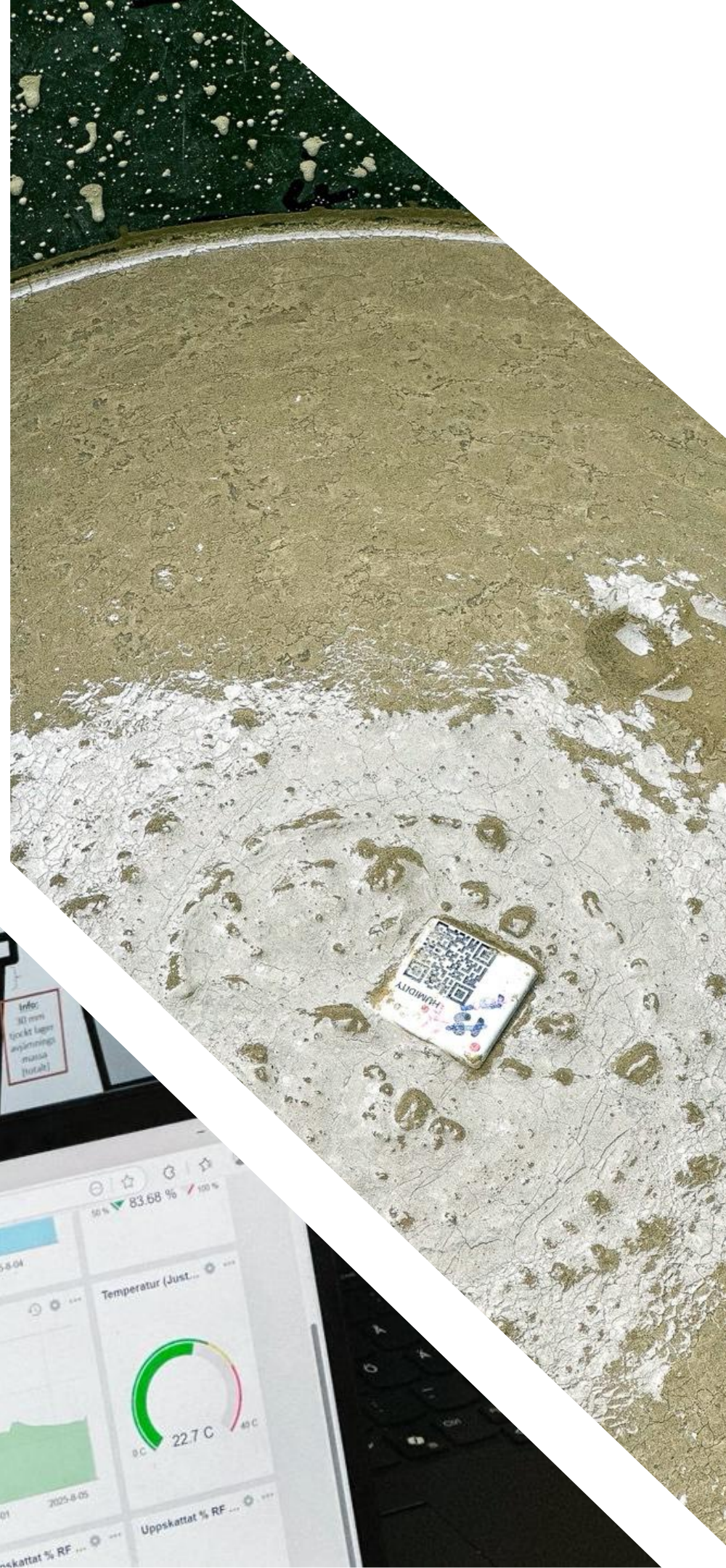




**What else can you
monitor:
From concrete to
bacteria**



Who are we?



What do we do?



Why are we here?

Micasa Fastigheter i Stockholm AB



Why do we measure?

Regulation



Quality



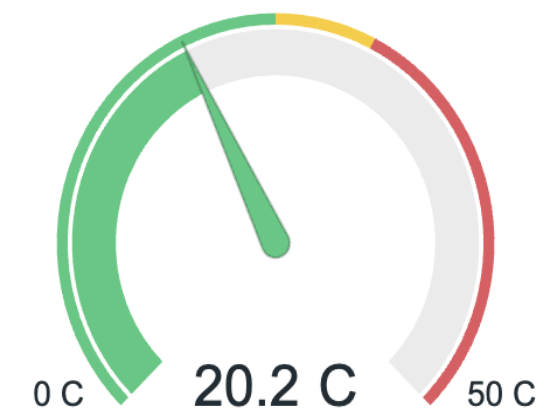
Verification



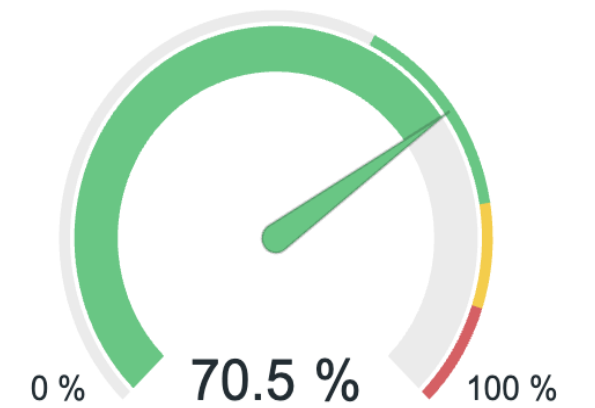


Use case 1: When concrete meets Zabbix

Sensor 1: Temperature

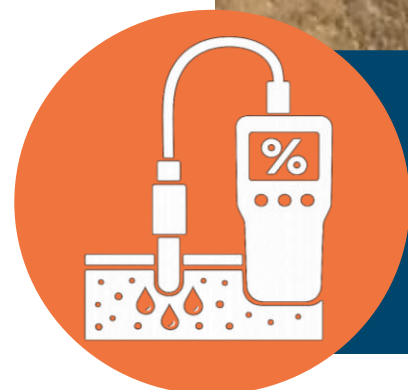


Sensor 1: % RF





How do we know when concrete is ready?



Manual
measurements



Manual
sensors readout

Where concrete meets data

Our project: monitor realtive humidity in concrete



Project
initiation



Test
environment



Monitoring
setup



The test environment

 = Concrete

 = Leveling compound

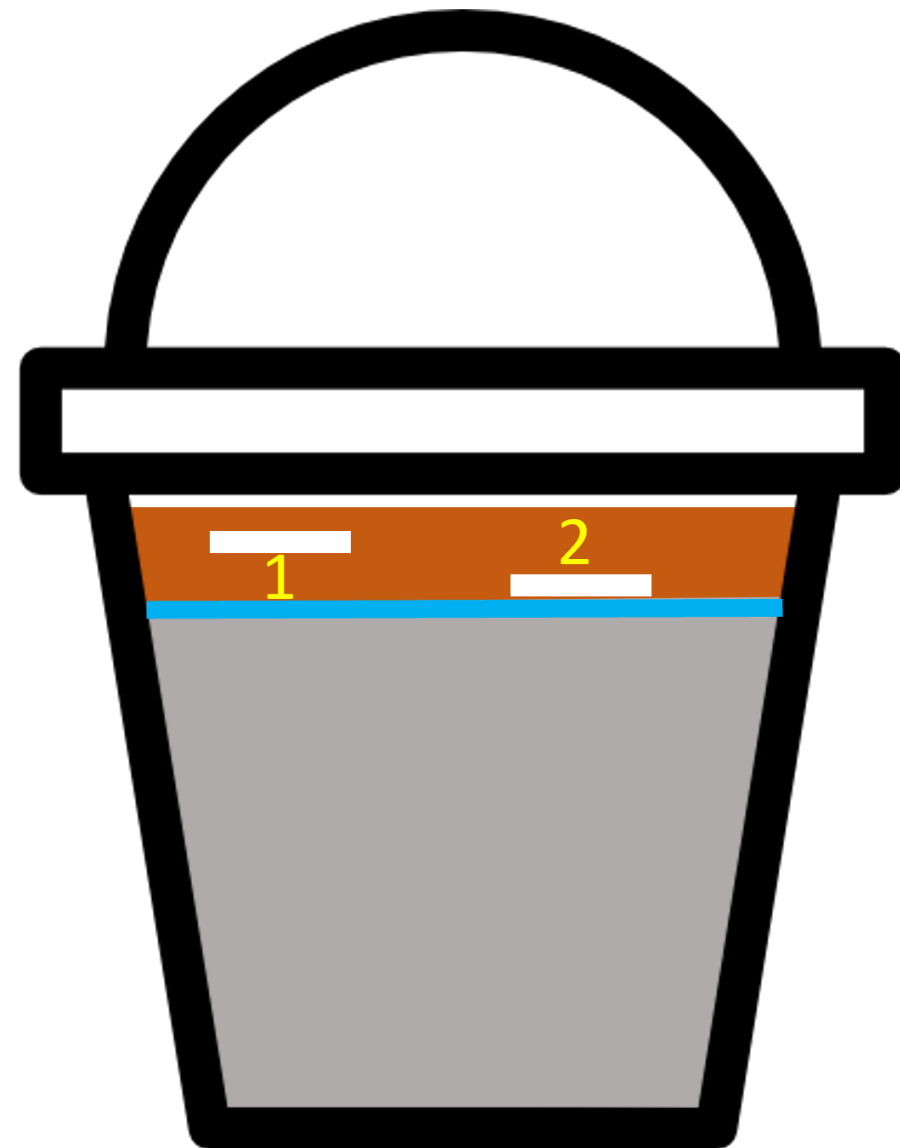


 = Sensor

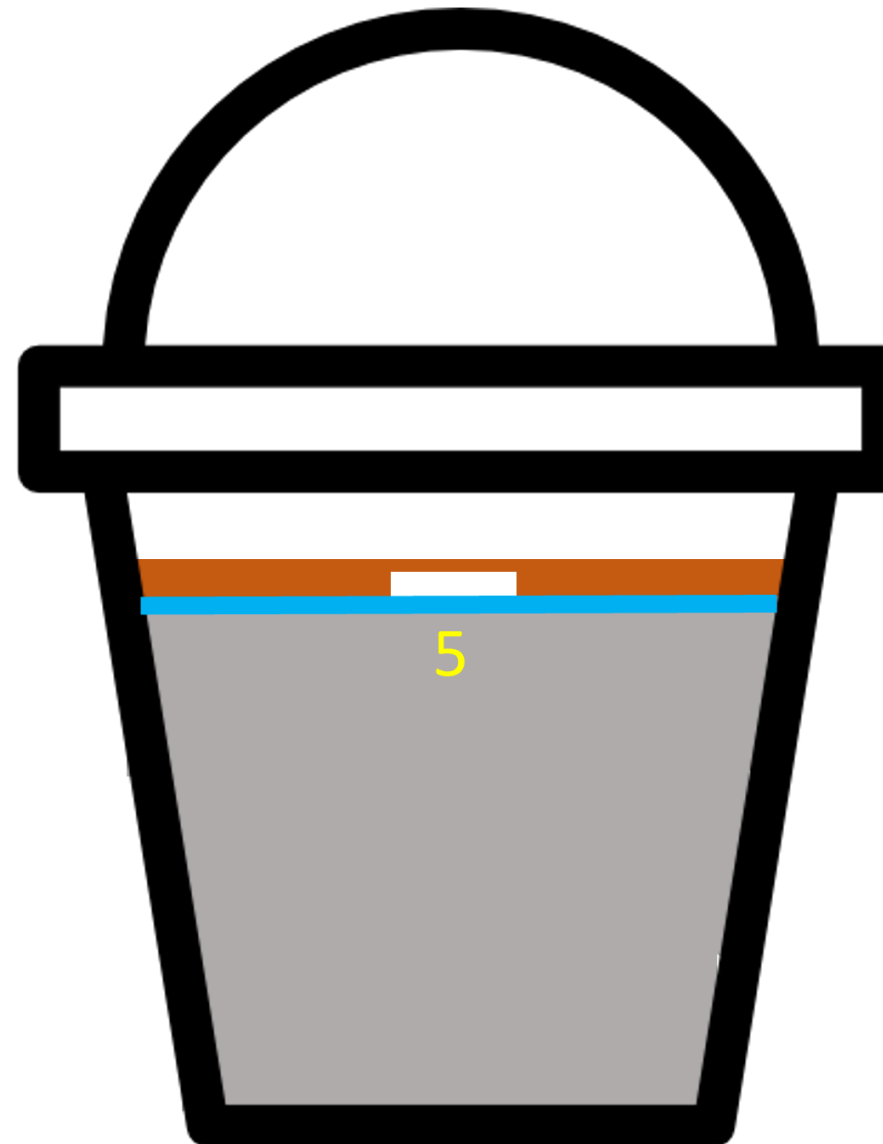
 = VP - pipe (plastic – pipe)

 = Airtight/gas-tight tape

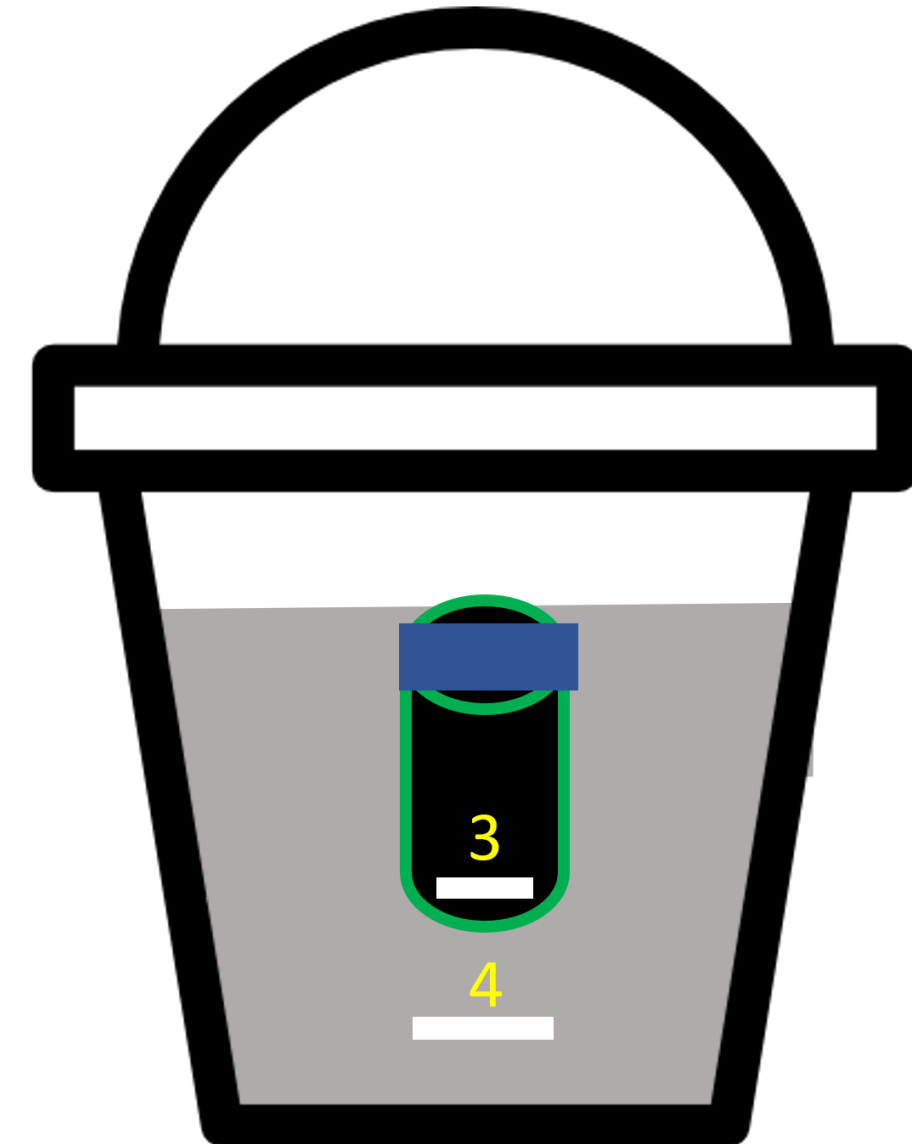
 = Primer



Bucket 1



Bucket 2



Bucket 3

All dashboards / Concrete RH

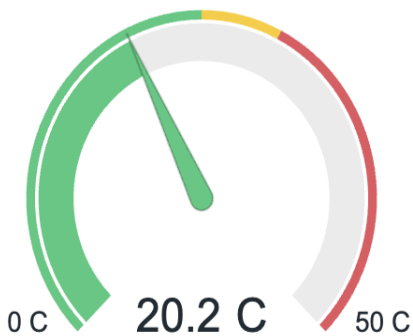
Realtime data

Interactive

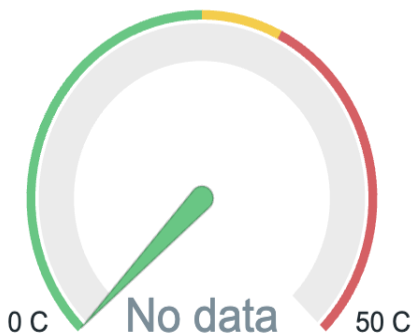
Bucket 3

Stop slideshow

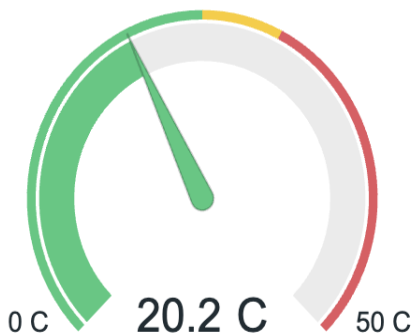
Sensor 1: Temperature



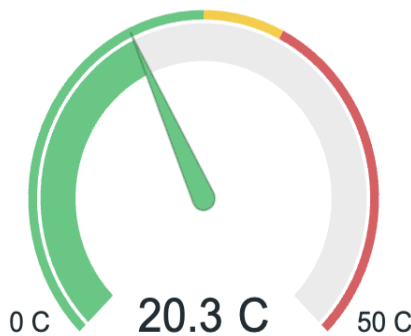
Sensor 2: Temperature



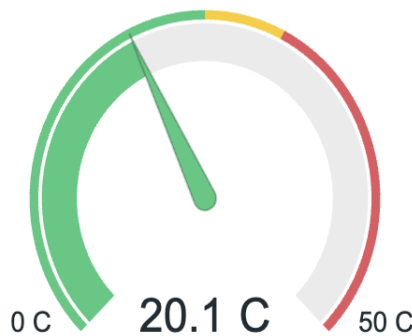
Sensor 3: Temperature



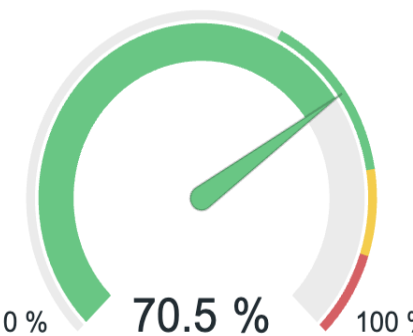
Sensor 4: Temperature



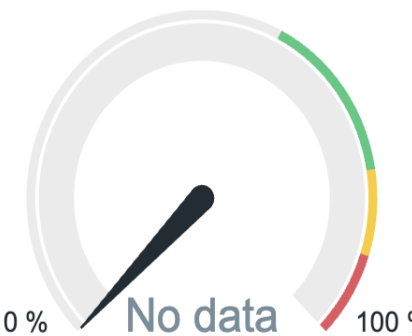
Sensor 5: Temperature



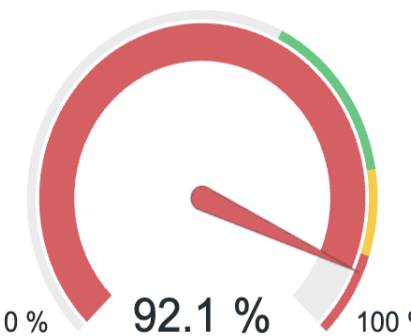
Sensor 1: % RF



Sensor 2: % RF



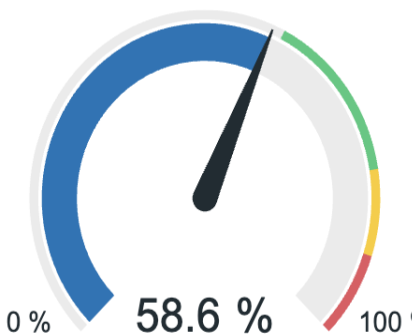
Sensor 3: % RF



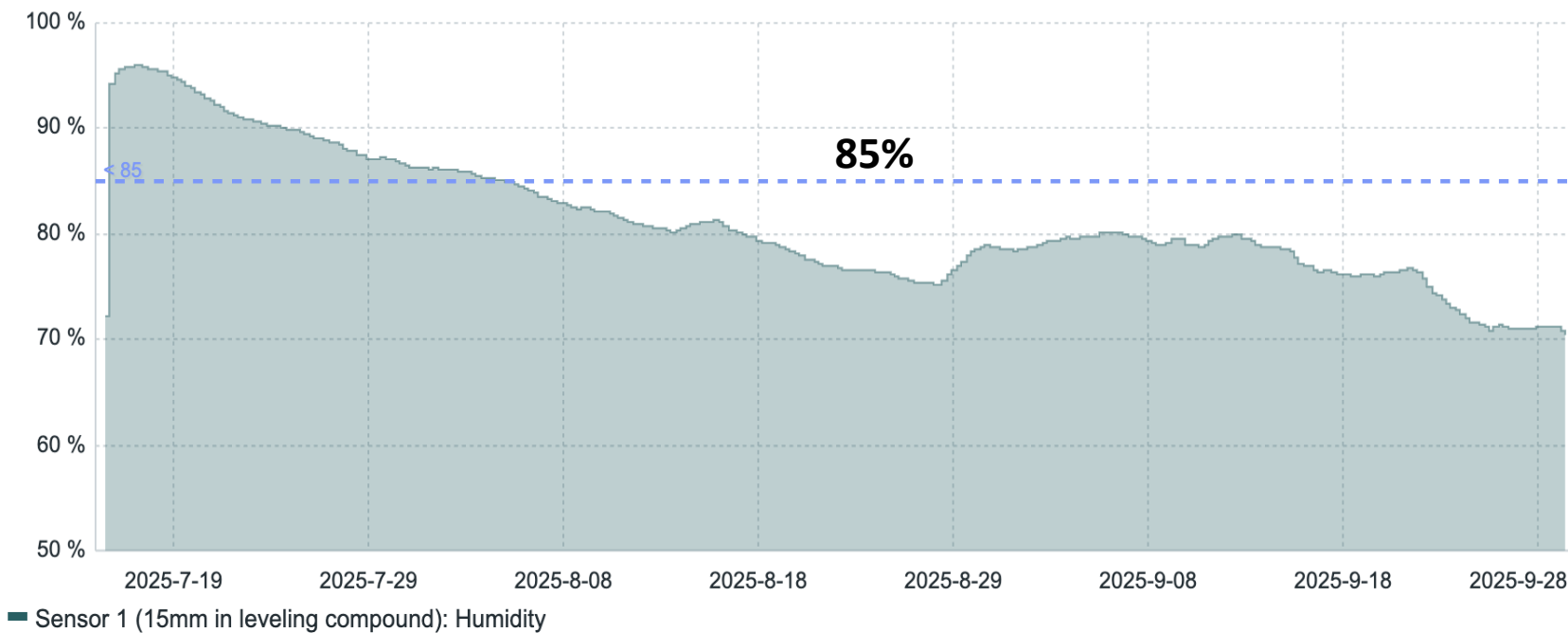
Sensor 4: % RF



Sensor 5: % RF



Sensor 1 % RF



Prediction for 85% RF

20 days, 12:40:31



Pilot

Q

- ⌵⌵

Dashboards
- ⌵⌵⌵

Monitoring

⌵
- ⌵⌵⌵

Services

⌵
- ⌵⌵

Inventory

⌵
- ⌵⌵⌵

Reports

⌵
- ⌵⌵⌵

Data collection

⌵
- ⌵⌵

Alerts

⌵
- ⌵⌵⌵

Users

⌵
- ⌵⌵⌵

Administration

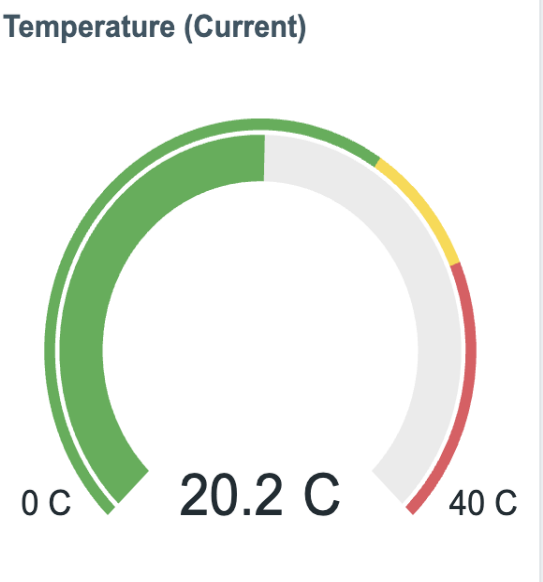
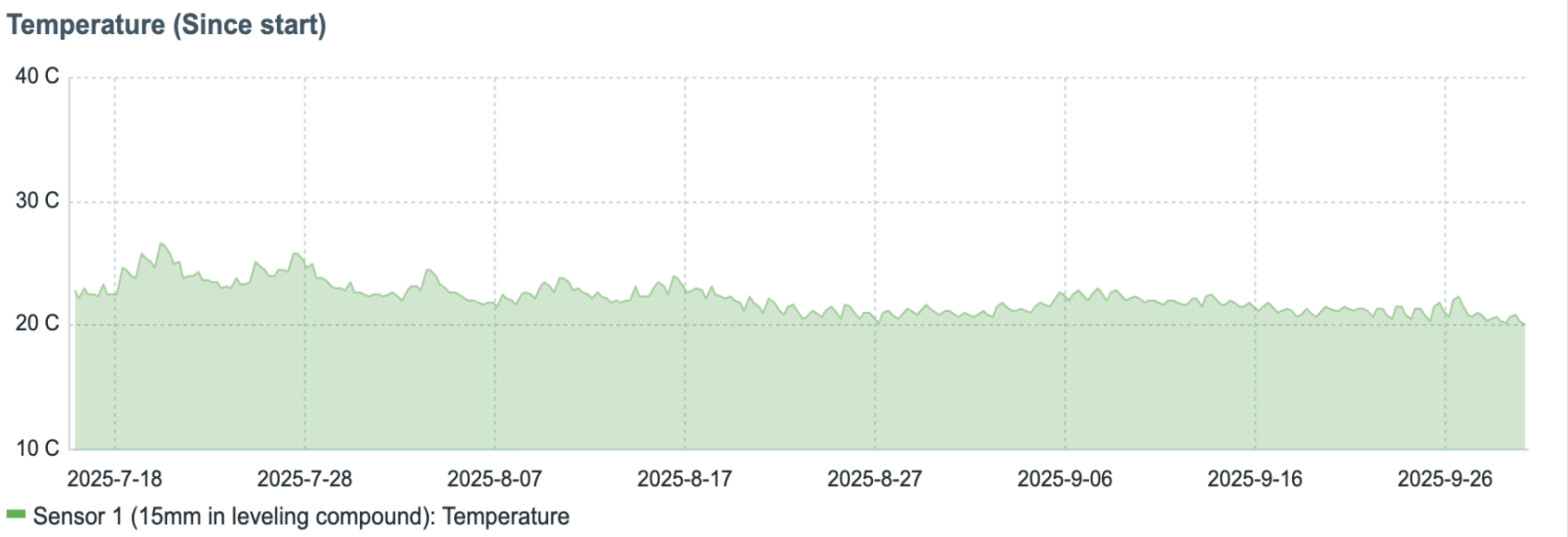
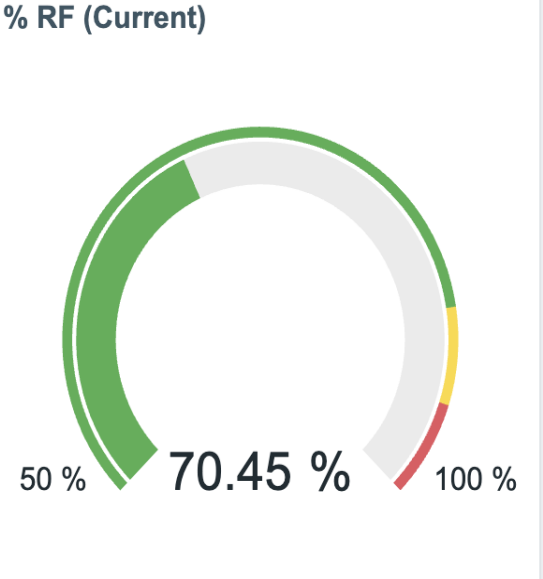
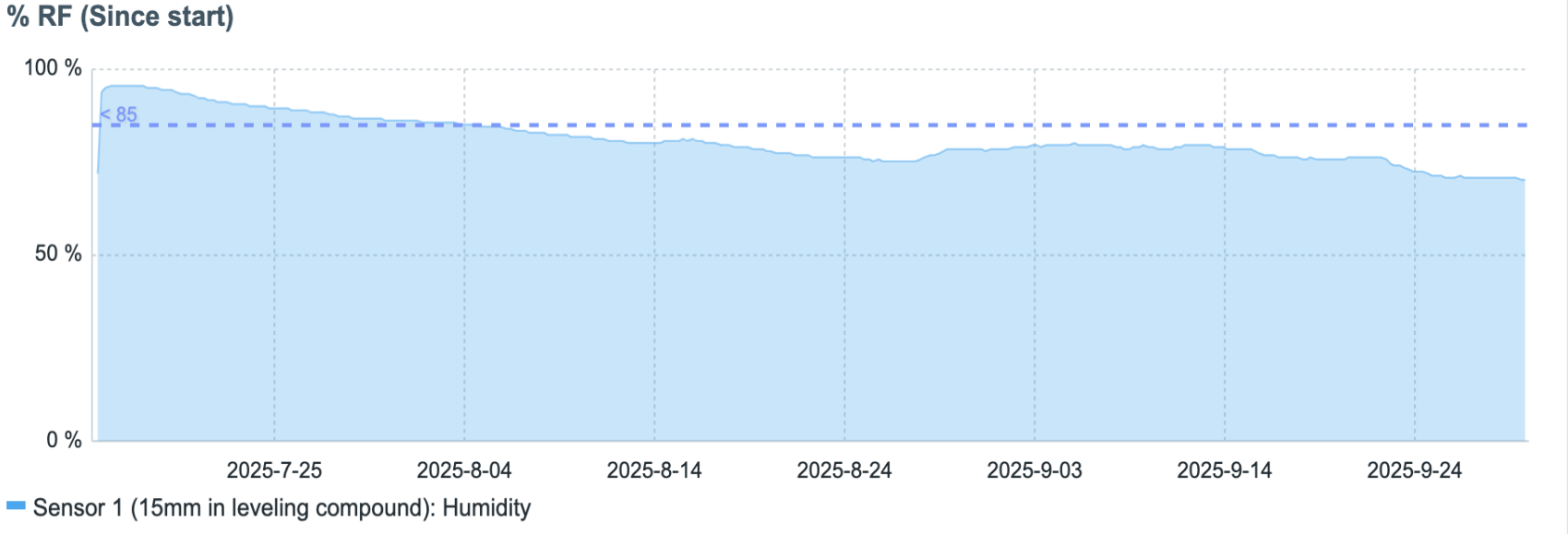
⌵

All dashboards / Concrete RH

Realtime dataInteractive⋮Bucket 3Stop slideshow

Polygon Sensorer

Sensor 1 (15mm in leveling compound)	1
Sensor 2 (30mm in leveling compound)	
Sensor 3 (drilled in concrete)	
Sensor 4 (in concrete)	
Sensor 5 (15mm in leveling compound)	1
Sensor 6 (control sample)	1



1 Week % RF prediction

75%

2 Week % RF prediction

64%

3 Week % RF prediction

61%

4 Week % RF prediction

58%

5 Week % RF prediction

55%

- ⌵⌵

Support
- ⌵⌵

Integrations
- ⌵⌵

Help
- ⌵⌵⌵

User settings

⌵
- ⌵⌵

Sign out

The results

Outcome

- Successful proof of concept
- A complete view instead of individual snapshots
- Predictive drying trends
- Continuous monitoring of the drying process

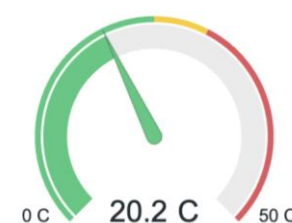
Key learnings

- Sensor placement is critical
- Continuous data improves decision-making
- Abnormal behavior becomes visible
- The data revealed new monitoring opportunities

1 Week % RF prediction

75%

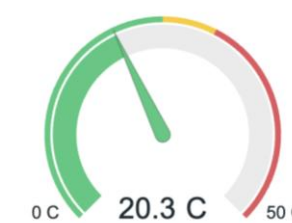
Sensor 1: Temperature



Sensor 1: % RF



Sensor 4: Temperature



Sensor 4: % RF



5 Week % RF prediction

55%



**Use case 2:
Where temperature detects
legionella bacteria risk**

What is legionella and why monitor it?

80 °C



60 °C

< 50

<= 45

40 °C

<= 40

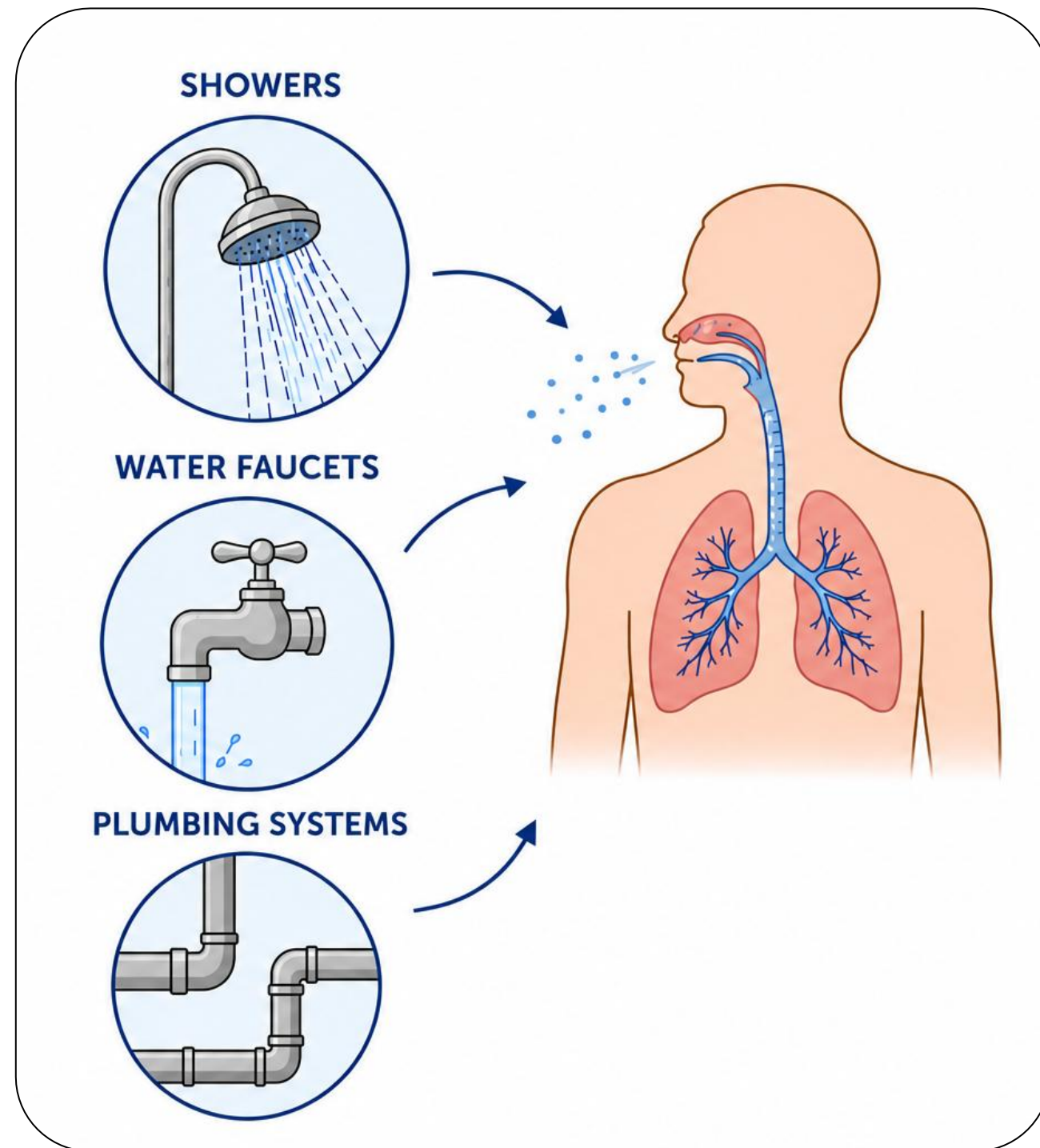
20 °C

Bacteria

Temperature triggers

- The optimal growth 20-45° C
- The bacteria die +50 ° C

Legionnaires disease



AI GENERATED



Where bacteria create data

Our project: Monitoring surface temperatures of hot water pipes

Idea



Pilot



Risk
indication



Micasa

Q

- ☰ Dashboards
- 🔍 Monitoring
- 🏠 Services
- 📦 Inventory
- 📄 Reports
- 📂 Data collection
- 🔔 Alerts
- 👤 Users
- ⚙️ Administration

All dashboards / Micasa Sofie

Legionella

Concrete & Leveling compound

Waste

CO2e

Energy

Transportation

Material

LCA

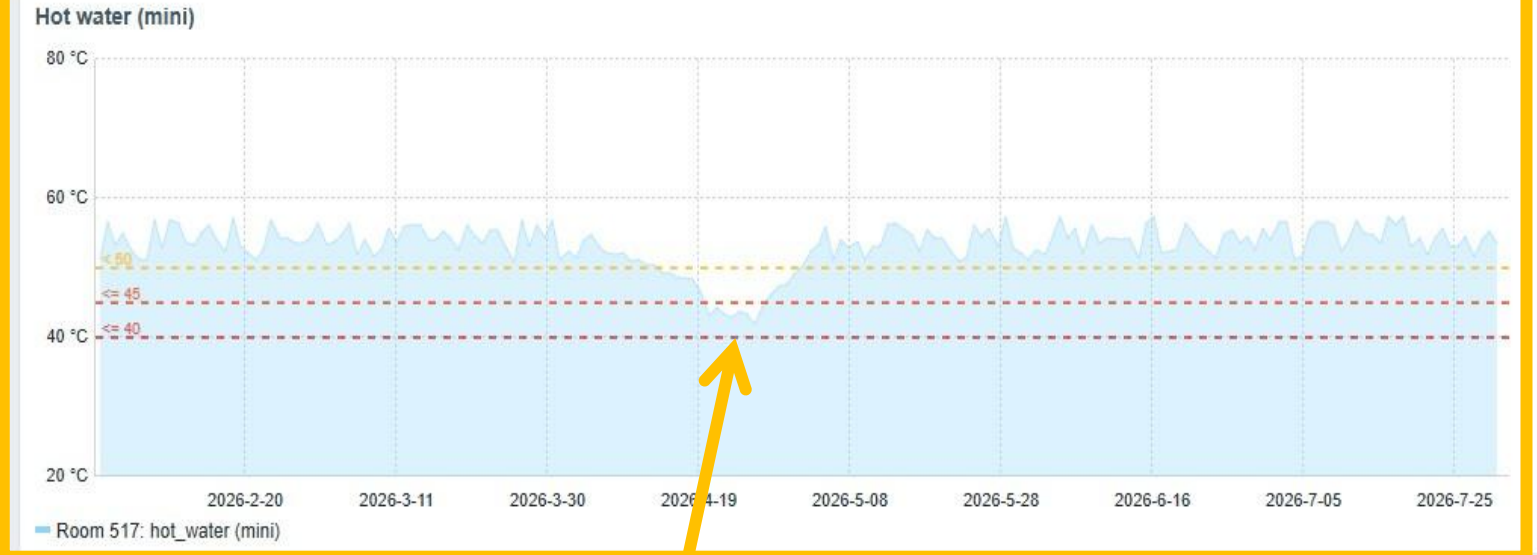
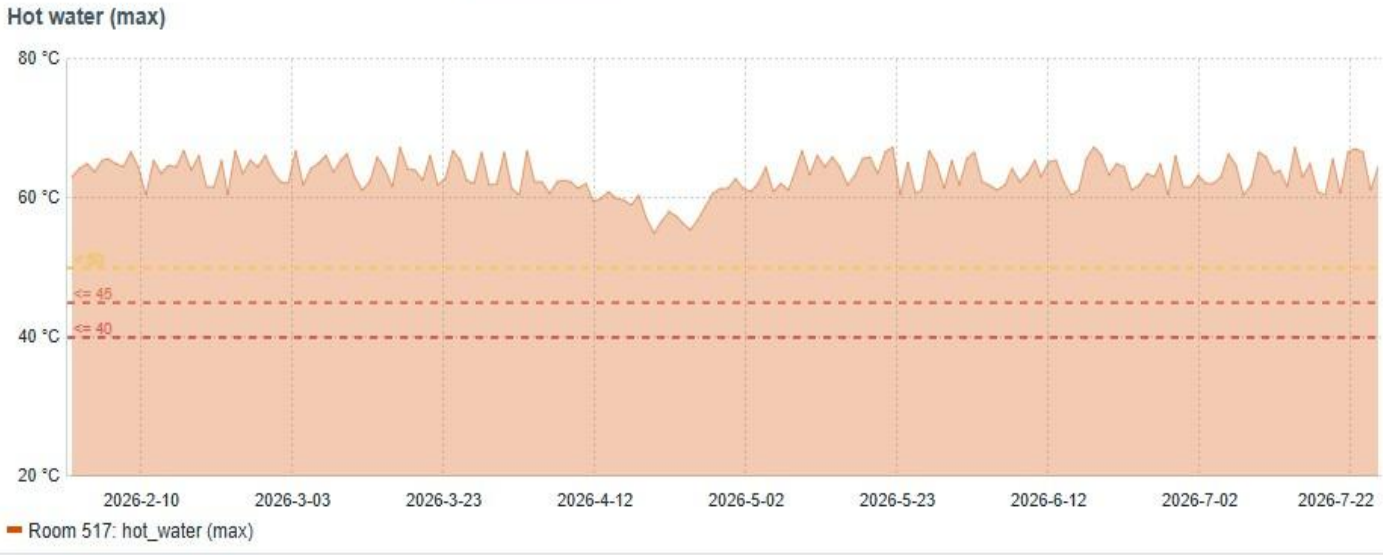
Stop slideshow

Room

Room 516

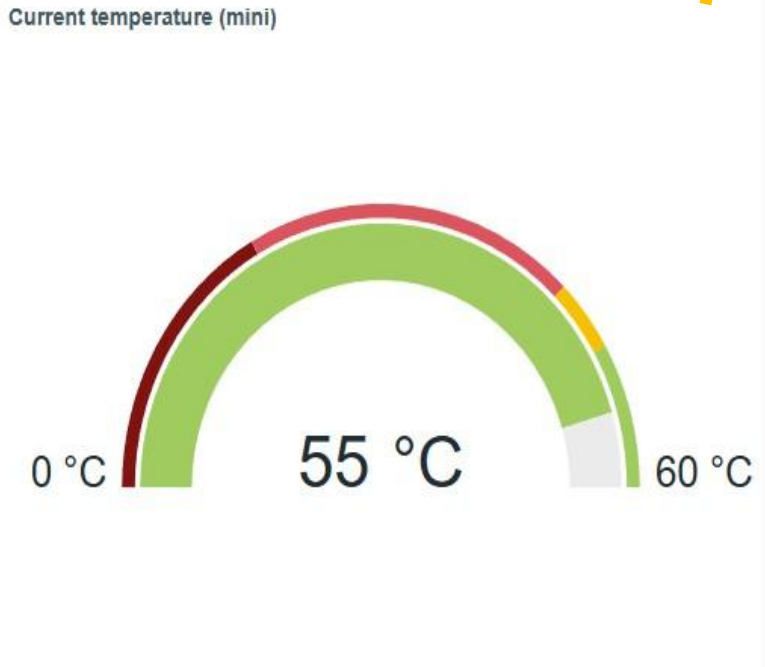
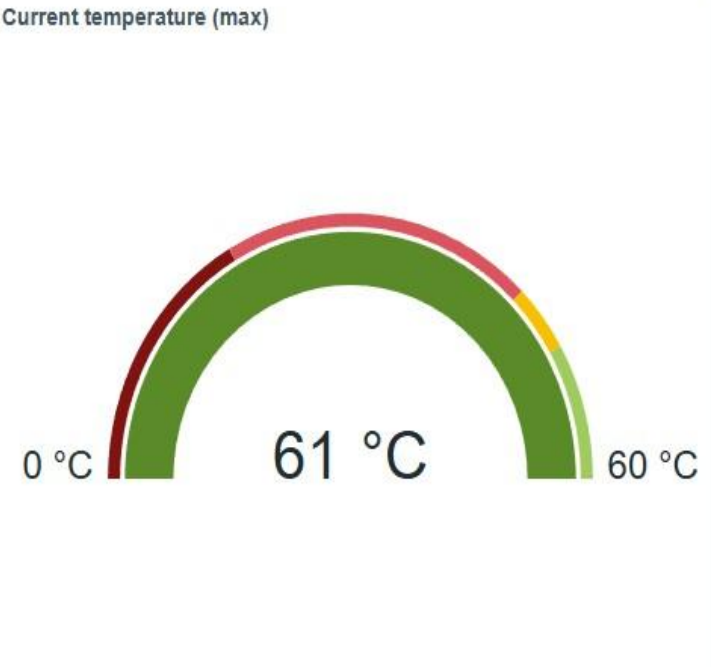
Room 517

Room 519



Active problems

Time	Recovery time	Status	Info	Host	Problem • Severity	Duration	Update	Actions
🔍 No data found								



Latest mini

2026-07-31 10:00:00 AM

54 °C

Latest max

2026-07-31 10:00:00 AM

61 °C

Lowest temperature

Temperature
55 °C
54 °C
53 °C

Status in all room (max)

Room 51661 °C

Room 51761 °C

Room 51966 °C

Status in all room (mini)

Room 51654 °C

Room 51755 °C

Room 51953 °C

Total flushings

33 flushings

- 🔊 Support
- 🔗 Integrations
- 🔍 Help
- 👤 User settings
- 🔌 Sign out



The results

Outcome

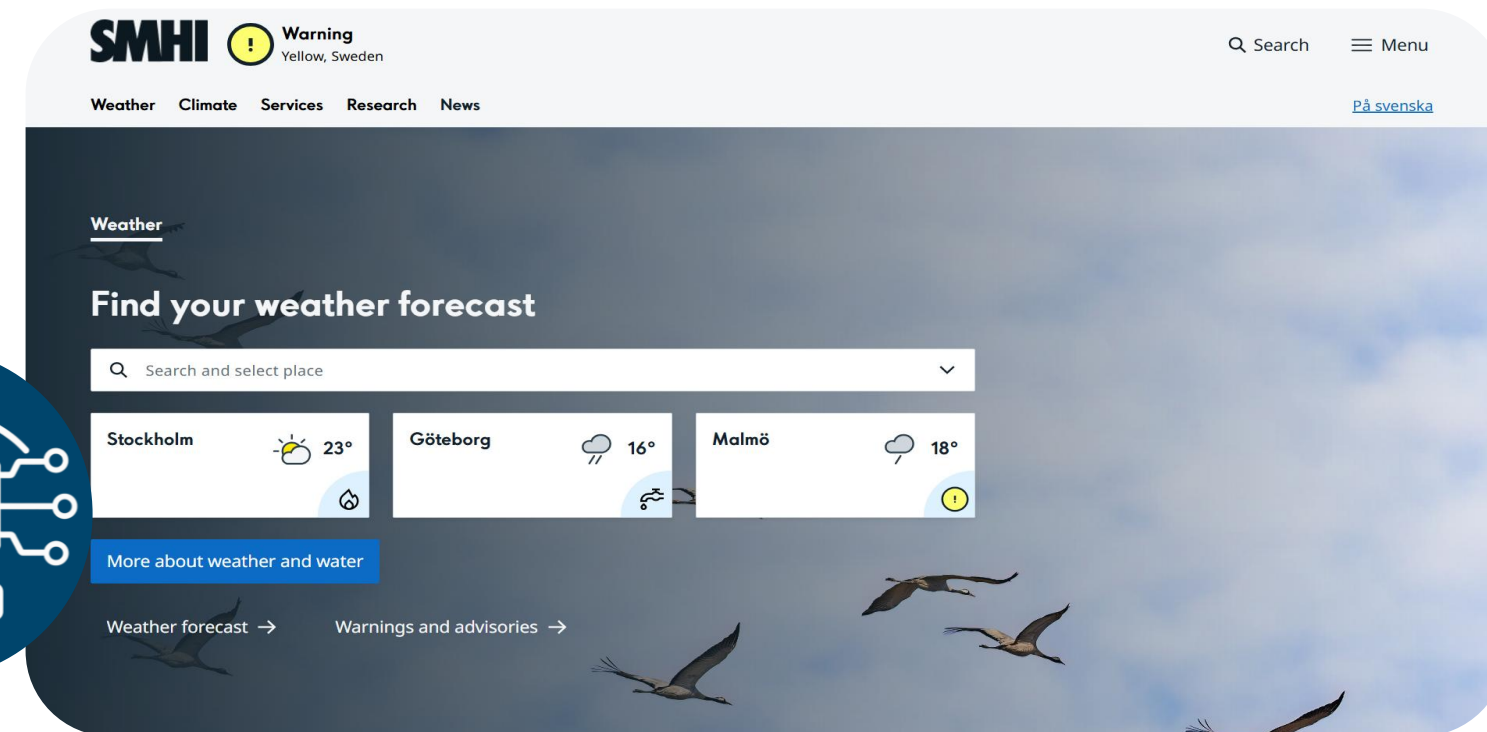
- Successful proof of concept
- Reliable temperature monitoring was demonstrated
- Real-time risk visualization
- More efficient

Key learnings

- Pipe temperature is a reliable risk indicator
- Continuous monitoring complements periodic sampling
- Historical trends provide valuable operational insights



Do the possibilities end there?





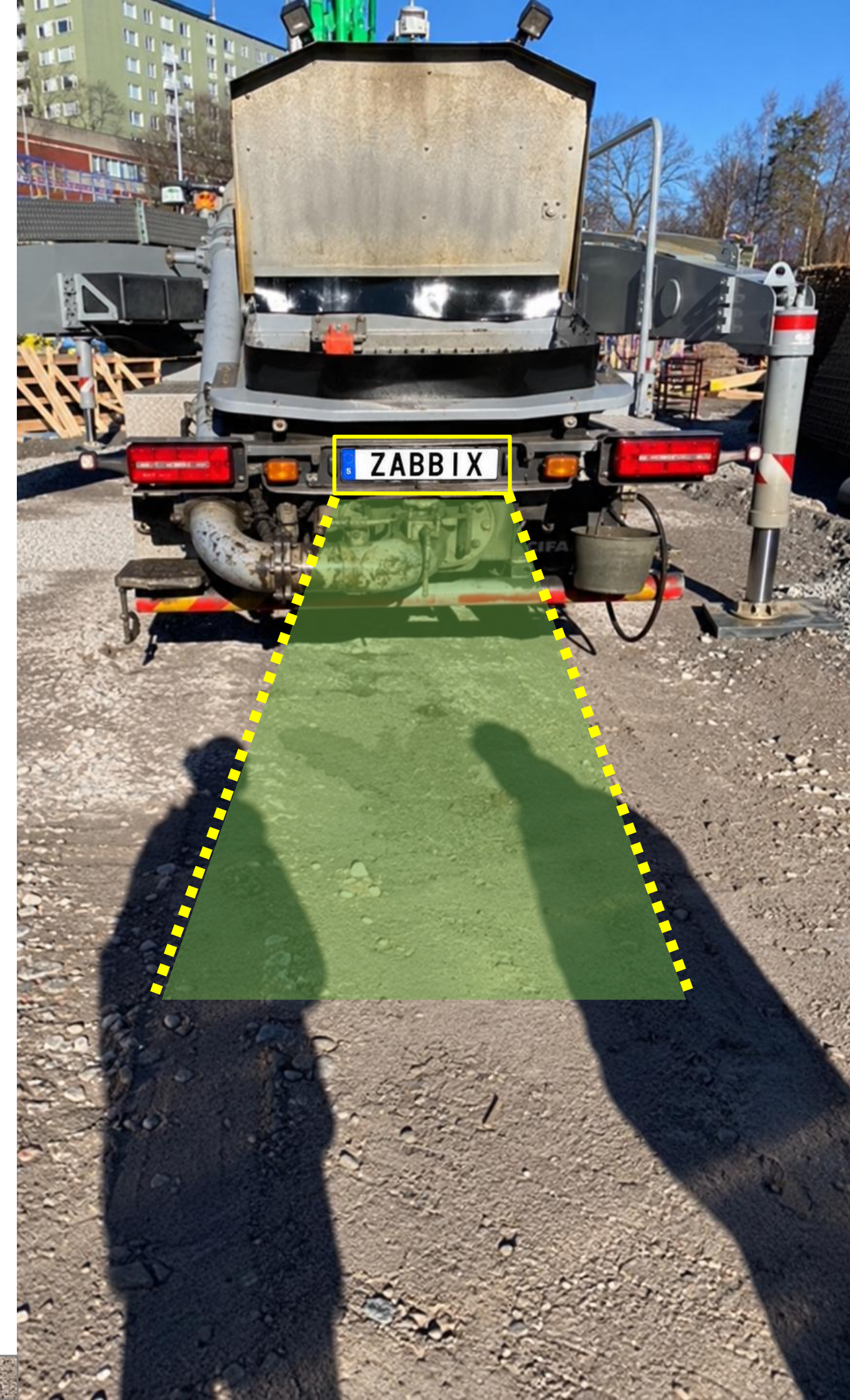
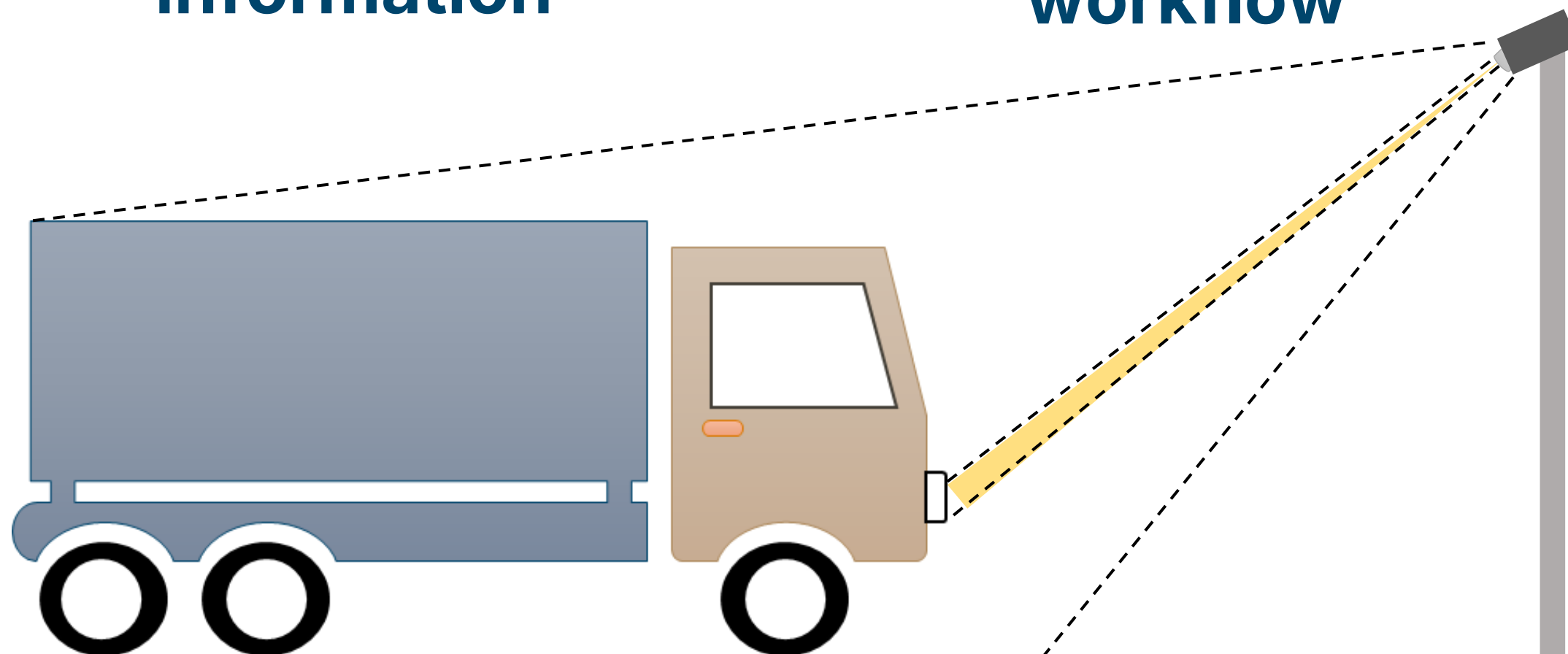
From concrete to vehicle



**Vehicle
information**



**Automated
workflow**





Site huts:
kWh

Hazardous waste:
Metric ton

Chemicals:
µg/L

Goods-in:
pcs

Mobile plant:
kg CO2e

Noise:
dB(A)

Carbon:
Kg CO2e/m^2

Material:
pcs

Waste:
Metric ton

Contamination:
mg/kg TS

Vehicle:
Tonne-km

Vibration:
dB(A)

Gate:
License plates



LinkedIn

We build with concrete. Why not with data?



LinkedIn



Karl Frisell
Head of projects



Sofie Tellberg
Quality Coordinator

