

# Opsamling og visualisering af data fra korrosionssensorer ved Femern A/S felteksponeringsplads i Rødbyhavn

20. November 2020

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Urban Department  
DHI A/S

# Agenda

- *Projekt*
- *Fysiske forhold på test-site*
- *Data opsamling – ved test-site*
- *Data opsamling – Remote storage*
- *Visualiseringsplatform*
- *Fremtidsplaner*

# Projekt



Uddannelses- og  
Forskningsministeriet  
—  
Styrelsen for Institutioner  
og Uddannelsesstøtte

**Femern**  
*Sund ≡ Bælt*



**TEKNOLOGISK**  
**INSTITUT**



- *Indledende projekt → Femern Tunnel*
- *Del af Resultatkontrakt projekt: Felteksponering og monitorering til forlængelse af anlægskonstruktioners levetid*
- *Financeret af Styrelsen for Institutioner og Uddannelsesstøtte.*

# Fysiske forhold på test-site

## Udstyr

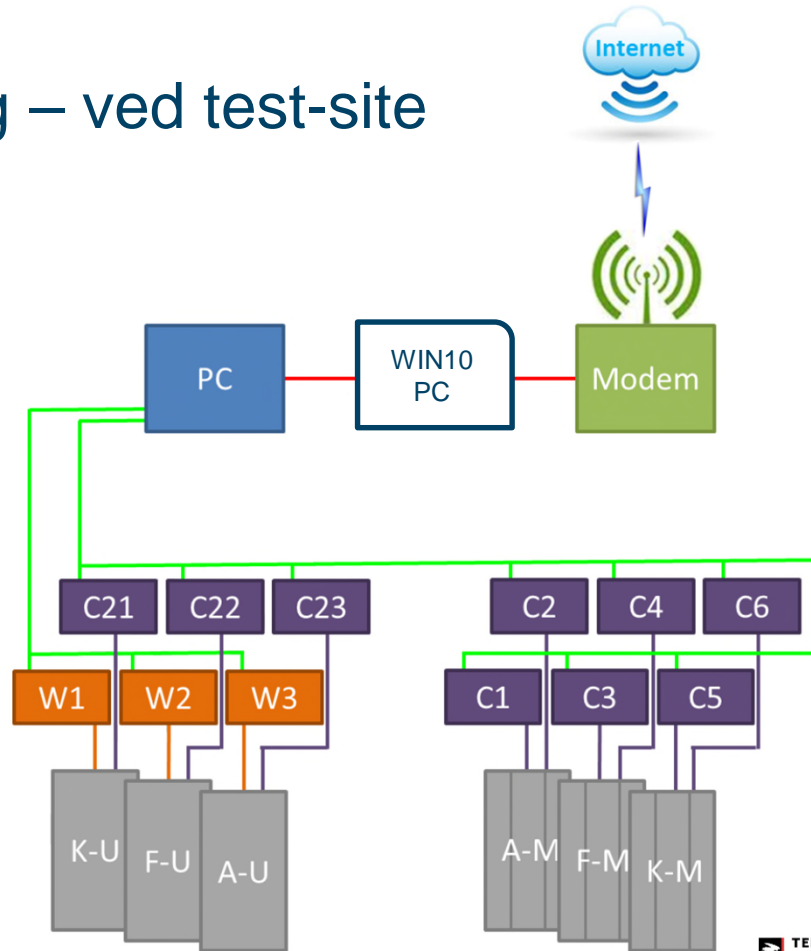
- Seks instrumenterede beton blokke
- To forskellige typer af blokke
  - Type M: To vertikale revner (0.15 mm og 0.30 mm)
  - Type U: Ingen revner
- Tre typer af betonsammensætning
- Felteksponeringsplads
- Sensor for vandtemperatur, ledningsevne og salinitet

## Tidslinje

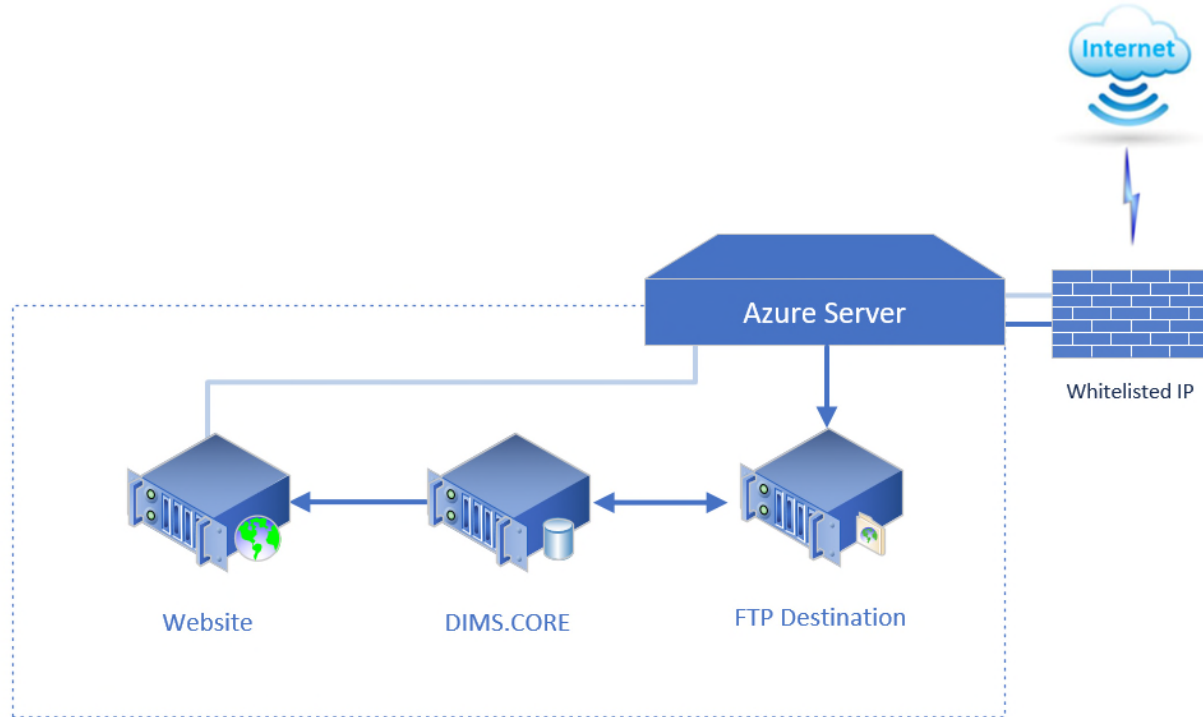
- 2010 - Produceret og eksponeret for havvand (Rødby Havn)
- 2011 - Data logning startet
- 2012 - Dataopsamling justeret og tilpasset
- **2018 - Dataoverførsel til remote storage i DIMS database**



# Dataopsamling – ved test-site



# Dataopsamling – Remote storage



DIMS.CORE Designer

File View Tools Help

Felteksponering (dhi.nhe)

- Browse
- Data Objects
  - Time Series
    - Groups
    - Global Variables
    - Locations
    - Timespans
  - Tools
  - Key Information
    - Parameters
    - Media
    - Units
    - Time series
  - System

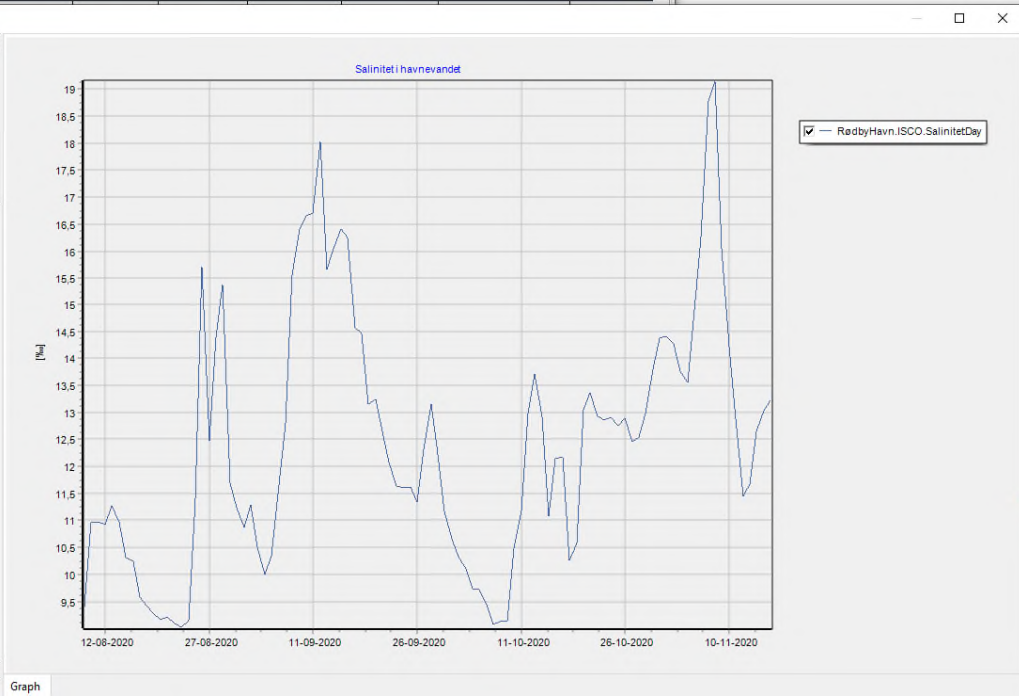
Details

Drag a column header here to group by that column

Time Series

Data: "RedbyHavn.ISCO.Salinitet:Day"

Date time	Value	Quality name
16-11-2020 00:00:00	13,2180869055556	ok
15-11-2020 00:00:00	13,0237986111111	ok
14-11-2020 00:00:00	12,64415625	ok
13-11-2020 00:00:00	11,6667569444444	ok
12-11-2020 00:00:00	11,4374920145671	ok
11-11-2020 00:00:00	12,8968118082682	ok
10-11-2020 00:00:00	14,2326843753391	ok
09-11-2020 00:00:00	16,062020840115	ok
08-11-2020 00:00:00	19,1452256944444	ok
07-11-2020 00:00:00	18,7719340176053	ok
06-11-2020 00:00:00	16,2512569478353	ok
05-11-2020 00:00:00	14,8898993157281	ok
04-11-2020 00:00:00	13,5577395833333	ok
03-11-2020 00:00:00	13,75703125	ok
02-11-2020 00:00:00	14,26903125	ok
01-11-2020 00:00:00	14,4060208333333	ok
31-10-2020 00:00:00	14,3723020833333	ok
30-10-2020 00:00:00	13,804375	ok
29-10-2020 00:00:00	12,98075	ok
28-10-2020 00:00:00	12,548371527778	ok
27-10-2020 00:00:00	12,4516284722222	ok
26-10-2020 00:00:00	12,8863055555556	ok
25-10-2020 00:00:00	12,7580763888889	ok
24-10-2020 00:00:00	12,9050034722222	ok
23-10-2020 00:00:00	12,8612326388889	ok
22-10-2020 00:00:00	12,9269722222222	ok
21-10-2020 00:00:00	13,3660659722222	ok
20-10-2020 00:00:00	13,0449097222222	ok
19-10-2020 00:00:00	10,5721368136936	ok
18-10-2020 00:00:00	10,2513867899577	ok
17-10-2020 00:00:00	12,1694097222222	ok
16-10-2020 00:00:00	12,1428472222222	ok
15-10-2020 00:00:00	11,0799513888889	ok







9.92 C

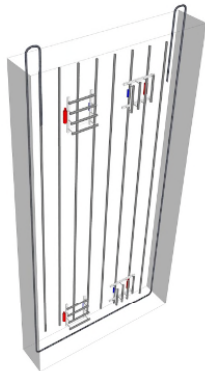


15.63 ‰



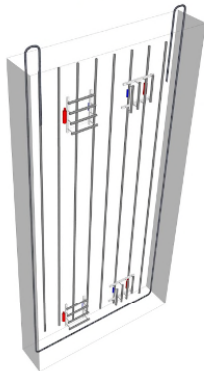
25.64 mS/cm

Betonblok K

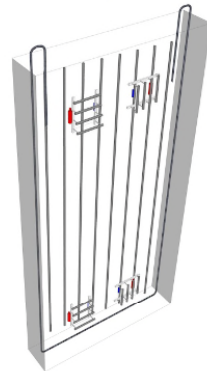


Blokken uden revner i

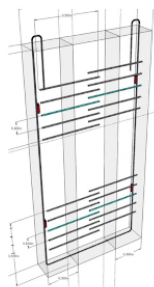
Betonblok A



Betonblok F

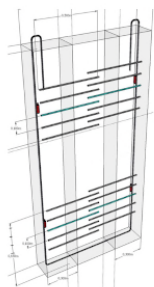


Betonblok K

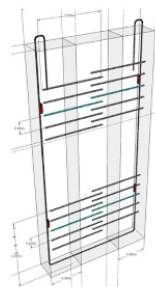


Blokken med revner i

Betonblok A

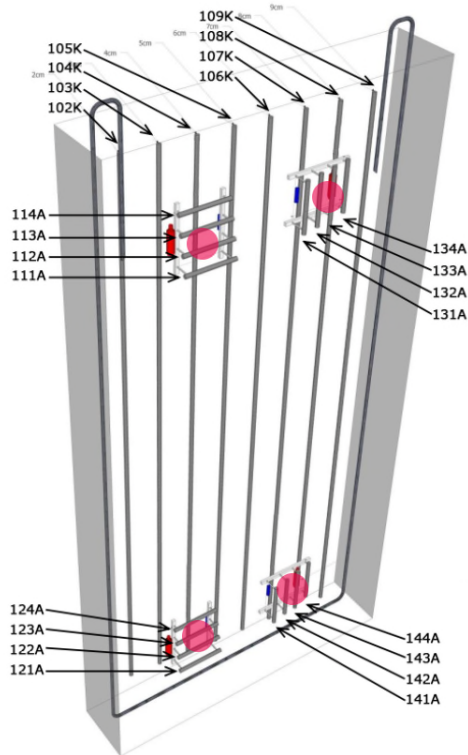


Betonblok F

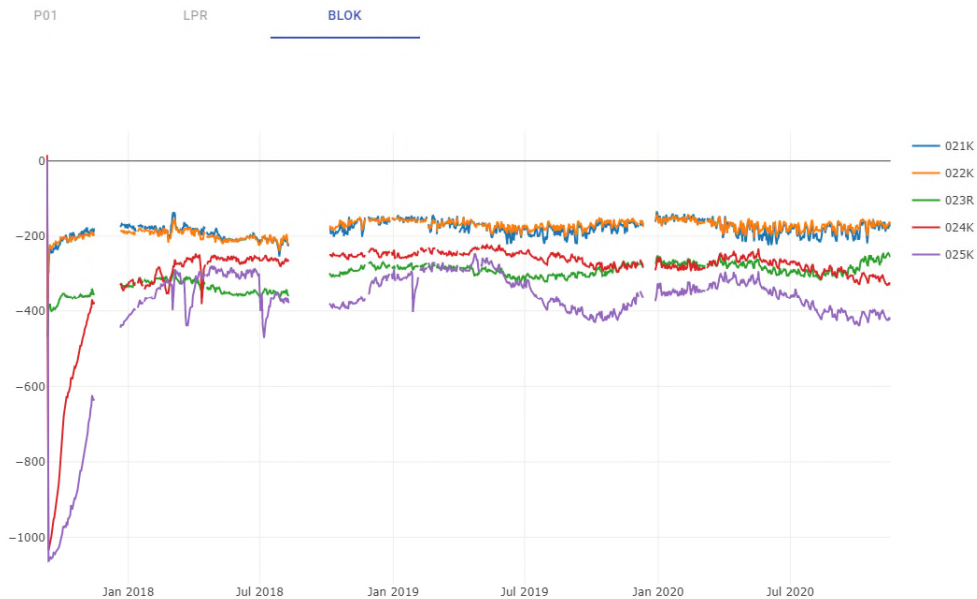
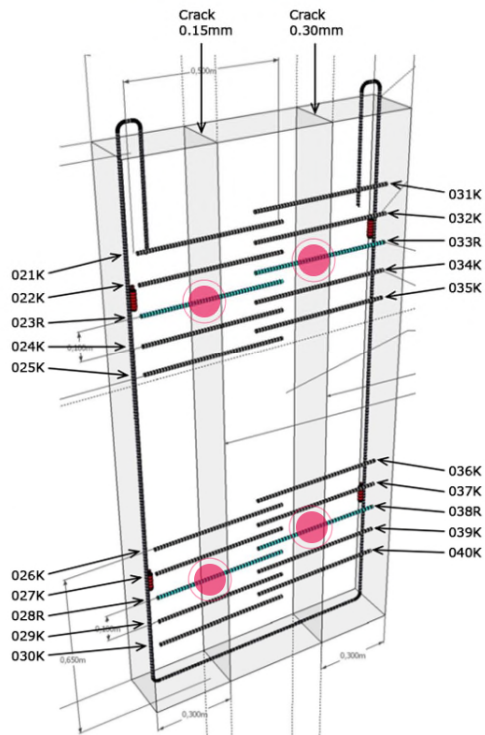




## Blok A



## Blok A



# Fremtidsplaner

- *Opdatering af dataindsamlingsrutine til ny type datalogger*

# Slut

