

# Experiences Drilling in the North



OMV Norge AS

# Franz Josef Land: Discovered August 1872

## From North Cape ~ same distance as to Oslo



## Early Explorers: Julius Payer & Carl Weyprecht

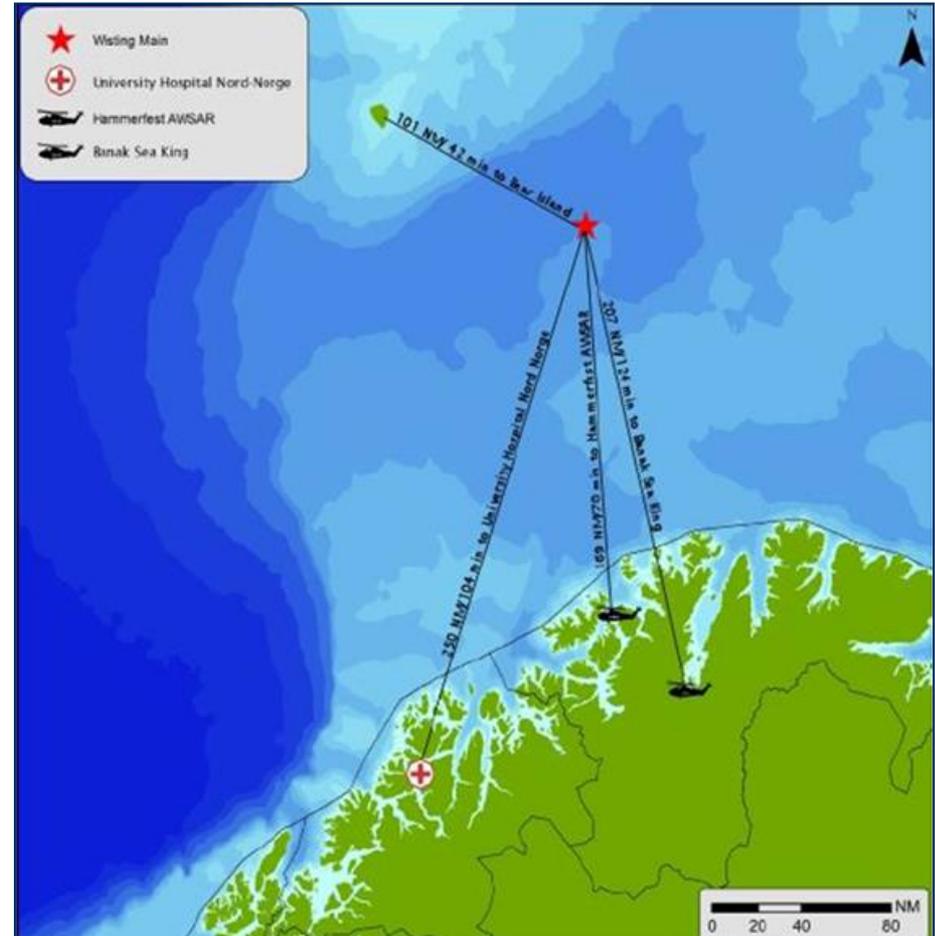
# Østerriksk-Ungarske Ekspedisjonen 1872-1874



- ▶ Start in Tromsø July 1872 (with Elling Carlsen)
- ▶ Ship frozen in ice at Franz Josef Land ★
- ▶ 3 dogsled trips (840 km) to map & explore islands
- ▶ Abandoned ship after 2 years & dragged boats to open water
- ▶ **Back to Vardø via Novaja Semlja**
- ▶ HSE: 1 fatality due to sickness (TBC)
- ▶ F. Nansen & Johansen in winter 1895/96 (Fram) ★

# Location Specific Challenges in PL 537

- ▶ Remote location
  - ▶ Northernmost discovery ever in Norway
  - ▶ Low density of resources in the area
- ▶ Distance Hammerfest to PL537: 167 nm (310 km)
  - ▶ Sailing time from Hammerfest ca. 14 hrs
  - ▶ Helicopter flying time from Hammerfest ca. 70 min + response time



# Weather Observations

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- ▶ Most drilling rigs don't feed weather observations to MET
  - ▶ Including Transocean Barents
- ▶ VPN-connection from MIROS-station to MET was established long time ago.
  - ▶ Data stream stopped for unknown reasons
  - ▶ Only wave data was still «switched on», but no position data
- ▶ Observations re-established before Easter
  - ▶ Initially as manual observations by e-mail
  - ▶ Working on re-establishing the automated data-stream directly to MET

# NORSOK N-002 Collection of Metocean Data

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- ▶ The parameters included are
  - ▶ wind direction,
  - ▶ wind speed,
  - ▶ air pressure,
  - ▶ air temperature,
  - ▶ sea surface temperature,
  - ▶ humidity,
  - ▶ wave height,
  - ▶ wave period,
  - ▶ clouds,
  - ▶ visibility (MOR),
  - ▶ weather,
  - ▶ icing.

# Restrictions on Helicopter Capacity

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- ▶ Typically 16 pax outbound, 18 pax inbound
  - ▶ 17/19 on good days
  - ▶ 15/17 in poor weather
- ▶ No extra fuel tanks installed



# Performance for Urgent Medical Evacuations

Urgent Medical evacuation	Medevac with Hammerfest AWSAR to Hammerfest Hospital	Medevac with Hammerfest AWSAR to University Hospital Nord-Norge - Tromsø	Medevac with Banak Sea King to Hammerfest Hospital	Medevac with Hammerfest transport helicopter to Hammerfest Hospital
Response	60	60	15	120
To Rig	70	70	139	70
Loading	10	10	10	10
From Rig	70	104	102	70
Loading to Ambulance	10	-	10	10
To Hospital	8	-	8	8
Total time min.	228	244	284	288
Total time hr.	3 hrs 48 min	4 hrs 4 min	4 hrs 44 min	4 hrs 48 min

# Medical Preparedness

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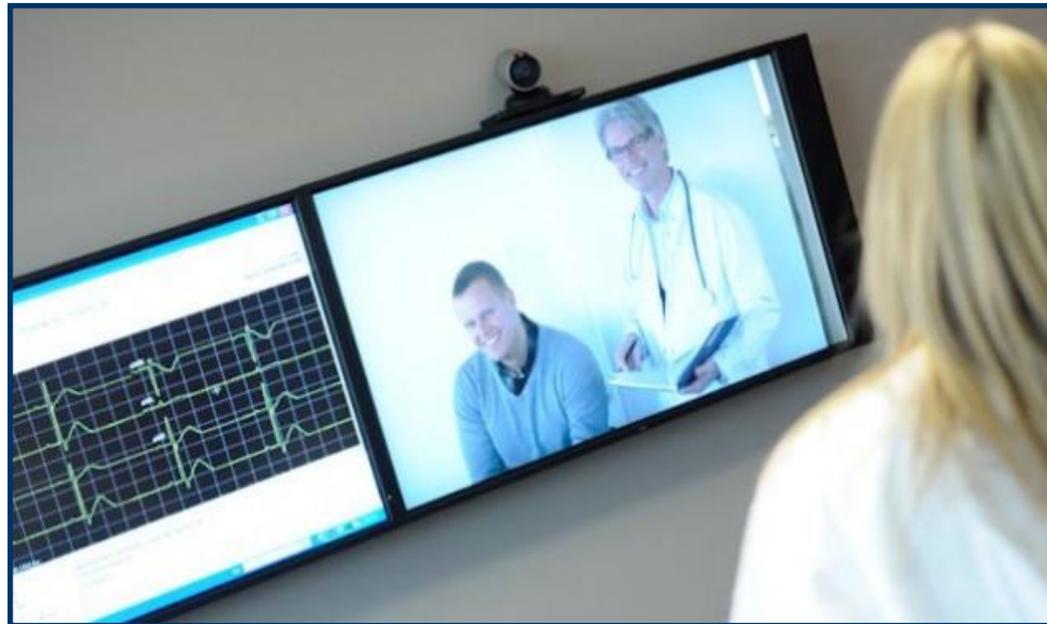
- ▶ Medevac by helicopter
  - ▶ Advanced Search and Rescue helicopter shared with other Barents Sea operators
  - ▶ Two medical nurses on board the rig at all times
- ▶ Duty Doctor
  - ▶ On duty in Hammerfest
  - ▶ Provided by SOS-international
- ▶ Emergency Doctor in Stavanger
  - ▶ Rune Meldahl - Medco
- ▶ Advanced medical facilities on the rig
  - ▶ Tele-medical equipment and facilities for thrombolytic treatment



# Tele-medical facilities

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- ▶ Not able to fulfill requirement of Medevac
  - ▶ SAR mobilisation/ transportation up to 1hr above OLF recommendation
  - ▶ Up to 25% probability for fog
- ▶ Modern collaboration technology brings the specialist to the patient without the need for travel.
  - ▶ Duty Doctor in Hammerfest
  - ▶ Medical experts at Ullevål
- ▶ Video consultation with integrated digital medical equipment
- ▶ Doctors can make accurate diagnoses without having to physically attend the patient
- ▶ Essential support when performing thrombolytic treatment



# Pick-up times Helicopter crash near rig

Helicopter accident	Recovery of personnel from sea with Hammerfest AWSAR 1st rotation	Recovery of personnel from sea with Hammerfest AWSAR 2nd rotation	Recovery of personnel from sea with Banak Sea King 1st rotation	Recovery of personnel from sea with Banak Sea King 2nd rotation
Response time	15	-	15	
Turnaround		-		8
To Rig	70	-	139	-
Hoisting	63	-	60	3
Unloading	-	-	10	-
Total time min	148	0	224	11
Total time min (21 persons)	148		235	
Total time hr.	2 hrs 28 min		3 hrs 55 min	

# Pick-up times at wet evacuation (5% of TBR POB)

Recovery of personnel from sea after evacuation from rig	Recovery of personnel from sea with Hammerfest AWSAR	Recovery of personnel from sea with Banak Sea King
Response time	60	15
Pre warning	-15	-15
Turnaround		
To Rig	70	139
Hoisting	21	21
From rig	-	-
Total time min	136	160
Total time min.	136	160
Total time hr.	2 hrs 16 min	2 hrs 40 min

# Specialised stand-by vessel – Esvagt Castor

- ▶ Stand-by vessel is the primary means of rescue
  - ▶ Must be able to operate under harsh conditions
  - ▶ Helicopters will need too long time from shore to be fully effective
- ▶ Stand-by vessel:
  - ▶ 2 MOB/ Rescue crafts
  - ▶ Highly skilled Rescue craft crews
  - ▶ Winterized
  - ▶ NOFO class



# SeaAir Barents

## Det nyeste redningsdrakt-designet for Barentshav-operasjoner

### Mansjetter –

For forbedret isolasjon av hender og fingre

### Synlighet –

Kontrastfarget funksjonalitet

### Festepunkt Kameratline –

Forbedret funksjonalitet



### Sprayhood –

Mer brukervennlig

### Hette - Klaff over

glidelås

### Nøddlys – Forbedret

plassering

### Kameratline – Nytt

design m/bedre grep

### Lomme kameratline –

Skråstilt

### Personlig nødpeilesender –

Basert på AIS-teknologi

### Orienteringslys – For

orientering i mørke

### Innersokk – Isolert

tåparti + ny såle

### Støvler – Økt termisk

beskyttelse



# Sea-state related Restrictions on Helicopter Traffic

Quoted from emergency bridging document (responsibilities of Stand-by vessel Captain)

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- ▶ Pick up of personnel from water with the MOB-boat, according to the DSHA “Helicopter ditch within 500m zone”.
- ▶ At sea-state  $H_s < 4.5$  the standby vessel is the primary resource for rescue from sea. When sea-state  $H_s$  between 4.5 - 7 oral appointments with vessel Captain.
- ▶ If the weather situation is such that the Fast Rescue craft on Esvagt Castor cannot be safely launched, the transport helicopter will be held back at the airport until weather has improved.
- ▶ This arrangement is needed to achieve the required response time for picking up a full helicopter if ditched within the rig’s 500 meter zone.

# Sea-state related Restrictions on Helicopter Traffic

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- ▶ Only two occasions of sea-state related restrictions during four and a half year of operations on Transocean Barents (Esvagt Castor)
- ▶ No restrictions experienced on Leiv Eiriksson during OMV-operations in 2013 (Esvagt Celeste)
- ▶ Have experienced mostly wind-speed related limitations on both rigs

# AIS-positions from Satellite

**OMV Norway**

Menu List Export Log out

Generate Animation

Help Map Help

Area

Edit Area Wisting Main

Servers

- Background DemisServer
- Sjokartverket Dybdata\_WMS
- GeoNorge sjokart ecc
- Sjogrenser
- METOC ECMWF-IFS
- Kystverket Havnebase
- Port Register Port Register
- AIS AIS WMS

Refresh

Refresh Rate [s] 60

**AIS**

Search

Name Search Zoom To

Settings

Style Default

Tuesday, 06 May 2014 09:28:20 UTC

(N 72°36.99' E 011°55.96')

DEFAULT

- Moving
- Not Moving
- Inactive

200 km

CMC

Internet | Protected Mode: On 100%



16 May 2014 09:32:56 UTC

LORAN ( 1.8 km)

GECO EAGLE ( 4.6 km)

LINDA-C (GUARD VSL) ( 5.4 km)

TRANSOCEAN BARENTS (13d 3h)

LISE BEATE

SKANDI FLORA (4h 51m)

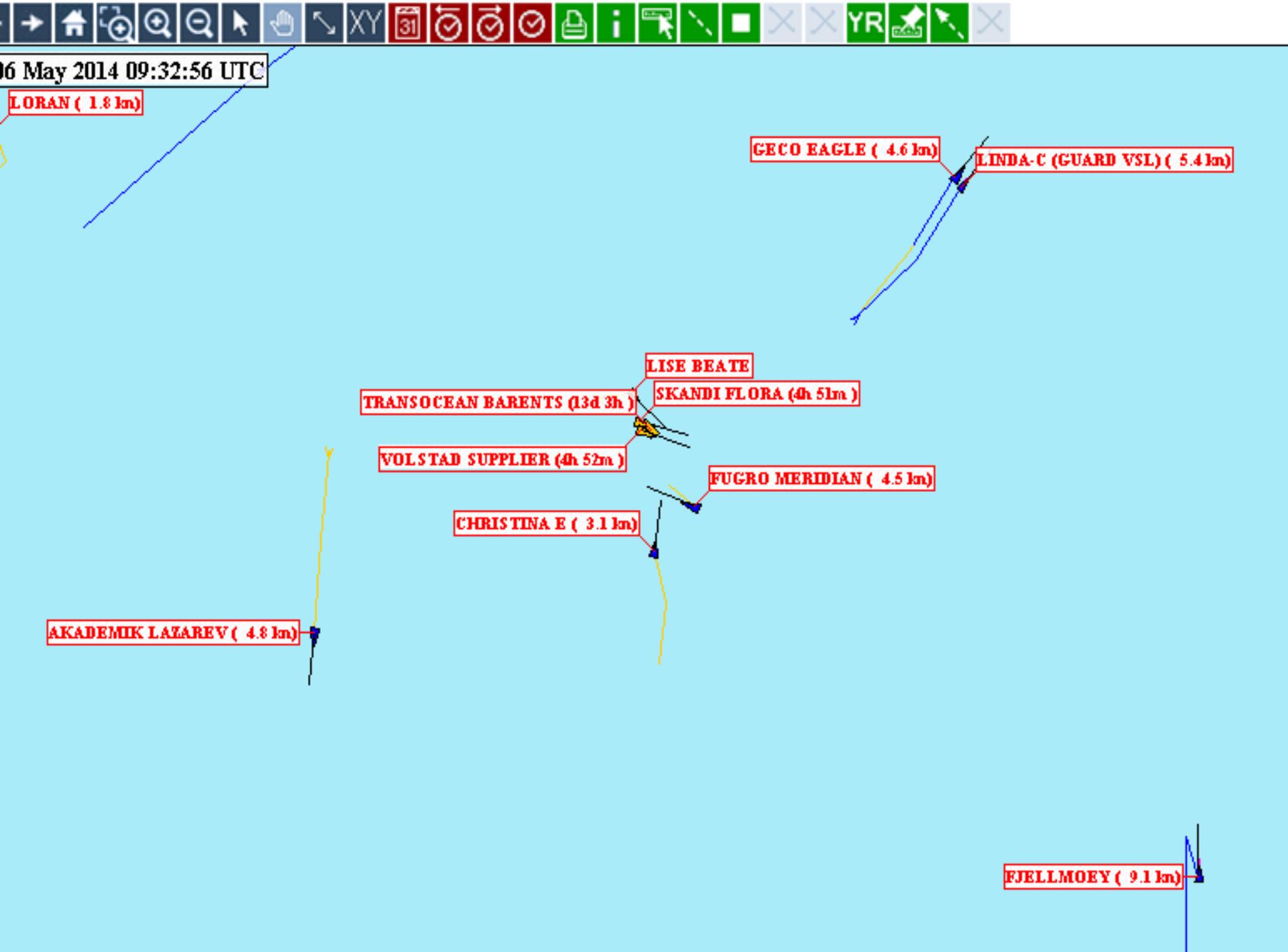
VOLSTAD SUPPLIER (4h 52m)

FUGRO MERIDIAN ( 4.5 km)

CHRISTINA E ( 3.1 km)

AKADEMIK LAZAREV ( 4.8 km)

FJELLMOEY ( 9.1 km)



# Volstad Supplier – Oil Spill Recovery Vessel

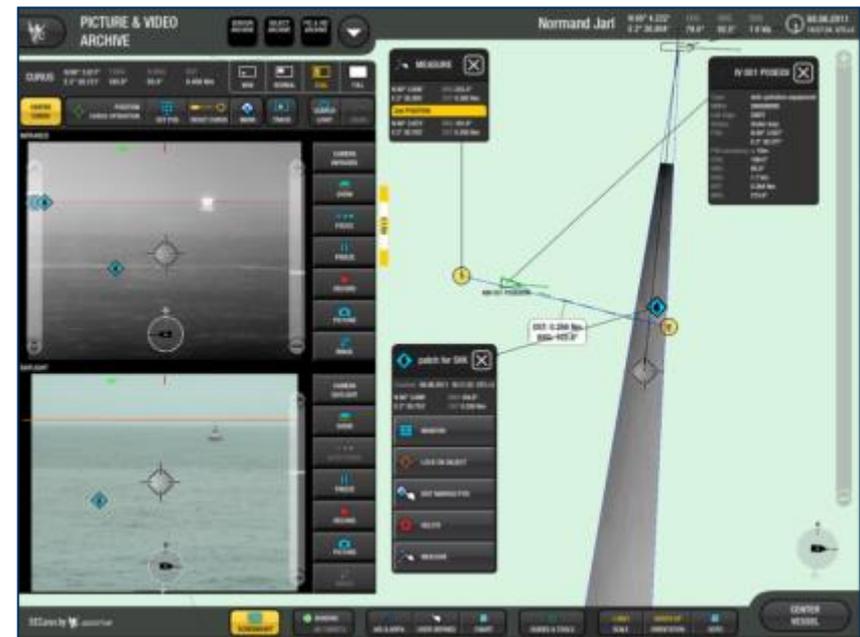
- ▶ Volstad Supplier at location during drilling as the Barrier one oil-spill recovery vessel
- ▶ Also certified as stand-by vessel
- ▶ NOFO pool fishing vessel for oil-boom towing



# Automatic Oil-spill detection

## Securus oil spill detection radar and infra red camera

- ▶ Best available oil spill detection and monitoring system at Volstad Supplier
- ▶ Used offshore to locate oil at the surface and by NOFO for tactical decisions

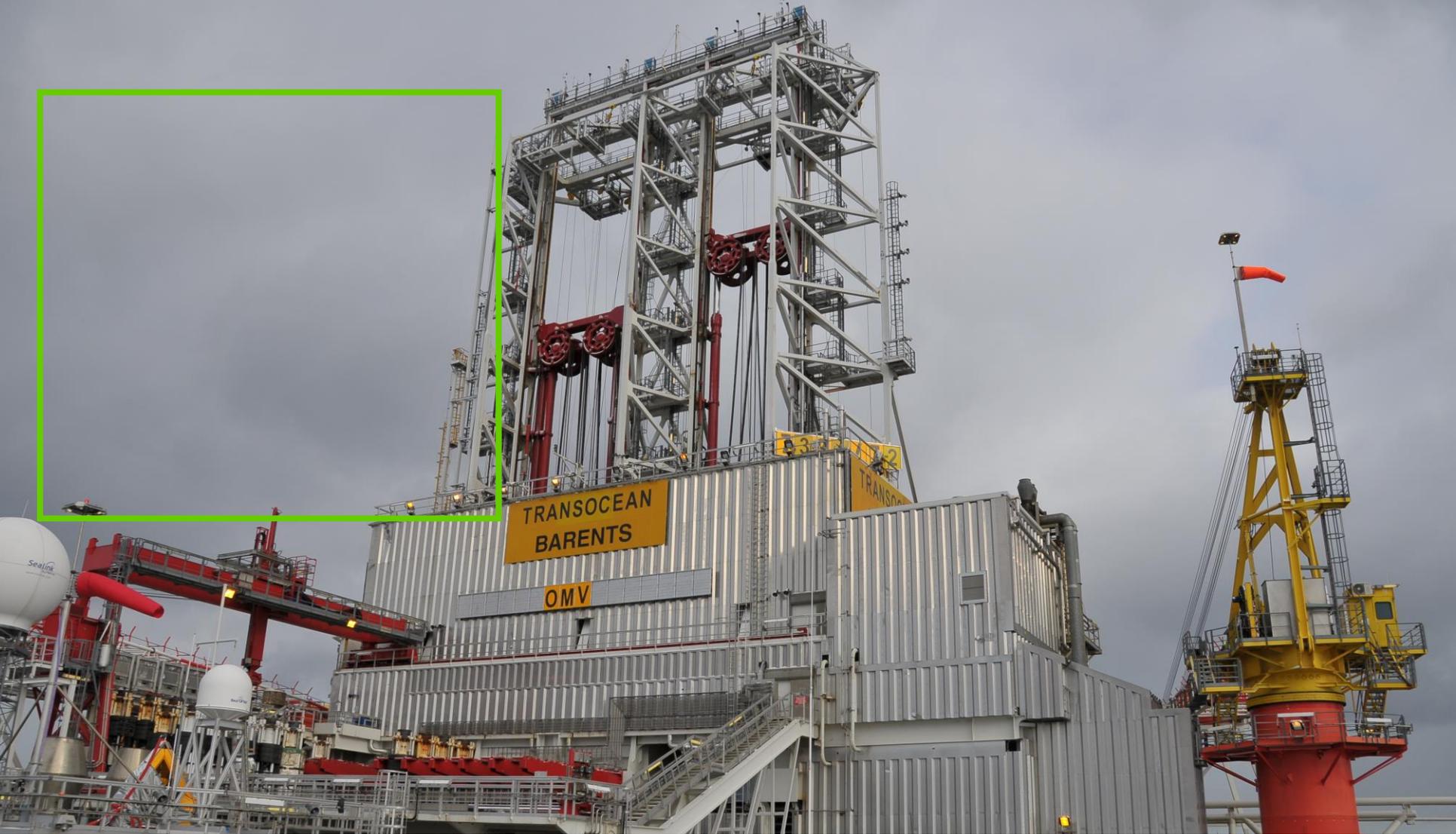


# Oil Spill Recovery Systems

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- ▶ The oil-spill recovery plan is based on three NOFO-systems in two barriers
  - ▶ There is no need for barrier 3 and 4 since the oil drift modelling concludes with insignificant probability for oil to reach the coast-line
- ▶ Barrier 1 (two NOFO-systems)
  - ▶ One at Volstad Supplier at the field ( 2 hrs)
  - ▶ One from Hammerfest or from a neighbouring field, i.e. Goliat or Apollo (16 hrs)
- ▶ Barrier 2 (one NOFO-system)
  - ▶ From Hammerfest (29 hrs)
- ▶ Detection of oil-spill
  - ▶ Shall be detected within one hour
  - ▶ Aptomar SECurus at Volstad Supplier





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Moving more. Moving the future. 