

# Asset management of DH pipes

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Technical manager

- Network
- Goals
- Asset management

# Ängelholm

1977

- Residual heat
- Wood chips



- 150 km
- 2700 connections  
(11 000 customers)
- 220 GWh



# Helsingborg

- Reinvestment cost for Helsingborgs DH-network is 1 200 000 000 euro
- Reinvestment level is 3 500 000 euro/year
- Which means, 342 years before the whole network is replaced

**A reinvestment strategi with active decisions is crucial for**

- **DH-business**
- **Öresundskraft profitability**
- **Working enviroment**
- **Long-term**

# Goals

- **Replace the right pipe in the right time**
- **Measure is to know**
- **Whole, clean and dry**

# Construction types



Concrete



Asbestos



PVC



PEH steel

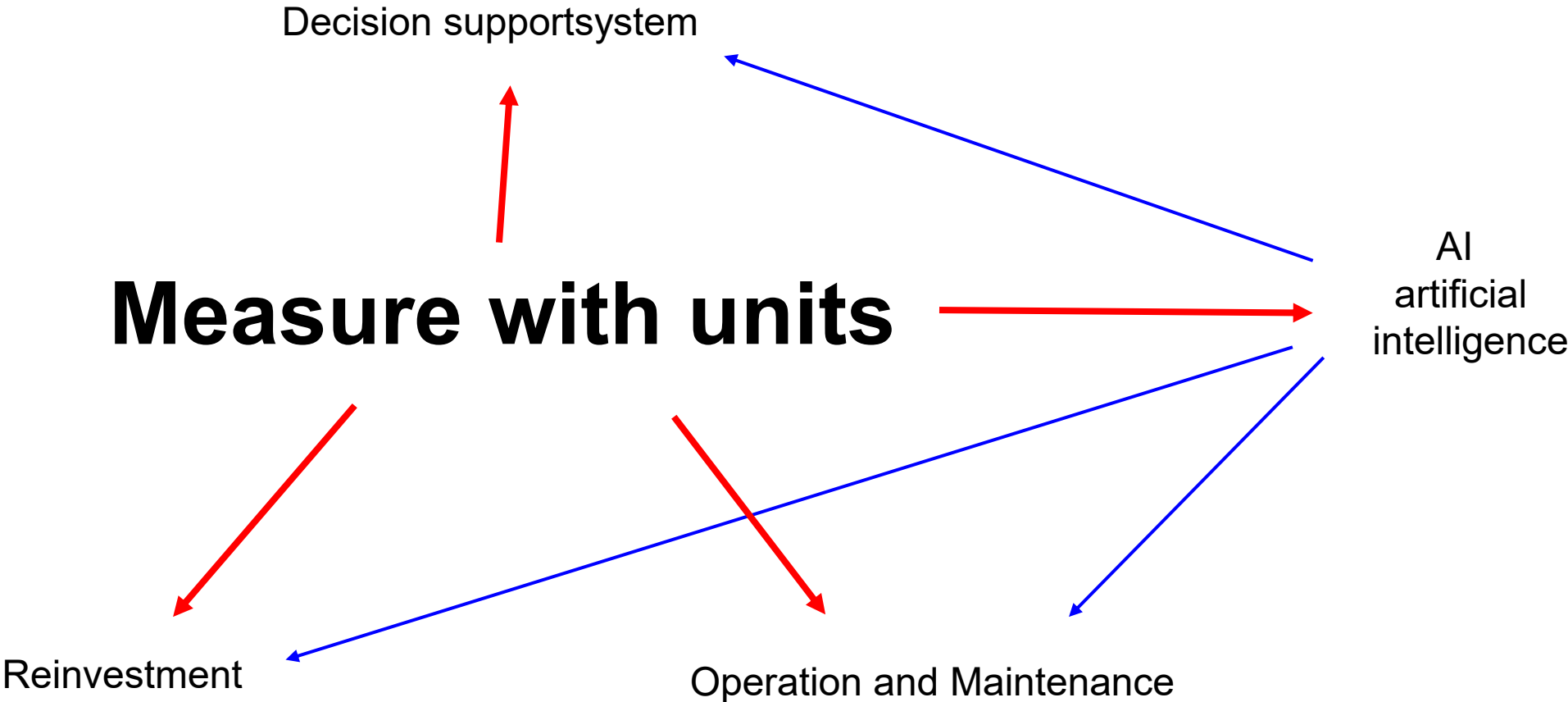


PEH copper



Aqua warm

# Ground function



# SAB – Smart Active Box



- 550 units
- 2,2 Mn €
- Installation 2018-2021
- Placed in chambers
- Concrete- and asbestos culvert
- Delta T (thickness),  
Waterdetection, moisture,  
temperatures, CO, O2

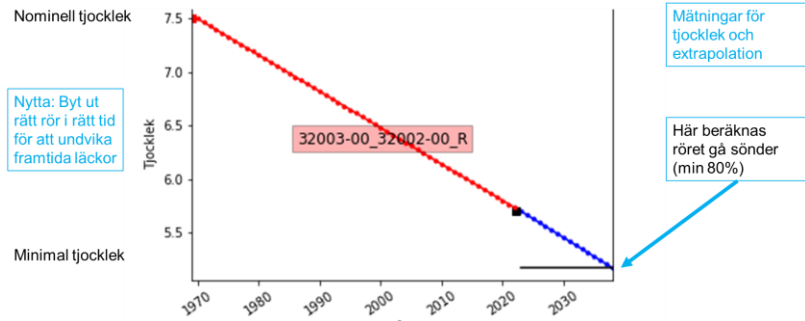
# Mini-SAB



- 850 units
- 0,8 Mn €
- Installation 2024-2025
- Placed in chambers
- Asbestos culvert
- Waterdetection,  
moisture, temperatures

# AI artificial intelligence

## Lifetime prediction



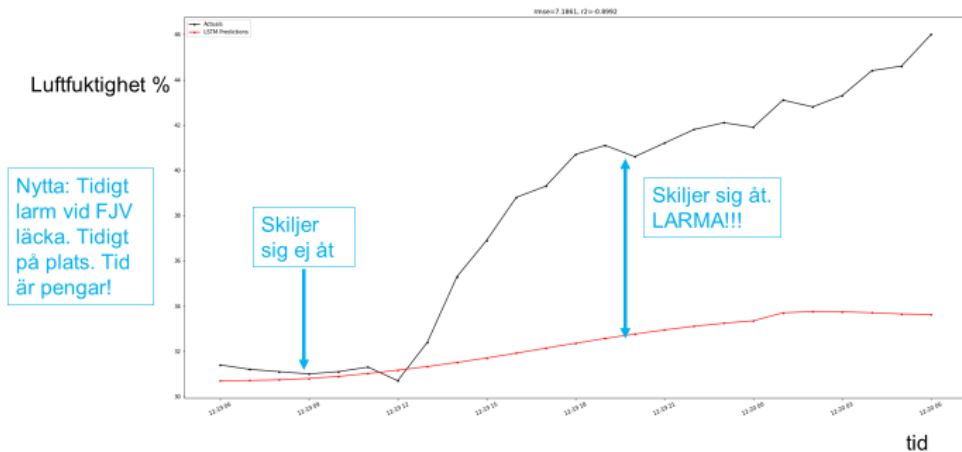
## Monthly moisture



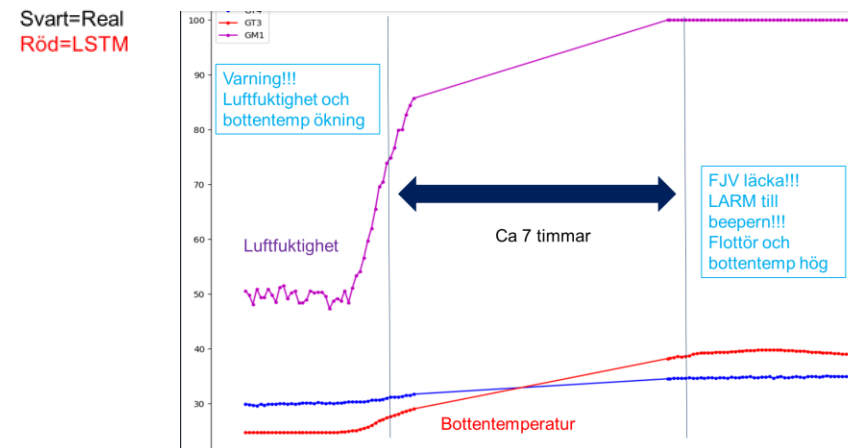
## Contextually moisture



## Potential Outleakage

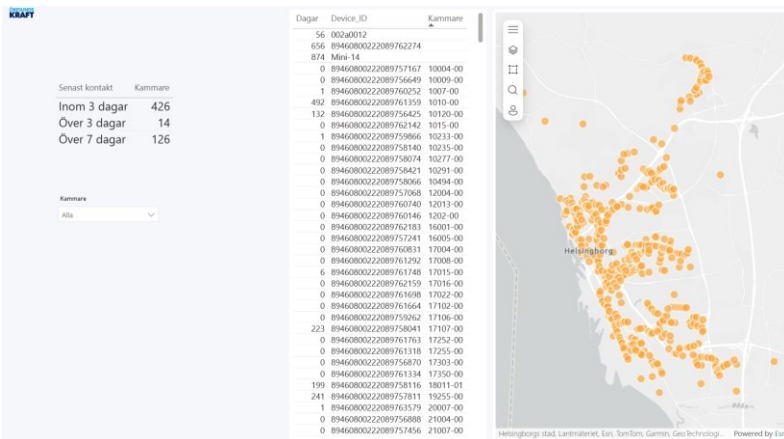


## Outleakage

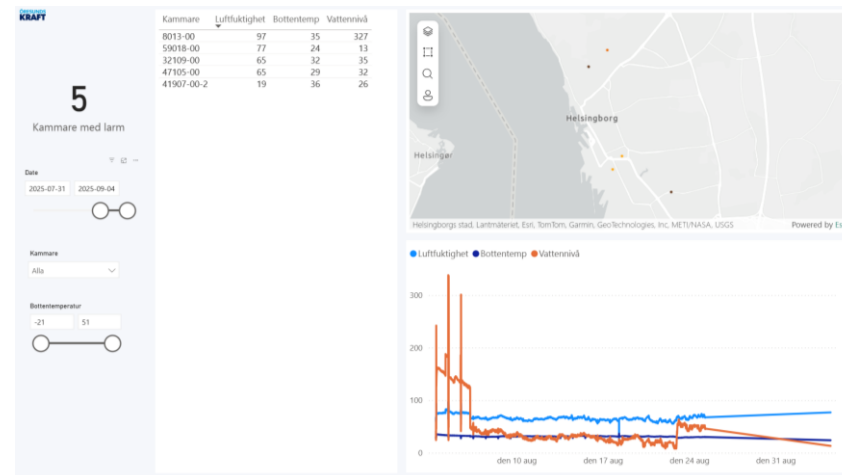


# Operation and Maintenance

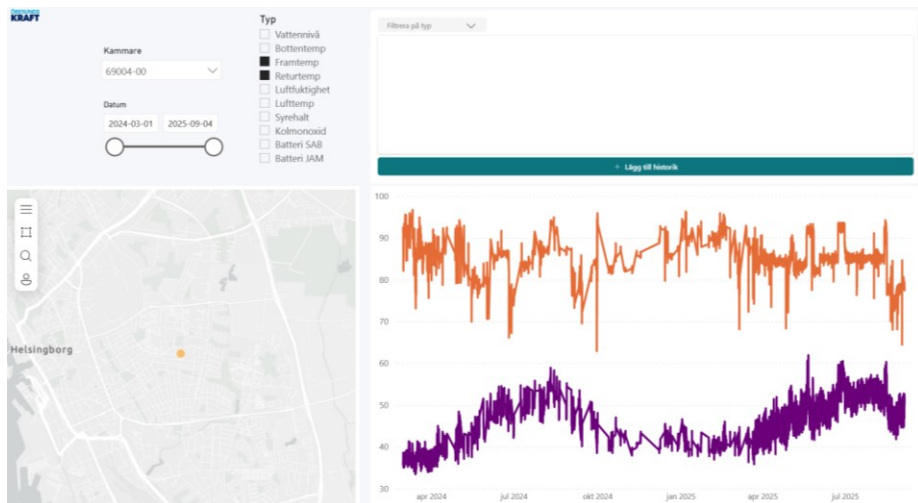
## SAB activ



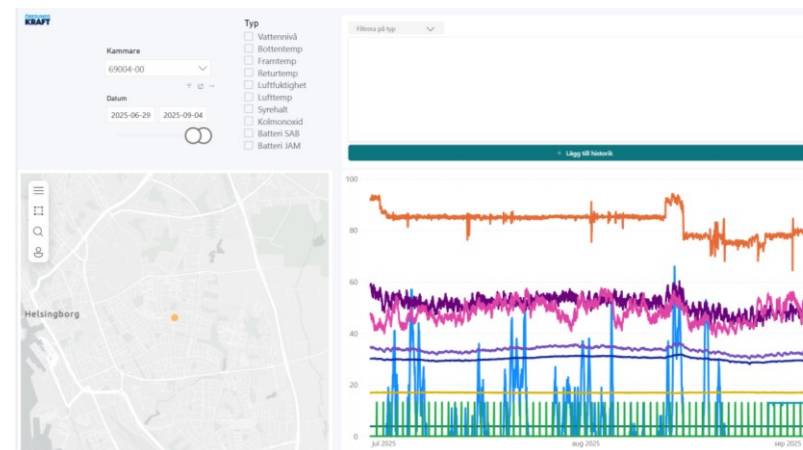
## Water in chambers



## Supply and return temperature



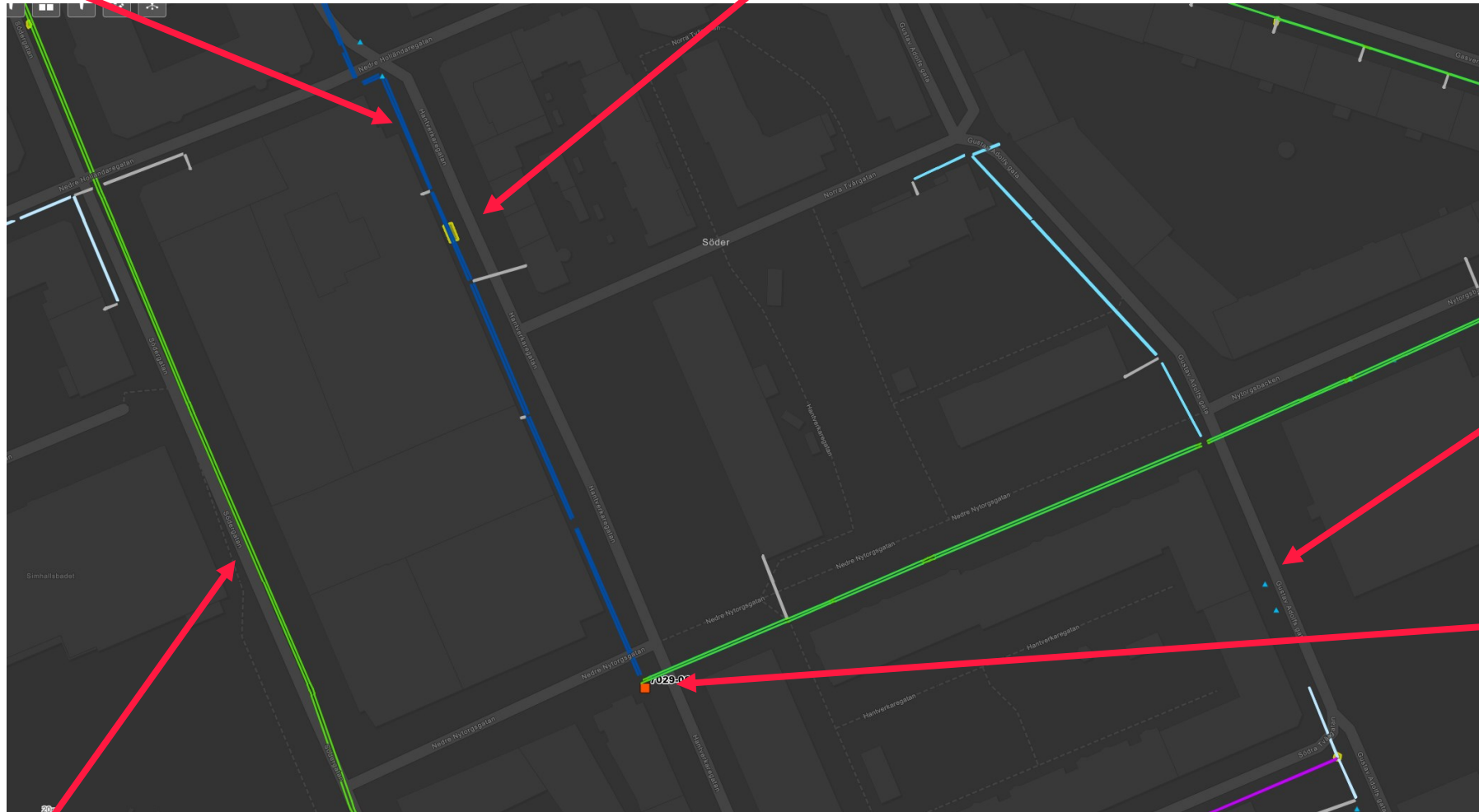
## Overview chambers



# Decision support system

Pipe support

Heat point



Pipe damage

Moisture

Thickness (Delta t)

# Reinvestment

## Concrete duct



## Asbestos culvert



”The bitterness of poor quality  
remains long after the sweetness  
of low price is forgotten”

Benjamin Franklin



**Asset management**

**Magnus Ohlsson**