



## Green and Smart PLM for Marine and Plant Industry

25<sup>th</sup> June 2010

최 연 식

연구소장 – AVEVA Solutions

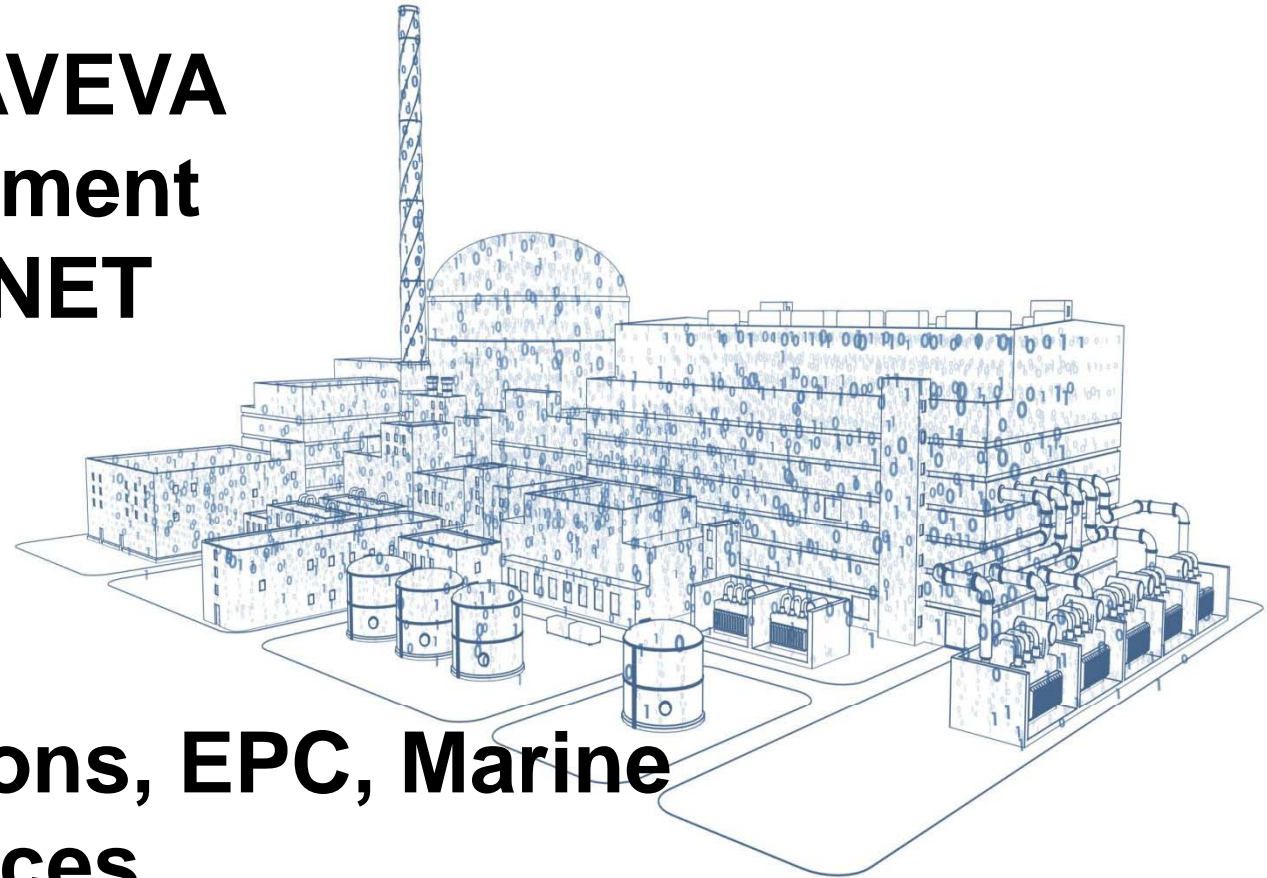


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## Presentation Topics

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- **About AVEVA**
- **Commitment**
- **AVEVA NET**



- **Operations, EPC, Marine**
- **References**

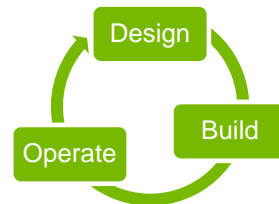
# About AVEVA

We are the **leading** supplier of engineering software

Serving the oil & gas, process, power and marine industries



Supporting the  
full asset  
lifecycle



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## **Our History**

Key dates

<b>Established</b>	<b>1960's CADCentre</b> <b>1976 released PDMS</b>
<b>1990's</b>	<b>Floated on the stock exchange</b> <b>Renamed AVEVA</b> <b>Increased product portfolio</b>
<b>2000 onwards</b> <b>Acquisitive</b>	<b>2005 Acquired Tribon</b> <b>2006 Acquired VizStream</b> <b>2009 Acquired AVEVA Instrumentation</b> <b>2010 Acquired Logimatic's MARS</b> <b>2010 Acquired ADB Oil &amp; Gas business</b>



### 3 Geographic Divisions

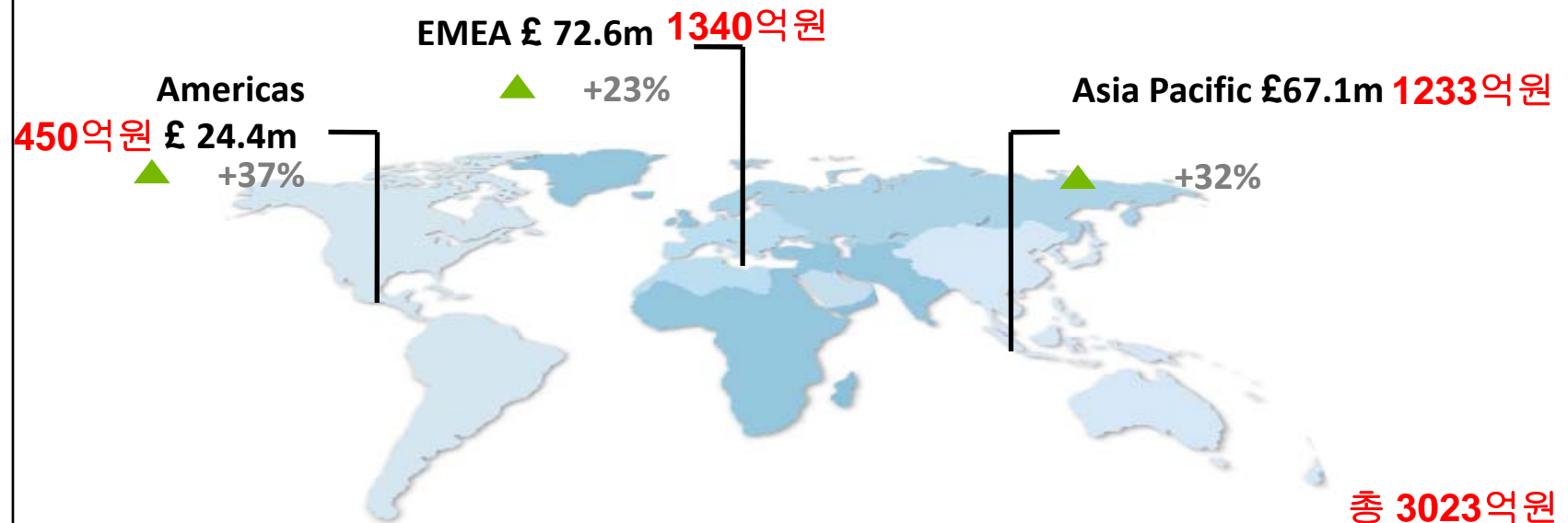
EMEA:	HQ Frankfurt , Germany
Americas:	HQ, Houston, USA
Asia Pacific:	HQ, Kuala Lumpur
Corporate Centre: Cambridge, UK	

## AVEVA today

A global company



50 offices in 39 countries  
800 staff ~worldwide



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## AVEVA NET Commitment



- Committed to BP to deliver against Multiple North Sea and Norwegian Oil & Gas facilities
- Committed to delivering for multiple Engineering and Owner Operators
- Committed to Industry standards... ISO-15926, ISO-10303, AP-203, etc.
- Committed to the Plant / Marine industry and the continual



**£14 Million Investment  
program in 2009**

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professionals

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## Key success factor

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**We listen !**

# What drives an Owner/Operator?



## #1 Plant Safety & Environment

## #2 Plant Reliability



## #3 Plant Production

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# Information for Operations

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*'The biggest revenue loss in all plants around the world is actually operator error.'*

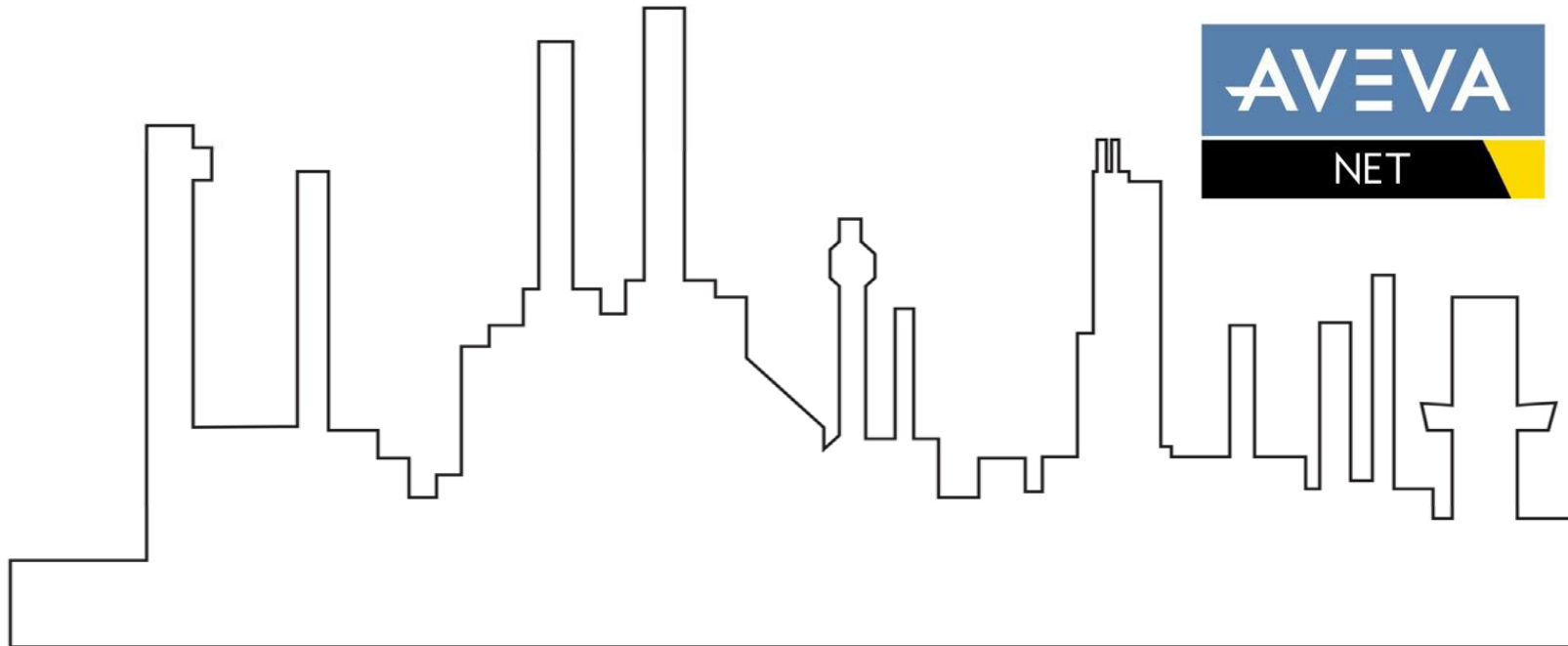
*'That is not operators making mistakes; it is operators not having the information at hand to make the right decisions at the right time.'*

*Colin Pearson, ABB Automation  
Institute of Engineering Technology 20 June 2008*

# AVEVA NET



AVEVA NET controls and manages the design information flowing between all of the Design, Procurement, Construction, Commissioning and Data Hand-Over processes.





# AVEVA NET

- AVEVA NET acts as the bridging together the processes, systems, and resources, which are critical to the on time delivery of all Plant and Offshore Oil & Gas facilities.

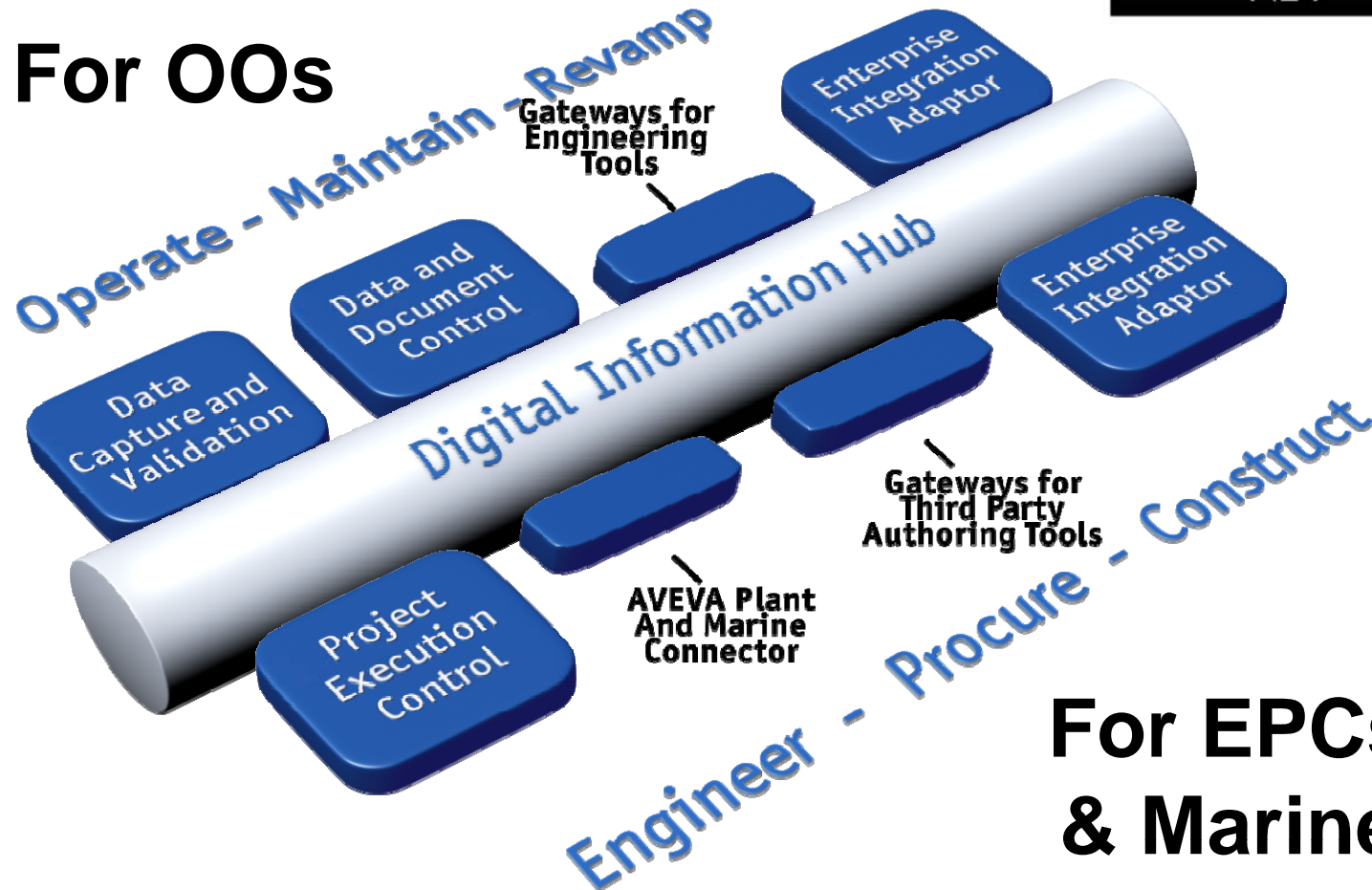


- A single Information Management Hub – Concept to Operations.

AVEVA NET



For OOs

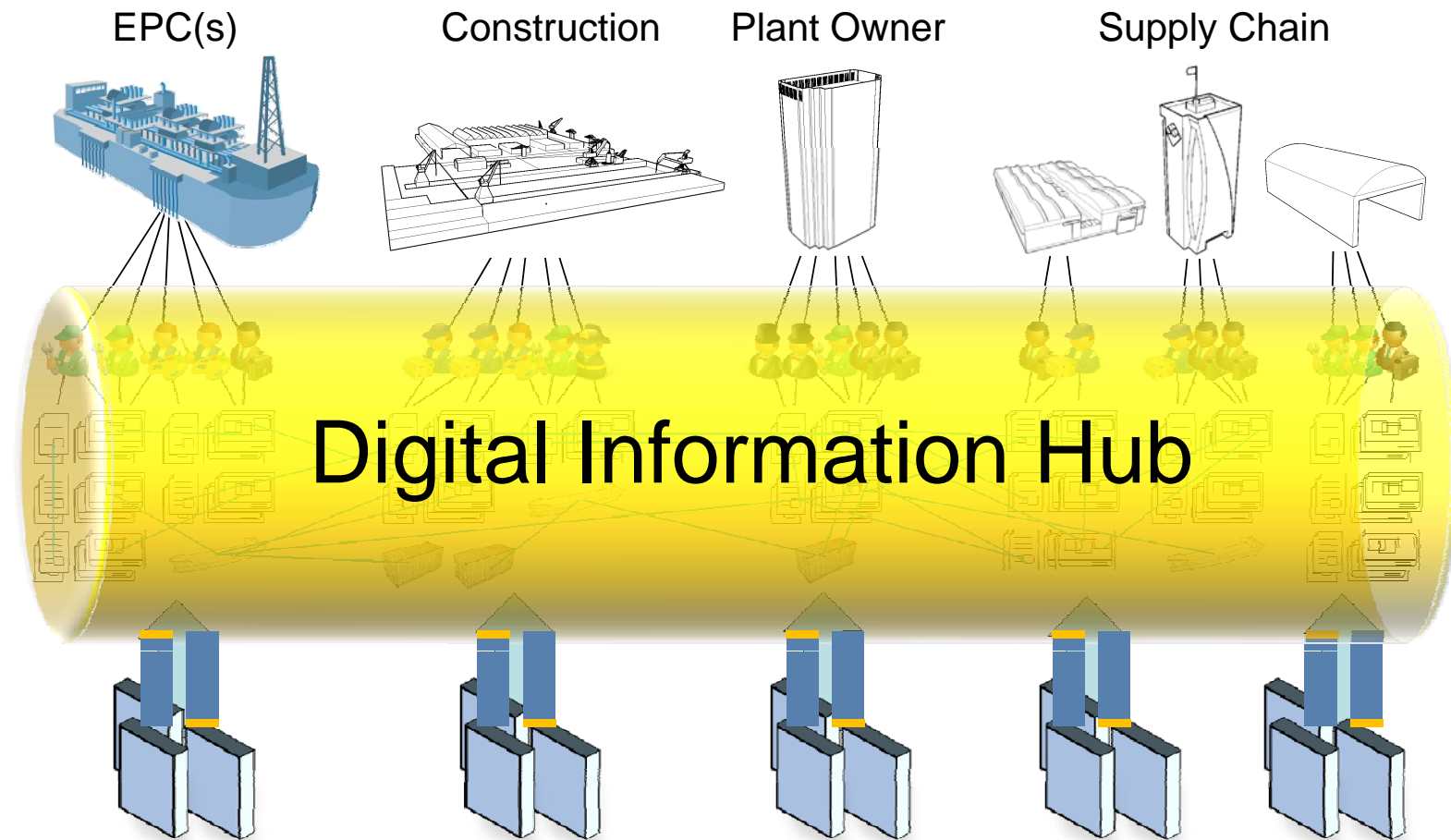


For EPCs  
& Marine

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# One Platform for Information Management





Welcome **Mr. John Smith**
Site Actions ▾
Help

NET Demonstration

NET
Home
Explore
Documents
Registers

New
Publish
Update
Revise
Duplicate
Cancel
Delete
Print
Import
Export

Open Model

User Tasks

Task	Due Date
Complete Proposal	Today
Investigate J-9002/A usage	15/09/09
Review JCS-1008-546-B	15/09/09

Recently Modified

Documents

	Identifier	Revision	Status
<input type="checkbox"/>	JCS-1008-546-B	1.4	
<input type="checkbox"/>	JCS-1008-546-B	1.0	
<input type="checkbox"/>	JCS-1008-546-B	1.4	Approved
<input type="checkbox"/>	JCS-1008-546-B	5.4	Approved
<input type="checkbox"/>	JCS-1008-546-B	1.4	

Items

<input type="checkbox"/>	J-9002/A
<input type="checkbox"/>	J-9002/A
<input type="checkbox"/>	J-9002/A
<input type="checkbox"/>	J-9002/A
<input type="checkbox"/>	J-9002/A

More

Announcements

**Aveva Net is launched**  
 Today sees the rollout of the new look & feel of AVEVA NET...  
[Read More...](#)

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 Today sees the rollout of the new look & feel of AVEVA NET...  
[Read More...](#)

More

AVEVA NET - Getting Started

More

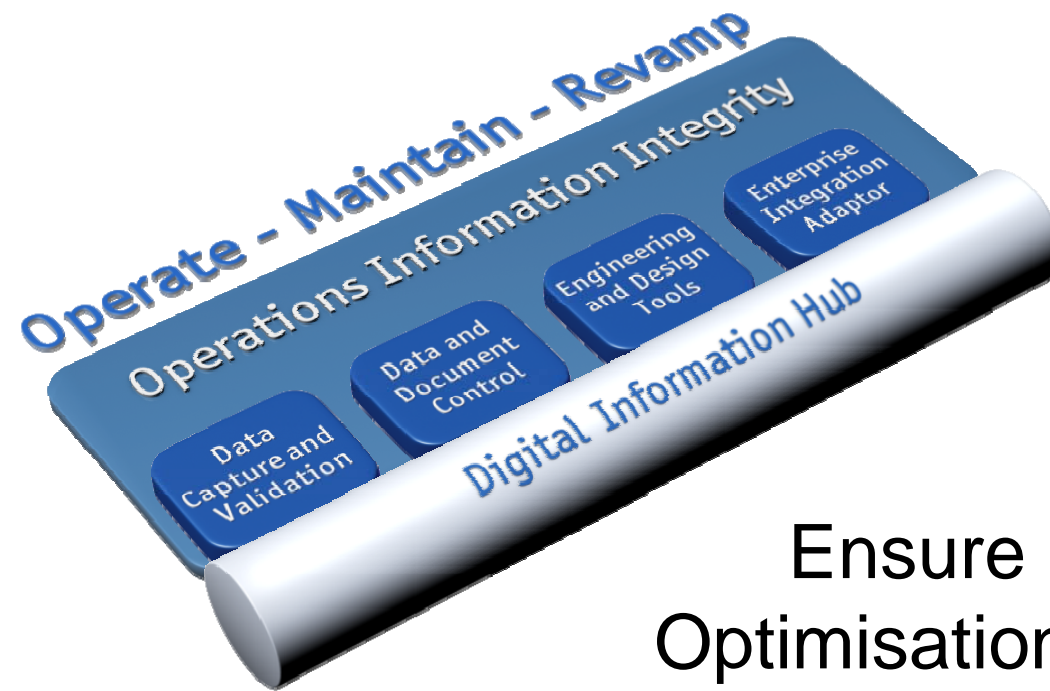
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# AVEVA Solution for Operations

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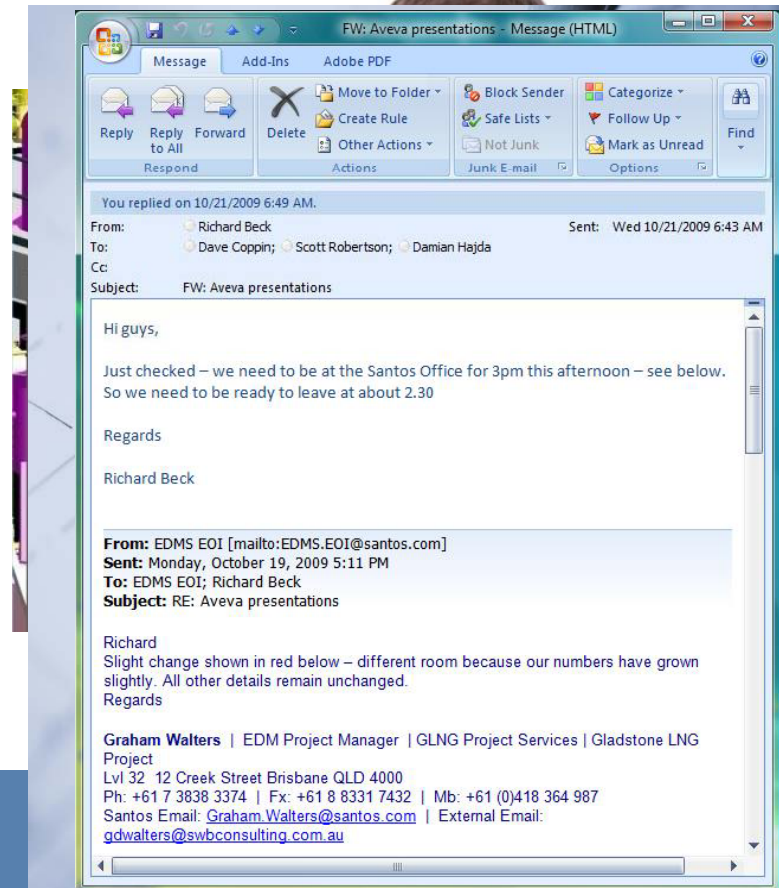
Ensure compliance  
Optimisation of up-time  
Safe and efficient operations



# Data Capture and Validation



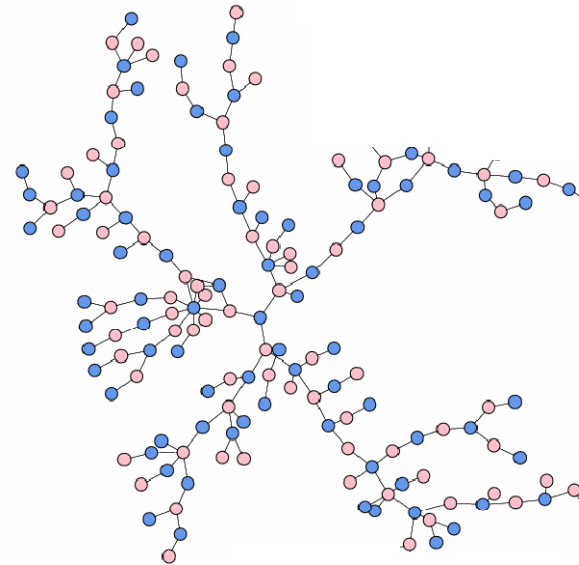
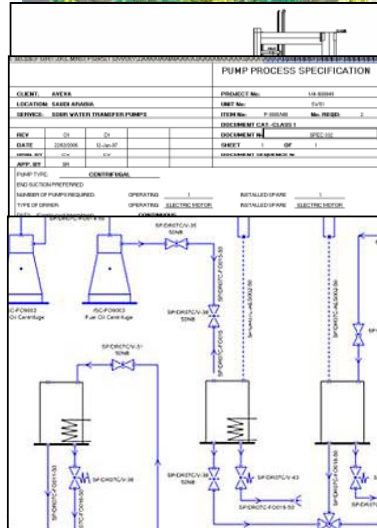
- Paper documents
- Digital documents
- Digital data
- As-built surveys
- 3D models
- Emails



# Data Capture and Validation



## Automatic association:



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# Data Capture and Validation



- **Validation:**
  - Inconsistencies
  - Missing data
  - User makes informed decisions



# Data and Document Control

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- **Engineering data and document management**
- **Handover management**
- **Management of change**
- **Management of as-built data**



# Data and Document Control



## Engineering data and document management

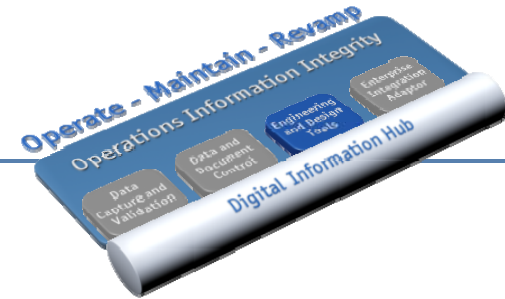
- Data, documents, workflows and objects are interlinked
- Reduce redundancy and disconnects
- Document planning and document management all in one place



# Gateways & Connectors: Engineering Design Tools



- **AVEVA tools**
- **Third-party tools**





# Gateways & Connectors: Engineering Design Tools

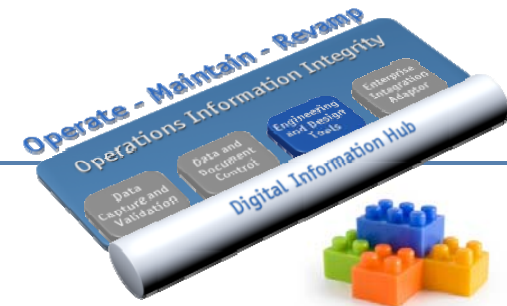


## AVEVA Plant / Marine Applications

- Manage documents and drawings published from AVEVA Plant / Marine.
- Create integrated working environment for both Design and Lifecycle processes.

## Third party engineering / design / authoring tools

- Capture information from third-party tools; create consolidated data model
- Enrich third-party data (2D & 3D) with object data, relationships, hotspots and hyperlinks



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# Enterprise Integration Adaptor



- For integration with:
  - **Operations Tools**
  - **Maintenance Tools**
  - **ERP Tools**
  - **Asset Management Tools**

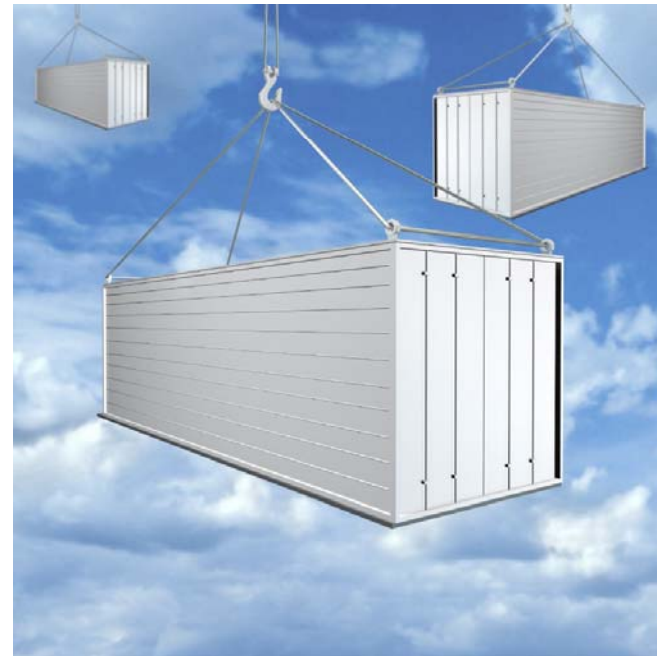


# Enterprise Integration Adaptor



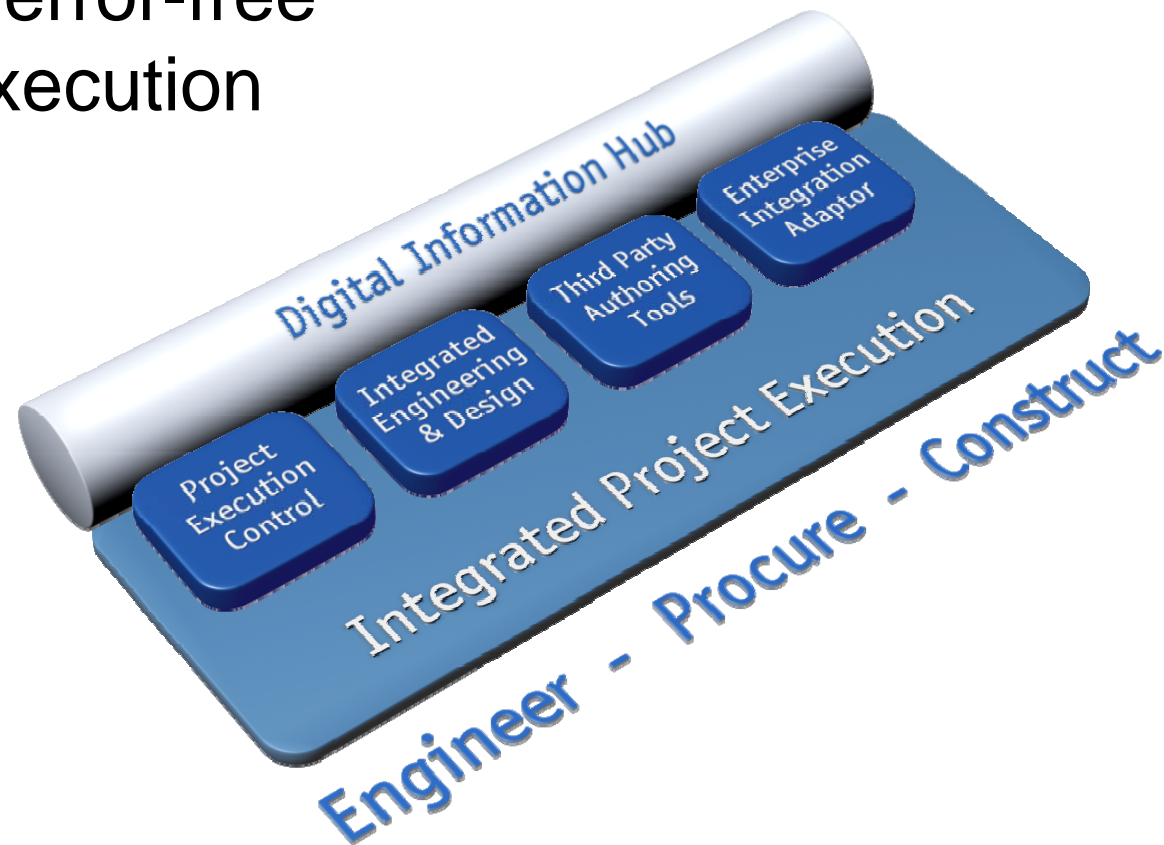
## Operations Tools

- Resource management
- Physical logistics tools
- Process simulators
- Compatibility with the full range of SOA (Service-Oriented Architecture) operational technologies
- Delivers results in any format – including 2D and 3D visualisation

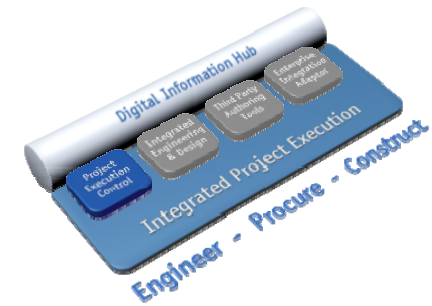


# AVEVA Solution for Project Execution

Efficient, error-free  
project execution



# Project Execution Control



## Project Dashboard for Information Sharing

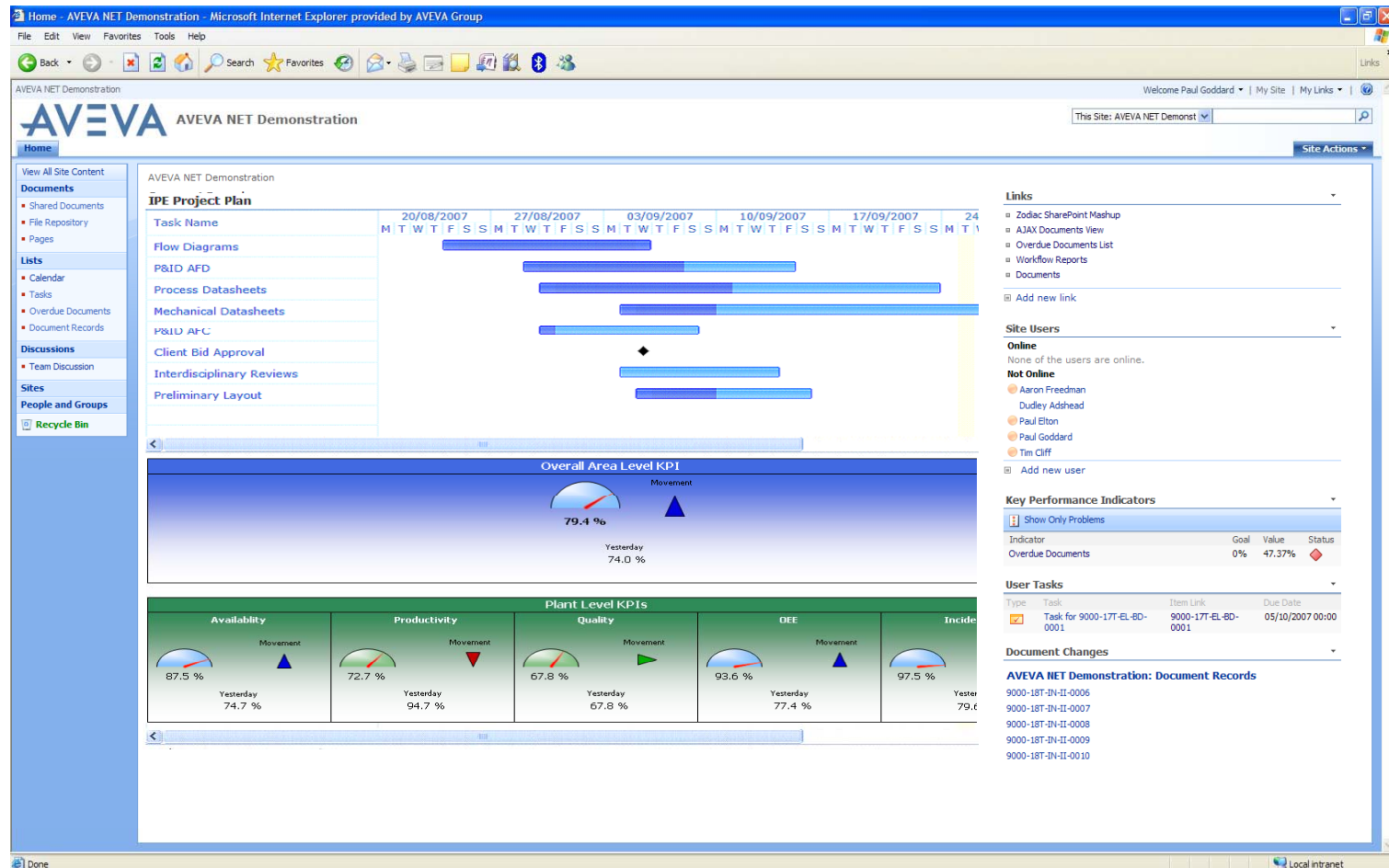
- Easy access for all members of project team
- Instant view of where corrective action is required across your project processes

## Engineering, Data and Document Management

- Data, documents, workflows and objects are interlinked
- Reduce redundancy and disconnects
- Document planning and document management all in one place

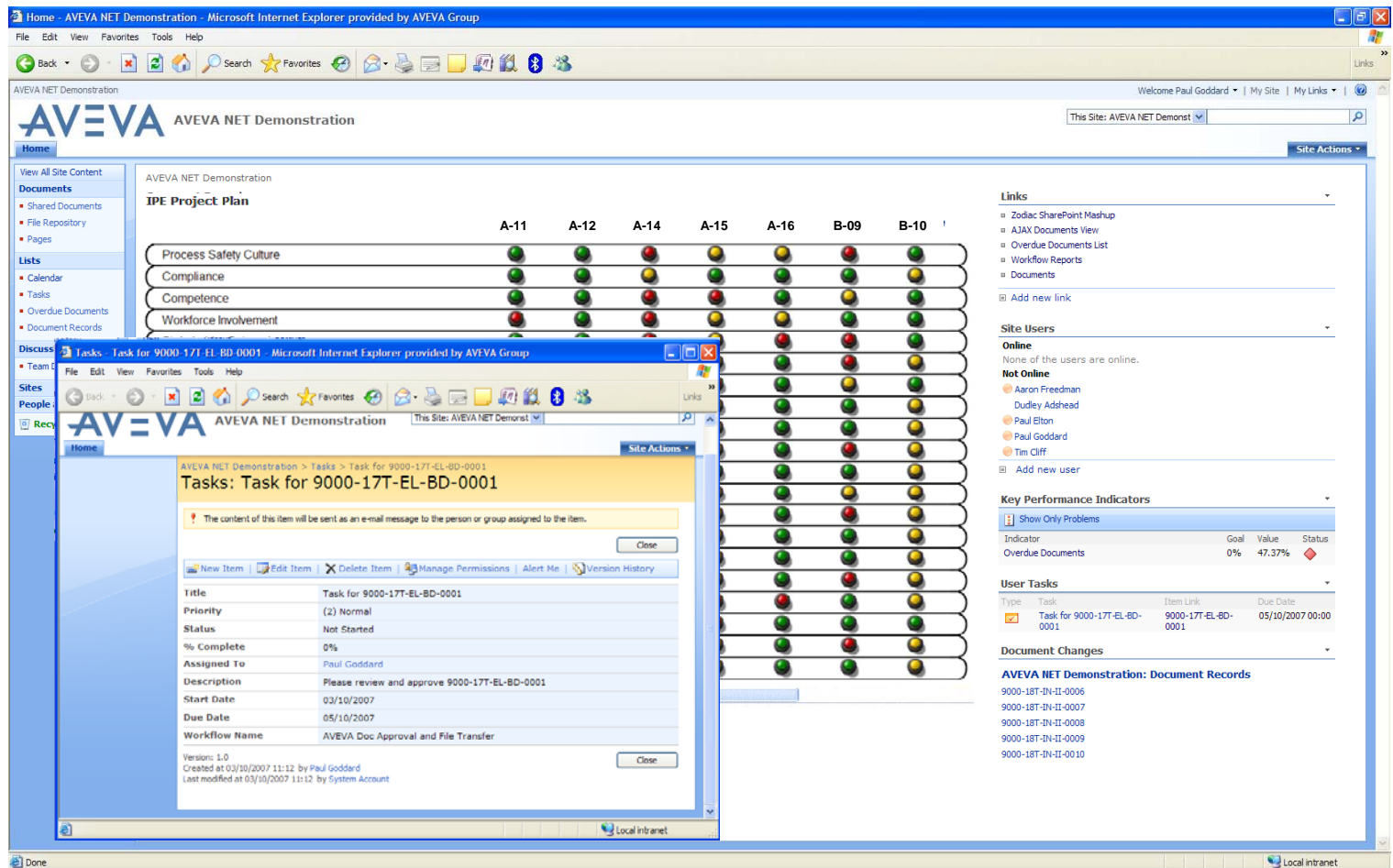


# Management Dashboard – Project Overview

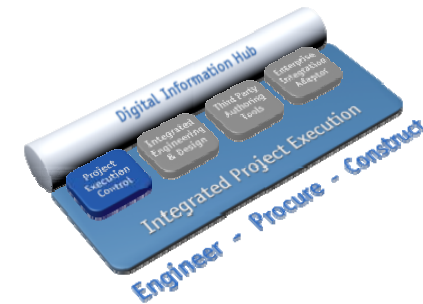




# Management Dashboard – Unit Overview



# Project Execution Control



## Engineering Change Management

- Accurate, timely information from multiple sources, e.g. engineering, procurement, construction
- Impact of changes can be assessed beforehand

## Materials Management

- Integration with VPRM
- Extract information from dedicated materials management and ERP systems



# AVEVA NET Change Manager

AVEVA NET Pages - WorkOrderTasks - Microsoft Internet Explorer provided by AVEVA Group

Address: http://.../AVEVANETPages/WorkOrderTasks.aspx?WorkOrderID=AWO-00338WorkOrderImageURL=http://ukcamd3142/WorkOrderD

Test Work Order

AVEVA Test Work Order

Home Dashboard

Test Work Order > AVEVA NET Pages > Work Order Tasks

Work Order Tasks

Back to work orders

Tasks

Edit Title Due Date Work Order ID

AVEVA NET Enterprise

Home Dashboard

AVEVA NET

View All Site Content

Documents

- AVEVA Documents
- Shared Documents
- Change Requests

Lists

- MyTasks

Discussions

Sites

People and Groups

AVEVA Work Orders

Workflow Designer - DSME CM

Step Name: Complete EC

Specify details for 'Complete EC'

Choose the conditions and actions that define this step of the workflow.

Conditions: If Variable: Review of Design Work contains Accept

Actions: Assign Design Work Accepted to Variable: Designer Selected

then Lock new versions created by a change request, (optional) change number: Change Requests:ChangeNumber .

then Integrate change, (optional) change number: Change Requests:ChangeNumber .

then Complete change, (optional) change number: Change Requests:ChangeNumber .

then Email Variable: Reviewer Status

Conditions: Else if Variable: Review of Design Work contains Reject

Actions: Reject change, (optional) change number: change number , with reason REJECT .

then Assign Designer Work Rejected to Variable: Designer Selected

Add 'Else If' Conditional Branch

Workflow Steps

- Register and Review ECR
- ECO Process
- Design Work
- Complete EC

Add workflow step

Title:

Description: Review of Design Work by Design Manager

Review of Design Work:

- ☒ Accept Design Work
- ☐ Reject Design Work

Review of Design Work

Related list item: Change Request for Hull Design

Save Draft Complete Task Cancel

3D Model pipeline pump EQUIPMENT DATASHEET 3D MODEL IB NOZZLE PIPINGSEGMENT AREA

1/26/2009 0 Not Started test

# Project Creation

## Project Creation

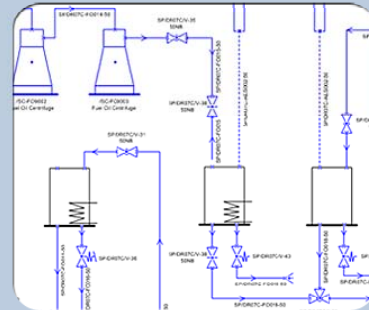
- Create from a Project template or “Master” project
- Select which elements to copy (Structures, tags, documents, etc..)
- Copy complete project
- Copy individual units, systems, etc.

## Document Creation

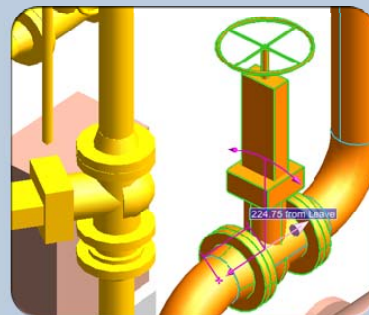
- Define numbering and naming conventions
- Assign document Templates
- Publish and Approve the P&ID
- Automatically create the project documents from Templates



# Integrated Engineering & Design



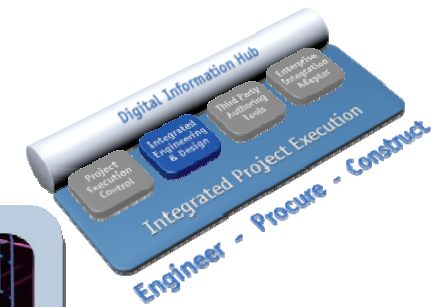
Engineering



Design



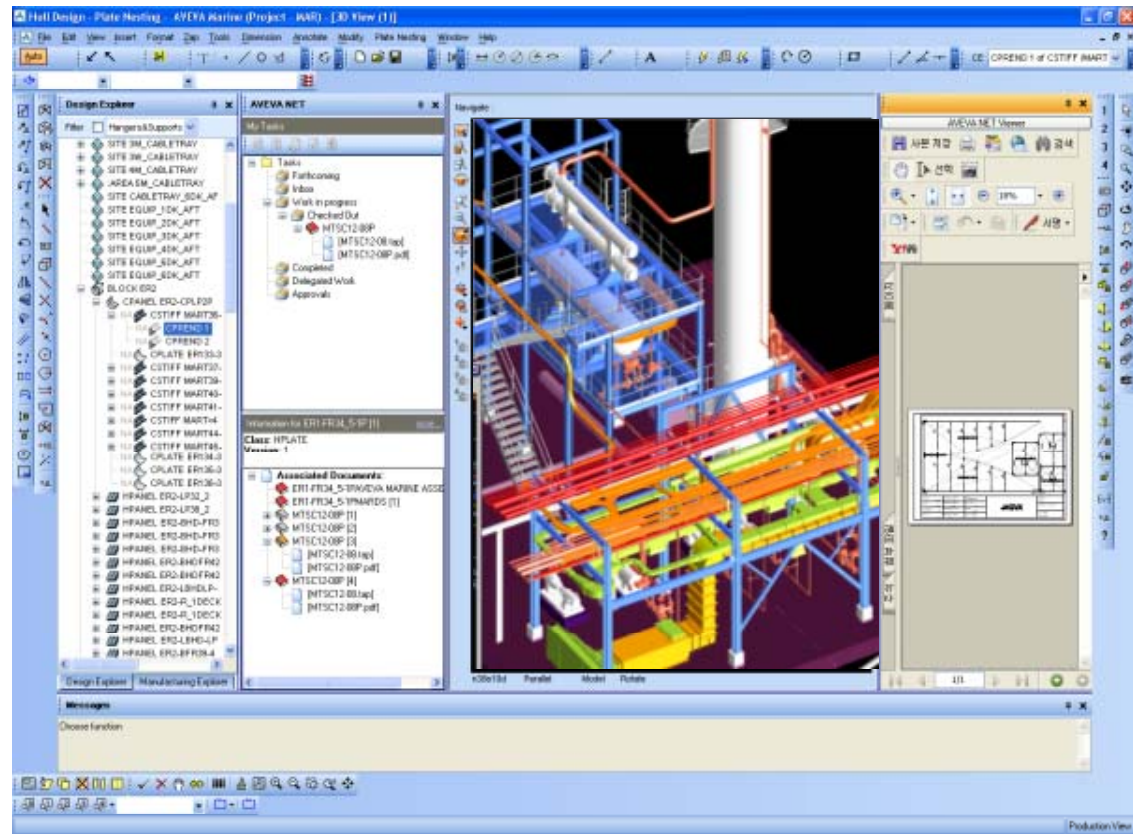
Design Management



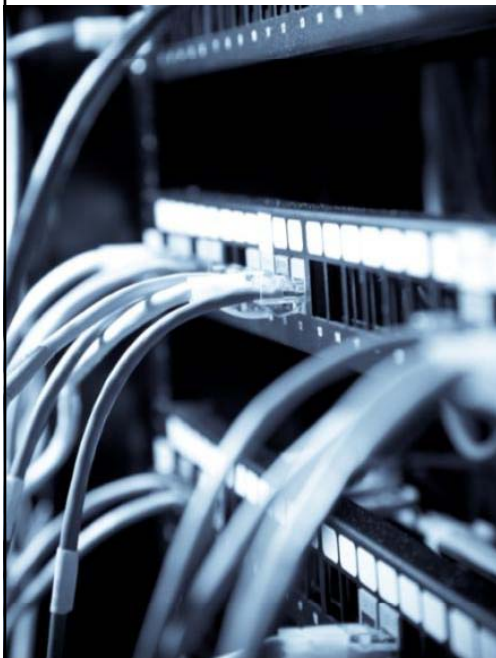
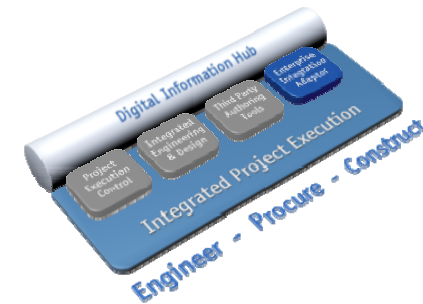


# AVEVA NET – Design Connectors

- Direct interaction with AVEVA NET from inside of PDMS, AVEVA Marine & MS Office
  - Publish Structures
  - My Tasks
  - Search
  - Navigation
  - Visualisation
  - Documents
  - Mark-up
  - Security Retained
  - Vizstream
    - view versions
  - Check-in/out



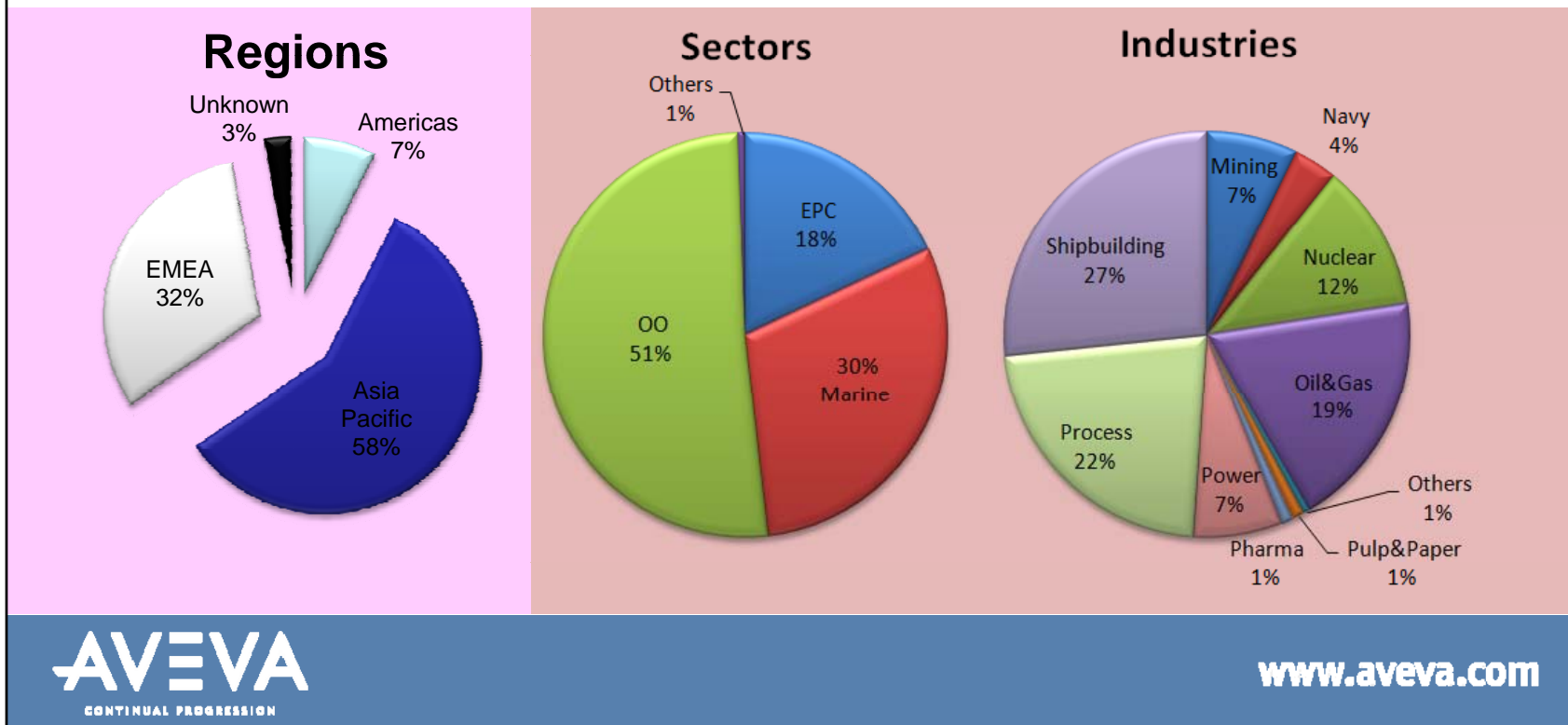
# Enterprise Integration Adaptor



- For integration with:
  - Project Management
  - Materials Management
  - Planning
  - Construction Management
  - Commissioning
  - ERP

# AVEVA NET Customers

- Geographically dispersed
- Multiple Industries and Sectors
- From large global corporations to small enterprises







## AVEVA NET – References

25<sup>th</sup> June 2010

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