

Managing The Data Life Cycle

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2015 and beyond

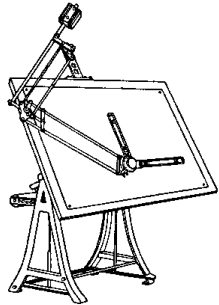


A Little Bit About CKF

- Based here in Aberdeen
- Cover Oil & Gas, Clean Energy, Environment & Infrastructure and Transmission & Distribution
- Responsible for Engineering Systems, Information Management, Project Delivery Systems and Business Systems Integration
- Spent the last 30 years trying to keep up with technology and deploying when it was appropriate
- I have been on a journey for a long time and I still can't see the end

Roadmap Of Engineering & Design

70's



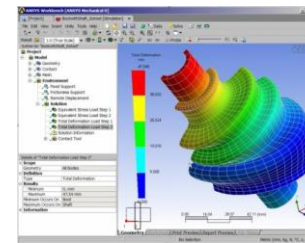
80's



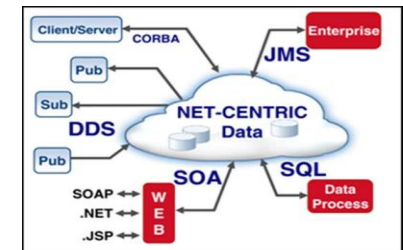
90's



00's



2010 +



The good old days

2D CAD

3D CAD

3DCAD/CAE

Data Centric World



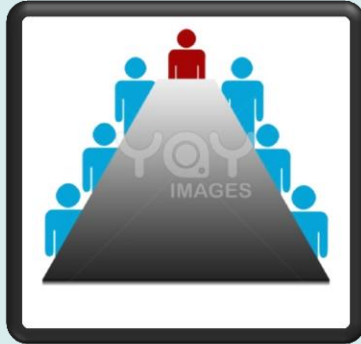
Leveraging the maximum benefit from emerging technology

**What next ? - RFID tagging... track and trace.... the cloud..... SaaS.....
Information Management as a Service**

The Changing Project Delivery

- Historically, documents have been king
 - Draft & check
 - Approve for procurement/construction
 - As-build
 - Maintain
- Key data has been 'scraped' from documents
 - For commissioning
 - For maintenance systems
 - For spares systems
- Now however, data capture is required in parallel with document production
- Data centric delivery solutions must be adopted to facilitate this process

Key Requirements To Effective Change



Senior Level Support



All Stakeholders Engaged



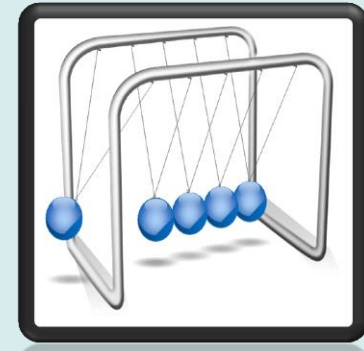
Teamwork & Collaboration



Clear Targets



Alignment in Approach



Sustained Momentum

MONITORING SUCCESS AS WE GO

What Was Information Management In The Past?

- Mainly Document Management systems
- Flat file Engineering e.g. DGN, DWG, XLS, PDF
- Vendor documents scanned JPG or paper
- Data scraped for Commissioning systems
- Data scraped for Operation and Maintenance systems
- Key plant data handed over in containers full of paper
- Difficult to find plant data in operations
- Lack of trust in plant data when found

What Is Information Management Now ?

AMEC definition -

Information Management (IM) is the effective collation of data, documents and models from Engineering and Vendors, and hosting these in a central location with controlled and secure access for all functions that may require to use the information.

The central information hub provides **the single source of truth** for all asset data, documents and models

Consistent, accurate and approved information is essential to support information transfer across all functions engaged in the full plant life cycle, e.g. Procurement, Construction, Completions, Commissioning and Operations & Maintenance

The benefits of real Information Management

Timely provision of consistent information to all functions

What they need....

When they need it....

Where they need it....

Consistent + accurate + approved = trusted

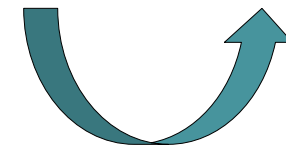
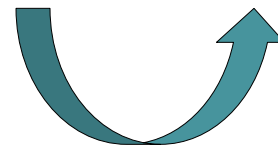
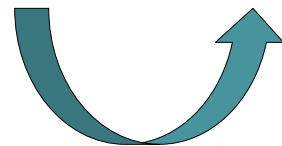
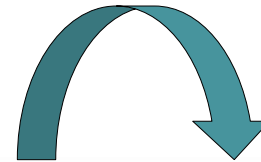
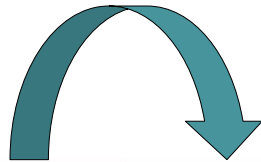
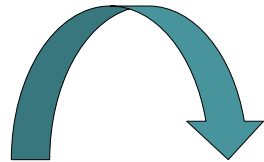
Data Integration and Flow Across The Functions

Data centric
Engineering
Solutions

Re-use
Of
Data

Consistent
Information

Full
Asset
Life Cycle



Single Source Of Truth

Data ----- Documents ----- Models

Four Key Documents Define The Process

MCL

Master Class Library

Clear definition of all plant tagged item types

ENS

Engineering Numbering Specification

Tag numbering philosophy for all plant tagged items

DNS

Document Numbering Specification

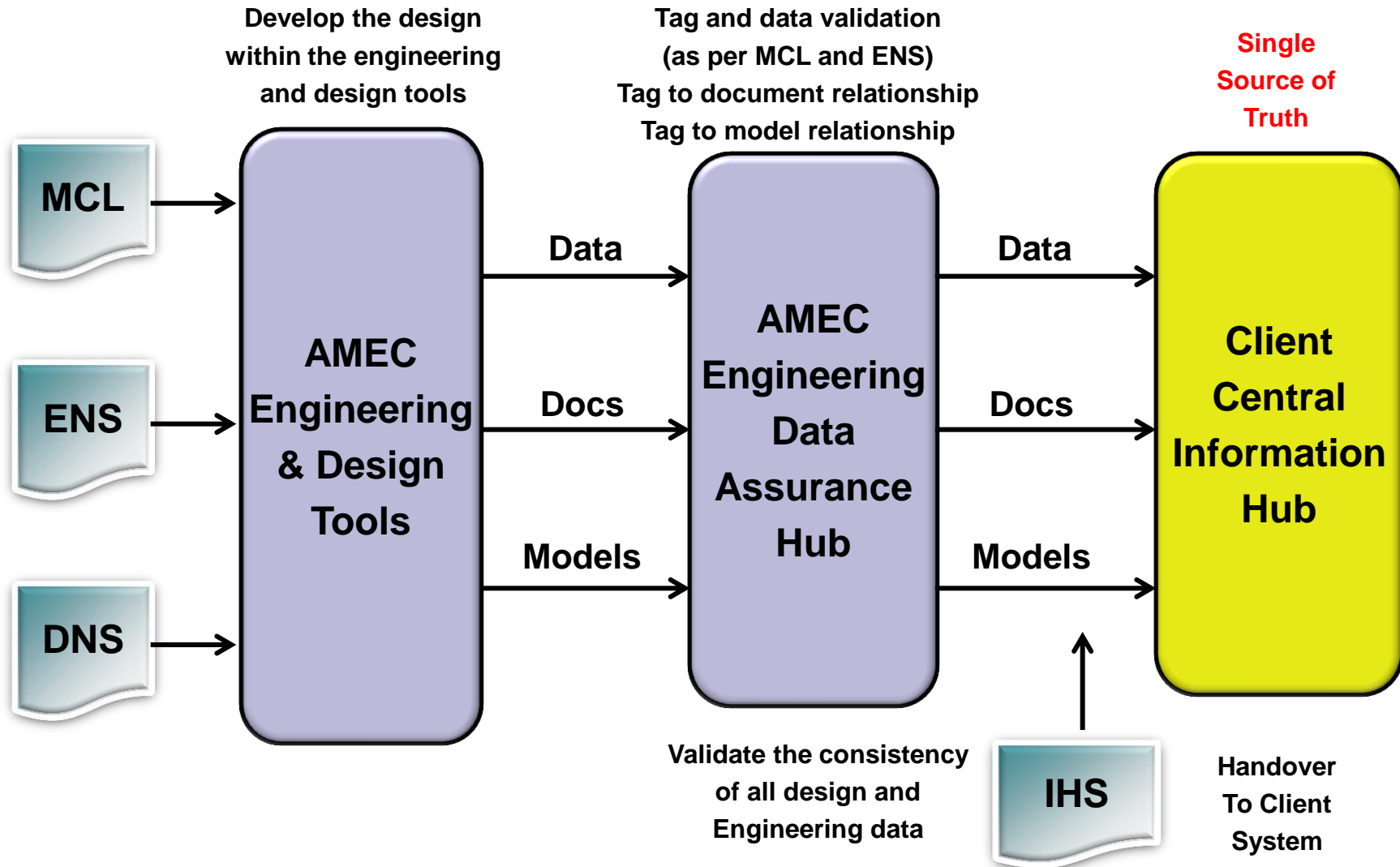
Clear definition of how all document types will be numbered

IHS

Information Handover Specification

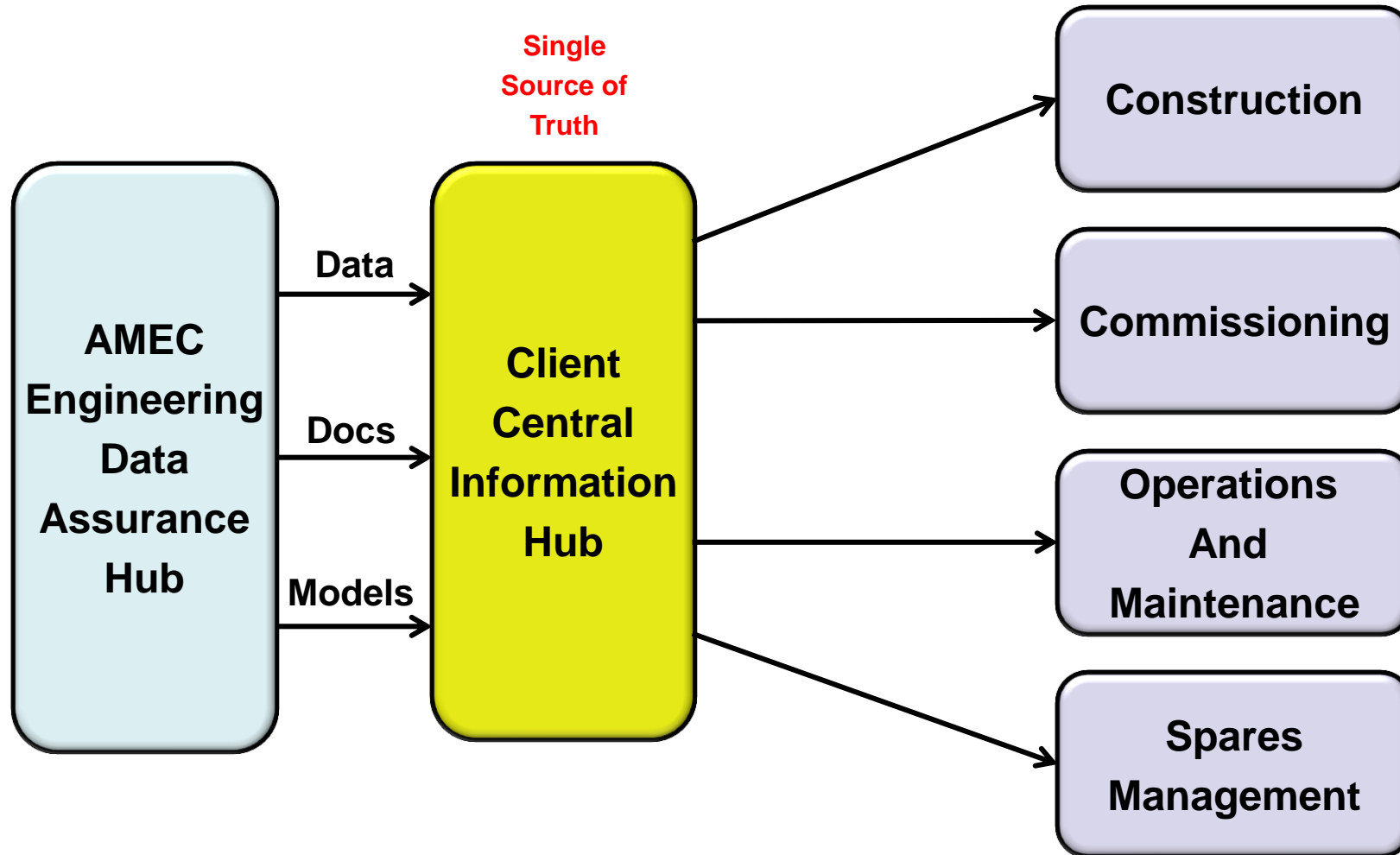
All functional and physical data attributes required for plant tagged items

The Creation of All Plant Data Is Controlled



CONTINUOUS DATA HANDOVER THROUGH LIFE OF PROJECT

Downstream Use Of The Data



Delivered By – Information Management As A Service

Two project examples where Information Management is key

AMEC Europe Operating Units

Oil & Gas – Greenfield

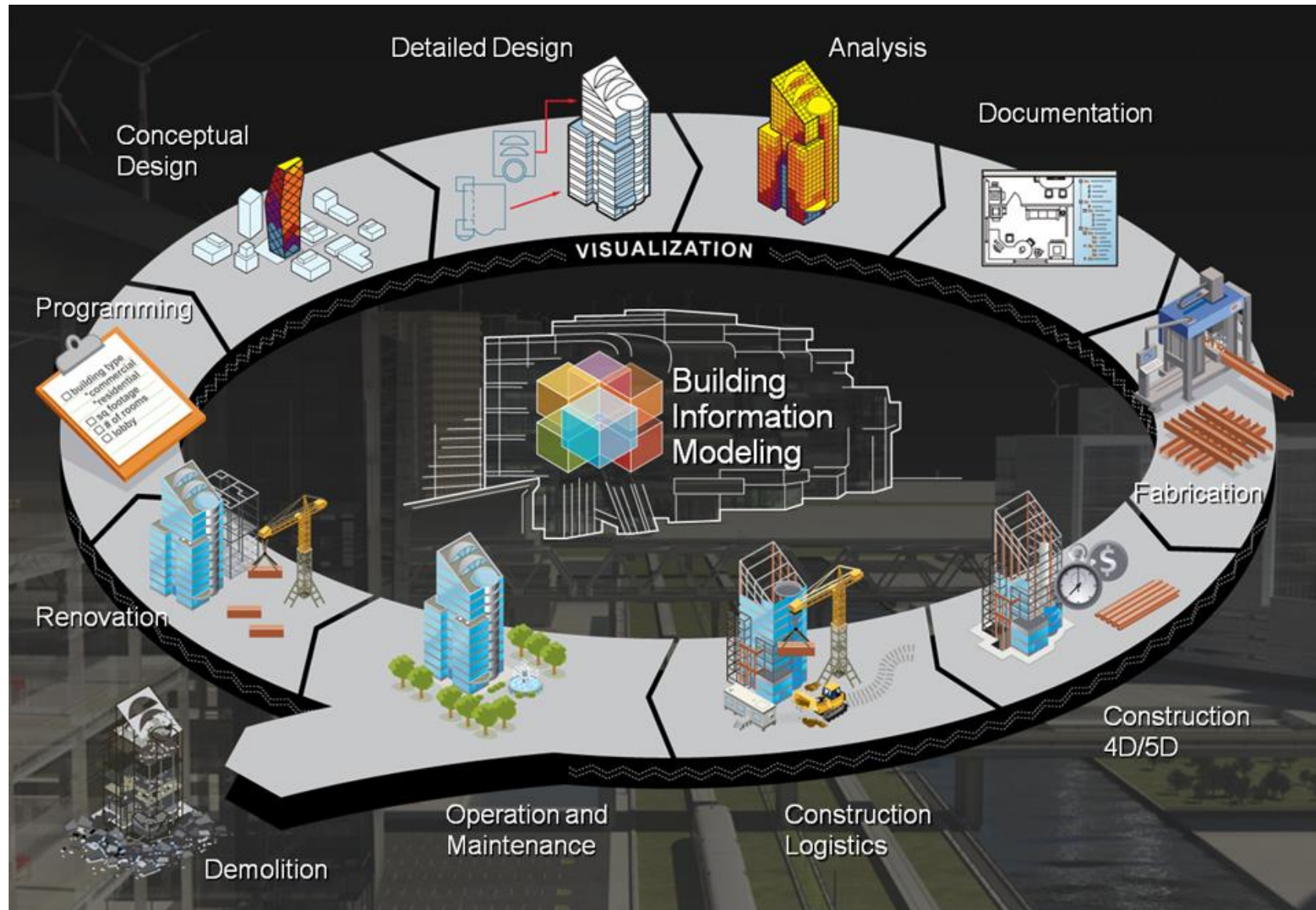
Oil & Gas – Brownfield & Asset Management

Clean Energy

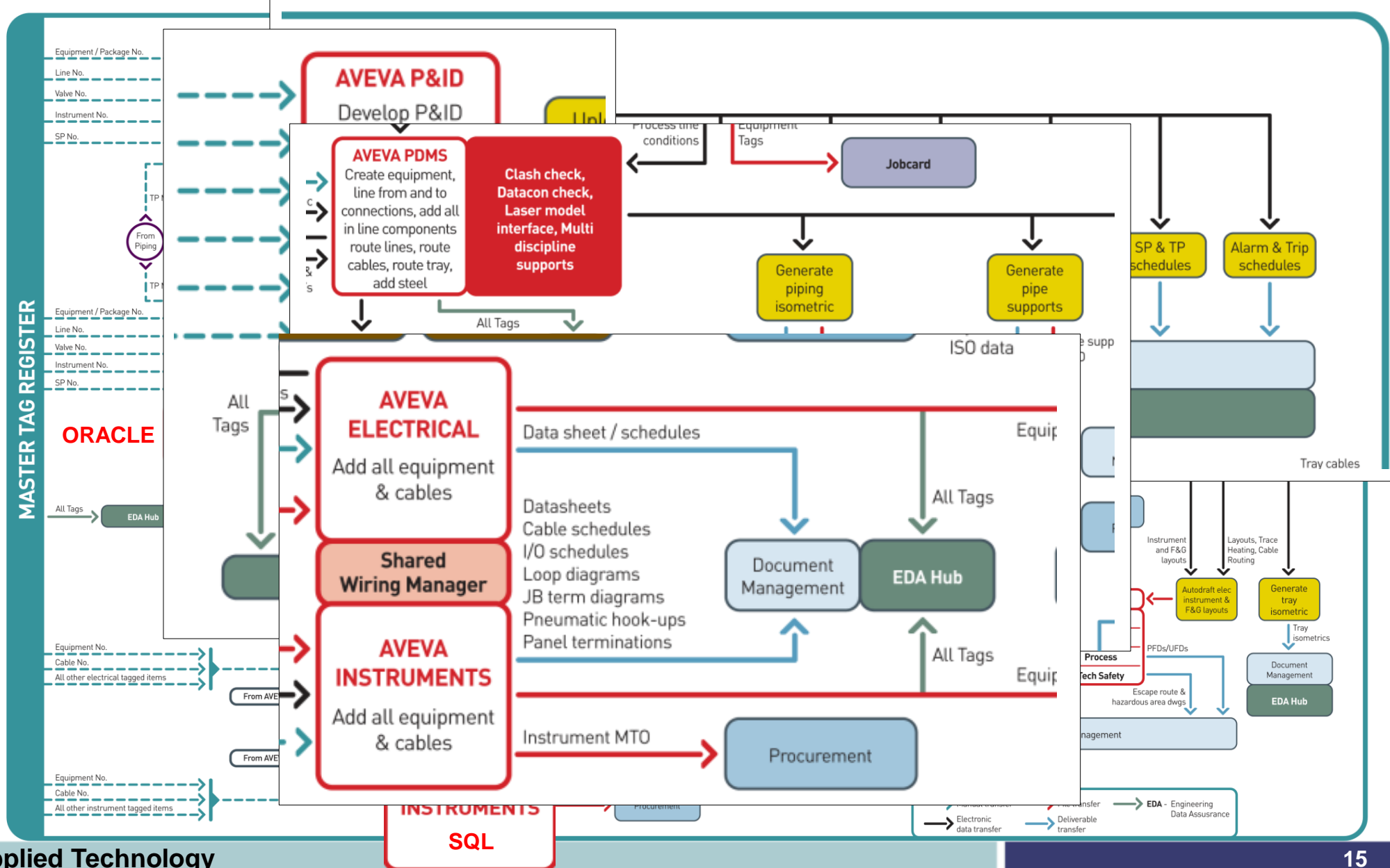
Environment & Infrastructure

Transmission & Distribution

UK Government - BIM Compliance Is Mandatory By 2016



Brownfield Oil & Gas Project Data Workflow



The AMEC Engineering Data Assurance Hub Provides Two Deliverables To The Client.....



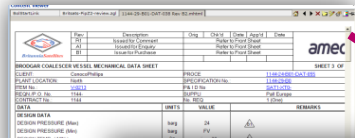
The Physical Plant



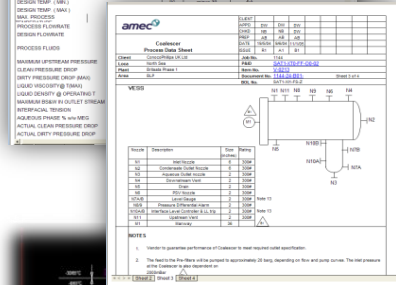
and.....

The Electronic Data Version of The Plant

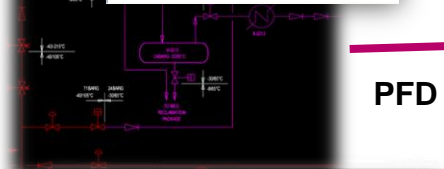
Visual access to the 3D model with links to all other associated data



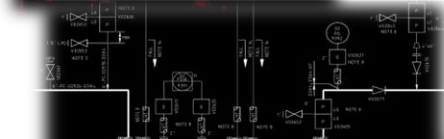
Process Data Sheet



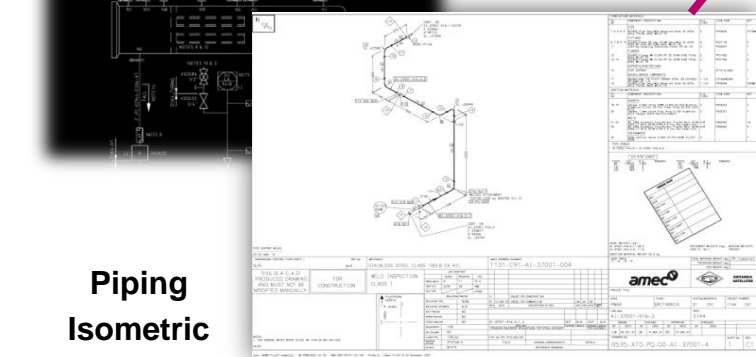
Mechanical Data Sheet



PFD



P&ID

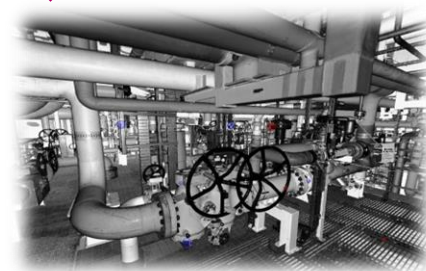


Piping Isometric



Layouts

Point Cloud Data



PDMS Properties

Properties:		
Name	Value	UDM
AREA CODE	Z2	
DESIGN TEMP	-30 / +65	
DUTY	-	
Equipment Model	Serial No: F21767-01	
L x W x H	5.05 x 0.9 I.D.	
Location	Z2	
No. OFF	1	
REQ. No.	M-05	
SYSTEM NO.	2	
TOTAL FLOWRATE	159.3	
UNIT DRY WEIGHT	4.3	
UNIT OPER WEIGHT	7.9	

PDMS Data

V-0213 VPD Data Set	
Construction area	Z1
Iso Drwg No	SAT1-X11-PQ-Z1-PC-02921
Iso Drwg No	1144-B01-PC-02921-002
Name of the element	/V-0213-N9-TRIM
PID REF	SAT1-X10-FF-00-02-00002
Pipe specification	/DSA4
Spool number prefix	PC-02921-06X-STUDY
System No	02

Information Management As A Service

Successful IM as a Service requires -

- The Systems in place
- The Processes in place
- The Infrastructure in place
- The Documentation in place to define delivery of all of the above
- The Compliance of all stake holders to buy into, and use the tools in a truly integrated way through out the plant life cycle

To deliver what Operators need, where they need it, when they need it, in the format that they want

“Consistent + accurate + approved = trusted”

Information Management As A Service (iMaaS)

Thank you for your attention

