

# Building X

## Lifecycle Twin

Efficient decision making | Smooth project delivery | Extended asset lifetime

## Trends driving the adoption of digital twins in buildings and infrastructure

30%

of **projects** do not meet original program or budget<sup>1</sup>

92%

of planners confirm that not all **information** is available when plans are made<sup>2</sup>

40%

of **energy** worldwide is consumed in buildings<sup>3</sup>

80%

of the **expenses** of a building arise in the operations phase<sup>4</sup>

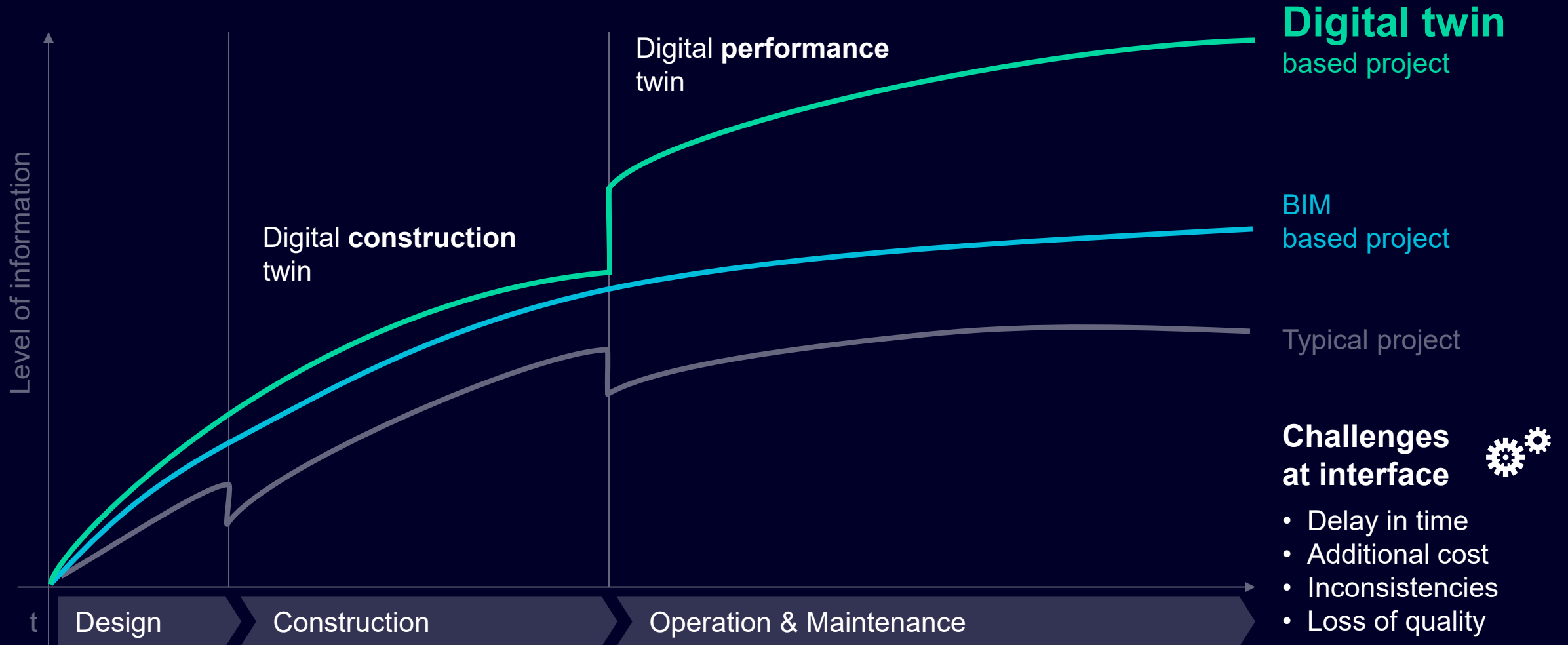
Source:

1 Alliance To Save Energy (ASE), EU, UNEP | 2 Building Radar | 3 CMAA Owners Survey | 4 CMAA Industry Report, Economist Magazine



# Property (Asset) Lifecycle Long term Benefits

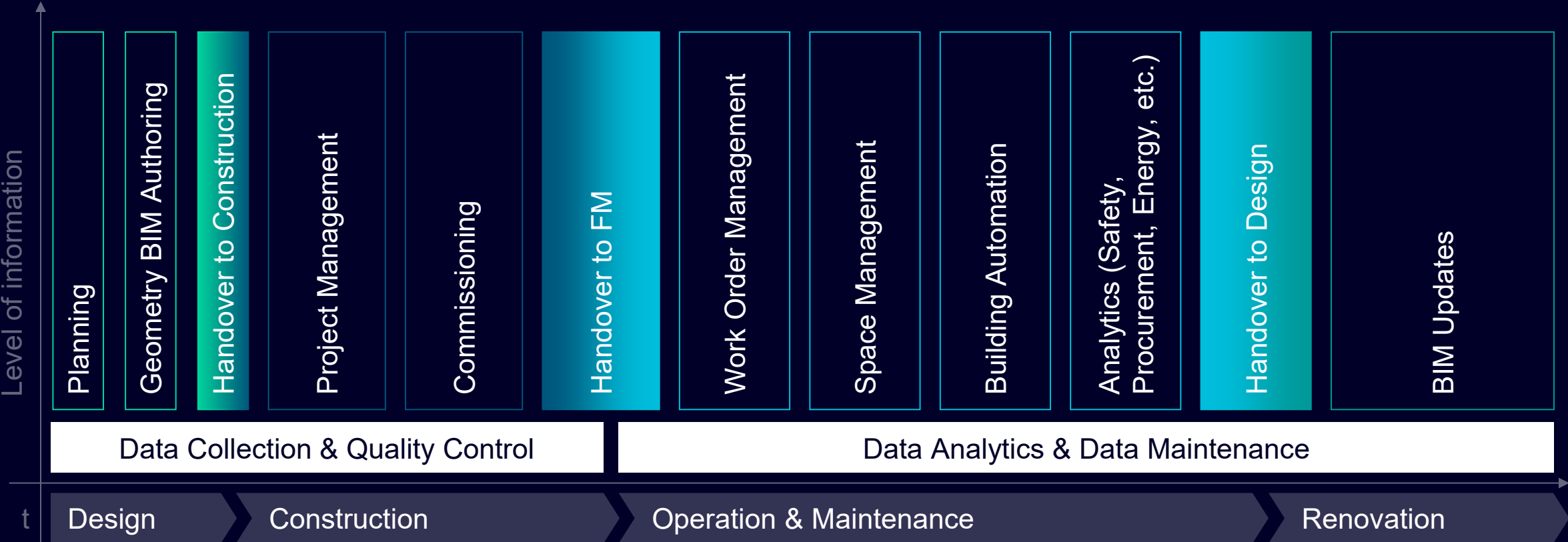
The Digital Twin is enriched with information throughout the entire building lifecycle



# Linking all the Asset Lifecycle Phases

## Building X Lifecycle TWIN

Asset Lifecycle Information Management Platform



Hospital in Switzerland

## Creation and management of a digital twin for the entire area

# 30% faster fault resolution for the facility management

- Co-creation approach to integrate the building management system with the building information modelling (BIM) process, for proc. and workflow optimization in construction and operation
- Combined visualization and dynamic data – providing quick 3D overviews and automated alarm localization for faster, more direct interventions

### Delivering value with Building X

**7,138**

Managed documents

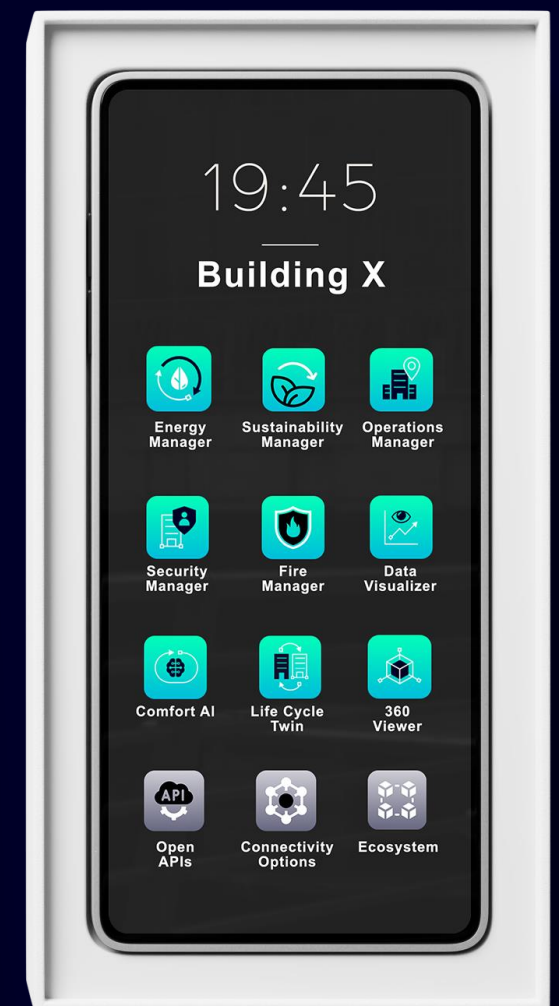
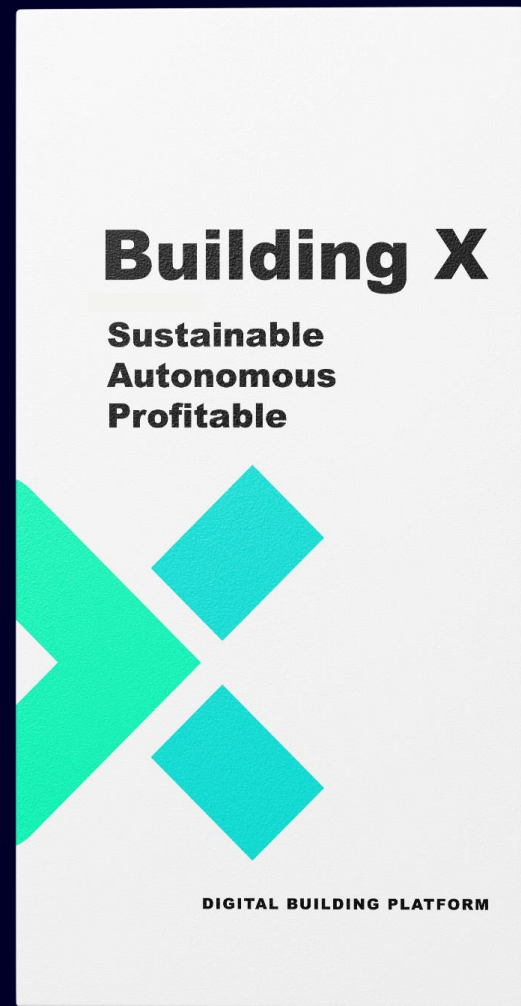
**3,809**

Connected rooms

**LifecycleTwin**

Building X  
Portfolio

Introducing  
**Building X**,  
the operational core  
of your buildings.



# Building X

A digital platform that digitalizes, manages, and optimizes building operations



Applications

Digital Services

## Building X Platform

Data Aggregation | Advanced Analytics | Edge Device Management | Open APIs

## Digital Infrastructure

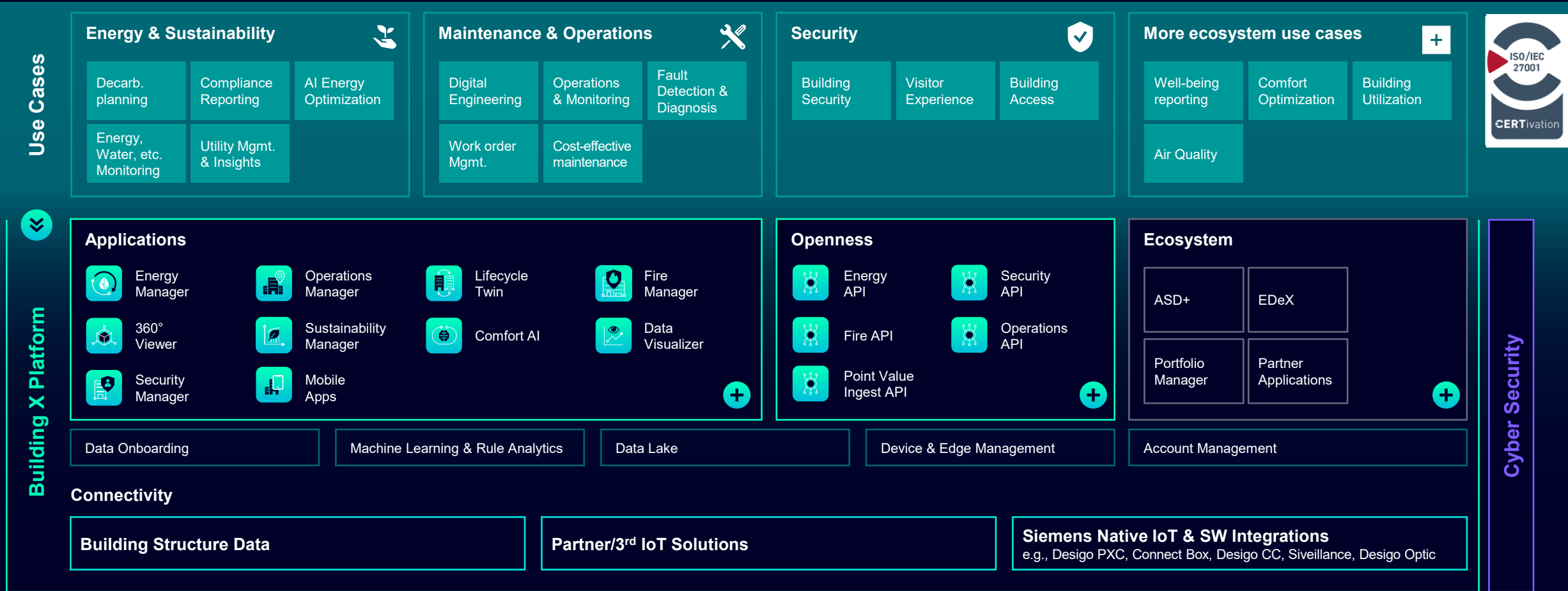
Edge HW & SW | Cloud-2-Cloud | NexGen Controllers | 3<sup>rd</sup>-Party Connectivity

Cybersecurity

Ecosystem

# Building X

A digital platform that digitalizes, manages, and optimizes building operations.



Any field discipline & device



Any building architecture & vertical



# Building X

## Lifecycle Twin Demonstration



Energy Supply Contracts - Go To Market Strategy

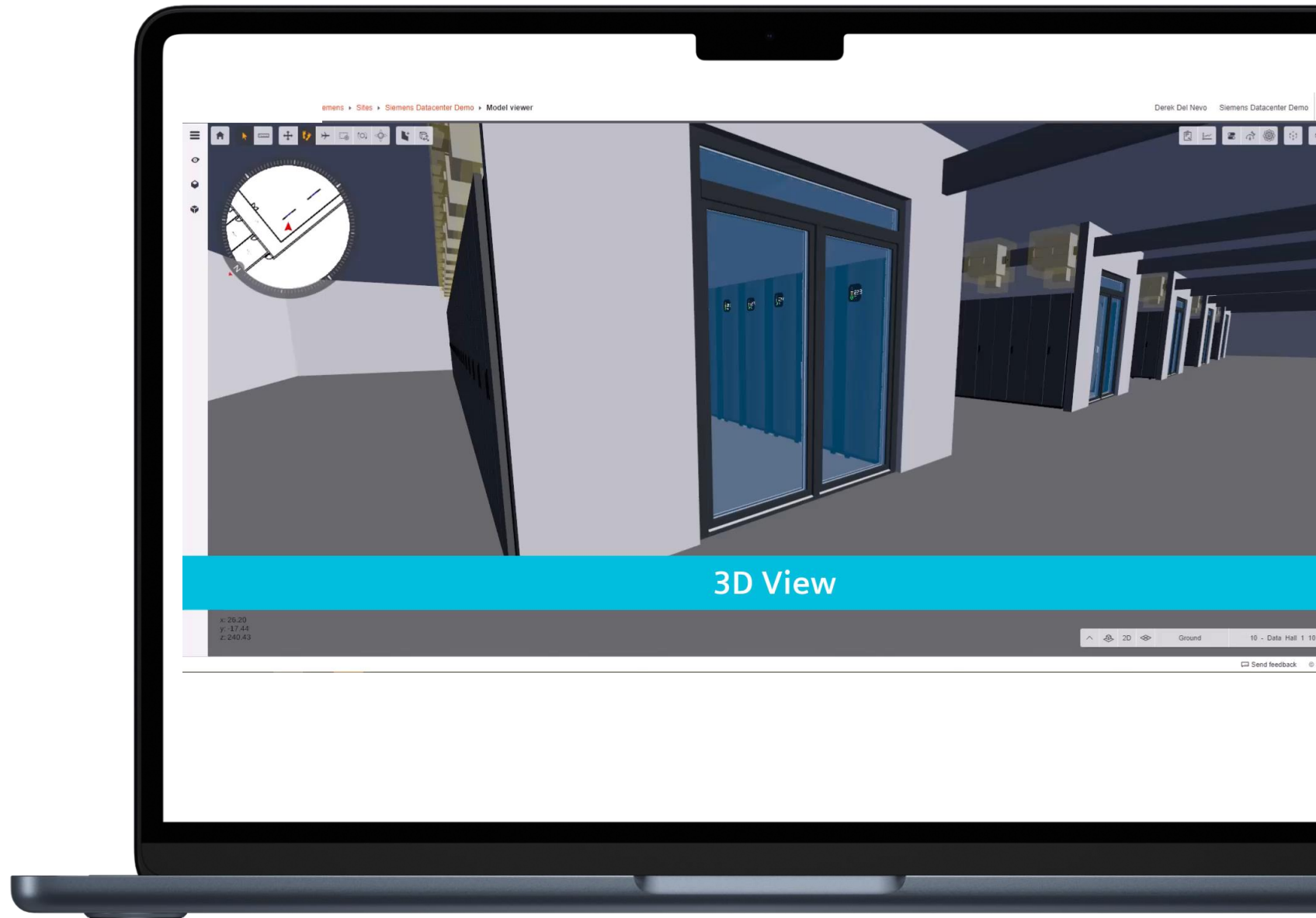
Contract ID	Contract Name	Contract Type	Contract Status	Contract Start Date	Contract End Date	Contract Value (€)	Contract Value (M€)	Contract Value (USD)	Contract Value (M USD)
1	Contract 1	Contract Type	Contract Status	Contract Start Date	Contract End Date	Contract Value (€)	Contract Value (M€)	Contract Value (USD)	Contract Value (M USD)
2	Contract 2	Contract Type	Contract Status	Contract Start Date	Contract End Date	Contract Value (€)	Contract Value (M€)	Contract Value (USD)	Contract Value (M USD)
3	Contract 3	Contract Type	Contract Status	Contract Start Date	Contract End Date	Contract Value (€)	Contract Value (M€)	Contract Value (USD)	Contract Value (M USD)
4	Contract 4	Contract Type	Contract Status	Contract Start Date	Contract End Date	Contract Value (€)	Contract Value (M€)	Contract Value (USD)	Contract Value (M USD)
5	Contract 5	Contract Type	Contract Status	Contract Start Date	Contract End Date	Contract Value (€)	Contract Value (M€)	Contract Value (USD)	Contract Value (M USD)
6	Contract 6	Contract Type	Contract Status	Contract Start Date	Contract End Date	Contract Value (€)	Contract Value (M€)	Contract Value (USD)	Contract Value (M USD)
7	Contract 7	Contract Type	Contract Status	Contract Start Date	Contract End Date	Contract Value (€)	Contract Value (M€)	Contract Value (USD)	Contract Value (M USD)
8	Contract 8	Contract Type	Contract Status	Contract Start Date	Contract End Date	Contract Value (€)	Contract Value (M€)	Contract Value (USD)	Contract Value (M USD)
9	Contract 9	Contract Type	Contract Status	Contract Start Date	Contract End Date	Contract Value (€)	Contract Value (M€)	Contract Value (USD)	Contract Value (M USD)
10	Contract 10	Contract Type	Contract Status	Contract Start Date	Contract End Date	Contract Value (€)	Contract Value (M€)	Contract Value (USD)	Contract Value (M USD)





## Navigate to assets and areas using Building X Lifecycle Twin Viewer

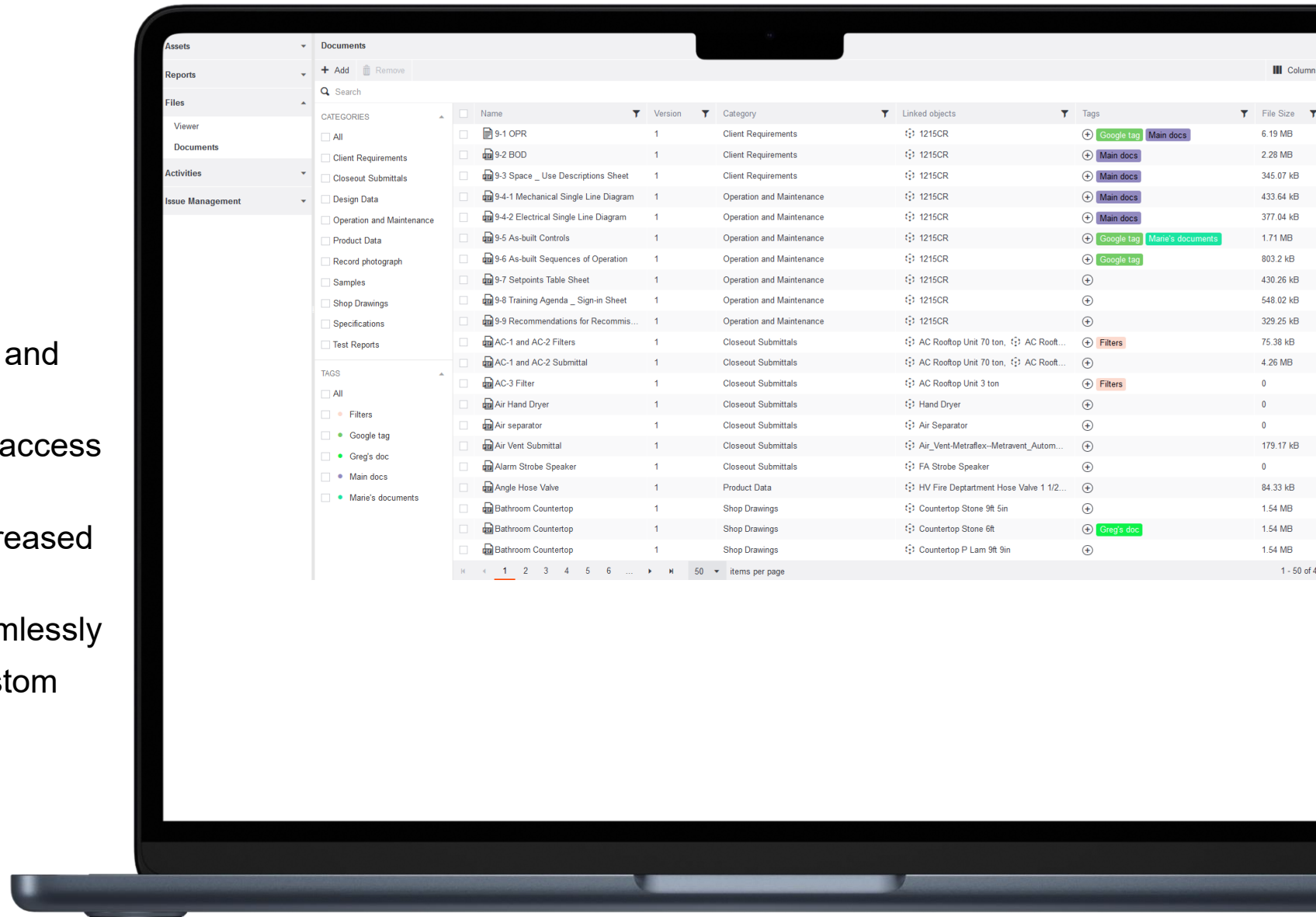
- Navigate seamlessly through 2D and 3D floor plans. Quickly locate assets and systems in 3D views
- Automatically recognize assets using Revit integration
- Access documents and resolve issues directly





## One stop document management throughout the lifecycle of the building

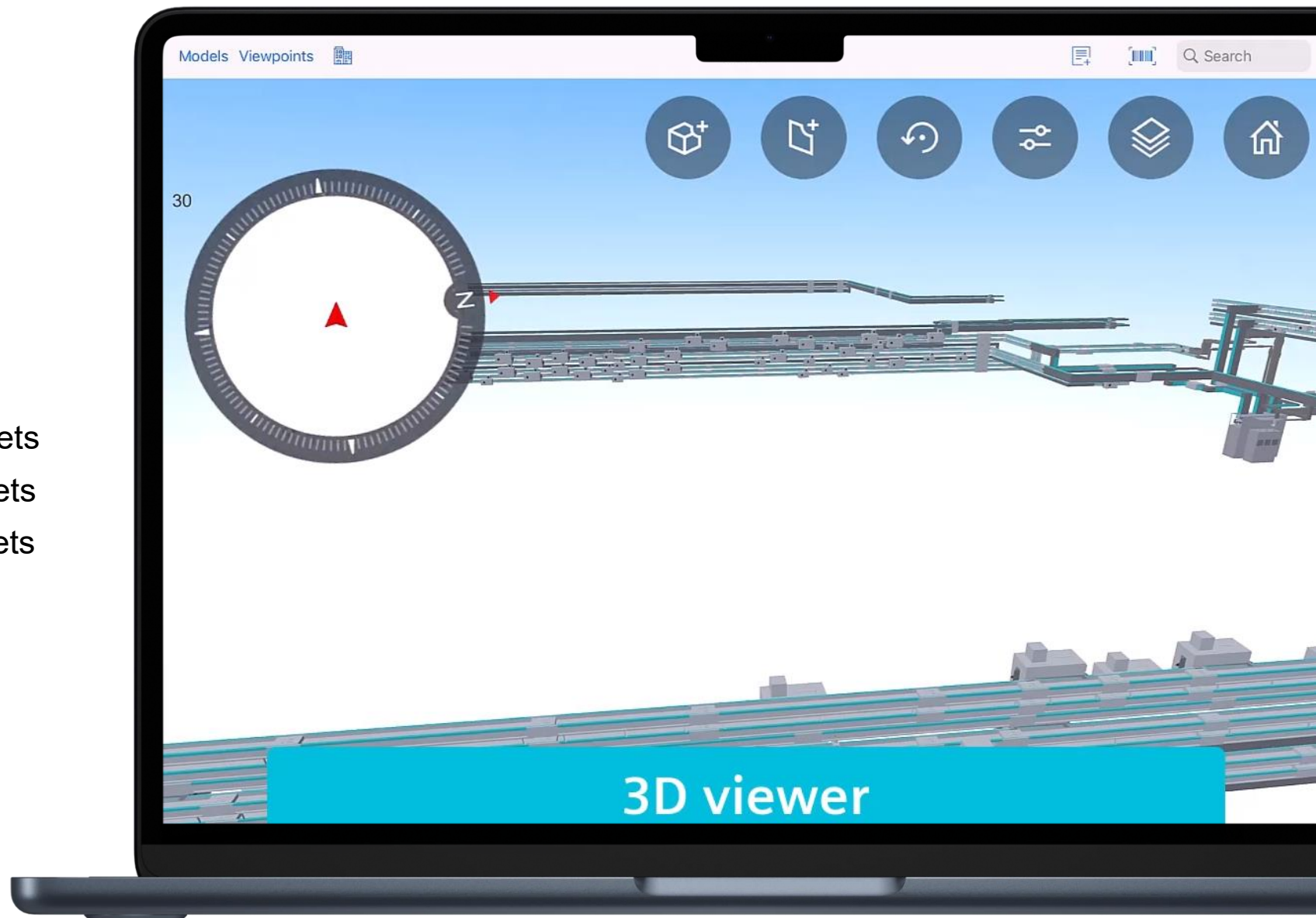
- Structure folders, auto naming upload and download
- Secure documents with customizable access levels
- Use tags, metadata, and filters for increased efficiency
- View, export, and link documents seamlessly
- Track document status and define custom workflows





## Efficient asset monitoring to increase asset lifetime

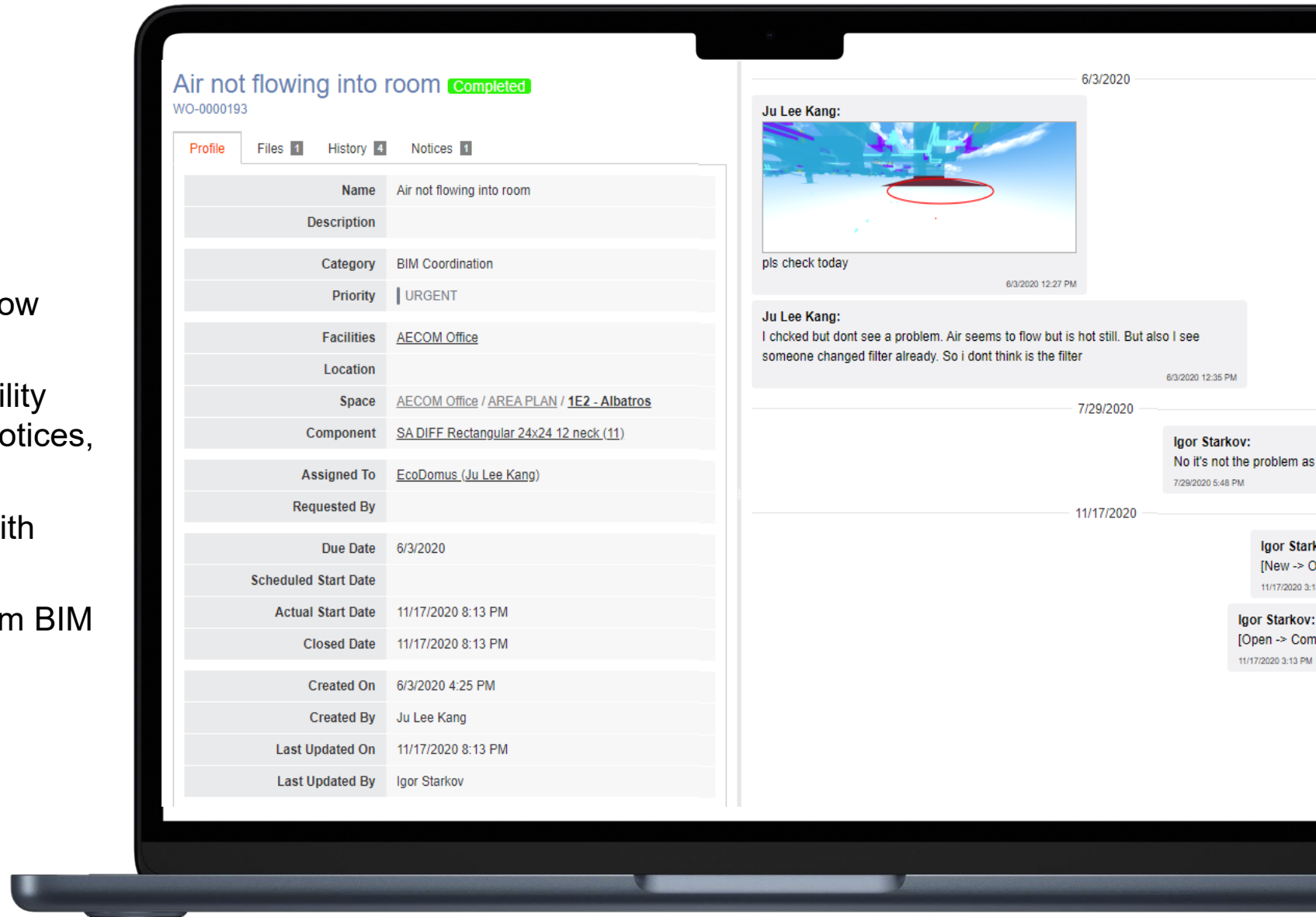
- Add/edit asset metadata (attributes for types, components etc.)
- See room data sheets & generate relationship (affects) diagrams for assets
- Generate barcodes/QR codes for assets
- Asset differentiation maintainable assets and non-maintainable

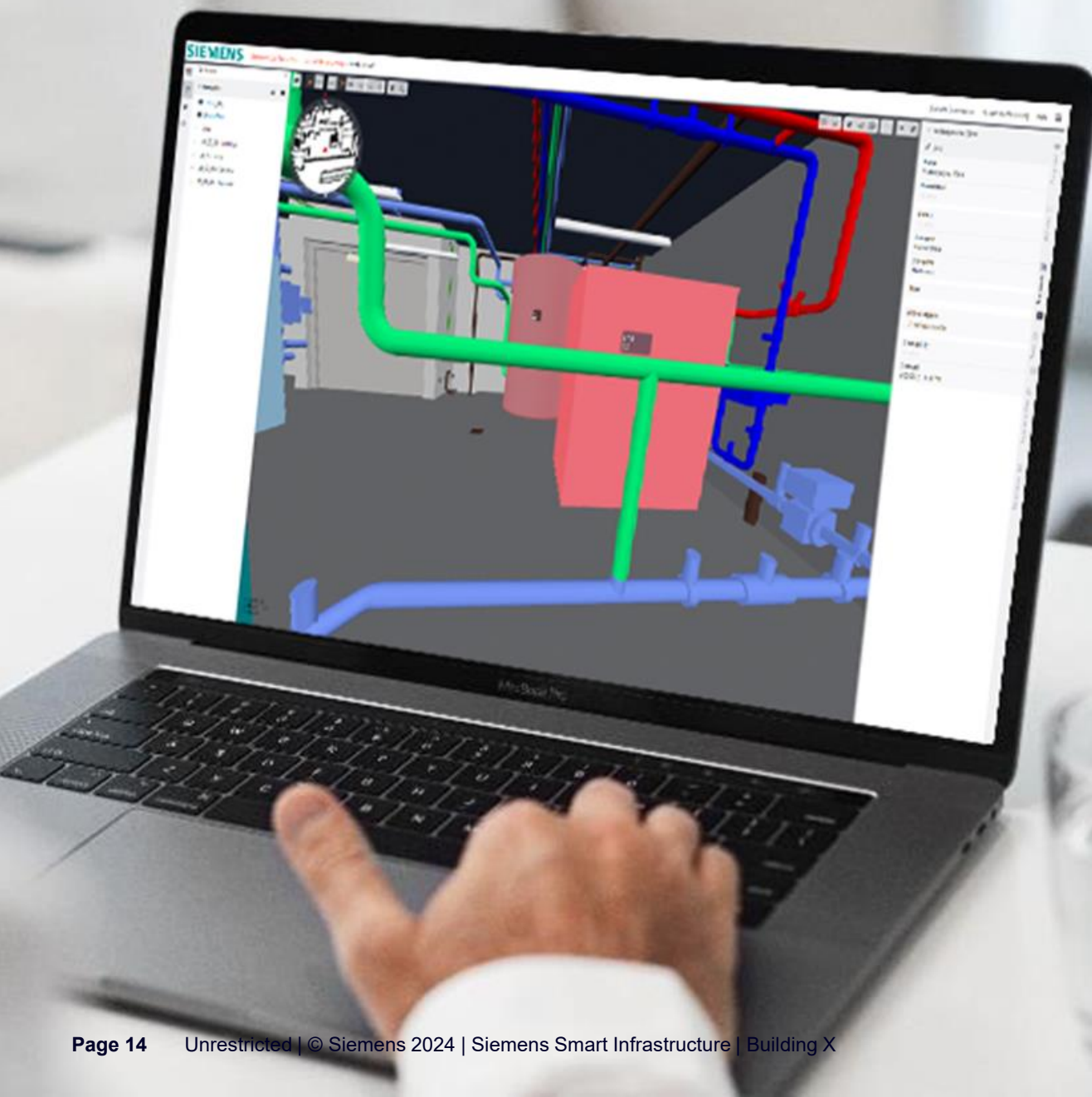




## Effectively plan and execute resolving issues on site

- Update/create issue and attach workflow state and owner
- Track all issues related to lifecycle facility business processes: commissioning notices, service requests
- View work orders/issues associated with assets/locations within the 3D model
- Create and attach location markup from BIM to issues





## 2D/3D View

Navigate seamlessly through 2D and 3D floor plans

## One stop document management

Structure, secure, view, edit documents through the lifecycle

## Manage assets efficiently

Edit assets, view data sheets, generate barcodes

## Issue management

Effectively plan and execute resolving issues on site

# ... value across industries and countries



## Siemens Real Estate

Sweden  
Real Estate Management

- 40% less food waste
- 20% savings in cleaning cost



## SYK

Finland  
University Facilities

- Reduce operational cost
- Increase energy efficiency
- Future proof buildings for 11,000+ students



## Clouline Solutions

USA  
System Integrator

- Tailored customer apps
- Cost and time effective solution delivery



## Prodea Investments

Greece  
R.E. Investment Company

- Create transparency on energy consumption
- Meet sustainability goals & better tenant service



## Mobile Energietechnik

Germany  
Service Provider

- Continuous service delivery thanks to efficient operations
- Prolonged asset value

# Siemens Mission is to support your digital and sustainable transformation

## Invested in your sustainability goals

**€4 bn**

Energy savings for customers

**25+ yrs.**

Offering energy and performance services

## Infrastructure digitalization pioneers

**3.2 m**

Devices connected to Building X

**150+**

Digital applications and offerings



**300**

Global Locations

**10 k+**

Specialist Service Technicians





# Contact

Published by Siemens Smart Infrastructure

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[siemens.com/smart-infrastructure](https://www.siemens.com/smart-infrastructure)



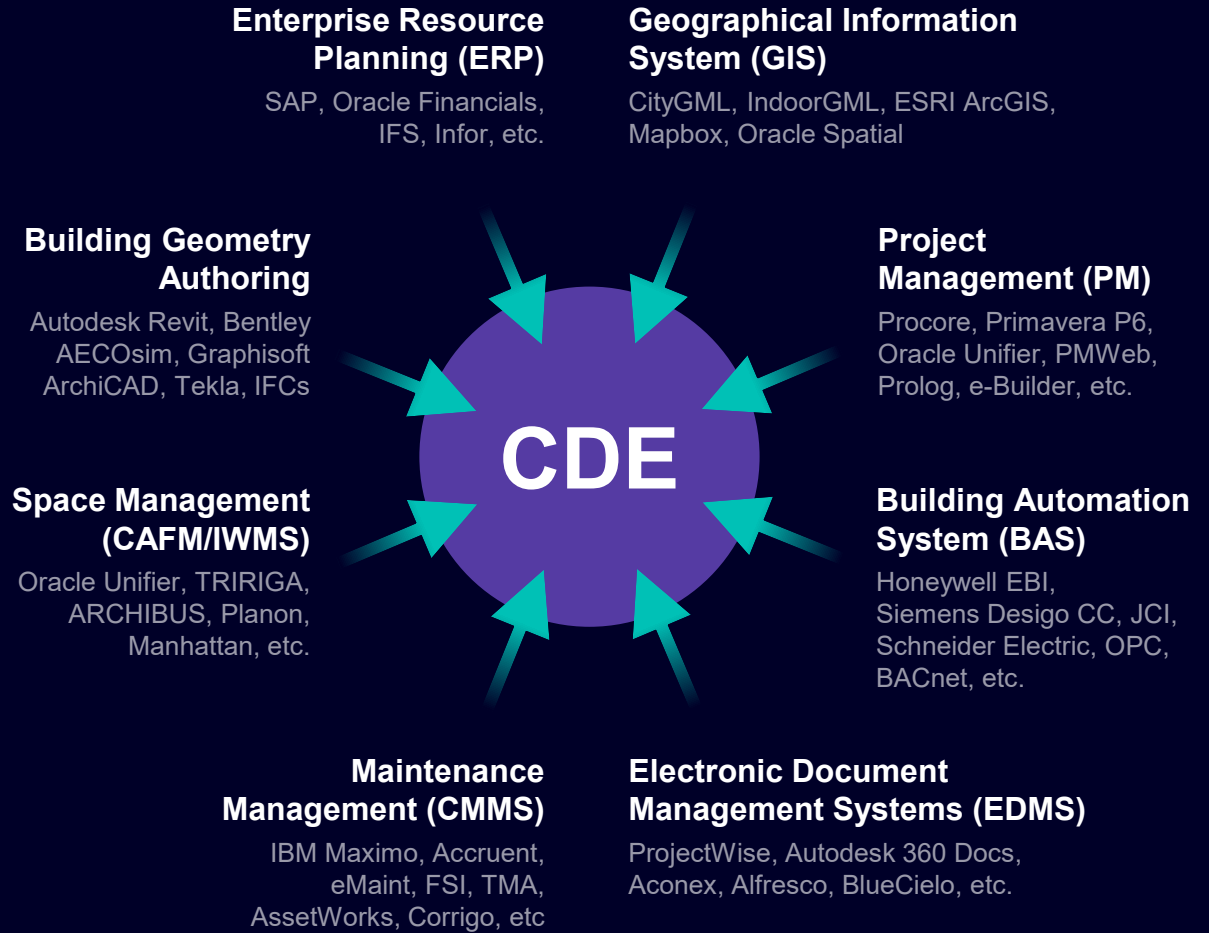
# Integrations with BIM

Integrate a wide variety  
of applications with BIM  
for a seamless workflow

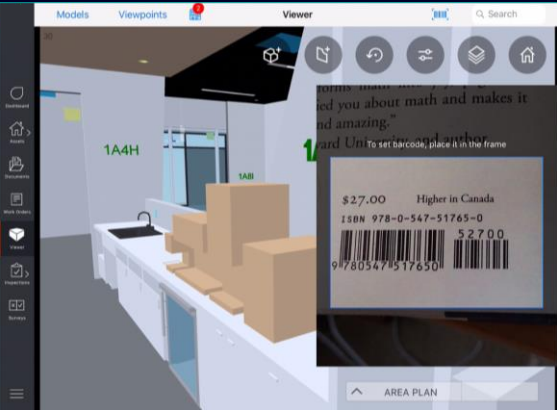
# Integration of All Data via BIM

BIM as the “lowest common denominator” contains the information relevant to all other facility related systems, thus enabling integrations not available in the past.

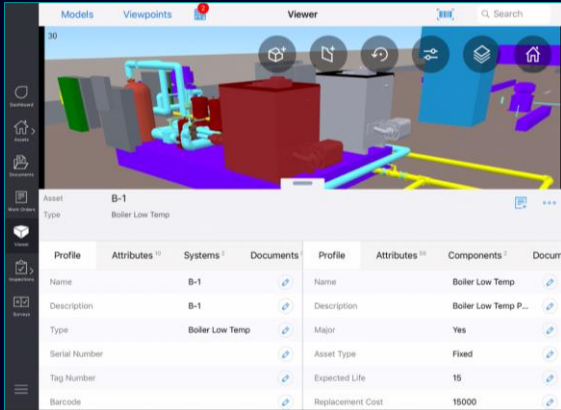
	Drones for indoor/outdoor navigation: Space mapping, deliveries, video streaming, inspections, etc.
	QR/Barcodes, RFID, CCTV, vibration sensors, concrete sensors, etc.
	Augmented Reality, AI/ML, Predictive maintenance, Process simulation, energy analysis, etc.



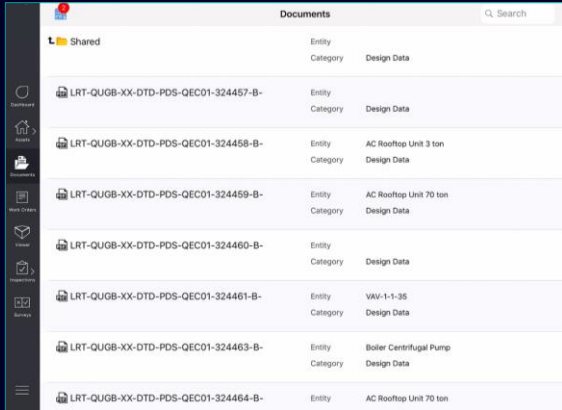
# Mobile BIM and Quality Control on iPad



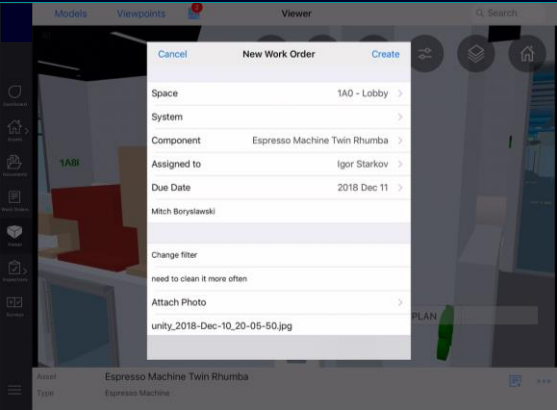
Scan QR/ Barcodes or Use RFID



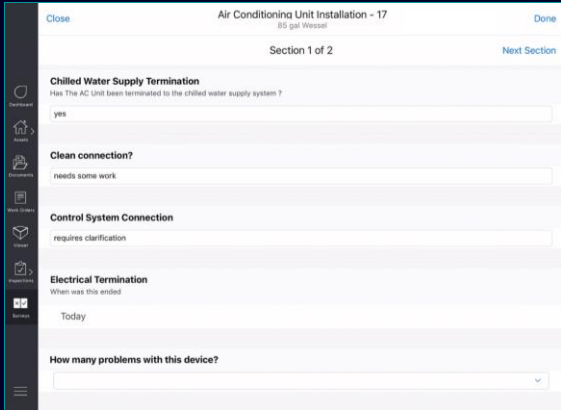
Find Assets and View Attributes



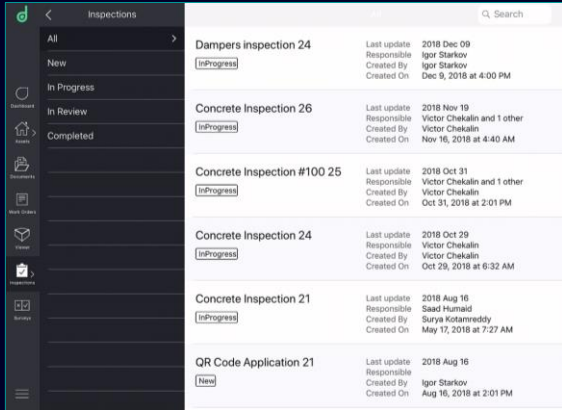
Review and Markup Documents



Manage Issues



Fill Out Forms



Complete Inspections



# Data and Quality Control

Improved quality of BIM data for better operations

Data quality of BIM models is a key to determine the value that can be extracted out of these data



## Data Quality Control

Gap analysis for lifecycle phases to find missing attributes or documents

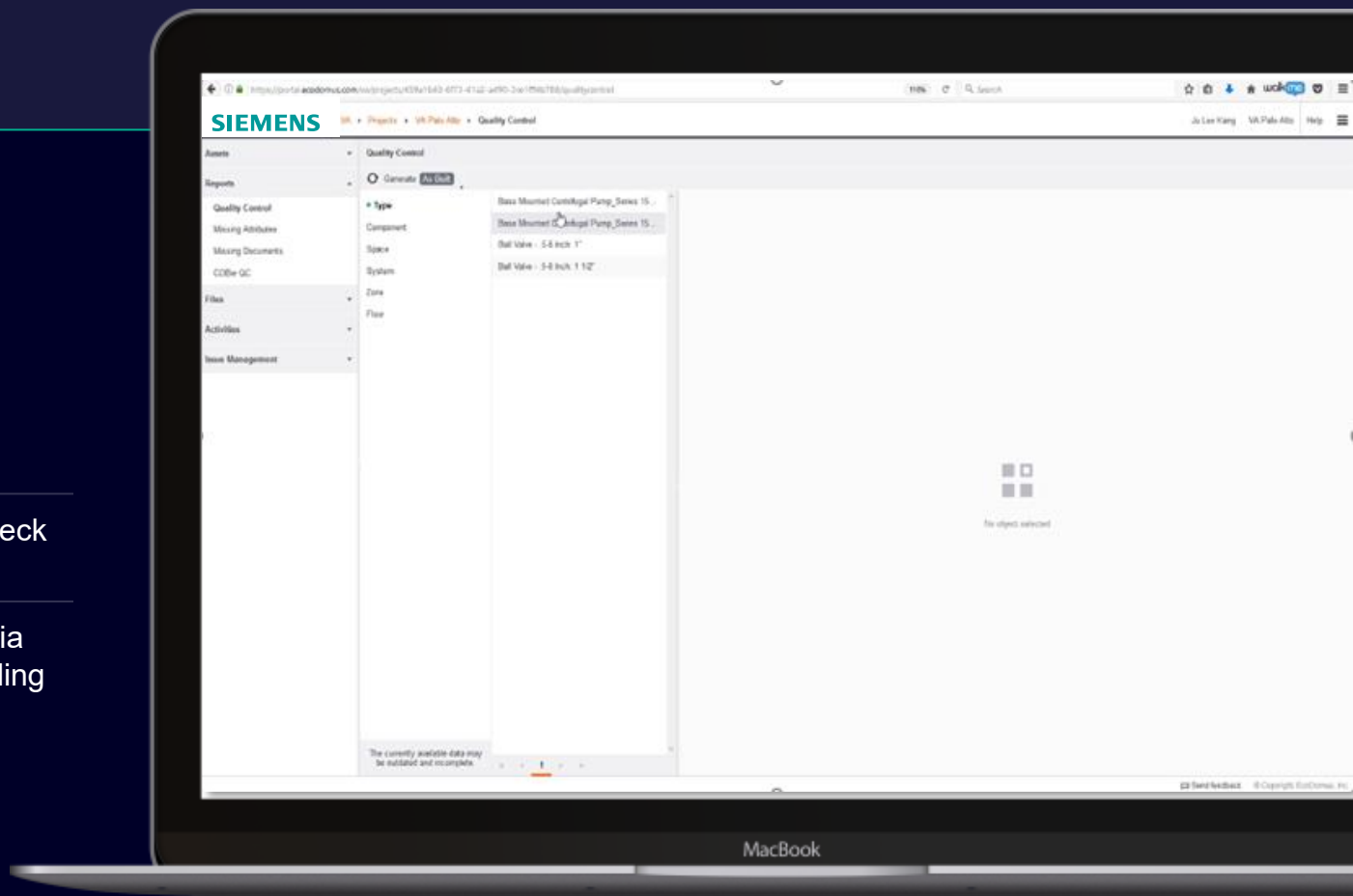
Customize information requirements

Define fields and documents per asset type or space

Bulk and individual refinement of data powered by flexible search

Dynamic reports for asset data check

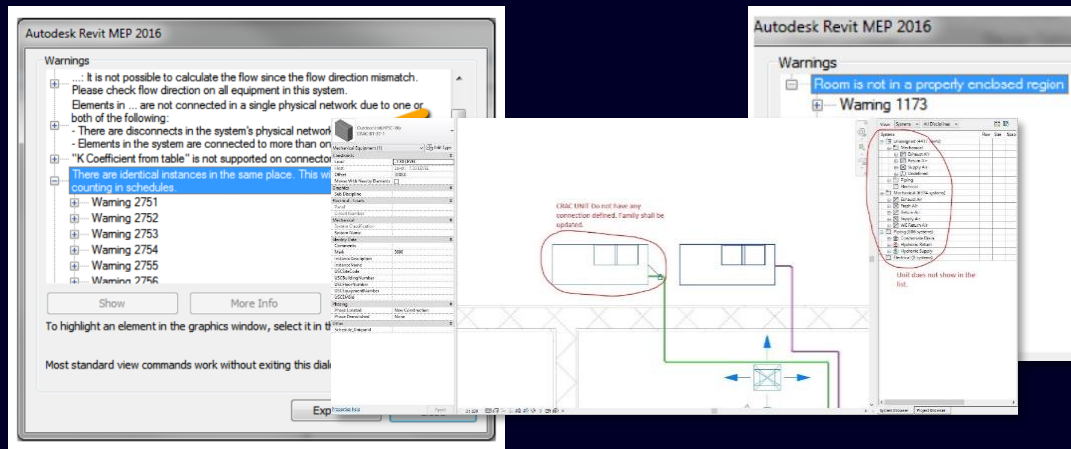
Support quality check workflows via form creation, inspections scheduling reports for asset data check



# Average BIM vs. Useful BIM

## Average “BIM” Project

- Focuses on 2D Deliverables
- Asset names are cryptic
- Properties are missing or wrong
- Building Systems (MEP) are not defined or connected
- Geometry issues (duplicate assets, surface overlaps etc.)



## Useful BIM Project

- Focuses on 3D + Data
- Asset names meet owner requirements
- Properties are verified
- Building systems (MEPF) show actual connections
- Geometry issues are resolved – Easy to navigate and get data

