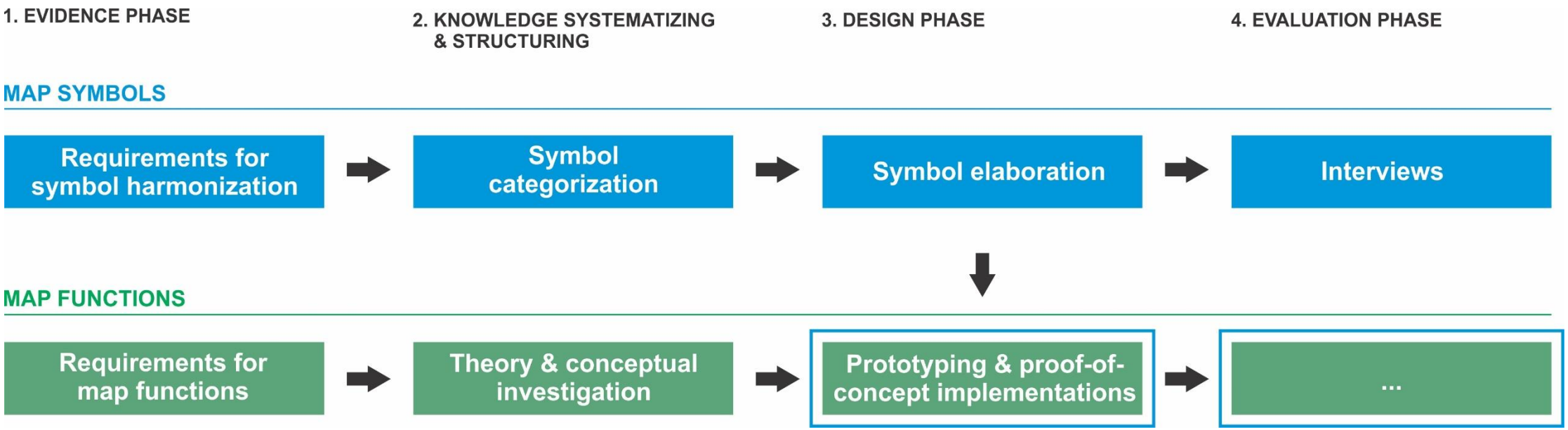
WP4 Workflow

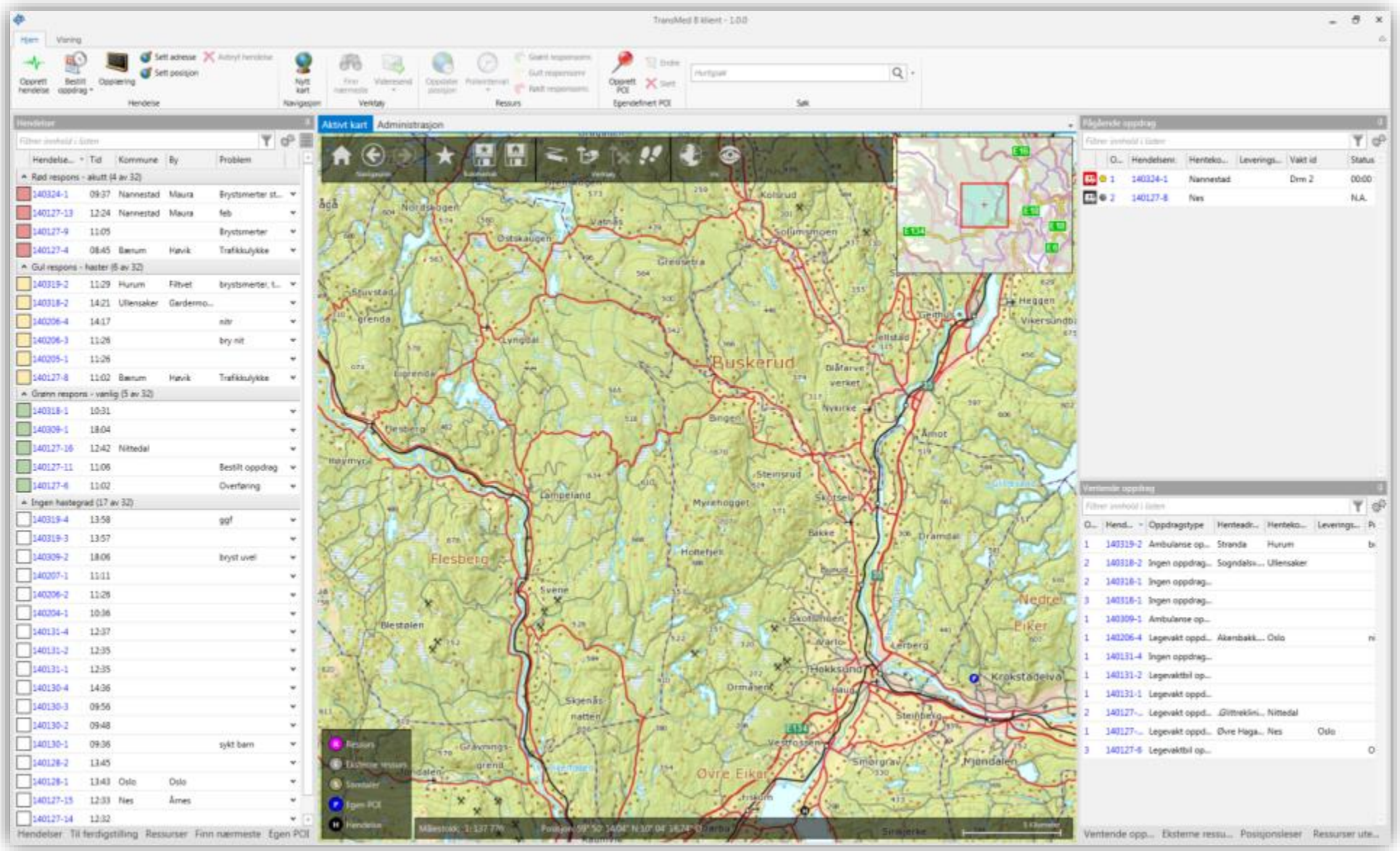


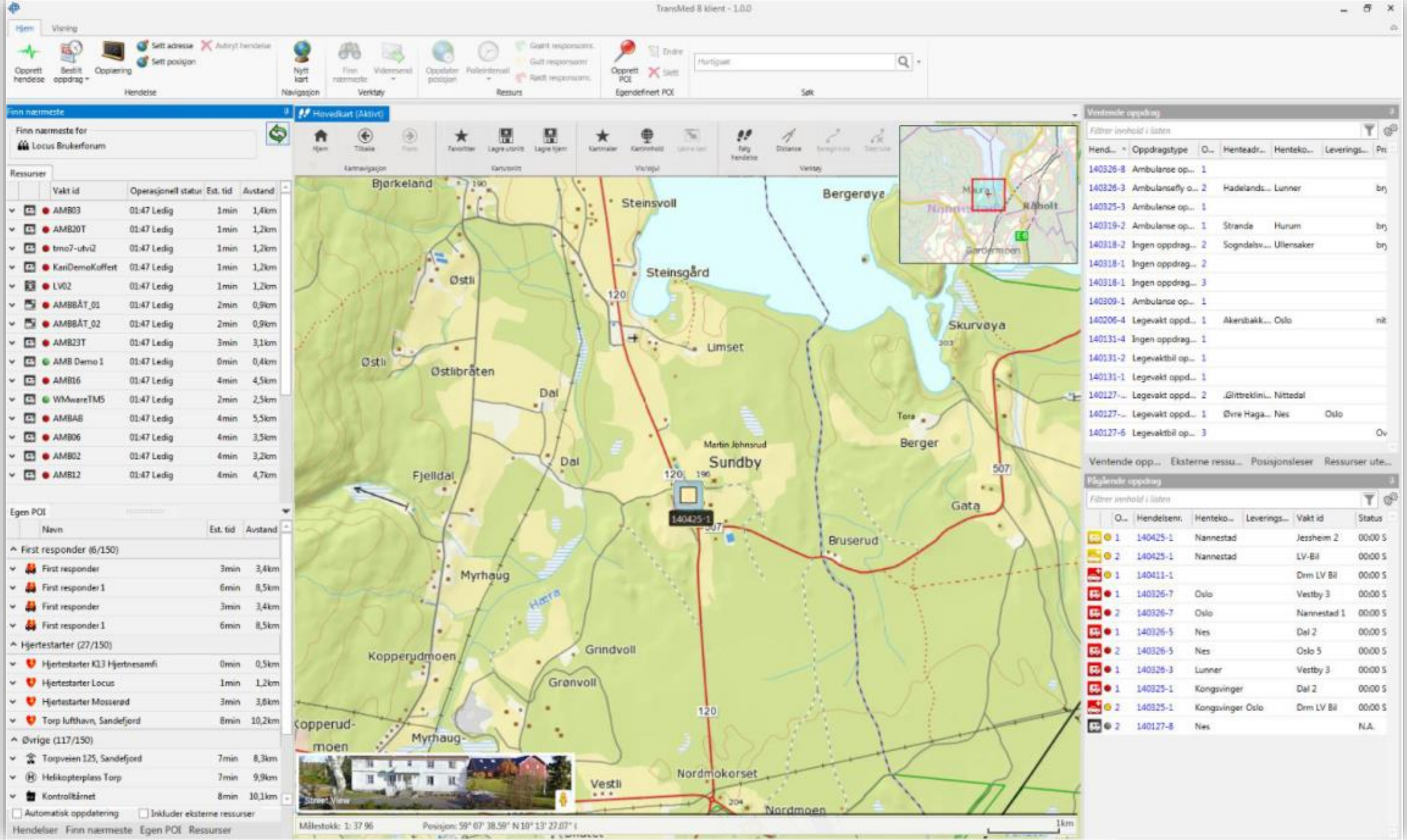
Identifying functions of importance to map support

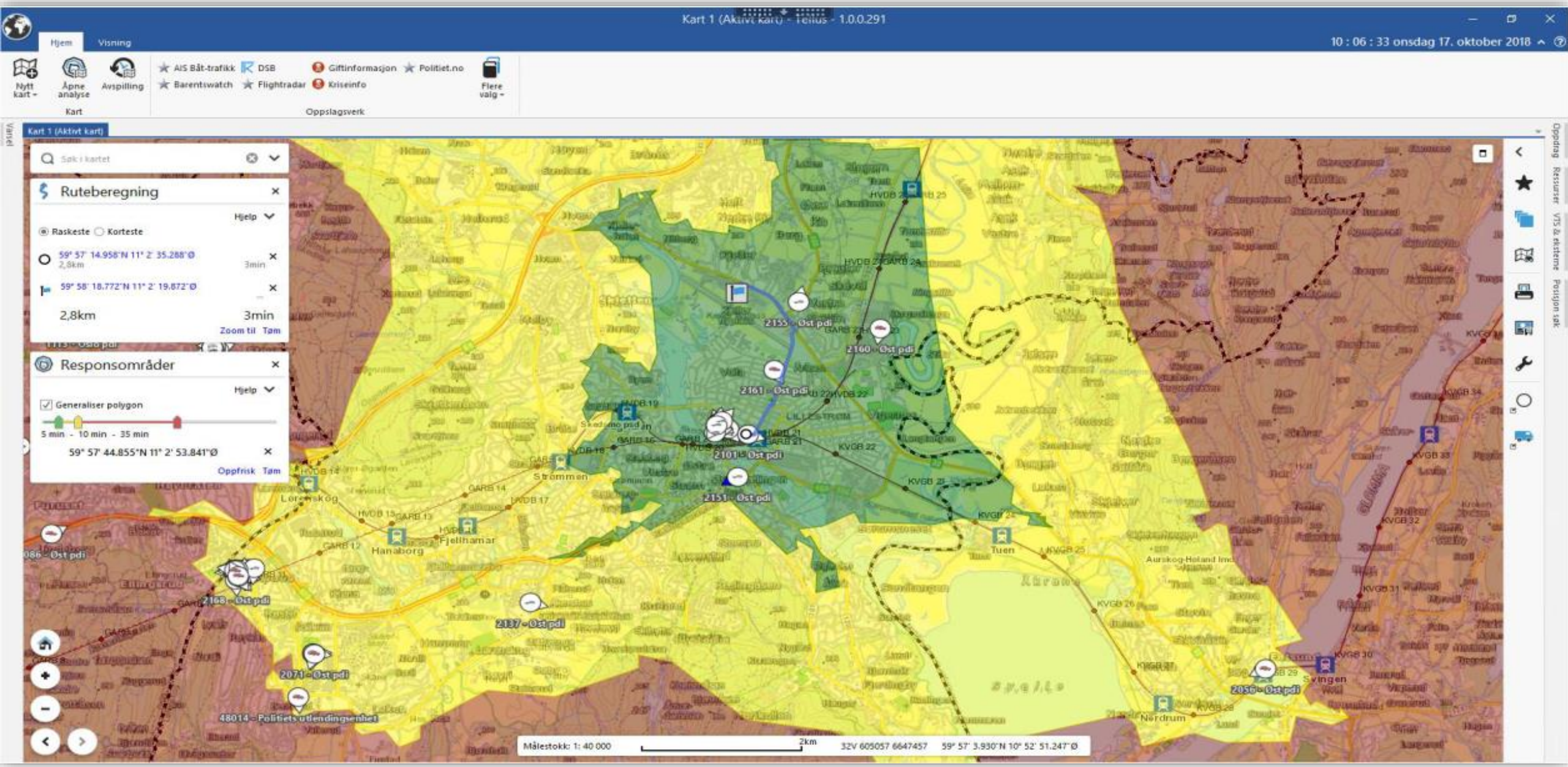
Conducted research	Period
Investigation of map functions implemented in existing map support tools	2019-
Meetings with emergency responders	2019-2020

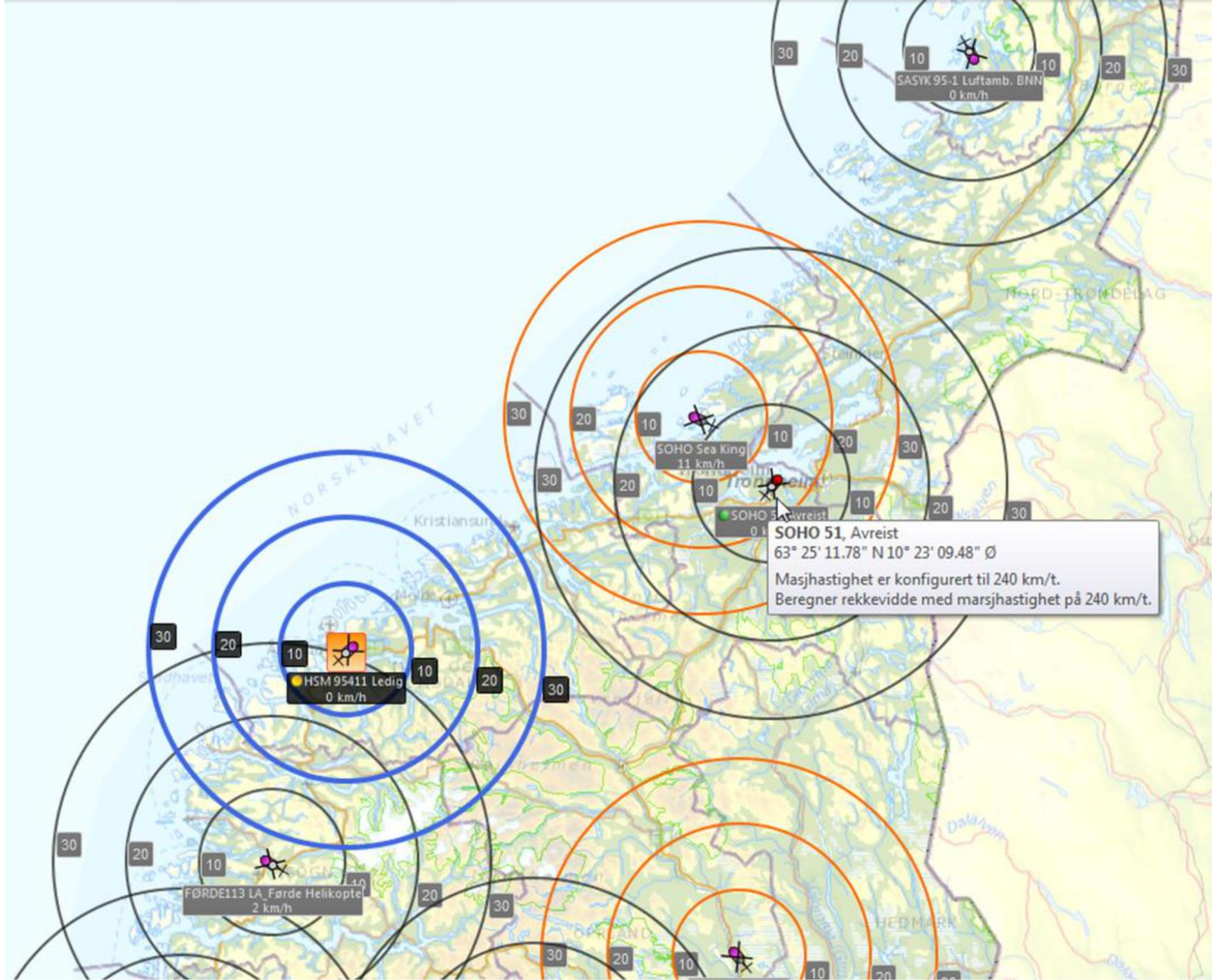
Przewiń, aby poznać szczegółowe informacje

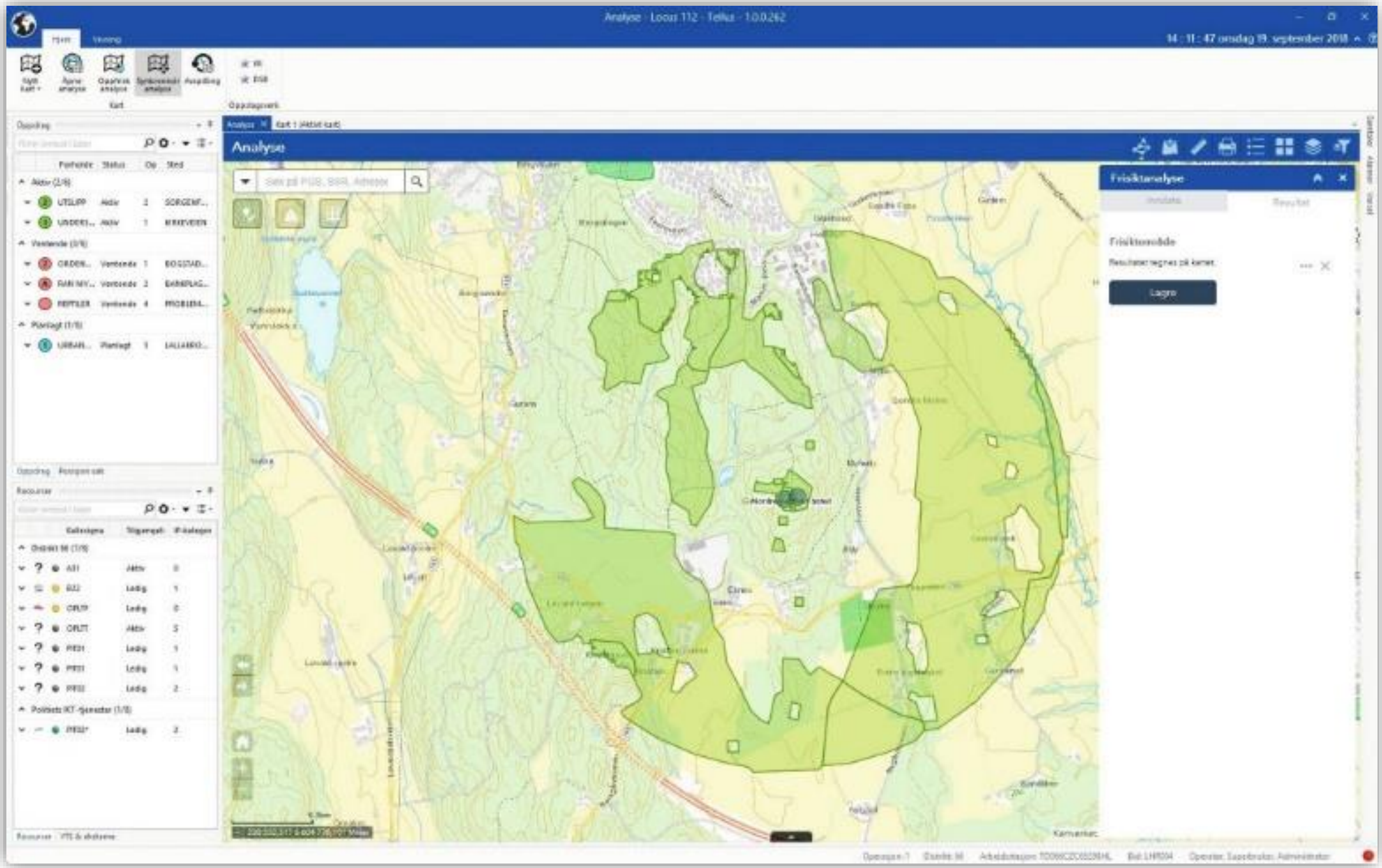
TransMed 8

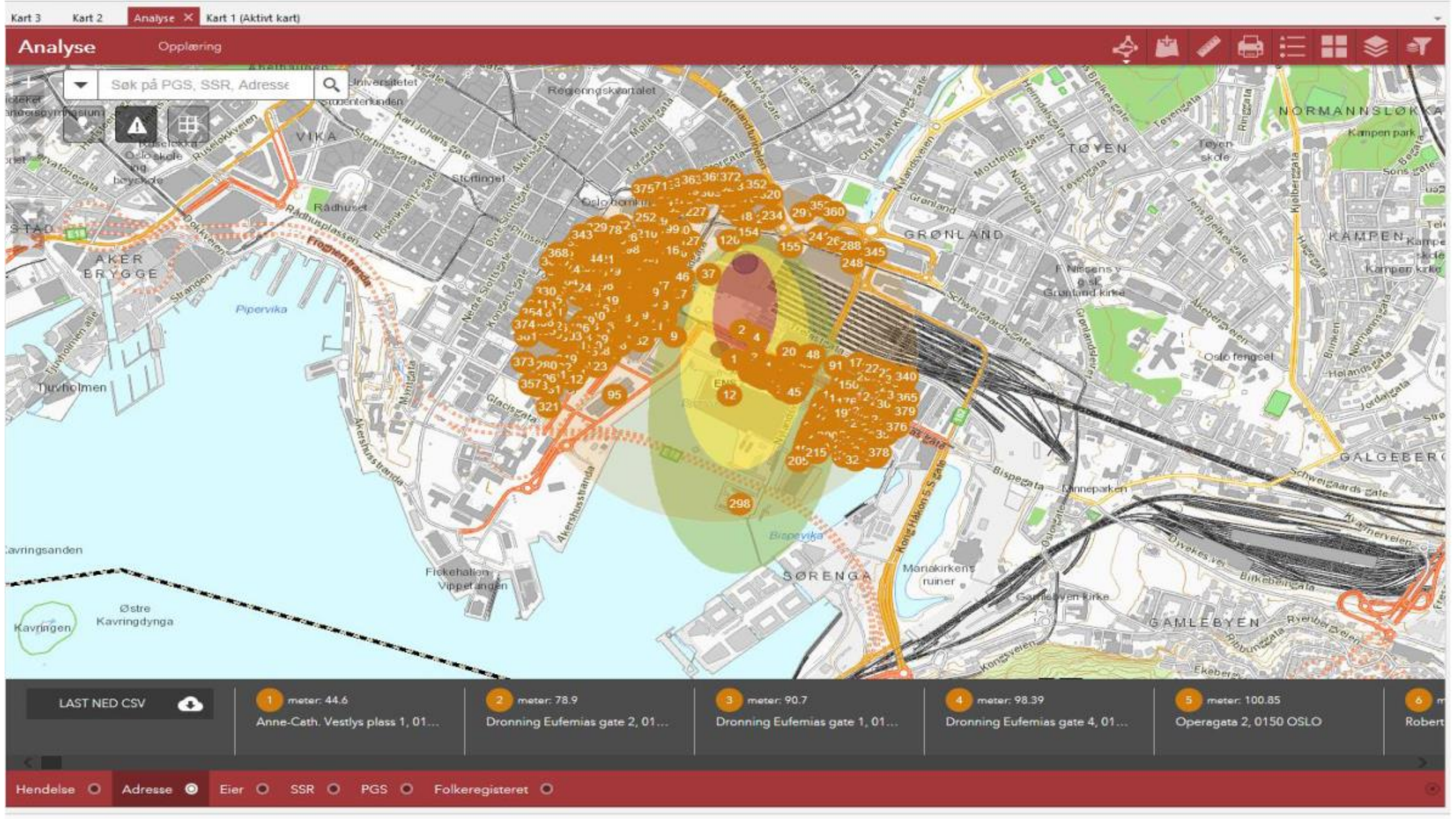

TransMed 8 klient - 1.0.0
Aktivt kart
Administrasjon
Buskerud
Flesberg
Øvre Eiker
Nedre Eiker
Hendelser
Pågående oppdrag
Ventende oppdrag

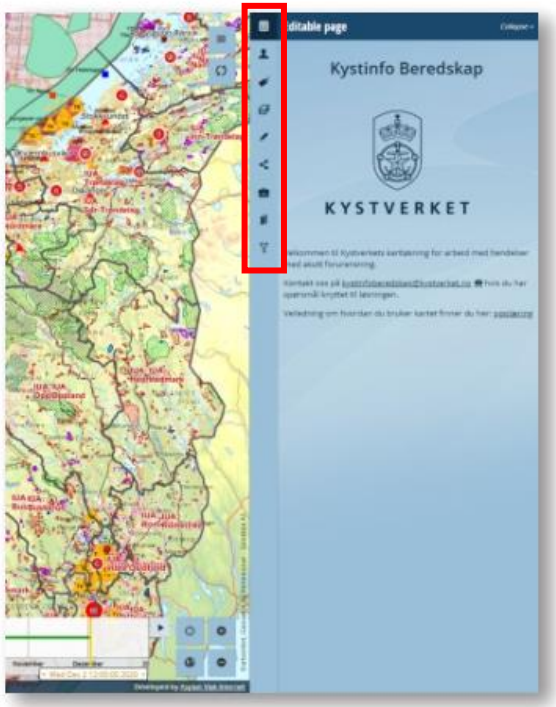

TransMed 8 klient - 1.0.0
Hjem
Visning
Opprett hendelse
Bestill oppdrag
Oppsøring
Sett adresse
Sett posisjon
Avbryt hendelse
Hendelse
Nytt kart
Navigasjon
Finn nærmeste
Videresend
Verktøy
Oppdater posisjon
Poliseinnsats
Godkjent responsorm.
Gult responsorm
Rødt responsorm.
Ressurs
Opprett POI
Endre
Slett
Egendefinert POI
Hurtigsøk
Søk
Finn nærmeste
Finn nærmeste for
Locus Brukerforum
Ressurser
Vakt id
Operasjonell status
Est. tid
Avstand
AMB03 01:47 Ledig 1min 1,4km
AMB20T 01:47 Ledig 1min 1,2km
tmo7-utvi2 01:47 Ledig 1min 1,2km
KariDemoKoffert 01:47 Ledig 1min 1,2km
LV02 01:47 Ledig 1min 1,2km
AMBBÅT_01 01:47 Ledig 2min 0,9km
AMBBÅT_02 01:47 Ledig 2min 0,9km
AMB23T 01:47 Ledig 3min 3,1km
AMB Demo 1 01:47 Ledig 0min 0,4km
AMB16 01:47 Ledig 4min 4,5km
WMwareTM5 01:47 Ledig 2min 2,5km
AMBAB 01:47 Ledig 4min 5,5km
AMB06 01:47 Ledig 4min 3,5km
AMB02 01:47 Ledig 4min 3,2km
AMB12 01:47 Ledig 4min 4,7km
Egen POI
Navn
Est. tid
Avstand
First responder (6/150)
First responder 3min 3,4km
First responder 1 6min 8,5km
First responder 3min 3,4km
First responder 1 6min 8,5km
Hjertestarter (27/150)
Hjertestarter K13 Hjertnesamfi 0min 0,5km
Hjertestarter Locus 1min 1,2km
Hjertestarter Mosserød 3min 3,6km
Torp lufthavn, Sandefjord 8min 10,2km
Øvrige (117/150)
Torpveien 125, Sandefjord 7min 8,3km
Helikopterplass Torp 7min 9,9km
Kontrolltårnet 8min 10,1km
Automatisk oppdatering
Inkluder eksterne ressurser
Hendelser
Finn nærmeste
Egen POI
Ressurser
Hovedkart (Aktivt)
Hjem
Tilbake
Fremover
Kartnavigasjon
Favoritter
Lagre utsnitt
Lagre hjem
Kartutsnitt
Kartmaler
Kartinnhold
Lagre kart
Vis/skjul
Følg hendelse
Distanse
Kartverktøy
Bjørkeland
Steinsvoll
Bergerøya
Steinsgård
Østli
Limset
Skurvøya
Østlibråten
Dal
Tora
Berger
Martin Johnsrud
Sundby
Fjelldal
Gata
Bruserud
Myrhaug
Kopperudmoen
Grindvoll
Grønvoll
Kopperud-moen
Myrhaug-
Vestli
Nordmokorset
Nordmoen
140425-1
Målestokk: 1: 37 96
Posisjon: 59° 07' 38.59" N 10° 13' 27.07"
1km
Ventende oppdrag
Filtrer innhold i listen
Hend...
Oppdragstype
O...
Henteadr...
Henteko...
Leverings...
140326-8 Ambulanse op... 1
140326-3 Ambulansefly o... 2 Hadelands... Lunner
140325-3 Ambulanse op... 1
140319-2 Ambulanse op... 1 Stranda Hurum
140318-2 Ingen oppdrag... 2 Sogndalsv... Ullensaker
140318-1 Ingen oppdrag... 2
140318-1 Ingen oppdrag... 3
140309-1 Ambulanse op... 1
140206-4 Legevakt oppd... 1 Akersbakk... Oslo
140131-4 Ingen oppdrag... 1
140131-2 Legevaktbil op... 1
140131-1 Legevakt oppd... 1
140127-... Legevakt oppd... 2 Glittreklini... Nittedal
140127-... Legevakt oppd... 1 Øvre Haga... Nes Oslo
140127-6 Legevaktbil op... 3
Ventende opp...
Eksterne ressu...
Posisjonsleser
Ressurser ute...
Pågående oppdrag
Filtrer innhold i listen
O...
Hendelsenr.
Henteko...
Leverings...
Vakt id
Status
1 140425-1 Nannestad Jessheim 2 00:00 S
2 140425-1 Nannestad LV-Bil 00:00 S
1 140411-1 Drm LV Bil 00:00 S
1 140326-7 Oslo Vestby 3 00:00 S
2 140326-7 Oslo Nannestad 1 00:00 S
1 140326-5 Nes Dal 2 00:00 S
2 140326-5 Nes Oslo 5 00:00 S
1 140326-3 Lunner Vestby 3 00:00 S
1 140325-1 Kongsvinger Dal 2 00:00 S
2 140325-1 Kongsvinger Oslo Drm LV Bil 00:00 S
2 140127-8 Nes N.A.

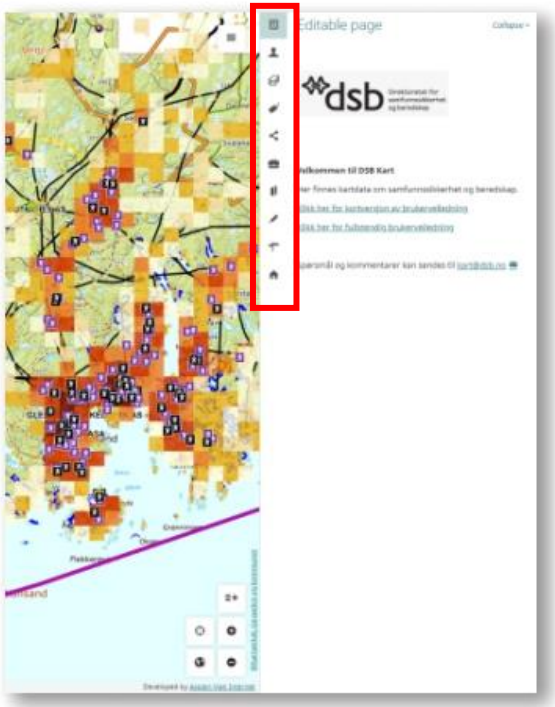

Kart 1 (Aktivt kart) - Tellus - 1.0.0.291
10 : 06 : 33 onsdag 17. oktober 2018
Hjem
Visning
Nytt kart
Åpne analyse
Avspilling
Kart
AIS Båt-trafikk
DSB
Giftinformasjon
Politiet.no
Barentswatch
Flightradar
Kriseinfo
Flere valg
Oppslagsverk
Kart 1 (Aktivt kart)
Søk i kartet
Ruteberegning
Hjelp
Raskeste
Korteste
59° 57' 14.958"N 11° 2' 35.288"Ø
2,8km
3min
59° 58' 18.772"N 11° 2' 19.872"Ø
2,8km
3min
Zoom til
Tøm
Responsområder
Hjelp
Generaliser polygon
5 min - 10 min - 35 min
59° 57' 44.855"N 11° 2' 53.841"Ø
Oppfrisk
Tøm
2155 - Øst pdi
2160 - Øst pdi
2161 - Øst pdi
2101 - Øst pdi
2151 - Øst pdi
2168 - Øst pdi
2137 - Øst pdi
2071 - Øst pdi
48014 - Politiets utlendingsenhet
2056 - Øst pdi
Strømmen
Lørenskog
Hanaborg
Fjellhamar
Tuen
Nordrum
Svingen
Målestokk: 1: 40 000
2km
32V 605057 6647457
59° 57' 3.930"N 10° 52' 51.247"Ø

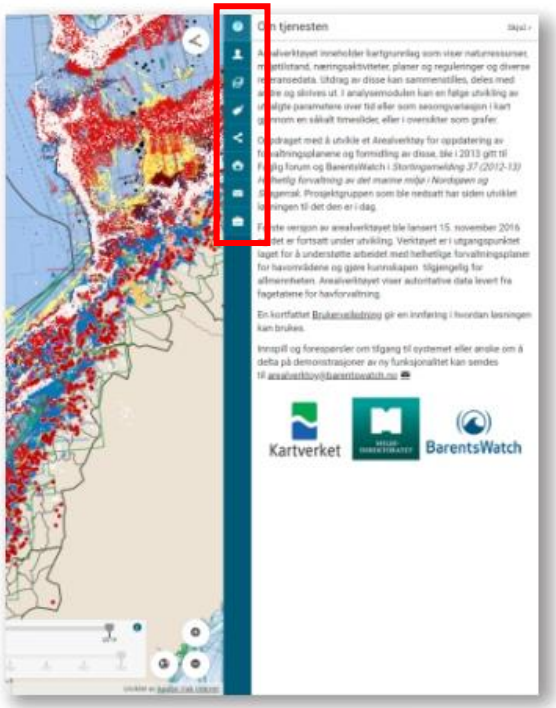

SASYK 95-1 Luftamb. BNN
0 km/h
SOHO Sea King
11 km/h
SOHO 51, Avreist
63° 25' 11.78" N 10° 23' 09.48" Ø
Masjhastighet er konfigurert til 240 km/t.
Beregner rekkevidde med marsjhastighet på 240 km/t.
HSM 95411 Ledig
0 km/h
FØRDE113 LA_Førde Helikopte
2 km/h
NORD-TRØNDELAG
HEDMARK
NORSKEHAVET

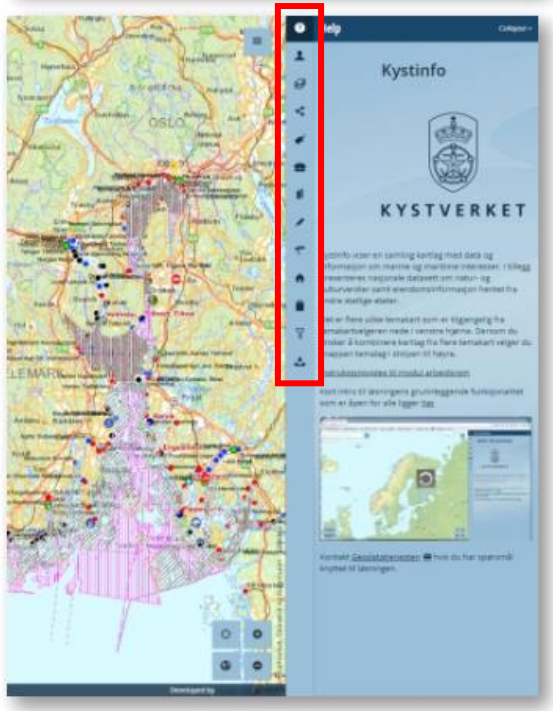

Analyse
Friskluftanalyse
Lagre


Kart 3
Kart 2
Analyse
Kart 1 (Aktivt kart)
Analyse
Opplæring
Søk på PGS, SSR, Adresse
VIKA
AKER BRYGGE
Pipervika
Tjuvholmen
Rådhuset
Stortinget
Oslo homkirk
Regjeringskvartalet
Vaterlandtunnelen
Christian Krongs gate
Nylandsveien
Grønland
GRØNLAND
TØYEN
NORMANNSLØKKA
Kampen park
KAMPEN
Kampen kirke
Oslo fengsel
Schweigaards gate
Bispegata
Minneparken
Bispevika
SØRENGA
Mariakirkens ruiner
Gamlebyen kirke
GAMLEBYEN
Fiskehallen Vippetangen
Kavringsanden
Østre Kavringdynga
Kavringen
Akershusstranda
Glacisgata
Myntgata
Kongsveien
Ekeberg
Ryenbergveien
Ribbungata
Dyvekes vei
Bitkebeingata
Kvarnerveien
Schweigaards gate
Kjølberggata
Hagegata
Brinken
Normannsgata
Hølandsgata
Jordalgata
Jens Bjelkes gate
Tøyengata
Motzfeldts gate
Norbygata
Helmdalsgata
Christian Krongs gate
Bjelkes gate
Ringgata
Sons gate
Bøgata
Kampen park
Tøyen skole
Oslo skole
Ruselokkveien
Ruselokkveien
Rådhusplassen
Frognerstranda
Dokkveien
Stranden
Tjuvholmen alle
Nedre Slottsgate
Kongens gate
Prinsen
Akersgata
Torggata
Mollergata
Karl Johans gate
Stortingsgata
Rosenkrantz gate
Øvre Slottsgate
Christian Krongs gate
Nylandsveien
Grønland
Schweigaards gate
Akebergveien
Grønlandsleiret
Bispegata
Kong Håkon 5. S gate
Oslo gate
Kvarnerveien
Bispevika
Akershusstranda
Myntgata
Glacisgata
Nedre Slottsgate
Kongens gate
Prinsen
Øvre Slottsgate
Rosenkrantz gate
Stortingsgata
Karl Johans gate
Universitetet
Studenterlunden
Universitetet
Oslo
LAST NED CSV
1 meter: 44.6
Anne-Cath. Vestlys plass 1, 01...
2 meter: 78.9
Dronning Eufemias gate 2, 01...
3 meter: 90.7
Dronning Eufemias gate 1, 01...
4 meter: 98.39
Dronning Eufemias gate 4, 01...
5 meter: 100.85
Operagata 2, 0150 OSLO
6
Robert
Hendelse
Adresse
Eier
SSR
PGS
Folkeregisteret



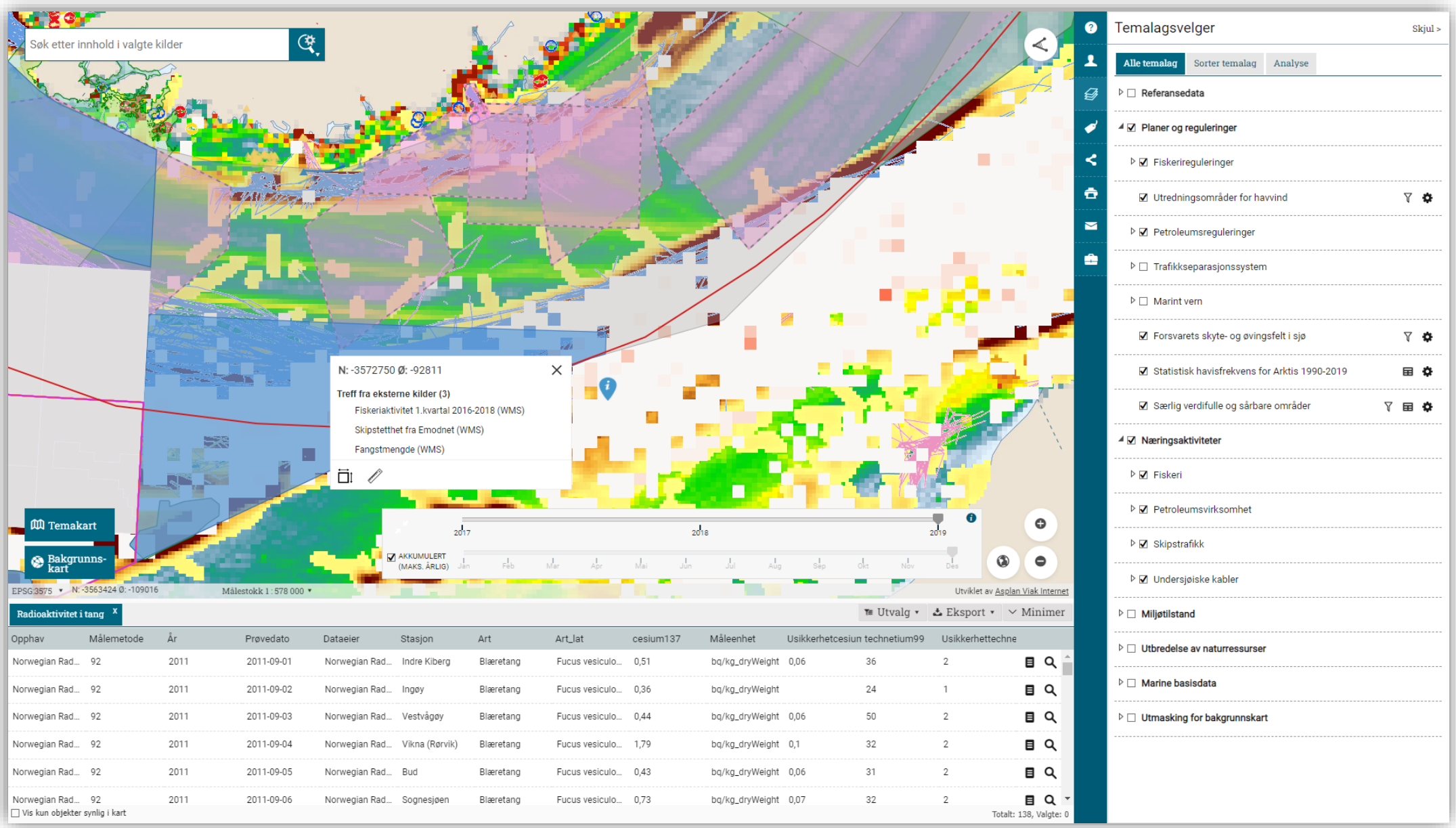


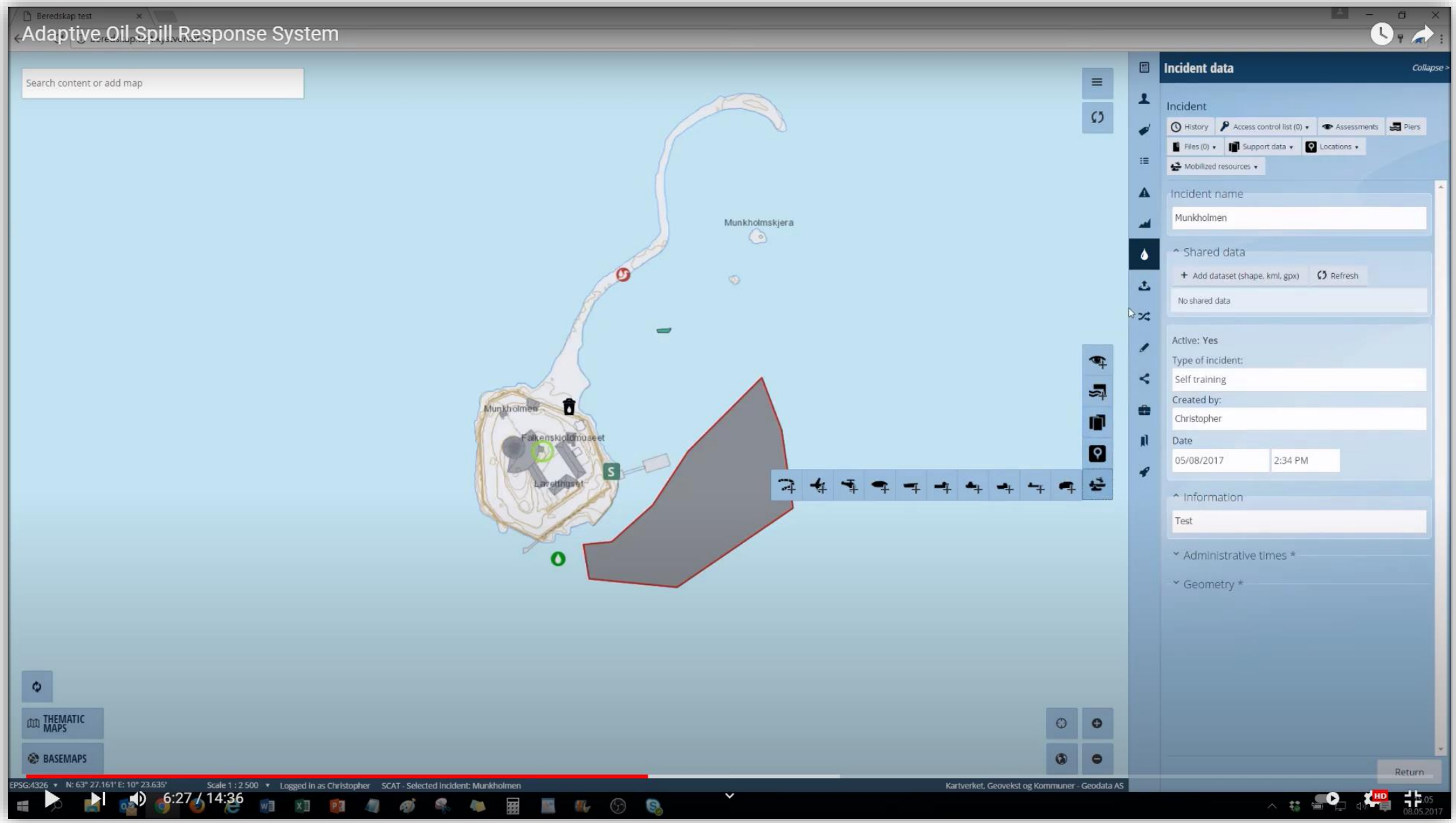




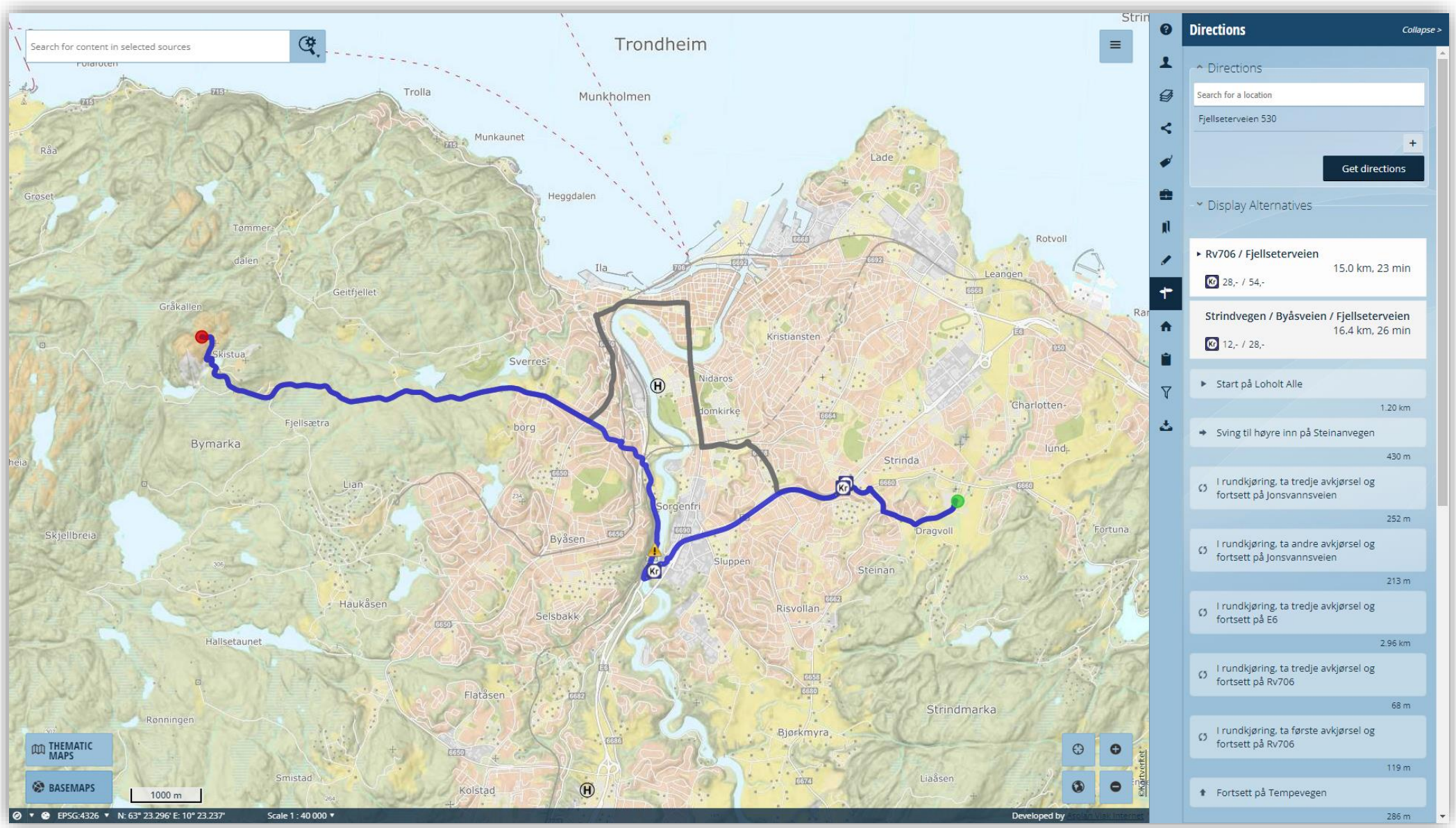
Asplan Viak Internet
AVINET

Barents Watch Arealverktøyet

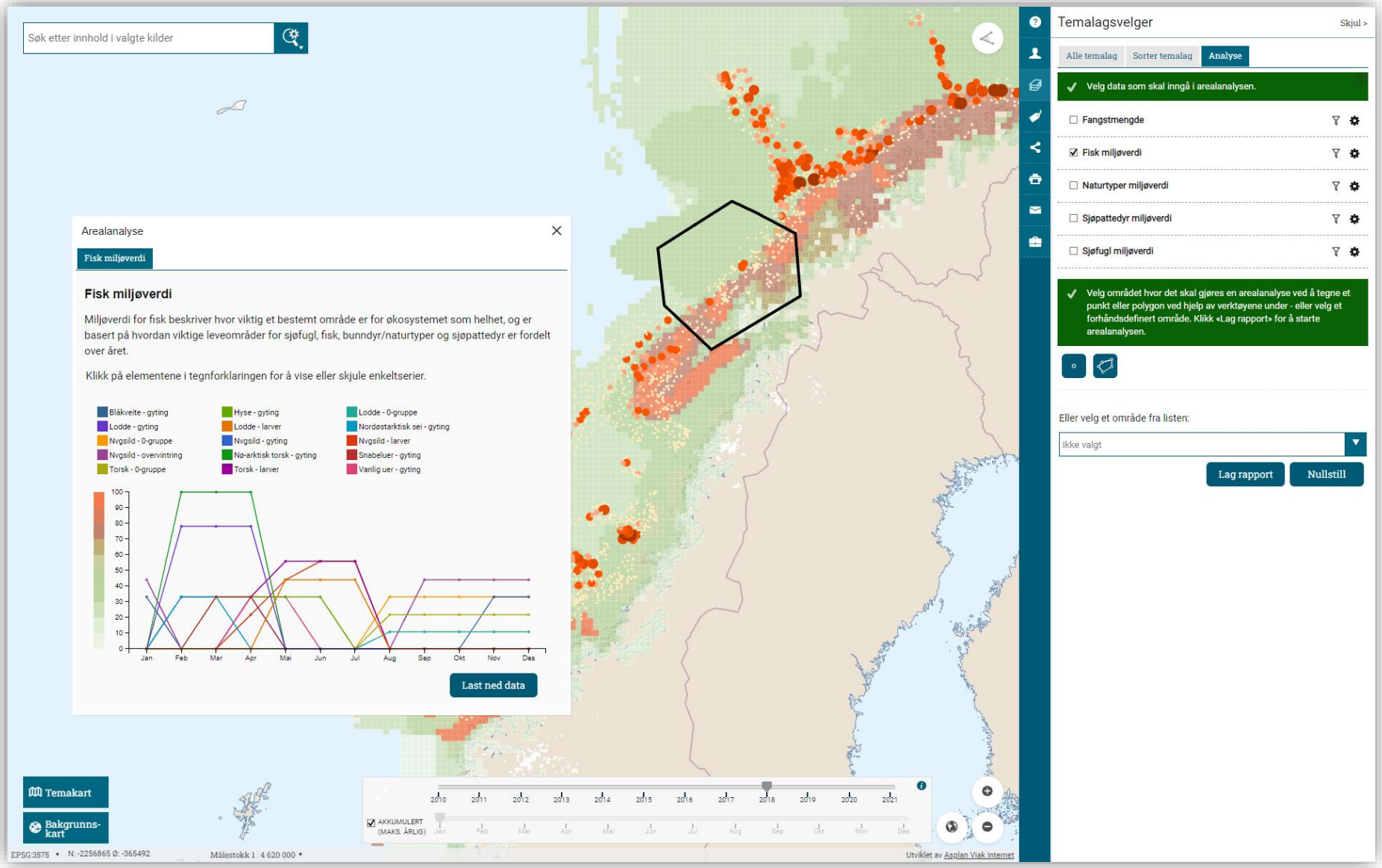



Adaptive Oil Spill Response System
Beredskap test
Search content or add map
Munkholmskjera
Munkholmen
Falkenskioldmuseet
Lasetthuset
Incident data
Collapse >
Incident
History
Access control list (0)
Assessments
Piers
Files (0)
Support data
Locations
Mobilized resources
Incident name
Munkholmen
Shared data
Add dataset (shape, kml, gpx)
Refresh
No shared data
Active: Yes
Type of incident:
Self training
Created by:
Christopher
Date
05/08/2017
2:34 PM
Information
Test
Administrative times *
Geometry *
Return
THEMATIC MAPS
BASEMAPS
EPSG:4326
N: 63° 27.161' E: 10° 23.635'
Scale 1 : 2 500
Logged in as Christopher
SCAT - Selected incident: Munkholmen
Kartverket, Geovekst og Kommuner - Geodata AS
6:27 / 14:36
08.05.2017

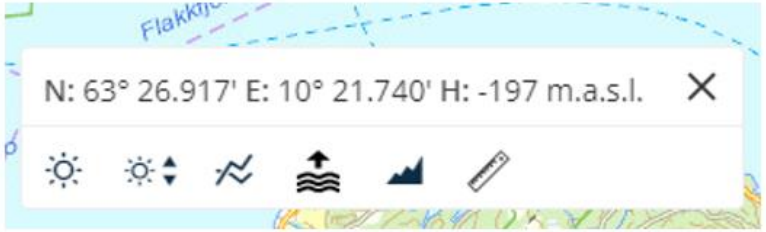
Kystinfo


Search for content in selected sources
Trondheim
Munkholmen
Trolla
Munkaunet
Heggdalen
Lade
Rotvoll
Leangen
Ila
Geitfjellet
Gråkallen
Skistua
Sverresborg
Nidaros domkirke
Kristiansten
Charlotten-lund
Strinda
Fjellsætra
Bymarka
Lian
Sorgenfri
Byåsen
Sluppen
Dragvoll
Fortuna
Steinan
Risvollan
Selsbakk
Haukåsen
Hallsetaunet
Flatåsen
Strindmarka
Bjørkmyra
Liaåsen
Kolstad
Smistad
Rønningen
Skjellbreia
Råa
Grøset
Tømmer-dalen
THEMATIC MAPS
BASEMAPS
1000 m
EPSG:4326
N: 63° 23.296' E: 10° 23.237'
Scale 1 : 40 000
Developed by
Directions
Collapse >
Directions
Search for a location
Fjellseterveien 530
Get directions
Display Alternatives
Rv706 / Fjellseterveien
15.0 km, 23 min
28,- / 54,-
Strindvegen / Byåsveien / Fjellseterveien
16.4 km, 26 min
12,- / 28,-
Start på Loholt Alle
1.20 km
Sving til høyre inn på Steinanvegen
430 m
I rundkjøring, ta tredje avkjørsel og fortsett på Jonsvannsveien
252 m
I rundkjøring, ta andre avkjørsel og fortsett på Jonsvannsveien
213 m
I rundkjøring, ta tredje avkjørsel og fortsett på E6
2.96 km
I rundkjøring, ta tredje avkjørsel og fortsett på Rv706
68 m
I rundkjøring, ta første avkjørsel og fortsett på Rv706
119 m
Fortsett på Tempevegen
286 m

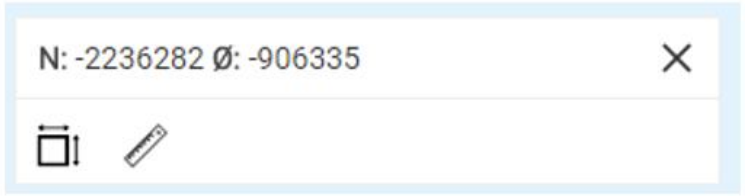
Barents Watch Arealverktøyet



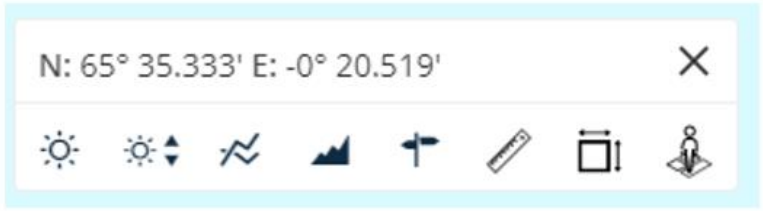
DSB Kart



Kystinfo Beredskap



Barents Watch Arealverktøyet



Kystinfo

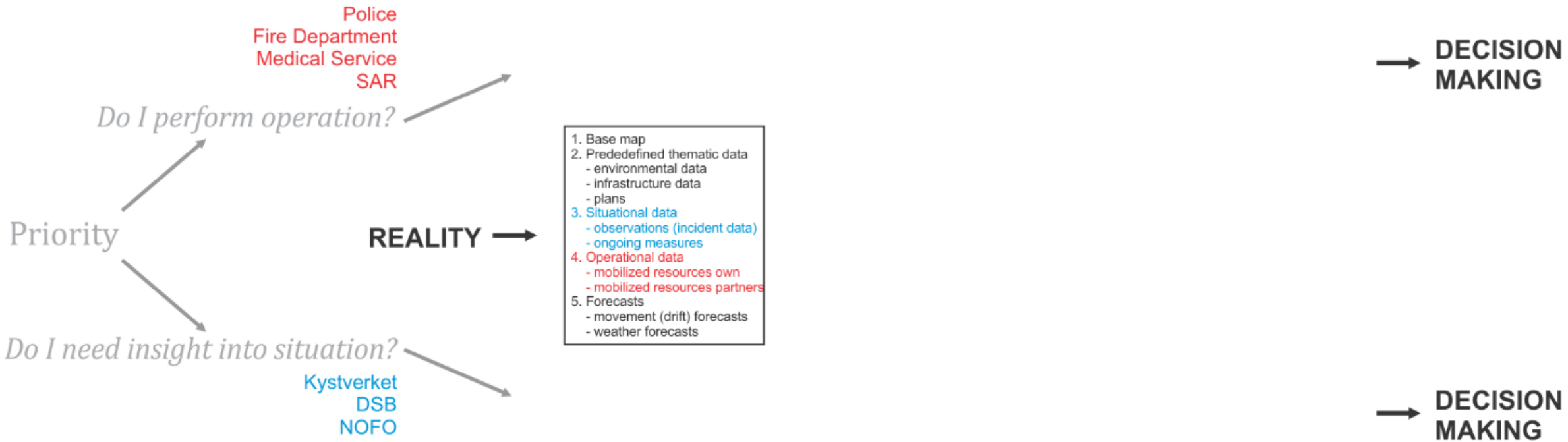
NOFO COP

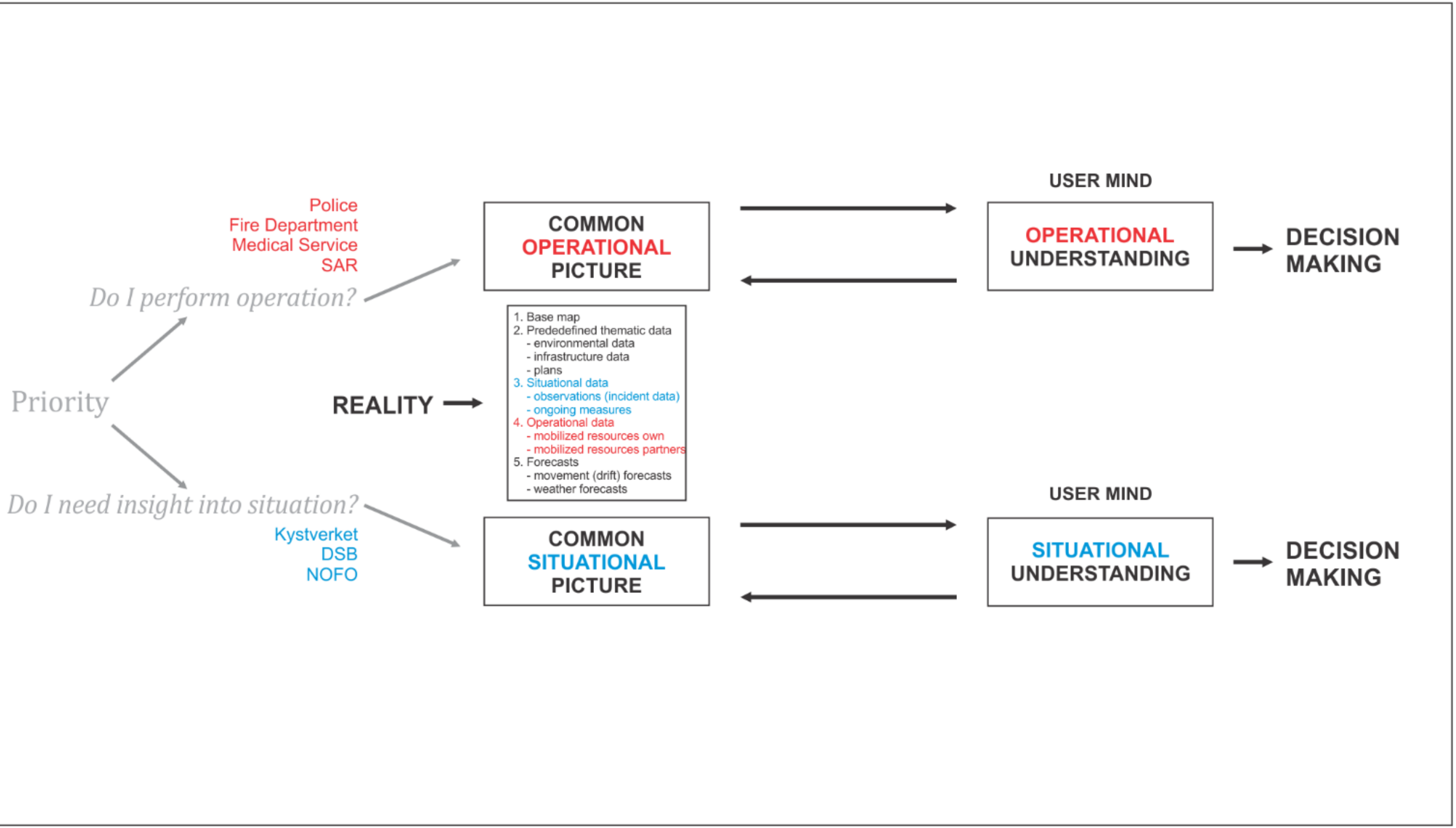
REALITY →

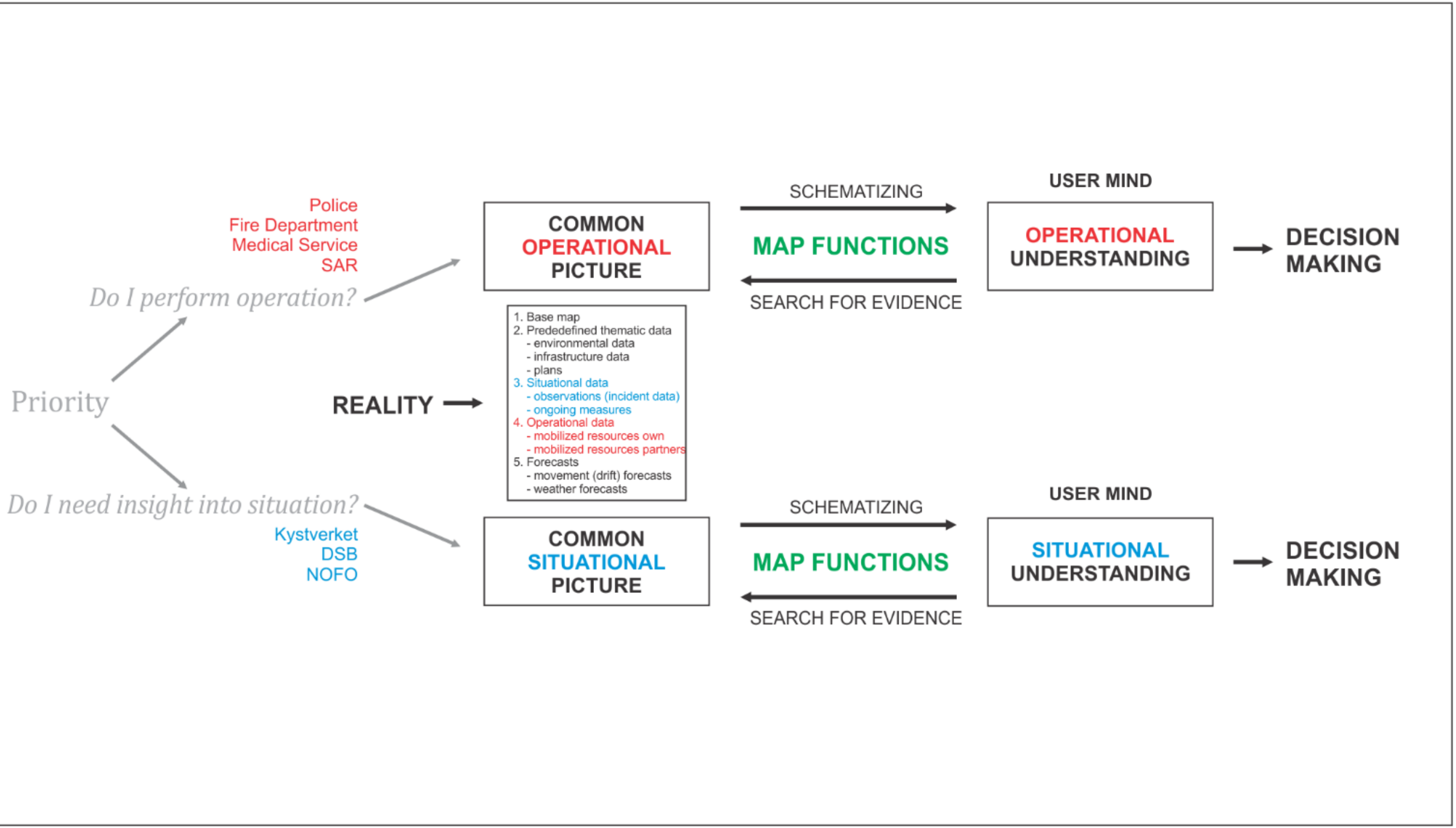
1. Base map
2. Prededefined thematic data
   - environmental data
   - infrastructure data
   - plans
3. Situational data
   - observations (incident data)
   - ongoing measures
4. Operational data
   - mobilized resources own
   - mobilized resources partners
5. Forecasts
   - movement (drift) forecasts
   - weather forecasts

→ **DECISION MAKING**

→ **DECISION MAKING**


Police
Fire Department
Medical Service
SAR
Do I perform operation?
Priority
REALITY
1. Base map
2. Prededefined thematic data
- environmental data
- infrastructure data
- plans
3. Situational data
- observations (incident data)
- ongoing measures
4. Operational data
- mobilized resources own
- mobilized resources partners
5. Forecasts
- movement (drift) forecasts
- weather forecasts
Do I need insight into situation?
Kystverket
DSB
NOFO
DECISION MAKING
DECISION MAKING


Police
Fire Department
Medical Service
SAR
Do I perform operation?
Priority
Do I need insight into situation?
Kystverket
DSB
NOFO
REALITY
1. Base map
2. Prededefined thematic data
- environmental data
- infrastructure data
- plans
3. Situational data
- observations (incident data)
- ongoing measures
4. Operational data
- mobilized resources own
- mobilized resources partners
5. Forecasts
- movement (drift) forecasts
- weather forecasts
COMMON OPERATIONAL PICTURE
COMMON SITUATIONAL PICTURE
USER MIND
OPERATIONAL UNDERSTANDING
USER MIND
SITUATIONAL UNDERSTANDING
DECISION MAKING
DECISION MAKING


Police
Fire Department
Medical Service
SAR
Do I perform operation?
Priority
Do I need insight into situation?
Kystverket
DSB
NOFO
REALITY
1. Base map
2. Predefined thematic data
- environmental data
- infrastructure data
- plans
3. Situational data
- observations (incident data)
- ongoing measures
4. Operational data
- mobilized resources own
- mobilized resources partners
5. Forecasts
- movement (drift) forecasts
- weather forecasts
COMMON OPERATIONAL PICTURE
COMMON SITUATIONAL PICTURE
SCHEMATIZING
MAP FUNCTIONS
SEARCH FOR EVIDENCE
SCHEMATIZING
MAP FUNCTIONS
SEARCH FOR EVIDENCE
USER MIND
OPERATIONAL UNDERSTANDING
USER MIND
SITUATIONAL UNDERSTANDING
DECISION MAKING
DECISION MAKING

Contents

1. Functions of Common Situational Picture (CSP) map support

1.1. Data display and sharing

1.1.1 Layer manager (Temakartvelger)
1.1.2 Bookmarks (Bokmerker)
1.1.3 Workspace (Arbeidsrom)
1.1.4 Playback (Avspilling)
1.1.5 Map sharing (Kartdeling)

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1.2.1 Draw (Tegn)
1.2.2 Report (Redigere melding)
1.2.3 Administrate incident (Administrere hendelse)

1.3. Situational analysis

1.3.1 Routing (Veibeskrivelse)
1.3.2 Layer filtering (Temalagfiltrering)
1.3.3 Area analysis (Områdeanalyse)
1.3.4 Overview (Oversikt)
1.3.5 Comparison (Sammenlikne data)
1.3.6 Drift analysis (Drivbaneberegning)

2. Functions of Common Operational Picture (COP) map support

2.1. Resource management

2.1.1 Resource monitoring (Ressursovervåking)
2.1.2 Assignment management (Oppdragsledelse)

2.2. Operational analysis

2.2.1 Proximity analysis (Nærhetsanalyse)
2.2.2 Route calculation and driving description (Ruteberegning og kjørebeskrivelse)
2.2.3 Response time ranges (Responstidsområder)
2.2.4 Driving range (Kjøretidsområde)

2.3. Supportive analysis

2.3.1 Analysis of human spatial behavior (Adferdsanalyse)
2.3.2 Buffer analysis (Bufferanalyse)
2.3.3 Viewshed analysis (Frisiktanalyse)
2.3.4 Dispersion analysis (Spredningsanalyse)
2.3.5 Density analysis (Tetthetsanalyse)

- Proximity analysis
- Social media analysis
- ?

Working Report

Functions of map-based tools supporting emergency management

2021 · Research Project INSITU

Layer manager

1.1.1

Temakartvelger

Examples of use

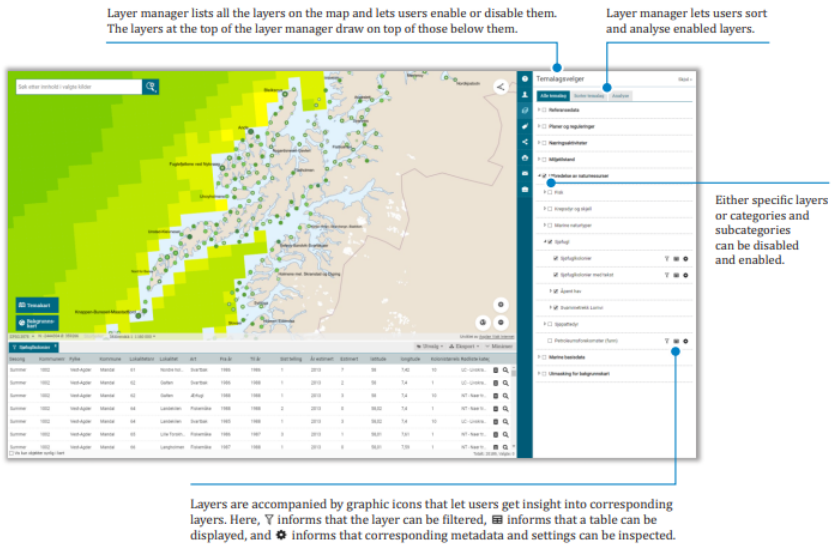
Kystinfo	https://a3.kystverket.no/kystinfo
Kystinfo Beredskap	https://beredskap.kystverket.no/
NOFO COP	https://cop.nofo.no/
DSB Kart	https://kart.dsb.no/
BarentsWatch Arealverktøyet	https://kart.barentswatch.no/

Description

The layer manager is essential for all map-based tools as it lists all the layers on the map and provides information what the objects in each layer represent and how they can be displayed and analysed. Morover, the layer manager helps manage the display order of the layers.

Exemplary implementation

BarentsWatch Arealverktøyet
https://kart.barentswatch.no/



References

Temakartvelger Adaptive (Asplan Viak Internet, 27.06.2018)
https://www.youtube.com/watch?v=4J0jrur8LaQ&ab_channel=AsplanViakInternet

Bookmarks

1.1.2

Bokmerker

Examples of use

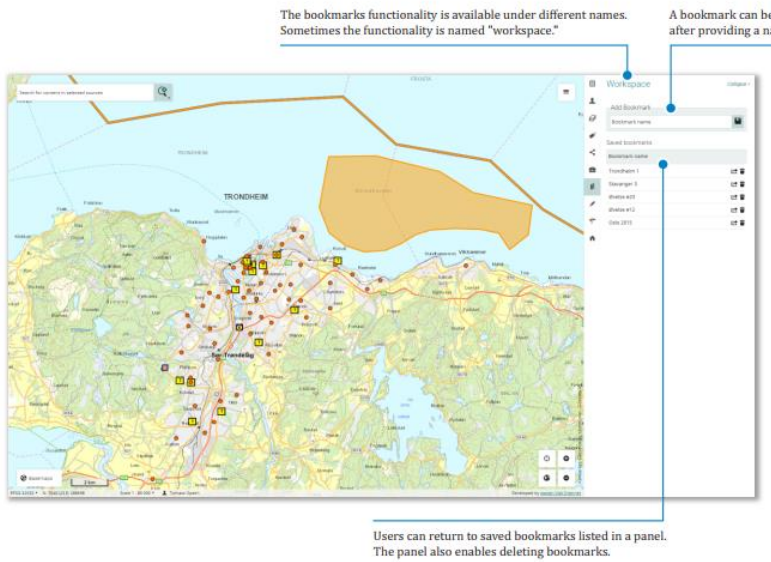
Kystinfo	https://a3.kystverket.no/kystinfo
Kystinfo Beredskap	https://beredskap.kystverket.no/
NOFO COP	https://cop.nofo.no/
DSB Kart	https://kart.dsb.no/

Description

The bookmarks functionality enables users to save a specific map extent and a map configuration that users want as reference later. For example, a user can create a bookmark that identifies an area of an emergency incident. Additionally, the map is configured in a specific way, with a number of enabled layers and created objects. As the user pans and zooms around the map, after saving a bookmark, he or she can easily return to the area by accessing the bookmark. Users can also use bookmarks to highlight areas on maps that they want others to see.

Exemplary implementation

DSB Kart
https://kart.dsb.no/



References

Adaptive geoportal (Asplan Viak Internet, 23.03.2017)
https://www.youtube.com/watch?v=SpVw7_PsOw0&t=598s&ab_channel=AsplanViakInternet

Workspace

1.1.3

Arbeidsrom

Examples of use

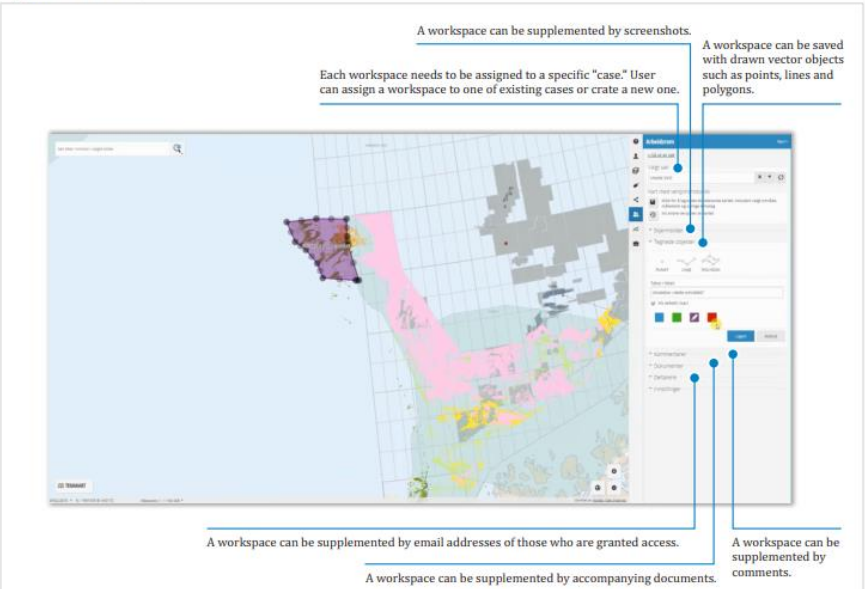
Kystinfo	https://a3.kystverket.no/kystinfo
BarentsWatch Arealverktøyet	https://kart.barentswatch.no/

Description

"Workspace" extends the functionality provided through "bookmarks." The same as in bookmarks, workspace lets users save a specific map extent and a map configuration that users want as reference later or want others to see. However, the workspace functionality offers more features than bookmarks. Along with the map extent and configuration, users can save accompanying information such as screenshots, drawn objects (points, lines, polygons), comments and extra documents. Moreover, each workspace can be supplemented by a list of email addresses of persons who are to be granted access to the workspace.

Exemplary implementation

BarentsWatch Arealverktøyet
https://kart.barentswatch.no/



References

Arealverktøyet Del 5 - Til samarbeid med andre (Barents Watch, 30.01.2019)
https://www.youtube.com/watch?v=OggpkywDSNI&list=PLC4EDs6aHfF-XnwP3AAAJpSjeXcehorkC&index=5&ab_channel=BarentsWatch

Modulen arbeidsrom (Kystverket)
https://www.screencast.com/t/e9wk3Xm9Z

Analysis of human spatial behavior

2.3.1

Adferdsanalyse

Examples of use

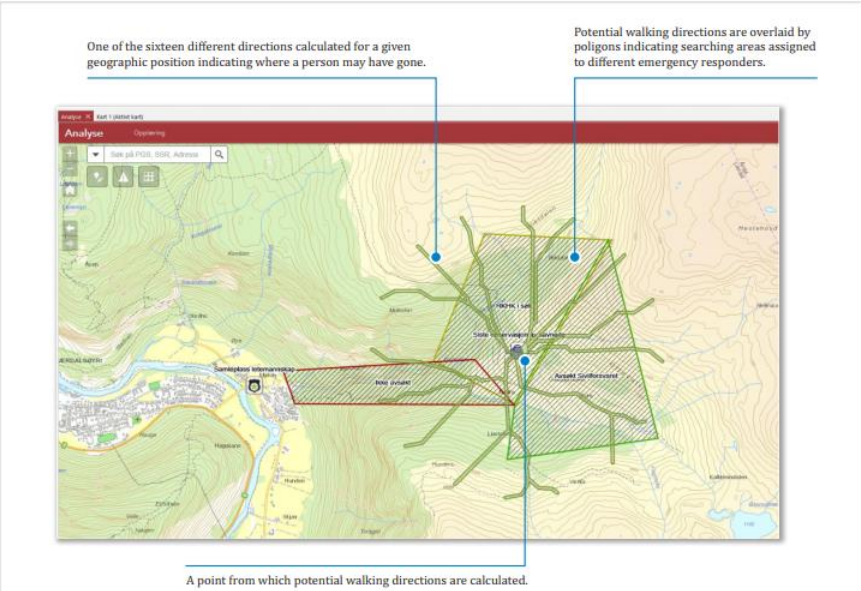
Tellus

Description

Gives an indication of where a person may have gone, by analyzing the easiest path from a point in different directions.

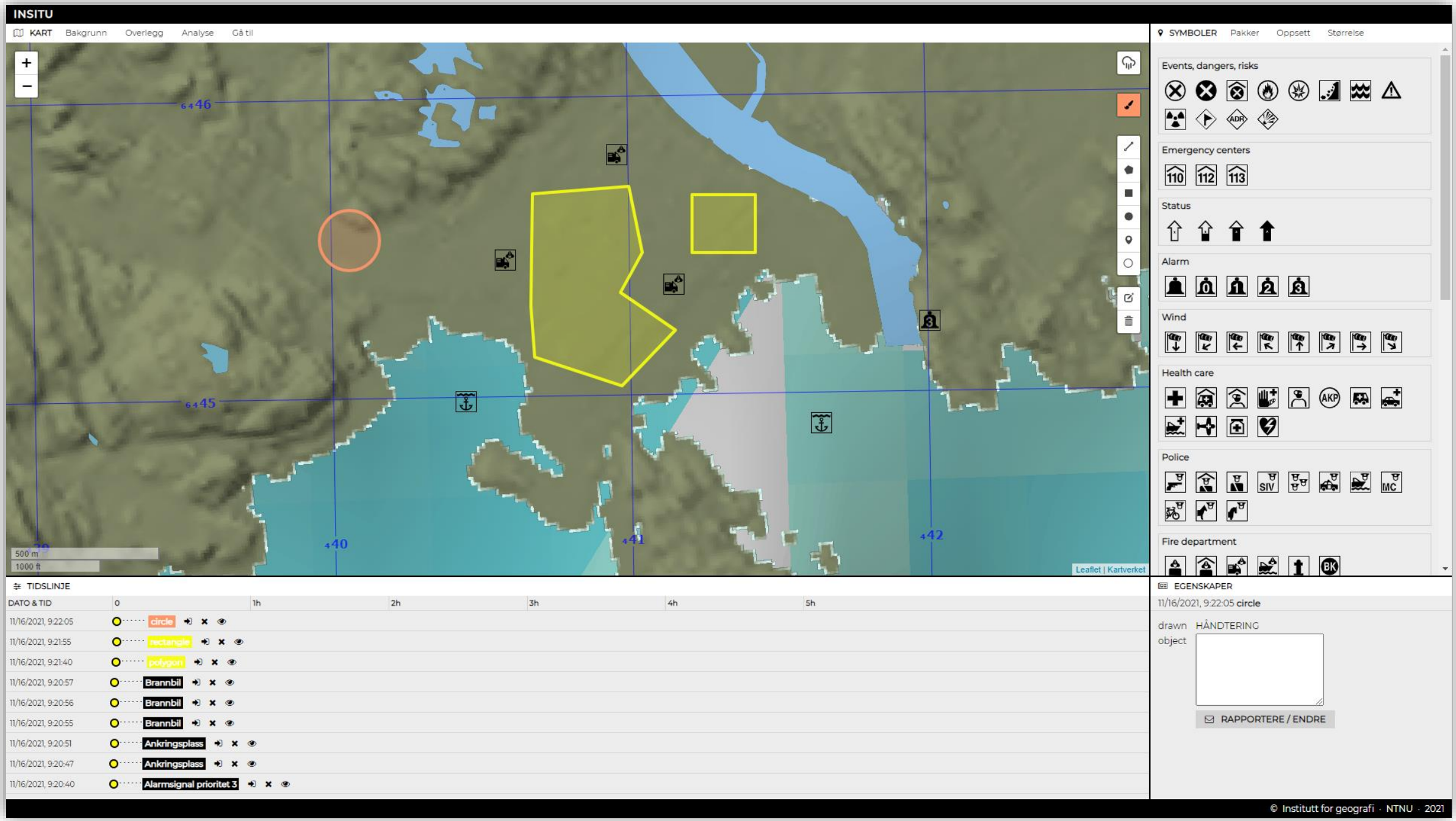
Exemplary implementation

Tellus



References

Nå får operasjonssentralene nytt kartsystem (Politiforum, 01.11.2018)
https://www.politiforum.no/na-far-operasjonssentralene-nytt-kartsystem/148804


INSITU
KART
Bakgrunn
Overlegg
Analyse
Gå til
SYMBOLER
Pakker
Oppsett
Størrelse
Events, dangers, risks
Emergency centers
Status
Alarm
Wind
Health care
Police
Fire department
6446
6445
440
441
442
500 m
1000 ft
Leaflet | Kartverket
TIDSLINJE
DATO & TID
0
1h
2h
3h
4h
5h
11/16/2021, 9:22:05 circle
11/16/2021, 9:21:55 rectangle
11/16/2021, 9:21:40 polygon
11/16/2021, 9:20:57 Brannbil
11/16/2021, 9:20:56 Brannbil
11/16/2021, 9:20:55 Brannbil
11/16/2021, 9:20:51 Ankringsplass
11/16/2021, 9:20:47 Ankringsplass
11/16/2021, 9:20:40 Alarmsignal prioritet 3
EGENSKAPER
11/16/2021, 9:22:05 circle
drawn object
HÅNDTERING
RAPPORTERE / ENDRE
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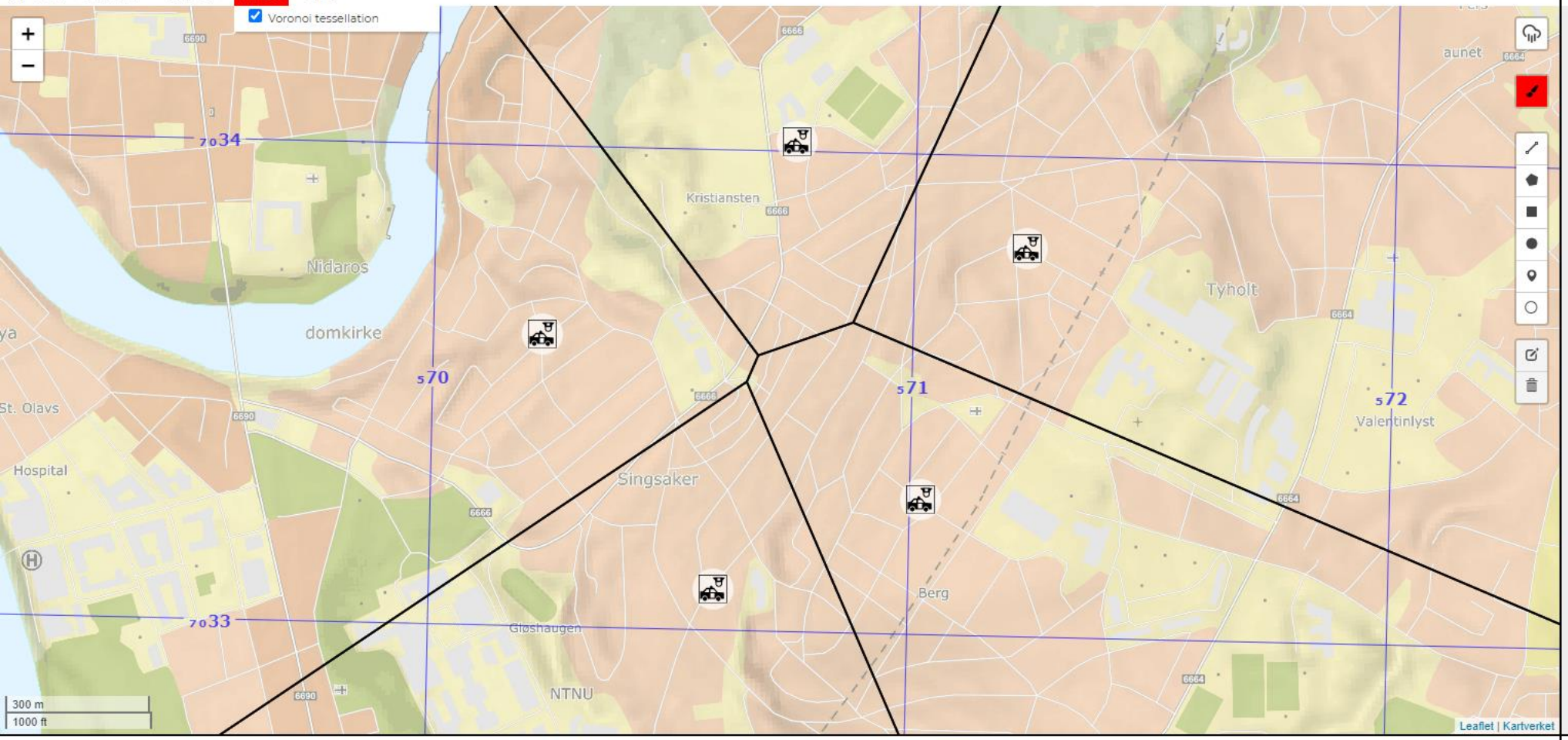
INSITU

KART | Bakgrunn | Overlegg | Analyse | Gå til

Voronoi tessellation



SYMBOLER | Pakker | Oppsett | Størrelse

Wind

Health care

Police

Fire department

Military

Civil defence

Communication

Tourist objects

TIDSLINJE

DATO & TID	0	1h	2h	3h	4h	5h
11/16/2021, 2:05:45	Polititjenestebil					
11/16/2021, 2:05:45	Polititjenestebil					
11/16/2021, 2:05:44	Polititjenestebil					
11/16/2021, 2:05:44	Polititjenestebil					
11/16/2021, 2:05:43	Polititjenestebil					

EGENSKAPER

11/16/2021, 2:05:45 Polititjenestebil

HÅNDTERING

RAPPORTERE / ENDRE

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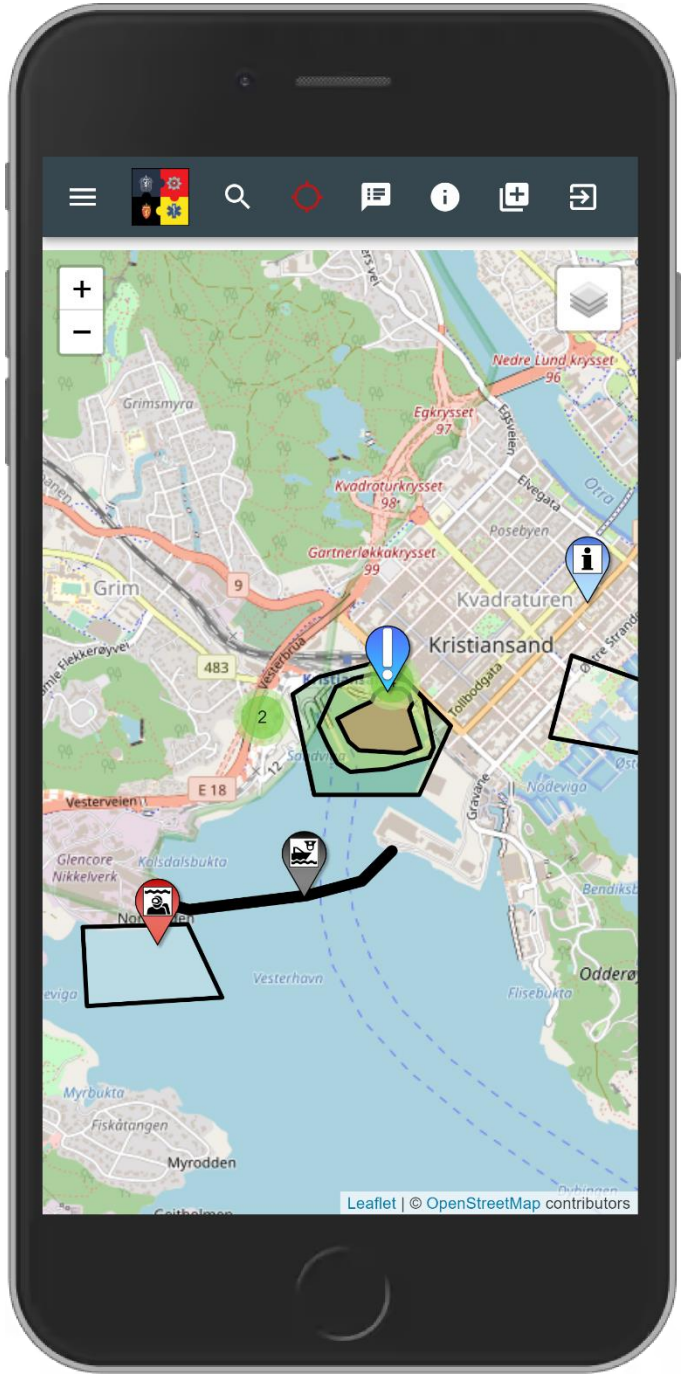
SQUARE


Nedre Lund krysset
96
Grimsmyra
Egkrysset
97
Kvadraturkrysset
98
Gartnerløkkakrysset
99
Grim
9
Kvadraturen
Kristiansand
483
2
E 18
Vesterveien
Glencore
Nikkelverk
Kalsdalsbukta
Vesterhavn
Myrbukta
Fiskåtangen
Myrodden
Leaflet | © OpenStreetMap contributors

Discussion

1 Who should be the target audience of the INSITU inventory?

2 Should we propose “need to have” and “nice to have” functions?

3 How should the INSITU inventory look like?
Is a report elaborated as a PDF document sufficient?