



LEVERAGING INDUSTRY 4.0

Daniel Easter – Digital Engineering Manager





Agrarian Economy



Industrial Economy



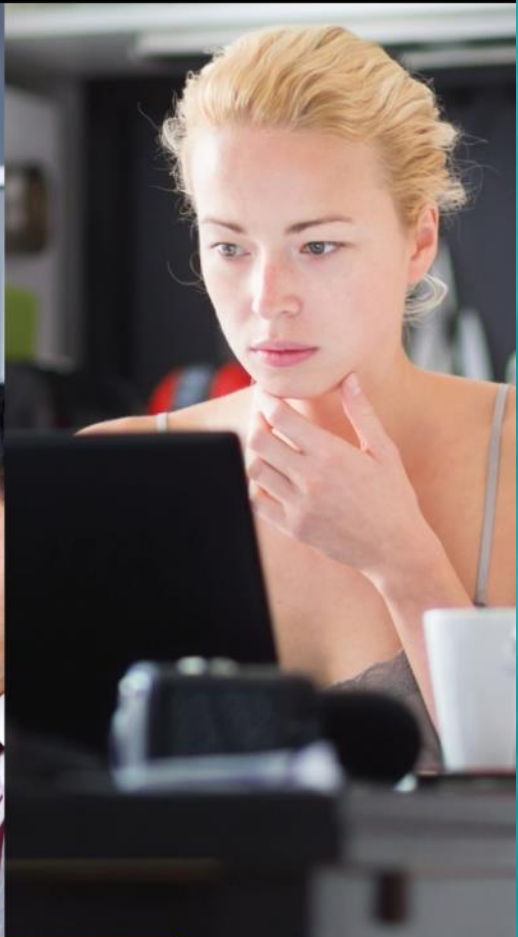
Manufacturing Economy



Information Economy



Service Economy



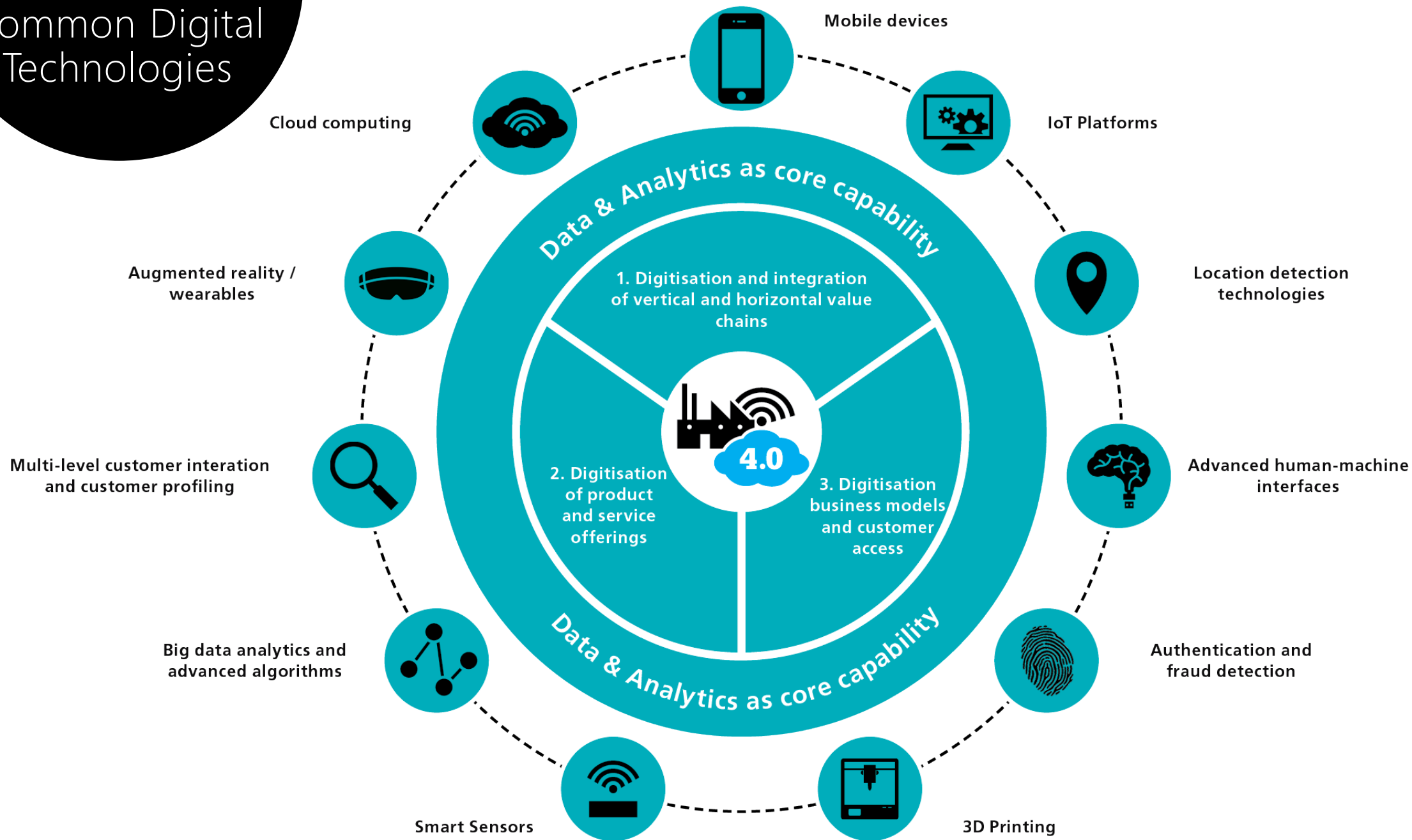
1st

2nd

3rd

4th

Common Digital Technologies



What
Industry
Wants

"Less Downtime"

"Greater
Performance
Transparency"

"Lights Out Facility"

"Lower
Operational
Costs"

"Less People"

"Lower
Logistic
Costs"

"Lower H&S Risk"

"Better Project Performance
(Cost / Schedule)"

"Less Disturbances /
Faster Reaction
times"

"Vertical Start Up"

"More Market Share"

"Shorter Shutdowns"

"Higher
Throughput"

"Lower Stock Levels"

"Faster Business
Decisions"

"Higher Yield"

"Better Stakeholder Engagement"

"Faster Ramp Up
Times"

"Outsource non
value added Assets
& Services"

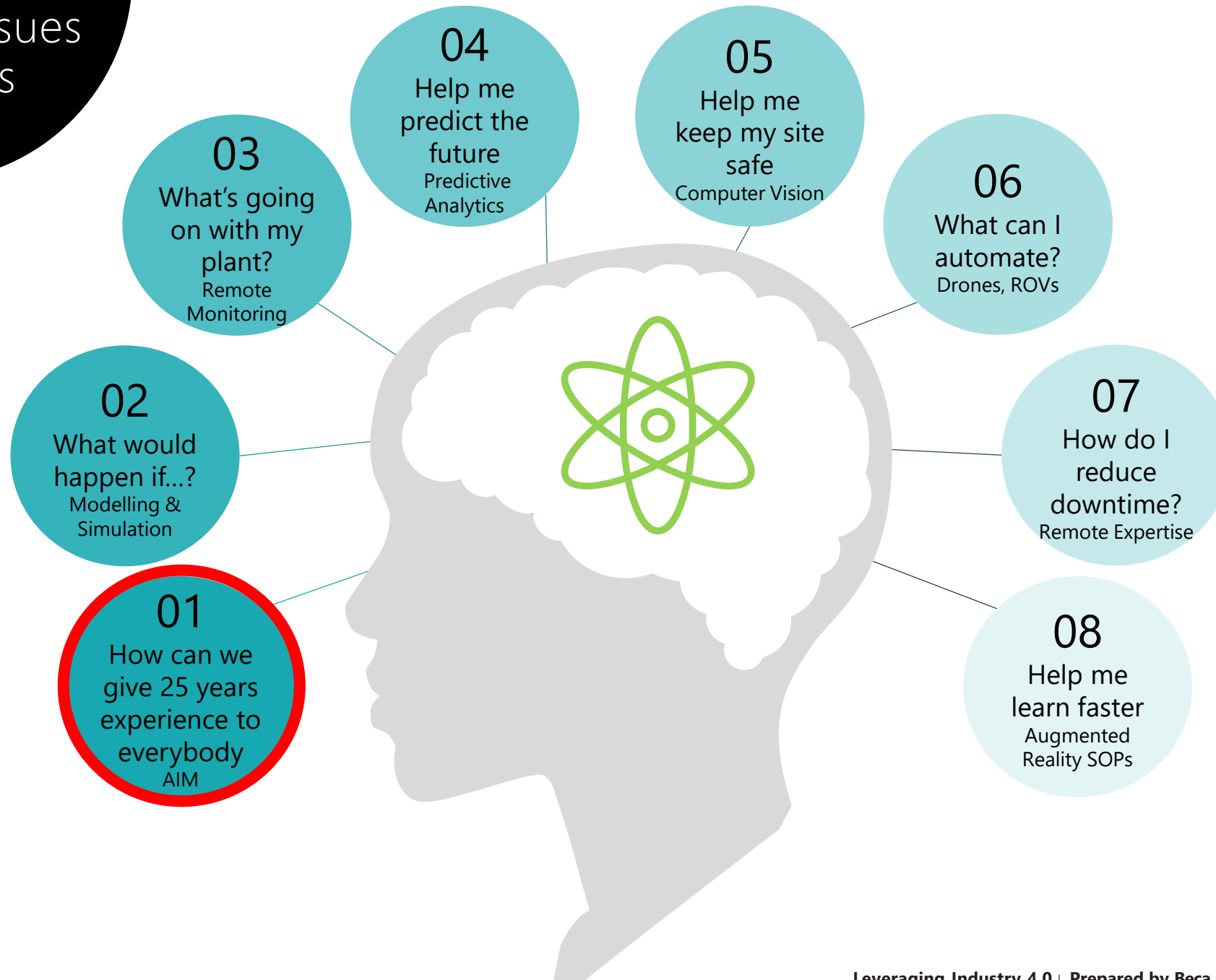
"Less Re-Work"

"Greater
Flexibility"

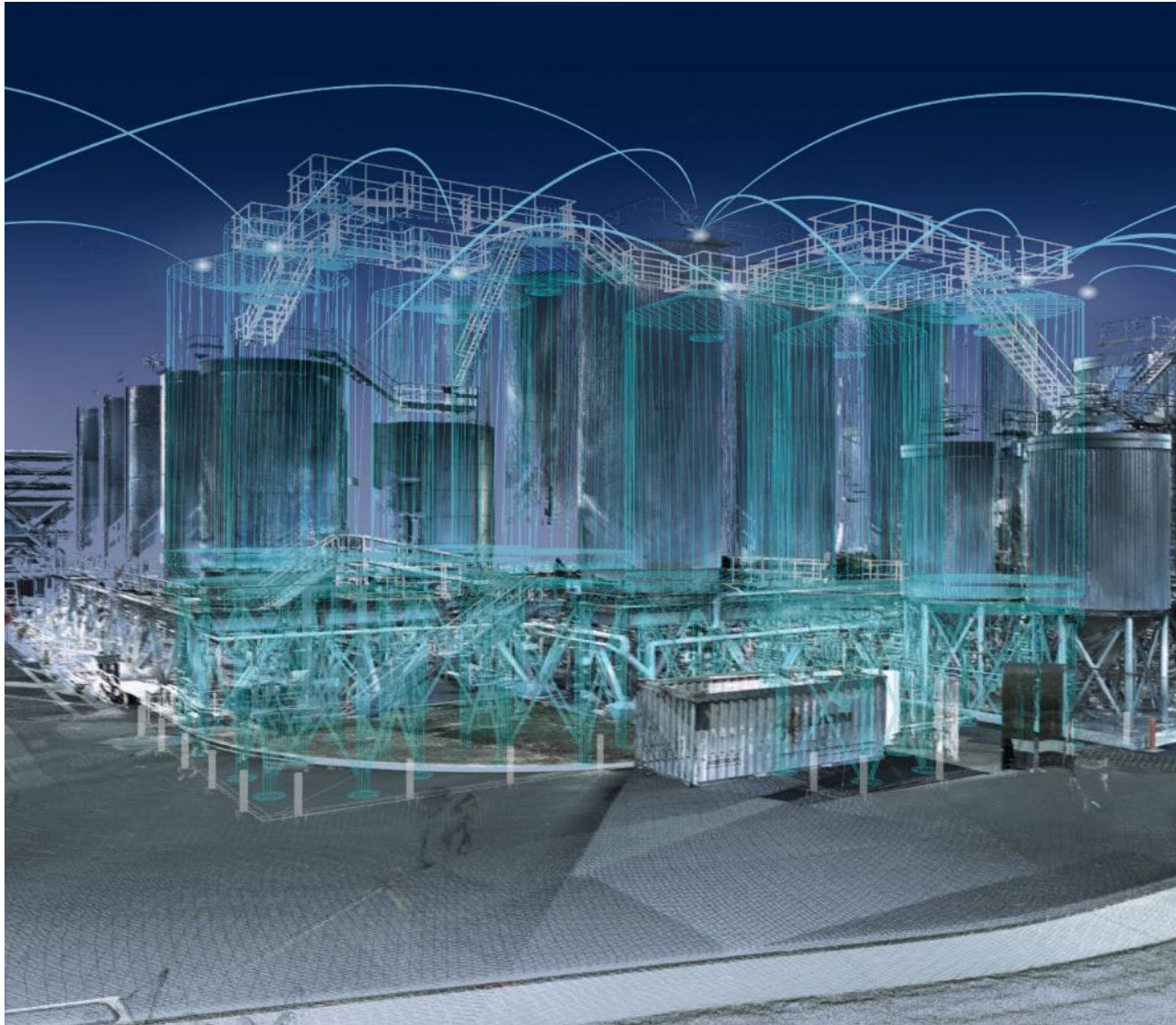
"Reduce Errors & Omissions"

"Retain
Knowledge IP and
information"

Common Issues & Wishes



How can we give 25 years experience to everybody?



Challenge

- Takes over an hour to locate an asset on site
- Asset information in many locations and inaccessible
- No clear link between a physical asset and its information
- Poor culture around technical information
- Information waste . . . Design models . . . Scans . . .

Solution

- Prepare information from Capital Project for inclusion in AIM
- Create a cloud based AIM;
 - Connect / integrate disparate information
 - Utilise 'best in breed' and existing enterprise cloud services
 - Create a scalable, user friendly interface

Benefits

- Improved Plant OEE and Availability
- Quicker recovery from disturbances / Lower Maintenance Costs
- Search and find assets and associated information within one minute
- Asset information integrated and accessible to anyone, anywhere
- Utilise available / existing 3D information resources
- Based on existing enterprise systems . . . Low cost.



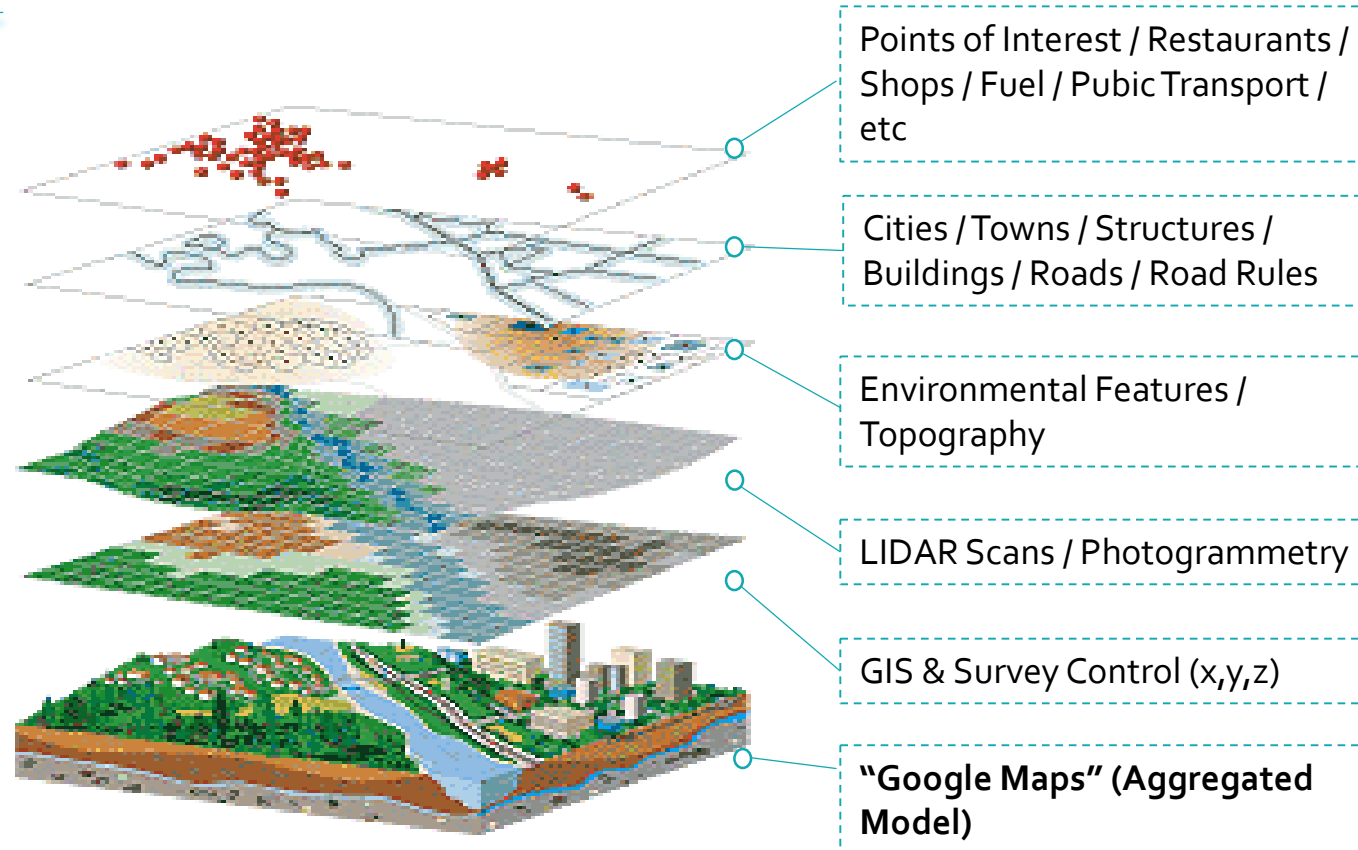
Created Value



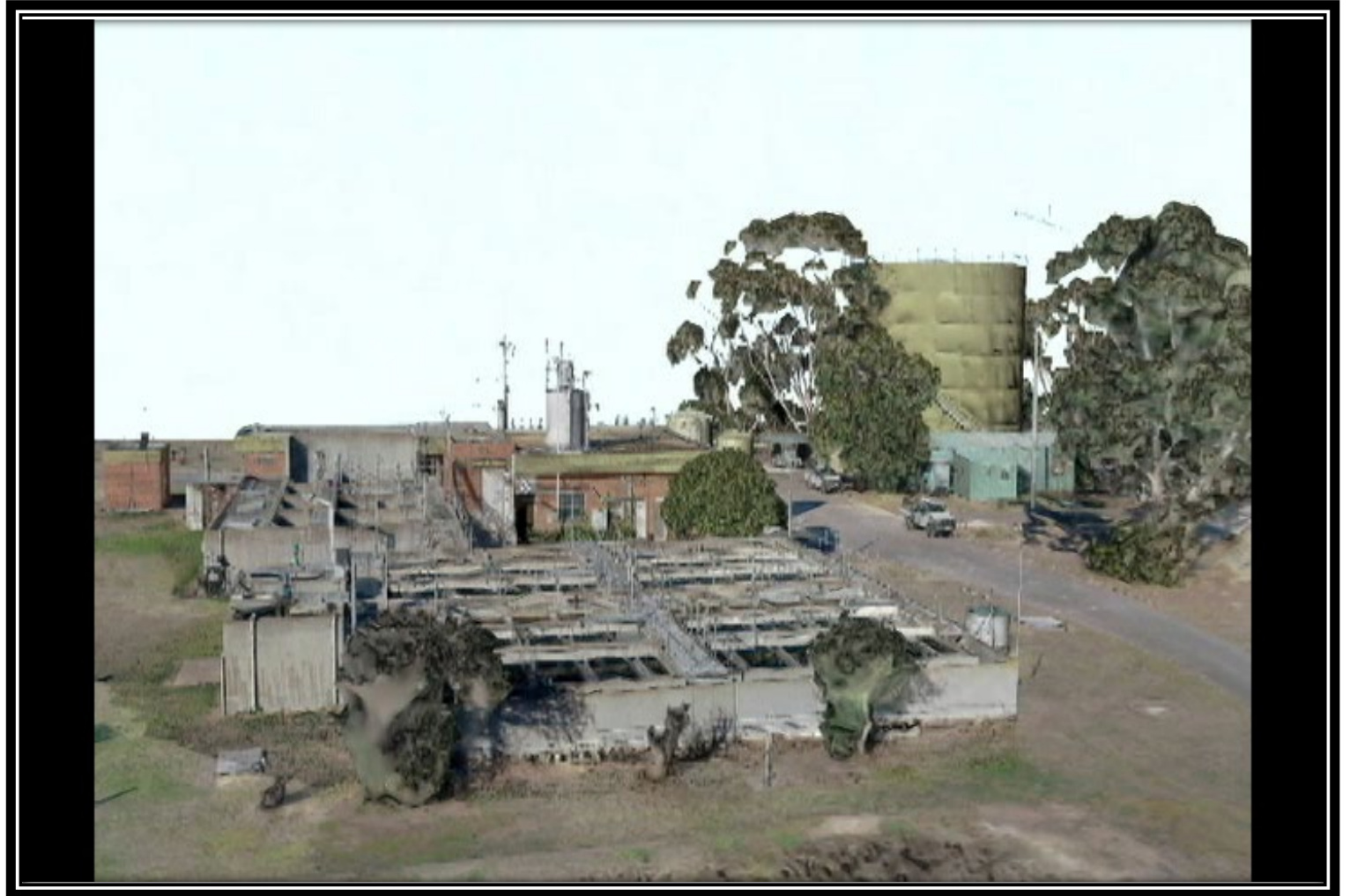
Access Methods



Applications



Other Data Sets



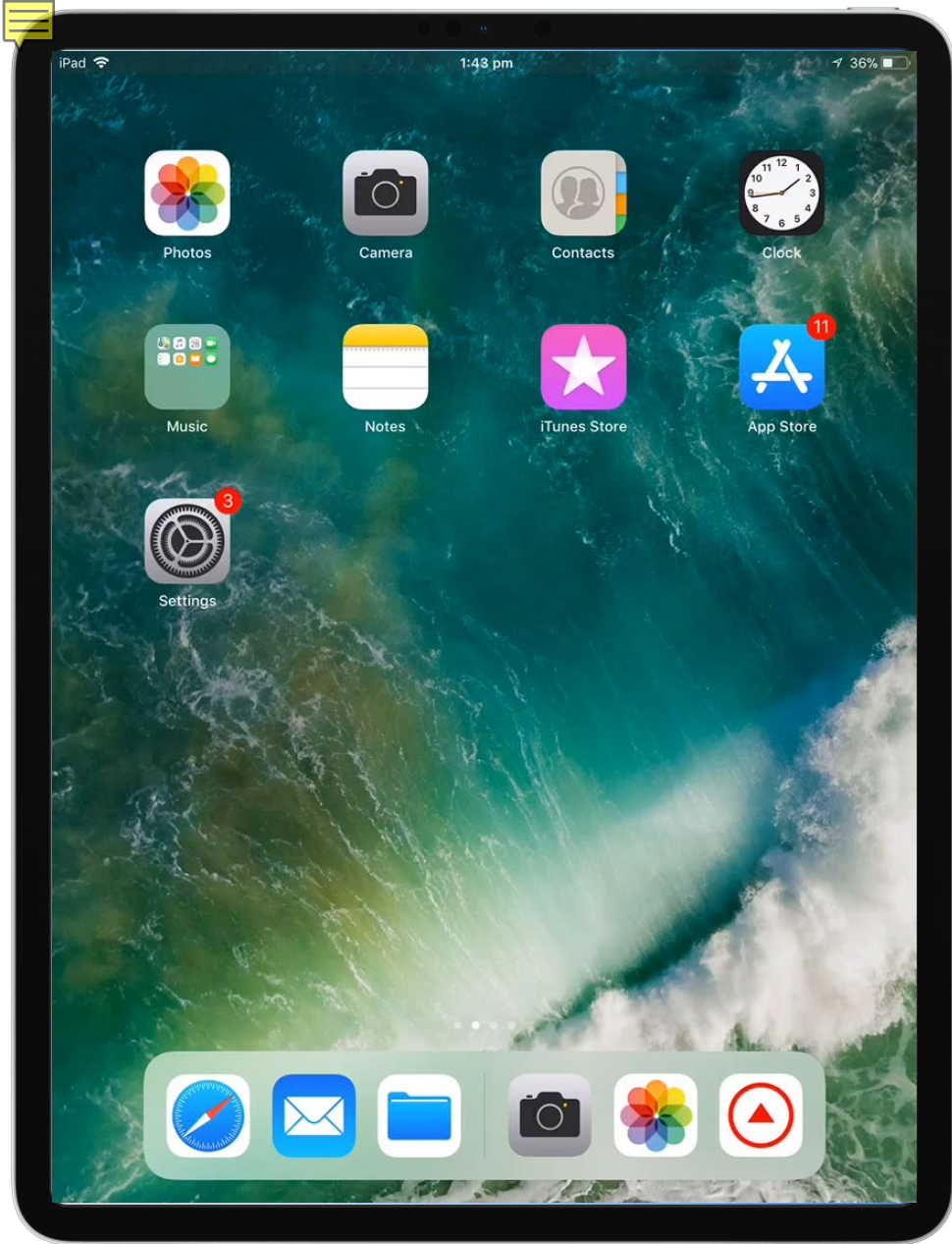


Dollhouse

Floor plan



Matterport terms | Help





Western Water OCR Link to Fulcrum

<https://web.fulcrumapp.com/shares/bfe55e8265373de6/photos/81b179ec-950e-4a13-8338-f438b236c349>
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Run Clear

URL img Text Make Model_# IMG





● Setpoint (New) ● Setpoint (Old)

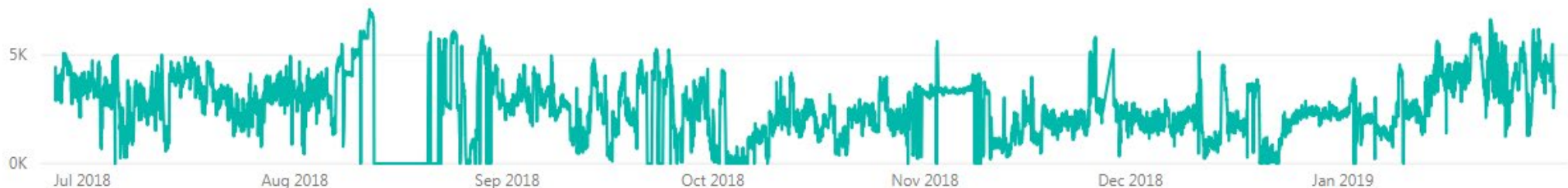


Power Generated (MW)

● Power (New) ● Power (Old)



Power Difference (MW)



Dollars Saved (\$)



473.60K

Power Old (MW)

522.35K

Power New (MW)

52.55K

Power Saved (MW)

\$985.33K

Dollars Saved

\$0.075

Cost/Per kW

\$985.36K

DollarsSavedPerYear...

Date Time

27/06/2018

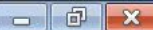
26/06/2019



Beca

Analyse | Asset Data Dashboards | Insights | Predictive Maintenance

Leveraging Industry 4.0 | Prepared by Beca | 2019 | #industry4digitalengineering |



Home

Design

External

About

Search





Search for Asset Find Documents

Search for an asset ... Q

Tag	Description
BD000058	MERRIMU PS BUILDING
✓ BECA10001	TURBIDITY METER DISPLAY
✓ BECA10002	TURBIDIMETER 1
✓ BECA10003	TURBIDIMETER 2
✓ BECA10004	TURBIDITY METER DISPLAY
✓ BECA10005	TURBIDIMETER
✓ BECA10006	TURBIDIMETER
✓ BECA10007	CONTACT TURBIDITY DISPALY
✓ BECA10008	CONTACT TURBIDITY
✓ BECA10009	LINEAR ACTUATOR 1
✓ BECA10010	LINEAR ACTUATOR 2
✓ BECA10011	LINEAR ACTUATOR 3



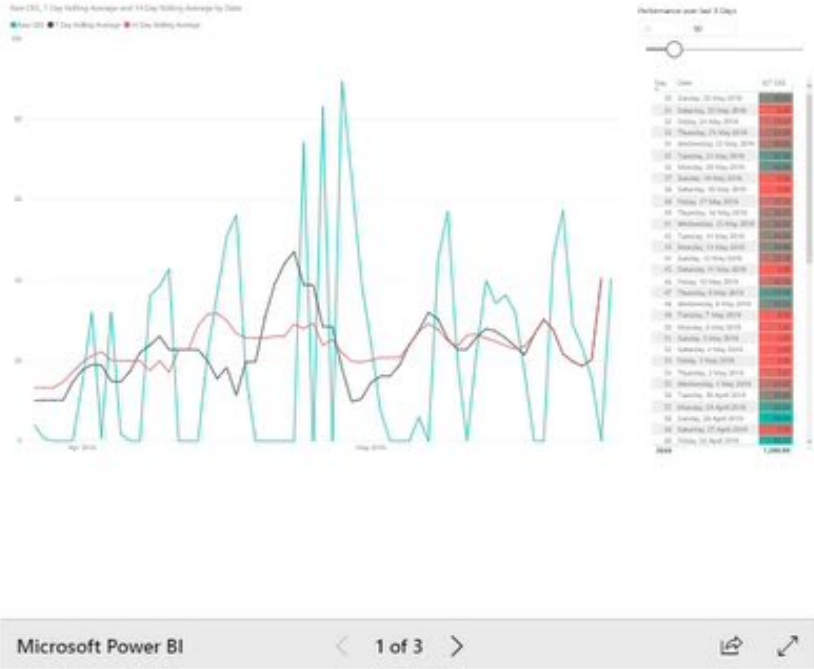
Loading



Asset TAG:

Search for an asset ...

Tag	Description:
✓ 1697.000.000	OVERALL SLITTING LINE SYSTEM
✓ 1697.005.000	PACKLINE HYDRAULIC POWER UNIT
✓ 1697.006.000	FLEXIBLE COIL STORAGE CAR
✓ 1697.007.000	FIXED COIL STORAGE SADDLES
✓ 1697.010.000	ENTRY COIL CAR
✓ 1697.015.000	AUTO COIL LOADING SYSTEM
✓ 1697.020.000	UNCOILER
✓ 1697.025.000	UNCOILER MANDREL SUPPORT ARM
✓ 1697.030.000	PEELER BREAKER – SNUBBER ROLL
✓ 1697.035.000	AUTO EDGE POSITION CONTROL
✓ 1697.040.000	COIL PEELER TABLE
✓ 1697.045.000	FLATTENER



Edit Asset

Information

Asset Tag:

1697.000.000

Location:

PK72

Area Code:

2930

Description:

OVERALL SLITTING LINE SYSTEM

Function Description:

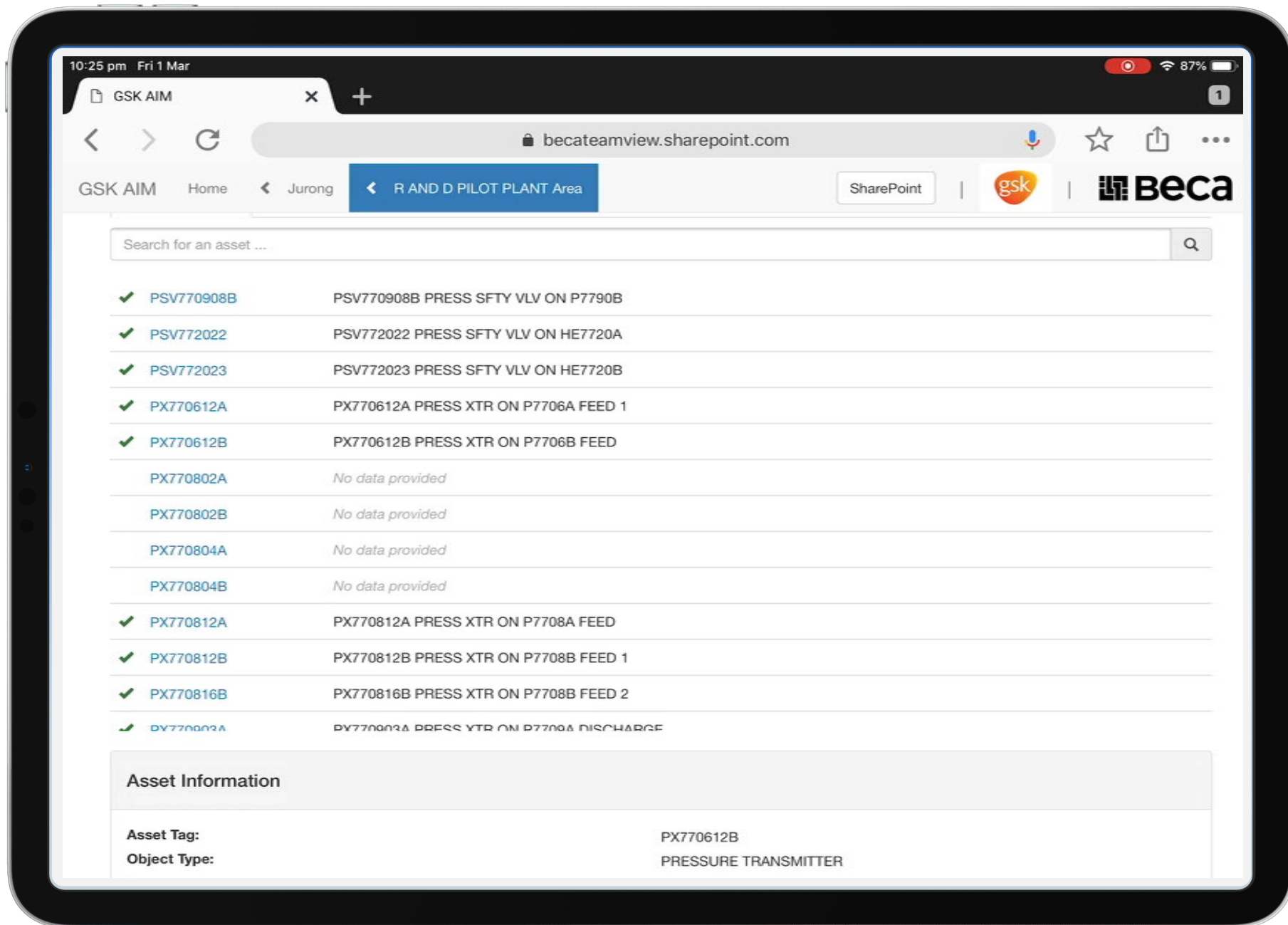
UTILITIES THAT RUN THE SLITTING LINE

Drawings

Documentation

Asset Images

Upload Image





Model Info

Type:
#

Model #:
#

Manufacturer:
#

Calibration Date:
-

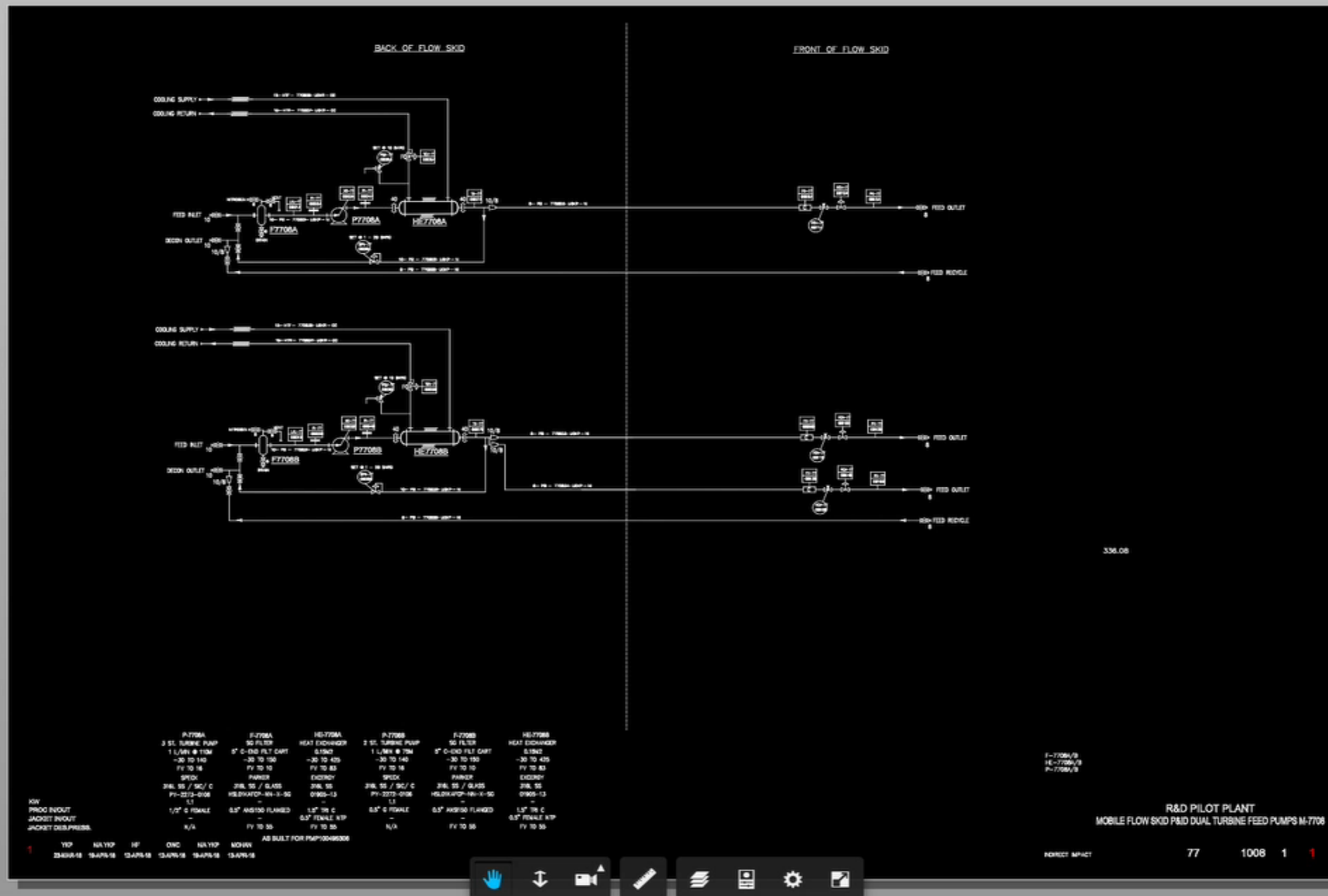
View Selector



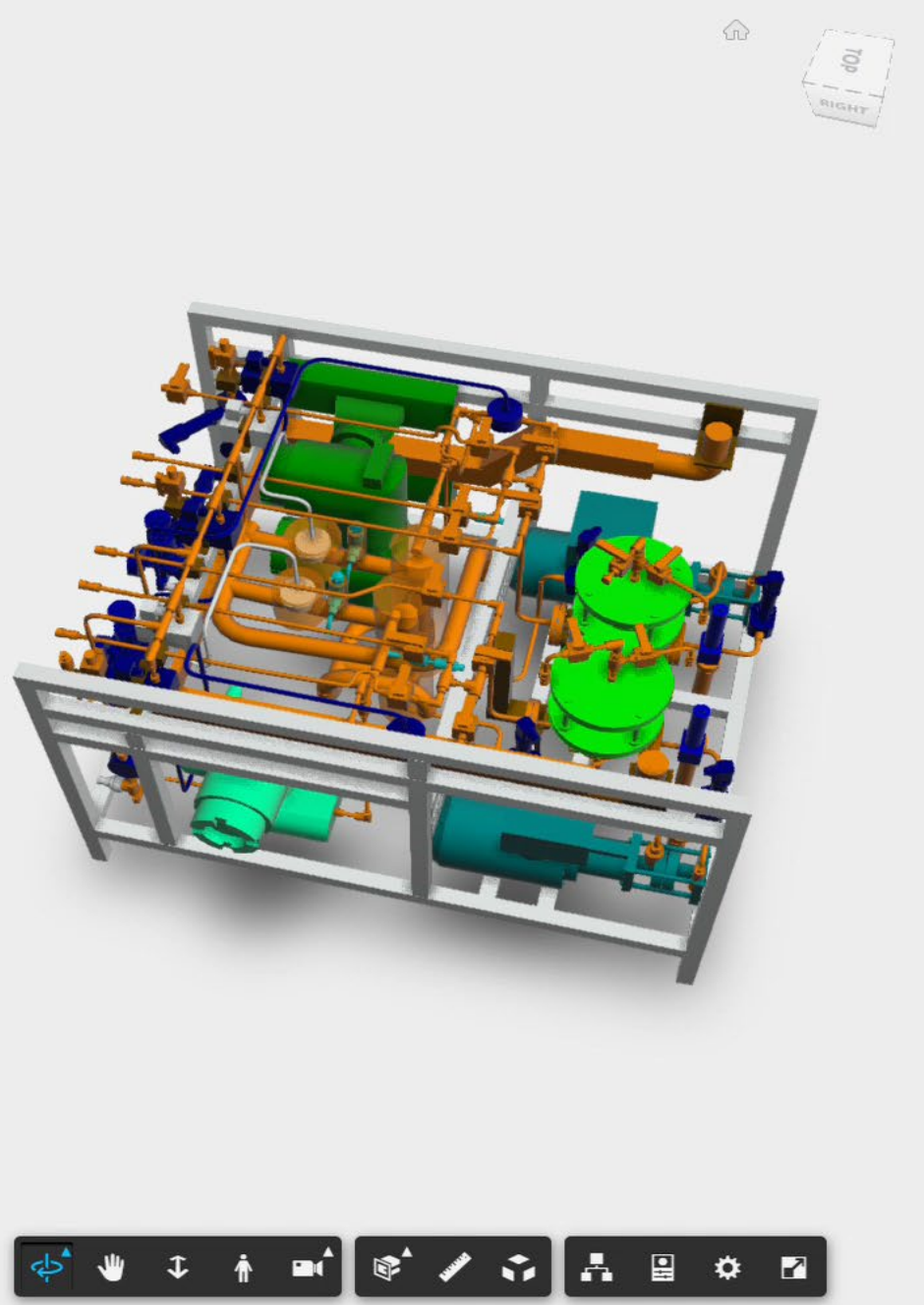
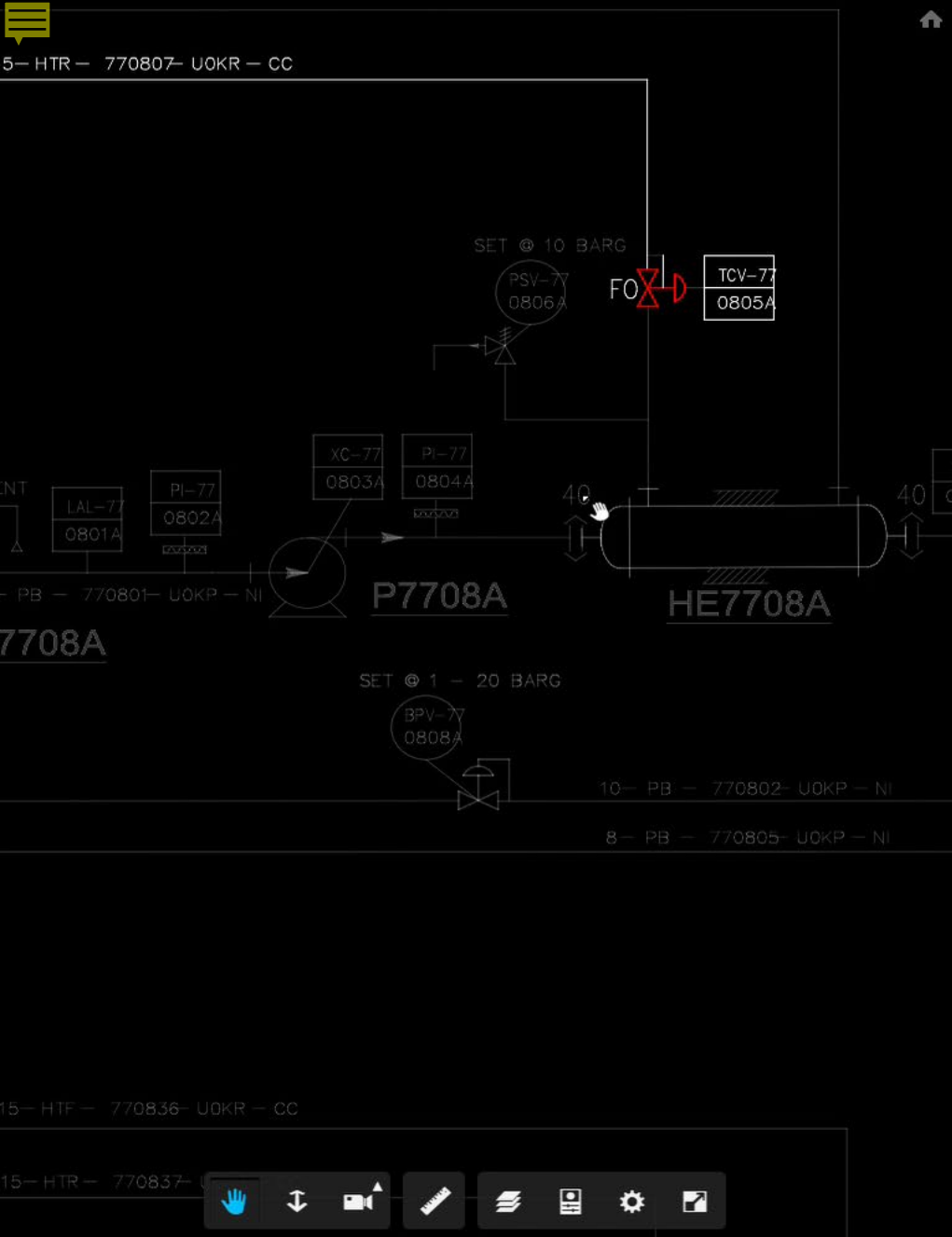
View Engineering Data



Simulation



Asset Information Model (AIM)



Model Info

Type:
#

Model #:
#

Manufacturer:
#

Calibration Date:
-

View Selector

P&ID

Model

Both

View Engineering Data

Show

Hide

Simulation

Simulation

Normal

See Calibration

Live Link

PBI Query









A woman with long red hair and black-rimmed glasses is smiling and holding up a smartphone to take a selfie. She is wearing a maroon long-sleeved shirt and blue headphones around her neck. The background is a scenic view of a valley with a winding river and green hills under a clear blue sky. In the top left corner, there is a black semi-circle containing the word 'WHY' and a large yellow question mark. On the right side, there are three teal speech bubbles containing the text 'Right information', 'Right person', and 'Right time' respectively.

WHY
?

Right information

Right person

Right time



INDUSTRY

Manufacturing
Supply chain
Product
Cargo
Customer
Delivery
Inventory
Management
Freight



Thankyou

Q&A



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