

Object Web – ein Ansatz für “Collaborative Engineering”

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Produktion“ – 25./26. März 2010 – RWTH Aachen*

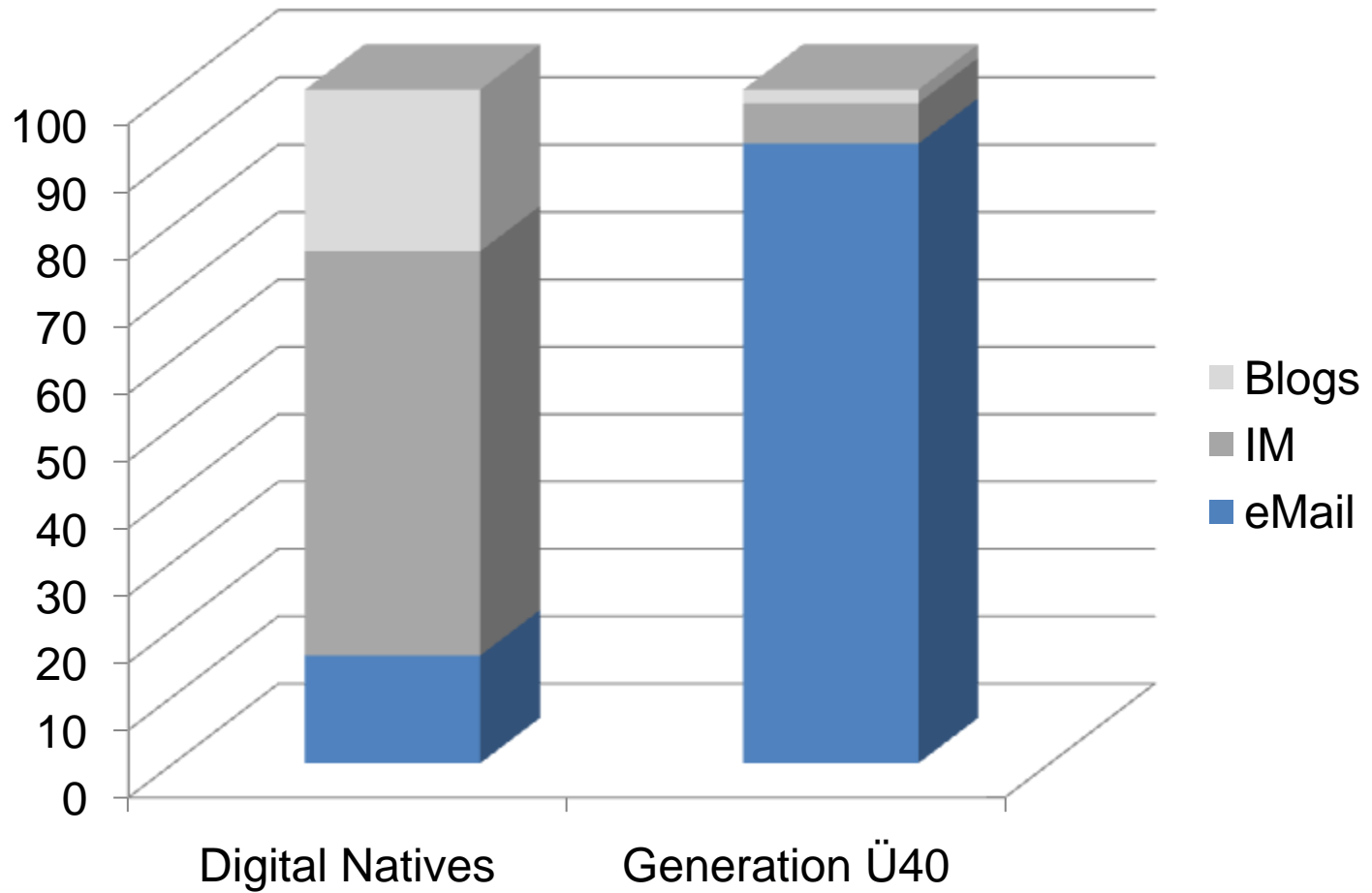
www.aveva.com

Ein paar Impressionen aus dem digitalen Zeitalter

„Digital Natives“ = im digitalen Zeitalter aufgewachsen

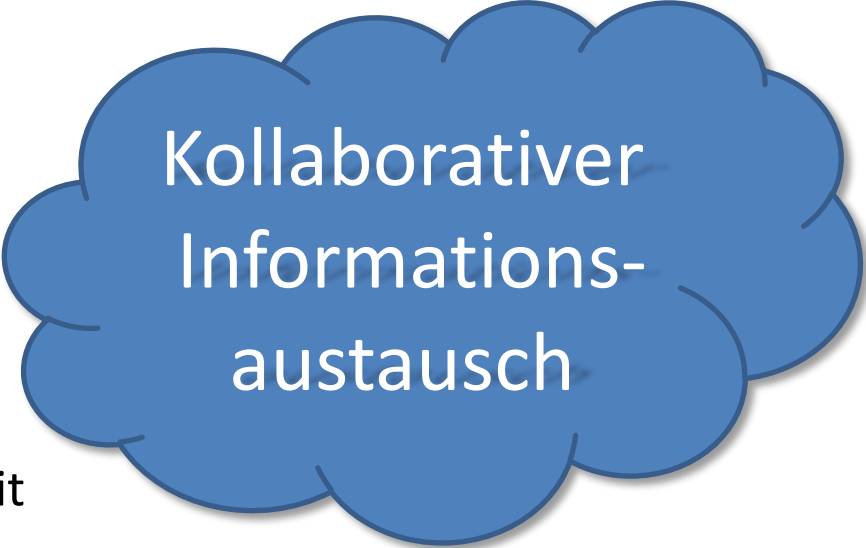


„Digital Natives“ kommunizieren anders (als ihre Eltern)



Aktuelle Web 2.0 Anwendungen

- Flickr (Fotosharing)
 - Upload von > 2000 Fotos pro Minute!
- Youtube
- Wikipedia
 - Mehr als 14 Mill. Artikel
- Open Source Software
 - 131.000 Mannjahre Entwicklungsarbeit
- Musikindustrie ☹️



Kollaborativer
Informations-
austausch

Die heranwachsende Generation der „Digital Natives“ tauscht Informationen im Internet längst mit Web 2.0 Technologie aus!

Ein mahnendes Wort: vom Web 2.0 zu Enterprise 2.0



Bewirken oft dies →

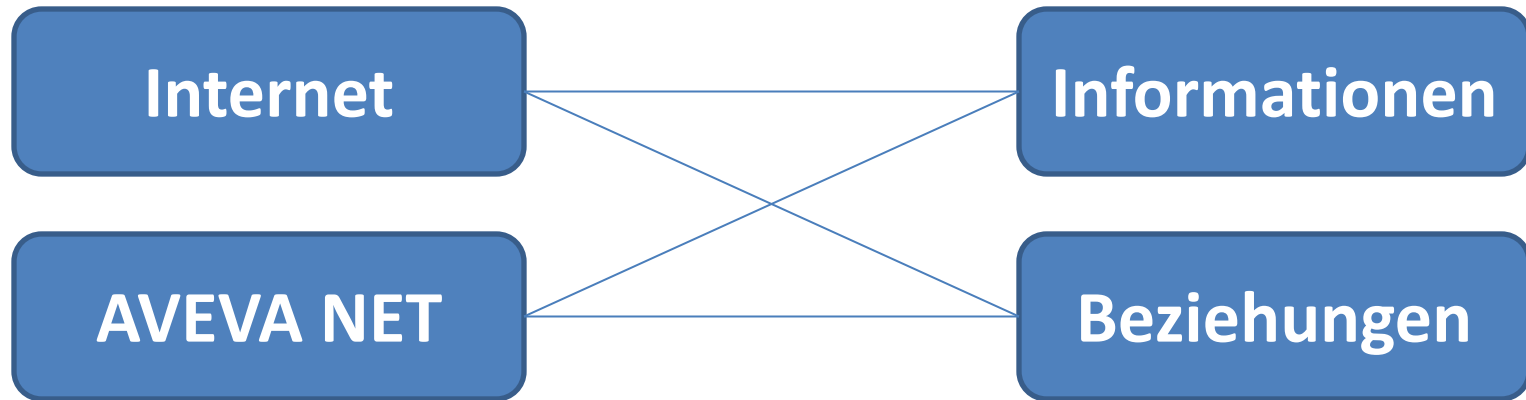


versprechen ↑



Enterprise 2.0 = Web 2.0 Technologien für Wissensmanagement, interne und externe Kommunikation und Projekt-Mgmt - ohne "Wild West"-Zustände!

Internet und AVEVA NET



- Wie können (AVEVA NET) Applikationen mit Web 2.0 Technologien angereichert werden?
 - Einfache Konfigurierbarkeit
 - Suche
 - RSS Feeds

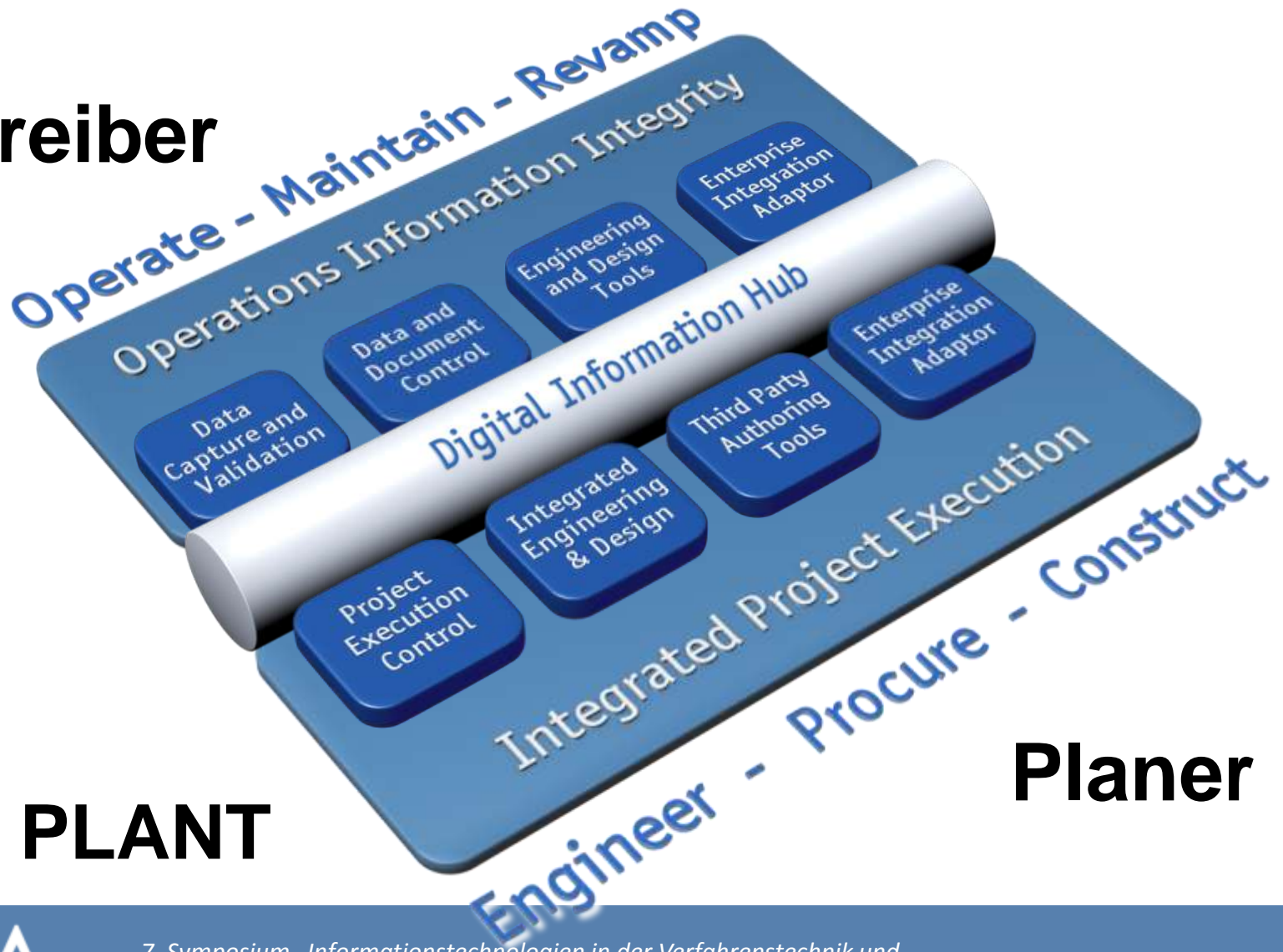


→ Forschungsprojekt „Object Web“

Object Web

AVEVA's Lösungen für Anlagenplaner und Betreiber

Betreiber



Planer

AVEVA PLANT

AVEVA's Digital Information Hub

“Object Web” macht Informationen auf einfachste Art verfügbar - wie im Internet!

Basis für Object Web (sowie AVEVA NET) ist das bewährte ISO 15926 konforme EIWM Datenmodell



Zentrale für Informations-Management

“Object Web” ist eine flexibel konfigurierbare Sicht auf den Digital Information Hub

“Object Web” = Beispiel einer **“Enterprise 2.0”** Anwendung für Informations-Mgmt und Kollaboration



about:blank



J-9002

Favorites

Blank Page



Search

J-9002 Advanced Search

Results by Relevance | View by Modified Date | Alert Me | RSS

Results 1-5 of 5. Your search took 8.50 seconds.

J-9002A

IPE
<http://ukcamd3142:15000/zodiac/ipe/item/j-9002a/page.htm> - 83KB - 5/13/2009

J-9002B

IPE
<http://ukcamd3142:15000/zodiac/ipe/item/j-9002b/page.htm> - 83KB - 5/13/2009

FOUNDATIONS

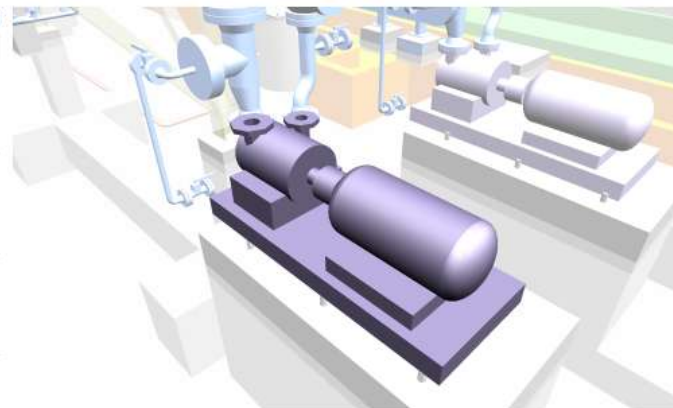
Area
IPE
<http://ukcamd3142:15000/zodiac/ipe/item/foundations/page.htm> - 133KB - 5/13/2009

EQUI-15B-EQUIP

Area
IPE
<http://ukcamd3142:15000/zodiac/ipe/item/equi-15b-equip/page.htm> - 82KB - 5/13/2009

Item -

F-9002 ... R-9002 ... J-9002B
<http://ukcamd3142:15000/zodiac/ipe/item/pepom/page.htm> - 91KB - 5/13/2009





Physical Items

Name: J-9002A
Class:
Description: VERTICAL PUMP

J-9002A

- has dataset
 - J-9002A VPD Data Set
 - J-9002A VPE Technical Dataset
 - J-9002A VPRM Dataset
 - J-9002A VPE General Dataset
 - J-9002A VPE Pump Dataset
 - J-9002A MDB Dataset
 - J-9002A PID Data Set
- is a part of
 - EQUI-15B-EQUIP
 - IPEMOM
- is an assembly including
 - J-9002A/N2
 - J-9002A/N1
- is referenced in
 - Area-15B
 - Area-15B-Equipment
 - Complete Project
 - Equipment Foundations
 - Equipment
 - Instruments
 - Structural & Equipment Foundations
 - 6523000
 - 6524001
 - MECH-DS-J-9002-A
 - MECH-DS-J-9002-A-B
 - MECH-VDS-J-9002-A-B
 - 6581900
 - 6581902
 - 8000-00-ME-201-01-Status
 - 8000-00-PO-201-01
 - 8000-00-PO-201-01
 - 8000-00-PO-201-01
 - 905675
- is referenced in note
 - 04-28200-G1-PM-032.1

Details

Unit of Measure: EA
Status: N
Under Change: N
Change Pending: N
Current: Y
Date Obsolete:
Detailed Description:

[Open Model](#)

Documents

Number	Revision	Title	Class	Status
8000-00-ME-201-01-STATUS	1.0	8000-00-ME-201-01-Status	Purchase status	Current
8000-00-PO-201-01	1.0	8000-00-PO-201-01	Purchase Order	Current
905675	1.0	905675	P&ID	Current

Where used

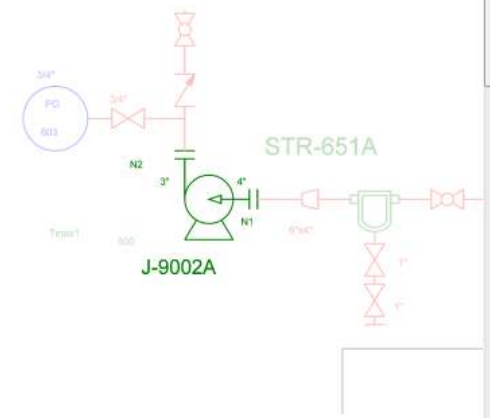
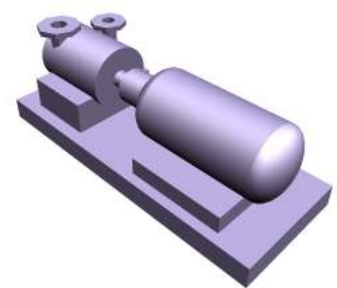
Number
EQUI-15B-EQUIP

Attributes

Create Change Request

Name	Value
Design code	REFLUX PUMP
Name of the element	J-9002A
Design Pressure Max (barg)	51.30000
Design Temperature Max (deg)	68.00000
Electric Power Required	YES
Flow Rate	1.8
Installed Power	2.00000
Operating Pressure (barg)	36.00000
Operating Pressure Max (barg)	48.00000
Operating Pressure Min (barg)	33.00000
Operating Temperature Max (deg)	65.00000

[Open P&ID](#)



Parts

Item	Quantity
J-9002A	1

Documents

Number: 8000-00-ME-201-01-STATUS
Title: 8000-00-ME-201-01-Status
Class: Purchase status

Details

Create Work Order

Revision: 1.0
Approval Status: Not Approved
Date Effective:
Date Obsolete:
Remarks:
Synopsis:
Superseded: N
Latest Approved: N
Latest Revision: Y
Under Change: N
Change Pending: N
Document Status: Current

Items

- Number
- J-9002A
- J-9002B

Responsibilities

Person	Organisation	Responsibility
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MasterCopy

- Filename
- 8000-00-ME-201-01-Status.pdf



Client: Clients Name		Page 1	
Project IPE			
VPRM Demo Project Data			
Purchasing Status			
Contractors Office Name		16 Jan 2001 16:36	
<u>Report Selection Criteria:</u>		<u>Report Sequence:</u>	
MR Number	8000-00-ME-MR-201-01	MR Number	
MR Revision	Current		
Cancelled MRs Included?	Y		
Buyer			
Discipline Code			
MR No	8000-00-ME-MR-201-01	Rev	01
Title	centrifugal pumps Material Requisition	Issued	criticality
PO No	8000-00-ME-PO-201-01	Rev	0
		Registered	exp
Vendor	BILLINGSWORTH PLC MANCHESTER	MR Rev	01
		Liquidated Damages	
		Country Content %	100
PO Value	120000.00 GBP		
Earliest BOS Date	31-MAR-01	Planning Method	Tagged Items
Estimated Manufacturing Lead Time (weeks)	29	Delivery Float (weeks)	17
Estimated Ship Time (days)	2	VDoc Float (weeks)	20
<u>Milestone Description</u>	<u>Planned</u>	<u>Forecast</u>	<u>Actual</u>
MRQ received by Procurement	26-MAR-01	26-MAR-01	



AVEVA NET Object Web

All Sites

AVEVA NET Object Web Dashboard test



Physical Items

Name: J-9002A
 Class:
 Description: VERTICAL PUMP

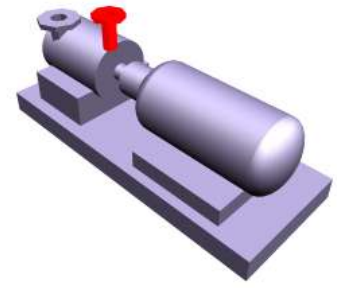
J-9002A

- has dataset
 - J-9002A VPD Data Set
 - J-9002A VPE Technical Dataset
 - J-9002A VPRM Dataset
 - J-9002A VPE General Dataset
 - J-9002A VPE Pump Dataset
 - J-9002A MDB Dataset
 - J-9002A PID Data Set
- is a part of
 - EQUI-15B-EQUIP
 - IPEMOM
- is an assembly including
 - J-9002A_N2
 - J-9002A_N1
- is used in
 - Area
 - Area-15B-Equipment
 - Complete Project
 - Equipment Foundations
 - Equipment
 - Instruments
 - Structural & Equipment Foundations
 - 6523000
 - 6524001
 - MECH-DS-J-9002-A
 - MECH-DS-J-9002-A-B
 - MECH-VDS-J-9002-A-B
 - 6581900
 - 6581902
 - 8000-00-ME-201-01-Status
 - 8000-00-PO-201-01
 - 8000-00-PO-201-01
 - 8000-00-PO-201-01
 - 905675
- is referenced in note
 - 04-28200-G1-PM-032.1

Details

Unit of Measure: EA
Status: N
Under Change: N
Change Pending: N
Current: Y
Date Obsolete:
Detailed Description:

[Open Model](#)



Documents

Number	Revision	Title	Class	Status
8000-00-ME-201-01-STATUS	1.0	8000-00-ME-201-01-Status	Purchase status	Current
8000-00-PO-201-01	1.0	8000-00-PO-201-01	Purchase Order	Current
905675	1.0	905675	P&ID	Current

Where Used

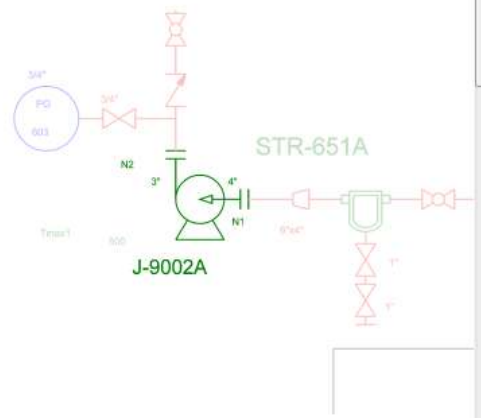
Number
 EQUI-15B-EQUIP

[Open P&ID](#)

Attributes

Create Change Request

Name	Value
Design code	REFLUX PUMP
Name of the element	J-9002A
Design Pressure Max (barg)	51.30000
Design Temperature Max (deg)	68.00000
Electric Power Required	YES
Flow Rate	1.8
Installed Power	2.00000
Operating Pressure (barg)	36.00000
Operating Pressure Max (barg)	48.00000
Operating Pressure Min (barg)	33.00000
Operating Temperature Max (deg)	65.00000



Parts

[Open](#) [Create Change Request](#)

Item	Quantity
J-9002A	1



Physical Items

Name: J-9002A/N2
 Class: Facility\Functional Artefact\Nozzle
 Description: FLANGED NOZZLE

- J-9002A/N2**
- has dataset
- J-9002A/N2 VPD Data Set
- is a part of
- J-9002A
- is logically connected to
- 4"-15B-O-90004-AAB3.1/B1
- is related in
- Area
- Area - Equipment
- Complete Project
- Equipment Foundations
- Equipment
- Instruments
- Structural & Equipment Foundations
- 905675

Details Open Model

Unit of Measure: EA
Status: N
Under Change: N
Change: N
Pending:
Current: Y
Date Obsolete:
Detailed Description:

Documents

Number	Revision	Title	Class	Status
905675	1.0	905675	P&ID	Current

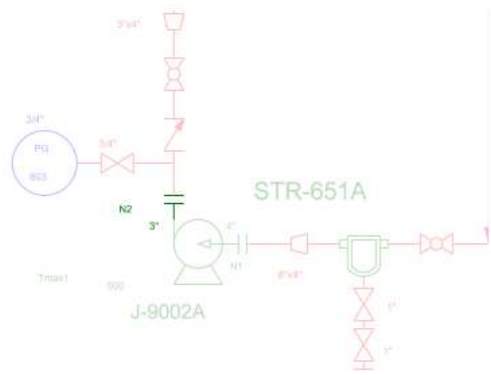
Where Used

Number
J-9002A

Attributes Open P&ID

Create Change Request

Name	Value
Connection reference	/4"-15B-O-90004-AAB3.1/B1
Name of the element	/J-9002A/N2



Parts

Item	Quantity
Open Create Change Request	



Physical Items

Name: 4"-15B-O-90004-A
Class: Piping Segment
Description: 4"-15B-O-90004-A

4"-15B-O-90004-AAB3.1/B1

- has dataset
 - 4"-15B-O-90004-AAB3.1/B1 VPD Data Set
- is a part of
 - O-90004
- is logically connected to
 - 4"-15B-O-90004-AAB3.1/B5
- is an assembly including
 - leave tube of BRANCH /4"-15B-O-90004-AAB3.1/B1
 - ELBOW 1 of BRANCH /4"-15B-O-90004-AAB3.1/B1
 - ELBOW 2 of BRANCH /4"-15B-O-90004-AAB3.1/B1
 - leave tube of ELBOW 2 of BRANCH /4"-15B-O-90004-AAB3.1/B1
 - OLET 1 of BRANCH /4"-15B-O-90004-AAB3.1/B1
 - leave tube of OLET 1 of BRANCH /4"-15B-O-90004-AAB3.1/B1
 - FLANGE 2 of BRANCH /4"-15B-O-90004-AAB3.1/B1
 - GASKET 2 of BRANCH /4"-15B-O-90004-AAB3.1/B1
 - VALVE 1 of BRANCH /4"-15B-O-90004-AAB3.1/B1
 - GASKET 3 of BRANCH /4"-15B-O-90004-AAB3.1/B1
 - VALVE 2 of BRANCH /4"-15B-O-90004-AAB3.1/B1
 - GASKET 4 of BRANCH /4"-15B-O-90004-AAB3.1/B1
 - FLANGE 3 of BRANCH /4"-15B-O-90004-AAB3.1/B1
 - REDUCER 1 of BRANCH /4"-15B-O-90004-AAB3.1/B1
 - leave tube of REDUCER 1 of BRANCH /4"-15B-O-90004-AAB3.1/B1
 - ELBOW 3 of BRANCH /4"-15B-O-90004-AAB3.1/B1
 - leave tube of ELBOW 3 of BRANCH /4"-15B-O-90004-AAB3.1/B1
 - ELBOW 4 of BRANCH /4"-15B-O-90004-AAB3.1/B1
 - leave tube of ELBOW 4 of BRANCH /4"-15B-O-90004-AAB3.1/B1
 - TEE 1 of BRANCH /4"-15B-O-90004-AAB3.1/B1
 - leave tube of TEE 1 of BRANCH /4"-15B-O-90004-AAB3.1/B1
 - ELBOW 5 of BRANCH /4"-15B-O-90004-AAB3.1/B1
 - leave tube of ELBOW 5 of BRANCH /4"-15B-O-90004-AAB3.1/B1
 - WELD 1 of BRANCH /4"-15B-O-90004-AAB3.1/B1
 - leave tube of WELD 1 of BRANCH /4"-15B-O-90004-AAB3.1/B1
 - ELBOW 6 of BRANCH /4"-15B-O-90004-AAB3.1/B1
 - leave tube of ELBOW 6 of BRANCH /4"-15B-O-90004-AAB3.1/B1
 - ELBOW 7 of BRANCH /4"-15B-O-90004-AAB3.1/B1
- is logically connected to
 - J-9002A/N2
 - 4"-15B-O-90004-AAB3.1/B5
- is referenced in

Details

Unit of Measure: EA
 Status: N
 Under Change: N
 Change: N
 Pending: Y
 Current: Y
 Date Obsolete:
 Detailed Description:

Open Model



Documents

Number	Revision	Title	Class	Status
0-90004				

Where Used

Number
0-90004

Attributes

Create Change Request	
Name	Value
Area	90
Name of the element	/4"-15B-O-90004-AAB3.1/B1

Parts

Open	Create Change Request	Quantity
Item		



Physical Items

Name: 4"-15B-O-90004-AA
 Class: Piping Segment
 Description: 4"-15B-O-90004-AA

- 4"-15B-O-90004-AAB3.1/B5**
- has dataset
 - 4"-15B-O-90004-AAB3.1/B5 VPD Data Set
- is a part of
 - O-90004
- is logically connected to
 - 4"-15B-O-90004-AAB3.1/B1
 - 4"-15B-O-90004-AAB3.1/B8
- is an assembly including
 - FE-003
 - FV-003
 - WELD 1 of BRANCH /4"-15B-O-90004-AAB3.1/B5
 - leave tube of WELD 1 of BRANCH /4"-15B-O-90004-AAB3.1/B5
 - FLANGE 1 of BRANCH /4"-15B-O-90004-AAB3.1/B5
 - GASKET 1 of BRANCH /4"-15B-O-90004-AAB3.1/B5
 - GASKET 2 of BRANCH /4"-15B-O-90004-AAB3.1/B5
 - FLANGE 2 of BRANCH /4"-15B-O-90004-AAB3.1/B5
 - leave tube of FLANGE 2 of BRANCH /4"-15B-O-90004-AAB3.1/B5
 - ELBOW 1 of BRANCH /4"-15B-O-90004-AAB3.1/B5
 - leave tube of ELBOW 1 of BRANCH /4"-15B-O-90004-AAB3.1/B5
 - TEE 1 of BRANCH /4"-15B-O-90004-AAB3.1/B5
 - FLANGE 3 of BRANCH /4"-15B-O-90004-AAB3.1/B5
 - GASKET 3 of BRANCH /4"-15B-O-90004-AAB3.1/B5
 - VALVE 1 of BRANCH /4"-15B-O-90004-AAB3.1/B5
 - GASKET 4 of BRANCH /4"-15B-O-90004-AAB3.1/B5
 - FLANGE 4 of BRANCH /4"-15B-O-90004-AAB3.1/B5
 - leave tube of FLANGE 4 of BRANCH /4"-15B-O-90004-AAB3.1/B5
 - ELBOW 2 of BRANCH /4"-15B-O-90004-AAB3.1/B5
 - leave tube of ELBOW 2 of BRANCH /4"-15B-O-90004-AAB3.1/B5
 - OLET 1 of BRANCH /4"-15B-O-90004-AAB3.1/B5
 - leave tube of OLET 1 of BRANCH /4"-15B-O-90004-AAB3.1/B5
 - FLANGE 5 of BRANCH /4"-15B-O-90004-AAB3.1/B5
 - GASKET 5 of BRANCH /4"-15B-O-90004-AAB3.1/B5
- is logically connected to
 - 4"-15B-O-90004-AAB3.1/B1
 - 4"-15B-O-90004-AAB3.1/B8
- is referenced in
 - Area-15A
 - Area-15B
 - Area-15B-Piping
 - Complete Project

Details

Unit of Measure: EA
 Status: N
 Under Change: N
 Change: N
 Pending: N
 Current: Y
 Date Obsolete:
 Detailed Description:

Open Model



Documents

Number	Revision	Title	Class	Status
No documents found.				

Where Used

Number
O-90004

Attributes

Create Change Request

Name	Value
Area	90
Name of the element	/4"-15B-O-90004-AAB3.1/B5

Parts

Open	Create Change Request	Item	Quantity
		FE-003	1
		FV-003	1





Name: 4"-15B-O-9000
Class: Piping Segmen
Description: 4"-15B-O-9000

4"-15B-O-90004-AAB3.1/B5

Open Item

has dataset

4"-15B-O-90004-AAB3.1/B5 VPD Data Set

is a part of

O-90004

is logically connected to

4"-15B-O-90004-AAB3.1/B8

4"-15B-O-90004-AAB3.1/B1

is an assembly including

FV-003

FE-003

TEE 1 of BRANCH /4"-15B-O-90004-AAB3.1/B5

WELD 1 of BRANCH /4"-15B-O-90004-AAB3.1/B5

leave tube of WELD 1 of BRANCH /4"-15B-O-90004-AAB3.1/B5

FLANGE 1 of BRANCH /4"-15B-O-90004-AAB3.1/B5

GASKET 1 of BRANCH /4"-15B-O-90004-AAB3.1/B5

GASKET 2 of BRANCH /4"-15B-O-90004-AAB3.1/B5

FLANGE 2 of BRANCH /4"-15B-O-90004-AAB3.1/B5

leave tube of FLANGE 2 of BRANCH /4"-15B-O-90004-AAB3.1/B5

ELBOW 1 of BRANCH /4"-15B-O-90004-AAB3.1/B5

leave tube of ELBOW 1 of BRANCH /4"-15B-O-90004-AAB3.1/B5

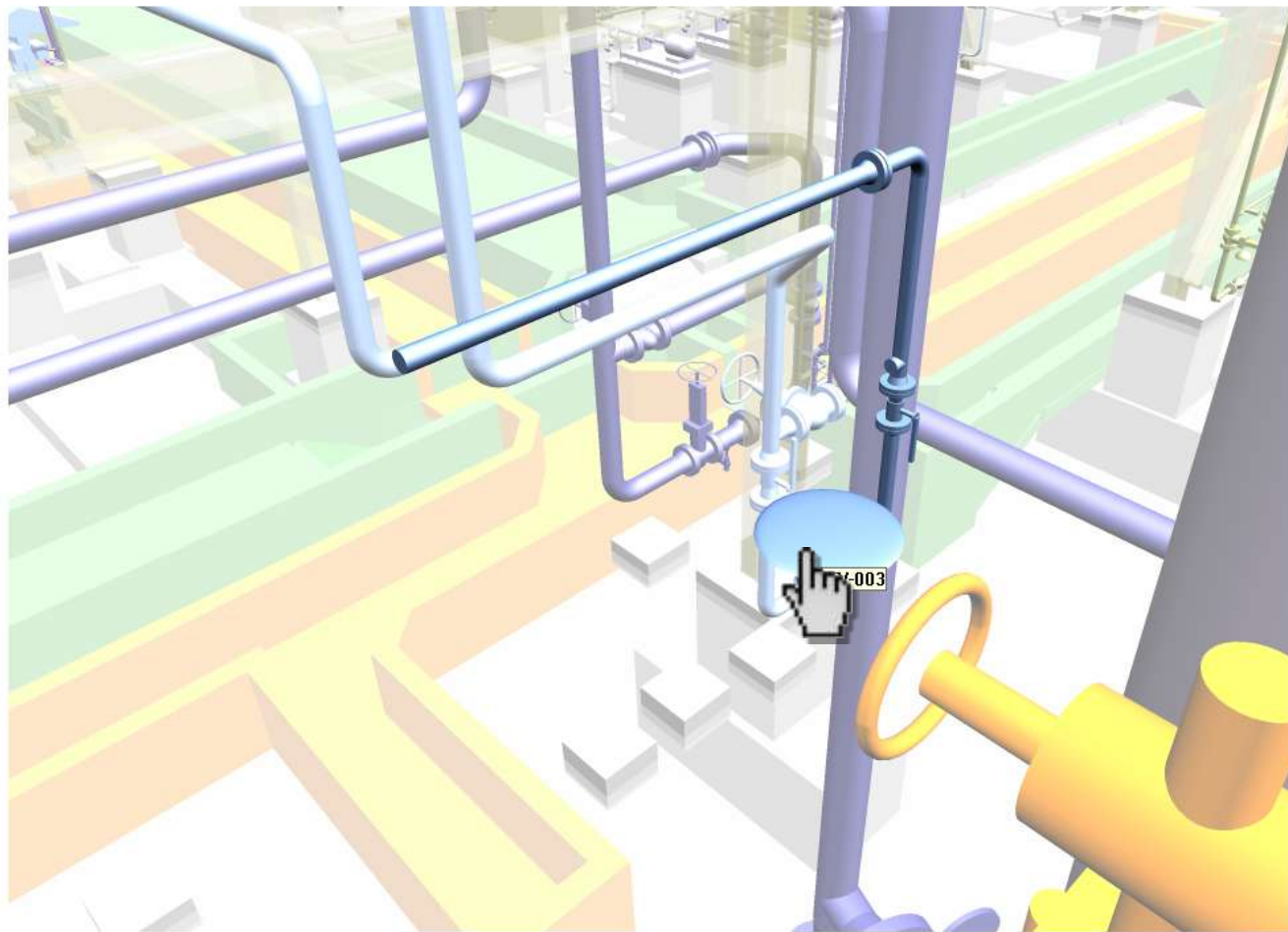
FLANGE 3 of BRANCH /4"-15B-O-90004-AAB3.1/B5

GASKET 3 of BRANCH /4"-15B-O-90004-AAB3.1/B5

VALVE 1 of BRANCH /4"-15B-O-90004-AAB3.1/B5

GASKET 4 of BRANCH /4"-15B-O-90004-AAB3.1/B5

FLANGE 4 of BRANCH /4"-15B-O-90004-AAB3.1/B5





Physical Items

Name: FV-003
Class: FV-003
Description: FV-003

Open Model



- FV-003**
 - has dataset
 - FV-003 VPD Data Set
 - FV-003 VPE Technical Dataset
 - FV-003 PDMS Dataset
 - FV-003 VPE General Dataset
 - is a part of
 - 4"-15B-O-90004-AAB3.1/B5
 - O-90004
 - is fulfilled by
 - /AAB3/DEMOCV:100
 - is logically connected to
 - 4"-15B-O-90004-AAB3.1/B8
 - is referenced in
 - Area-15A
 - Area-15B
 - Area-15B-Piping
 - Complete Project
 - Piping
 - 6523000
 - 6524001
 - INST-DS-FV003
 - 4-15B-O-90004-AAB31_Sht_2
 - 905675

Details

Unit of Measure: EA
Status: N
Under Change: N
Change Pending: N
Current: Y
Date Obsolete:
Detailed Description:

Documents

Number	Revision	Title	Class	Status
905675	1.0	905675	P&ID	Current
INST-DS-FV003	1.0	INST-DS-FV003	Instrument Datasheet	Current
INSTRUMENT ENGINEERING INDEX	1.0	Instrument Engineering Index	Report	Current
INSTRUMENT LIST	1.0	Instrument List	Report	Current
LIST OF CONTROL VALVES	1.0	List Of Control Valves	Report	Current

Where Used

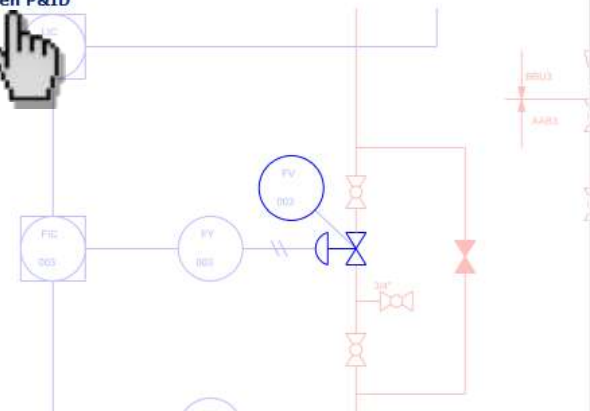
Number
4"-15B-O-90004-AAB3.1/B5
F-003
O-90004

Attributes

Create Change Request

Name	Value
Name of the element	/FV-003

Open P&ID



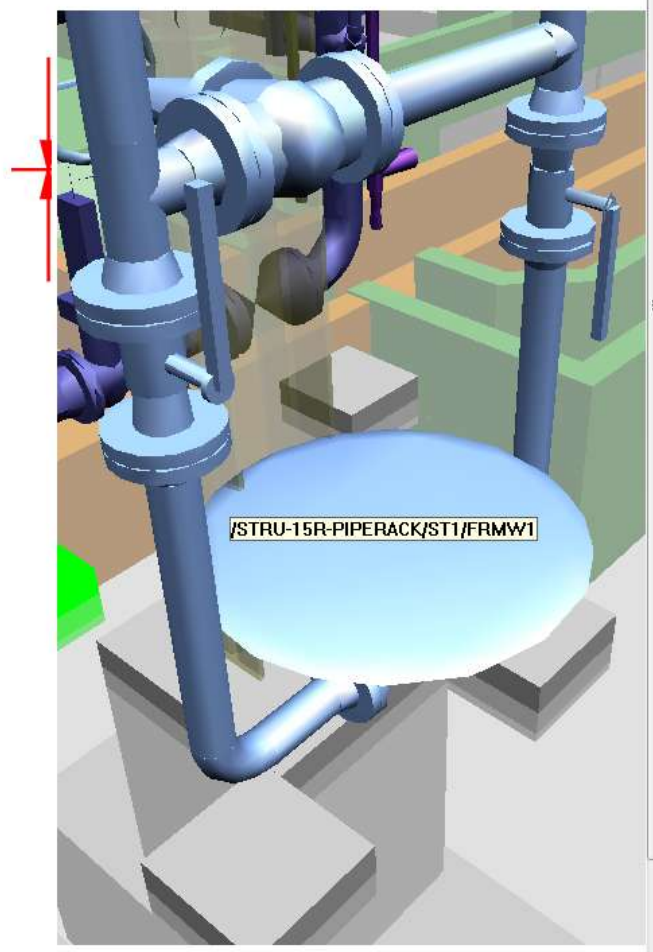
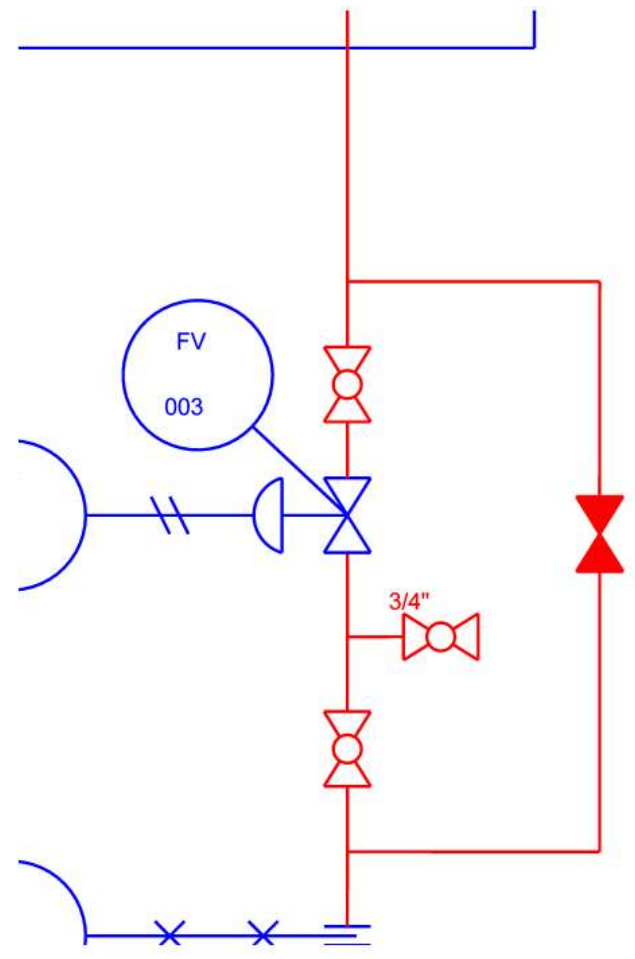
Parts

Open Create Change Request

Item	Quantity
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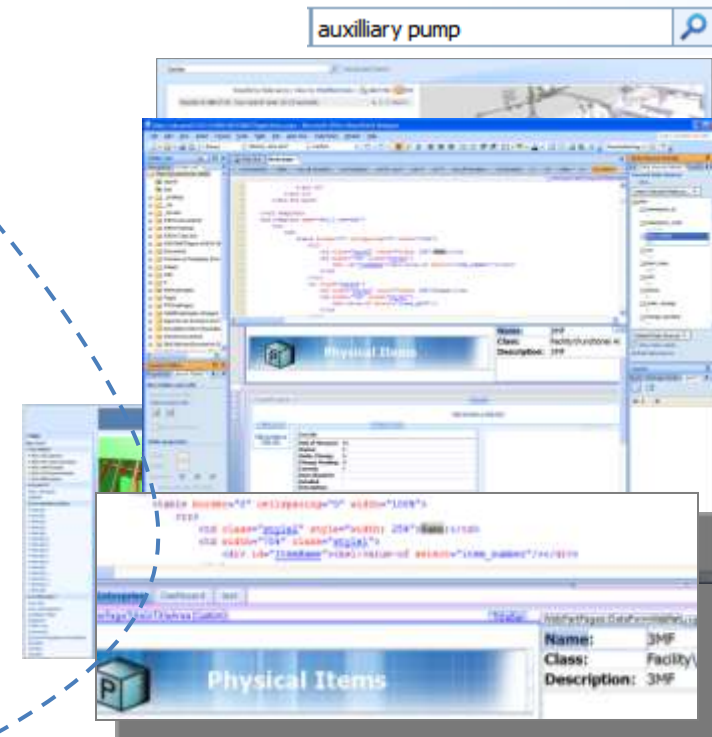
- ANALYSER INDICATOR
 - QI-110
 - QI-111
 - QI-112
- ANALYSER TRANSMITTER
 - QT-110
- COLUMNS AND TOWERS
 - E-9001
- CONTENT FOLDER
 - PIDs
- CONTROL VALVE
 - XV-301
- CURRENT TO PRESSURE CONVERTER
 - FY-003
 - FY-001
- DRUM
 - F-9001
- ELECTRIC MOTOR
 - M-101
 - M-202
- FILE
 - 905675.dwg
 - 905675.svg
- FILTER
 - STR-651B
 - STR-651A
- FLOW CONTROL VALVE
 - FV-003
 - FV-001
- FLOW ELEMENT
 - FE-003
 - RO-601
 - FE-001
- FLOW INDICATOR CONTROLLER
 - FIC-003
 - FIC-001
- FLOW TRANSMITTER
 - FT-001
 - FT-003
 - FT-101



Continual Progression: Object Web meets AVEVA NET

AVEVA NET Object Web

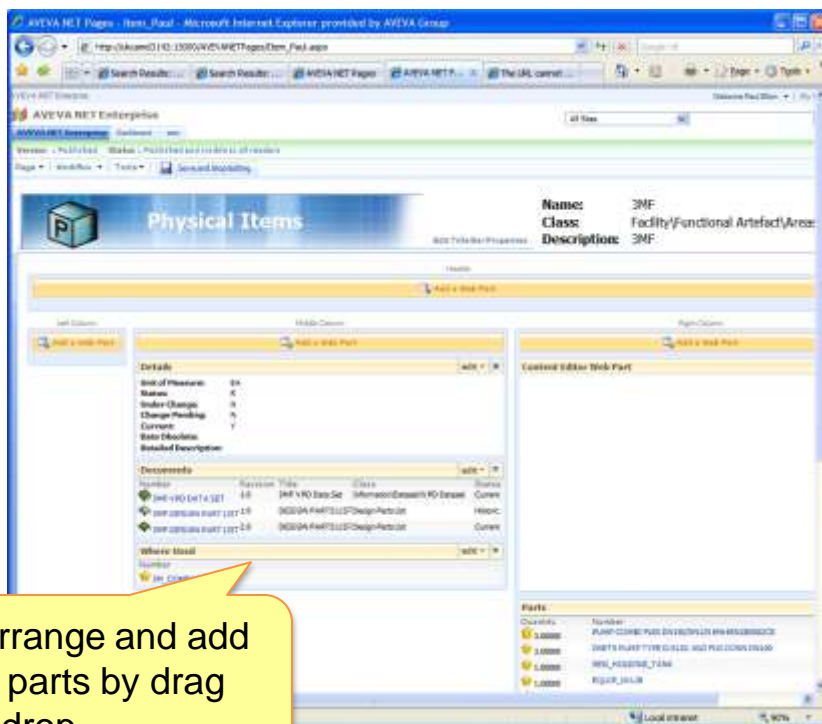
- Dynamische datenzentrische Website
 - Objekttyp steuert Erscheinungsbild
 - je Objekt eigene URL / Webpage
 - Sharepoint Suche
- Service-orientierte Architektur
 - Je Objekt eindeutige URL und zugehöriges SOA Interface ansprechbar
- Informationstiefe und -präsentation beliebig anpassbar
 - SharePoint Customization



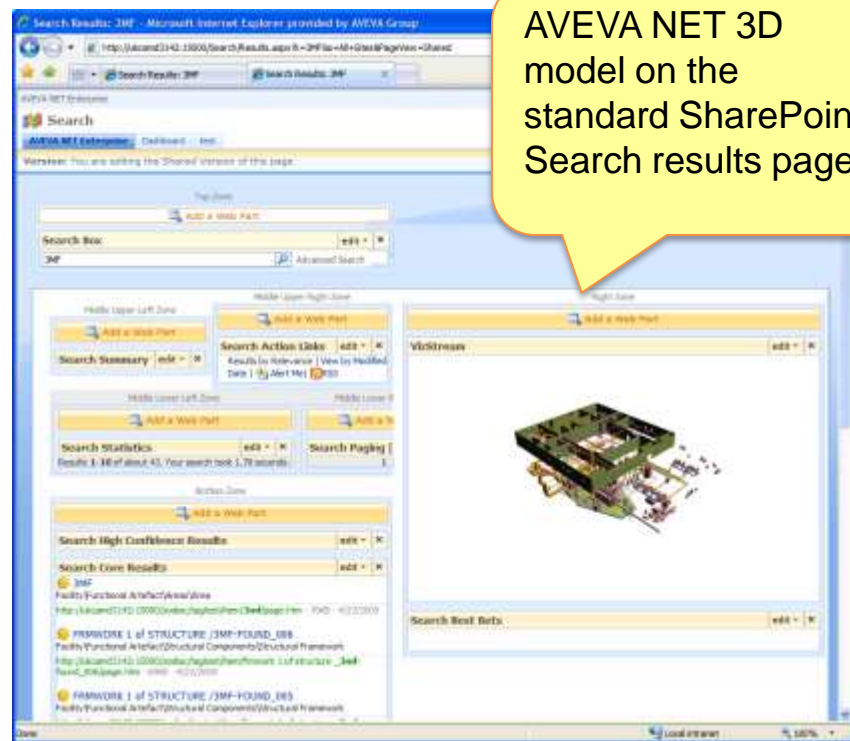
Customizing via Web Browser – „Mash Up“

Verwendung von SharePoint Web Parts ermöglicht autorisierten Benutzern:

- Beliebige Anordnung des Seitenaufbaus und –inhalts
- Hinzufügen und Verbinden weiterer AVEVA NET oder 3rd Party Web Parts



Rearrange and add web parts by drag and drop



AVEVA NET 3D model on the standard SharePoint Search results page

Zusammenfassung

- Forschungsprojekt Object Web = Proof of Concept
 - Fokus: Usability
 - Enterprise 2.0: Konfigurierbarkeit, Suche, Kommunikation
- Erkenntnisse aus Prototyp ⇒ weitere Produktentwicklung („Continual Progression“)
 - AVEVA NET Portal 4.5 (Sommer 2010)
- *Vielen Dank Urs Grasser für sein Buch:
„Generation Internet – Die Digital Natives:
Wie sie leben, was sie denken, wie sie arbeiten“*

Für Fragen und Demos stehen wir gerne zur Verfügung



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