

Are we there yet?

The first step on the journey to digitalisation is Information Management

Datum360



“Would you tell me, please, which way I ought to go from here?”

'That depends a good deal on where you want to get to,' said the Cat.

'I don't much care where -' said Alice.

'Then it doesn't matter which way you go,' said the Cat.

'- so long as I get SOMEWHERE,' Alice added as an explanation.

'Oh, you're sure to do that,' said the Cat, 'if you only walk long enough.’’

— Lewis Carroll, Alice in Wonderland

8°C | 20 | 09:24

300 yd
Hookstone Road

15:31
339mi
+10min

1°C

12°C

471ft

Area not mapped

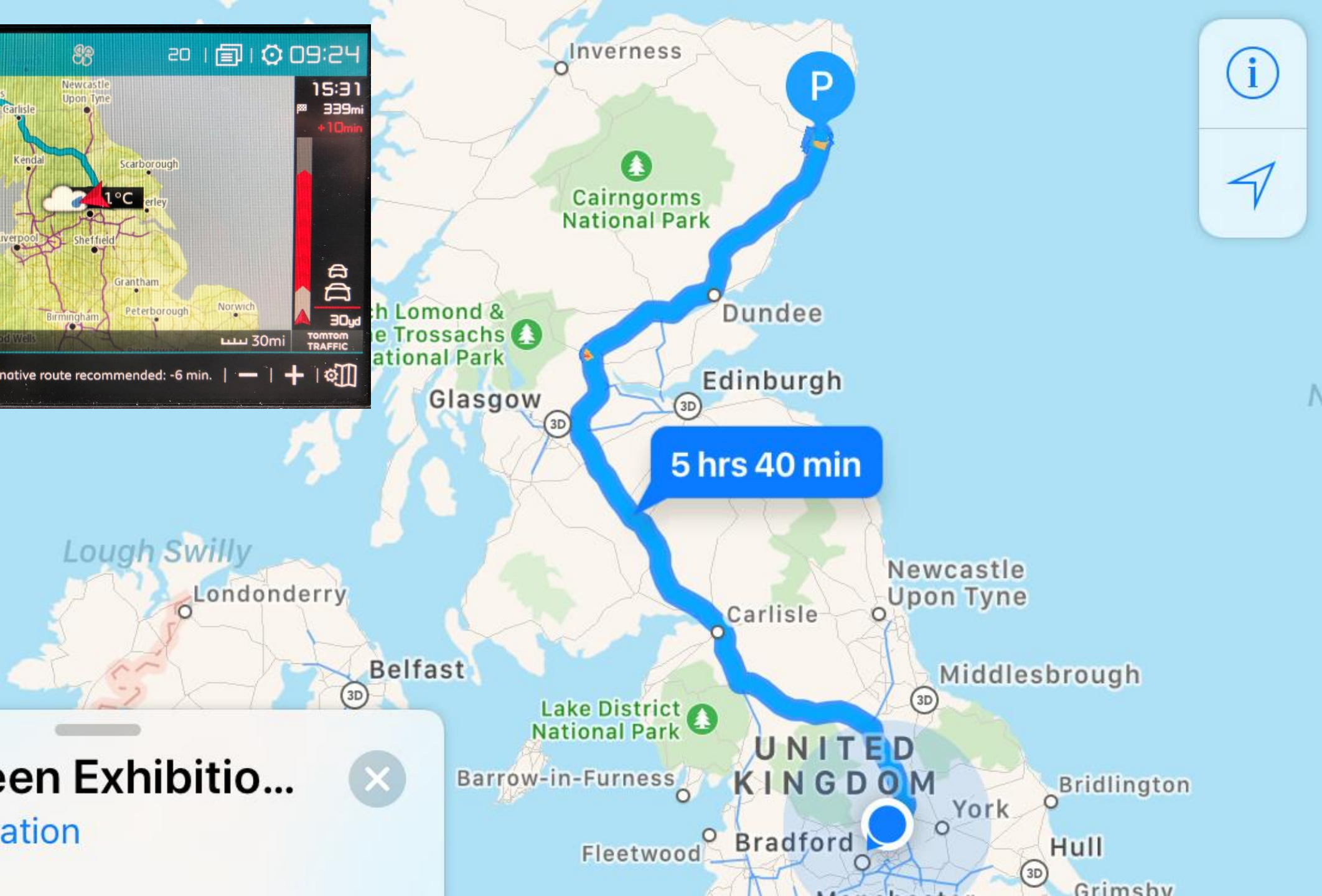
MENU | Alternative route recommended: -6 min.

30yd
TOMTOM TRAFFIC

i

To Aberdeen Exhibio...
From My Location

X



Journey: Aberdeen Exhibition Centre
Objective: Make it to the conference on time!
“The End in Mind”

Current status Parameters and conditions

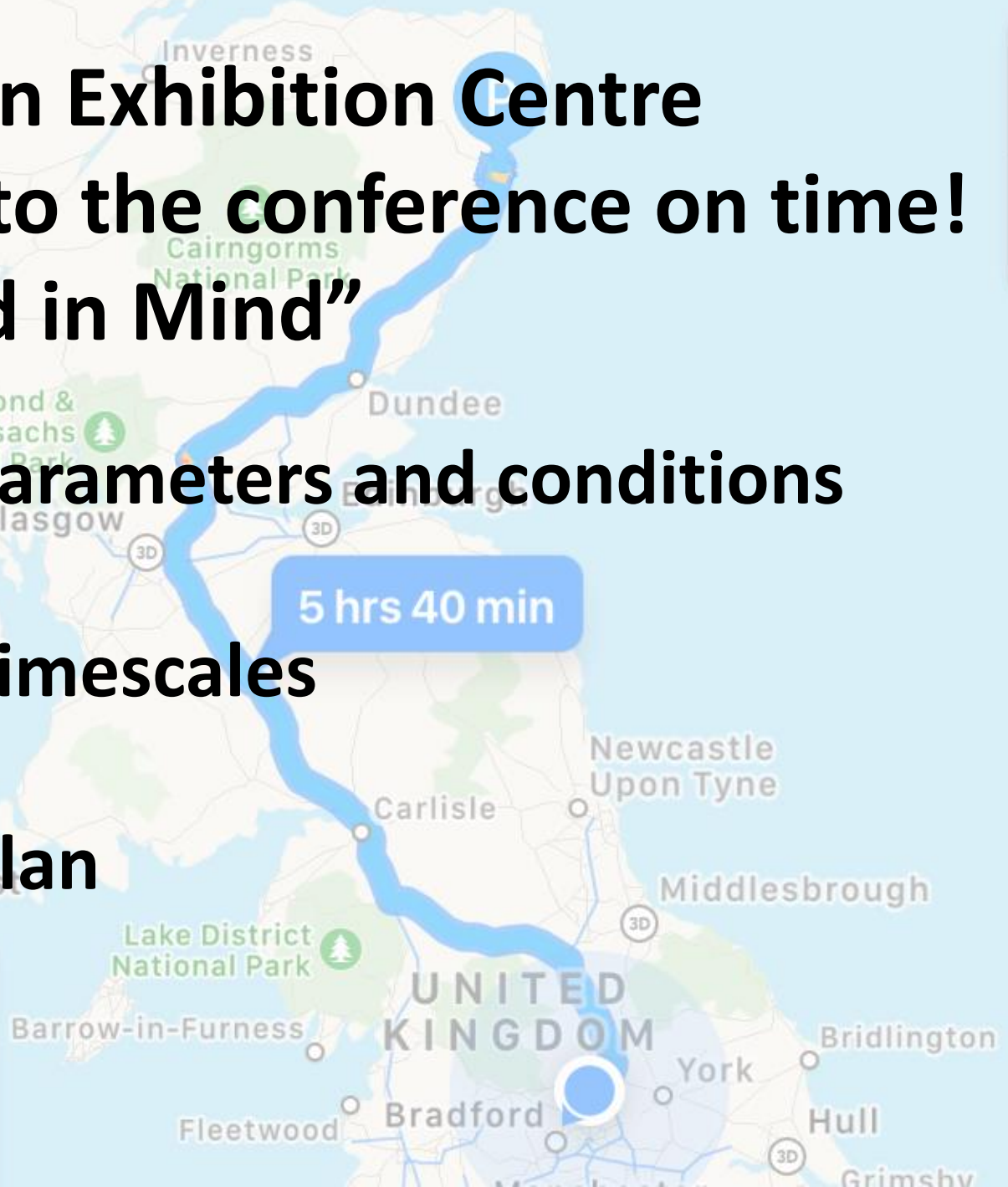
Technology Timescales

Costs Plan

To Aberdeen Exhibitio...

From My Location

5 hrs 40 min



Journey: Digitalisation
Objective: Transform Business Operations
“The End in Mind”

Current status

Parameters and conditions

Technology

Timescales

Costs

Plan



Gartner Inc. : Digitalization is the process of employing digital technologies and information to transform business operations

World Economic Forum Digital Transformation Initiative

In collaboration with Accenture

OIL AND GAS INDUSTRY
EXECUTIVE SUMMARY
JANUARY 2017



Digital asset life cycle management. New digital technologies combined with data-driven insights can transform operations, boosting agility and strategic decision-making, and resulting in new business models.

**DIGITAL TRANSFORMATION IN THE OIL AND GAS
INDUSTRY: A \$1.5 TRILLION OPPORTUNITY**





**Digital Engineering
Manager**



**Technical Director,
Digital Engineering**



Digital Director



**Project Information
Manager**



**Digital Engineering
Director**



**SVP Global Leader, Digital
Asset Management**



**Head of Digital
Transformation**



**Programme Information
Manager**



**Digital Engineering Lead,
Oil & Gas**



**Digital Innovation &
Incubation Director**



Reliability

Inspection

Maintenance Management

Photogrammetry

Procurement

Document Control

Material Management

Design

Laser Scans

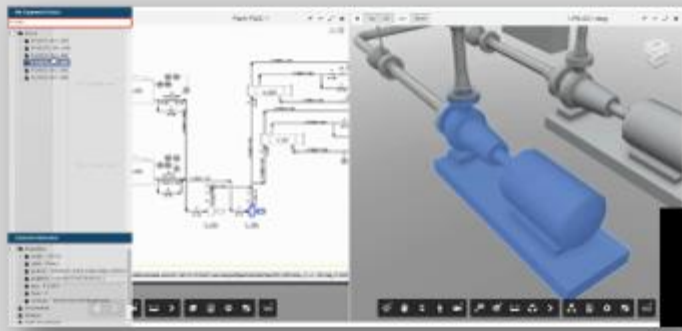
Construction

Commissioning

A photograph of several wooden puzzle pieces scattered on a wooden surface. The pieces are light-colored wood with a natural grain. The background is a darker wood with a similar grain. The puzzle pieces are arranged in a way that suggests they are part of a larger picture, but they are not yet assembled.

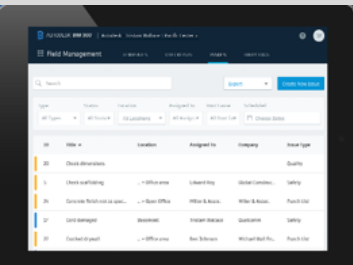
At present, the traditional approach of selectively adopting a set of technologies and implementing digitalization unsystematically might not be suitable; the industry could instead benefit more by pursuing a revolutionary agenda with digital as a backbone.

World Economic Forum Digital Transformation Initiative



Attribute Name	Value	Units
JOHN ASSURANCE - TAG 5		
ASSET	MCC	
CLASS NAME	PUMP	
TAG NUMBER	MCC-10-P-001	
SYSTEM	10	
LOCATION	8001	
TAG STATUS	ACTIVE	
PARENT TAG NUMBER	MCC-10-P-001	
DESCRIPTION	Tag description - MCC-10-P-001	
JOHN DMS - TAG 43		
TAG CRITICALITY VALUE	HIGH	
HAZARDOUS AREA GAS GROUP	Not Ex. Rated	
HAZARDOUS AREA GAS GROUP MINIMUM REQUIRED	Not Ex. Rated	
FLAME PROTECTION	IP 65	
SAFETY CRITICAL ITEM	YES	
JOHN DMS - TAG 43		
VOICE REQUIREMENT	NR0176	
OPERATING MODE	CONTINUOUS	
OPERATING PRESSURE (MIN)	20	bar
OPERATING PRESSURE DISCHARGE	12	bar
OPERATING PRESSURE SUCTION	15	bar
PAINT/COATING CLASS - EXTERNAL	FRP-EPDM	
PAINT/COATING CLASS - INTERNAL/LINED	FRP-EPDM	
POWER CONSUMPTION	30	kW
TEST PRESSURE	110	bar
BACK PRESSURE (CONSTANT)	20	bar
BACK PRESSURE (VARIABLE)	15	bar
DESIGN CODE	HD 9199	bar
LOWER LIMIT DESIGN PRESSURE	10	bar
DESIGN PRESSURE (NORMAL)	40	bar
DESIGN PRESSURE DISCHARGE	12	bar
DESIGN PRESSURE SUCTION	15	bar
ATEX CATEGORY	3	
CAPACITY (VOLUME)	15	L

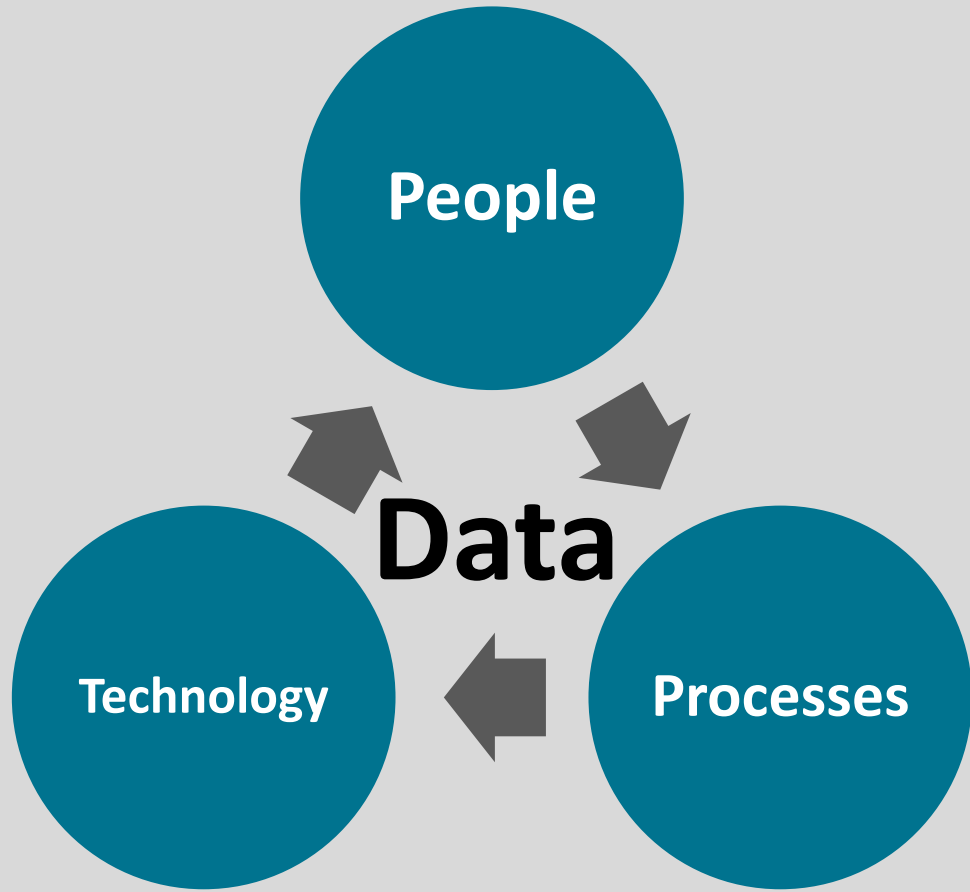
What information is needed and why?



Who/what needs this information and where is it coming from?



How will this information be used, shared and managed?



Connecting and connected

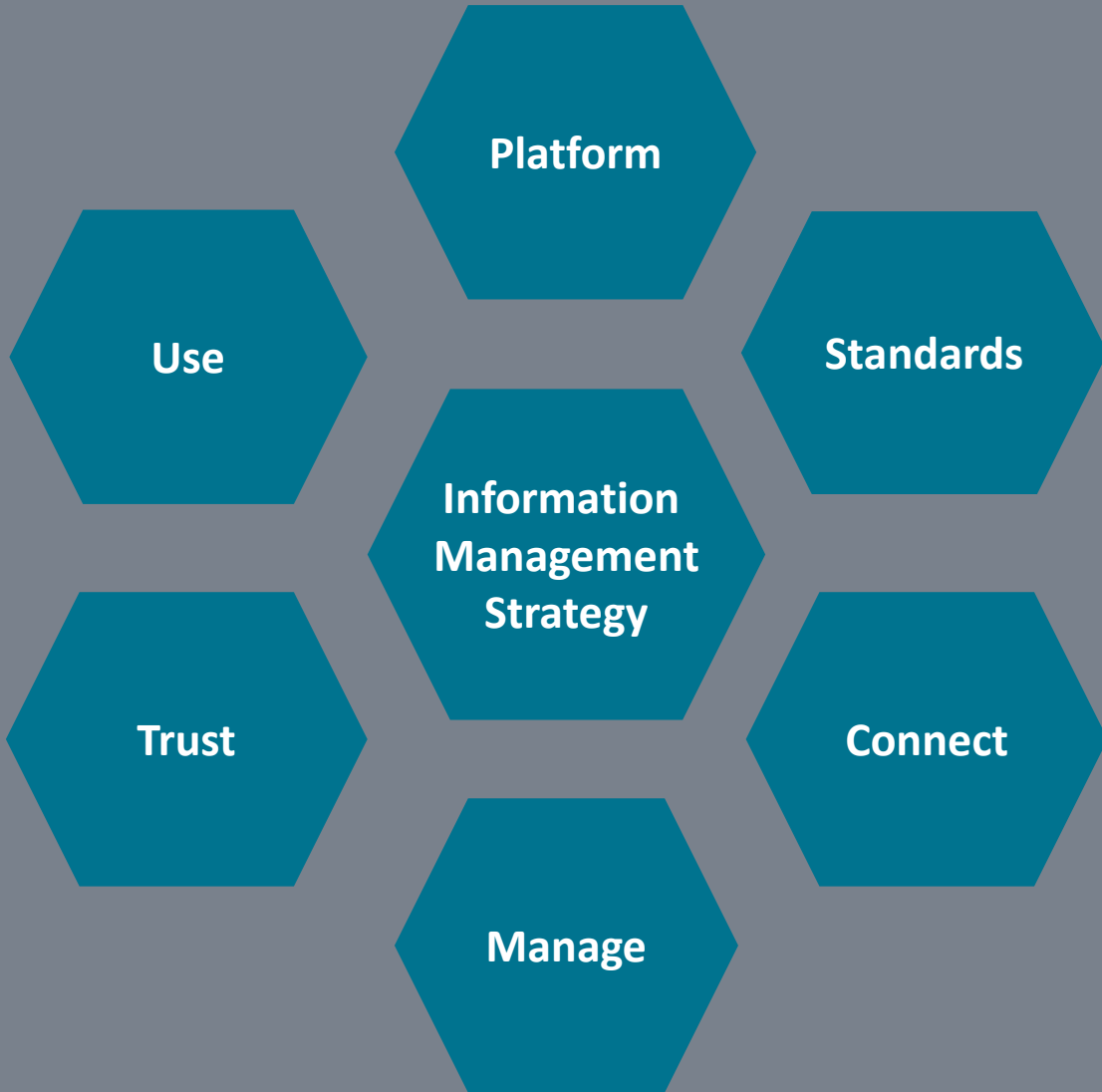
Trust Distribute

Collaborate Access

Share Coordinate Create

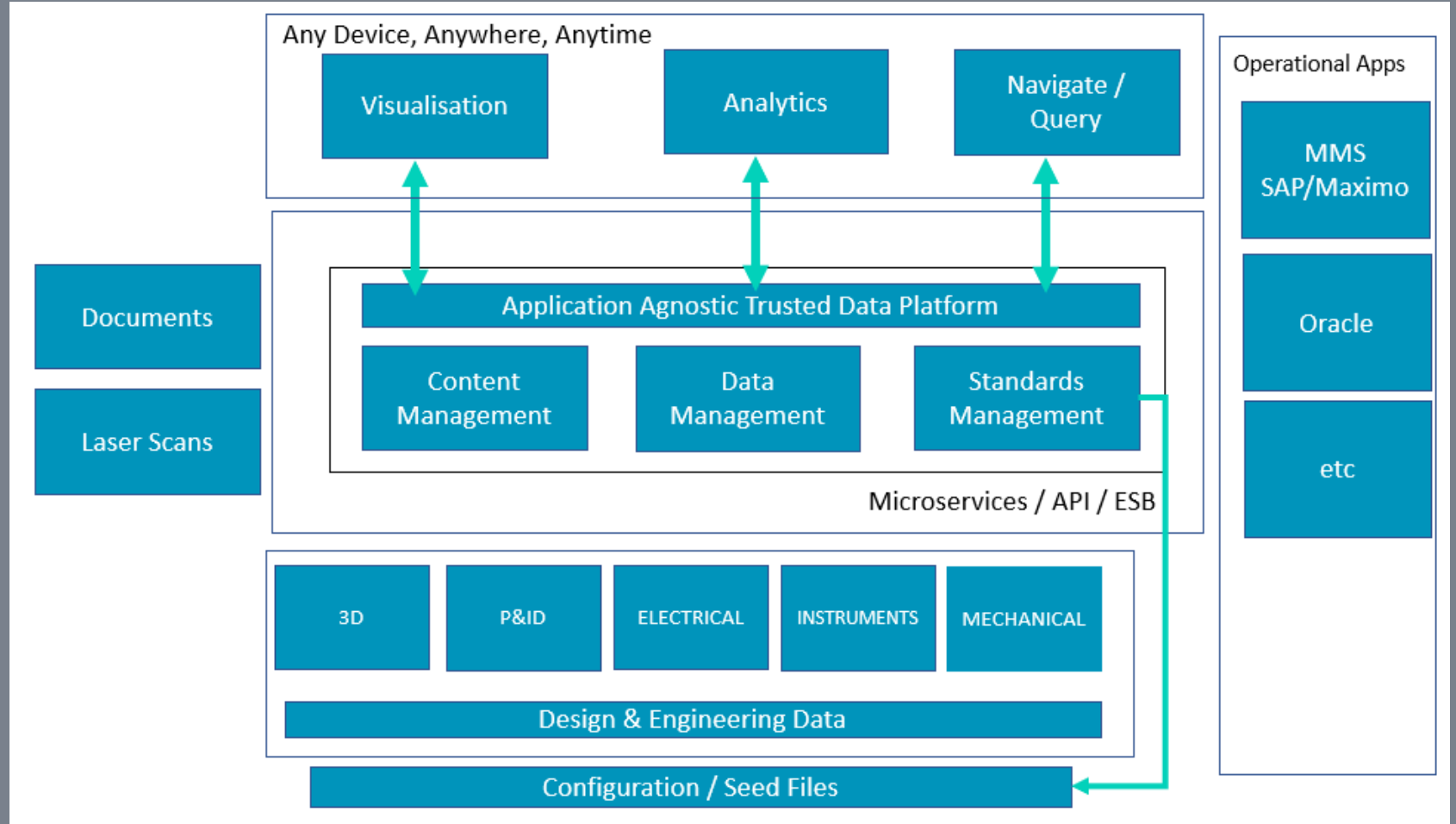
Communicate Visualise

Manage

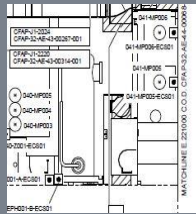


Information Management

Platform

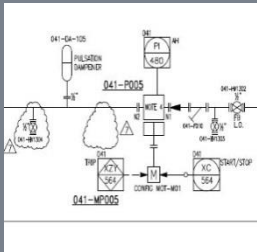


Standards

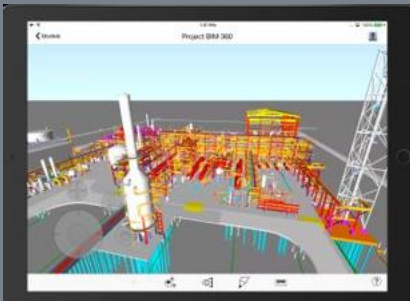


Tag formats, classes, structure

Data – relevant and specific to the type of tag/equipment



Design and Supplier documents and drawings



Class library
 Tag specification
 Handover specification
 Supplier templates
 Redline and markup

.....
 e.g. CFIHOS

Attribute Name	Value	UoM
Core Attributes - Total 8		
ASSET	MCC	
CLASS NAME	PUMP	
TAG NUMBER	MCC-10-P-501	
SYSTEM	10	
LOCATION	S901	
TAG STATUS	ACTIVE	
PARENT TAG NUMBER	MCC-10-T-501	
DESCRIPTION	Tag description - MCC-10-P-501	
(Critical Data) - Total 5		
TAG CRITICALITY VALUE	HIGH	
HAZARDOUS AREA GAS GROUP	Not Ex Rated	
HAZARDOUS AREA GAS GROUP MINIMUM REQUIRED	Not Ex Rated	
INGRESS PROTECTION	IP 66	
SAFETY CRITICAL ITEM	YES	
(Design Data) - Total 43		
NACE REQUIREMENT	MR0175	
OPERATING MODE	CONTINUOUS	
OPERATING PRESSURE (MIN)	20	bar
OPERATING PRESSURE DISCHARGE	12	bar
OPERATING PRESSURE SUCTION	15	bar
PAINT/COATING CLASS - EXTERNAL	FRP-EPOXY	
PAINT/COATING CLASS - INTERNAL/LINING	FRP-EPOXY	
POWER CONSUMPTION	30	kW
TEST PRESSURE	110	bar
BACK PRESSURE (CONSTANT)	20	bar
BACK PRESSURE (VARIABLE)	15	bar
DESIGN CODE	ISO 5199	
LOWER LIMIT DESIGN PRESSURE	10	bar
DESIGN PRESSURE (NORMAL)	40	bar
DESIGN PRESSURE DISCHARGE	12	bar
DESIGN PRESSURE SUCTION	15	bar
ATEX CATEGORY	3	
CAPACITY (VOLUME)	15	L

Manage

Platform

Use

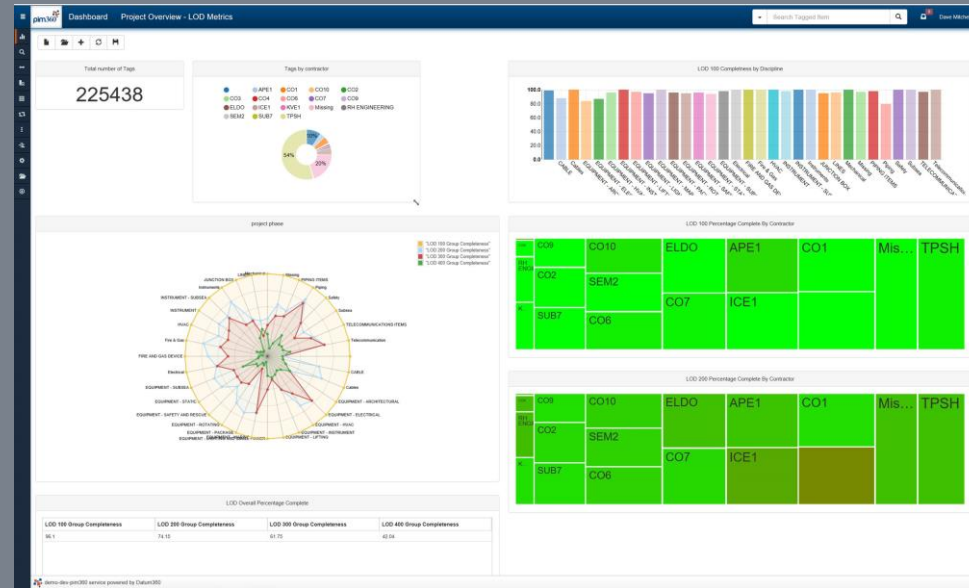
Standards

Information Management Strategy

Trust

Connect

Manage



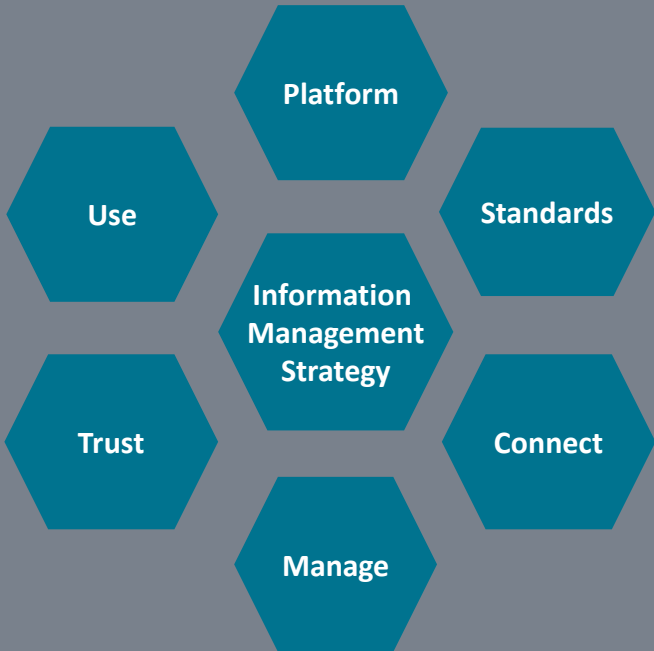
Visible to everyone
Planned and actual
Reporting and tracking

What changed and when?

Where did it come from?

Manage change:

- Original design intent
- Technical Queries
- Non-conformance, deviations
- Workpack management and redline mark-up



What do we have?

What are we expecting?

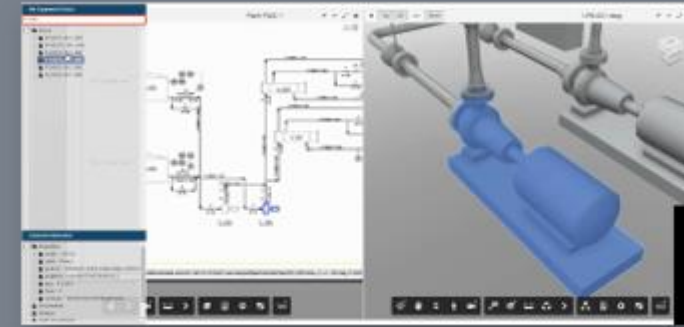
CLASSIFICATION	SERVICE DESCRIPTION	SERIAL NUMBER	ATEX CATEGORY	HAZARDOUS AREA EQU	HAZARDOUS EQUIPME	HAZARDOUS AREA EQU	IP RATING
MOTOR	Lean MEG Product Pump Motor B	1308656002	II 2G	Ex na	IIB	T3	IP66
MOTOR	EMERGENCY STOP FOR 041-MP005-	1308657003	II 2G	Ex na	IIB	T3	IP66
MOTOR	EMERGENCY STOP FOR 041-MP006-	1308657001	II 2G	Ex na	IIB	T3	IP66
MOTOR	Lean MEG Cooler Motor A	1310483001	II 2G	Ex d	IIB	T3	IP66
MOTOR	Lean MEG Cooler Motor B	1310479001	II 2G	Ex d	IIB	T3	IP66
MOTOR	MEG Reflux Condenser Motor A	1310488001	II 2G	Ex d	IIB	T3	IP66
MOTOR	MEG Reflux Condenser Motor B	1310498001	II 2G	Ex d	IIB	T3	IP66
MOTOR	Pedestal Diesel Transfer Pump Motor A	3GF13166857 /858	Missing	Ex de	IIB	T4	IP56
MOTOR	Pedestal Diesel Transfer Pump Motor E	3GF13166857 /858	Missing	Ex de	IIB	T4	IP56
MOTOR	TREATED DIESEL BOOSTER PUMP I	2354401	II 3G	Ex na	IIC	T3	IP56
ELECTRICAL THERMOSTAT	Heat Tracing Thermostat	105669-13	Missing	Ex e	IIC	T6	IP66
ELECTRICAL THERMOSTAT	Heat Tracing Thermostat	103511-13	Missing	Ex e	IIC	T6	IP66

Where can I find it, check it, where did it come from?

What are we missing?

% Completeness
 Consistency
 Alignment with standards

Use



Anytime, any place, anywhere

Attribute Name	Value	Unit
Asset	MCC	
CLASS NAME	PUMP	
TAG NUMBER	MCC-10-P-001	
SYSTEM	10	
LOCATION	0001	
TAG STATUS	ACTIVE	
PARENT TAG NUMBER	MCC-10-T-001	
DESCRIPTION	Tag description - MCC-10-P-001	
CRITICALITY VALUE	HIGH	
HAZARDOUS AREA GAS GROUP	HA Ex Rated	
HAZARDOUS AREA GAS GROUP MINIMUM REQUIRED	HA Ex Rated	
INGRESS PROTECTION	IP 65	
SAFETY CRITICAL ITEM	YES	
HAZARD REQUIREMENT	ARRESTS	
OPERATING MODE	CONTINUOUS	
OPERATING PRESSURE (MIN)	20	bar
OPERATING PRESSURE DISCHARGE	12	bar
OPERATING PRESSURE SUCTION	15	bar
PAINTCOATING CLASS - EXTERNAL	FRP/EPDM	
PAINTCOATING CLASS - INTERNAL/LINING	FRP/EPDM	
SOCKET CONNECTION	30	mm
TEST PRESSURE	110	bar
BACK PRESSURE (CONSTANT)	20	bar
BACK PRESSURE (VARIABLE)	15	bar
DESIGN CODE	ISO 5169	bar
LOWER LIMIT DESIGN PRESSURE	10	bar
DESIGN PRESSURE (NORMAL)	40	bar
DESIGN PRESSURE DISCHARGE	12	bar
DESIGN PRESSURE SUCTION	15	bar
ATEX CATEGORY	2	
CAPACITY (VOLUMIC)	15	L



Any platform, any device, anywhere

Platform

Standards

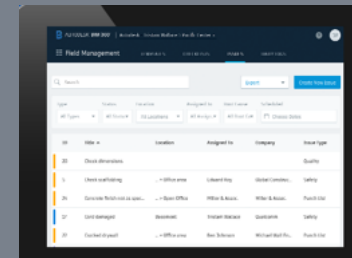
Information Management Strategy

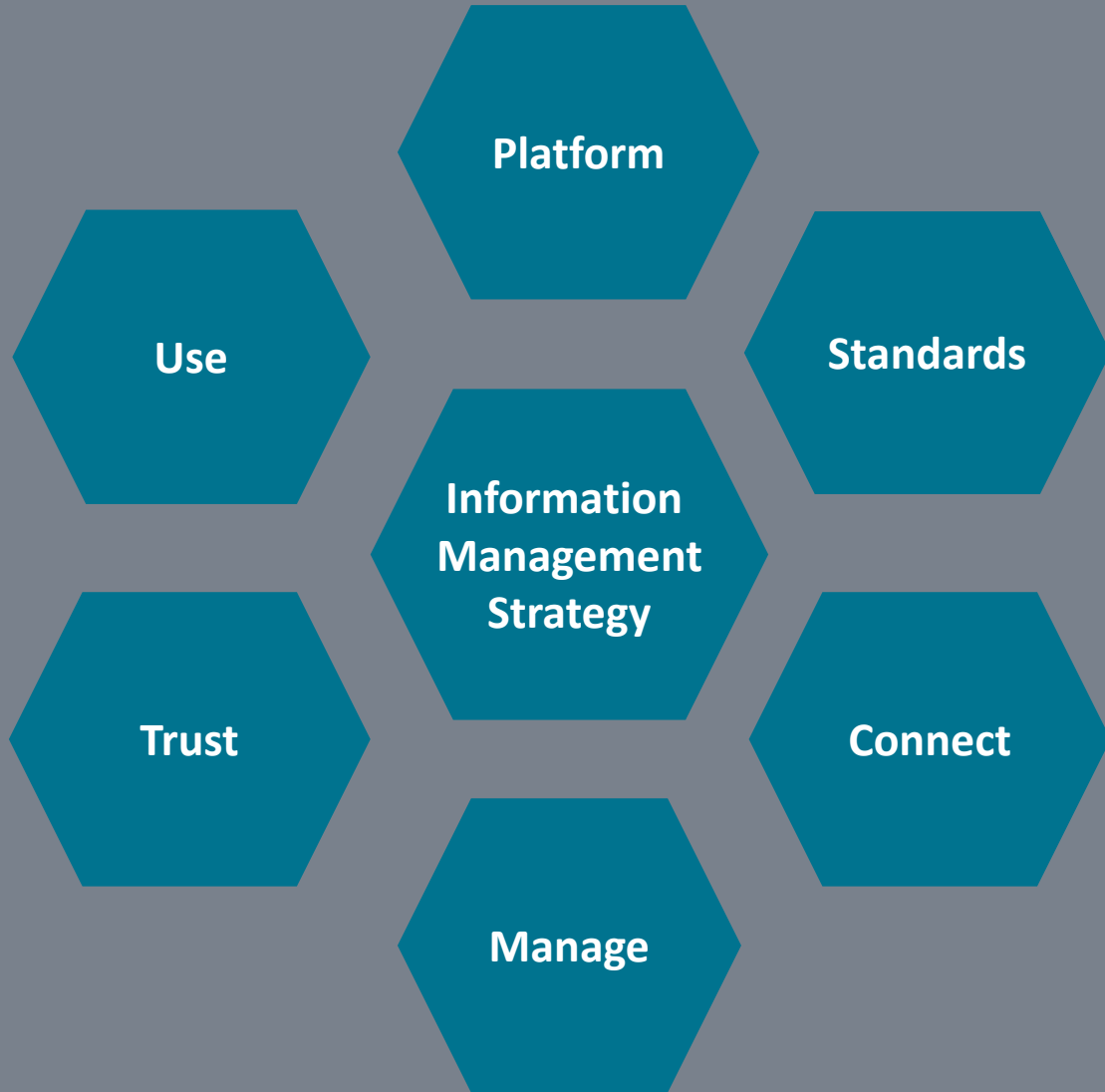
Connect

Use

Trust

Manage





Are we there yet?
**You might be closer than
you think**

Thank you

Dave Mitchell

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Peter Waywell

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