



Unlocking the value of the Digital Asset for operational decision support

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Principal Solutions Consultant



Agenda

- AVEVA
- The Digital Asset
- Capturing a Digital Asset
- Exploiting a Digital Asset
- Mastering Change

AVEVA

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The AVEVA Network

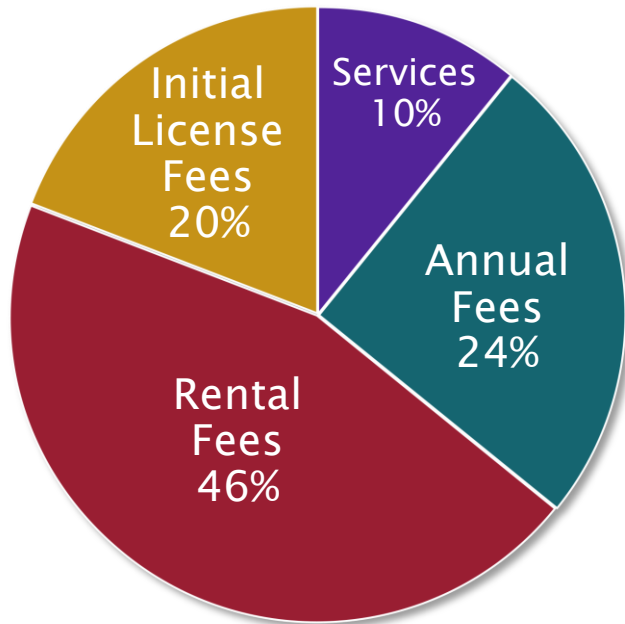
48 offices

1,500+
employees

3,000+
customers

30 countries





- Recurring revenue 70% of total sales
- Rental income 46% of total SW revenue
- Recurring revenue +9%



Strength in Numbers

Operations Vision

Innovative solutions, providing **actionable information**, to help our customers operate assets effectively and efficiently whilst protecting safety, health & the environment.



The Digital Asset



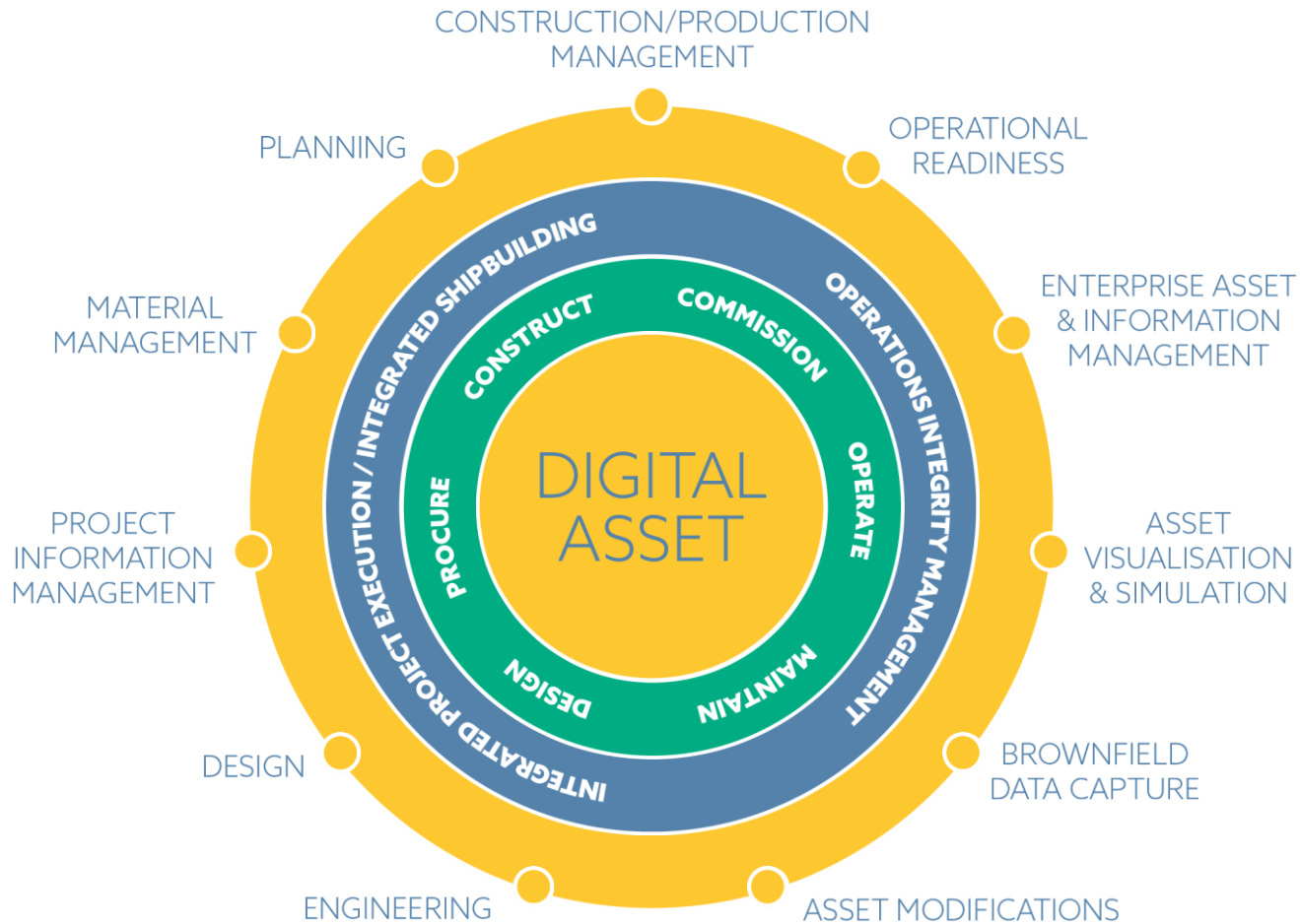


For every **Physical Asset**



DIGITAL
ASSETS





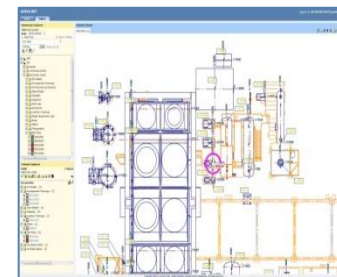
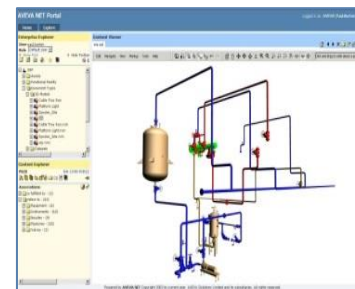
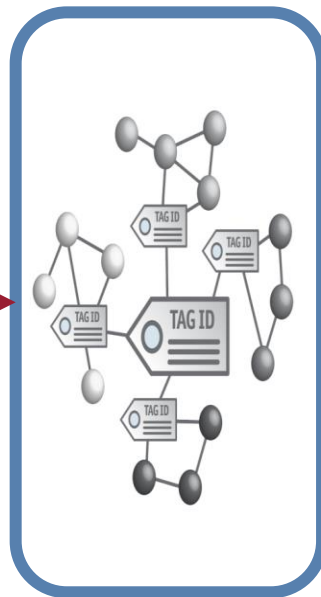
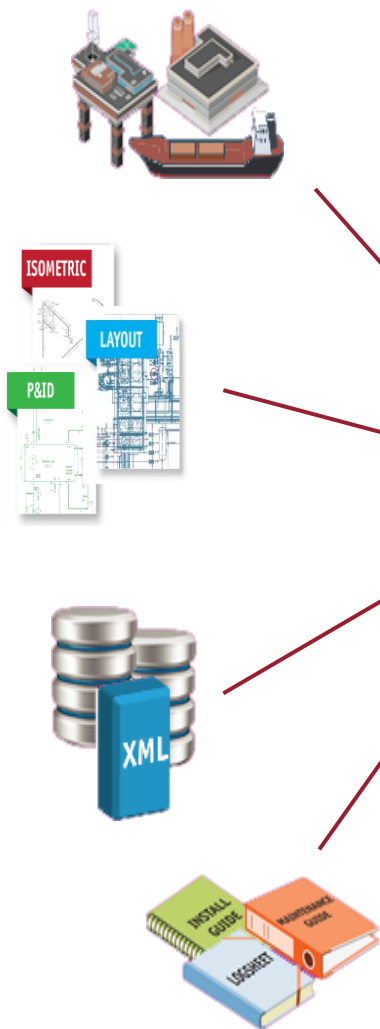
Capturing a Digital Asset

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D ± C = I

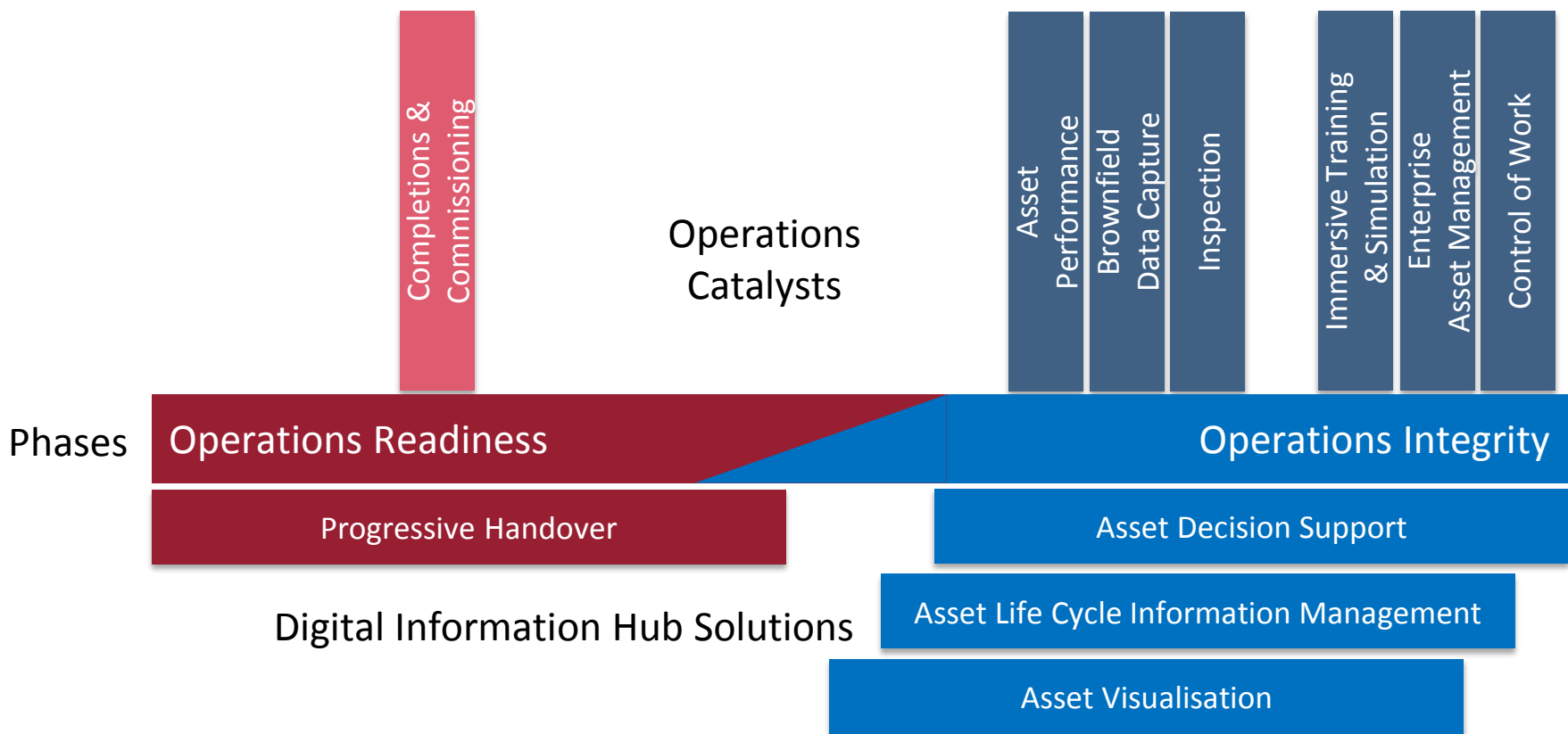
VISUALISATION #3D



| Item | Item Name | Item Description | Item Type | Item Status | Item Date |
|------|-----------|---------------------|--------------|----------------|--------------|
| 1 | Item 1 | Item 1 Description | Item 1 Type | Item 1 Status | Item 1 Date |
| 2 | Item 2 | Item 2 Description | Item 2 Type | Item 2 Status | Item 2 Date |
| 3 | Item 3 | Item 3 Description | Item 3 Type | Item 3 Status | Item 3 Date |
| 4 | Item 4 | Item 4 Description | Item 4 Type | Item 4 Status | Item 4 Date |
| 5 | Item 5 | Item 5 Description | Item 5 Type | Item 5 Status | Item 5 Date |
| 6 | Item 6 | Item 6 Description | Item 6 Type | Item 6 Status | Item 6 Date |
| 7 | Item 7 | Item 7 Description | Item 7 Type | Item 7 Status | Item 7 Date |
| 8 | Item 8 | Item 8 Description | Item 8 Type | Item 8 Status | Item 8 Date |
| 9 | Item 9 | Item 9 Description | Item 9 Type | Item 9 Status | Item 9 Date |
| 10 | Item 10 | Item 10 Description | Item 10 Type | Item 10 Status | Item 10 Date |

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| 9 | Item 9 | Item 9 Description | Item 9 Type | Item 9 Status | Item 9 Date |
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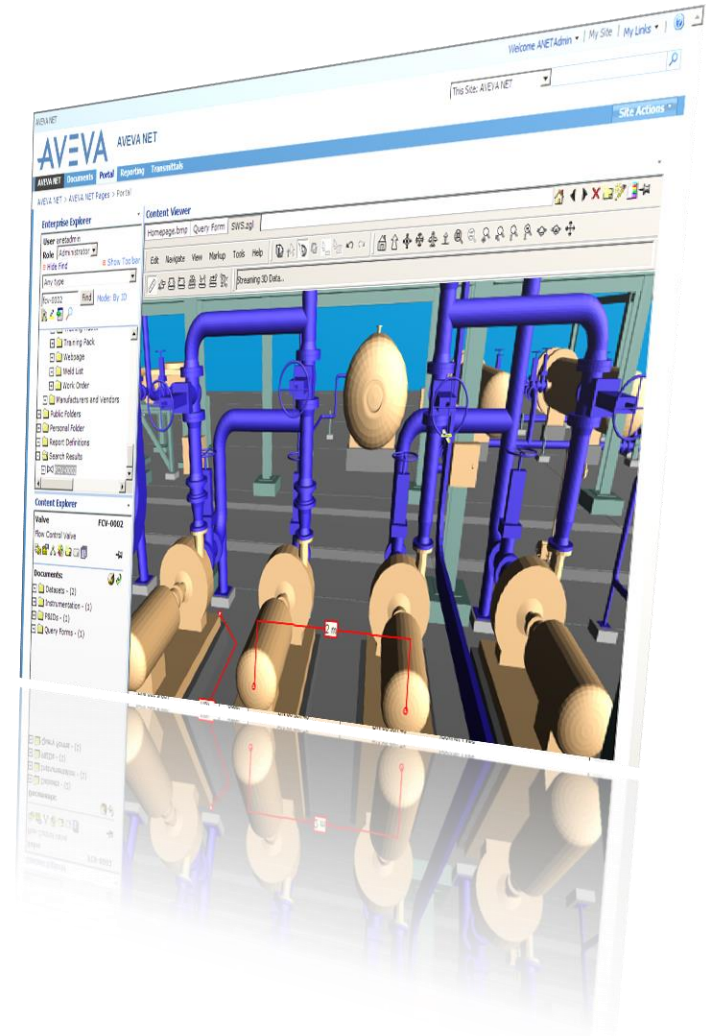
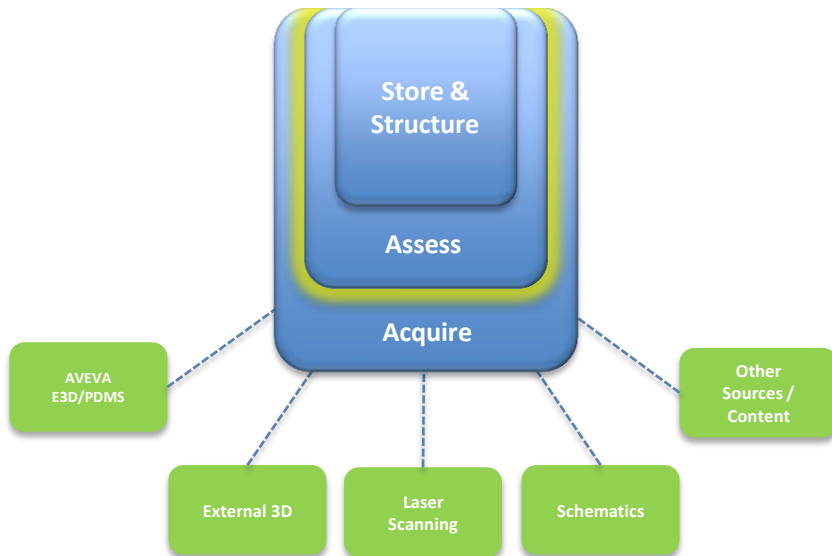
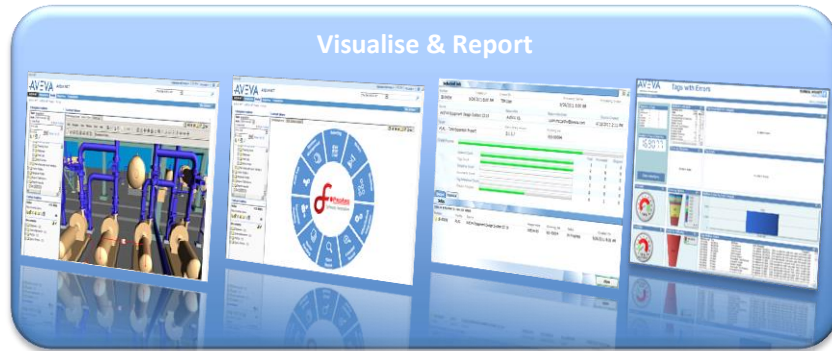
Leveraging the Digital Asset



Exploiting a Digital Asset



Asset Visualisation



AVEVA NET Dashboard

Browse Actions...

Dashboard Complete Project X

Basket - (0) AVEVA\Paul.Burton

IPE

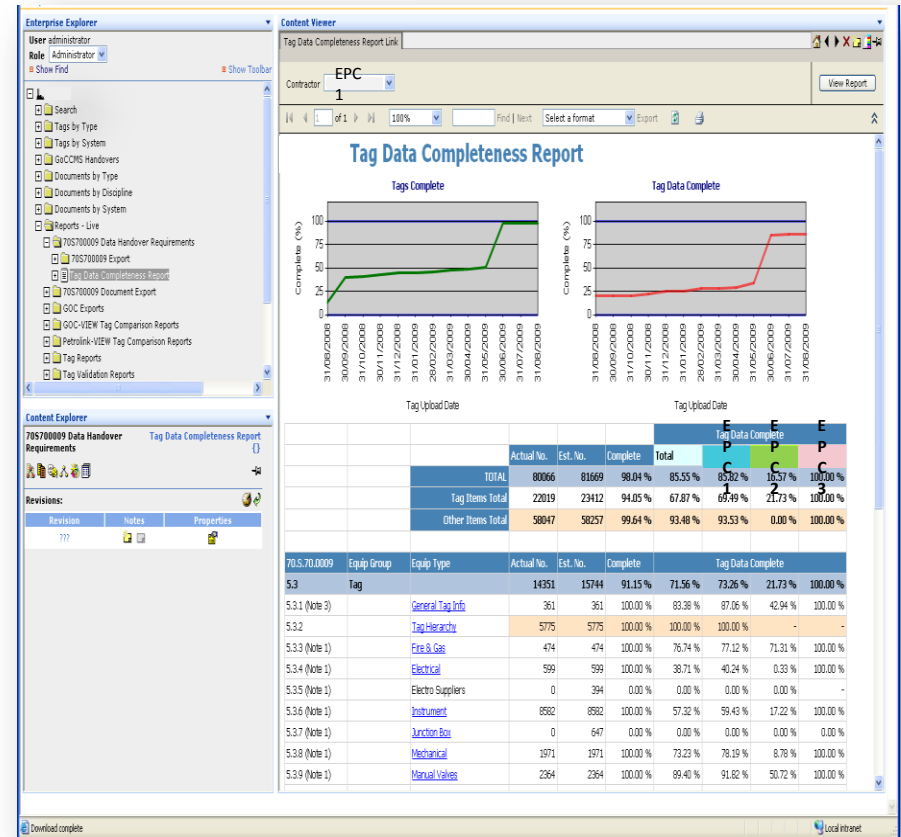
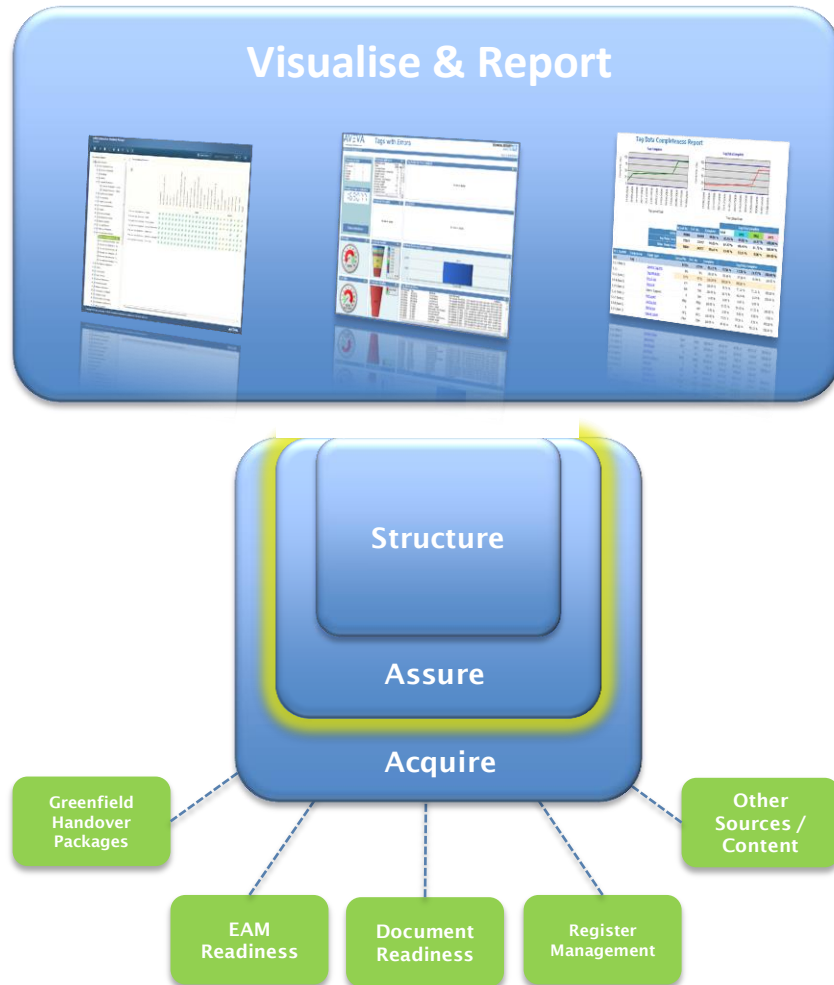
- Assets
- Functional Facility
- Document Types
 - 3D Models
 - Displaying 1 - 20
 - >> Next
 - Area-15A
 - Area-15A-Equipment
 - Area-15A-Piping
 - Area-15B
 - Area-15B-Equipment
 - Area-15B-Piping
 - Area-15B-Structural
 - Area-15C
 - Area-15C-Equipment
 - Area-15C-Piping
 - Area-15C-Structural
 - Area-15D
 - Area-15D-Equipment
 - Area-15D-Piping
 - Area-15R (Pipe Rack)
 - Area-15R-Equipment
 - Area-15R-Piping
 - Area-15R-Structural
 - Complete Project
 - Crane(300T)
 - >> Next
 - Arrangement Drawings
 - Commissioning Systems
 - Data Sheets
 - Datasets
 - Diagrams
 - Hook Ups
 - Isometrics
 - Location Drawings

Navigate the project breakdown structure

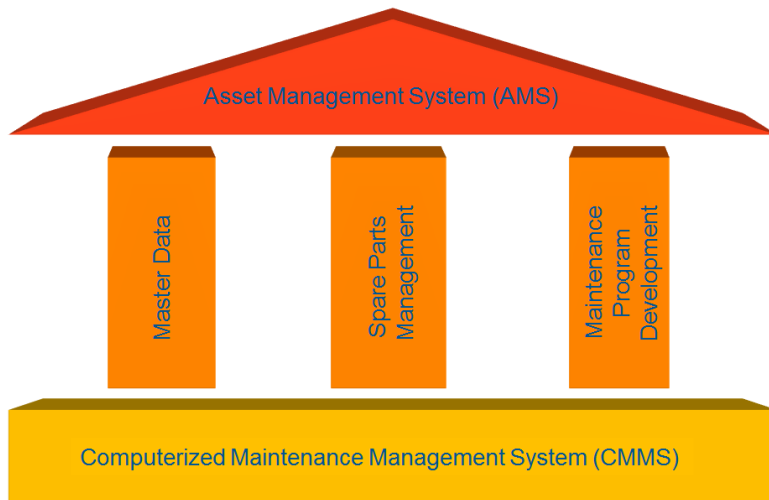
Item Loading...

Progressive Handover

Visualise & Report



Case Study: Exploiting the Digital Asset For Operations Readiness

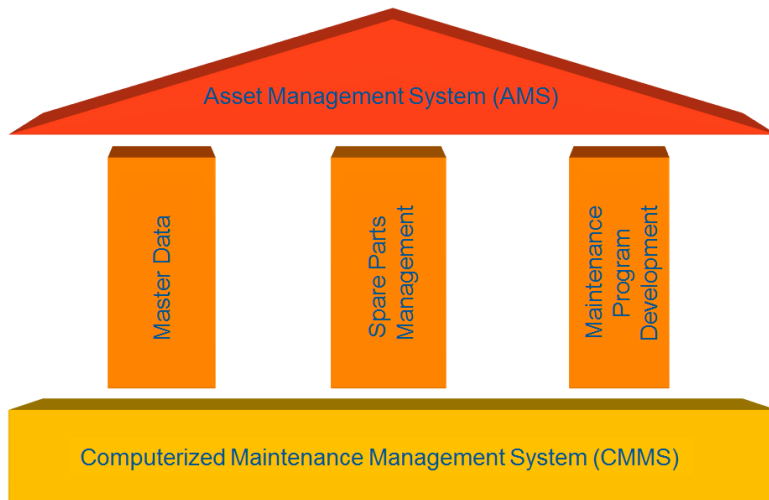


- Creation of Functional Location (FLOC) and Equipment Object (EO)
- Collection of Key Equipment Characteristics
- Document cross referencing relationships

Master Data Alone

- Maintenance significant - **100k** tags
- Average **40** attributes per tag
- Equates to **40,000,000** fields
- Averages **1.5 hours** to manually complete
- **150k** hours to complete
- Costs exceeds **\$15m**
- **3-5X** to complete once in operations

Case Study: Exploiting the Digital Asset For Operations Readiness



- Creation of Functional Location (FLOC) and Equipment Object (EO)
- Collection of Key Equipment Characteristics
- Document cross referencing relationships

- Reduced the manual time spent in the creation of the Master Data AMS Element by 75%.
- 1.5 man-hours to 20 minutes
- Return on Investment
 - Savings: 4M\$

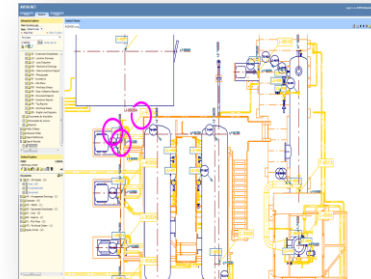
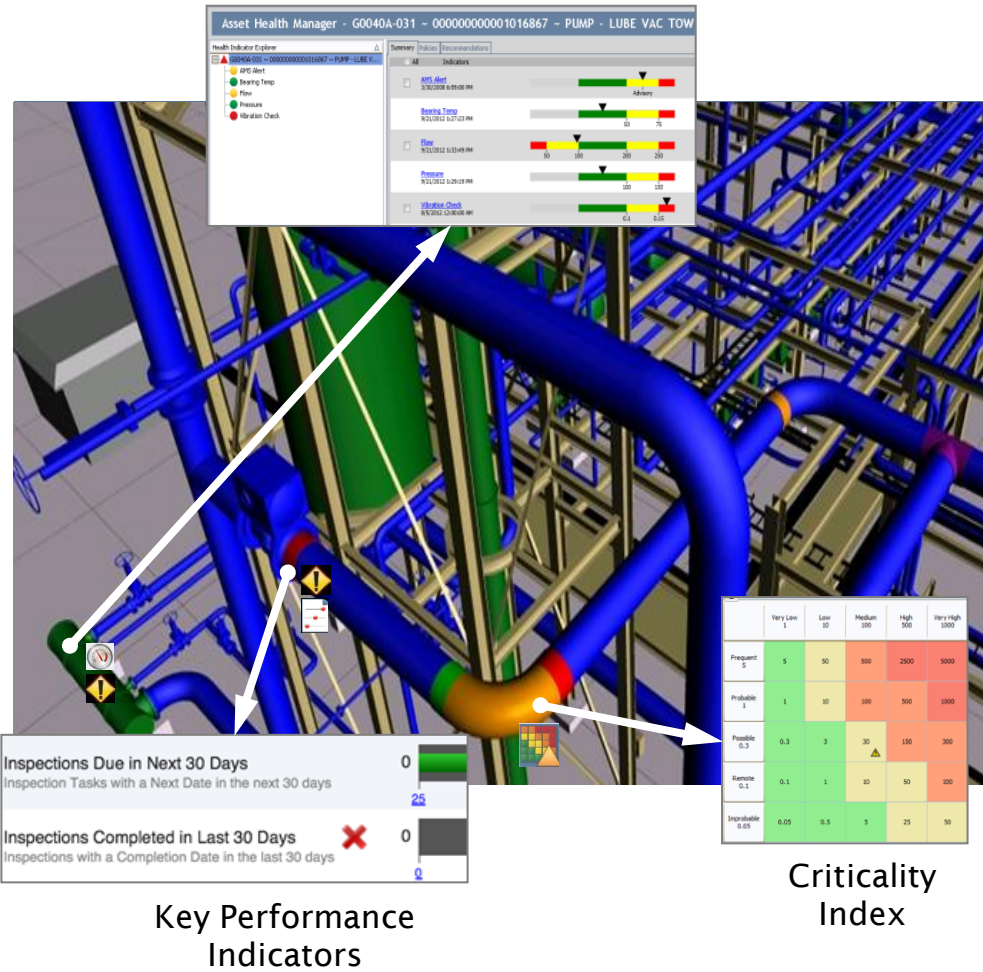
Operations Catalysts



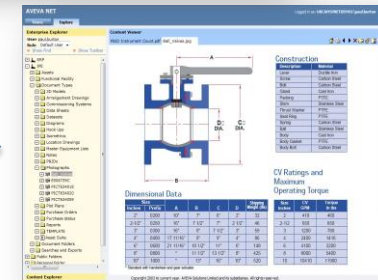
visualAPM = better decisions



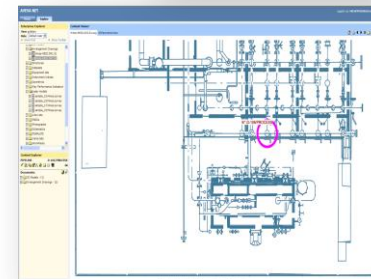
Health Management



P&ID



Data Sheet



Drawing

Example : Mechanical Integrity

- A use case where AVEVA NET is used to assess the Mechanical Integrity (MI) of a specific Line
- MI indicators 'colour coded' on the 3D model:
 - Thickness
 - Wall loss
 - Corrosion rate
 - Replacement date
- Contextual view enables better decisions e.g. understanding dependencies, early intervention in adjacent areas, factors driving risk, special access requirements etc.



Enterprise Explorer

User ian.smith
Role Administrator
Show Find
Hide Toolbar

- SWS
 - 3D Models
 - SWS
 - Corrosion Loops
 - LC-CorrosionLoop
 - PC0001A-097
 - PC0001B-097
 - PC0002A-097
 - Line - (1)
 - 600-SW-01024-A300
 - PC0004A-097
 - PC0005A-097

Content Explorer

Line 600-SW-01024-A300

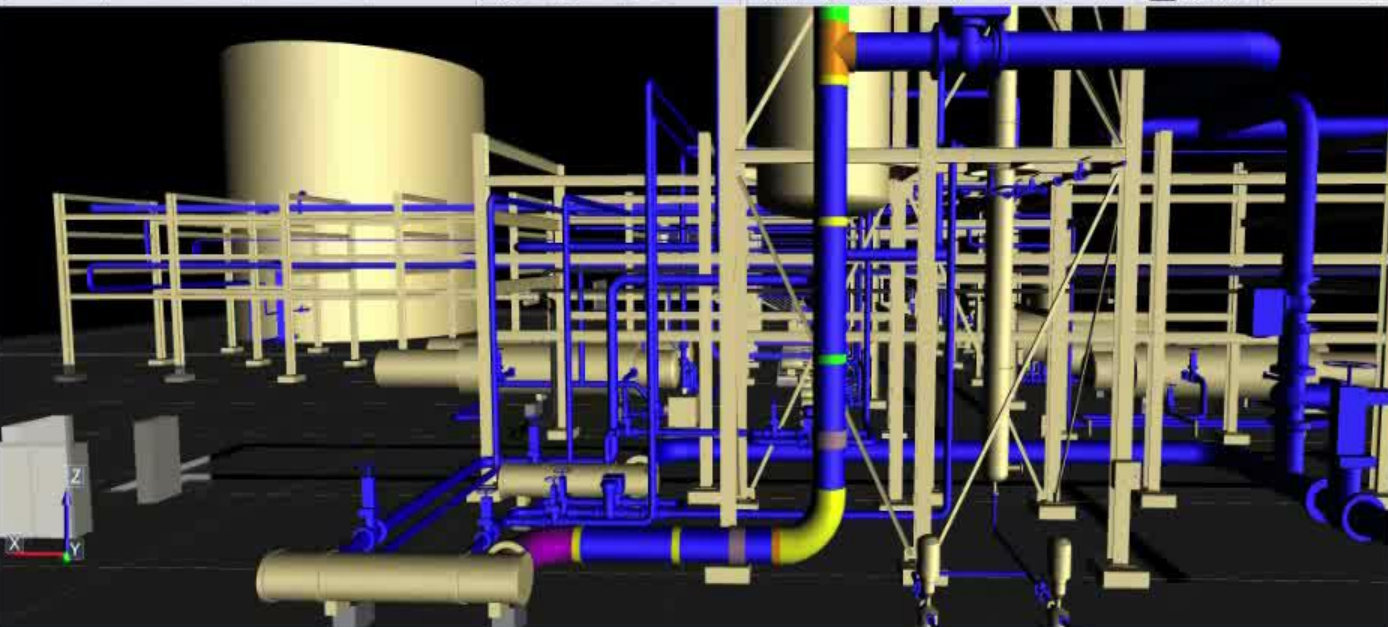
Documents:

- 3D Models - (1)
- APM Links - (1)
- MI EQUIPMENT DATASETS - (1)
- 600-SW-01024-A300 VPD Data Set

Content Viewer

SWS.zgl

Edit Navigate View Markup Tools Help



Highlighting Criteria

- ☒ Thickness
- ☐ Percentage Wall Loss
- ☐ Replacement Date
- ☐ Corrosion Rate

Buttons: Show, Isolate, Zoom, Show all, Clear

Summary View ☐

Thickness

| | | |
|--------|-----------|--|
| Green | >= Alarm1 | |
| Yellow | < Alarm1 | |
| Orange | < Alarm2 | |
| Red | < Alarm3 | |
| Purple | < MAWT | |
| White | No data | |

Close

Example : Field Inspection



- A use case where an Inspection Technician uses a ruggedised tablet to:
 - Obtain an AVEVA NET™ 3D view of the inspection locations within a work-pack
 - Take ultrasonic wall thickness measurements, automatically recording the results
 - Upload the results at the end of the inspection campaign with no manual intervention

Panasonic

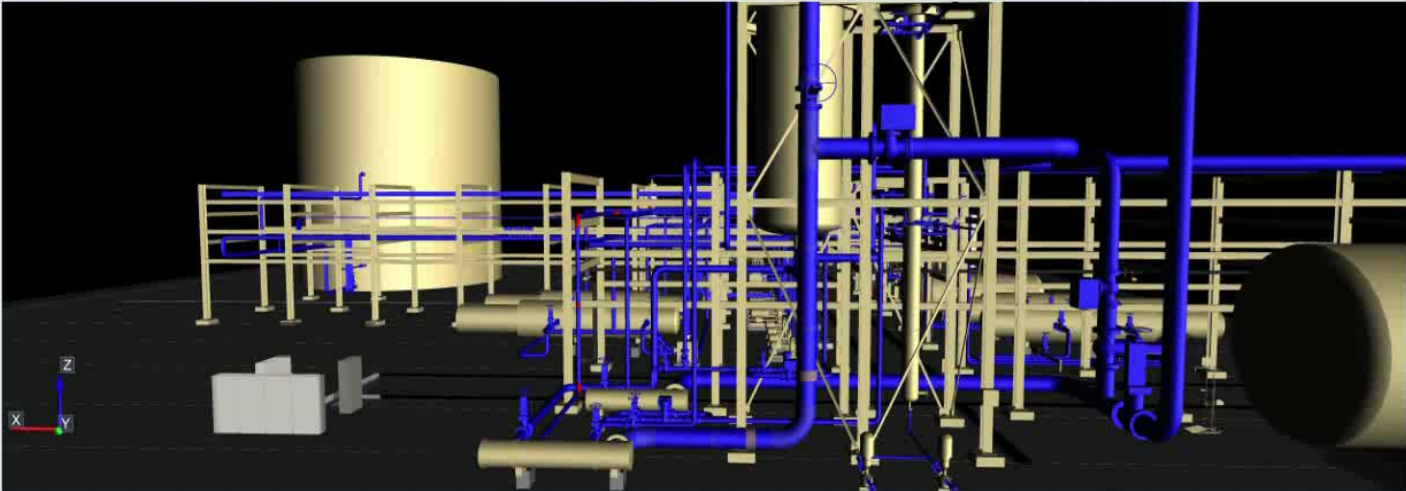
TI1000000000

Content Viewer

SWS.zgl

Edit Navigate View Markup Tools Help

Click and drag to orbit about a point c



Workpack: WP-2014-005
System: SW System
Line: 600-SW-01024-A300
TML: 005-600-SW-01024-A300

Highlight TMLs
Zoom
Show Current
Show Historical

TML: 005-600-SW-01024-A300
Line: 600-SW-01024-A300
Report: lan-001
Inspected: 0 of 6

Show Report
Show Notes
UT Inspection
Visual Inspection
Back

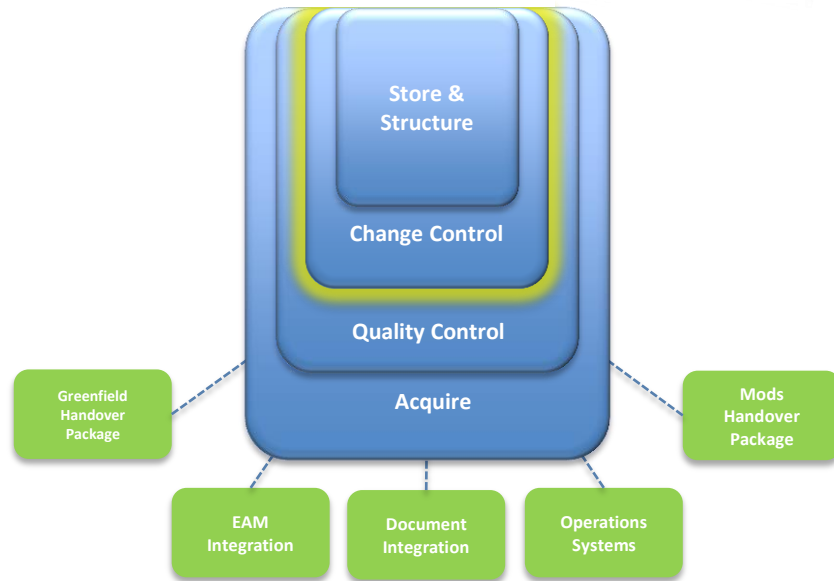
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Mastering Change

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Asset Life Cycle Information Management



Where next?





Tag: V-117-GH
Leakage reported 12/7-2013
Overdue WO-13344 - 20 days





| (Start) |
|---------|
|---------|

AVEVA - Custodians of the Digital Asset

Providing high integrity
visualisation of
information that
supports key
operational activities

