC

PAKMET CIZGE

고맙습니다

GRAZIE

شكرا

FAAFETA

ESKERRIK ASKO

HVALA

GO RAIBH MAITH AGAT

БЛАГОДАРЯ

GRACIAS

ТИ БЛАГОДАРАМ

MAHADSANID

MAHALO IĀ 'ŌE

TAKK SKAL DU HA

TEŞEKKÜR EDERİM

OBRIGADO

DANKJE

EΥΧΑΡΙΣΤΩ

GRATIAS TIBI

MAHALO IĀ 'ŌE

TAKK SKAL DU HA

MERCI

DI OU MÈSI

ĎAKUJEM

RAHMAT

MERCI

GRAZZI

PAKKA PÉR

HATUR NUHUN

PAXMAT CAĠA

CẢM ƠN BẠN

WAZVIITA

FALEMINDERIT

ありがとうございました

SIPAS JI WERE

TERIMA KASIH

UA TSAUG RAU KOJ

ТИ БЛАГОДАРАМ

СИПОС

KÖSZÖNÖM

KEA LEBOHA

MISAOTRA ANAO

BAЯPΛAΛA

GRACIAS

MAHALO IĀ 'ŌE

TAKK SKAL DU HA

DI OU MÈSI

ĎAKUJEM


TERIMA KASIH


TI БЛАГОДАРАМ

СИПОС

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ABOUT AVEVA

AVEVA is a global leader in industrial software, driving digital transformation and sustainability. By connecting the power of information and artificial intelligence with human insight, AVEVA enables teams to use their data to unlock new value. We call this Performance Intelligence. AVEVA's comprehensive portfolio enables more than 20,000 industrial enterprises to engineer smarter, operate better and drive sustainable efficiency. AVEVA supports customers through a trusted ecosystem that includes 5,500 partners and 5,700 certified developers around the world. The company is headquartered in Cambridge, UK, with over 6,500 employees and 90 offices in over 40 countries.

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