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SYSTEMS INTEGRATION MADE EASY WITH A DIGITAL TWIN

CLAIRE PENNY

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SYSTEM INTEGRATORS

Gartner Glossary

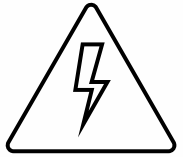
Gartner Glossary > Information Technology Glossary > S > SI (System Integrator)

SI (System Integrator)

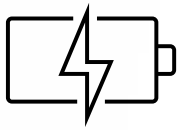
An enterprise that specializes in implementing, planning, coordinating, scheduling, testing, improving and sometimes maintaining a computing operation. SIs try to bring order to disparate suppliers.

TYPICAL BUILDING SYSTEMS

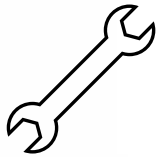
Civil



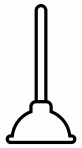
Electrical



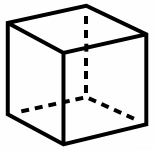
Energy



Mechanical



Plumbing



Structural

Technology

TYPICAL BUILDING SYSTEMS

- Civil
- Electrical
- Energy
- Mechanical
- Plumbing
- Structural
- Technology

Stakeholders

Software

Users & Use cases

LANGUAGE BARRIER

Monolithic legacy systems

I see data differently to you...

Scalability

Data classification

Future proofing

Integration

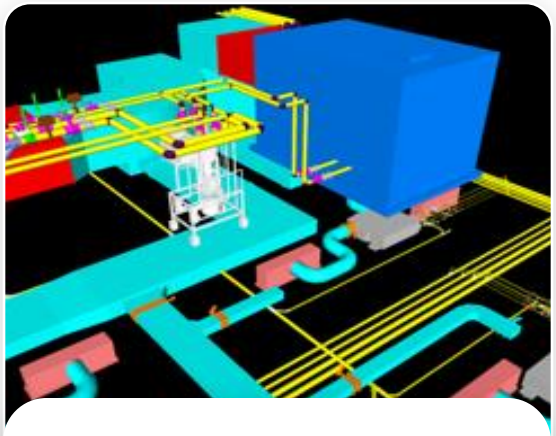
Business need

Data silo's

Ontologies

CLASSIFY THE DATA

MAKE IT MACHINE READABLE

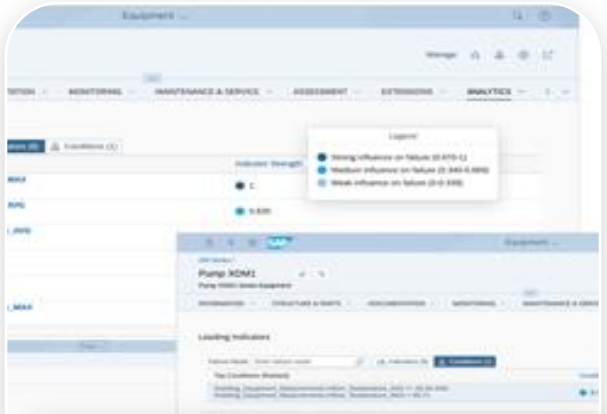


Object Model Classification

- Space
- Product
- Discipline
- System
- Etc.

Goose vs Duck

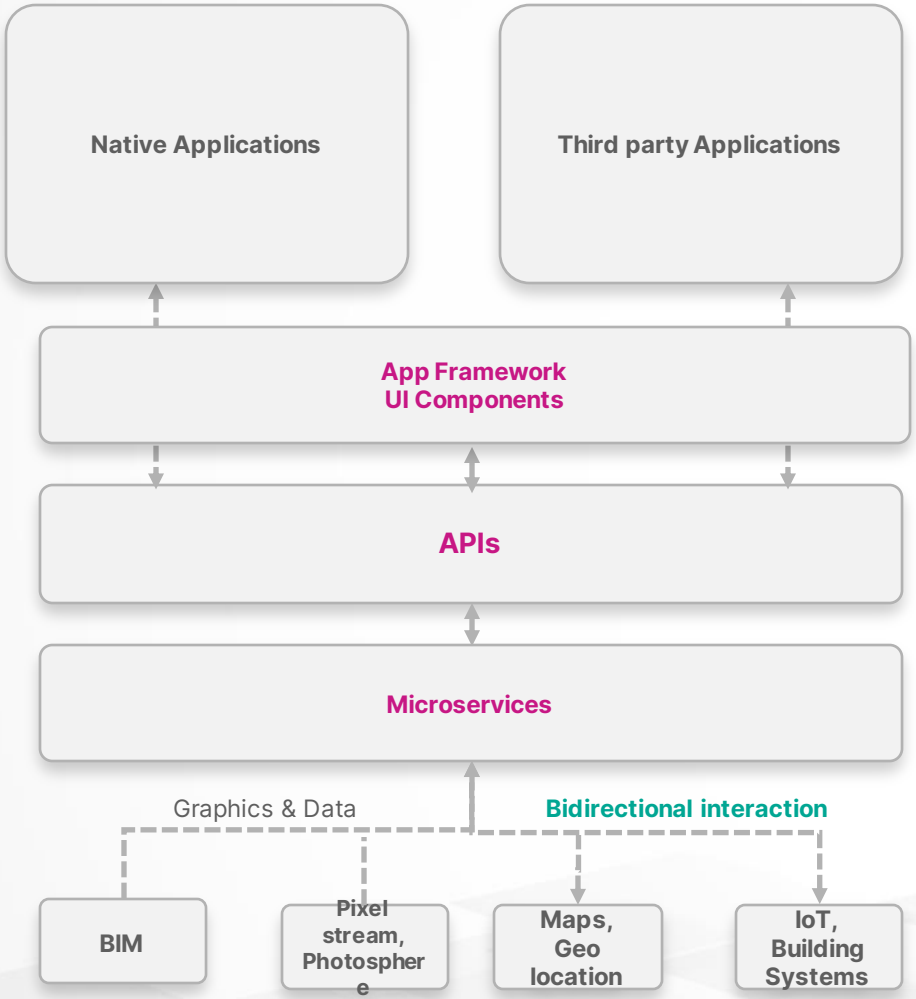
- Make **everyone** classify a duck as a duck and not a goose
- Rules based automation to assist with classification is needed



Downstream Uses

- Quantification
- Cost Estimation
- Scheduling
- Asset Management
- Maintenance

SI'S ARE IN A UNIQUE POSITION



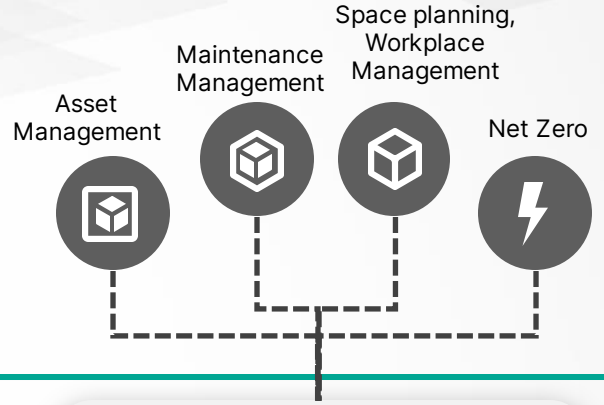
By using a composable Digital Twin platform you can:

- bring all the disparate systems and technologies together into one place.
- integrate 3rd party building technologies to persist, expose, analyse and visualise data
- provide a 360 degree insight of building performance, driving down CAPEX and OPEX.

JOURNEY TO A DIGITAL TWIN

Defining use cases, and the requirements for data & information to deliver them, is the **key to success.** 1

BIM Data Management ensures 3D models are machine readable, and usable for data workflows 2



Strategy & Planning

Use Cases

Project, Asset Information Requirements

BIM

3D Graphics, Data

Classify model content

Validate data

Define data parameters

Project Info -> Asset Twin

3D Graphics

Documents

GIS

Non model Data

Knowledge Graph

Asset Twin -> Performance Twin

Twin Enabled solutions

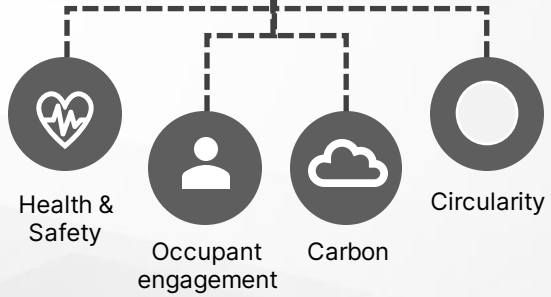
Asset Twin datasets

Analytics, Dashboards

BMS, DCS, IoT data

At project handover, an Asset Twin / Performance Twin integrates all information into an associative information model. 3

At this phase the data is organised and ready for operationalisation 4



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Carbon

Net zero carbon manufacturing by 2030

50% reduction in product CO2e intensity from our primary supply parners by 2030

Zero emission company funded cars by 2025

EPD Documents

Traceability

Fire Testing

Electrical Consumption

1,272,370 kWh

Last 12 Months

Solar Generation

8,624 kWh

Last 12 Months

Avoided Carbon

311,731 kg

Last 12 Months

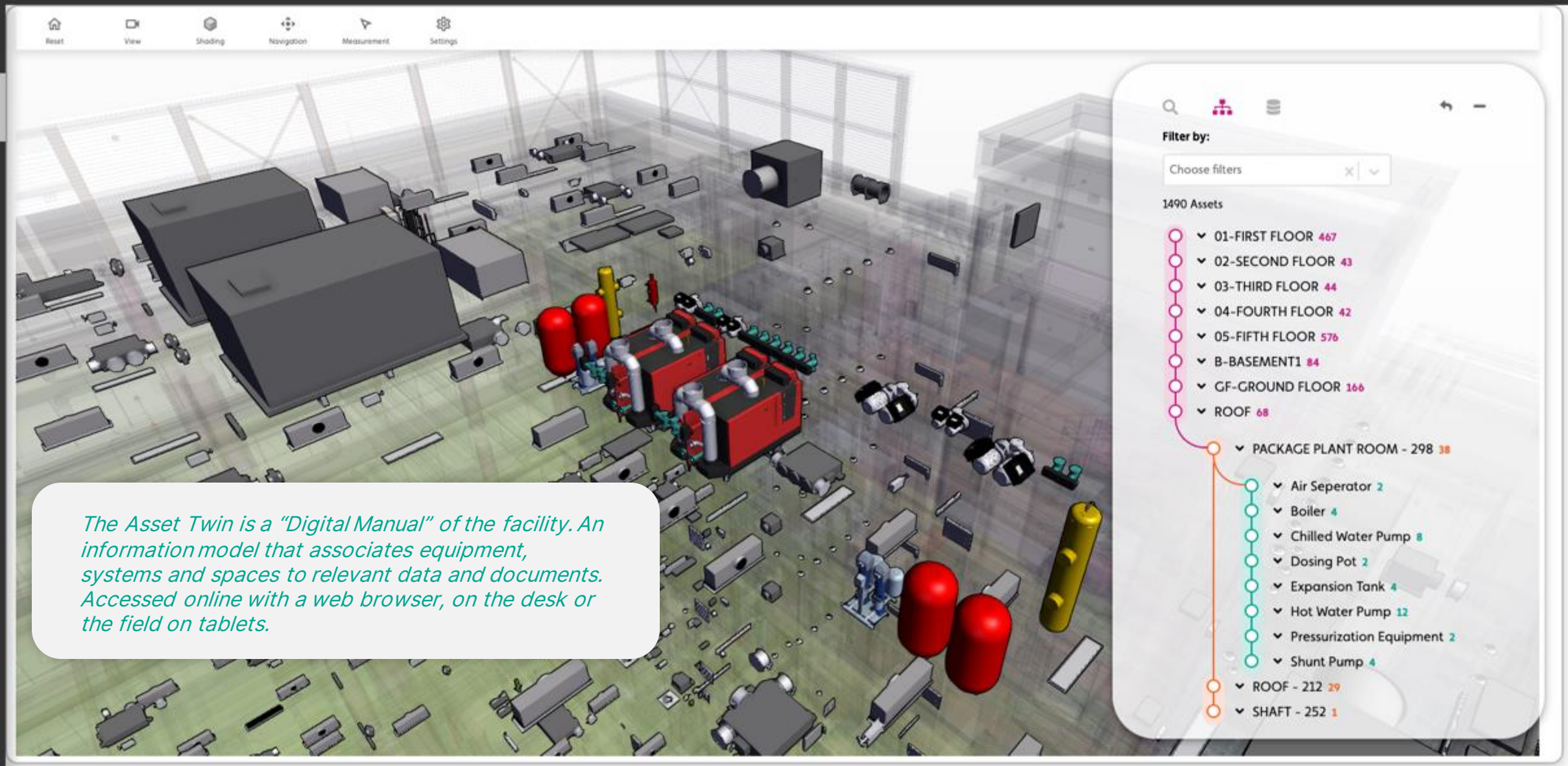
Rainwater Harvesting

461,952 l

Last 12 Months

Role based use interfaces, to provide just the right information that matters to each stakeholder. Adds value to Operations & Maintenance, Sustainability agenda at an asset / portfolio level.

Valuable information for certification, such as WELL



The Asset Twin is a "Digital Manual" of the facility. An information model that associates equipment, systems and spaces to relevant data and documents. Accessed online with a web browser, on the desk or the field on tablets.

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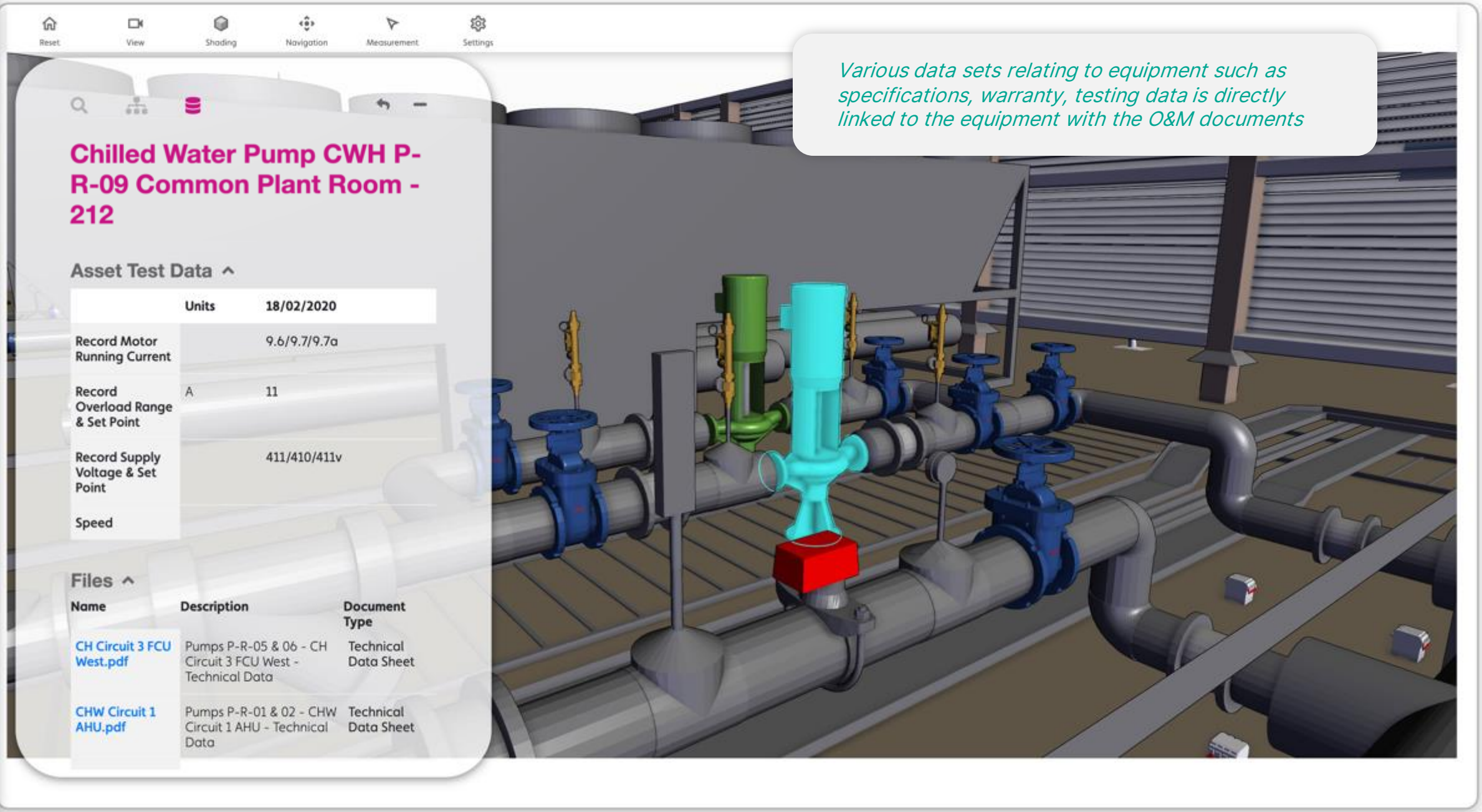

Various data sets relating to equipment such as specifications, warranty, testing data is directly linked to the equipment with the O&M documents

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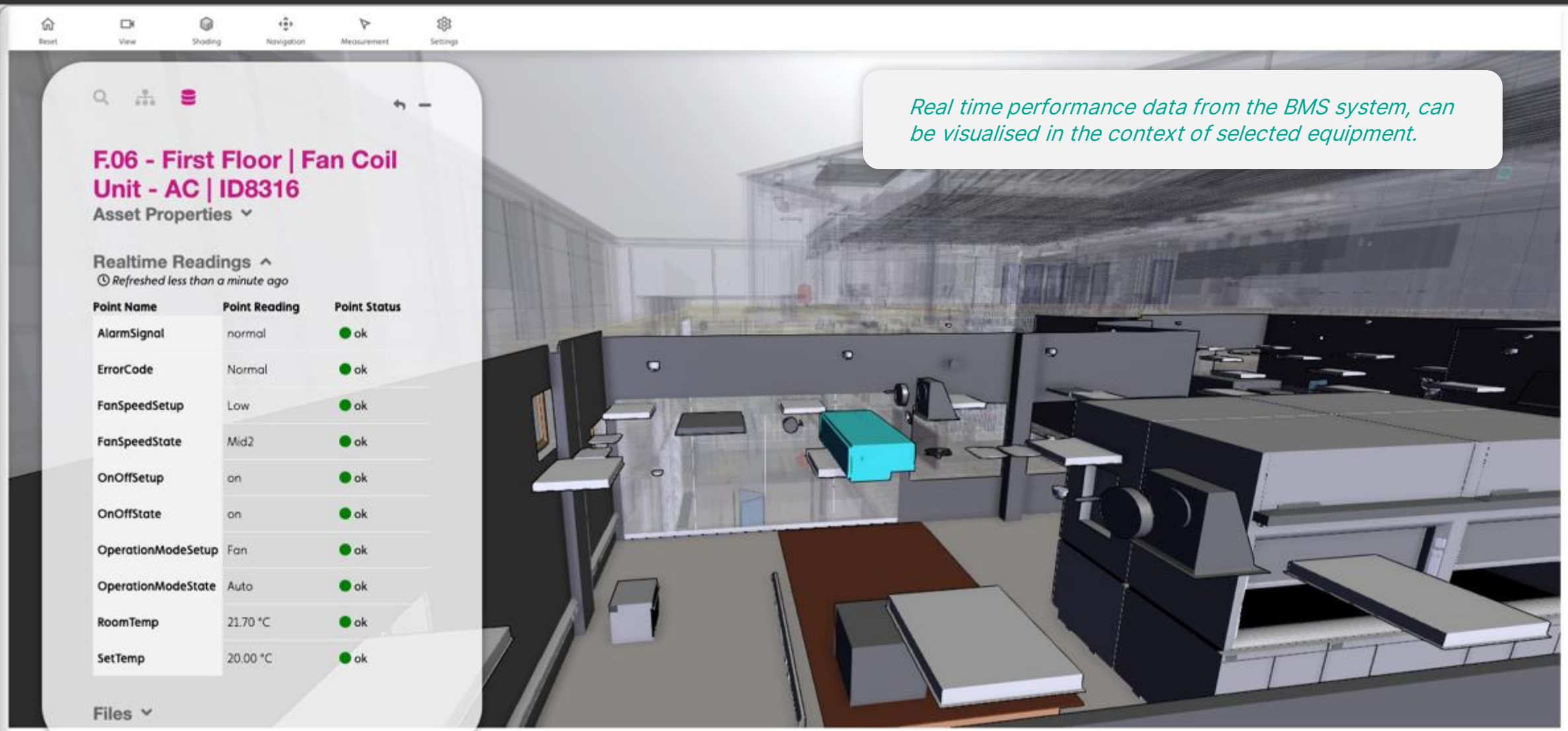


Real time performance data from the BMS system, can be visualised in the context of selected equipment.

HEATING

LPH HEADER TEMP

Flow Temperature	68.00°C
Return Temperture	63.36°C

BOILER ENABLED

Boiler 1	
Boiler 2	
Boiler 3	
Boiler 4	

LPHW HEADER PUMPS

EAST FCU

Flow Temperature	61.9°C
Flow Rate	0 l/h

WEST FCU

Flow Temperature	63.5°C
Flow Rate	0 l/h

AHU

Flow Temperature	51°C
Flow Rate	0 l/h

LANDLORD FCU

Flow Temperature	51.9°C
Flow Rate	0 l/h

COOLING

CHILLER/1

Flow Temperature	9.32°C
Return Temperture	9.74°C

CHILLER/2

Flow Temperature	9.87°C
Return Temperature	10.02°C

CHW HEADER PUMPS

EAST FCU

Return Temperature	13.1°C
Flow Rate	0 l/h

WEST FCU

Return Temperature	13.2°C
Flow Rate	0 l/h

AHU

Return Temperature	25.8°C
Flow Rate	0 l/h

LANDLORD FCU

Return Temperature	20.4°C
Flow Rate	0 l/h

DOMESTIC HOT WATER

TANK/1

Tank Temperature	51.61°C
CT Switch - Return Pumps	

TANK/2

Tank Temperature	51.98°C
CT Switch - Return Pumps	

PRIMARY VENTILATION

WEST AHU/1

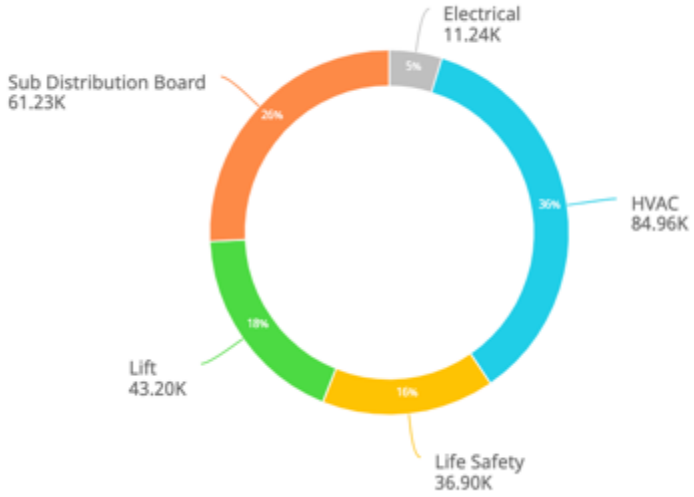
Supply Air Temperature	17.52°C
Supply Air Volume	7.21m^3/h

EAST AHU/2

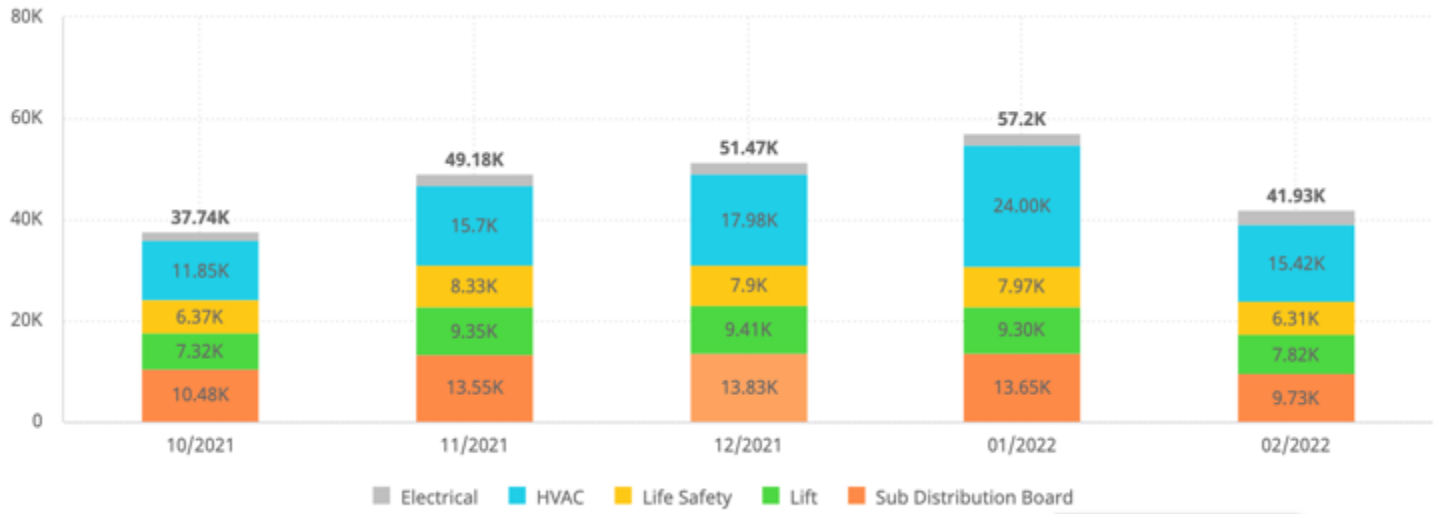
Supply Air Temperature	16.63°C
Supply Air Volume	6.75m^3/h

Energy Analytics | Consumption by Load Type

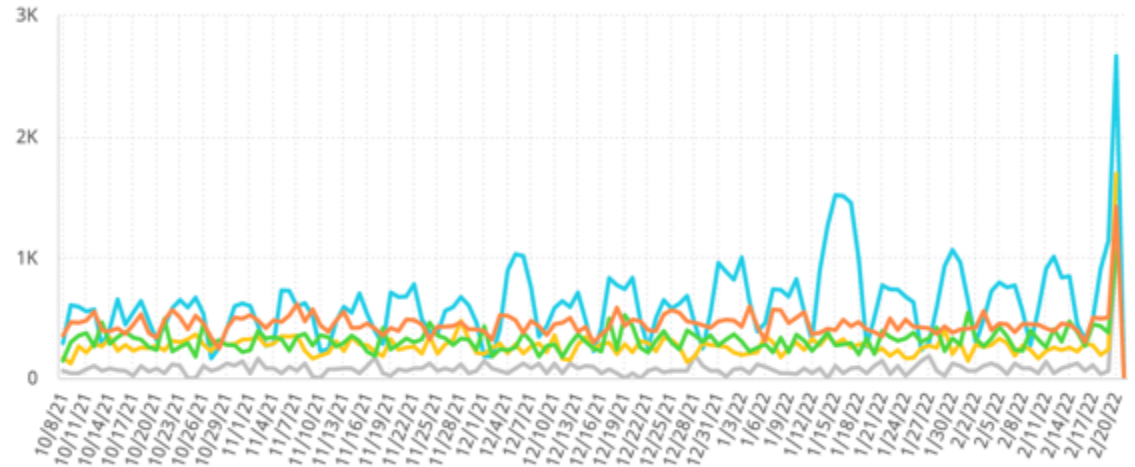
Consumption by Load Type



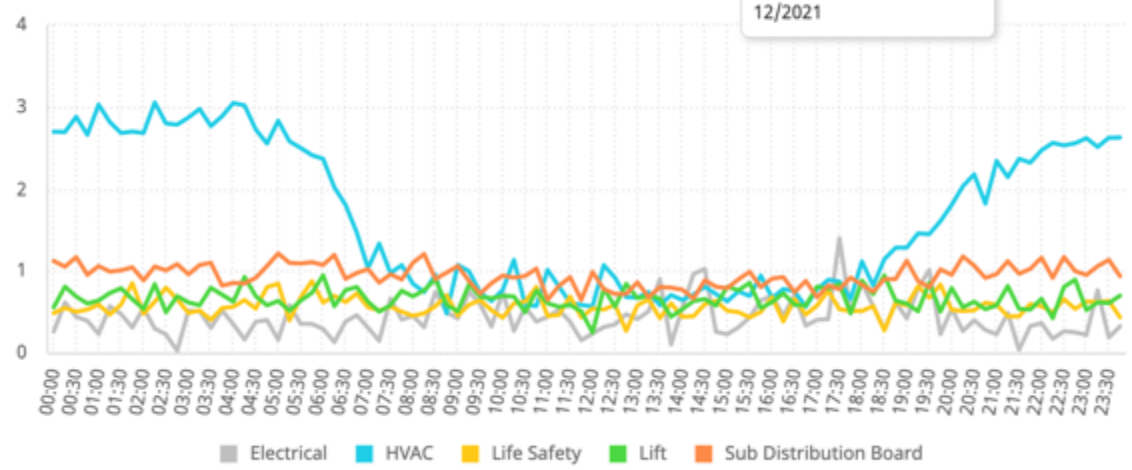
Consumption by Load Type - Monthly Trend



Consumption by Load Type - Daily Trend

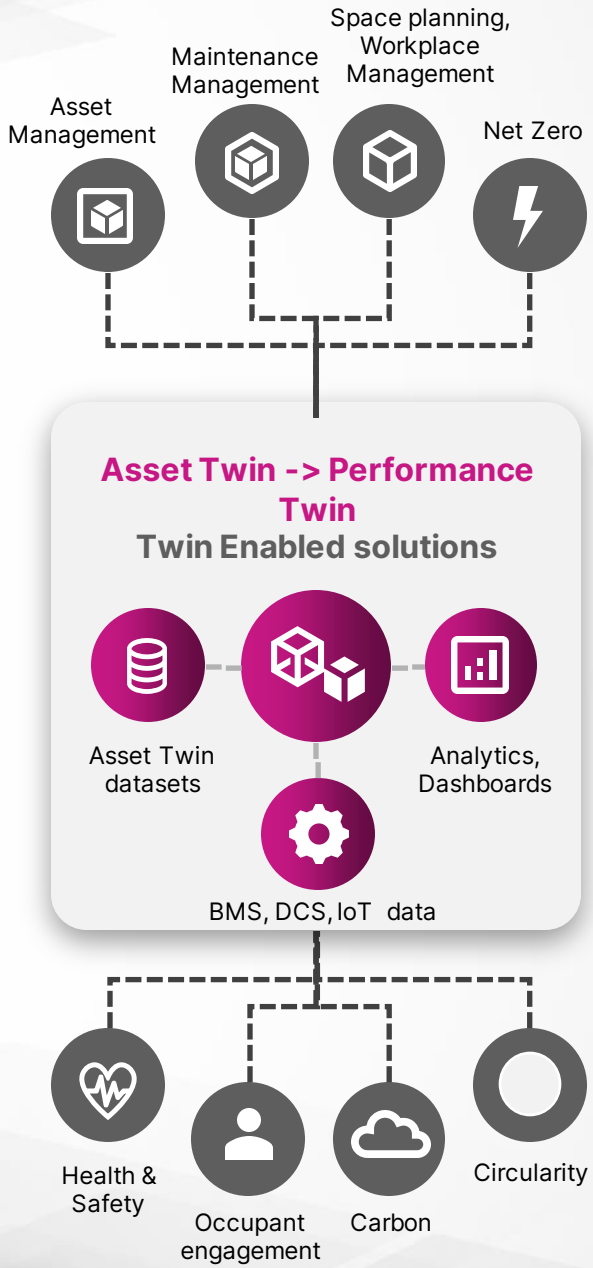


Consumption by Load Type - Hourly Average



SI MADE EASY WITH A DIGITAL TWIN PLATFORM

- Faster time to value
- Cheaper to deliver desired out comes
- Streamline integration and remove friction
- Repeatable and scalable



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THANK YOU

QUESTIONS?

Claire Penny

Director of Global Partnerships

claire.penny@invicara.com