Empathic Building

Time to make your hospital data-driven

Gunnar Hansen

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Background

After the startup in 2016, Empathic Building now appears as a robust and massively scalable IoT solution that is ready for deliveries to large hospitals. We have delivered our solution to over 20 countries. In the past year, we have delivered over 650,000 m2 in the hospital area. Are you next?
Start maturing your organization, iot is here to stay

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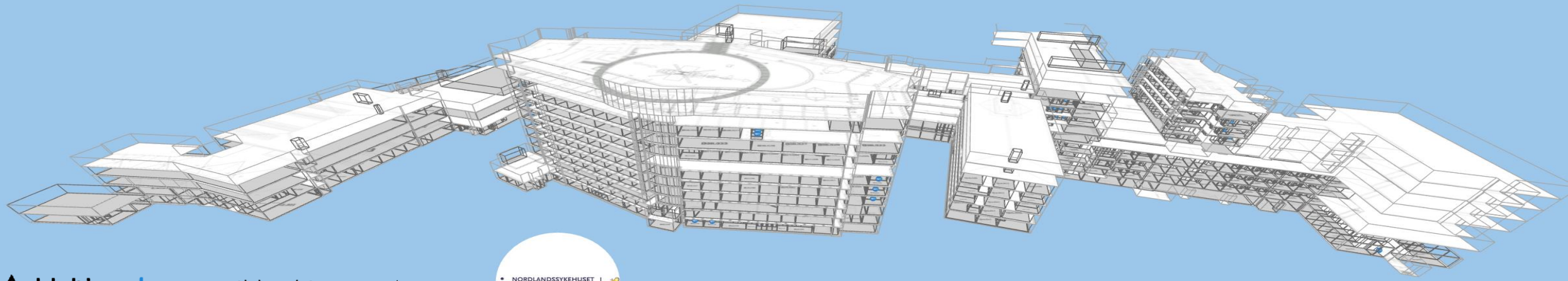

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NORDLANDSSYKEHUSET

Cost & benefit

Our goal is to solve as many tasks as possible with the same iot infrastructure.

The system is used by all users of the building and can be used on all surfaces such as mobile phones, PCs, touch screens etc

Patient:

- The summons gives the patient access to the model so that the visit can be planned (eg through a QR code)
- Access to search for Points of interest in the building such as department, service offer, transport, etc
- **Employee:**

Clinic: Infection tracking, reporting patient visits, finding equipment, who has used the equipment back in time, reporting hand hygiene, finding available rooms, increasing utilization of buildings, providing access to common data across units, where the patient is going (for X-ray ..)

Renhold: Room free / occupied, paper dispenser full / empty, need based cleaning / integration to cleaning system, cleaning is necessary based on usagedata after previous cleaning

Technical dept: Service tickets integrated with maintenance system, finding equipment, environmental analysis (temperature / co2 / etc), environmental measures

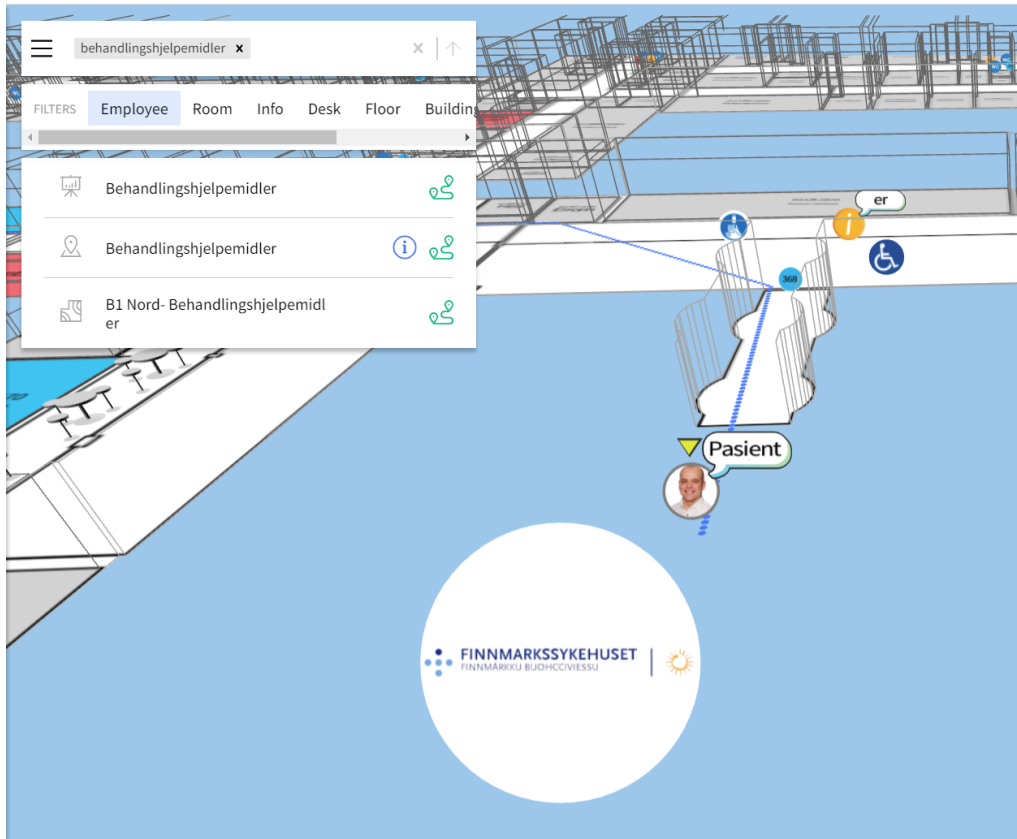
Biomedical dept: Find equipment, communicate from the maintenance system to the equipment (take the equipment out of use / communicate need of technical service / user manuals / training)

Eiendomsavdeling: Computer-driven decisions, change routines based on facts, make room for those who need it and not those who shout the loudest

Ledelsesrapportering: Data-driven reporting, capacity utilization, reduced need for medical and other material due to increased utilization, environmental reporting / change over time, patient / equipment flow, ac

Owner:

Reporting basis for drawing parallels between enterprises and learning

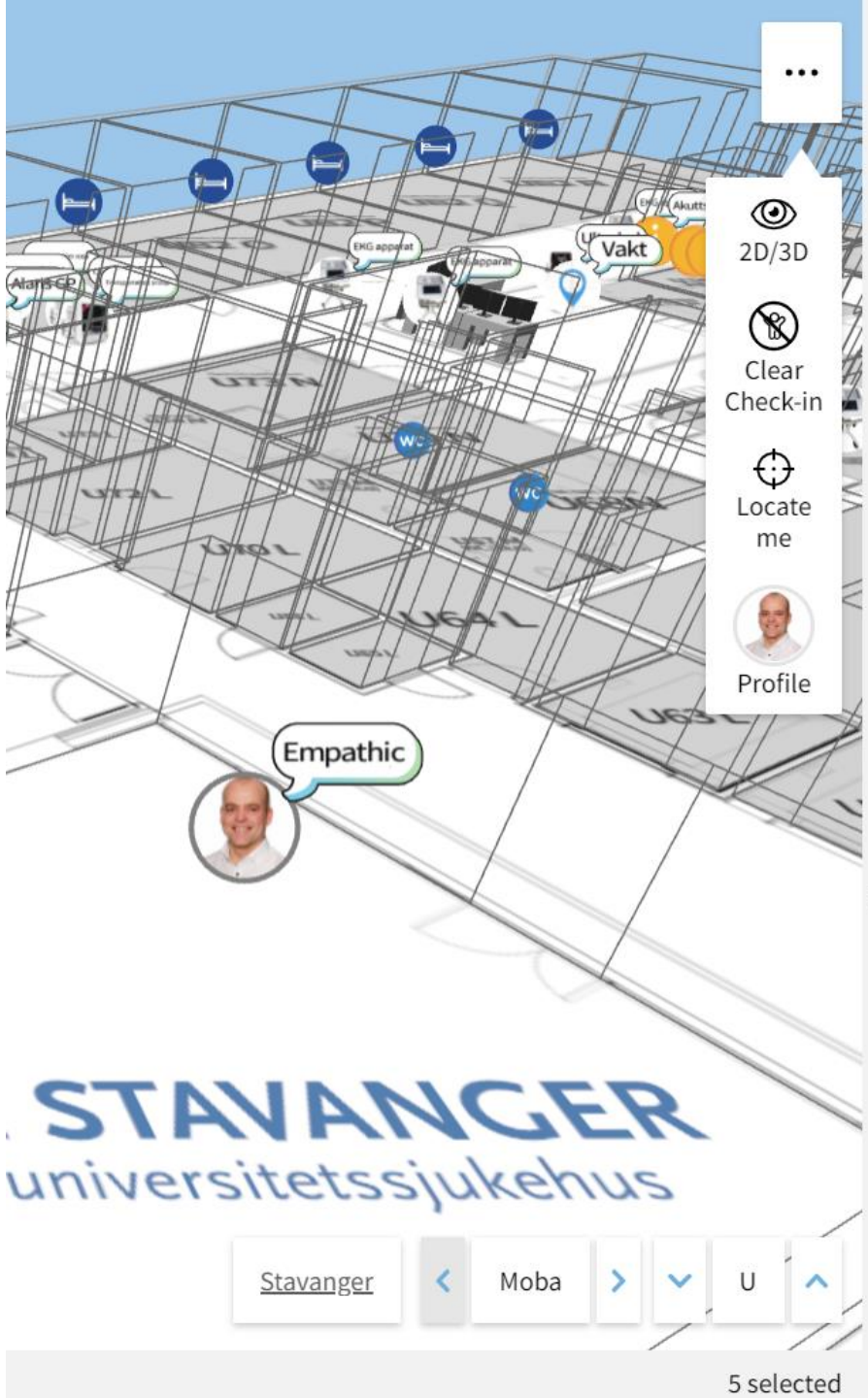


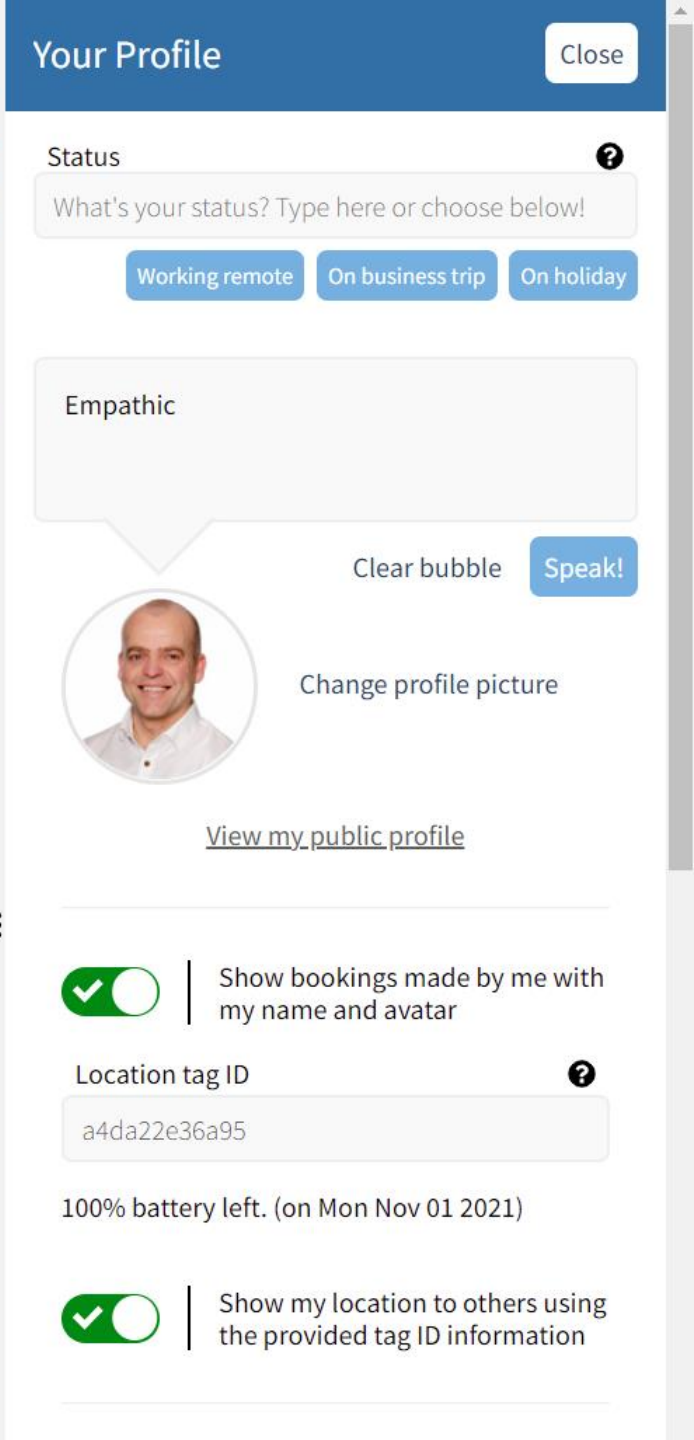
GDPR

- No patient data
- Employees can show their face if they want to, but can always pull this back.
- We do not save historical data connected to a person

Contact tracing:

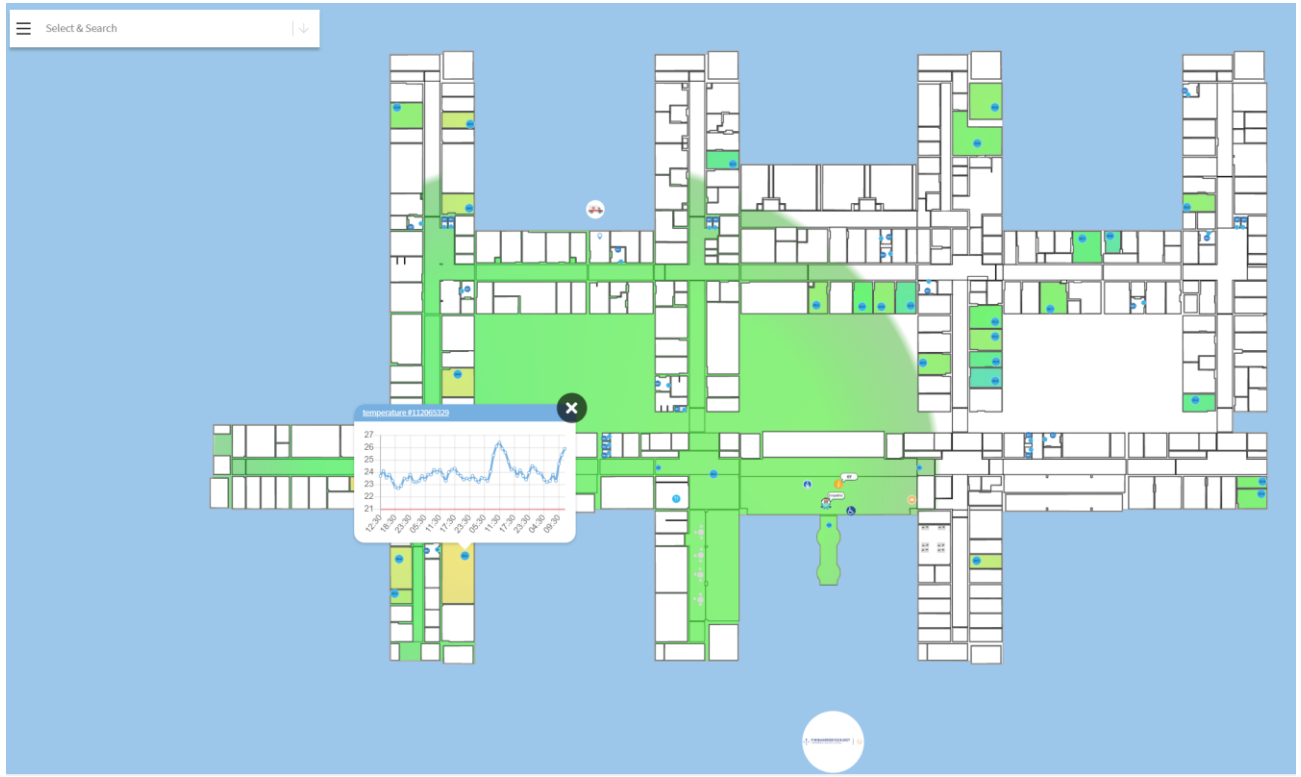
- Done with anonymous tags where the hospital needs to have a separate system for which employess/patient was wearing which tag
- Our report is only showing that a tag was in contact with another tag at a specific time and date





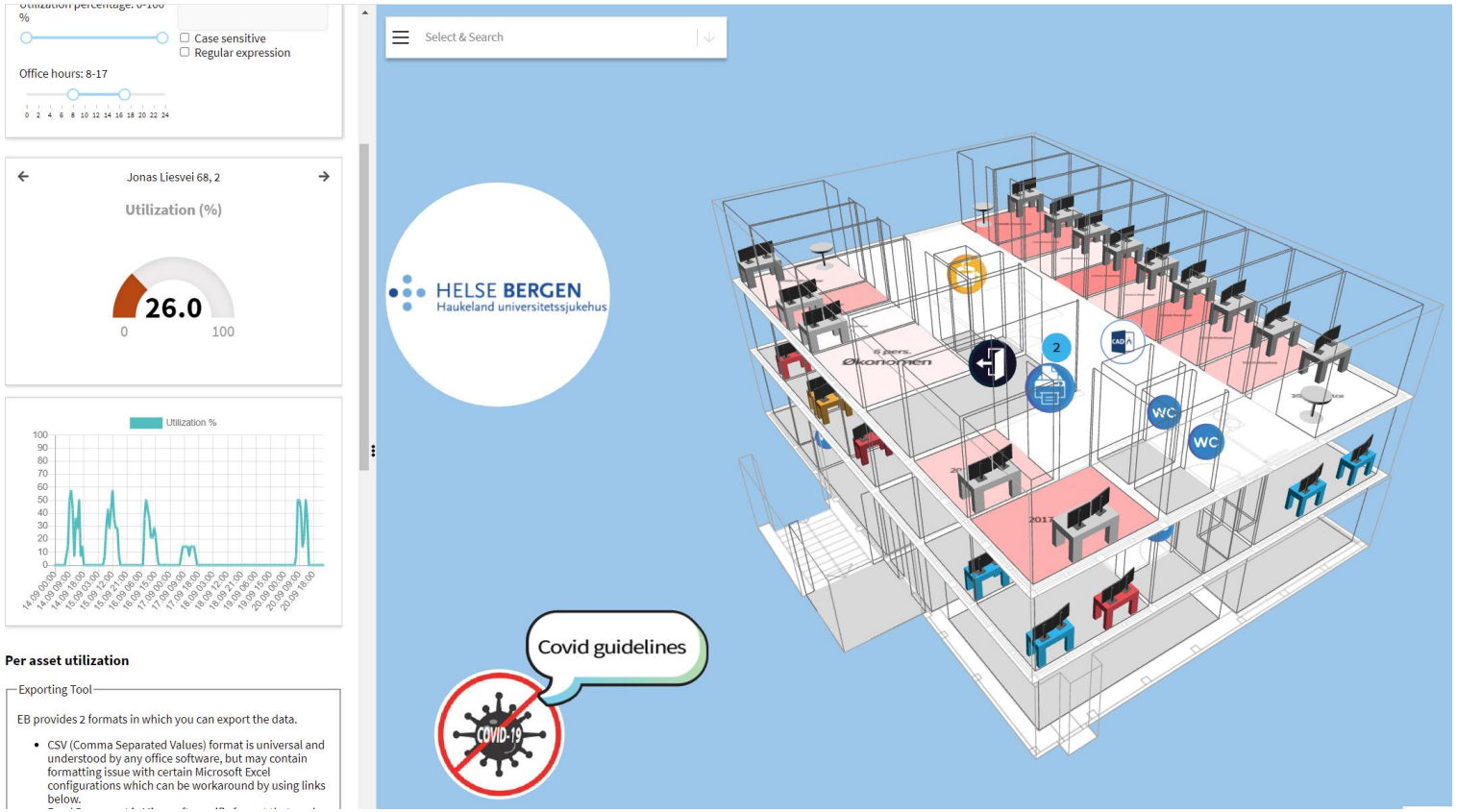
Environmental measurements

Finnmarkssykehuset - Kirkenes



Utilization

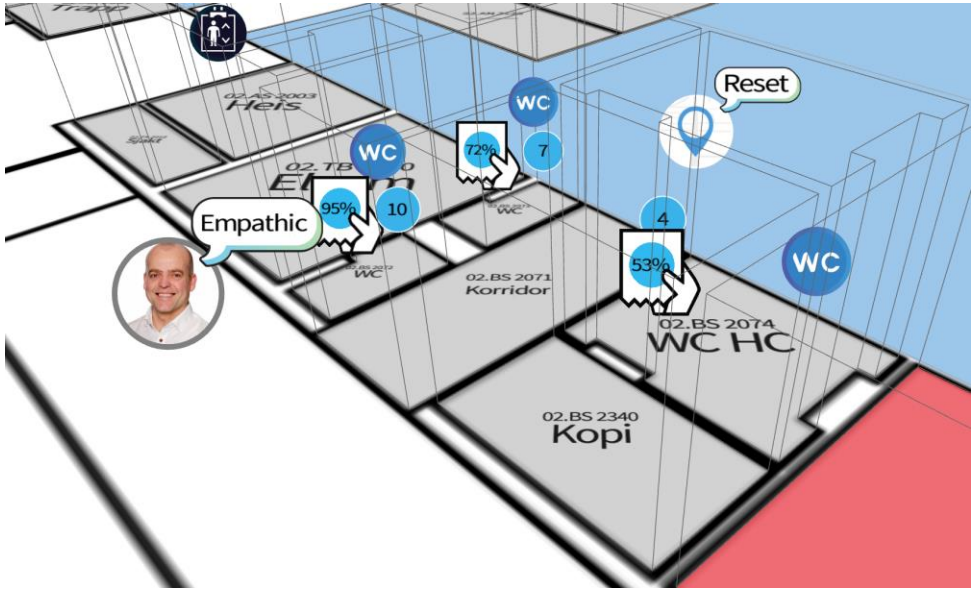
Helse Bergen HF



Smart cleaning

Nordlandssykehuset HF

- Fillingrate paper/trash
- Traffic counting
- Documenting tasks



No connection to the hospitals' IT

Thingsee gateway

Sensors communicate with each other in mesh network

100 sensors / gateway

Gateway communicates via mobile networks

Bookingsolutions

Connected to iot sensors

- Easy booking
- Outlook integration
- Visitor management
- Booking panels

Busy lights

- Room / Desk / Equipment / Cabinet

Real time positioning

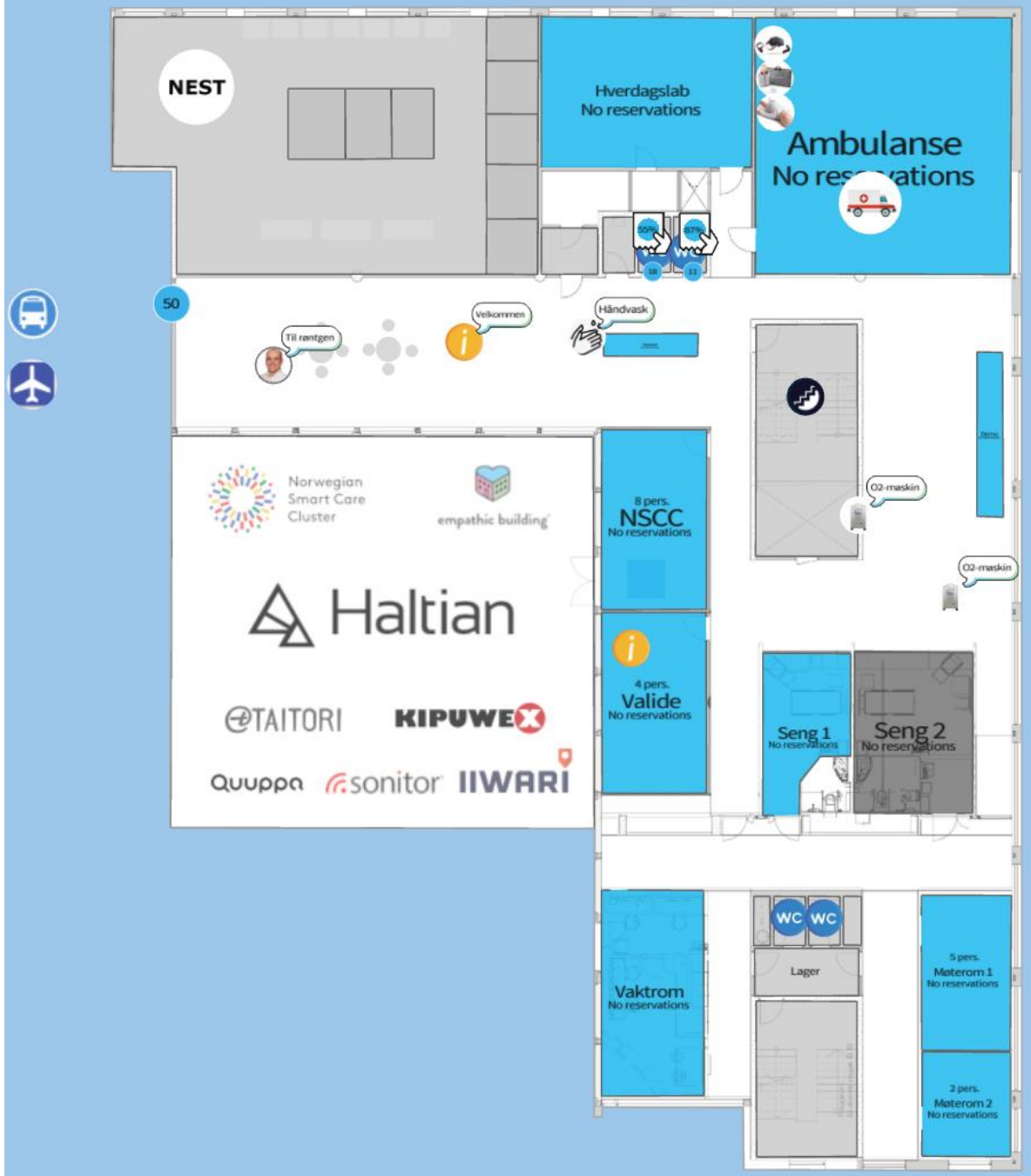
Norwegian Smart Care Cluster

RTLS with 3 different technologies simultaneously

Low energy Bluetooth (Quuppa)

Ultrawideband (Iiwari)

Ultrasound (Sonitor)



Real time positioning

Emergency rooms

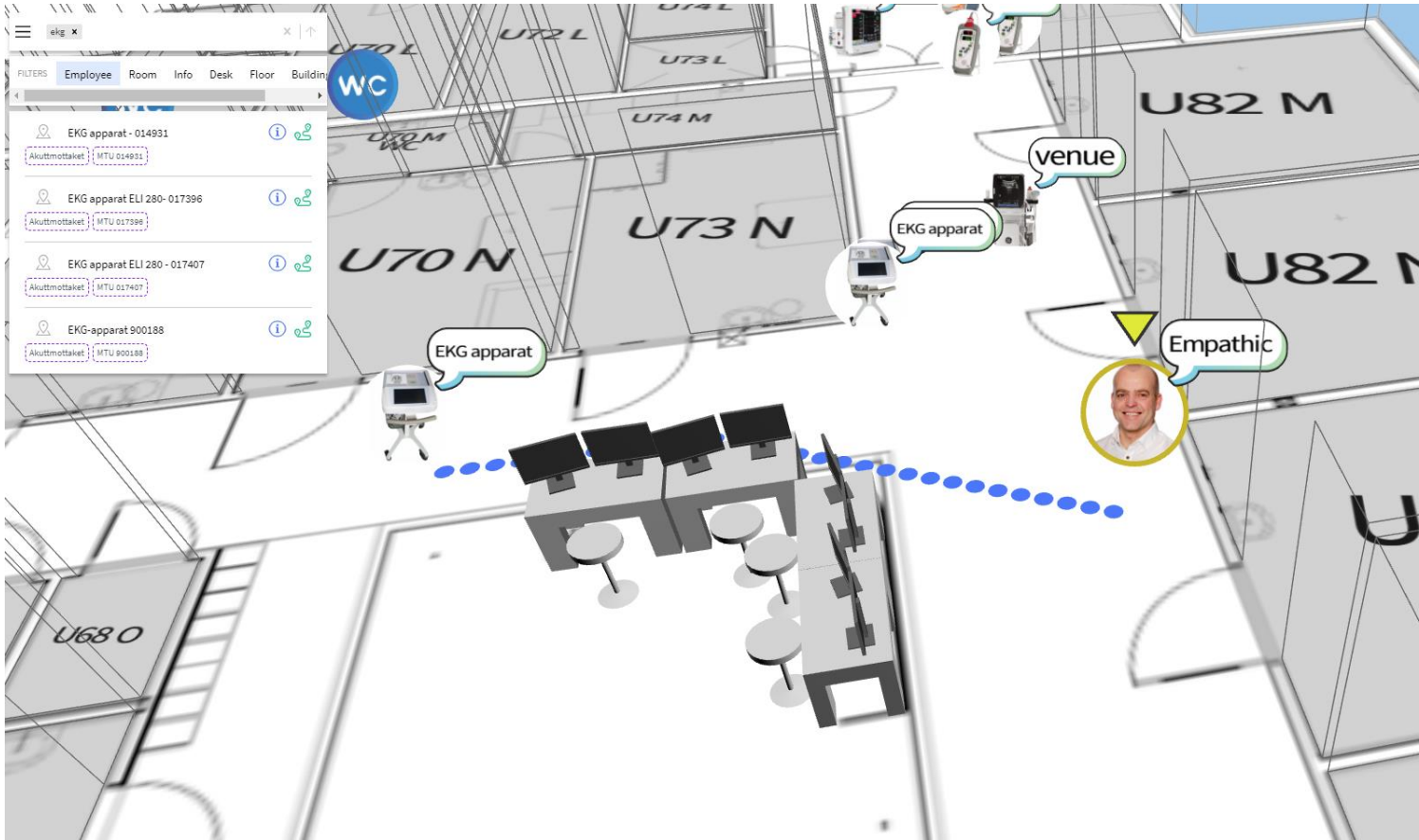
Automatic contact tracing

Where to find medical equipment

Learn patient / employee flow

Wayfinding

Integrations



Medical equipment

Usecases

- Search and find
- Owner
- Related section
- Model / type
- User manual / training
- Permission
- Next post
- Communicate directly in case of errors
- Which patients have used the equipment
- Alarm when equipment leaves the area
- Service tickets
- Link to Maintenance system
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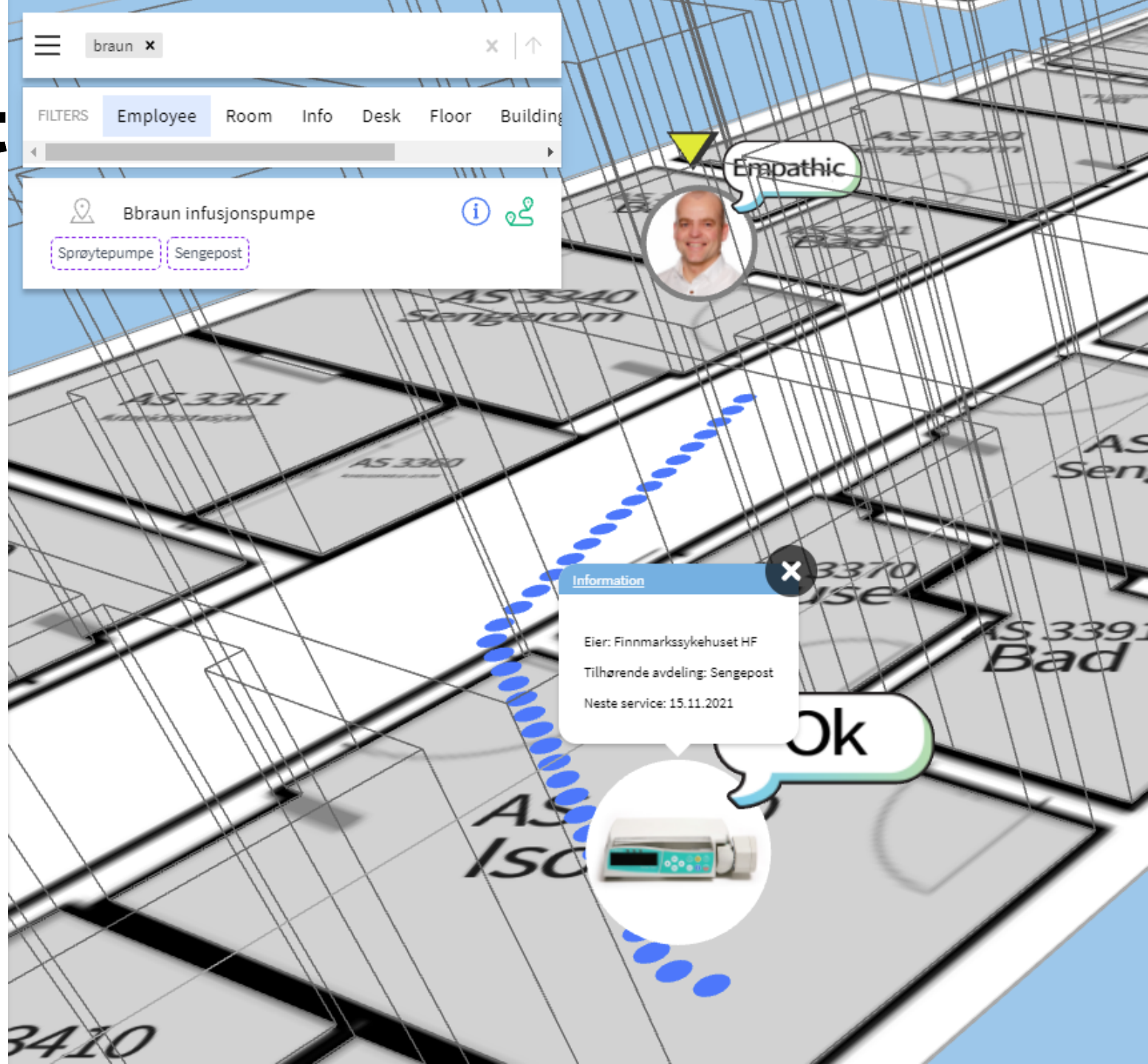
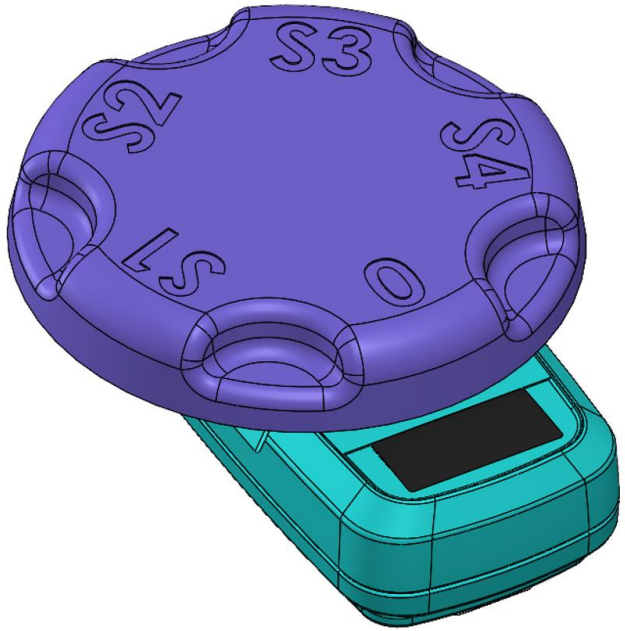


Hospital beds

How to make a simple “clean the bed” work order?

A nurse makes a cleaning request for a bed by rotating the knob of Thingsee sensor device. This changes the status of the bed to ‘Cleaning Required’. A red LED starts to blink, indicating this bed requires cleaning. At the same time sensor sends the information wirelessly to the hospital system and a service ticket is automatically made in the Empathic Building Hospital Solution and a notification is sent to the responsible cleaning personnel. They simply have to click the link to see which bed needs to be cleaned and where it can be found.

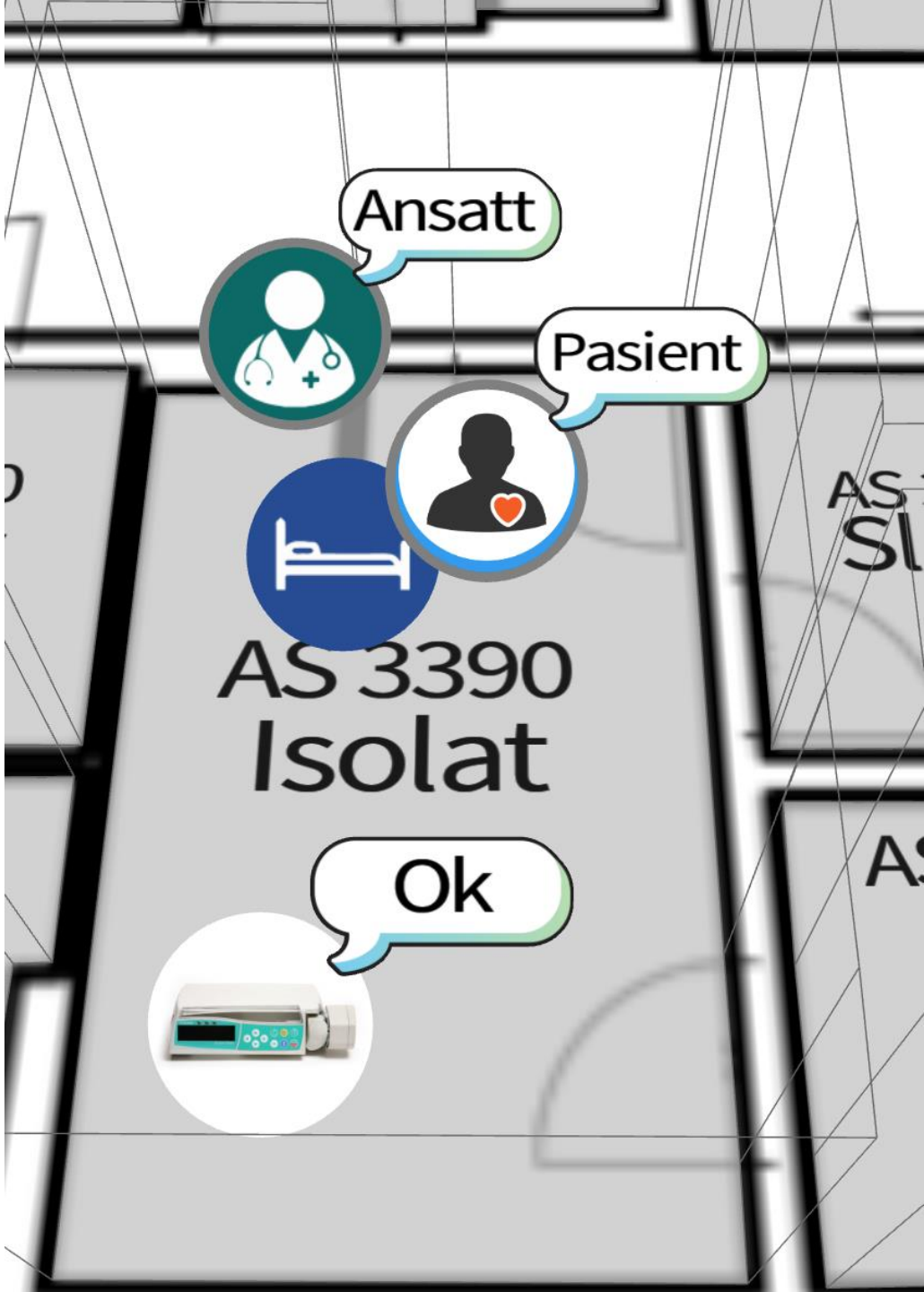
Haltian Thingsee sensor devices can be attached to any asset quickly.



Employees / Patients

Usecases

- Search and find
- Status
- Historical site information
- Alarm when patient leaves the area
- Automatic infection tracking
- (Patient / employee / with equipment)



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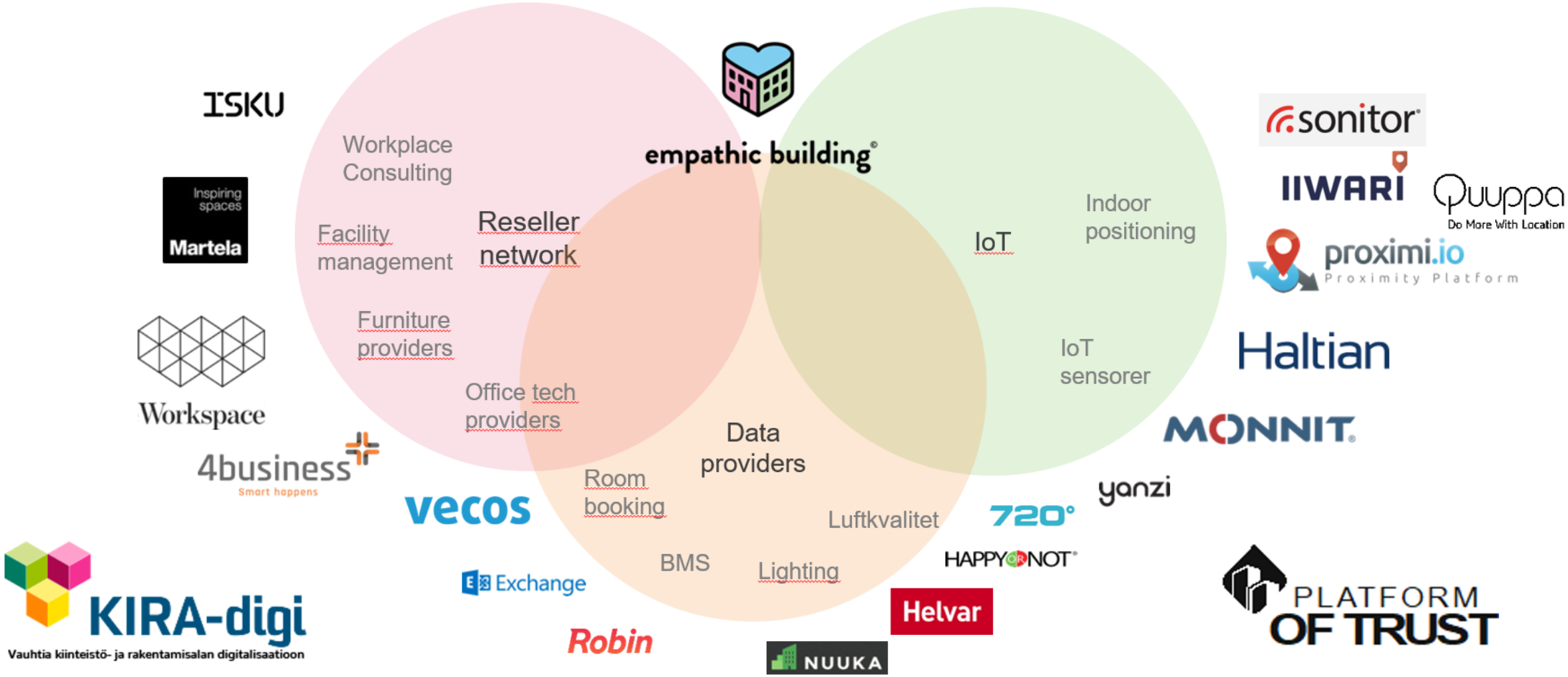

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