

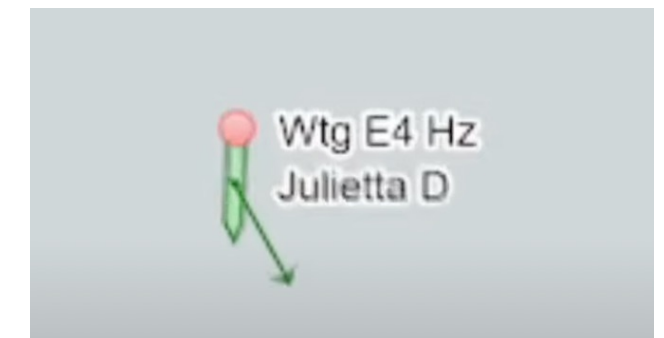
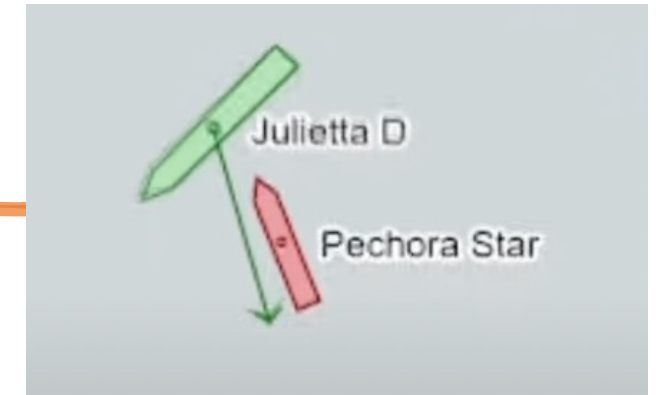


Remote Offshore Asset Monitoring



Joan Blaas – Royal Dirkzwager

Julliete D. - 31 jan 2022



Daily News

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SABOTAGE

'Russisch schip spioneerde bij Nederlandse windmolenparken'

Een Russisch schip heeft in het najaar van 2022 geprobeerd de Nederlandse energieinfrastructuur zoals windmolenparken op de Noordzee in kaart te brengen. Dat heeft Militaire Inlichtingen- en Veiligheidsdienst (MIVD) maandag gezegd op een persbriefing, zo schrijft [Marineschepen.nl](#).

Reid Quist Noordzee, 21 februari 2023, 12:58



Varen lossen de windmolens; Straks kan het!

RIEMER WITTEVEEN - 21 MAART 2018 OM 17:08



2012-03-22 00:00:00 EGMOND AAN ZEE - Voor de kust bij Egmond aan Zee, tussen de 10 en 18 kilometer uit de kust, ligt het eerste Nederlandse windmolenpark in zee. Bij mooi weer zijn de turbines vanaf het strand te zien.

Vanaf 1 mei 2018 zijn drie windparken voor de Nederlandse kust toegankelijk voor schepen met een lengte over alles tot 24 meter. Het betreft het Offshore Windpark

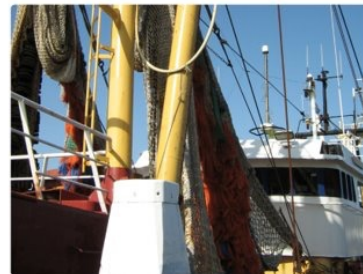


Welkom Nieuws Sport Lokaal Rijnmond Kiest Weer Kijk Luist

NIEUWS

Stellendamse vissersboot ramt boorplatform

24 september 2012, 06:31 • 1 minuut leestijd



vissersboot

Kustwacht voorkomt ramp met boorplatform

Wim Wegman

Woensdag 18 november 2015 om 12:32

DEN HELDER

De Kustwacht en de sleper levooli Amaranth hebben tijdens de storm in de nacht van dinsdag op woensdag een ramp voorkomen met een boorplatform, ruim zestig kilometer ten noordwesten van Den Helder. Een vissersschip was op drift geraakt en dreigde boorplatform L10A te rammen.

De sleper Amaranth voer in de nacht van dinsdag op woensdag al in de buurt van het stuurloze vaartuig. De sleper wordt uit voorzorg ingezet bij windkracht 5 en meer en bevond zich op 12 mijl afstand van de vissersboot, schrijft de Kustwacht

Al ruim de helft van het gas weggelekt uit Nord Stream-leidingen, vrijdag spoedzitting VN-Veiligheidsraad

Meer dan de helft van het gas dat in de beschadigde gaspijpleidingen Nord Stream 1 en 2 zit is inmiddels weggestroomd. Dat zegt het Deense energieagentschap (DEA). Het Westen ziet Rusland als het brein achter de explosies. De Russische regering noemt die beschuldigingen stompzinnig. De VN-Veiligheidsraad buigt zich vrijdag over de zaak.

Het Parool 28 september 2022, 12:12





- Part of HBR / Imtech until 2019, sold to ahrma bv
- 2022 acquired by PMG

- 25 employee / 3,5m turnover
- 600 customers
- ROAM | Ship2Report | Ship Security



Abbreviations - ROAM

- AIS Automatic Identification System
- DSC Digital Selective Calling
- VHF Very High Frequency
- CPA Closest Point of Approach
- TCPA Time to Closest Point of Approach
- ROAM Remote Offshore Asset Monitoring
- OCA Obstacle Collision Alert
- OIM Offshore Installation Manager
- VTS Vessel Traffic Service
- VTM Vessel Traffic Monitoring

An aerial photograph of a large offshore oil platform in the North Sea. The platform is a complex of steel structures, including a central derrick, several cranes, and a helipad on the left side. The helipad is green with a white 'H' in the center and the name 'NOBLE GEORGE SAUVAGEAU' written around the perimeter. The platform is supported by a jacket structure extending into the dark blue, choppy water. The sky is overcast and grey.

Remote Offshore Asset Monitoring (2011)

Board meeting 2011:

Mr. Bloemendaal described the events on New Year's Eve 2010 in which a container ship in the North Sea nearly collided with the drilling rig Noble George Sauvageau.

A Dirkzwager VTS operator tried to warn the container ship via VHF and using chase vessel. The platform even gave the signal Platform abandoned.

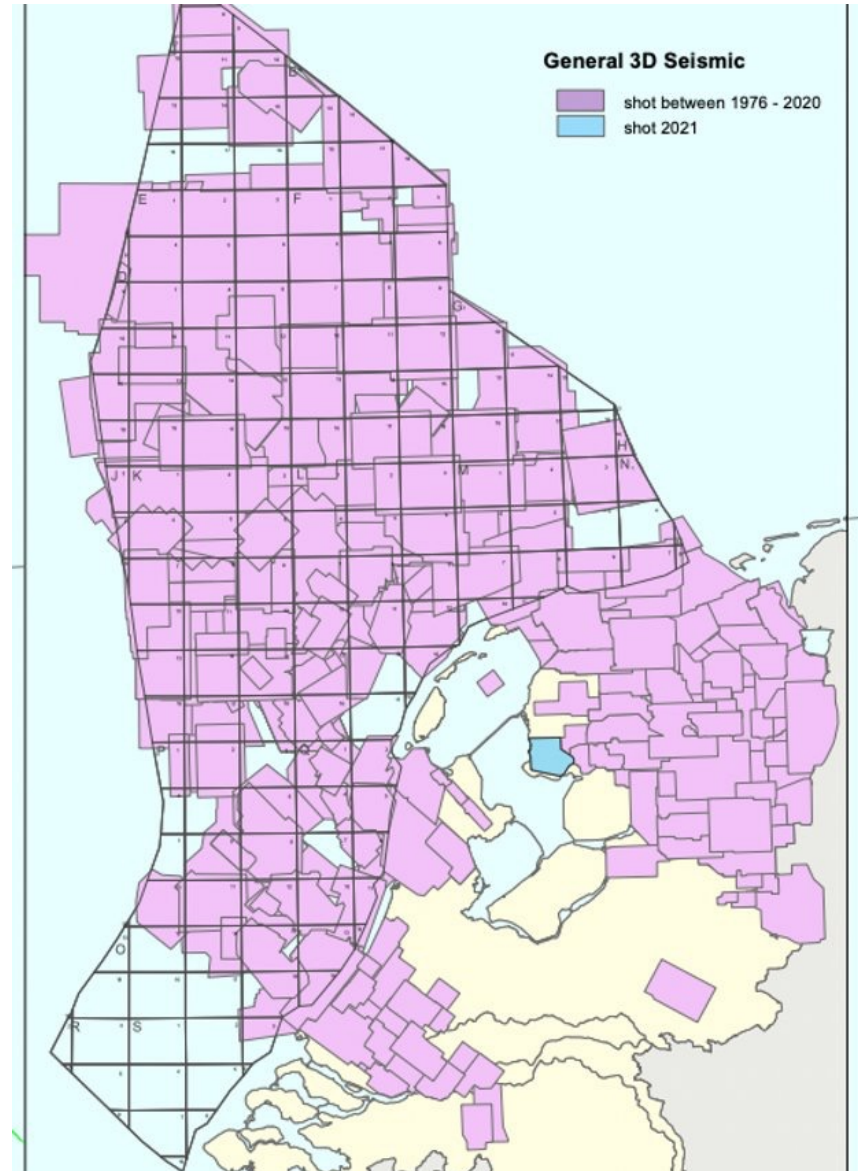
Thanks to the intervention of the VTS operator, the container ship deviated at the last moment and collision could be avoided.

2023: 25% Market Share

Customers

- Dana Petroleum Netherlands B.V
- NAM Nederlandse Aardolie Maatschappij
- ONE-Dyas b.v.
- Petrogas E&P Netherlands b.v.
- Taqa Offshore / Onshore b.v.

40 out of 160 Platforms / 5 out of 12 operators



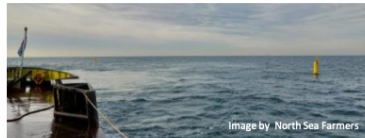


Northsea Farm

Eco-anchors with buoys

By North Sea Farmers

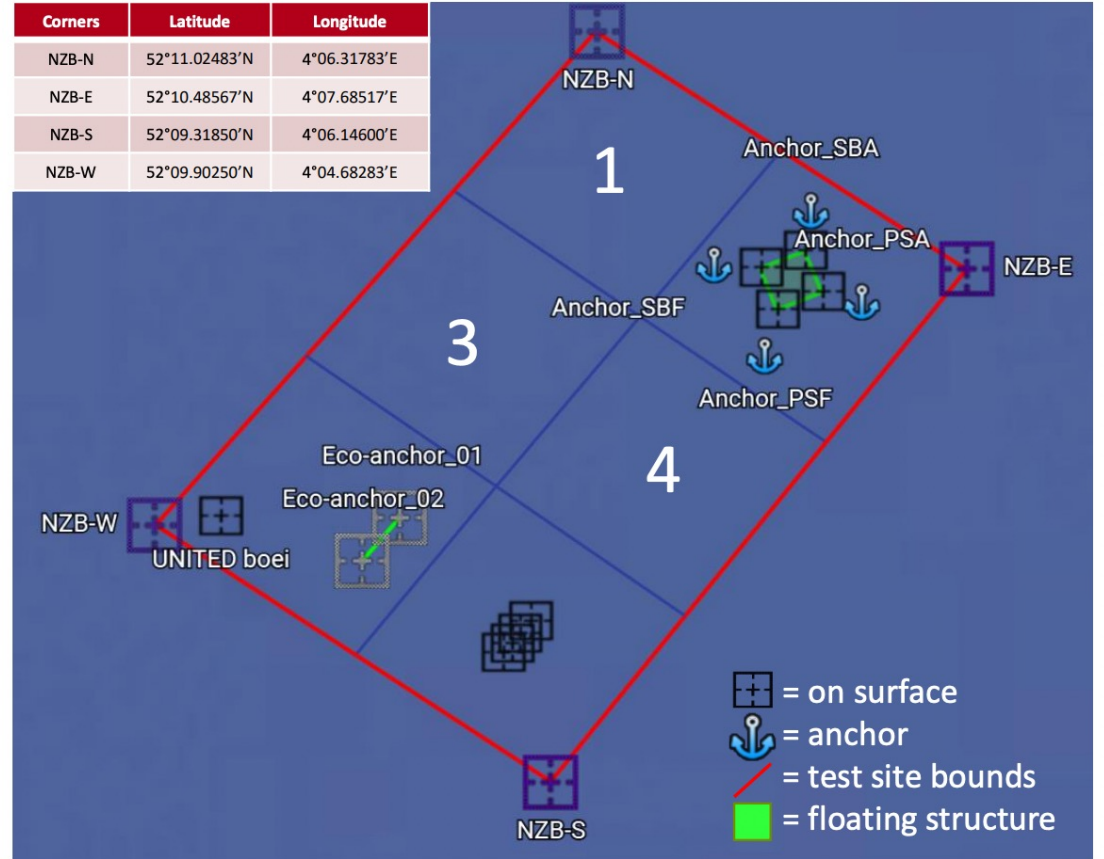
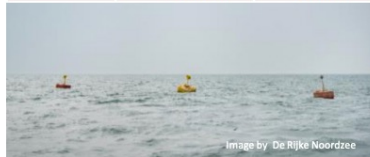
Plot 5	Latitude	Longitude
Anchor 1	52°9.916'N	4°05.584' E
Anchor 2	52°09.826'N	4°05.451'E



Artificial Reefs

By De Rijke Noordzee

Plot 6	Latitude	Longitude
Buoy 1	52°9.70962'N	4°6.05832' E
Buoy 2	52° 9'41.22"N	4° 6'1.98"E
Buoy 3	52° 9'39.93"N	4° 6'0.39"E
Buoy 4	52°9.64332'N	4°5.98056' E

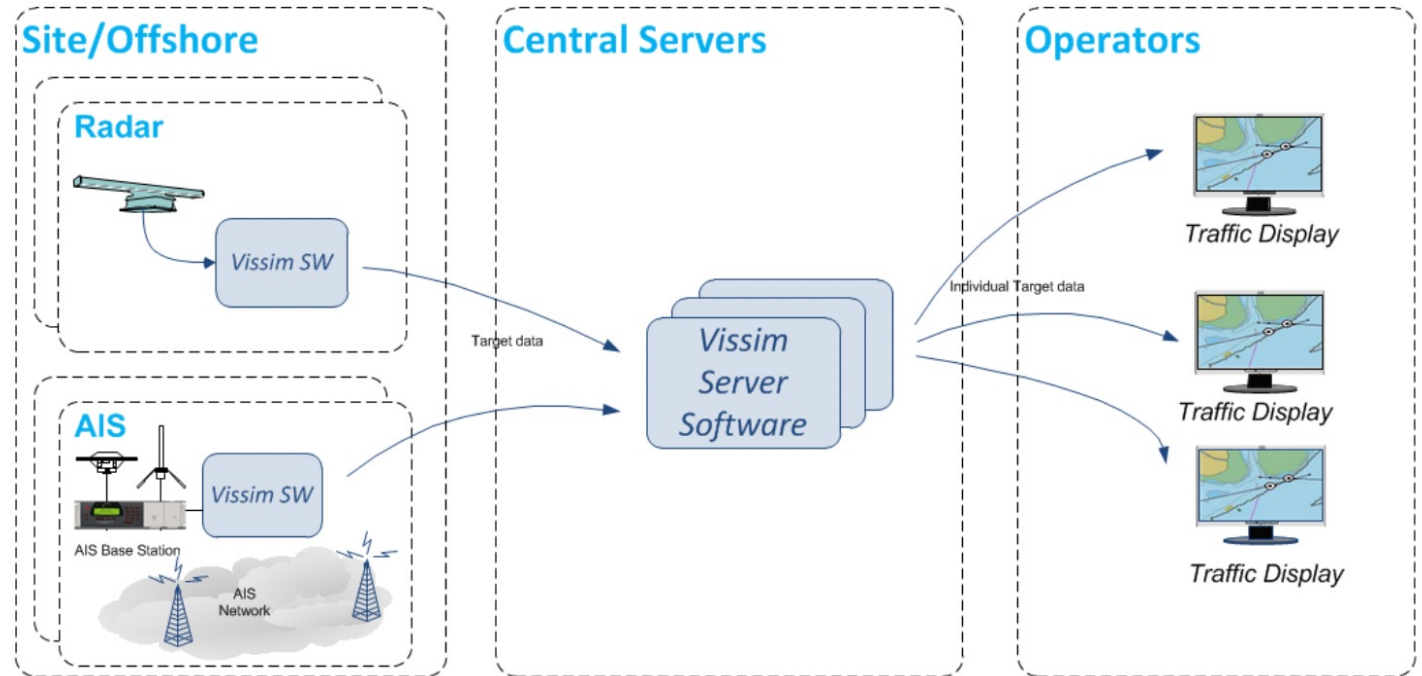


24/7 - 5 Shift Teams



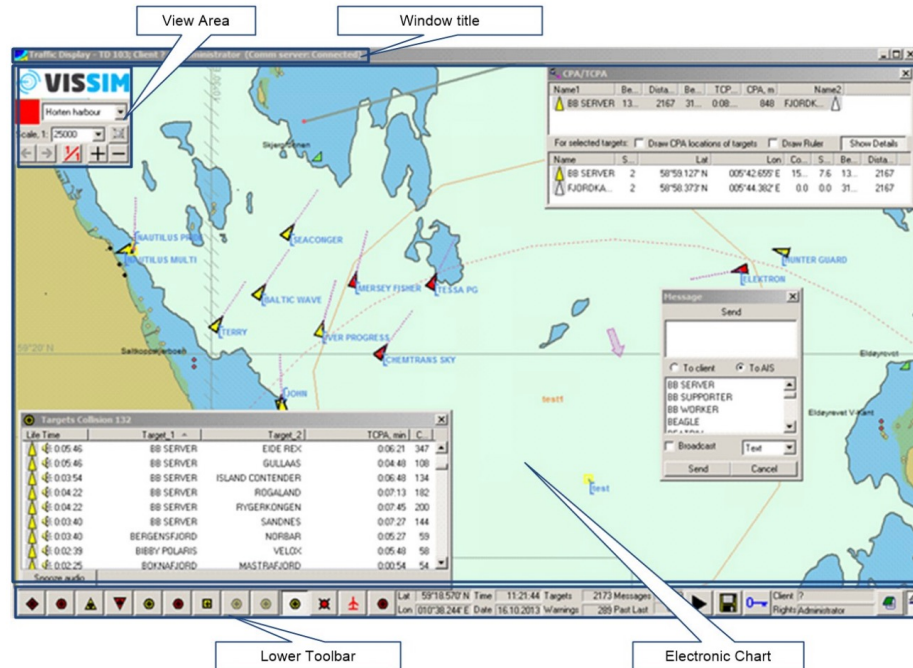
- **Control Room**
 - 12 FTE Full Continue
 - 3 FTE Semi Continue
- Highly Experienced staff
- Trained VTM Operators
- Redundant:
Power / Network / Telephony
- ISO 27001 Certification started

Vissim Technology Overview



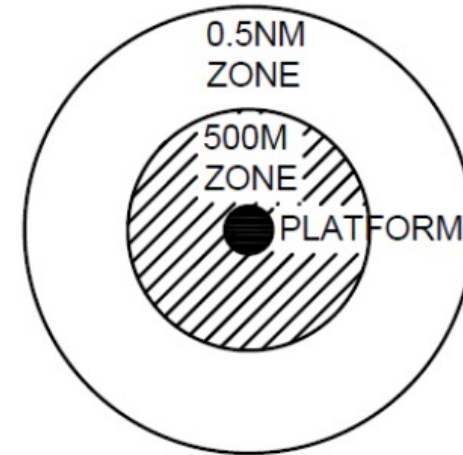
- **Multiple Data Sources**
 - Platform AIS
 - Rijkswaterstaat
 - Kustwacht

Traffic Display functions:







- Displaying of vessel traffic information as overlay on Electronic Chart
- Traffic management functions
- Warning System
- Measurements on the chart
- Control Tools for various areas – Zones, Check Lines, Reference Points, etc.
- Displaying of Radar Video Data
- Recording and Playback
- Weather Data presentation

Alarms

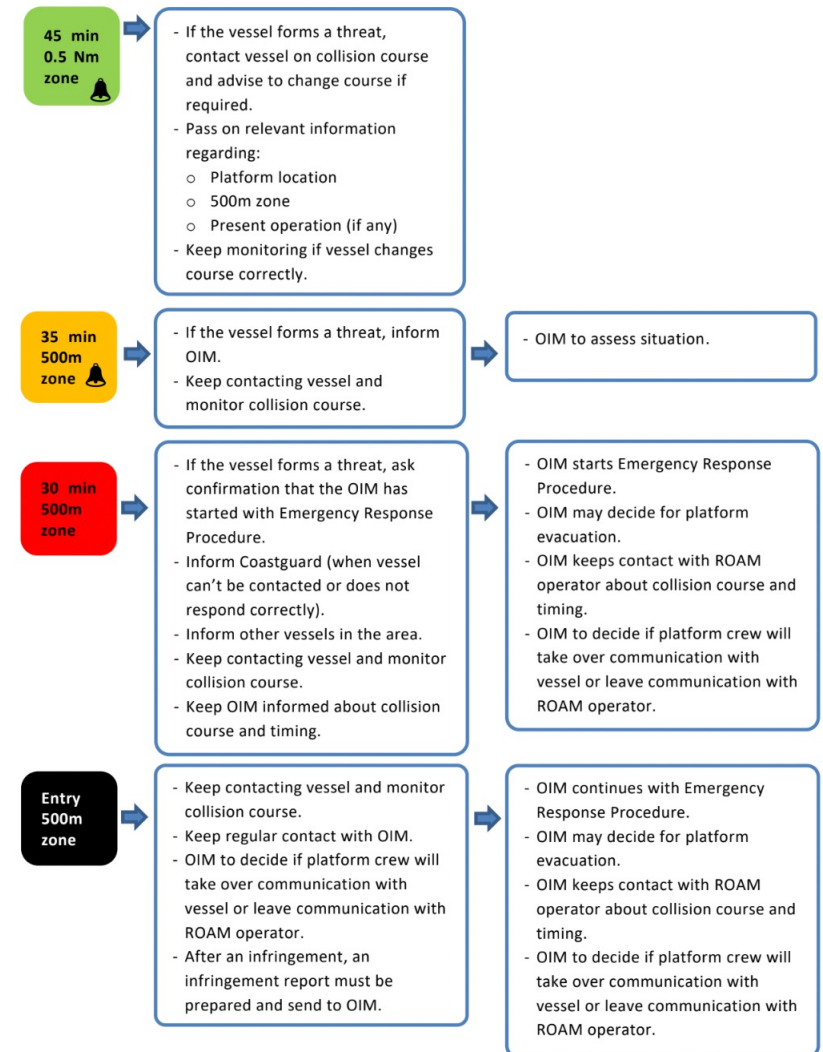


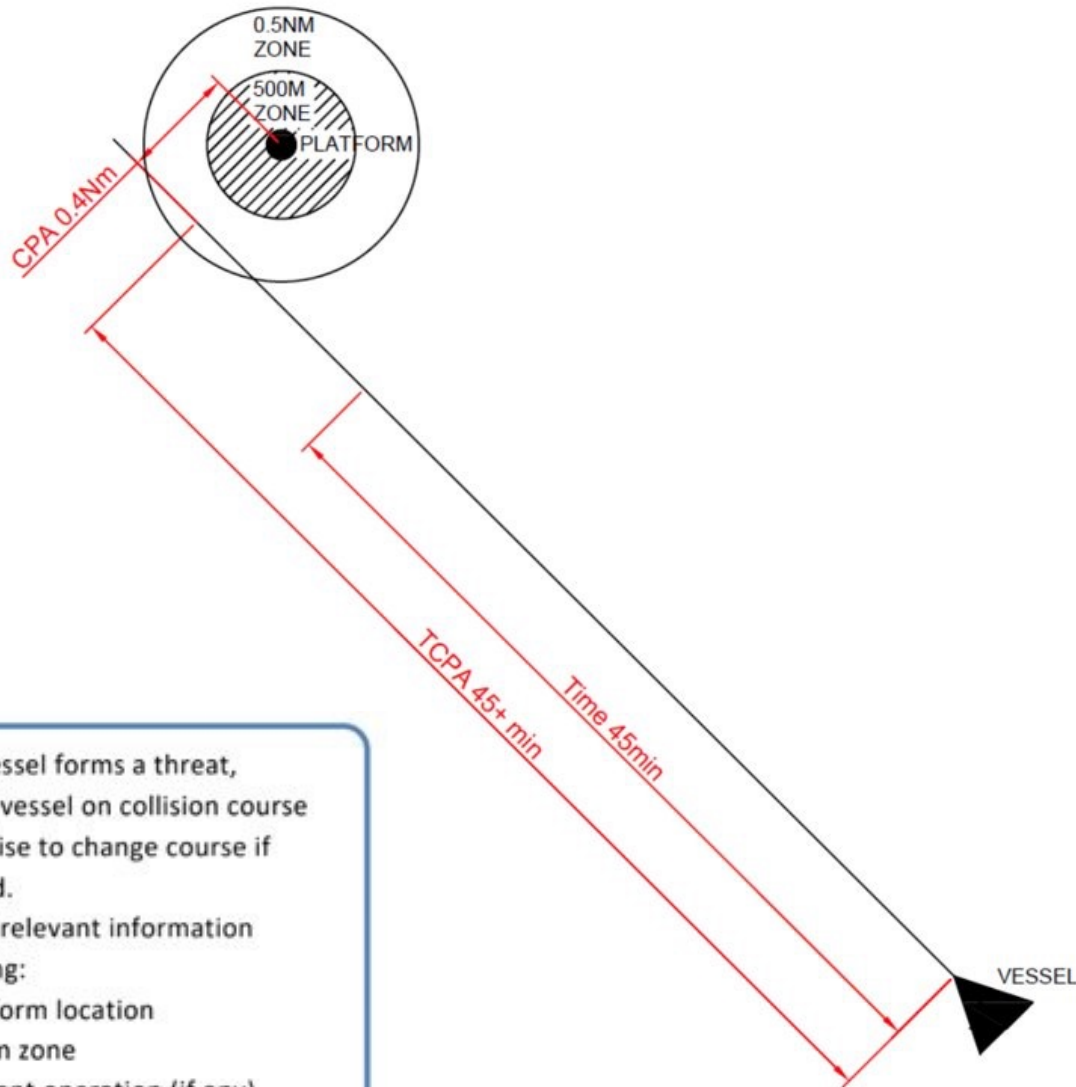
- Alarm Configuration
- Based on:
 - Closest Point of Approach (CPA)
 - Time to Closest Point of Approach (TCPA)

	Manned	Unmanned
0.5NM	45 min 1.0 Nm zone 	30 min 1.0 Nm zone 
500m	35 min 500m zone 	20 min 500m zone 

Protocol

- STEP BY STEP PROTOCOL
- VTM Operator contacts the vessel by remote VHF





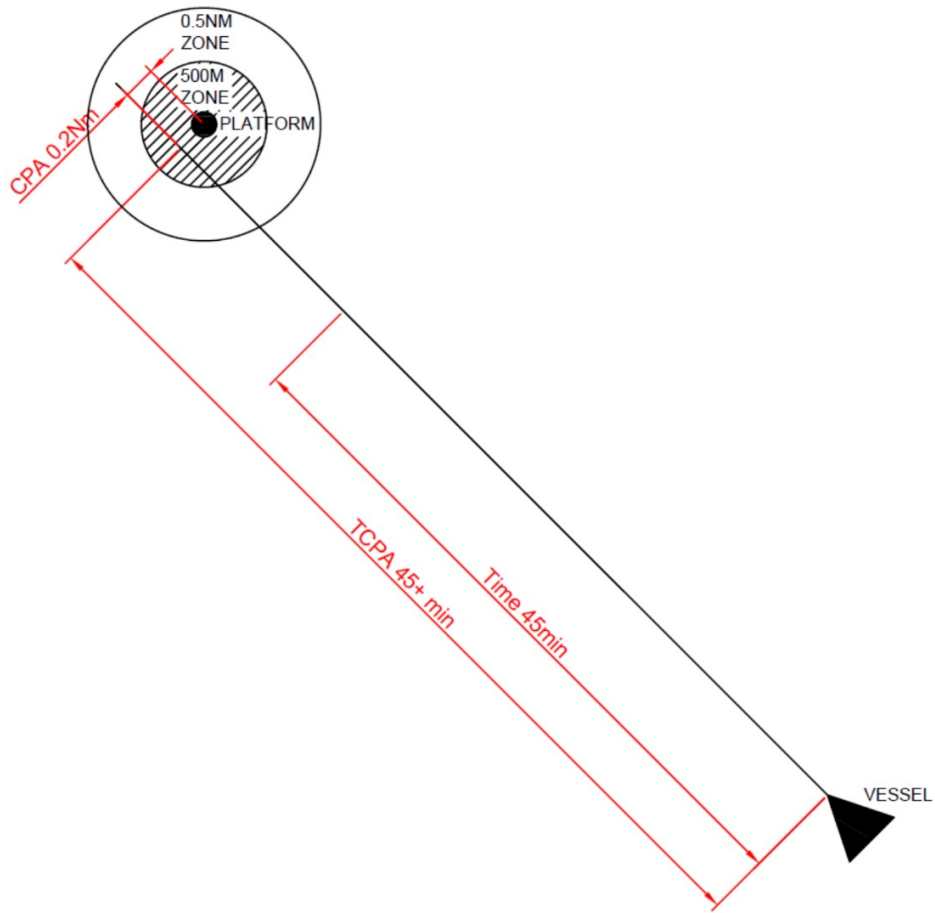
45 min
0.5 Nm
zone



- If the vessel forms a threat, contact vessel on collision course and advise to change course if required.
- Pass on relevant information regarding:
 - o Platform location
 - o 500m zone
 - o Present operation (if any)
- Keep monitoring if vessel changes course correctly.

Safe situation
– CPA
more than
500m

Keep a close
Watch & Decide
if Action is
Needed



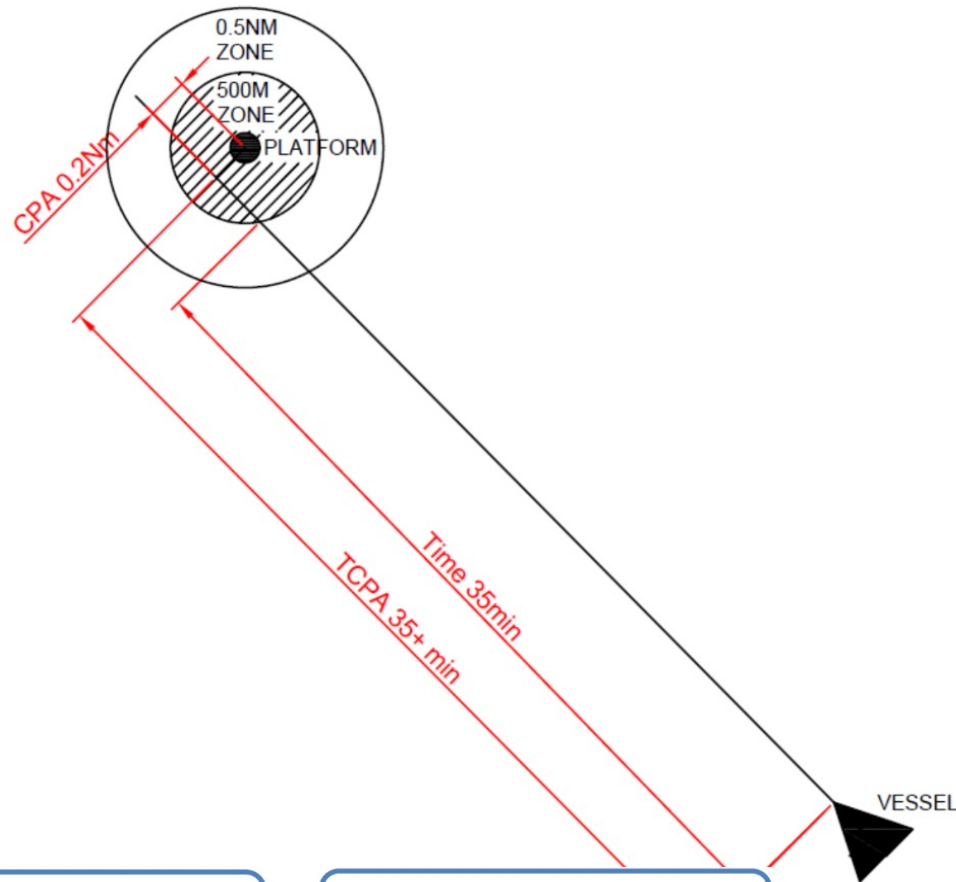
35 min
500m
zone 

- If the vessel forms a threat, inform OIM.
- Keep contacting vessel and monitor collision course.

- OIM to assess situation.

Watch & Assess the situation (TCPA 45 - 35min)

If the vessels stays on collision course, the VTM operator contacts the vessel & OIM.



30 min
500m
zone

- If the vessel forms a threat, ask confirmation that the OIM has started with Emergency Response Procedure.
- Inform Coastguard (when vessel can't be contacted or does not respond correctly).
- Inform other vessels in the area.
- Keep contacting vessel and monitor collision course.
- Keep OIM informed about collision course and timing.

- OIM starts Emergency Response Procedure.
- OIM may decide for platform evacuation.
- OIM keeps contact with ROAM operator about collision course and timing.
- OIM to decide if platform crew will take over communication with vessel or leave communication with ROAM operator.

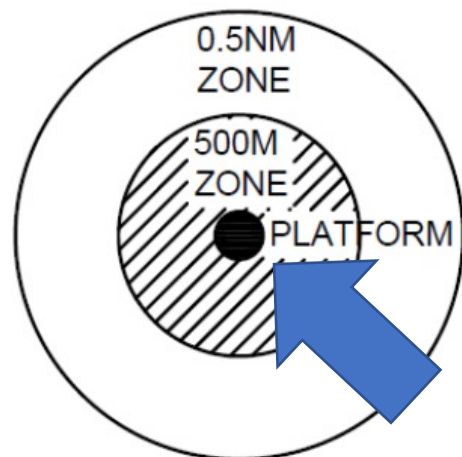
Dangerous situation (TCPA > 35 min)

The VTM operator will contact the vessel to change its course and support OIM.





Infringements (500m zone)



Entry
500m
zone

- Keep contacting vessel and monitor collision course.
- Keep regular contact with OIM.
- OIM to decide if platform crew will take over communication with vessel or leave communication with ROAM operator.
- After an infringement, an infringement report must be prepared and send to OIM.

- If traffic enters the 500m zone
 - An Infringement Report is created according to NOGEP A guidelines
 - Reported to the Coastguard in Den Helder
- A description of sequence of events, Vessel details, dates etc, AIS screenshots of the vessel

Permissions

Some vessels will be granted permission to enter the 500m zone

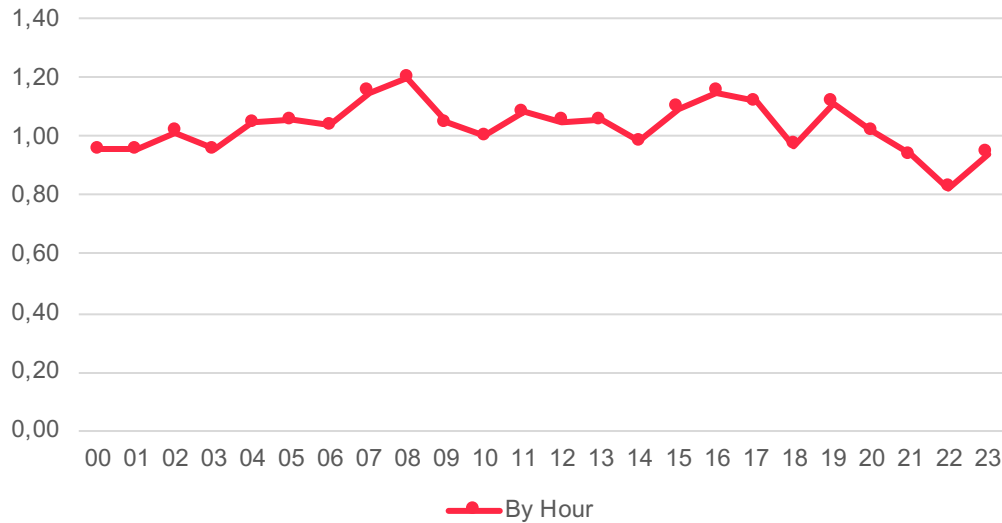
For example a crew / supply vessel or tanker



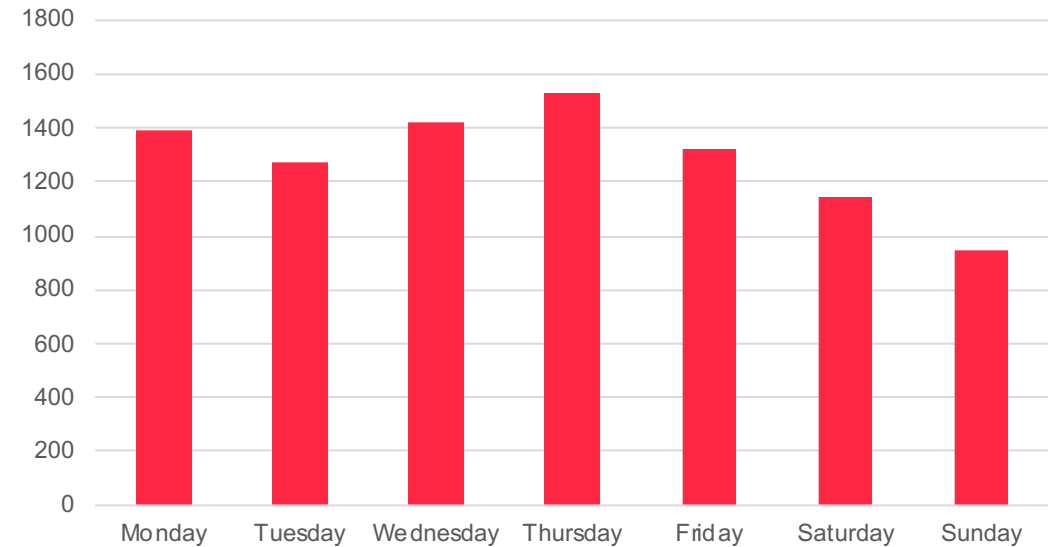
ROAM STATS 2022

- 9024 Alarms recorded
- 20 Infringement Reports Created (500m zone)

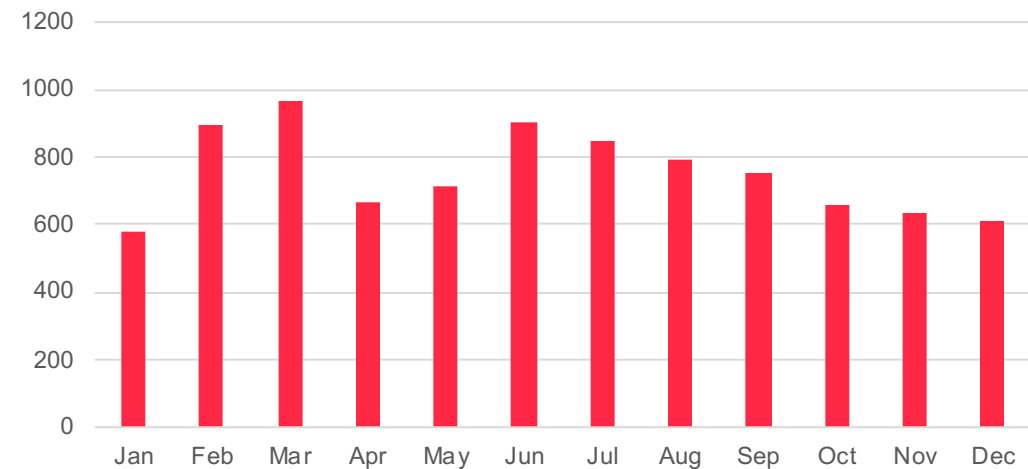
By Hour



Per Weekday



Per Month



ROAM STATS 2022

- TX14 Grietje (80 alarms)
- Van Energizer (57 alarms)
- UK195 Noorderhaaks (12 alarms & 1 Infringement)
- Sailing Vessel The Duchess (2 Infringements 10 Sept & 11 Sept)



CONTINGENCY PLAN

Actions in
case of
system Failure

Royal Dirkzwager has a full redundant control room in place.

24/7 Contingency plan

Worst case scenario:

Hand back to Crew
Installation

Temporary
guard vessel

Dutch
Coastguard

Opportunities



- Product Innovations

- Radar Integration
- Weather forecast
- Oil spill detection
- Monitoring of pipes & cables
- CCTV

- Expand to

- Other Oil & Gas Platforms
- Drilling Rigs (temporary)
- Offshore Windfarms
- International Expansion

OCEAN SPACE AWARENESS CENTRALIZE AND OPTIMIZE

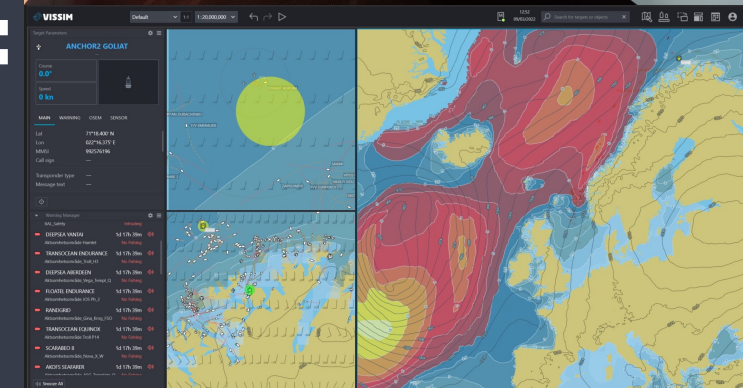
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External data sources such as:

- Terrestrial AIS
- + Vessel Database
- Subsea pipelines and umbilicals
- Weather forecasts

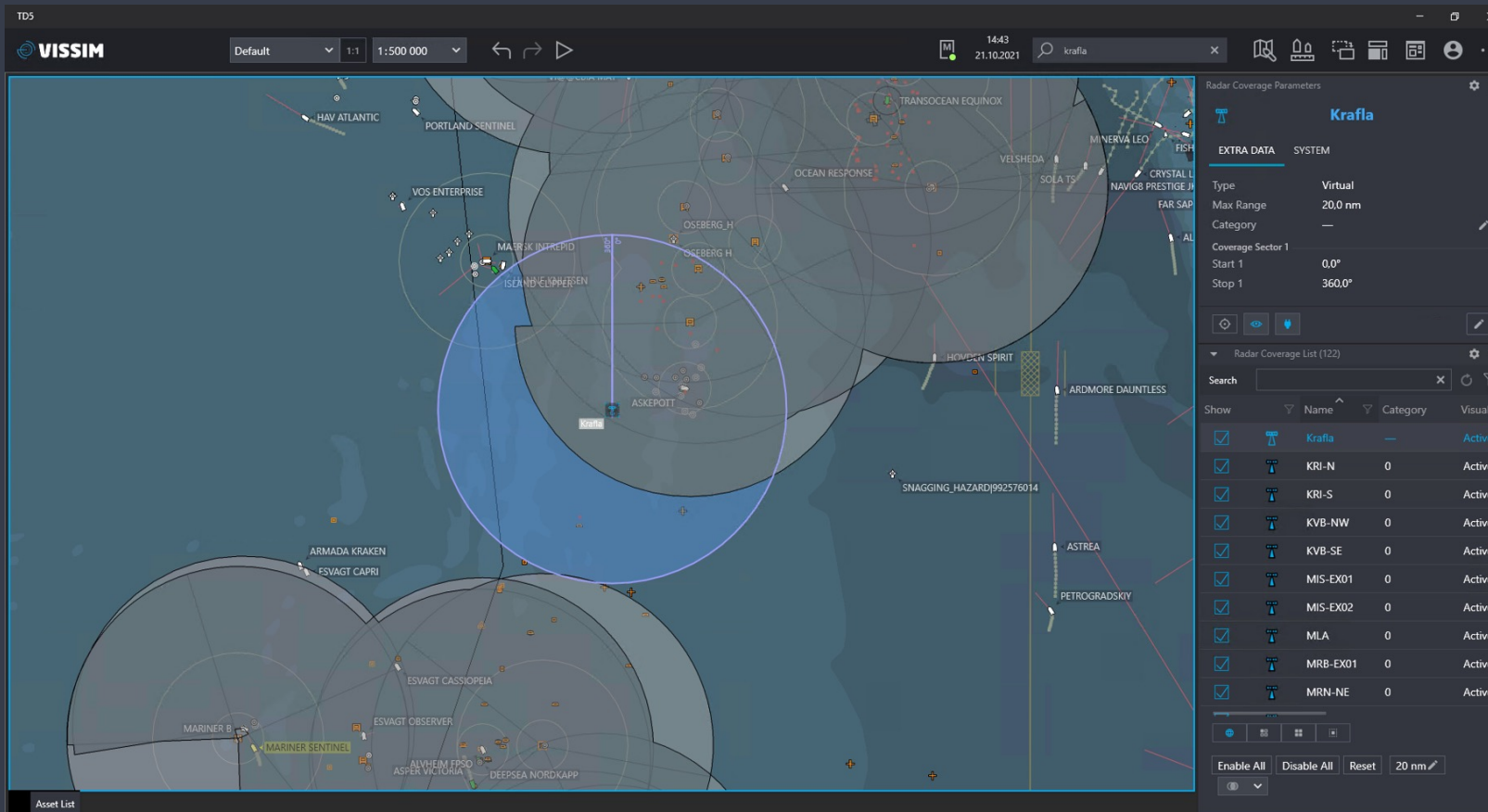
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Reduce guard, standby and supply vessels, offshore personnel and maximize use of weather windows

VTMS5 – Sensor integrations

Radar integration



Processing of tracks from radar integrating targets from overlapping radars. Targets and Radar Video is displayed in the TD5 display.

- Radar – Magnetron
Standard solution: O&G Port MA
- Radar – Digital
Standard solution: Port MA

VTMS5 – Sensor integrations

AIS & Radar integration

The screenshot displays the VISSIM TDS interface. On the left, the 'Target Parameters' panel for 'NORDSTAR' (MMSI 258360000) shows a course of 226.5° and a speed of 11.9 kn. The central map shows a radar scan area around the vessel. On the right, the 'Targets List (73 of 5753)' table provides a detailed view of detected vessels.

Name	Flag	Type	Navigation Status	Destination
BUOYS_KHEP_U/_NM	—	—	—	—
NORMAND FLIPPER	Singapore	Other	Under Way Using Engine	NINIAN
MAGNUS D6 WELL	—	—	—	—
HERMIT GALAXY	Norway	Cargo	Under Way Using Engine	MARTIN LINGE
PORTLAND SENTINEL	United Kingdom	Other	Under Way Using Engine	ALWYN NORTH
TO.SPITSBERGEN	Marshall Islands	Reserved	Restricted Manoeuverability	SNORRE-OF
ESVAGT CELINA	Denmark	Search and...	Under Way Using Engine	MAGNUS FIELD
257354000 Base Sta...	Norway	—	—	—
VOS TRAVELLER	United Kingdom	Other	Under Way Using Engine	THISTLE
BOURBON MISTRAL	Norway	Cargo	Under Way Using Engine	OSEBERG
DEEPSEA ATLANTIC	Bermuda	Other	At Anchor	STATFJORD
AURORA SPIRIT	Norway	Tanker	Under Way Using Engine	GULLFAKS
REM MIRA	Bahamas	Cargo	Under Way Using Engine	BRUCE
DEEPSEA ABERDEEN	Bermuda	Other	At Anchor	BLOKK 35/8 VEGA Q
DEEPSEA STAVANGER	Bermuda	Other	Restricted Manoeuverability	STATFJORD
MAGNUS PLATFOR...	United Kingdom	Other	Moored	—
NORDSTAR	Norway	Fishing	Under Way Using Engine	LERWICK
TRANSOCEAN END...	Norway	Other	Restricted Manoeuverability	TROLL FIELD
SAYAN PRINCESS	Malta	Cargo	Under Way Using Engine	THISTLE
NOBLE LLOYD NOBLE	Liberia	Cargo	Moored	VALEMOM
SKANDI ICEMAN	Norway	Other	Under Way Using Engine	PAN W
2579999	Norway	—	—	—
HIGHLAND GUARDI...	United Kingdom	Other	Under Way Using Engine	CORMORANT ALPHA
NINIAN CARDINAL...	—	—	—	—
SKJONGHOLM	Norway	Fishing	Under Way Using Engine	CH 16
MEKHANIK PUSTOS...	Russia	Cargo	Under Way Using Engine	DROGHEDA
HAVILA CLIPPER	Norway	Cargo	Under Way Using Engine	OSEBERG

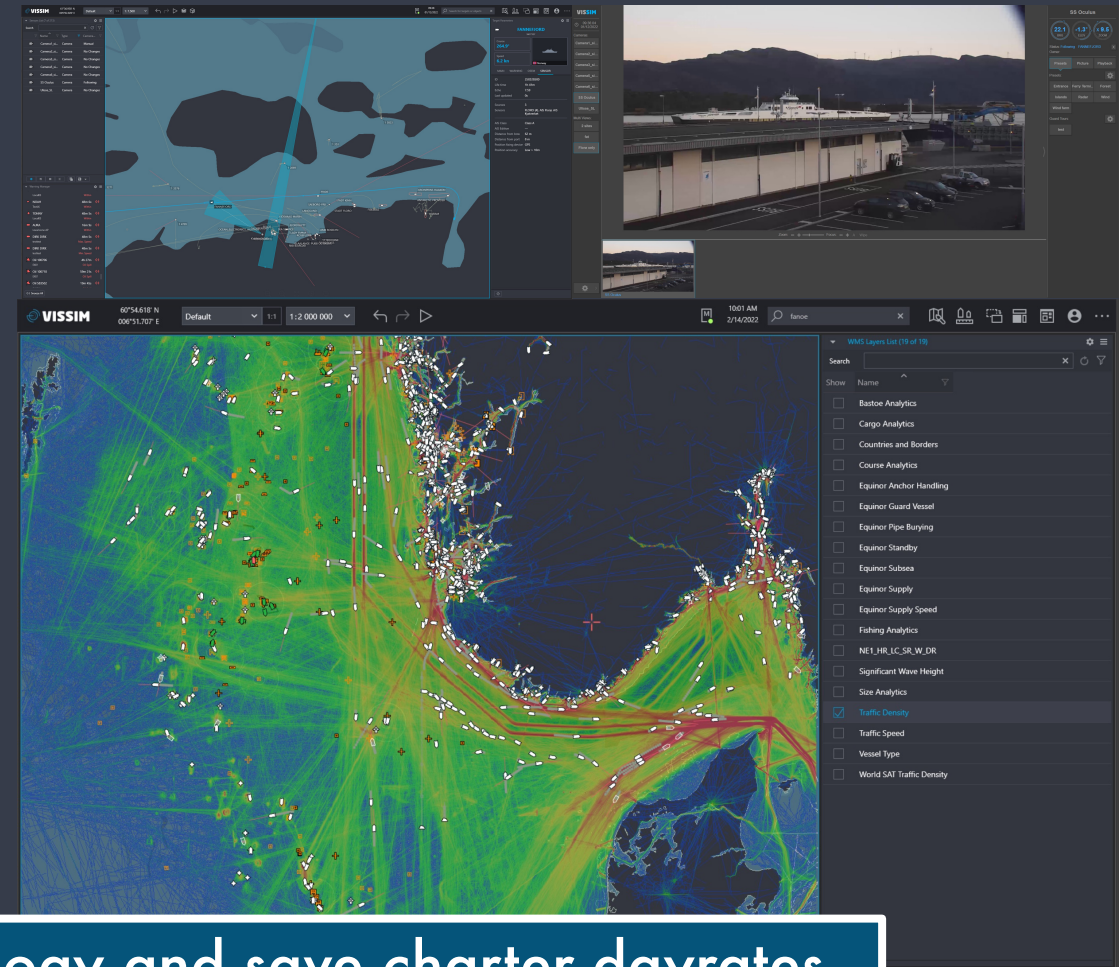
- Processing of Targets from AIS Base Stations and Receivers.
- Integration of AIS with Radar targets.

SECURITY

RULE YOUR SEAS

• • •

- Keep track on all objects surrounding assets with and without AIS transponders
- Automatically follow objects by radar and night and day cameras
- Analyse traffic in areas and prioritize location of guard vessels
- Create rules for automatic warnings by simulation and machine learning
- Detect and recognize “black ships”
- Warn approaching vessels by VHF
- Record and replay of situations at any time, anywhere



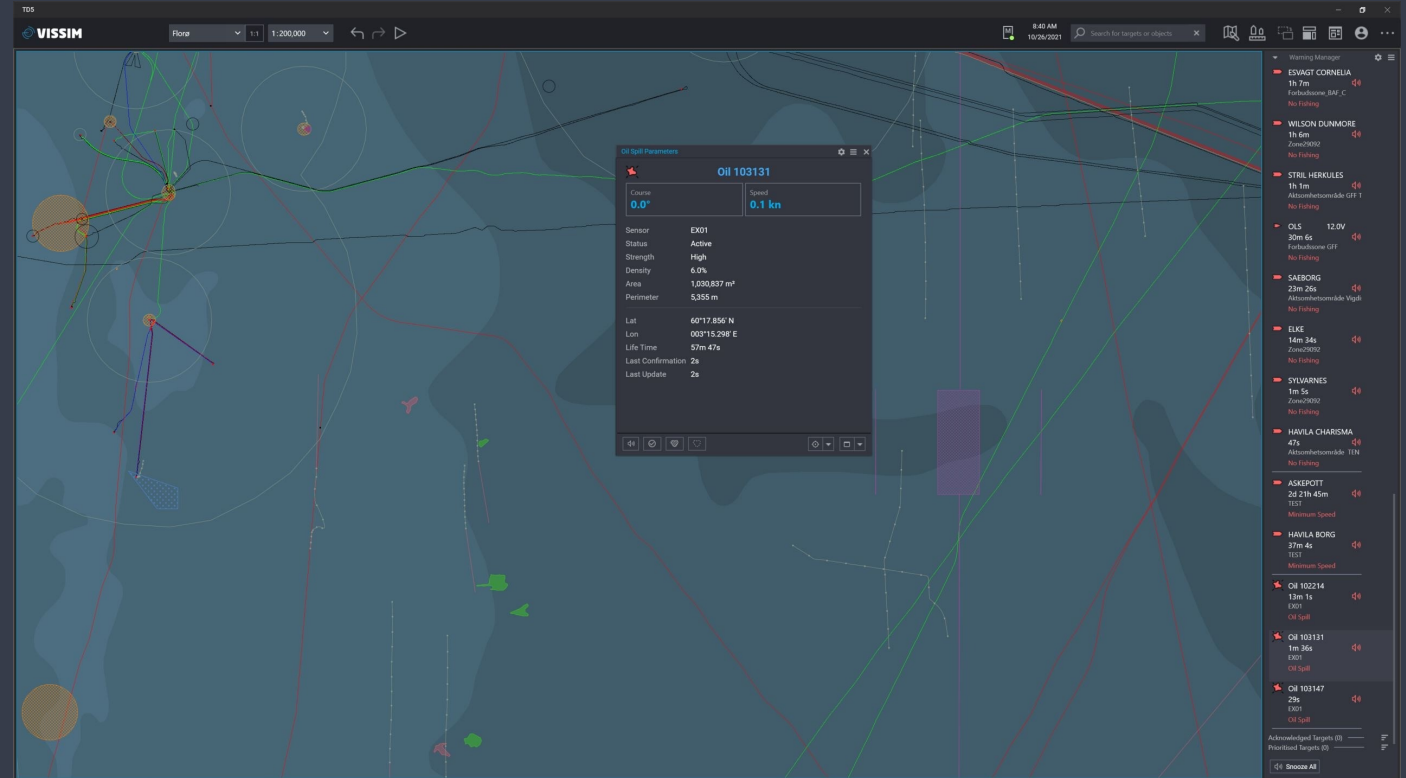
Replace guard vessels with technology and save charter dayrates and use of offshore personnel

VTMS5 PRODUCTS

OIL SPIL DETECTON

...

OSD5



VTMS5 processes the signals from the radar to detect oil spills.

The operator manages the warnings in TD5.

Contact

Joan Blaas

CEO Royal Dirkzwager

Noordzee 10a

3144DB Maassluis

+31 (0) 646 121 33

Joan.blaas@dirkzwager.com

