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NOFO Update

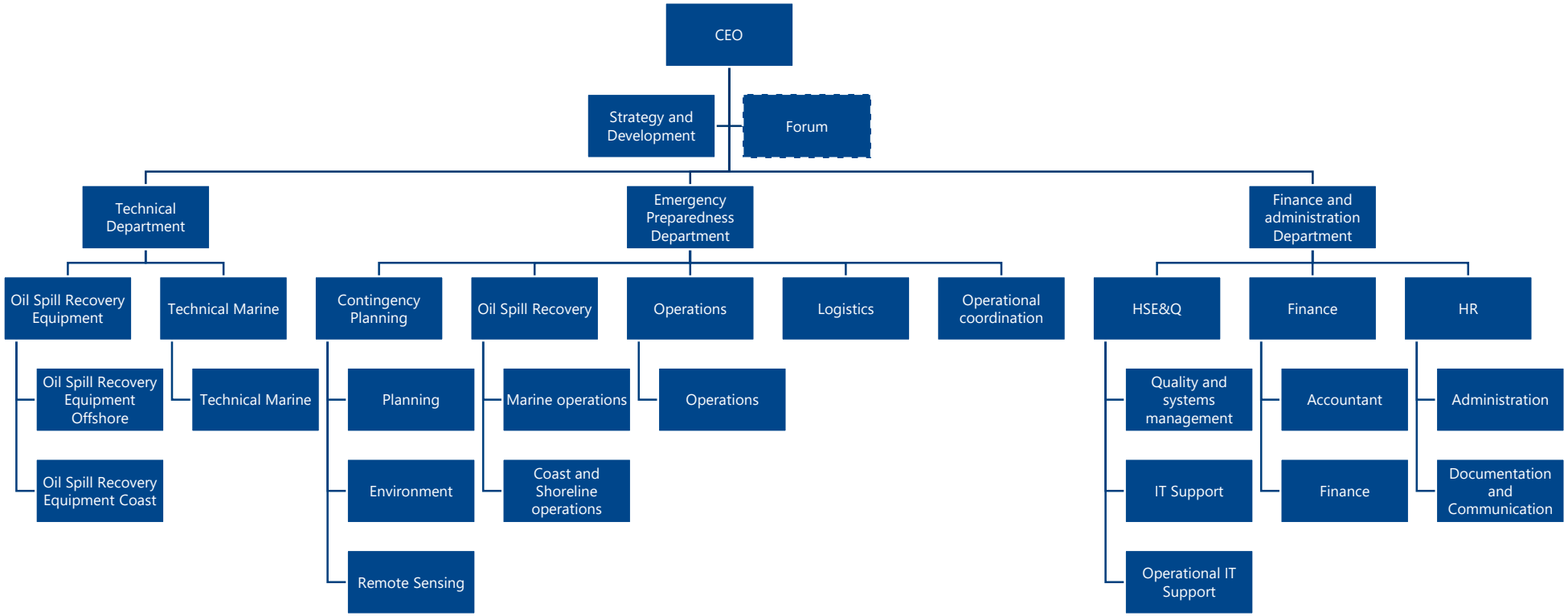
ITAC Meeting Southampton

2-4 October 2019

Kåre-L. Jørgensen
Senior Advisor NOFO

02.10.2019

Organisation

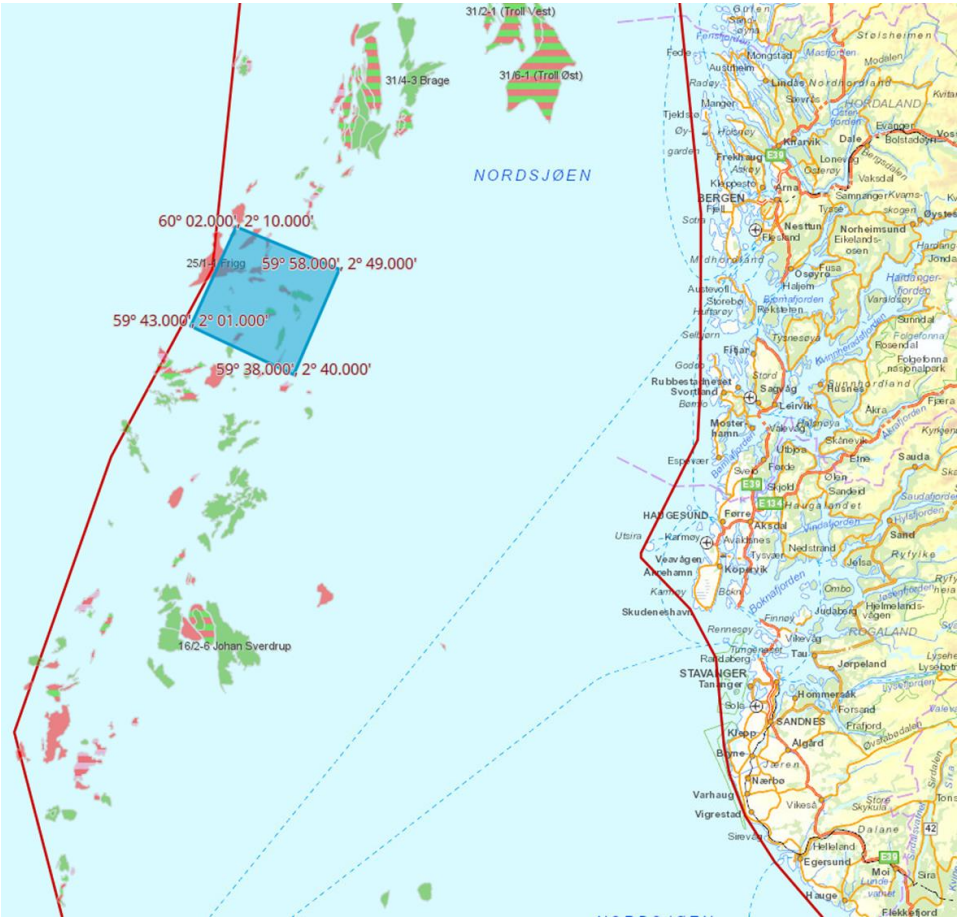


Strategy

To be developed (in process):

Strategic Plan 2021 – 2025

Oil on Water 2019



The aim of this trial is was to verify functionality to equipment that can be used in oil spill response.

Testing out In-situ burning as a possible strategy for the future oil spill response.

Important to try out new equipment and methods under various weather conditions, and with different types of oil.

Time: 11-20 June 2019

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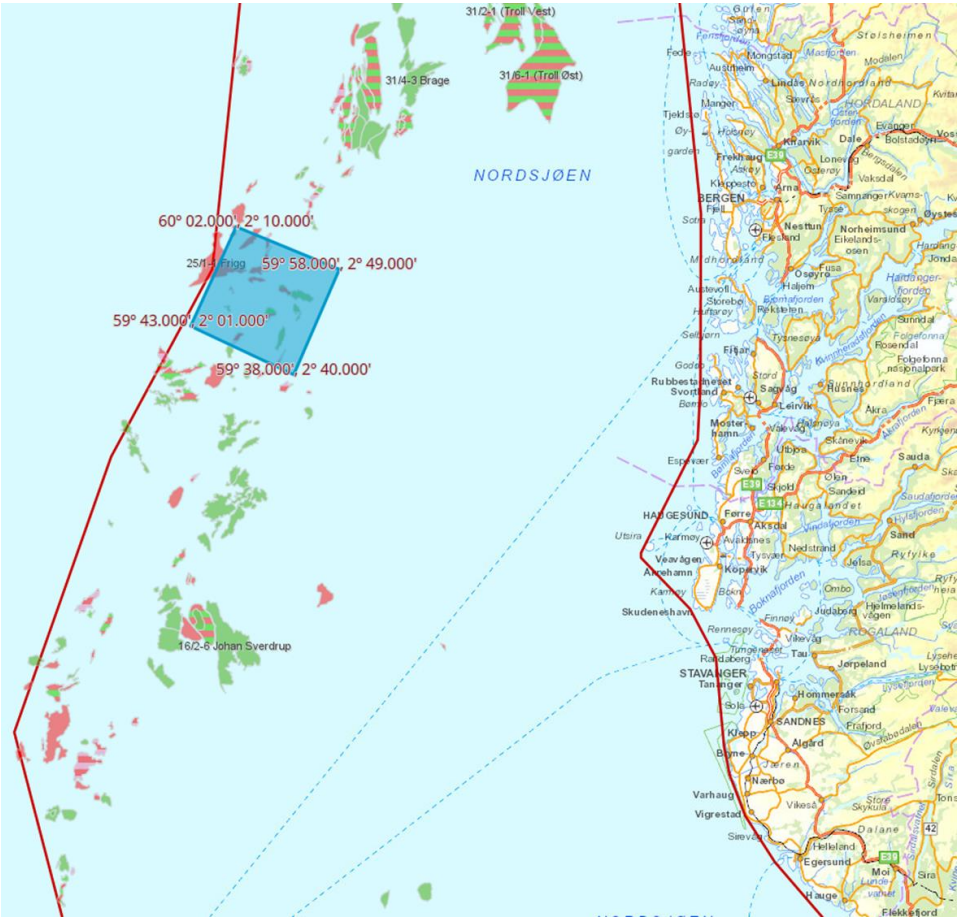
Oil on Water 2019 – Trials



#	Experiment	Spill	Vessel	Time Tentative (local)
1	Insitu burning	8 m3 oil emulsion 2 x 6 m3 Oseberg Blend 6 m3 IF 180 6 m3 MGO *Non-breaking waves, max. 8m/s wind* *No rainfall*	Strilborg	07:00 Wednesday Thursday Friday Saturday Sunday
2	Spread MGO	10m3 MGO *Non-breaking waves, max. 6 m/s wind* *No rainfall of importance*	Strilborg	07:00 Wednesday Thursday Friday
3a	Remote Sensing Spread (CIRFA)	2 m3 Soya emulsion 2 m3 oil emulsion *None weather limitation*	Helmer Hanssen	Wednesday 06:30 pri 1 Thursday 06:30 pri 2 Friday 06:00 pri 3
3b	Remote Sensing Camera (Starlight)	Will use trial 1, 2 and 3a for detection *None weather limitation*	Helmer Hanssen	Wednesday Thursday Friday

Oil on Water 2019 – ISB

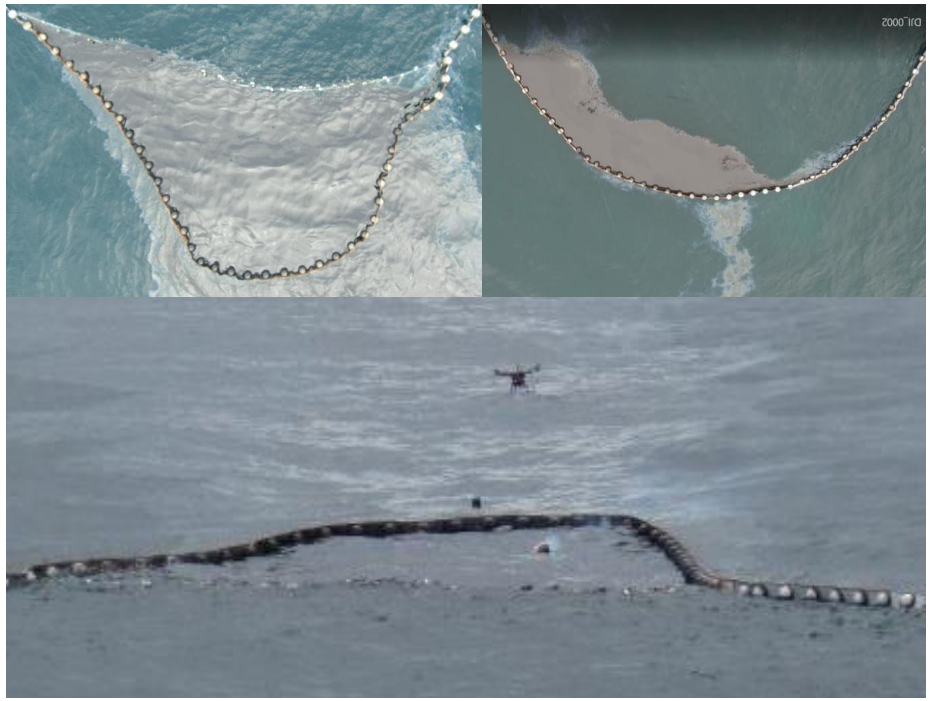
PyroDrone

DJI Matrice 600 with following user functionality developed and demonstrated during NOFO Oil on water 2018 and 2019:

- Deployment igniter for in situ burning
- Deployment AIS buoys (2 units pr. trip)

Oil on Water 2019 – ISB

Oil on Water 2019 – ISB



TVOC measured in MOB Bergen with MiniRAE 3000.

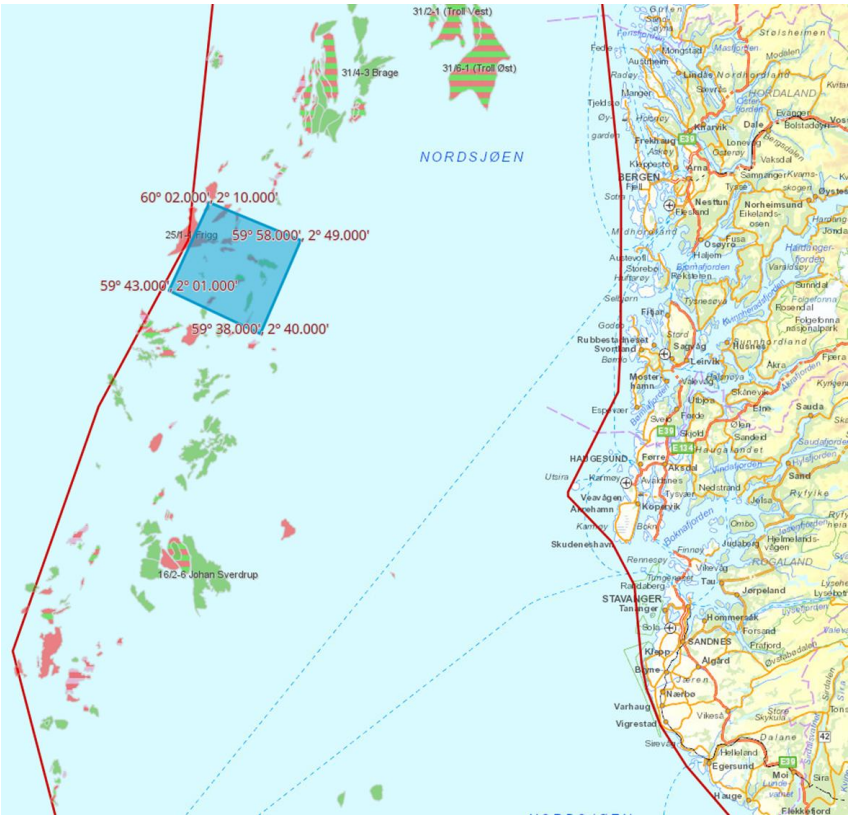
Trial 1 – Avdampet Oseberg
- Strilborg: PM2.5
- MOB Sintef: PM2.5
- MOB Bergen: PM10, PM4, PM2.5, PM1, PM<1 og TVOC

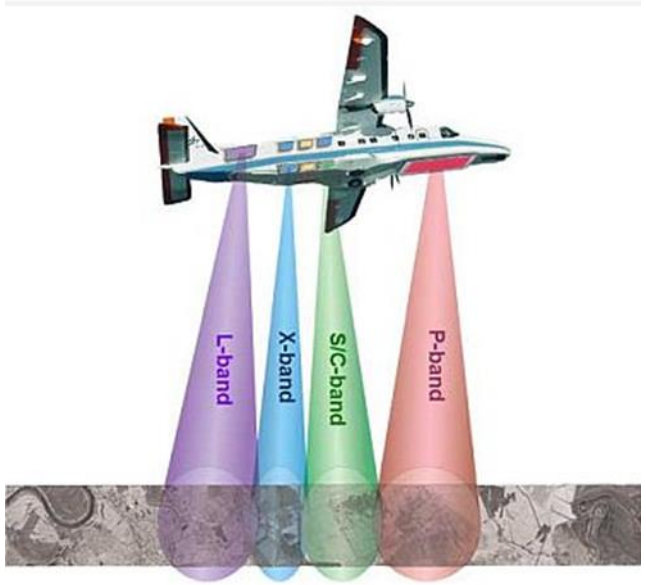
Trial 2 – IFO 180
- Strilborg: PM2.5
- MOB Sintef: PM2.5
- MOB Bergen: PM10, PM4, PM2.5, PM1, PM<1 og TVOC

Trial 3 – Avdampet Oseberg
- Strilborg: PM2.5
- MOB Sintef: PM2.5
- MOB Bergen: PM10, PM4, PM2.5, PM1, PM<1 og TVOC

Trial 4 – MGO
- Strilborg: PM2.5
- MOB Sintef: PM2.5
- MOB Bergen: PM10, PM4, PM2.5, PM1, PM<1 og TVOC

Oil on Water 2019





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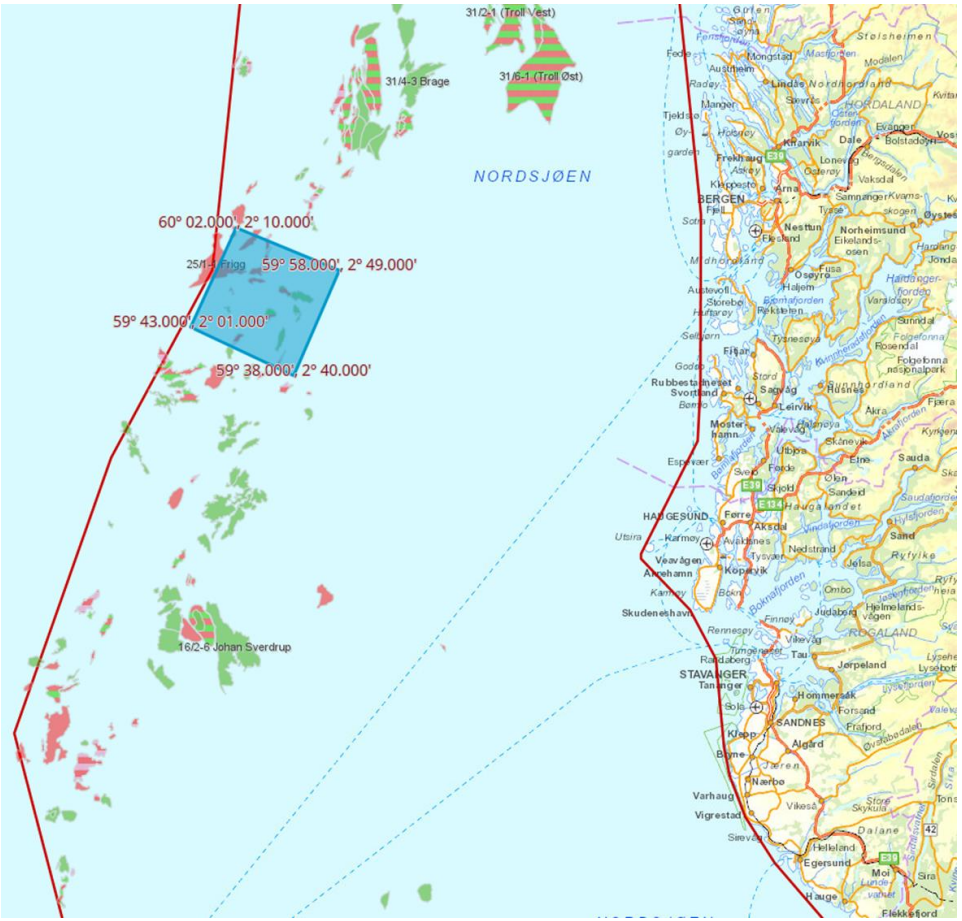
Oil on Water 2019 – Remote sensing

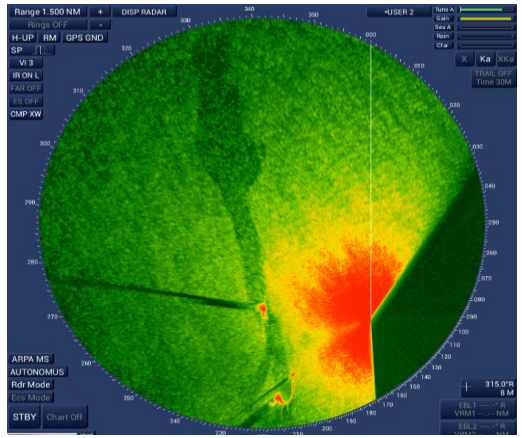


Asset	Type	Sensor
Surveillance aircraft Norway LN-KYV	Beech King Air B350ER	SLAR, FLIR, MBR (downlink)
Surveillance aircraft Norway LN-TRG	Beech King Air B200	SLAR, FLIR
F-SAR Radar Institute of the German Aerospace Center (DLR)	Dornier 228-212	X, C, S, L band radar Handheld EO camera
Satellite coverage 2 times a day	TerraSAR-X Radarsat2 CosmoSkyMed Sentinel 1A/B GF-3	SAR radar (X-band)
1 x non-cooled camera / night vision camera (Starlight)	Camera	- 1 x Thermal camera - 1 x Light amplification Tube camera - 2 x Ultra Low Lux colour camera
1 x NCG drone	Drone	EO / IR / MBR
2 x drones Maritime Robotics	Drone	2 drones with «sniffers» measureing particles in the smoke plume.
1 x pyrodrone	Drone	Pyrodrone – deploy igniter in oil
2 x drones NORCE	Drone	Spectrometer / IR

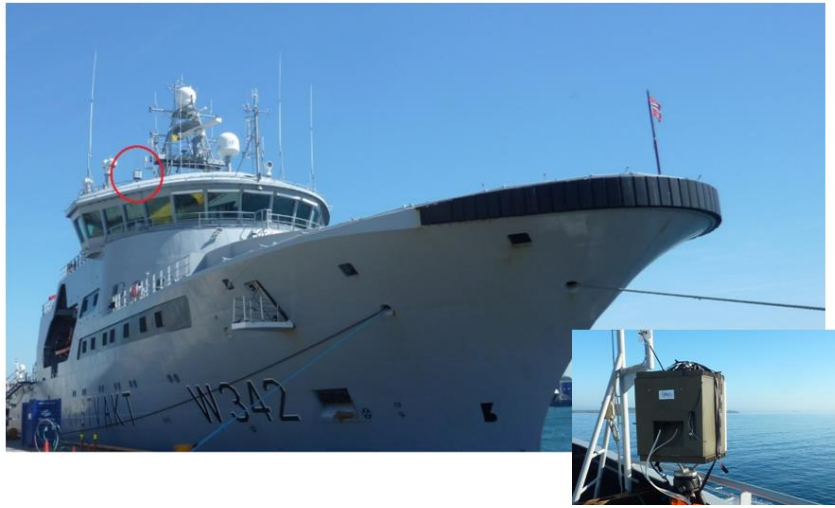
Oil on Water 2019 – Remote sensing

TRIAD

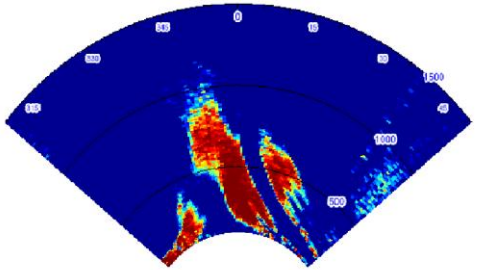
GEM Elettronicas Dual band radar

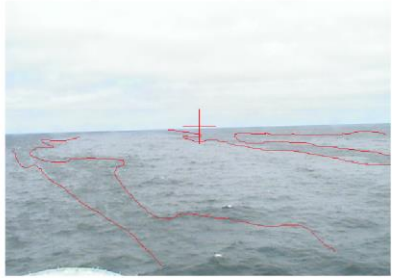


- X-band raw radar signal digitalised
- Ka-band raw radar signal digitalised
- GPS data (Latitude/Longitude/Course Over Ground/Speed Over Ground - Frequency 1 Hz)
- Gyrocompass (Heading/Roll/Pitch - Frequency 10 Hz)



ISPAS





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Exercise Frohavet 2019

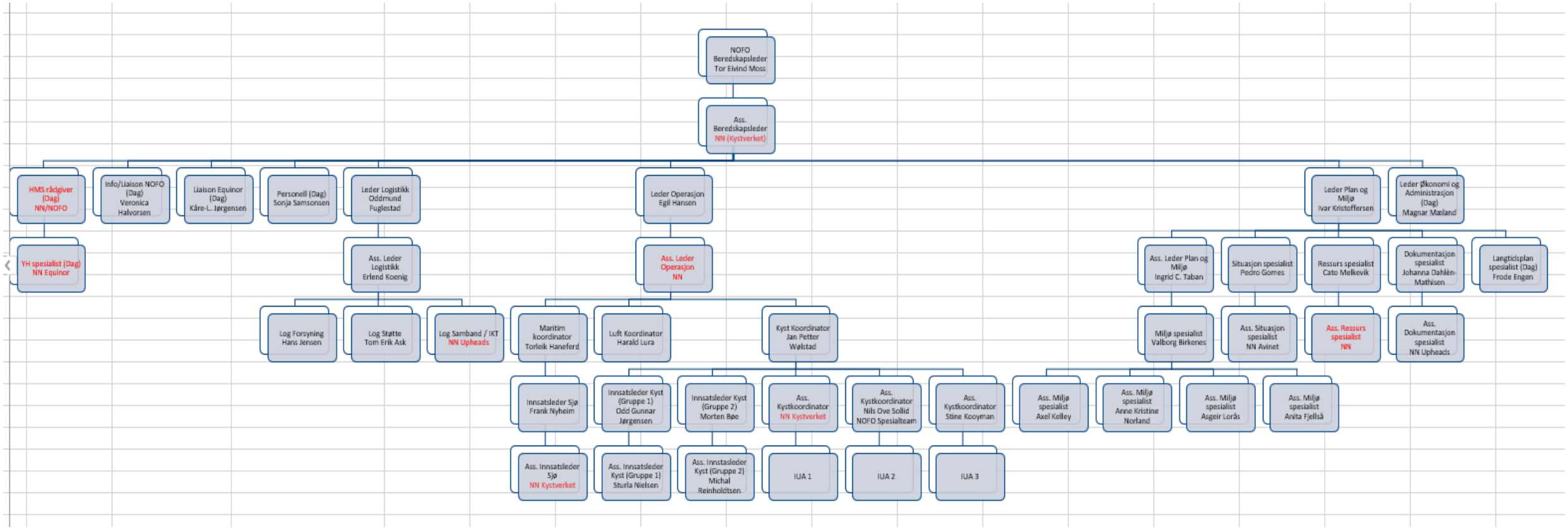
Time: October 14th to 17th 2019
NOFO and Equinor
NOFO continuous manning throughout the entire exercise (three shifts)
Main aim:

- Communication and collaboration between participating units
- Common situational awareness
- Correct information dissemination
- Exercise orders and information through the chain of command

Participants:

- NOFO
- Equinor
- Norwegian Coastal Administration
- Several municipalities (four)
- PSA and NPD
- Vessels – offshore and coast
- Other contractors

Exercise Frohavet 2019



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