



Creating Value

BY MAKING SENSE OF DATA

Miljø & teknikk

07.03.2019

- Hvem er infotiles
- Vår filosofi
- Vår løsning
- Partner, Atea
- Praksis
- Smarte sandfang
- Nye muligheter



1 NO
POVERTY



2 ZERO
HUNGER



3 GOOD HEALTH
AND WELL-BEING



4 QUALITY
EDUCATION



5 GENDER
EQUALITY



6 CLEAN WATER
AND SANITATION



7 AFFORDABLE AND
CLEAN ENERGY



8 DECENT WORK AND
ECONOMIC GROWTH



9 INDUSTRY, INNOVATION
AND INFRASTRUCTURE



10 REDUCED
INEQUALITIES



11 SUSTAINABLE CITIES
AND COMMUNITIES



12 RESPONSIBLE
CONSUMPTION
AND PRODUCTION



13 CLIMATE
ACTION



14 LIFE
BELOW WATER



15 LIFE
ON LAND



16 PEACE, JUSTICE
AND STRONG
INSTITUTIONS



17 PARTNERSHIPS
FOR THE GOALS



Hvordan nyttiggjøre seg av data på tvers IoT enheter og leverandører?





SENSORER



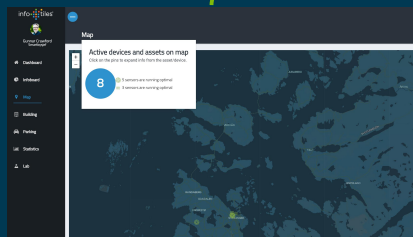
SYSTEMER



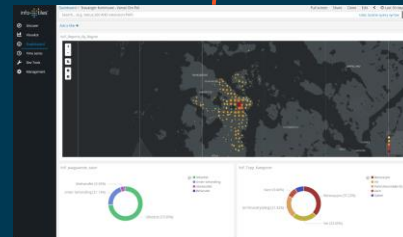
ÅPNE DATA



SUPERVISORY CONTROL AND
DATA ACQUISITION (SCADA)



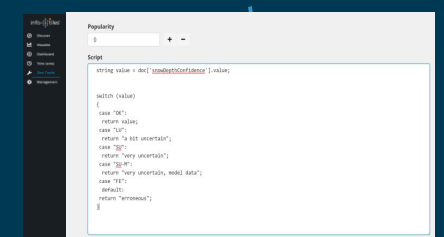
LOKALISER



MONITORER



ANALYSER



PREDIKÉR

High level architecture



Visualization



Analytics



Processing



Storage



Streaming

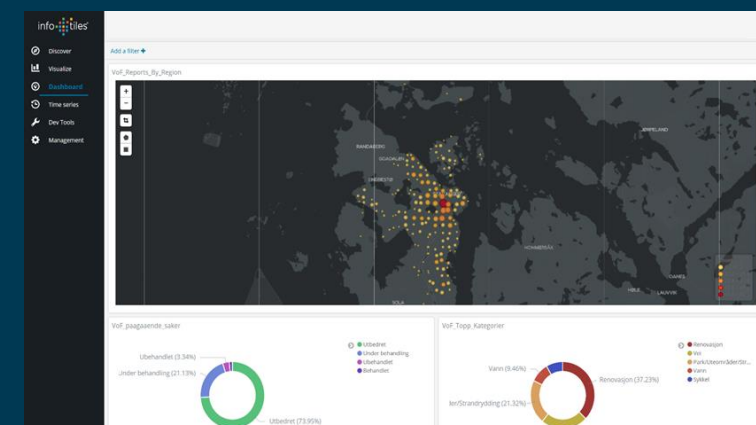
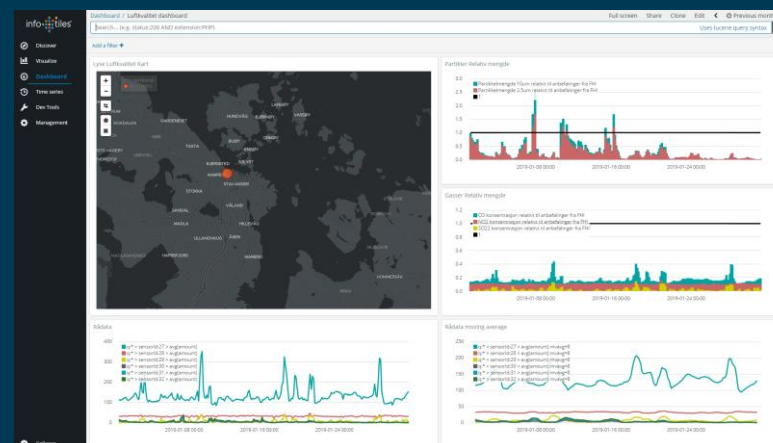
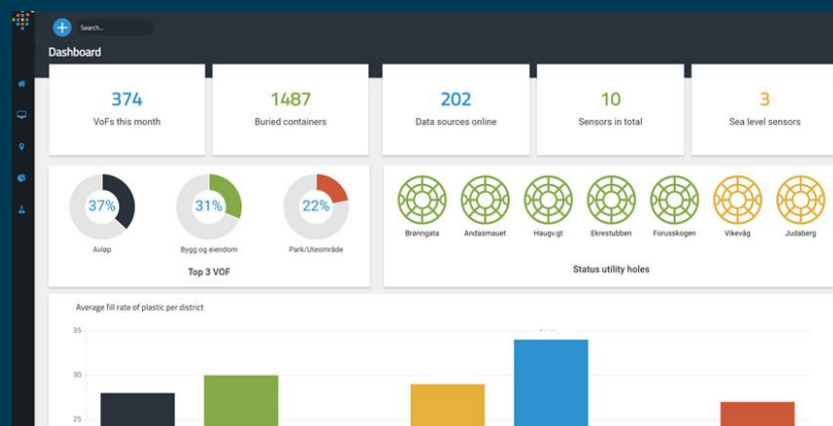
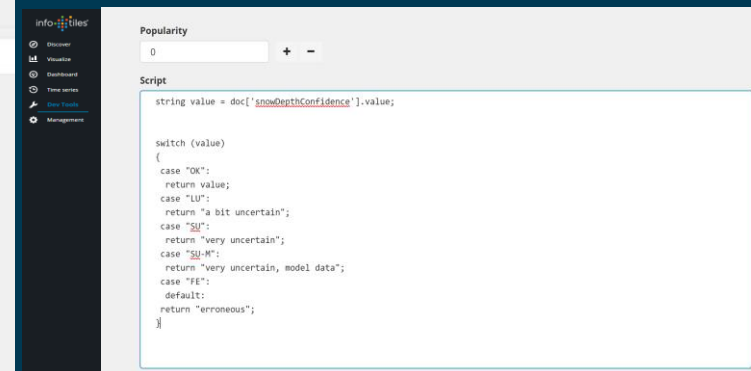
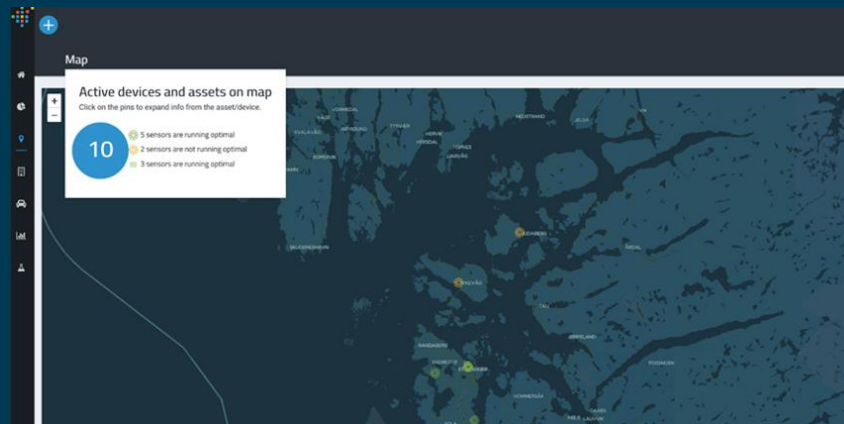


Connection



Administration

Eksempler på visualisering



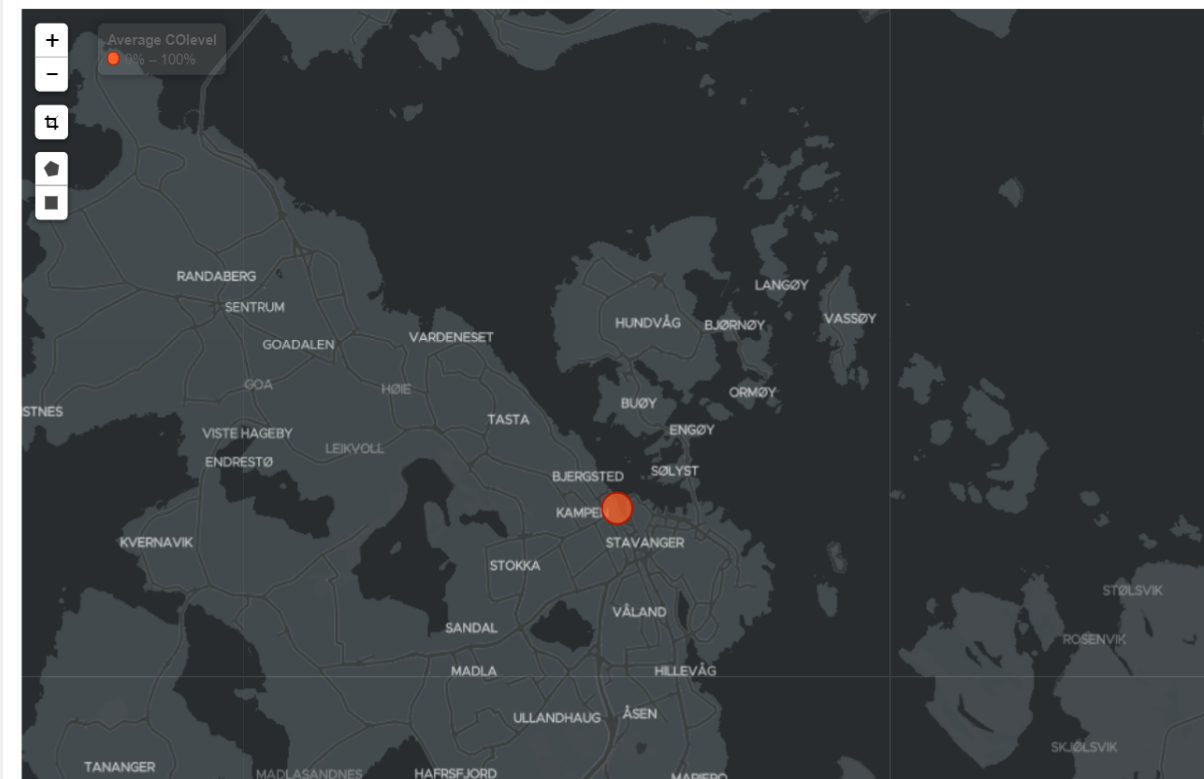


Search... (e.g. status:200 AND extension:PHP)

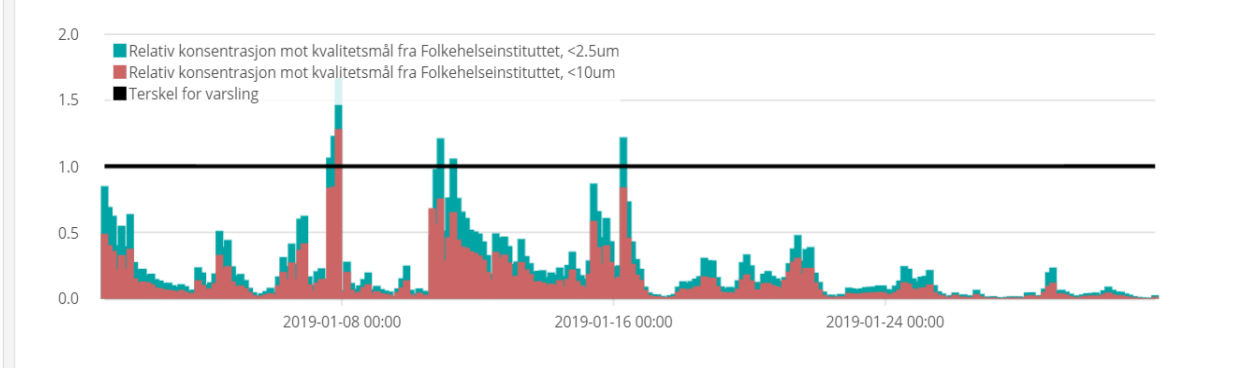
Uses lucene query syntax

Add a filter +

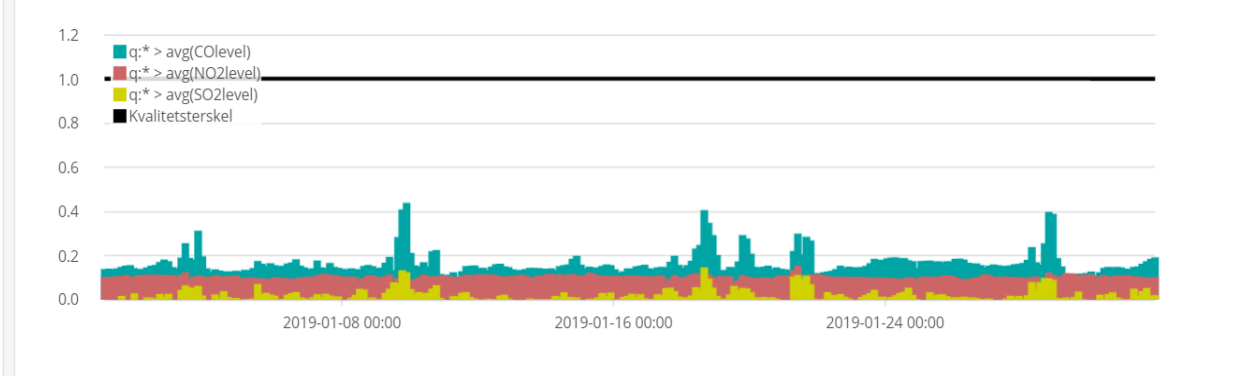
AQ_map



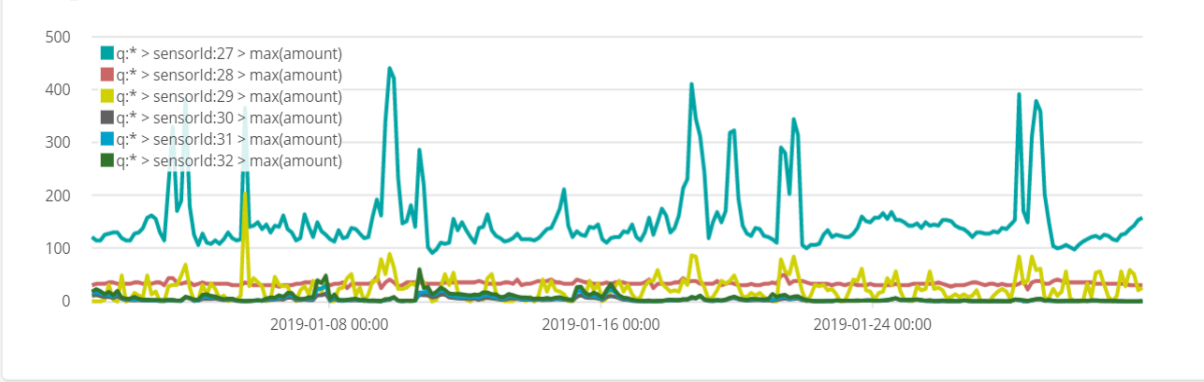
Partikler



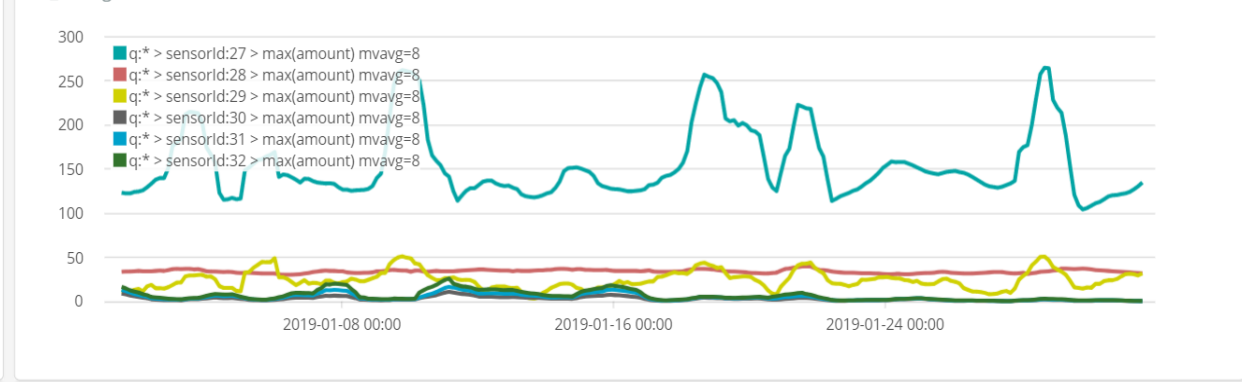
Gasser



Rådata_luft



AQ_mvavg

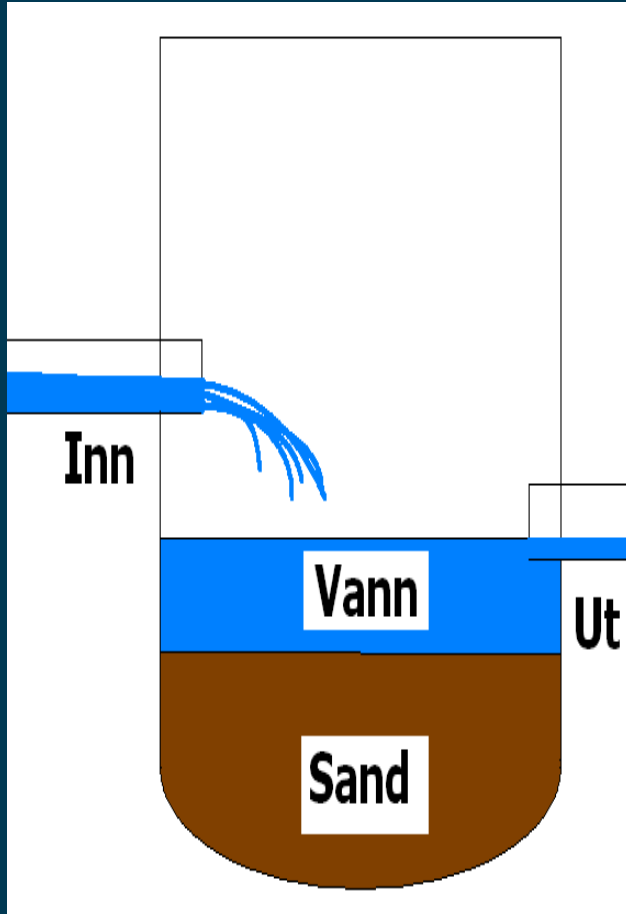


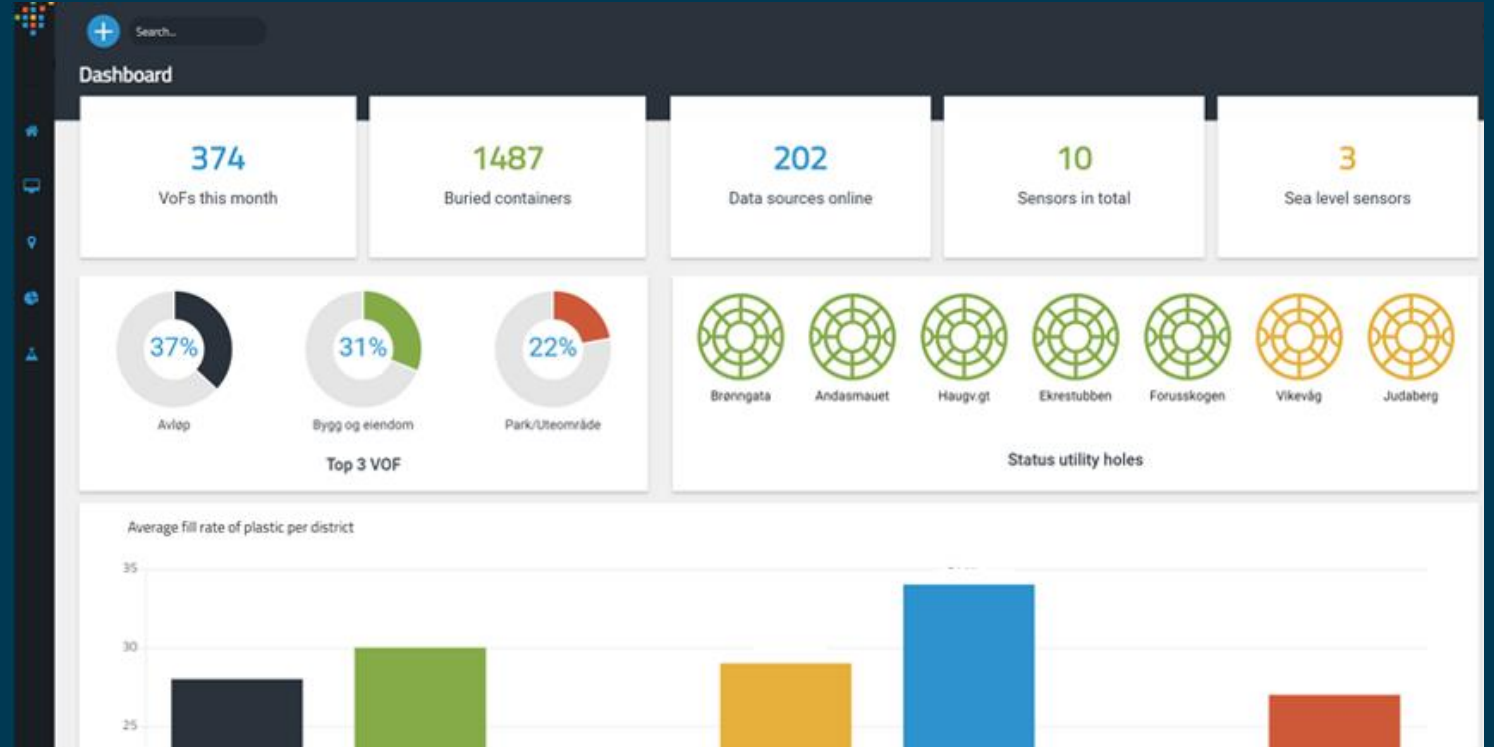


Danmarks
Tekniske
Universitet



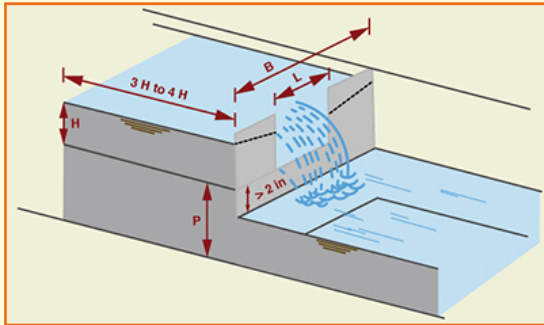
Sandfang







online_rectangular_weir: Calculation of discharge through a rectangular weir



Formula:

$$Q = C_e (L + k_b) (H + 0.003)^{3/2} \quad [\text{in U.S. Units}]$$

Head H on the weir, in m [or ft]
 Length L of the weir, in m [or ft]
 Width B of the channel, in m [or ft]
 Height P to the weir crest, in m [or ft]
 C_e is a function of H/P and L/B
 k_b is a function of L/B

Discharge Q in L/s [or cfs]

See USBR Manual for general methodology

INPUT DATA:

[Description]

Select Units:

SI (metric)
 U.S. Customary

Head H :

[$H > 0$]

Length L :

[$L > 0$]

Width B :

[$B > 0$]

Height P :

[$P > 0$]

OUTPUT:

Discharge Q : 0

Calculate

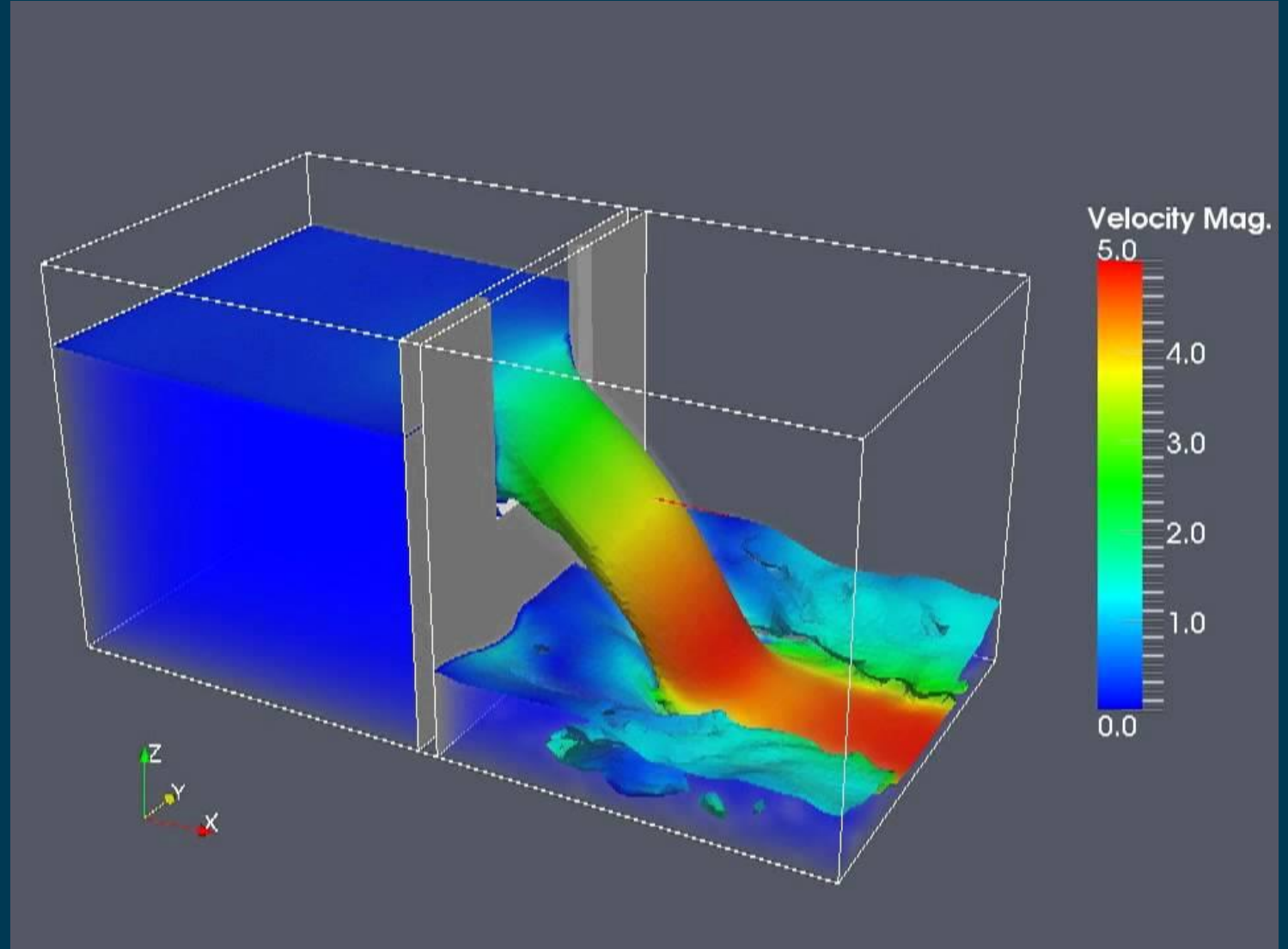
Reset

Your request was processed at 08:40:58 pm on March 6th, 2019 [190306 20:40:58].

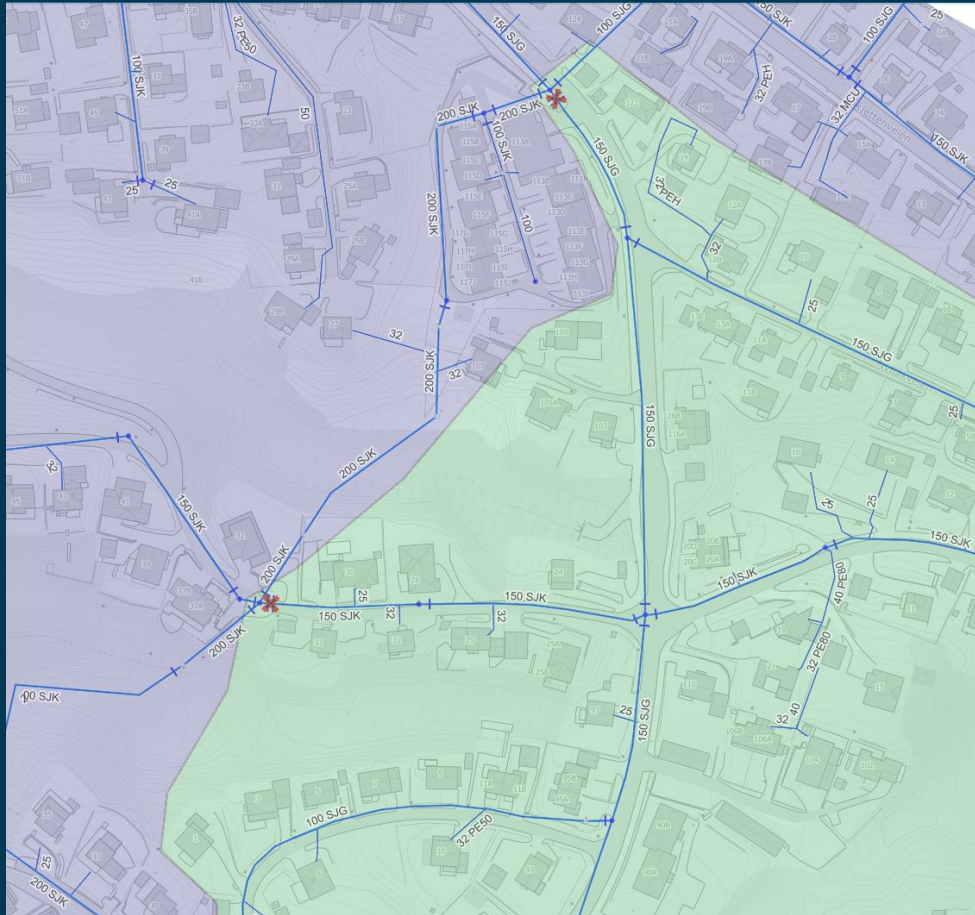
Thank you for running online_rectangular_weir Please call again. [131030 13:30]



Overløp



Vannlekkasjesøk



Andre potensielle muligheter

Med nye sensorer og målinger

- Vannkvalitet
- Vannstand/vannføring i elv
- Vanntemperatur
- Luftkvalitet
- Støynivå
- Trafikktelling
- Lokale værstasjoner
- Renovasjon
-

Utvidet innsikt med dagens data

- Utvidet SCADA-overvåking og alarmer gjennom smartere analyser
- Vannlekkasje
- Overvåking av fagsystemer
 - For innsikt
 - For rapportering
- Informasjonsdeling – Data lake
- Tilgangsstyring
 - Rett informasjon til rett person
- Opprettelse av historikk for å vurdere effekt av tiltak, og videre planlegging

Johnny Gunneng
Prosjekleder

Dashboard

[Dashboard](#)[Devices](#)[Assets](#)[Infoboard](#)[Map](#)[Statistics](#)[Lab](#)[KPI](#)

10

Må tømmes
Se Big Belly
på kart

25

Må tømmes
Se nedgravde containere
på kart

5

Må tømmes
Se gatesluker
på kart

4

Bør snart tømmes
Se gatesluker
på kart

220

Sykkelpasseringer
Siste
døgn

25

Må tømmes
Se
rottefeller på kart

10

Skifte batteri snart
Se
rottefeller på kartPM2.5
0.879ppm

Luftkvalitet i sentrum

PM10
0.36ugm3

Luftkvalitet i sentrum

N02
17.10ppm

Luftkvalitet i sentrum

Bade
temperatur

Se på kart

8PH

Vannkvalitet nå

God

Vannkvalitet
i Strømvik Bad

Dårlig

Vannkvalitet
i Vaulen

50

Varsel
om feil

Presenter

Marco Westergren

Telephone

+4747344399

Email

Marco.Westergren@infotiles.no



50

Byggesaker
siste måned (kart)

100

Oppmålingssaker
siste måned (kart)

100

Plansaker
siste måned (kart)

5

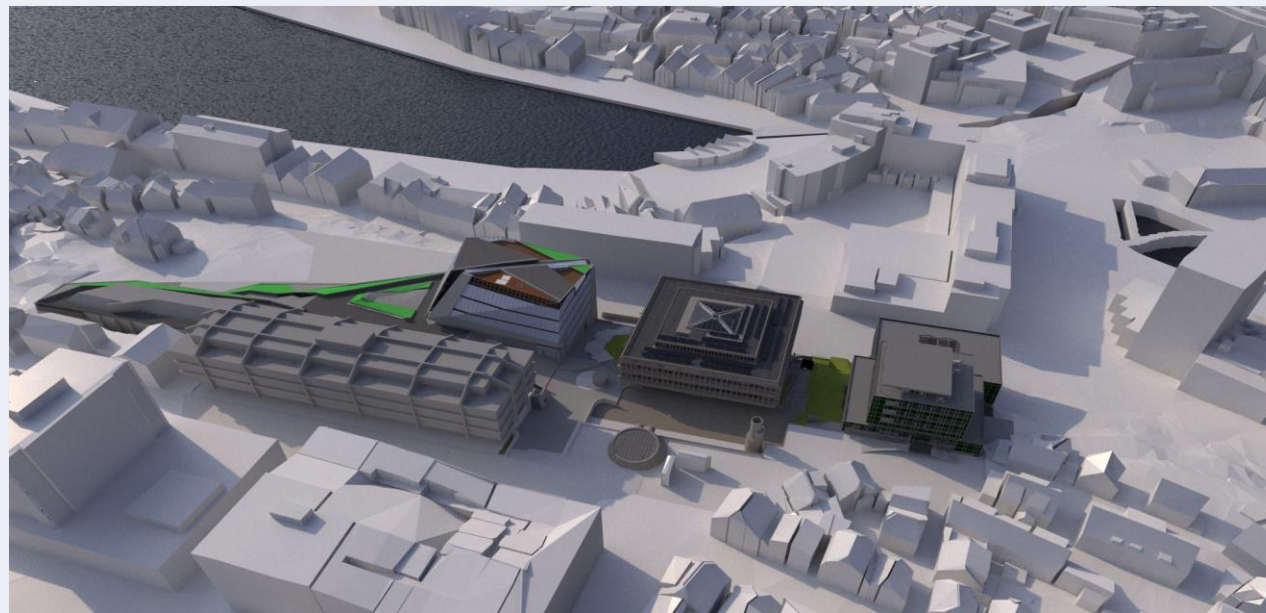
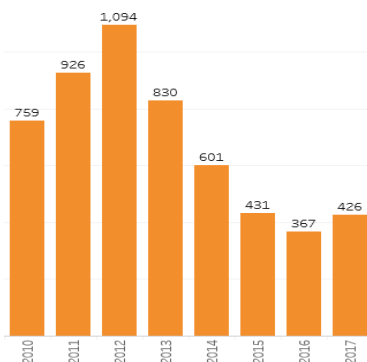
Møteromaktivitet
(Mest brukt/Se i 3Dmodell)

Høy

Risiko for
Ekstremvær

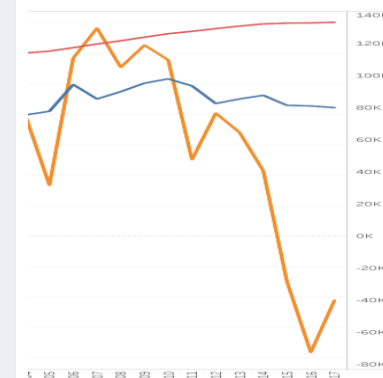
120

Boligbygging



140 000

Folketall



5

Oversiktsplan
til høring

80 000

Timebruk totalt

1. Prosjekter 15 000 2. Diverse 2 500 3. Interne møter 1 500

15

Detaljplan
til høring



Gunnar Crawford
Smartbysjef

Dashboard

Infoboard

Map

Building

Parking

Statistics

Lab

KPI

500

Streaming
devices

7

Active
assets

1

Alarm needing
attention

96



Manhole
devices

30



Elderly welfare
homes

10



Water temperature
devices

100



Air quality
devices

250



Trash can
devices

4



Bike pass
devices



Electrical car
chargers



City lights
area



Water
zones



Noise
devices



City power
consumption



Smart parking
devices

Active assets and devices on map

Click on the pins to expand info from the asset/device.

7

- 4 assets/devices are running optimal
- 2 assets/devices need further set up
- 1 error on asset/device

