

# What to do if you aren't ready for ISO 15926

PCS Forum and Members Meeting

Brisbane Oct 2012



**Content is King**

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# Establish a common language...



Word	British English meanings	Meanings common to British and American English	American English meanings
<b>banger (n.)</b>	<b>a sausage, as in "bangers and mash"</b>  <b>an old motorcar in a state of disrepair (US: beater)</b>	<b>a type of firework</b>	<b>a particularly club-friendly beat or song</b>  <b>a heavy metal music fan (head-banger)</b>



...but is the dictionary the same, or do you have dialects to deal with too?

- Language
  - The language, grammar and structure of the content is defined
- Formats
  - We have standardized formats, albeit not well aligned through providers
- Communication
  - We have multiple ways for the data to be transmitted;- internet, disc-media etc.
  
- BUT
  - The dictionary, the primary construct for the content, is not yet complete enough to support mass global content collaboration as you might find for example in the TV industry...

# JORD ISO15926 COMPLIANCE SPECIFICATION

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- **Executive Summary**
- ISO-15926 is the standard for lifecycle integration and interoperability, based on highly generic information modeling principles, and with a high dependency on shared reference data. Whilst it supports many *valid* and flexible implementation possibilities, these may not support the full lifecycle capabilities *intended* by the standard. And, being highly generic and flexible, achieving comprehensive and consistent interpretation across multiple implementations is non-trivial.
- Compliance levels are arranged as *stepping stones* that address the complexity of different aspects of compliance in simpler pragmatic steps. Clear specification for each step provides a basis against which the *compliance of products, interfaces and content* may be described to the market, and a checklist against which they may be validated.
- As well as providing a *maturity model* for take-up of ISO15926 towards the full benefits of maximum compliance this also provides distinct *work-fronts* enabling more, different, business-domain experts and skill-sets to contribute to different aspects at each step

# ISO-15926 Outside

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- In common with the JORD Mapping Methodology, the focus for compliance is at interoperability interfaces and on business views of content exposed through those interfaces. This so-called “ISO-15926 Outside” approach recognizes that many application products are modular suites with multiple internal interfaces, but is not intended to set compliance requirements for internal storage models within application products.

# Compliance vs Certification

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- The compliance requirements defined in the specification are also summarized in a checklist which documents the levels of compliance requested, offered, claimed, tested, validated and certified. Whilst all aspects of compliance are intended to be achievable and verifiable, this specification does **not** define methods by which compliance is implemented **nor** those by which it is tested, validated and certified. (See the separate JORD Mapping Methodology and JORD Compliance Validation Procedures.)

# Intergraph and ISO 15926

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- Member of the PCA
- POSC-Caesar-IDS & FIATECH-ADI projects
- “The underlying SmartPlant Foundation data model has shared a common basis with ISO 15926 Part 2 since their joint origins in the 1990s.”



**Compliance Maturity Levels Checklist (v8)** for Product Interface / Version SPF/SPE / v2009

Compliance Categories		Compliance Levels per Compliance Specification	MATURITY LEVEL CHECKLIST SUMMARY (For full definitions, the referenced paragraphs in the Compliance Specification govern.)	User Required	Provider Claimed (Check or summary only - provide supporting documentation as necessary)	JORD / PCA Validated	
Technical	Semantic Modeling	2.1 (i)	<b>Dictionary &amp; Typing Level</b> - Identification, Specialization & Classification template signatures only.		x		
		2.1 (ii)	<b>Short-Cut Relations Level</b> - As Dictionary Level plus CoRWS or other (eg Gellish) "Short-Cut" template signatures.		x		
		2.1 (iii)	<b>Full Ontology Level</b> - Any / all valid template signatures supported.				
	Referencing Technology	2.2 (i)	<b>Local Naming Level</b> - RD URI's resolved and naming self-contained in schema representation.		x		
		2.2 (ii)	<b>URI Reference Level</b> - Dependency on RD URI's being resolvable.				
	Representation Technology	2.3 (i)	<b>No Explicit XML Schema Level</b> - Implicit / document / formatted / tabular / non-XML schema.		x		
		2.3 (ii)	<b>Explicit XML Schema Level</b> - registered XML Schema		x		
		2.3 (iii)	<b>RDF/OWL Schema Level</b> - eg Part 8				
	Interface Technology	2.4 (i)	<b>File Exchange Level</b>		x		
		2.4 (ii)	<b>API or Query Level</b> - other than Part 9 / SPARQL		x		
		2.4 (iii)	<b>SPARQLQuery Level</b> - eg Part 9 Façade				
	Business	Industrial Standardization	2.5 (i)	<b>Local Sandbox Level</b> - Community or individual organization with no externally certified RDL management.		x	
			2.5 (II)	<b>Global Industrial Level</b> - externally certified RDL			
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Payload Content		2.6 (i)	<b>Generic Level</b> - Tool capability independent of payload.		x		
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Change-Management Meta-Data		2.7 (i)	<b>Identity Only Level</b> - all data elements & sets identifiable / explicitly addressable		x		
		2.7 (ii)	<b>Version Level</b> - identification of succeeding / superceding versions of data elements & sets explicit		x		
		2.7 (iii)	<b>Status Level</b> - business status explicitly attributed / associated with each identified & versioned data element & set.		x		
Change-Management Functionality		2.8 (i)	<b>Export Level</b> - Component interface publishes or permits read / query of internal content		x		
		2.8 (ii)	<b>Import Level</b> - Component interface accepts write to internal content, or reads external content.		x		
		2.8 (iii)	<b>Seeding Level</b> - Component populates empty instance with imported content losslessly		x		
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## Compliance Maturity Levels Checklist (v8) for Product Interface / Version SPPID - PDMS

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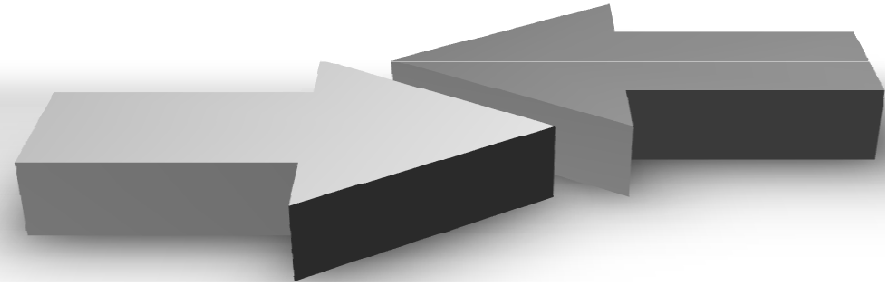
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BROWNFIELD ASSETS  
AND  
BROWNFIELD / GREENFIELD PROJECTS

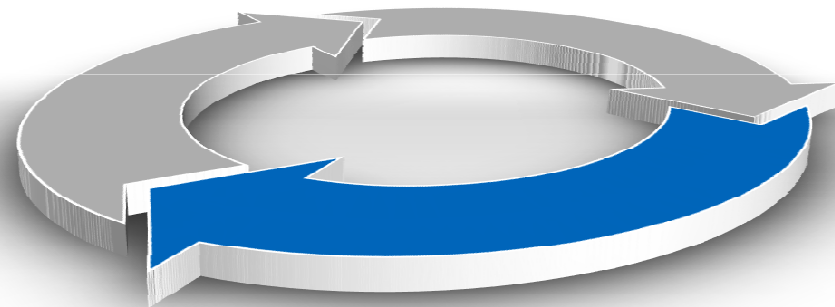
# Acquisition of a Brownfield Asset



# Handovers



# Turnarounds





# Time Critical Plant Information Access



Increase safety by allowing engineers to do desktop study at home office before mobilising



Minimizing travel to remote locations to get realistic information – reduce cost!



# Engineering time spent searching for information – reduce time and cost!



# Plant Information mobility



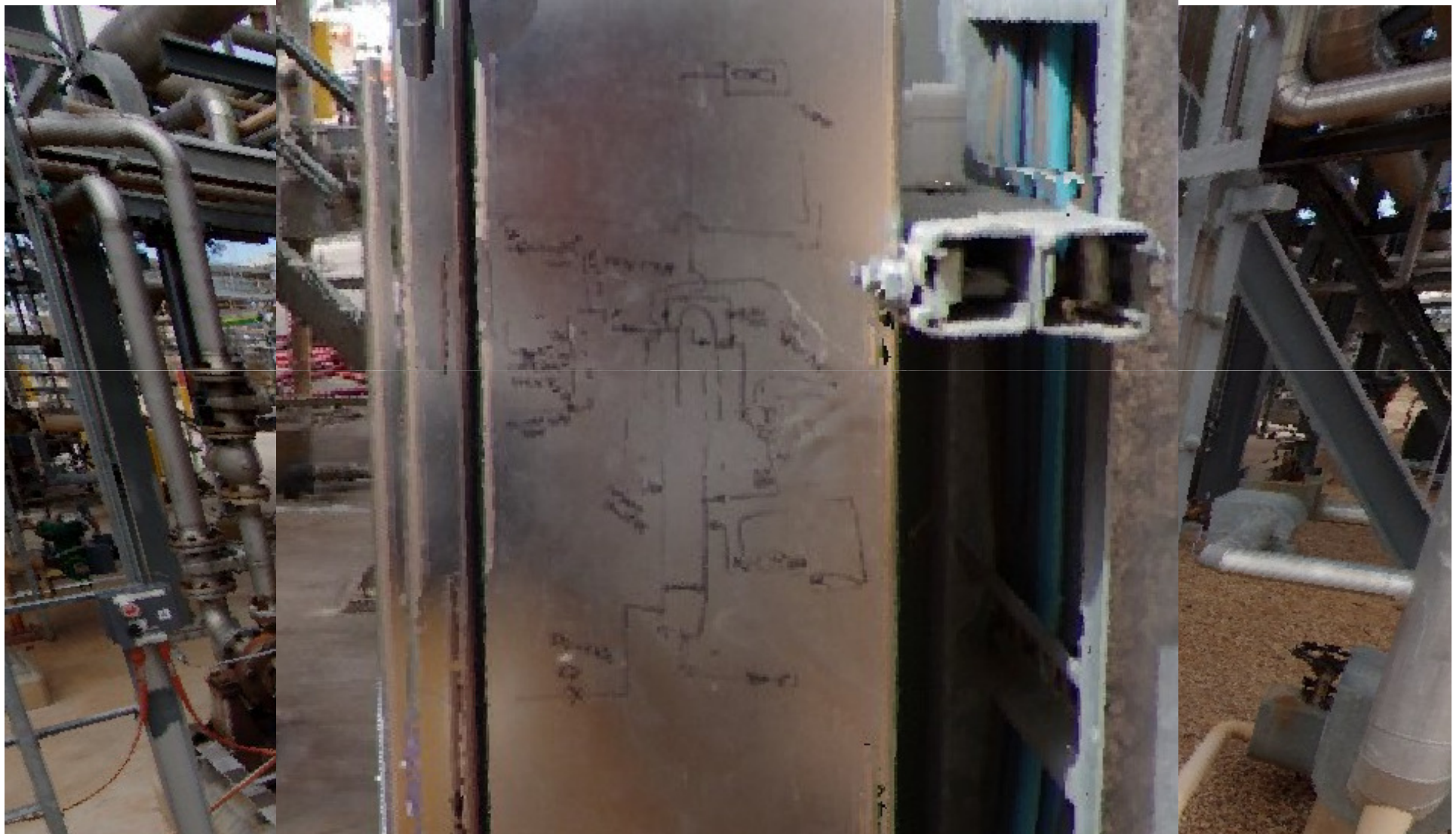
# Project Information Quality



# Project Information Integrity



# But in a Brownfield plant





WHAT KINDS OF PLANT INFORMATION  
DEMAND A DIFFERENT KIND OF  
MANAGEMENT APPROACH?

# Legacy Data



The vast majority of Plants today have information collected over many years from different sources and it exists in multiple formats

- Large quantities of Paper
- PDF & image formats
- CAD & Office formats
- Created in multiple versions of software
- Often residing in windows file systems...
- Not easily accessible by a large community...
- With data naming and numbering inconsistencies...
- Often not reflecting the as-built state of the plant...



VS.



Legacy, uncontrolled & unstructured information is present in our organisations...  
our ability to react to situations will be constrained by how well we deal with it...

# Unstructured information



*Today we access & manage unstructured information in an unstructured way!*

We asked for an "Electronic Handover" and got Scanned PDF's

The vendor

Its somewhere on those

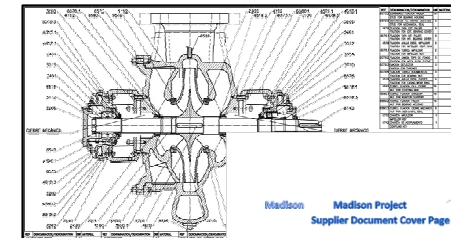
What if this information was quickly and easily captured in situ...  
it's integrity and quality made known...  
and made accessible for visualization rapidly and simply.

doesn't even have Excel

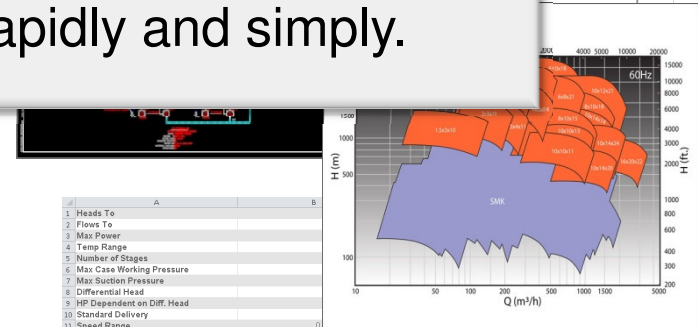
with what we get

My Plant is already built, and I have all this legacy information

Its all on the Project Z: Drive

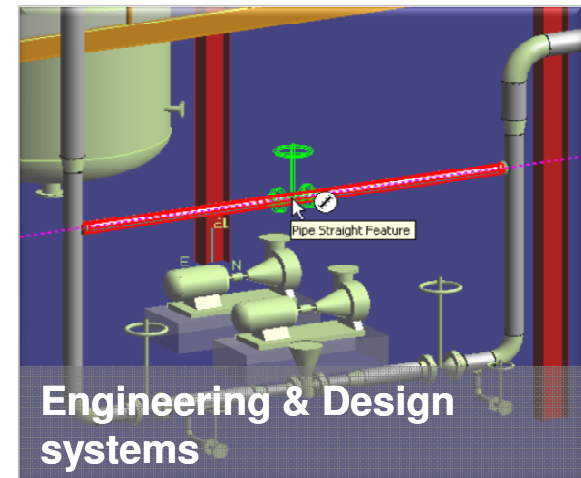


Madison Project Supplier Document Cover Page



1	Heads To	
2	Flows To	
3	Max Power	
4	Temp Range	
5	Number of Stages	
6	Max Case Working Pressure	
7	Max Suction Pressure	
8	Differential Head	
9	HP Dependent on Diff. Head	
10	Standard Delivery	
11	Speed Rings	
12	Materials of Construction	Compliant to H1-API610, 10th edition
13	Bearing Materials Available	Ball bearing (optional roller bearing) plus angular contact bearing
14	Hydrotest Pressure	1,160 psi 80 bar
15	Max Viscosity	Consult factory
16	Industry Standard	API-610 and ISO 13709
17	Mounting Configurations	Horizontal / Top-Top (optional side-to-side)
18	Number of Available Hydraulics...	11
19	Seal Configurations Available	API-682
20	Available Flanges	300K 600F FF RFP
21	Pump Case Corrosion Allowance	0.116inch (3mm)
22	Suction and Discharge Size	up to 20"12"
23	API Plans for Sundyne Pumps	All API-682 configurations

# But ...islands of information



# Plant Information Content Integrity Spectrum



**Unintelligent** → → → → → → → → → → → → **Smart**

Paper & ePaper (images/PDF)	Unstructured-data	Un-integrated native tool-data	Structured-data	Integrated-data

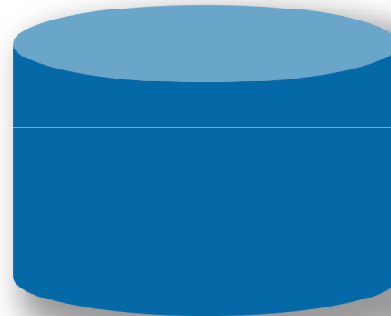
A wide spectrum of information types, sources and quality – put to multiple end uses

# SmartPlant<sup>®</sup> Fusion identify sources & locations INTERGRAPH<sup>®</sup>

**Brown/Green field UNSTRUCTURED information in a variety of formats and from multiple sources**



Organised  
Information



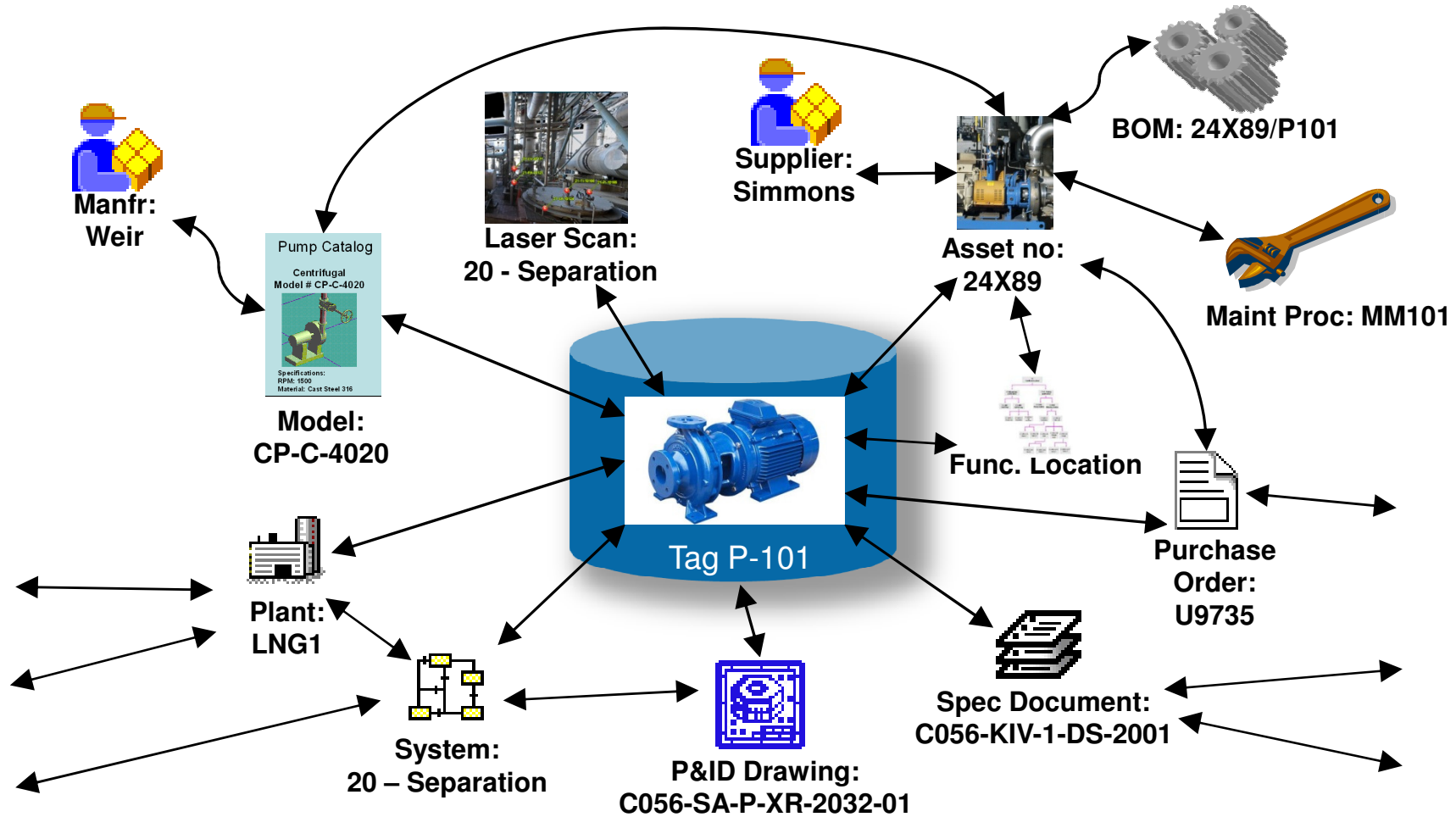
Documents/Drawings/  
Tags/Laser

Tag<->Drawing | Tag<->Document |  
Drawing<->Laser | Document<-> Laser

Rapid Capture, Organisation and Content Extraction

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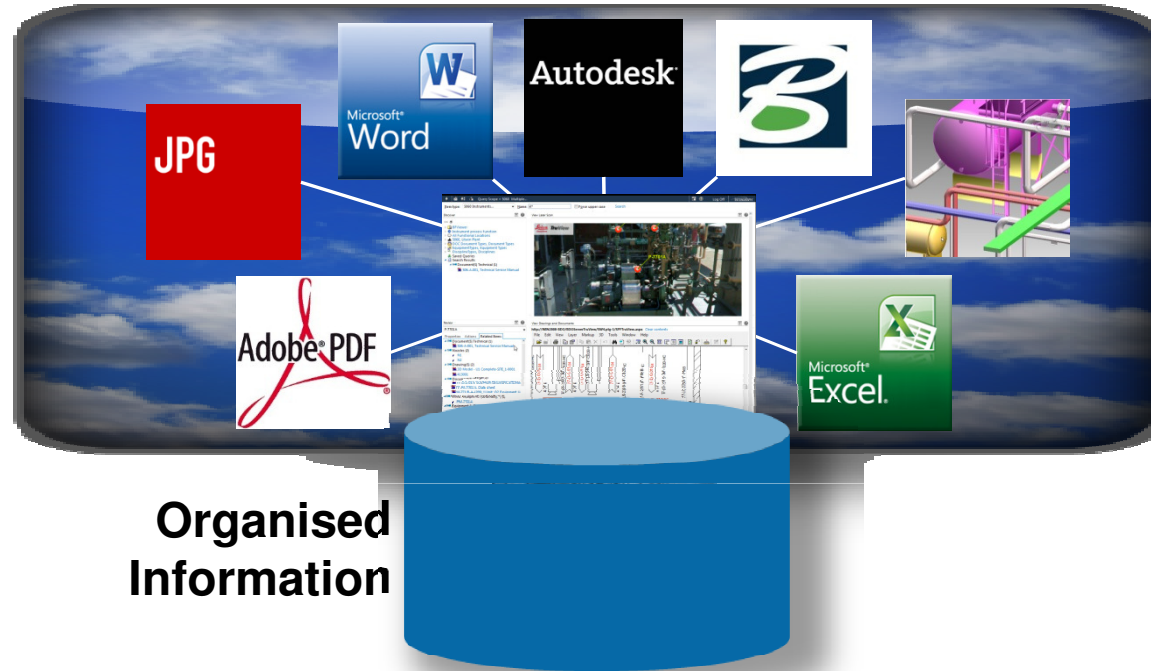




‘Fuse’ the plant objects together with links and cross-references for easy content Navigation



Simple Web  
Browsing &  
Navigation  
of organised  
content



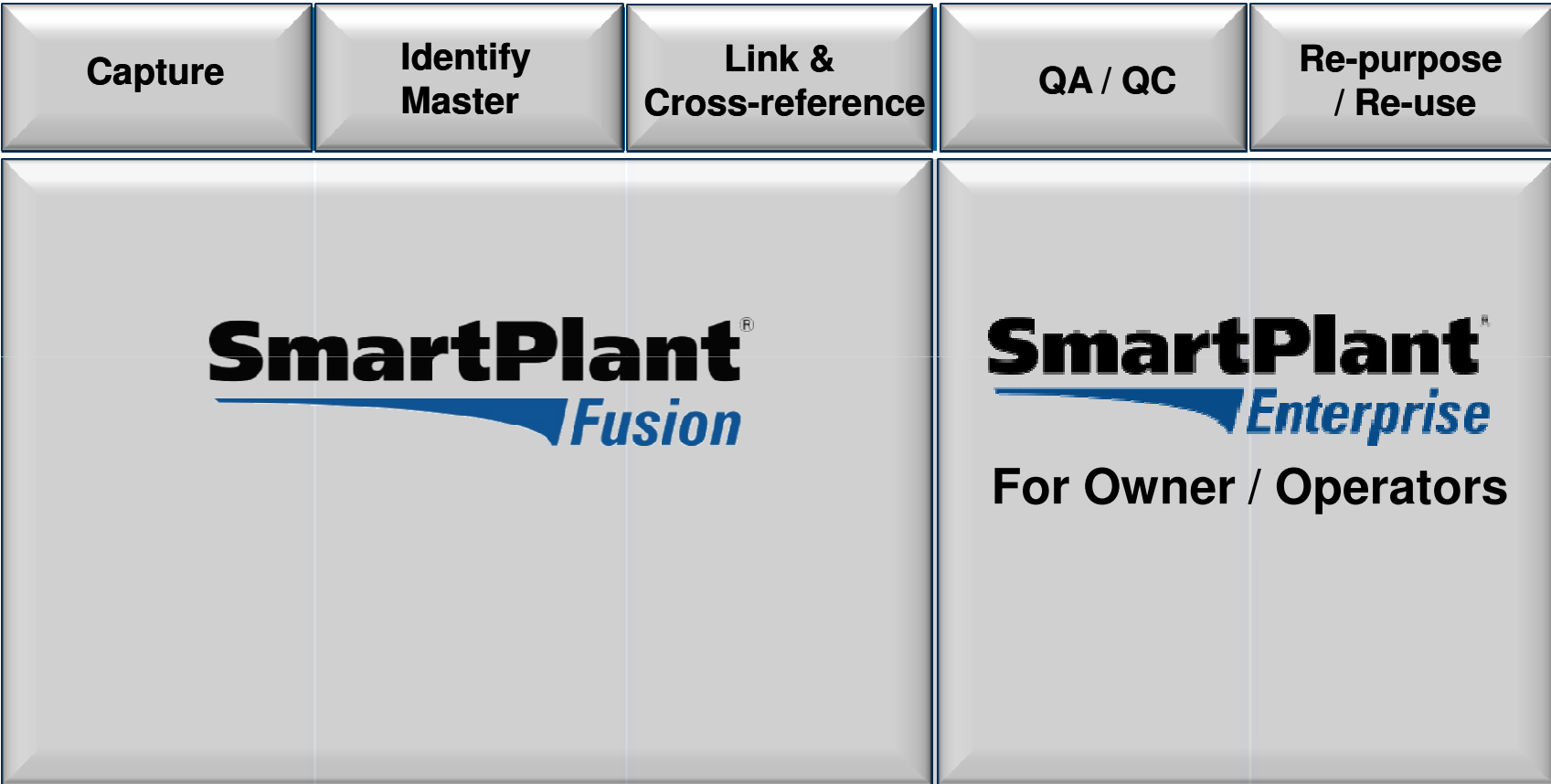
Organised  
Information



# Continual Quality Improvement



Unintelligent → → → → → → → → → → → → Smart



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Thank You.....Questions....

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