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Niagara Meets BIM & AR/VR to Advantage the FM Function

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MODERATOR

THERESE SULLIVAN
Marketing Director| Tridium

OLIVIER POUMEYROL
Co-founder | VayanData

MIKE MITCHELL
Chief Technical Officer | Cochrane Supply & Engineering

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AGENDA

- Introductions
- VayanData's Olivier Poumeyrol on Data Modeling
- Cochrane Supply's Mike Mitchell on new AR/VR application
- Q&A

VAYANDATA

COCHRANE SUPPLY

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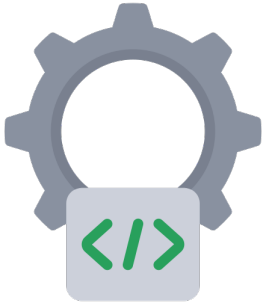
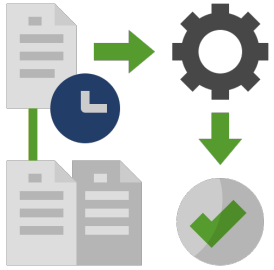
VayanData

Software development company editing the **ACTIVE** Toolset to enrich Niagara

MSI specialized in BAS, BIM, IoT and Network integration



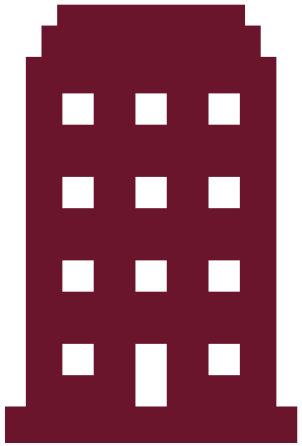
Software Development



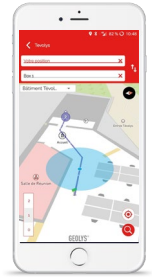
Master System Integrator

Yesterday’s building

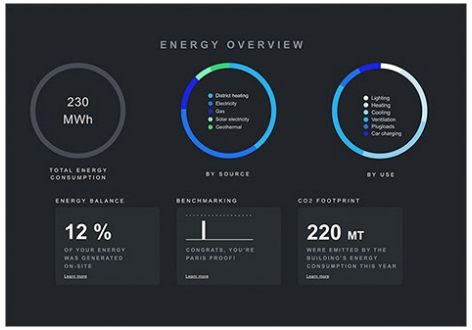
Technical supervision



Today’s building

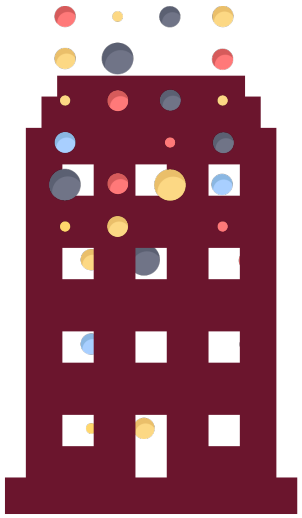


Workplace app

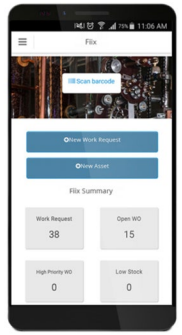


Dashboard & Analytics

BIM Maintenance app



Technical supervision



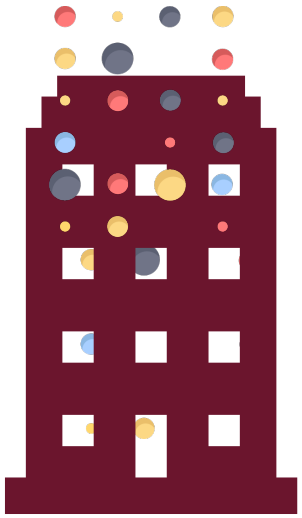
CMMS

Today’s building

Workplace app

Dashboard & Analytics

BIM Maintenance app

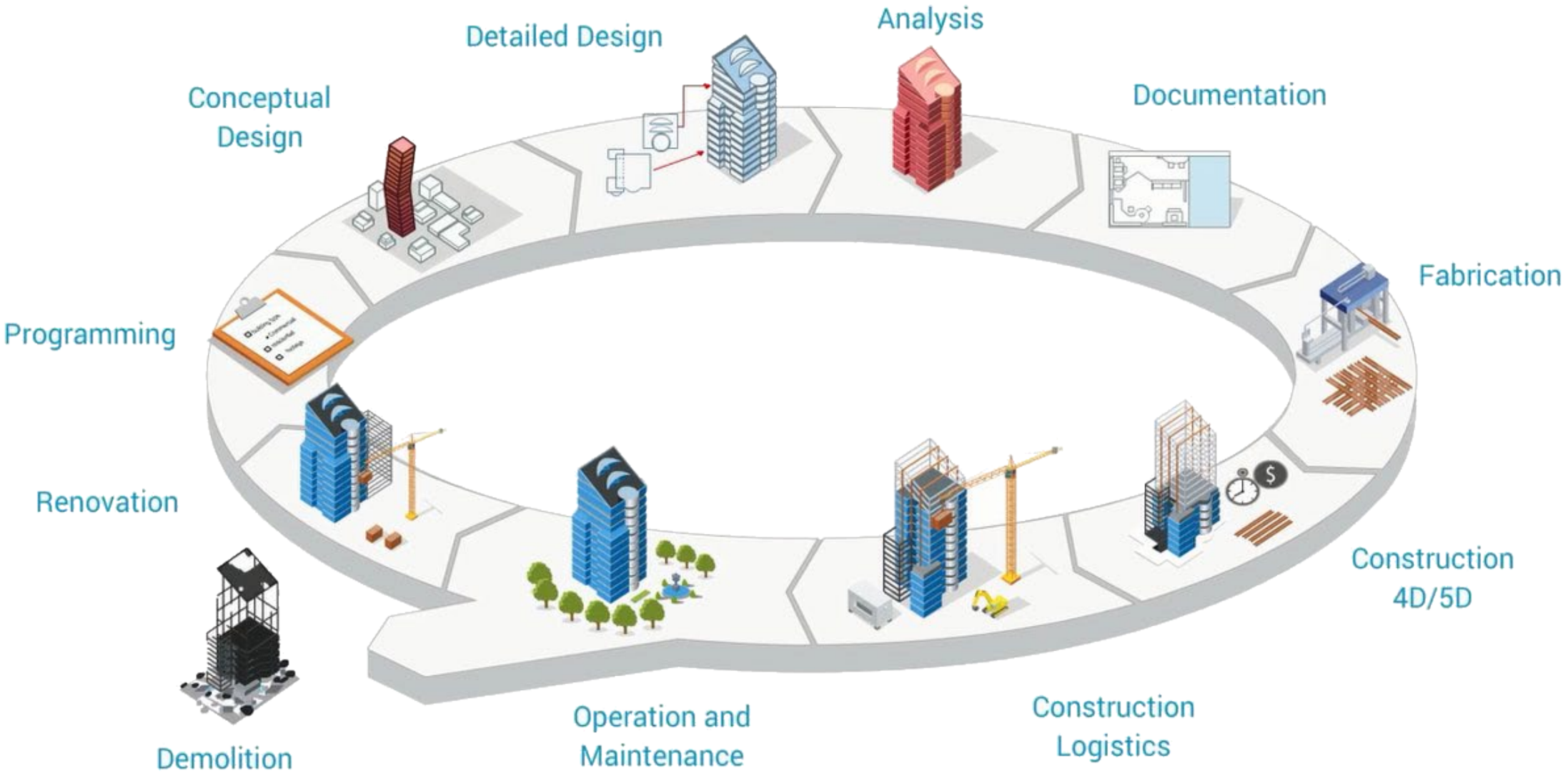


Technical supervision

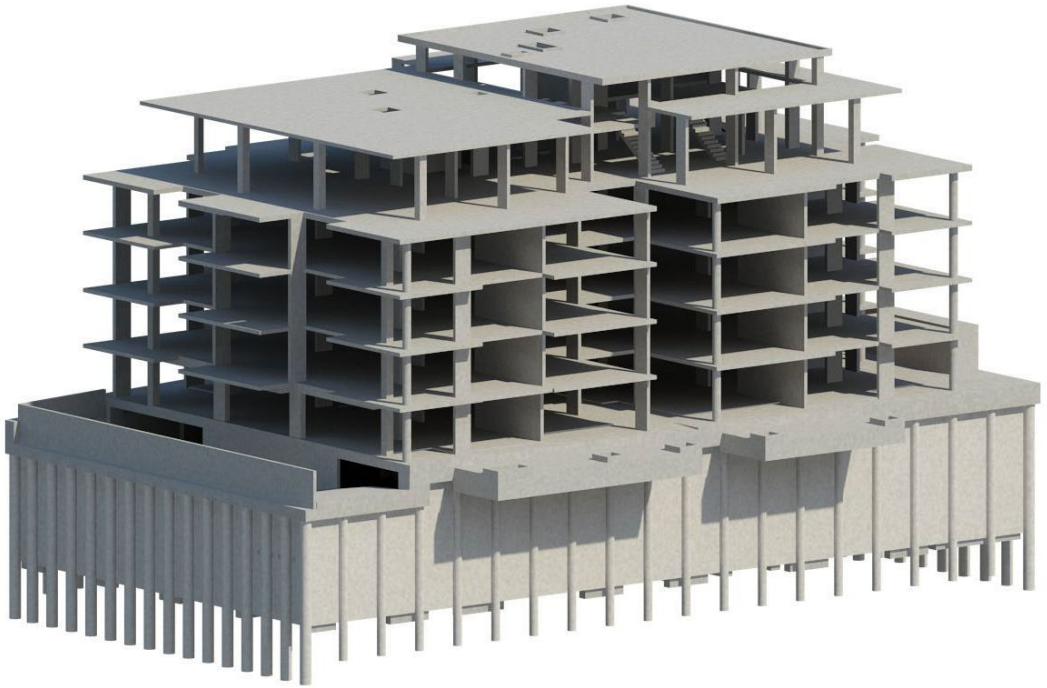
CMMS

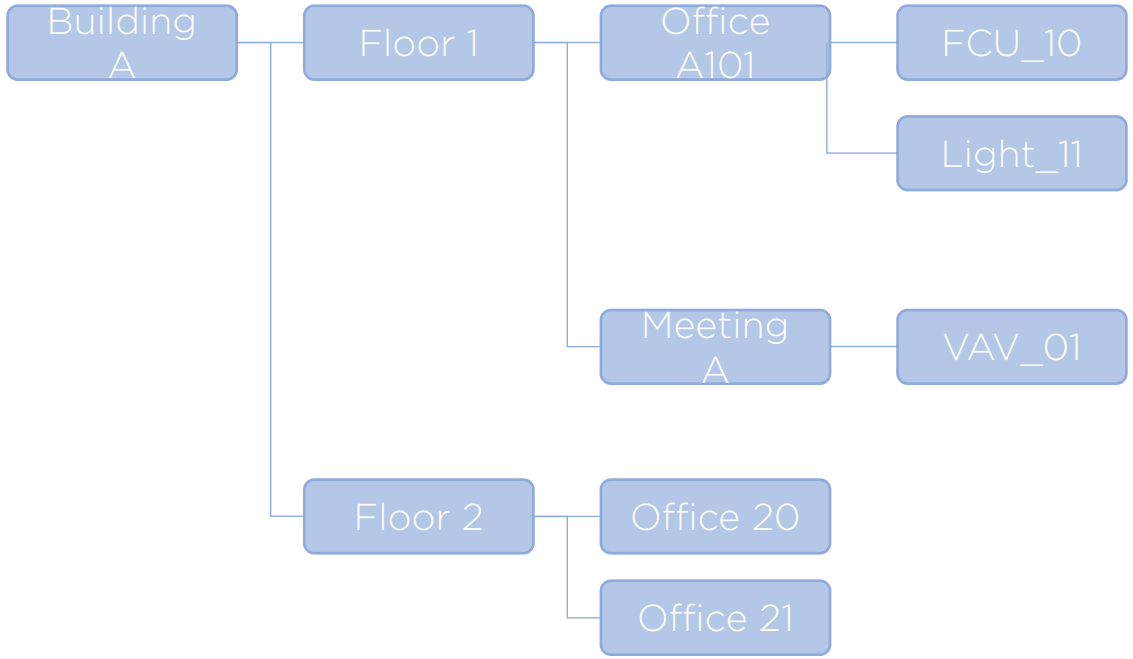
Demo of BIM Applications

BIM

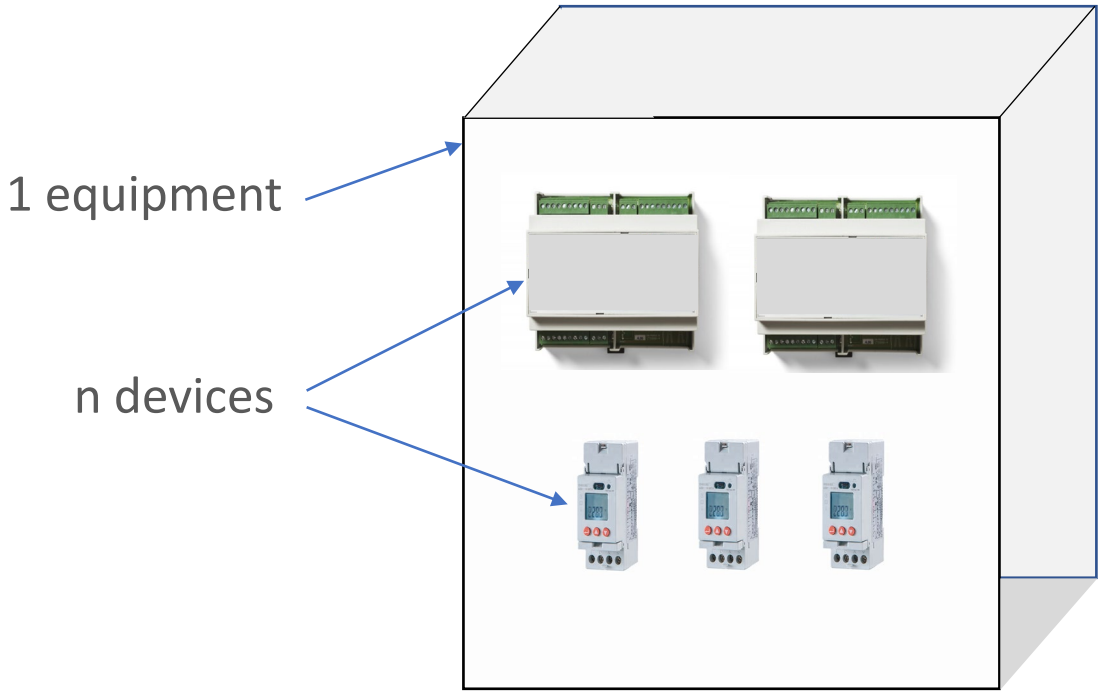

Analysis
Detailed Design
Conceptual Design
Documentation
Fabrication
Programming
Renovation
Construction 4D/5D
Demolition
Operation and Maintenance
Construction Logistics

BIM: 3D model vs Data model

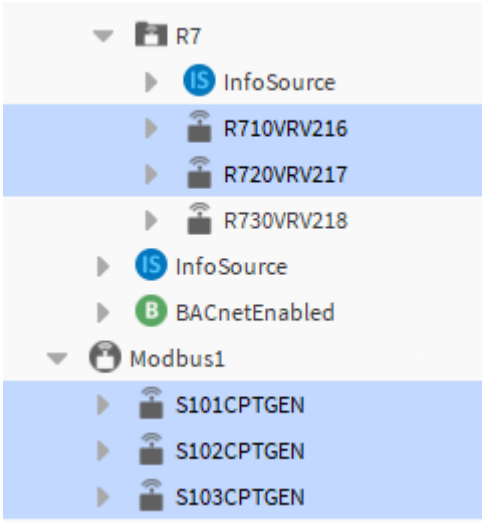




BIM and BAS modeling variations

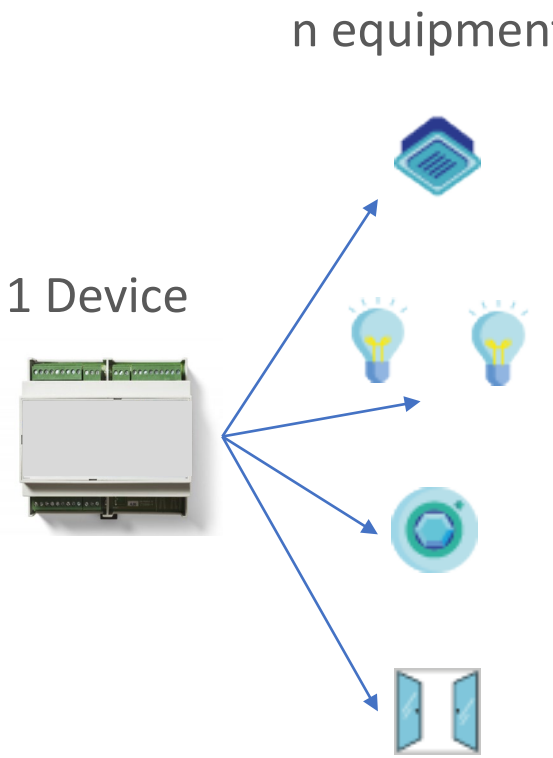


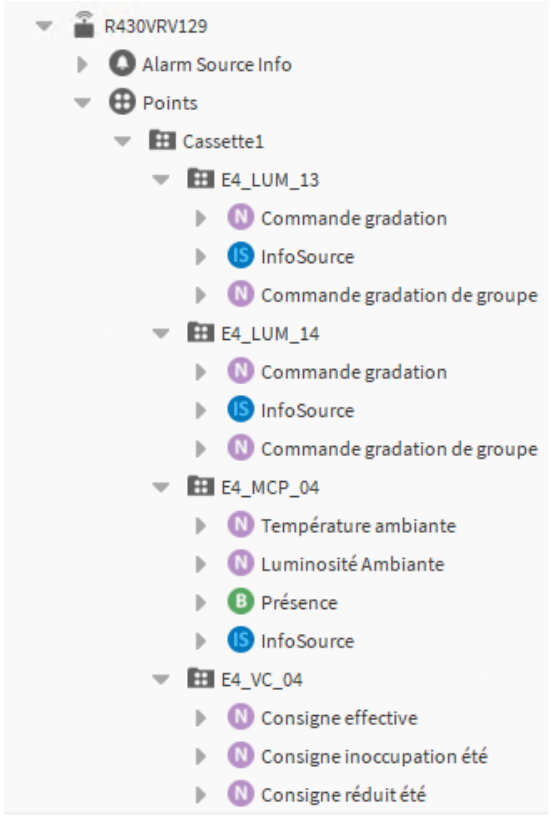
n devices



1 equipment

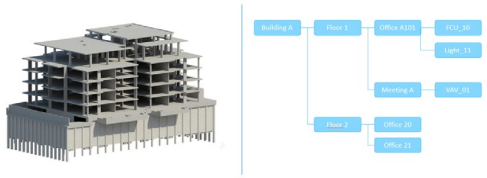
BIM and BAS modeling variations





Global stack of a modern BAS architecture

Static Data Model



DATA EXCHANGES

STRUCTURATION

CONSOLIDATION

ACQUISITION & CONTROL

Local UI

Supervision

Dashboard

Building Automation System

Dynamic data

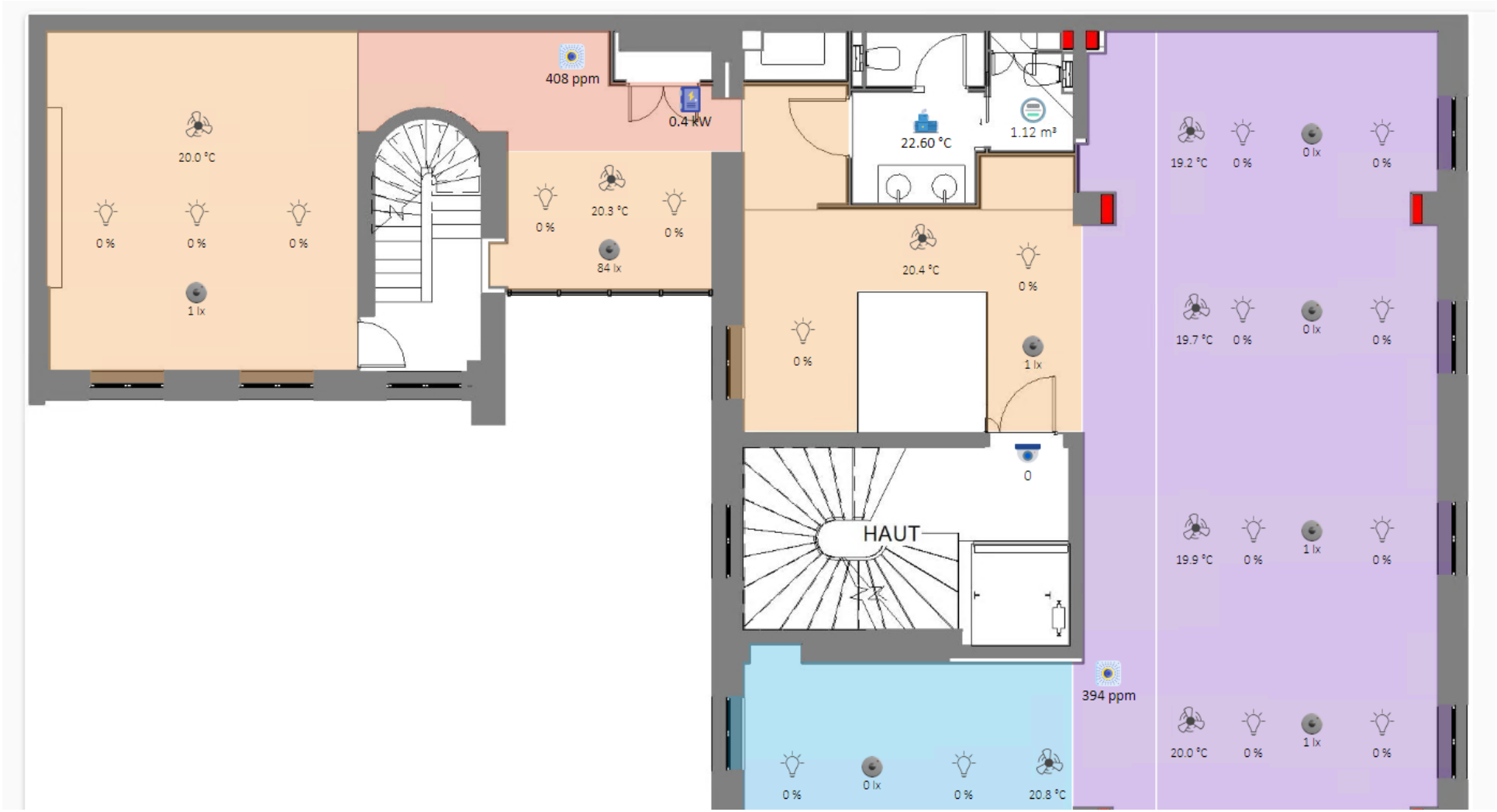
IoT

BAS Systems

Silos

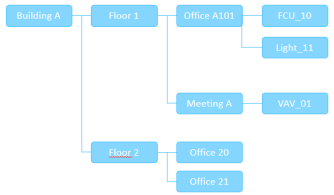
Pairing static data and dynamic data into a BAS

First advantage: Automatic graphics positioning

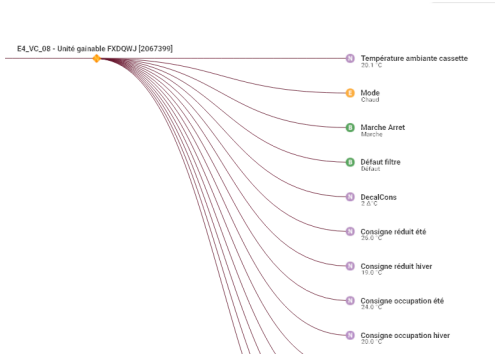


Sharing structured data based on a common Data Model

Static & Dynamic Data



niagara framework®



API { REST }

MQTT

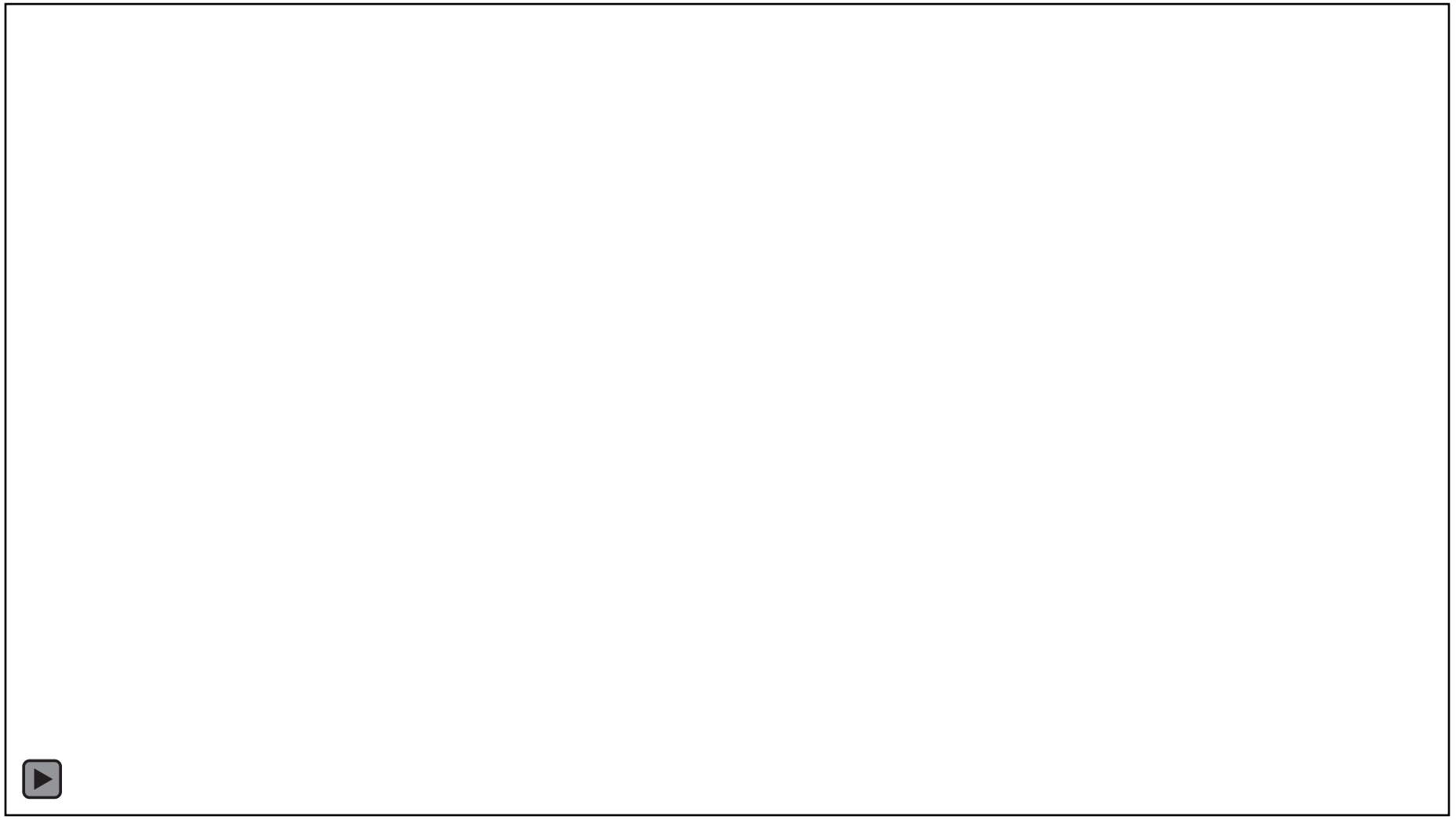
MongoDb

Tenant app

Analytics

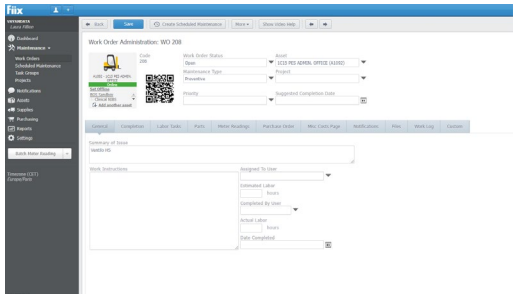
BIM App

Example with a CMMS



Advanced integration between services

Work Order



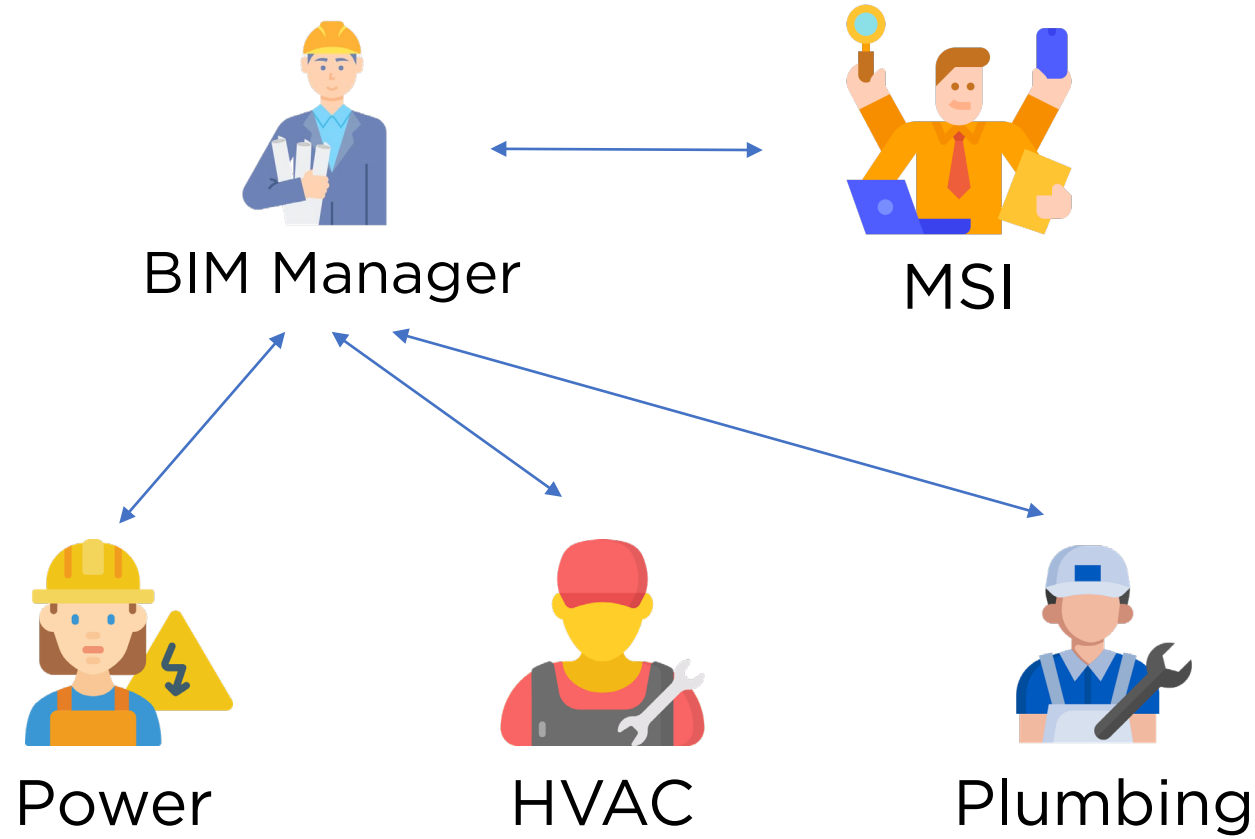
niagara framework®

Analytics

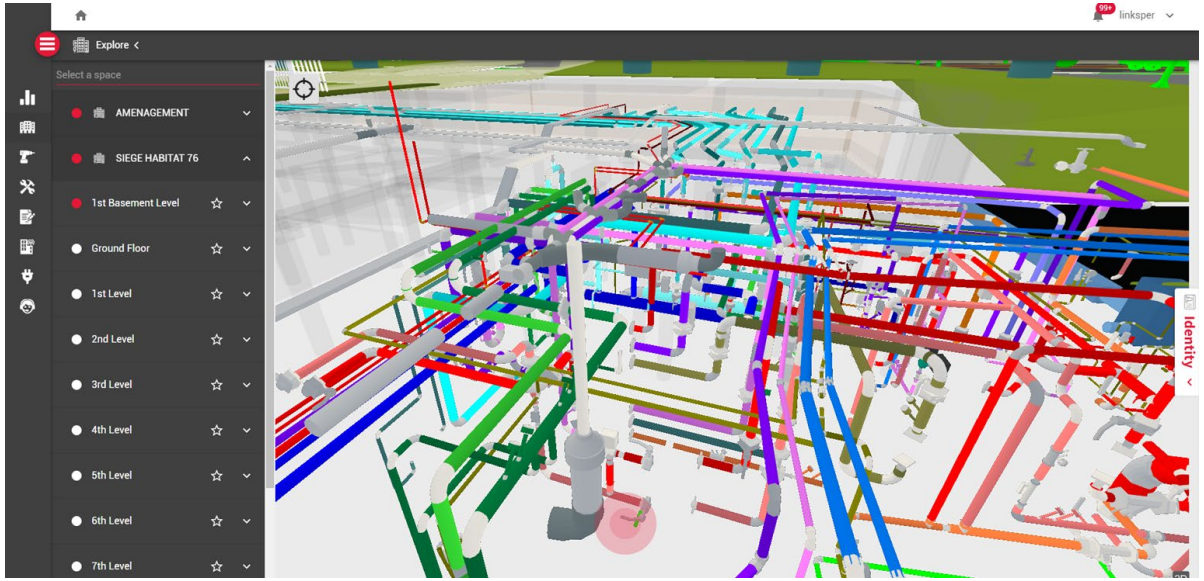
BIM App

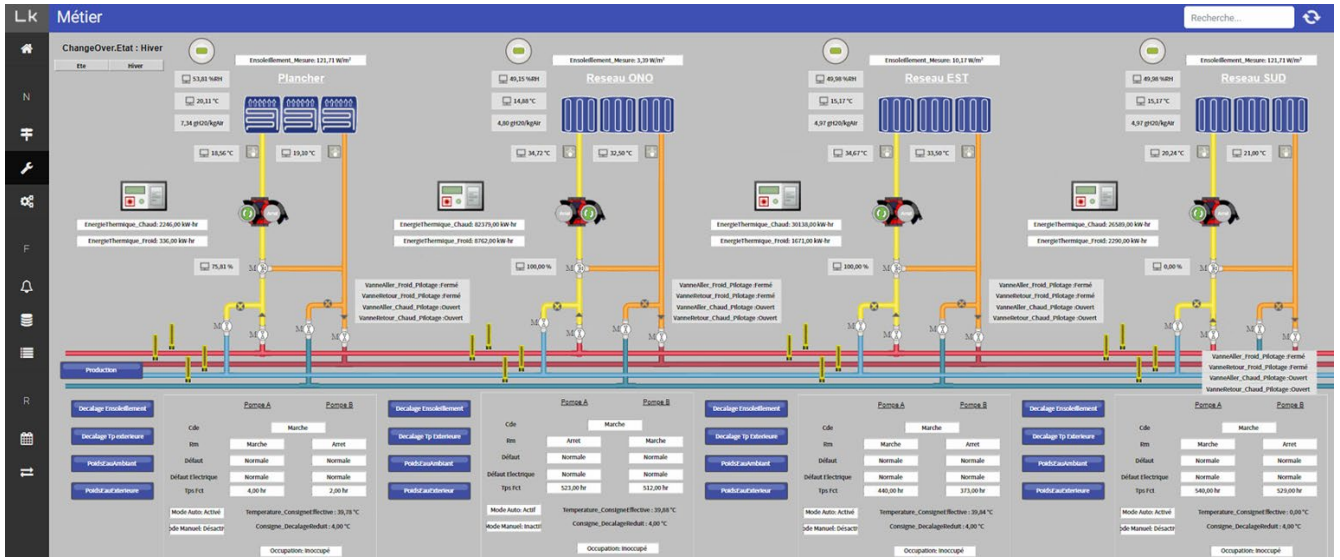
A new [additional] role for a MSI

- Naming convention
- Data unity & consistency
- Equipment hierarchies
- Level of details



Will a BIM application replace a BAS head-end?





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Mike Mitchell

COCHRANE SUPPLY

TRIDIUM

The 3 Amigos!

Microsoft Dynamics 365 Remote Assist

Microsoft Dynamics 365 Guides

H2N4 by Cochrane Tech Services

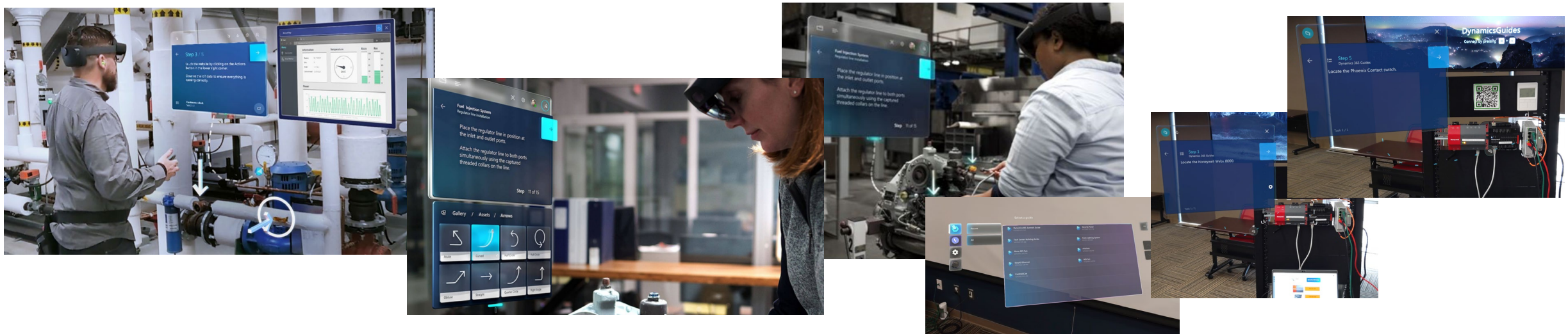
...they work great individually and as a team!

Microsoft Dynamics 365 Remote Assist

A Hololens App that allows remote expertise to be available to onsite technicians for diagnosis of building issues. Remote technicians can “see through the eyes” of the onsite crew, superimposing holographic whiteboard information and documents to assist in maintenance and troubleshooting.

Microsoft Dynamics 365 Guides

Allows the integrator to create holographic building information like user training, maintenance steps, equipment path finding, and easy access documentation such as: as-builts, installation guides, and manufacturer documentation. Author and Operator roles can be the domain of building owners, service personnel, integrators, or Cochrane Technical support staff.

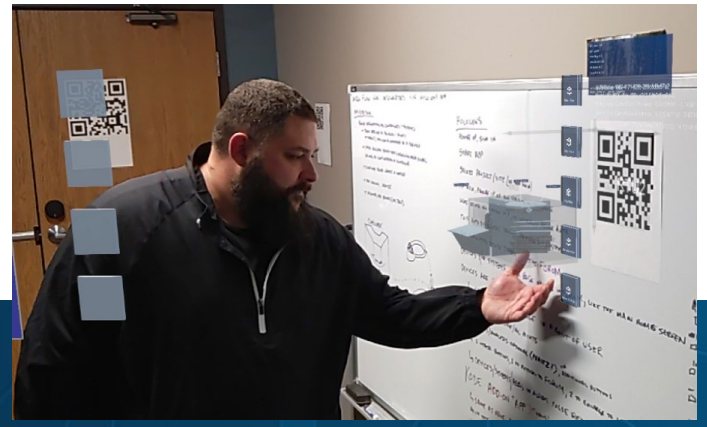


H2N4 – Connecting Hololens 2 with Niagara 4

It's an N4 Service, and a Hololens 2 App!

The Niagara Service allows communication between an N4 station and a Microsoft Hololens 2 device app.

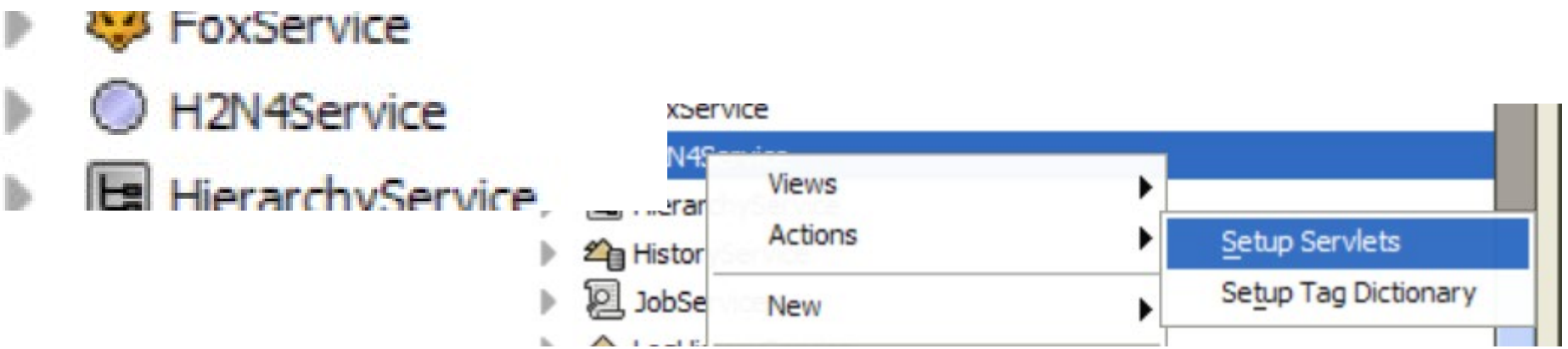
This results in the ability to view live data using the Hololens 2 Application with 3D representations of devices, floor plans, duct work, piping layouts, building or campus renderings, as-builts, installation guides, and any other important documentation for the site.



H2N4 – Niagara 4 Service

The H2N4 Service: - keeping things as simple as possible!

- Add the Service, do a couple of Actions…
- Uses h2n4 tag dictionary marker tags as a root system, but other dictionaries welcome!
- Creates Web Servlets that allow the Hololens 2 device to request and send data.
- Data from h2n4 tagged devices/systems is JSON formatted using templates.
- QR Codes available as web view of Service for easy printing.



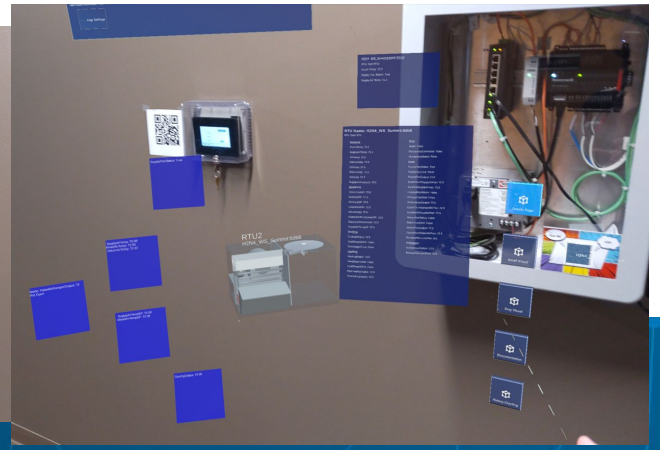
H2N4 – Hololens 2 App

Create Profiles – similar to the station list in workbench
Create Stations in the Profile – keeps what you want to connect to handy
Pick a station, launch the App View
App View Data Presented As:

- Data Panels – Basic and Detailed
- Small Scale View: Smaller 3d Models w overlaid data

Coming Soon:

- Xray View: Large 3d models that fit the actual space with overlaid data
- Documentation
- Histories



H2N4

Live Demo!

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THANK YOU!

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