



# Reality Modeling for Manufacturing Industry

Host: Jerard Marsh



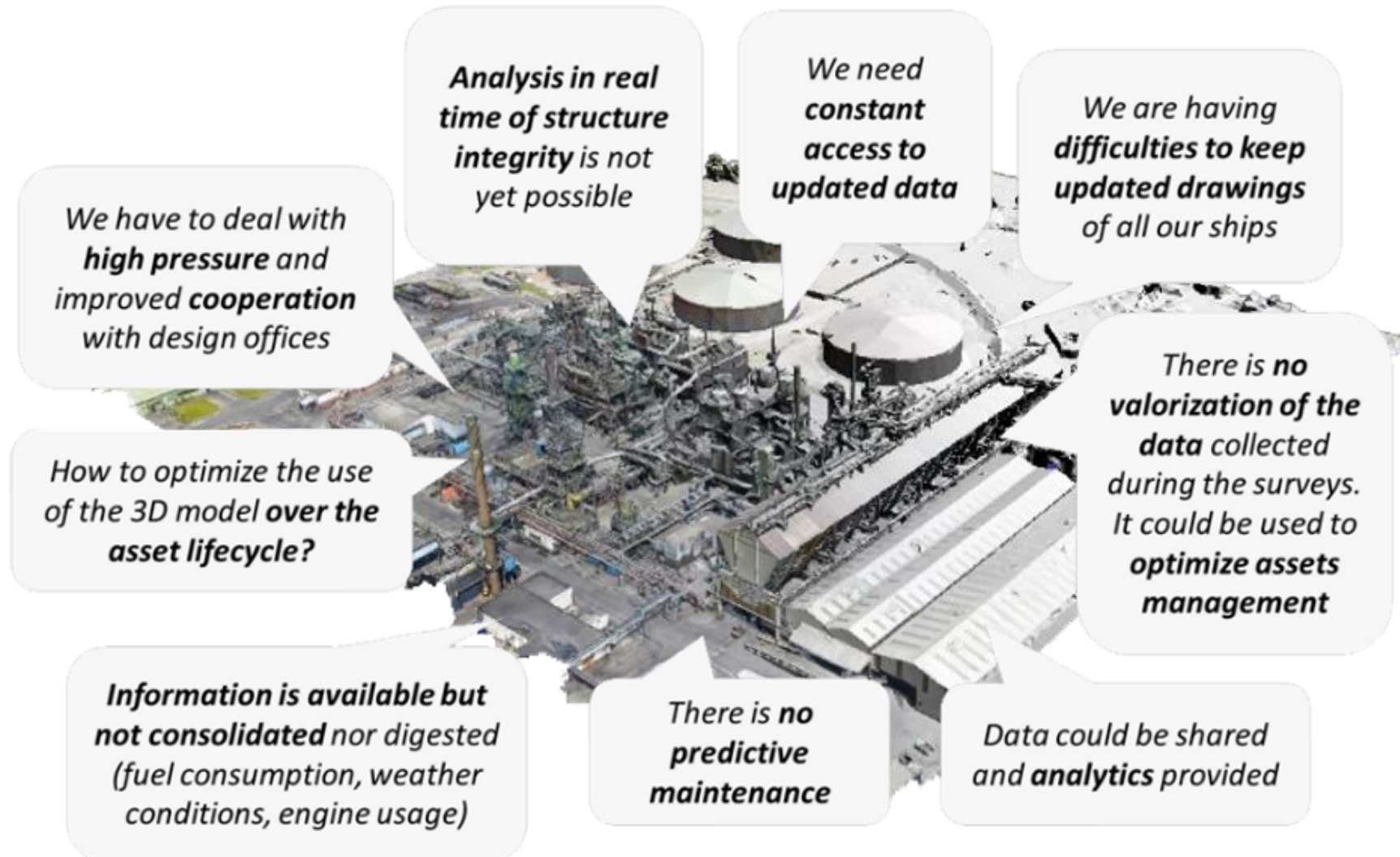
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# Agenda

- Challenges Faced by Manufacturing Industry
- Digital Twin for Asset Management
- Real-World Digital Context for Digital Twins

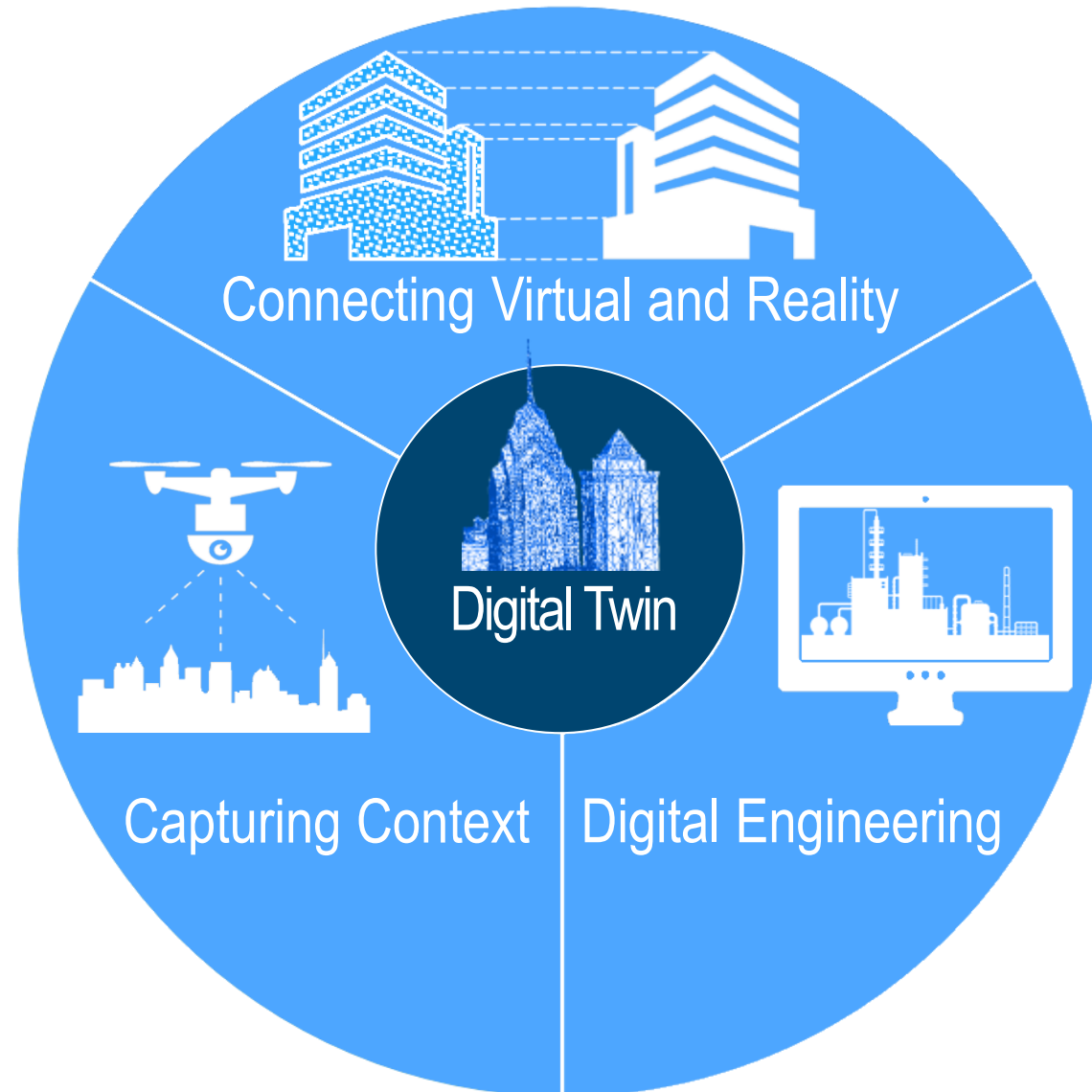
# Challenges Faced by Manufacturing Industry

# Users expectations regarding asset management



# Digital Twin for Asset Management

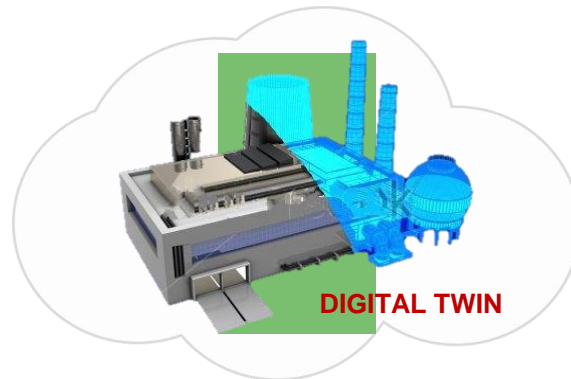
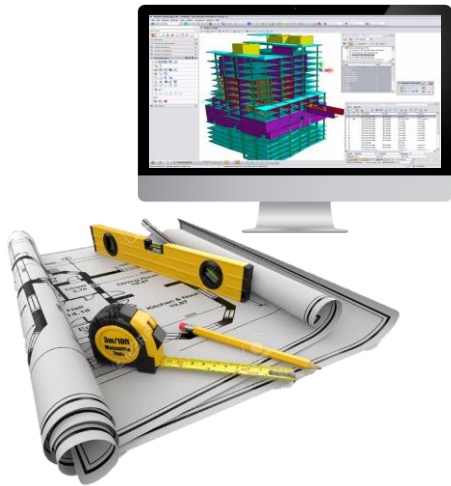
# Physical world and Digital world Converging...to create improved design and operation of assets!





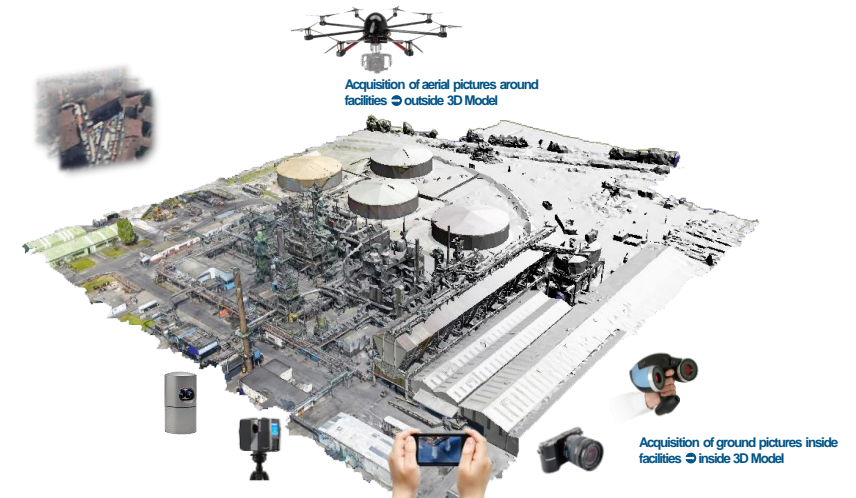
# Three simultaneous game changers are bringing such digital asset management services to a broader set of assets

## 1 The **systematization** of 3D Model usage for the creation of Visual Operations

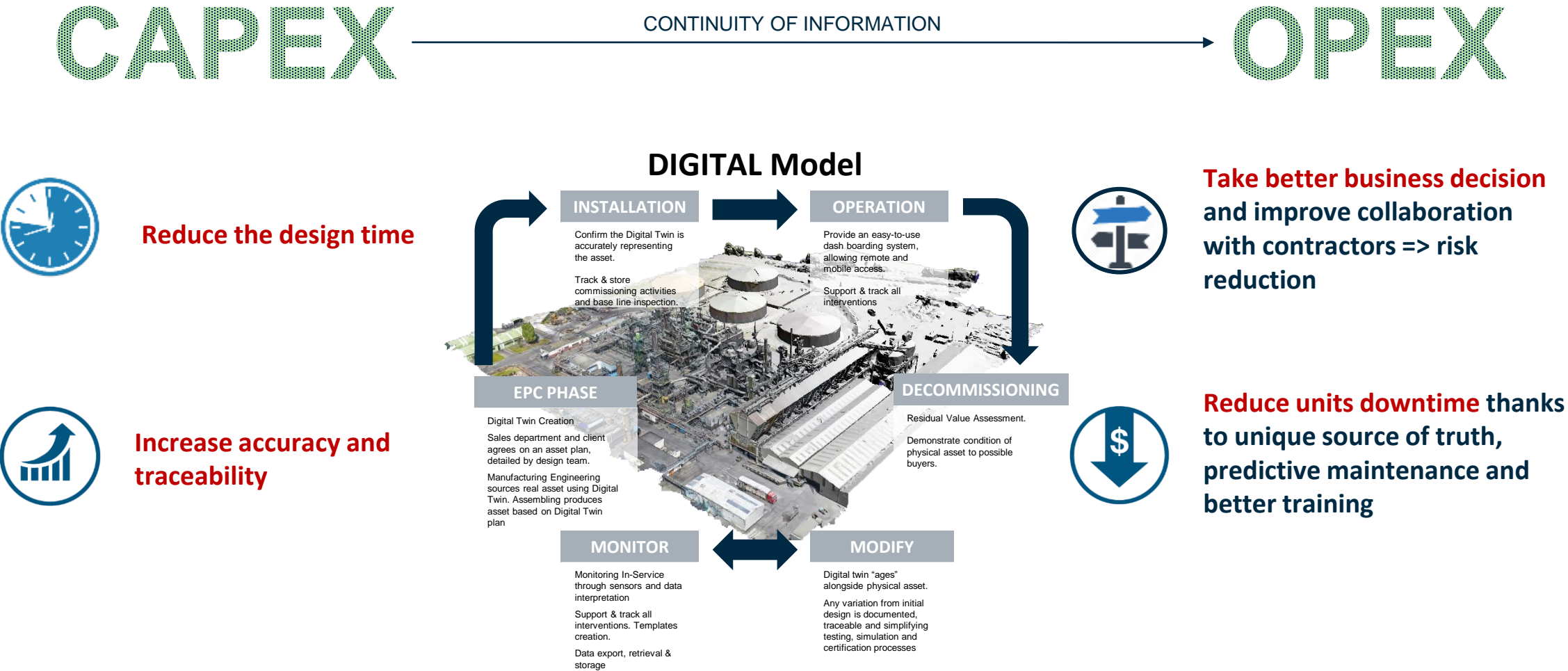


## 2 The **availability** of those 3D Models in the cloud enabling their usage by anybody with any PC/Tablet without implementing complex infrastructure

## 3 The evolution of post modelling technology becoming **affordable, fast** and **reliable** (combination of photogrammetry and laser scan)



# Reality modeling is reinventing asset management by providing a digital twin of the asset from its creation to its operation





# Digital twin: a new way to access/share information of the asset in a readable and contextual way

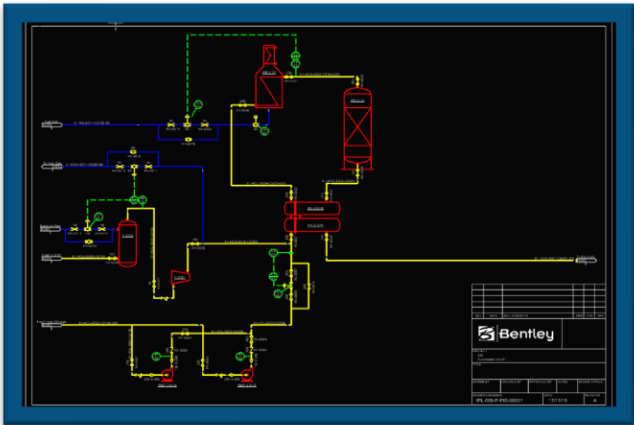
MANIPULATE

FIND EQUIPMENT

ZOOM ON AREA OF INTEREST



EQUIPMENT	
TAG	PP-2102
DESCRIPTION	CENTRIFUGAL PUMP
TAG DATA	
Approved	Not Approved
Change Controlled	N
Class	CENTRIFUGAL PUMP
Engineering Data Link	<a href="http://alim-demo.bentley.com:81/eBWeb/Framework/Object">http://alim-demo.bentley.com:81/eBWeb/Framework/Object</a>
Facility	ALIM FACILITY
Model Name	
Model Number	
Model Org	
Serial Number	
System	HCL
General	
Material	
Attached Material	(None)
Extended	
Raw Data	

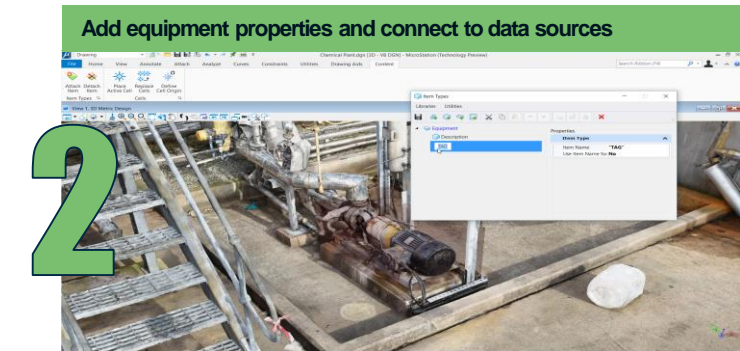
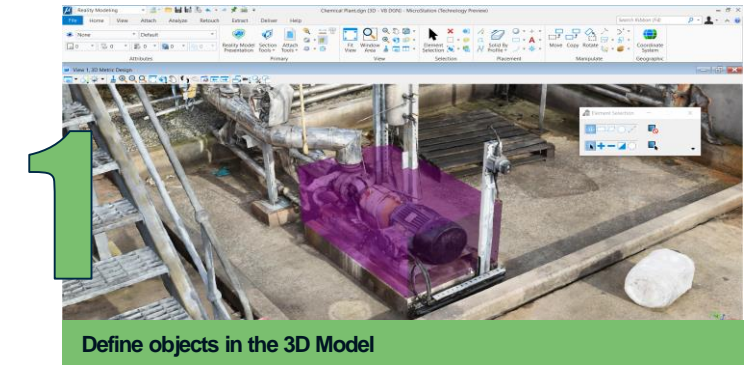
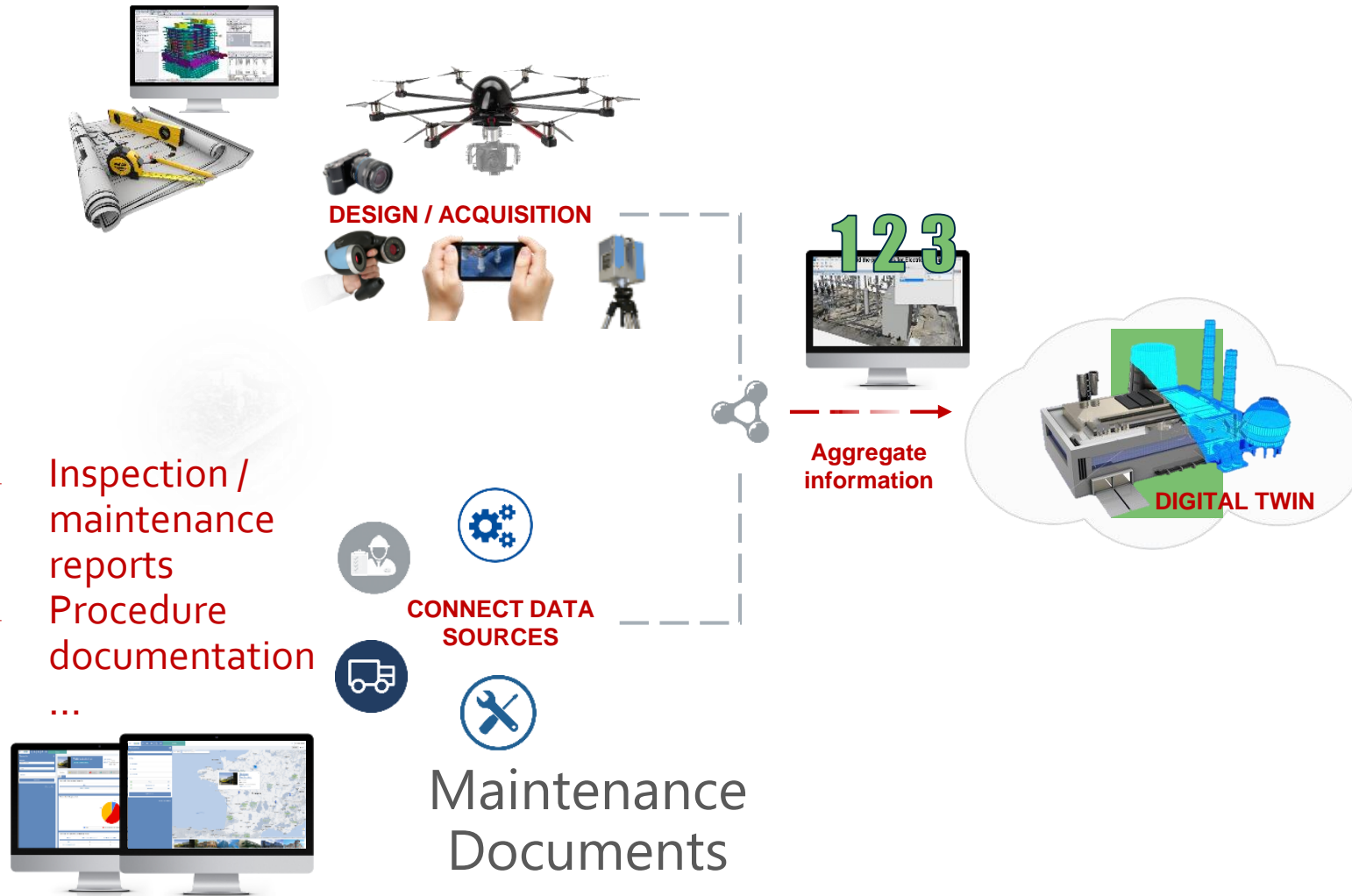


CLICK ON OBJECT

ACCESS KEY DATA

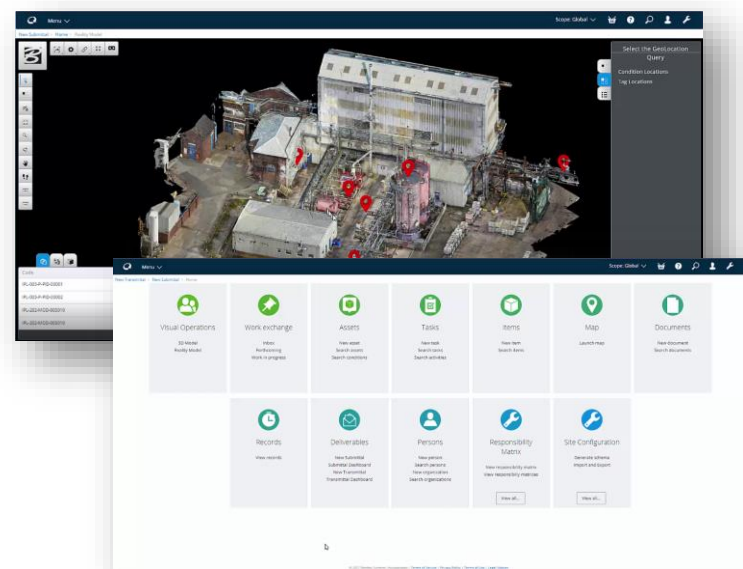
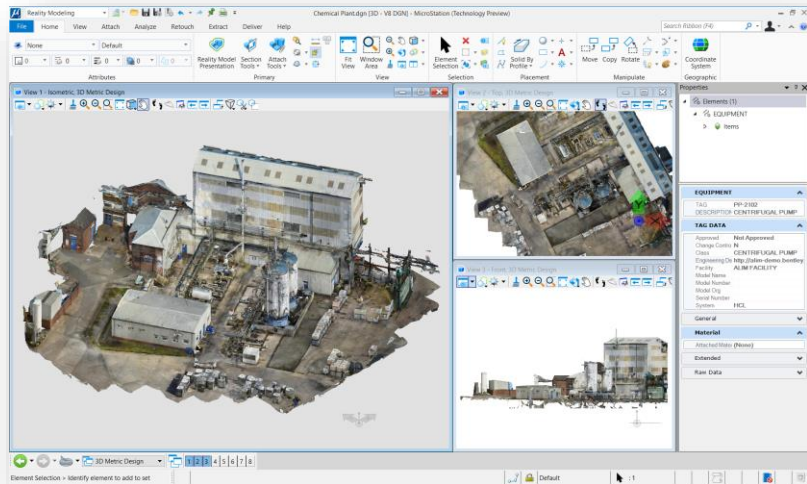
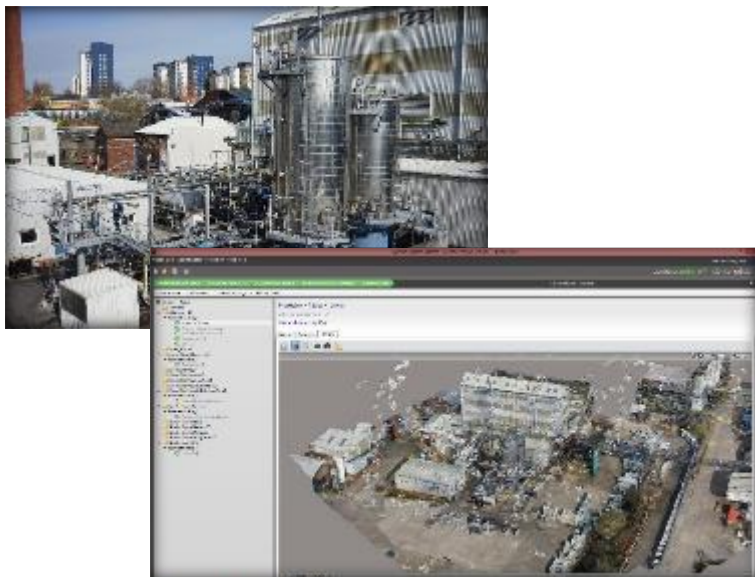
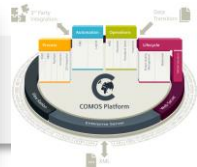
ACCESS DOCUMENTS

# ... but to capture the full benefits of the digital twin approach, we need to connect the dots...





# Digital twin solution



CAPTURE

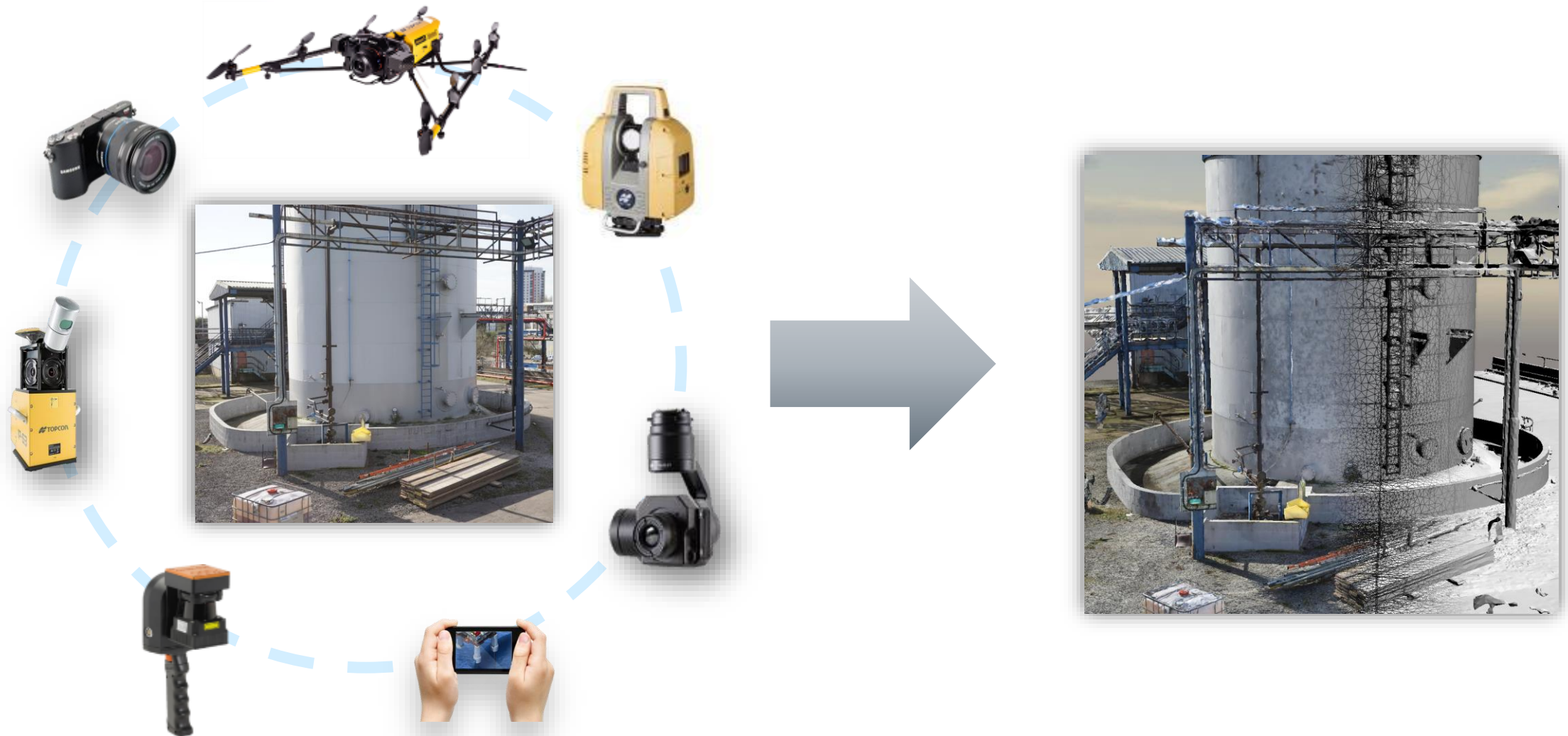
EDIT & ANALYSE

CONNECT

MANAGE & SHARE

# Real-World Digital Context for Digital Twins

# Generate high fidelity 3D reality meshes with ContextCapture

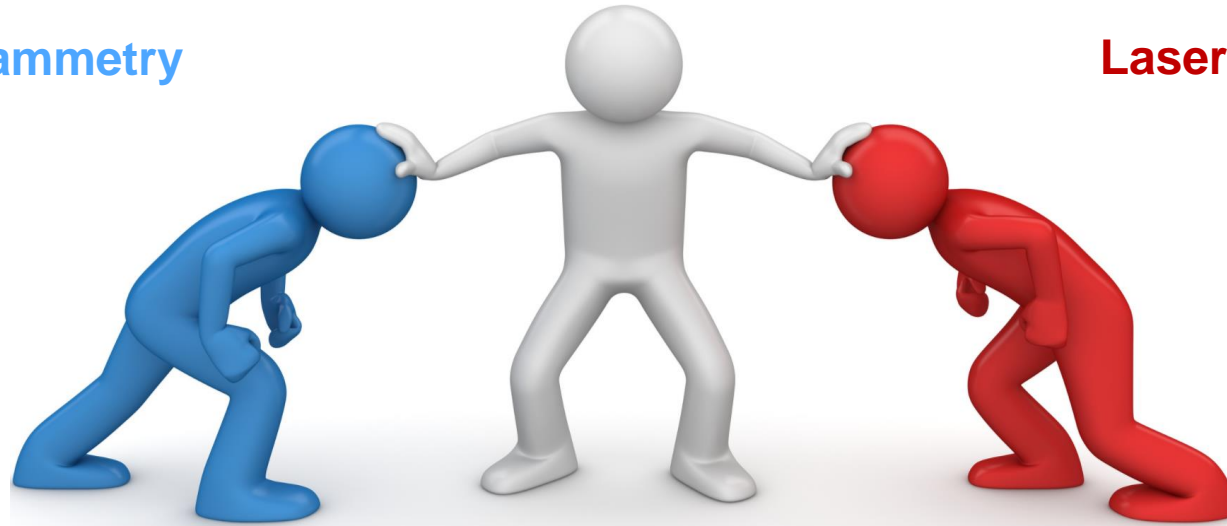




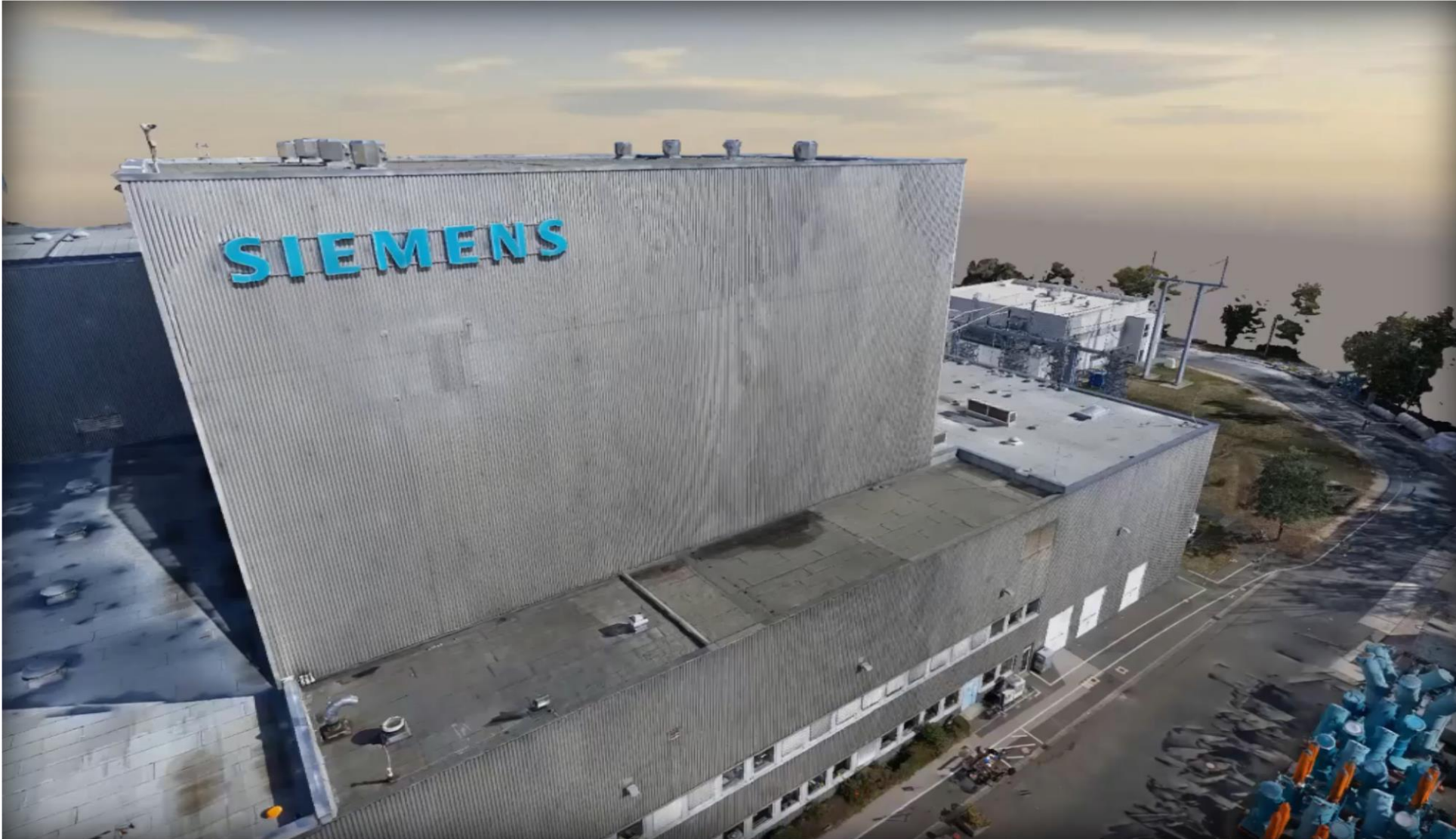
# Hybrid Modelling with ContextCapture

Photogrammetry

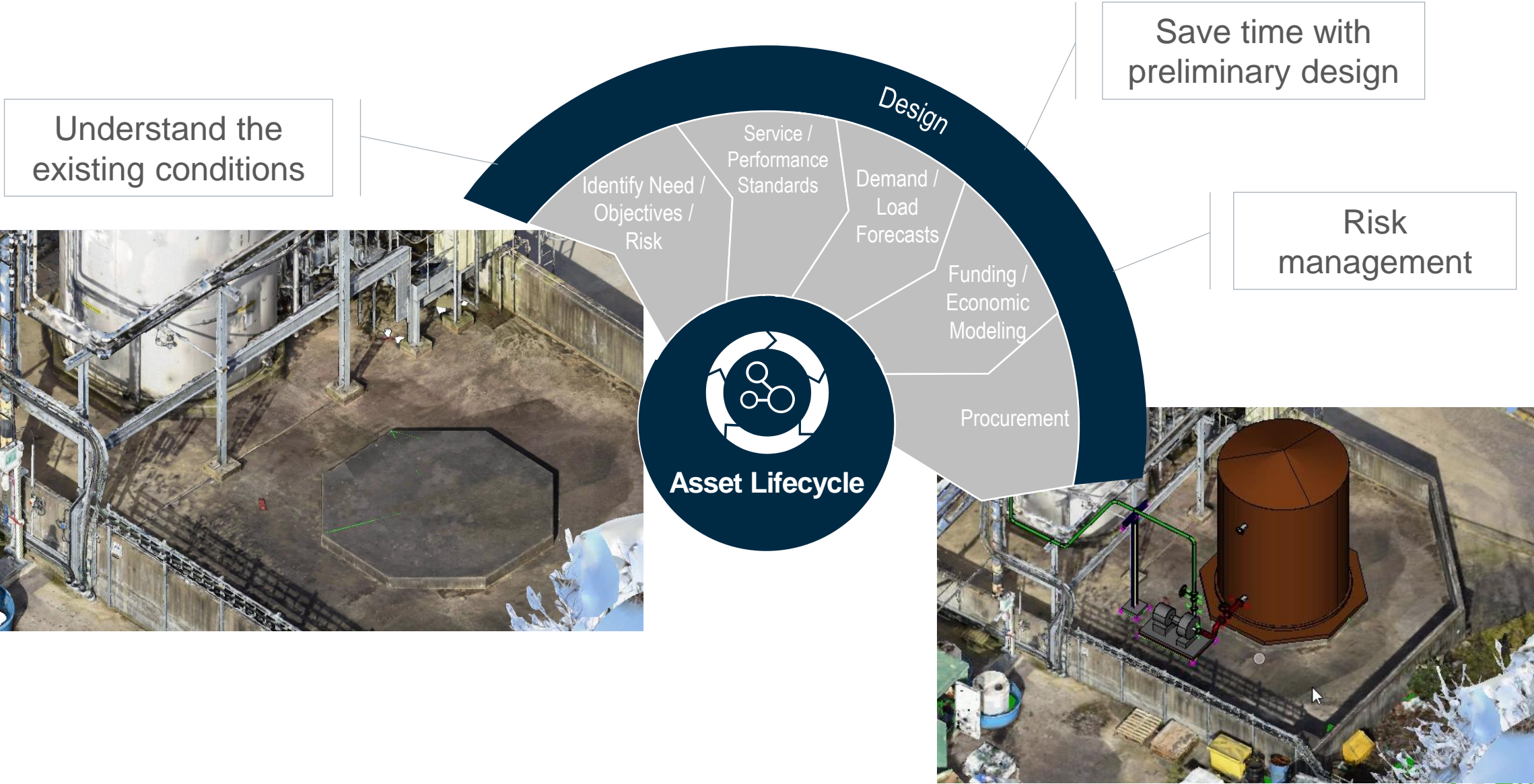
Laser scanning



# 3D reality mesh by Siemens, Topcon and Bentley Systems



# Reality meshes to support design workflows





# ProjectWise

OTC Plant



## Project Details

Location: UK  
Project Country: GB  
Time Zone: GMT Standard Time  
Data Center Location: East US

	ProjectWise Connections	0
	ContextShare Connection	✓
	iModels	⊘
	Shared Files	5
	Open Forms	0
	Open Issues	0

[Edit Project Details](#)

## Team Members

- Abbas Ali Zaidi
- Antoine DeRosa
- Ari Rantasalo
- Jaroslaw Sitek
- Kurt Rasmussen

[Manage Members](#)

## Notifications

- Friday, April 20, 2018, 9:15 PM  
Your file (OTC-EQP-002-UTM.i.dgn) is ready to be viewed in web!
- Friday, April 20, 2018, 9:00 PM  
Your file (OTC-EQP-002-UTM.i.dgn) could not be prepared to be viewed in web.
- Friday, April 20, 2018, 7:43 PM  
Your file (OTC-EQP-002-UTM.i.dgn) is ready to be viewed in web!
- Friday, April 20, 2018, 6:56 PM  
Your file (OTC-EQP-002-UTM.i.dgn) is ready to be viewed in web!
- Friday, April 20, 2018, 6:42 PM  
Your file (OTC-EQP-002.dgn.i.dgn) is ready to be viewed in web!

## ProjectWise Connection Services



Share



Deliverables  
Management



Performance  
Dashboards



Issue Resolution

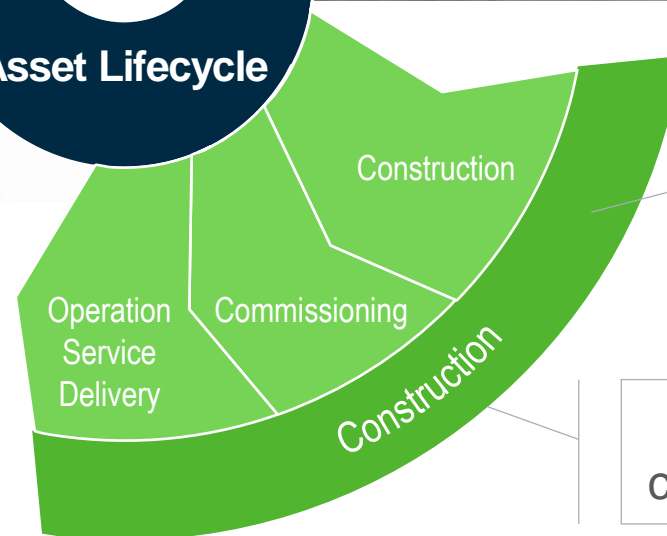
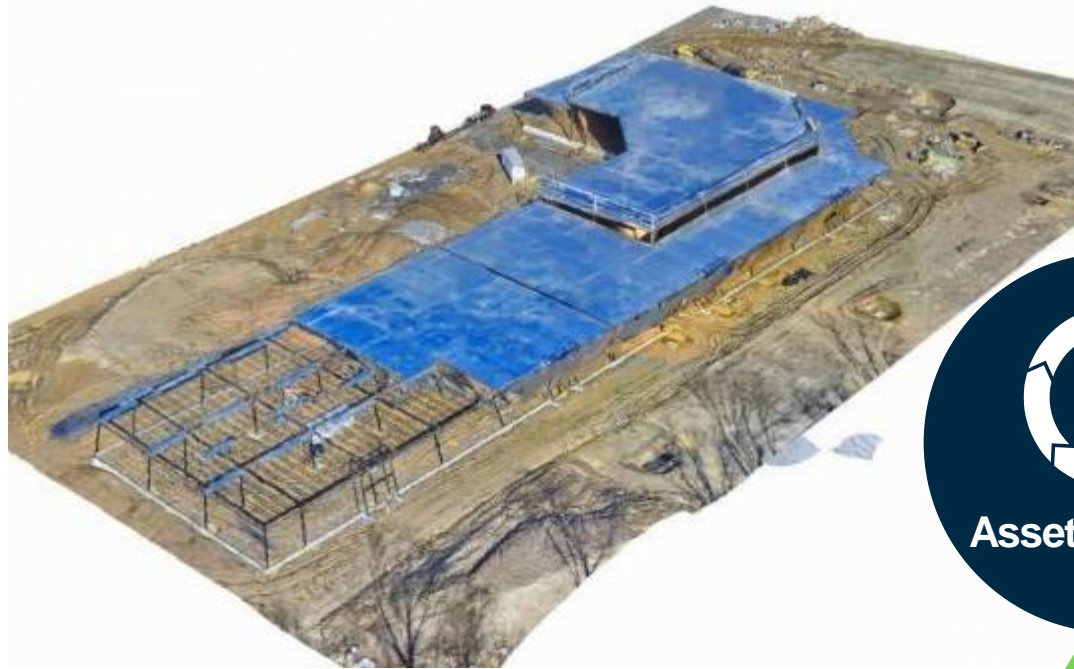


Field Data Management



Components Center

# Why Reality Modeling?



Visualise your site

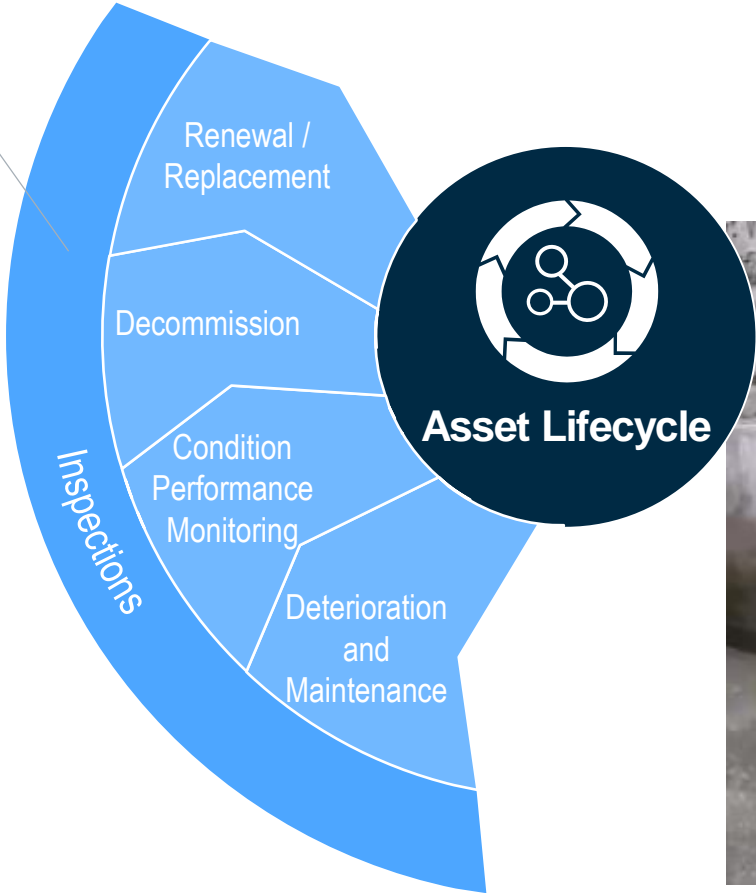
Document  
construction progress





# Reality meshes to support inspection workflows

Reality Modeling  
Enabled Review

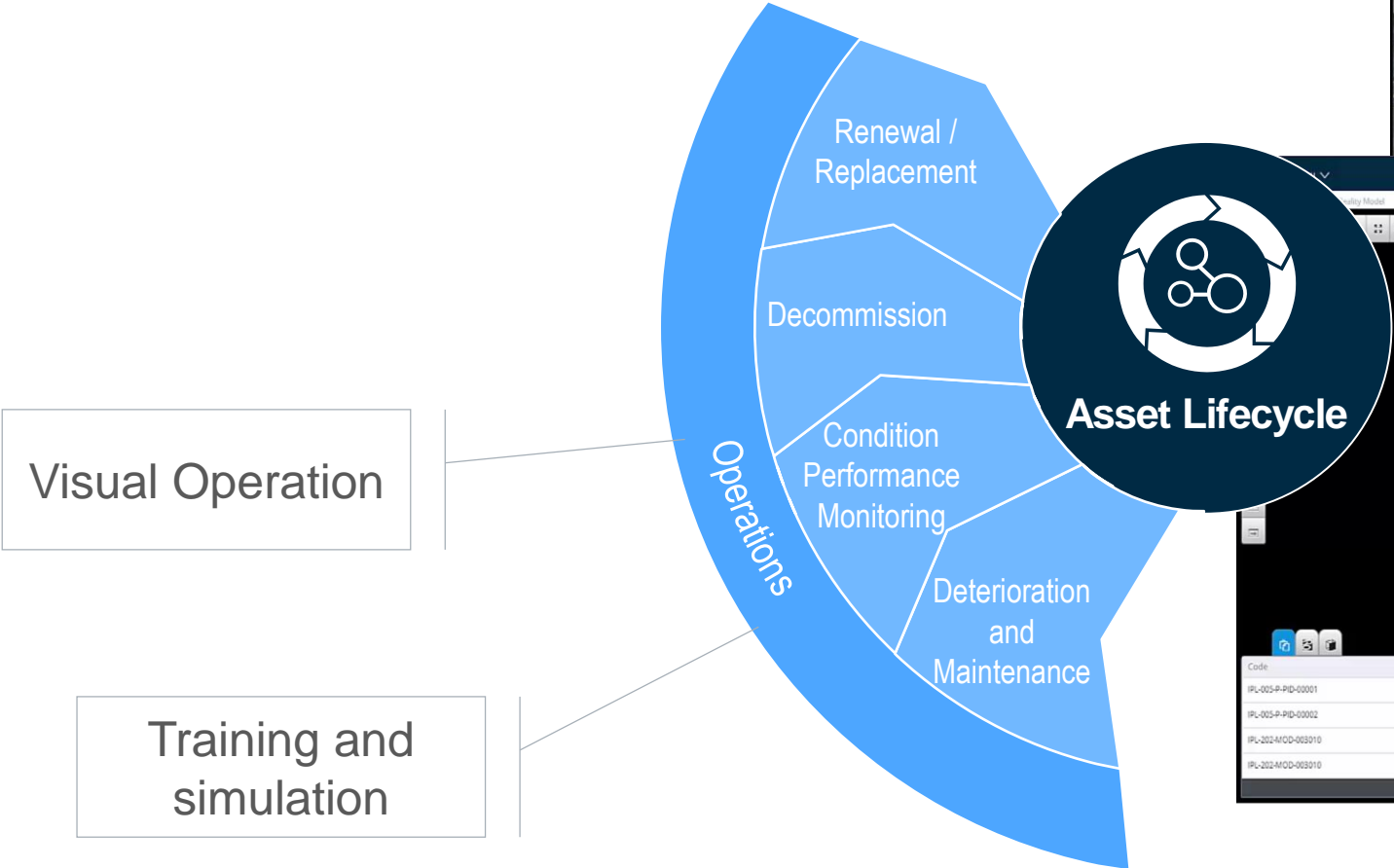


# ContextCapture Mobile





# Reality meshes to support operations workflows



# Automatically detect assets in your reality mesh with AI



## ContextCapture Insights

Automatically detect and locate objects using 3D machine-learning technology

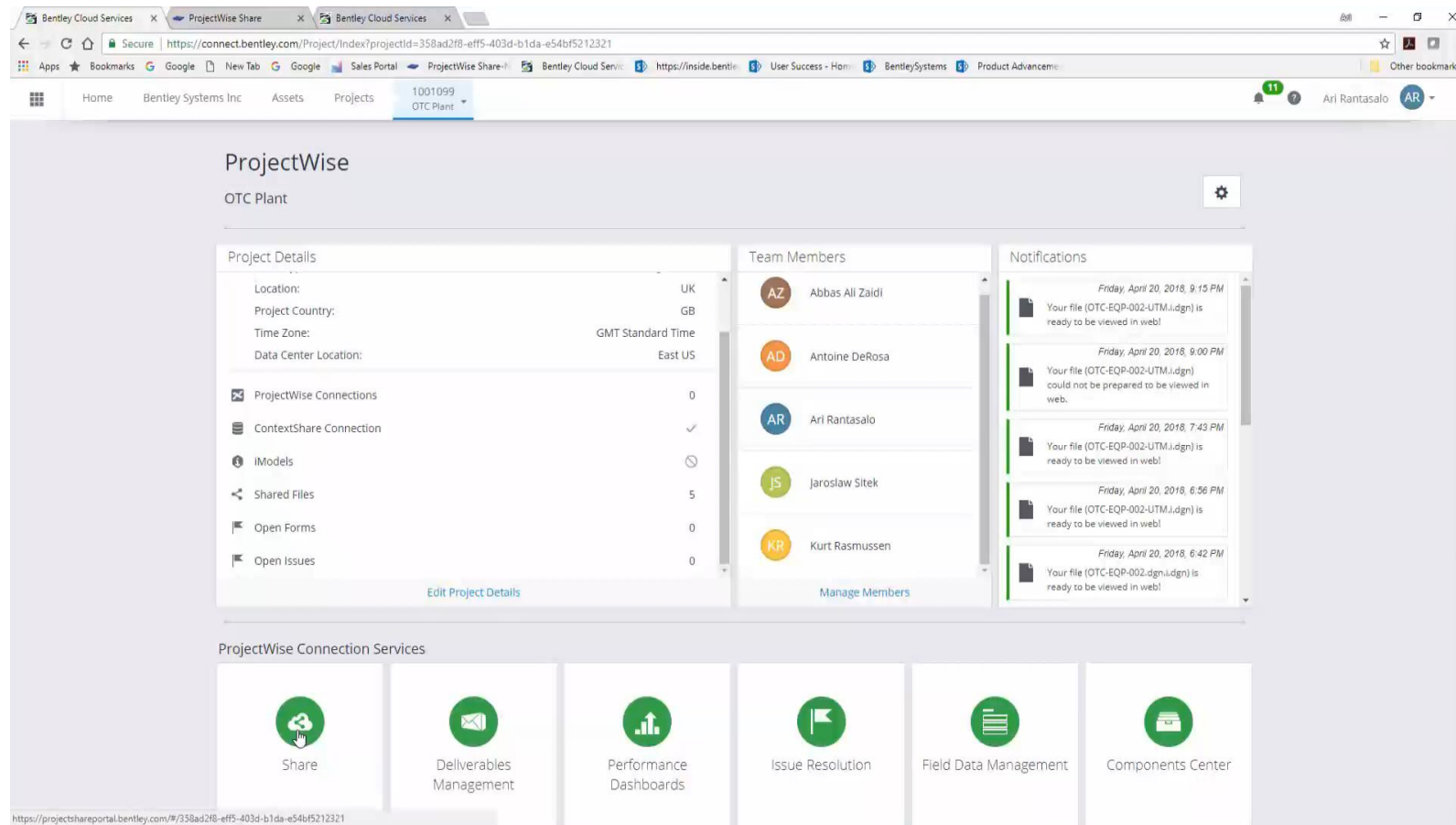


**Bentley**<sup>®</sup>  
Advancing Infrastructure





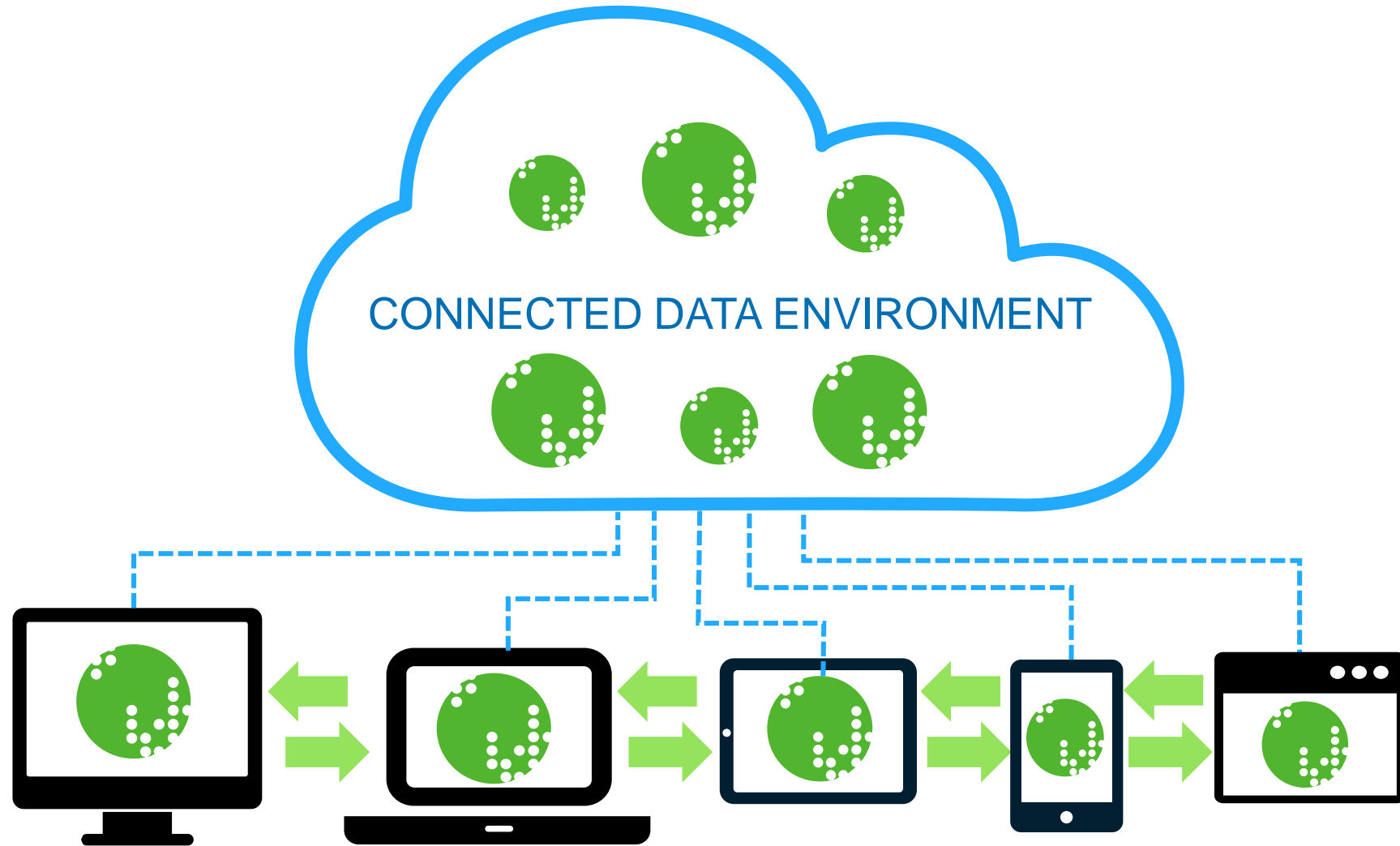
# Easily manage, share and stream your reality data across project teams and applications using ProjectWise ContextShare



# Add value to your reality meshes with reality data web viewer and improve communication and collaboration

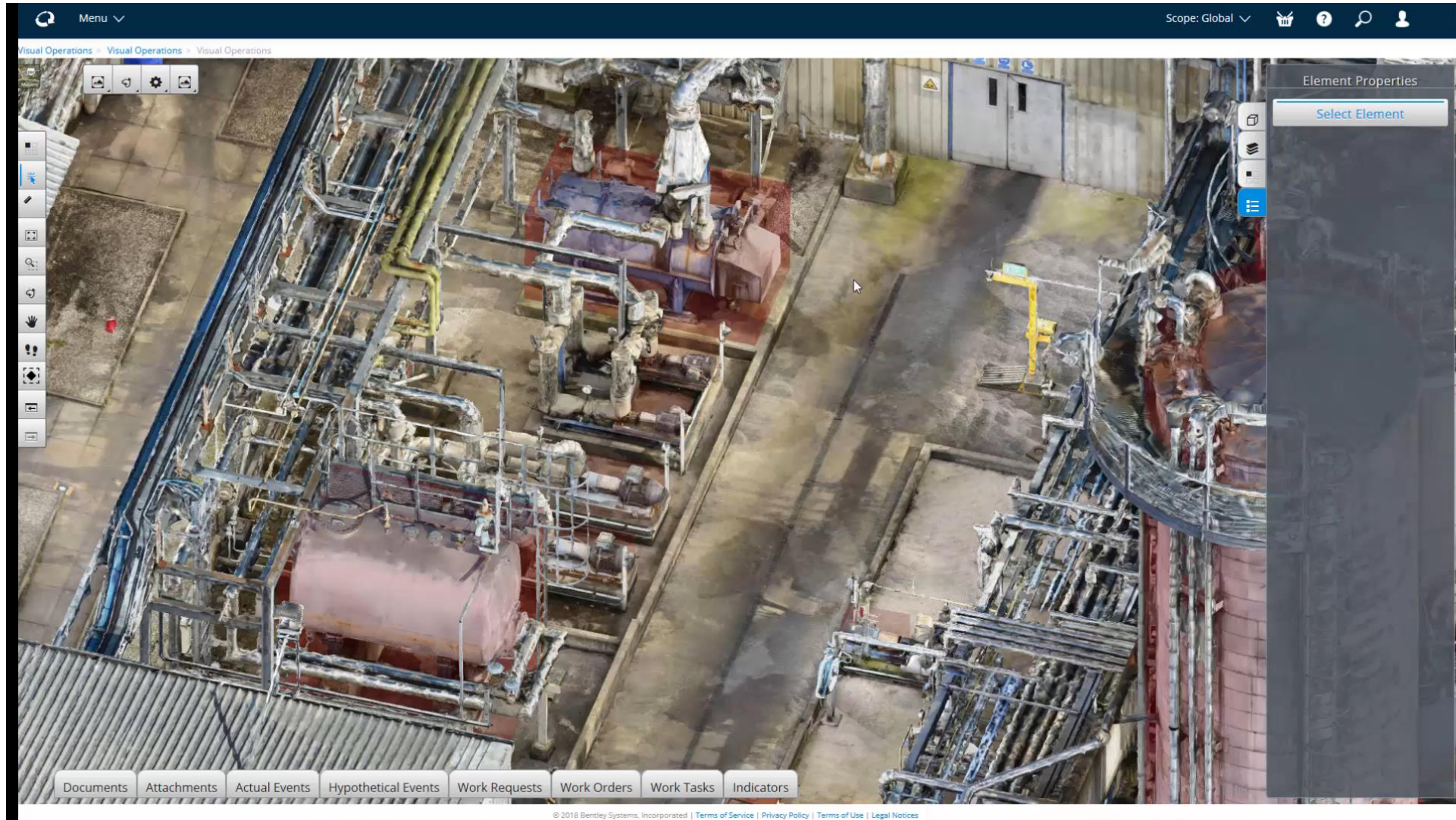


# Make smarter decisions leveraging digital twins in a connected data environment





# Visual Operations - ALIM





# Visual Operations - COMOS





# Questions?