JRC Smart Shipping

JRC offers not only Antenna, but also Solutions for Shipping

April. 2020

Japan Radio Co. Ltd.

JRC

In the marine field, with the advent of high-speed satellite communication services for ships and the advent of flat-rate plans, internet connection has become easier.
By sharing information between ships and land and effectively utilizing such information, we are creating an environment in which we can realize a variety of solutions.
JRC with the world's leading satellite communications technology as its background, we will provide an environment where ships and land are always connected.

✓ Made in Japan quality by JRC original design and production

✓ Using Ka band / L band satellite communication allow stable and high-speed communication with global coverage coverage a part of polar area

✓ All in one package contains antenna, modem, network units, cables and power unit by JRC

✓ Flexible subscription plans meet your needs for traffic capacity

✓ Easy installation with auto-negotiation between Antenna and Satellite for initial setting
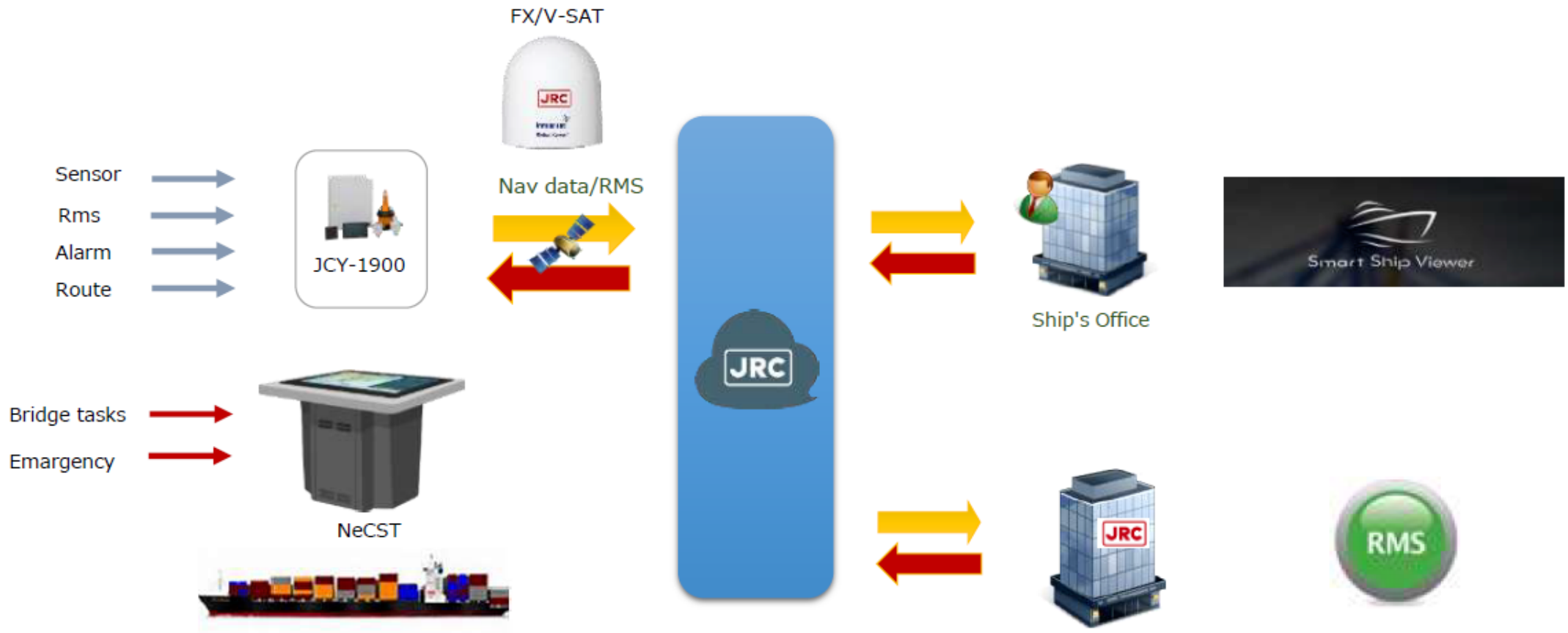
JRC
inmarsat

What is J-Marine Cloud?

This service aims to be safe, secure, and smart operation management by realizing the visualization of ships based on navigation data sent regularly from ships.

What is J-Marine Cloud?

➢ Smart Ship Viewer for customer
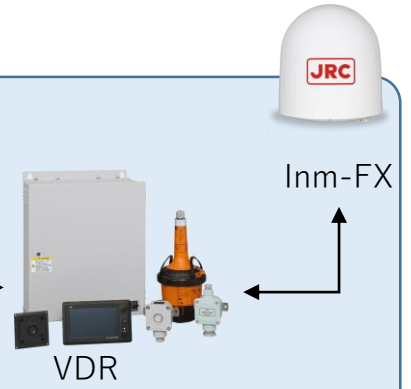➢ Remote Maintenance System for JRC service staff

Auto-update sensor and Remote Maintenance data periodically. (per 10 min to 1day)

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J-MARINE CLOUD

Use can access to J-Marine Cloud via Web application

<Navigation Bridge>

・GPS/GPS compass
・Echo sounder
・Speed log
・AIS
・NAVTEX
・VHF
・MF/HF
・Radar
・ECDIS
・BNWAS
・Weather FAX
・Inmarsat-GX/FB/C

Inm-FX

VDR

<Engine Room>

・Propeller/shaft RPM
・Engine telegraph
・Rudder angle
・Thruster

<JRC service center>

Remote Maintenance System

・Monitoring of JRC equipment status
・Analysis of alert / logging data
・Remote update support (MFD, VDR etc…)

<Operation office>
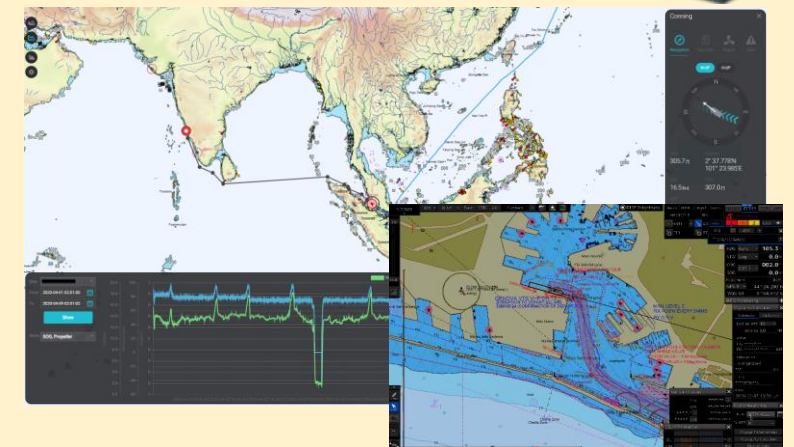
Smart Ship Viewer

・Trend monitoring of sensor data from VDR
・Navigation alert on JRC equipment (BAM info)
・Active route sync with JRC ECDIS
・Weather forecast
・VDR remote download
  * Downloaded data can be play backed on VDR playback software.

JRC VDR (JCY-1900) or J-Marine NeCST installed ships can be started this service with **No additional hardware** and visualized on the Web.

Smart Ship Viewer

- Ship position display
- AIS Display
- Navigation info. display
- Alarm display (ALC/ALF)
- Meteorological Display
- VDR Data Download

VDR (JCY-1900)

J-Marine NeCST

J-MARINE **CLOUD**

Web

Web Login Screen
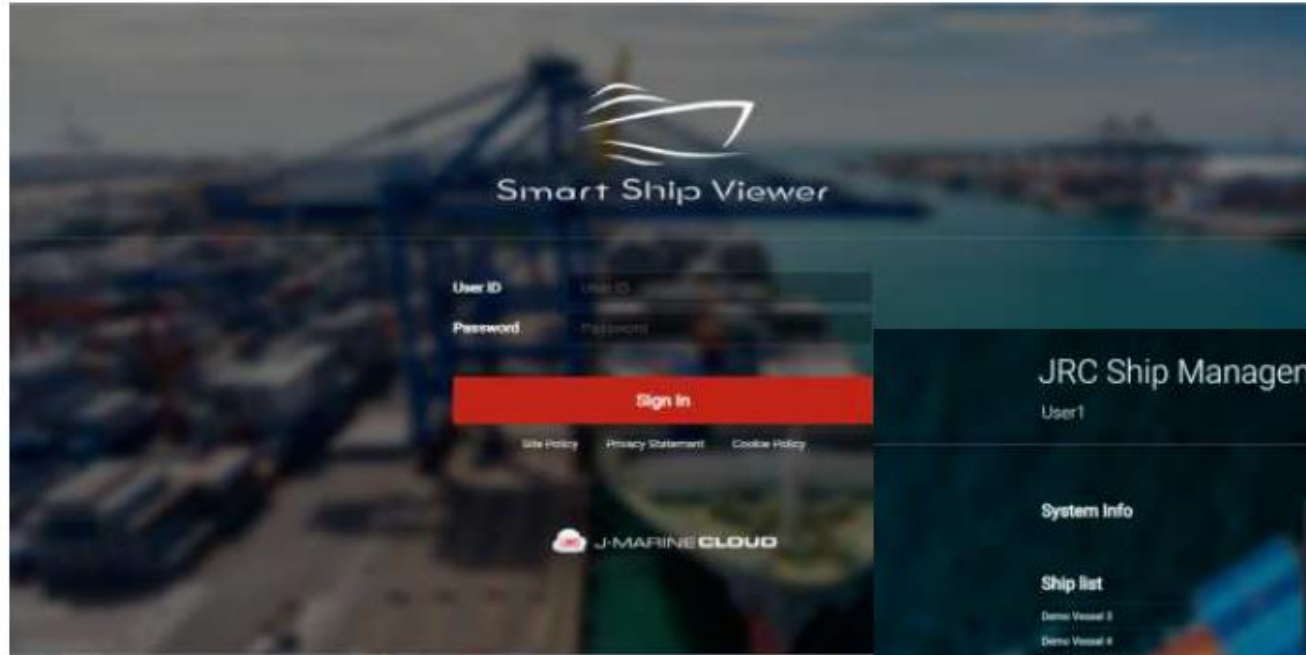
Management ship monitoring

Displays the latest location and status of each management ship on the map.
It is based on the information from VDR and/or J-Marine NeCST.
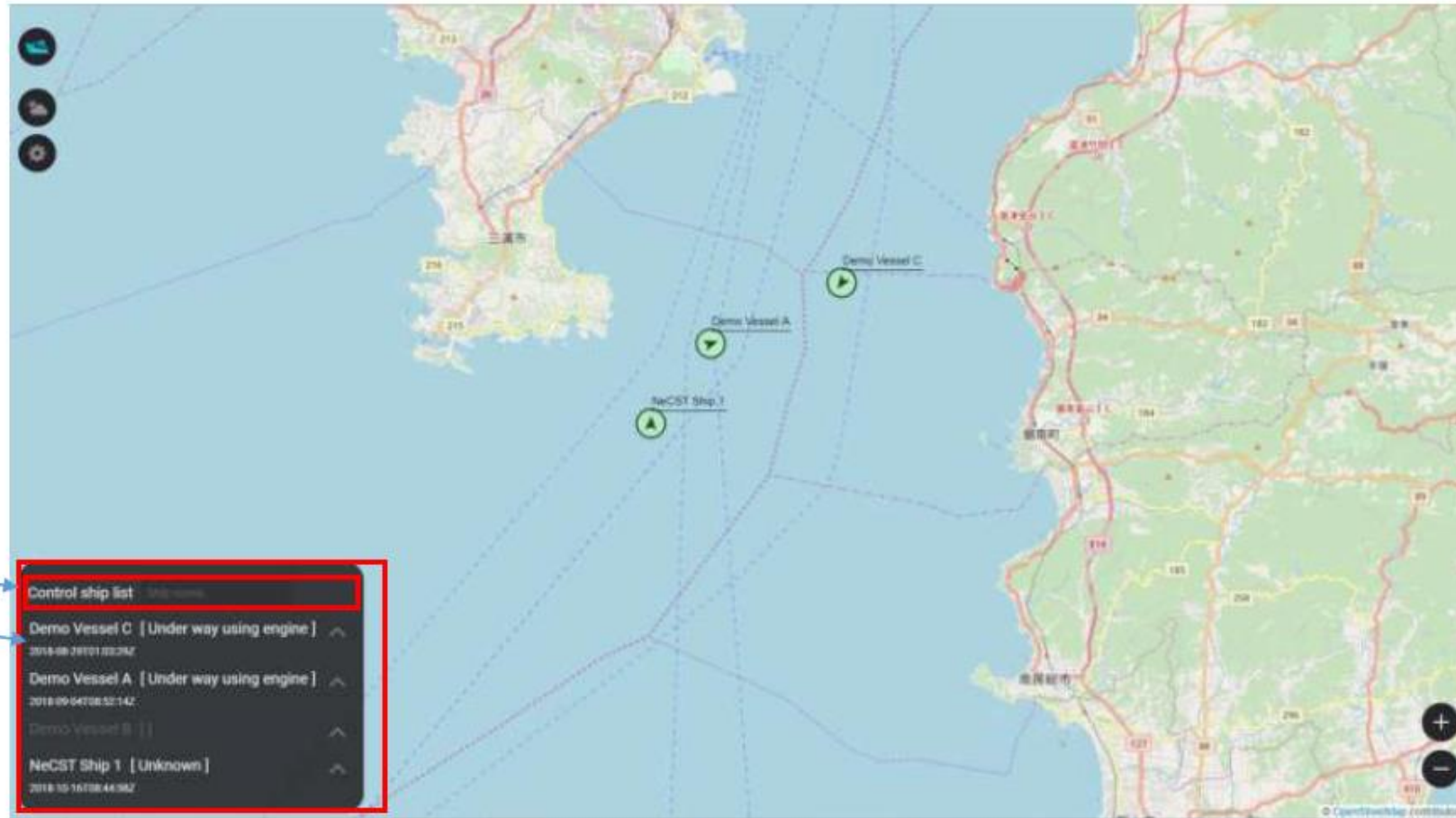
Ship Search

List of ships

※Management ship icon occursALC/ALF(RmsColor changes depending on the corresponding ship only)

Route monitoring/Track display

Displays each ship's monitoring route from JRC ECDIS JAN-9201/7201 and track up to past 7 days.
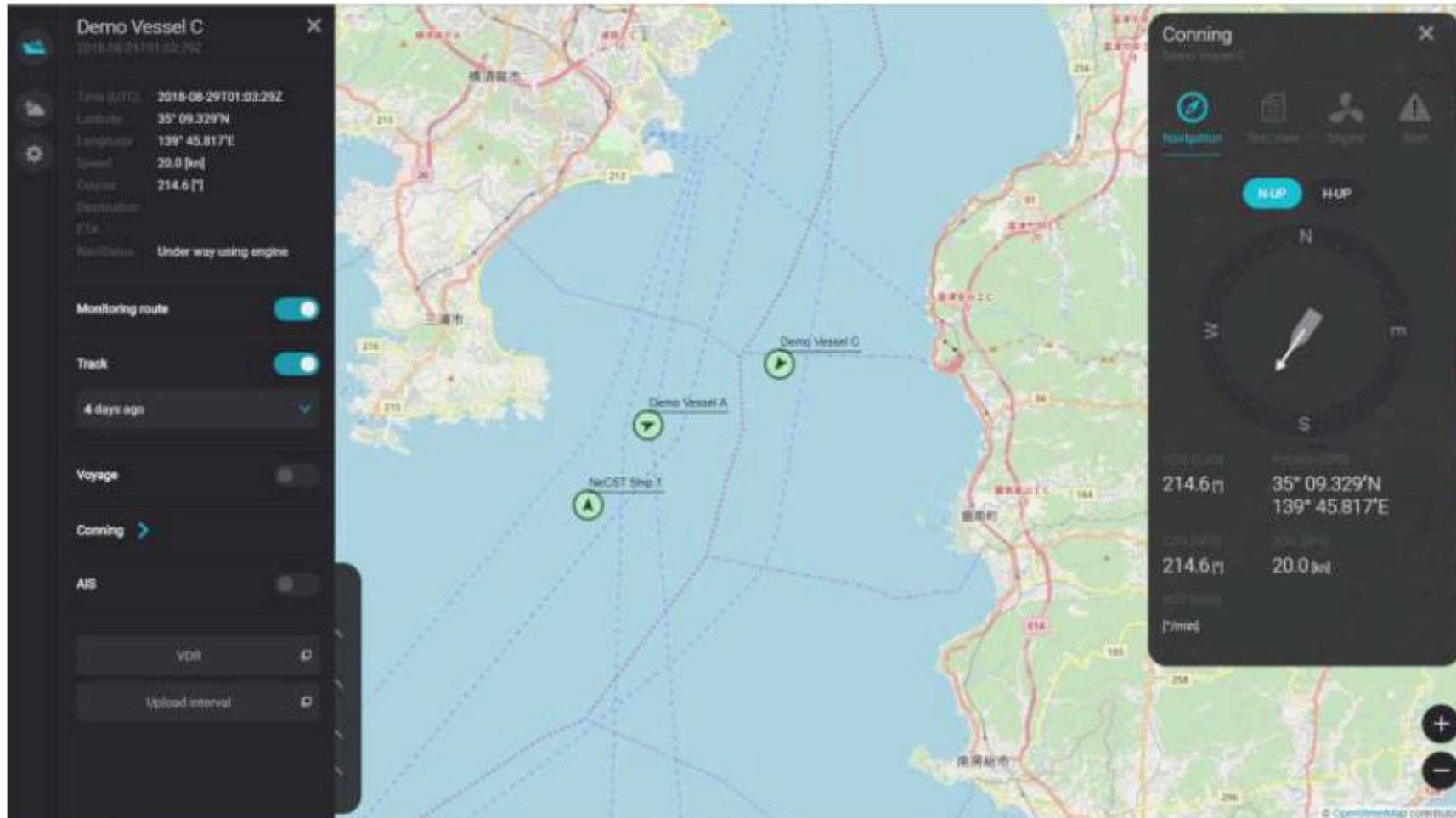
Conning information

Displays the status of each management ship's voyage and equipment alarm information that is occurring on board.
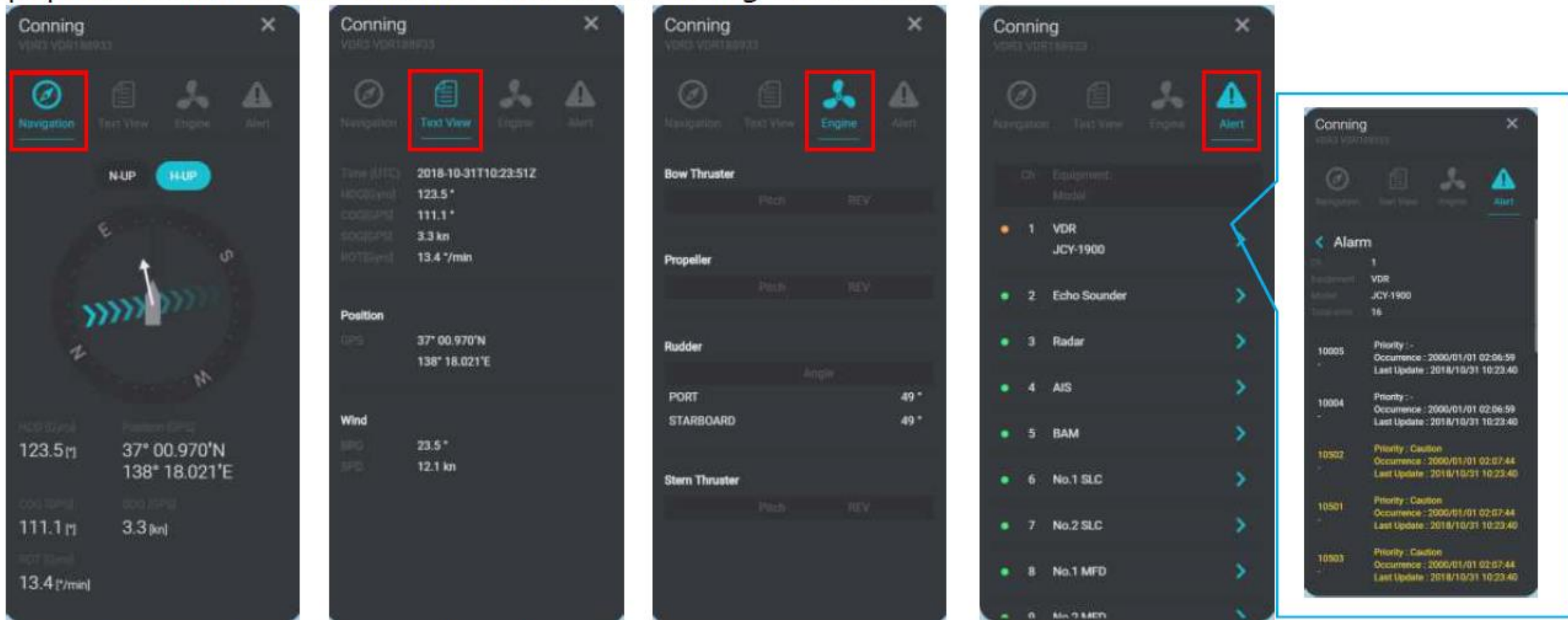
※The display contents are different depending on the equipment installed.

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KIRANA NAWA
2020-04-10T06:00:04Z

Time (UTC)	2020-04-10T06:00:04Z
Latitude	12° 58.110'N
Longitude	74° 41.719'E
Speed	0.1 [kn]
Course	170.3 [°]
Destination	MANGALORE INDIA
ETA	04/07 13:00
NavStatus	At anchor

Monitoring route

Track

7 days ago

Resolution

Low ———●——— High

Voyage

Conning >

AIS

VDR Data Request

Upload interval

A

Monitoring route in black
sync with ECDIS

B

Track route in green
by GPS

Weather information

Select Weather

Wind
2019-12-02T06:00:00Z

0   25   50   kts

☑ Animation

Wave height
2019-12-02T06:00:00Z

1   5   10   m

Current
2019-12-02T06:00:00Z

0.1   1.5   3   kts

☑ Animation

Surface Pressure
2019-12-02T06:00:00Z

Typhoon

Forecast
◯────────   Now

StormGeo
Applied Weather Technology
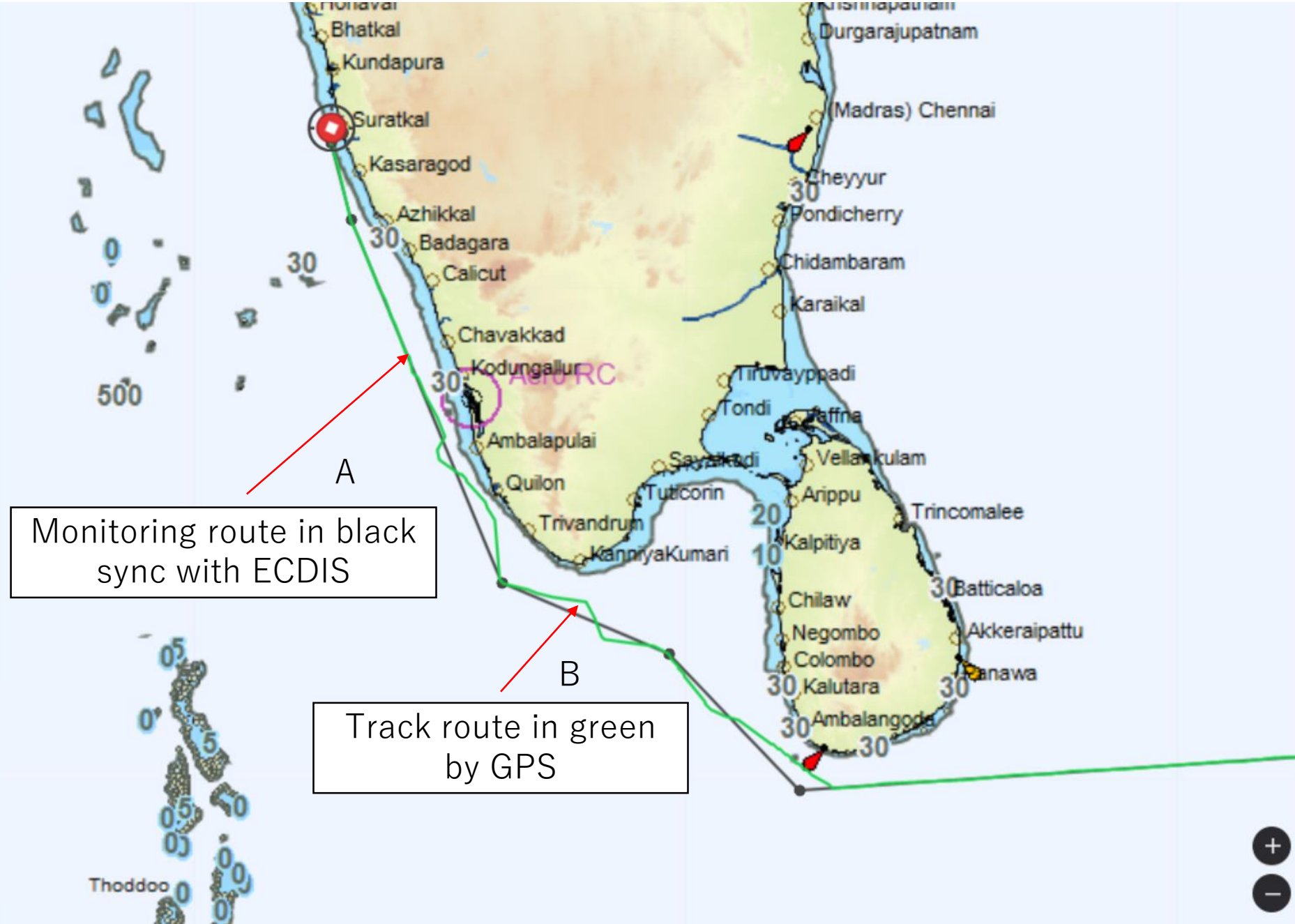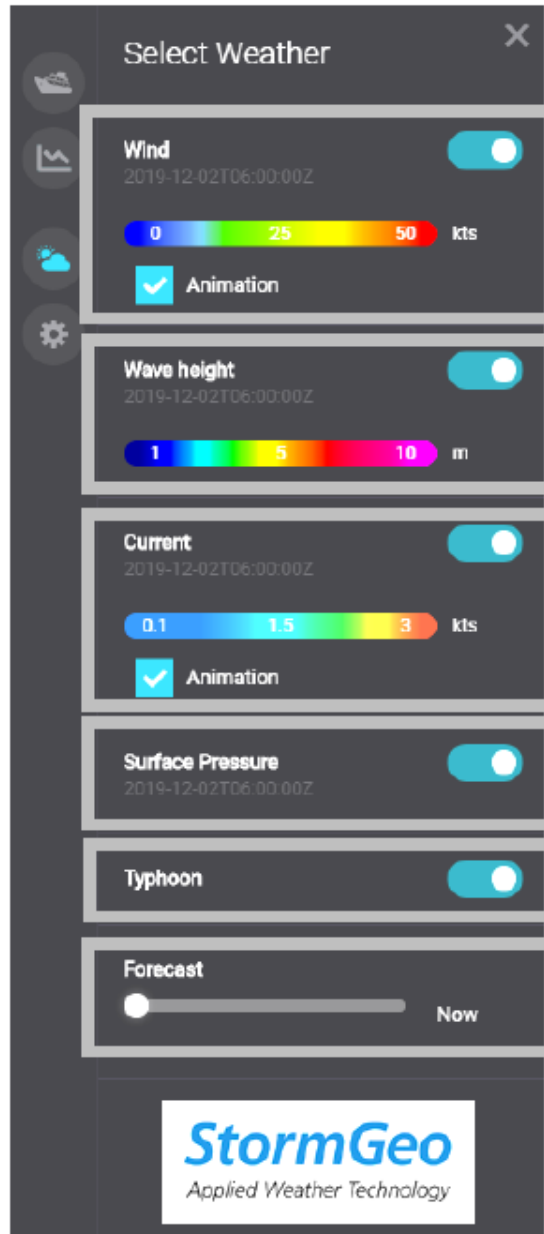
Wind : Show wind direction / wind speed.

The wind direction and wind speed display can be changed with the Animation check box.

Wave height : Show wave height.

Current : Show current.

The current display can be changed with the Animation check box.

Surface Pressure : Show surface pressure.

Typhoon : Show typhoon.

Forecast : Weather forecast information 72 hours ahead is shown.
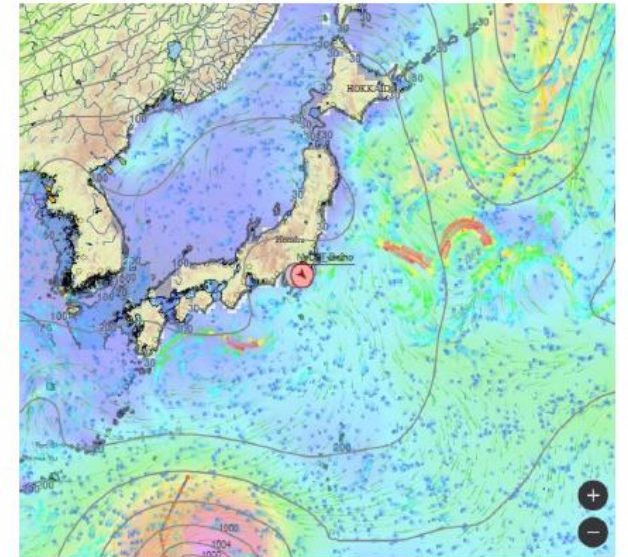
Example: Weather on

Example: Weather off

VDR data download

VDR data can be downloaded remotely and played back on a PC with VDR playback software.

FX(VSAT)

VDR (JCY-1900)

J-MARINE **CLOUD**

VDR DATA request

VDR DATA download

VDR Playback software screen

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Smart Ship Viewer

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Voyage 1 JRC-TATSUMIMARU IMO : 1350053

Wind

Direction   *   °
Speed   *   m/s

0
270   90
180

Relative

Heading

| 310 | 320 | 330 |

True   320.5 °

ROT   0.0 °/min

90   90

Engine Telegraph

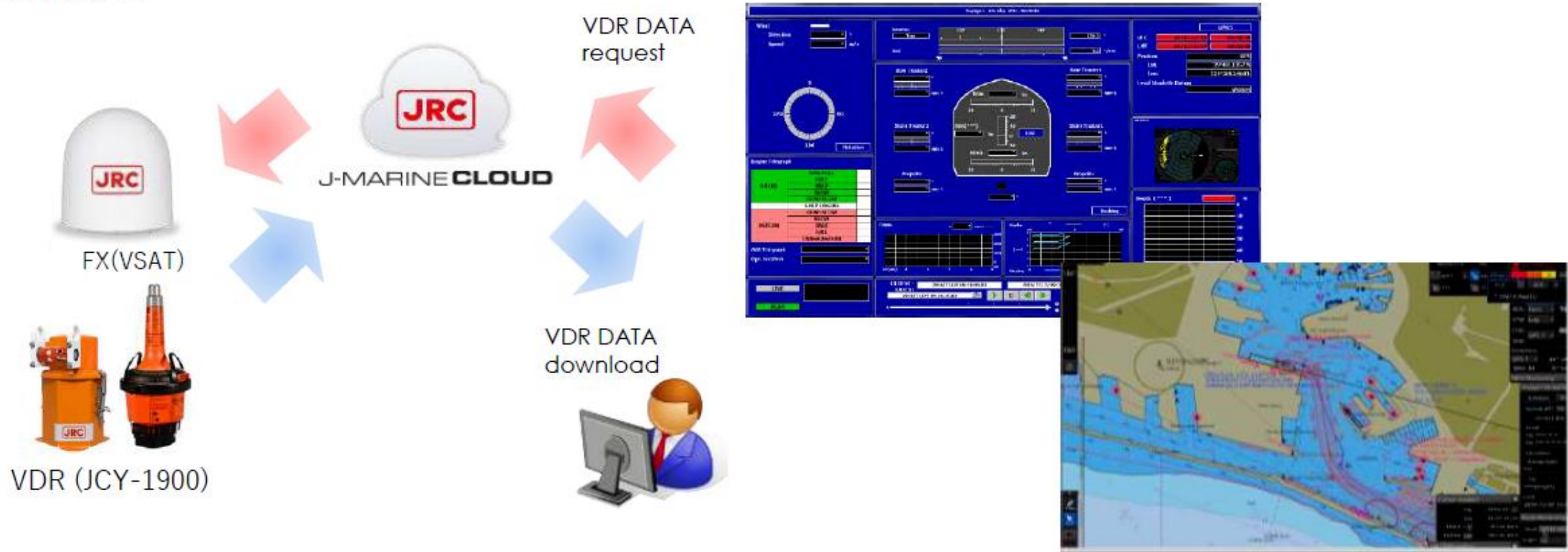| AHEAD | NAV.FULL | |
	FULL	
	HALF	
	SLOW	
	DEAD SLOW	
	STOP ENGINE	
ASTERN	DEAD SLOW	
	SLOW	◄
	HALF	
	FULL	
	CRASH ASTERN	

SUB Telegraph   F/E Finish engine
Ope. Location   Starboard wing

STW (LOG1)   AH20.0 kn
SOG (LOG1)   AH20.0 kn

40
30
20
10
0
10

Propeller   AH40.0 %
   AH800.0 min-1

P0.4 °

Voyage

GPS1

UTC   2019/07/30   06:00:11
LMT   *   *
Position   DGPS
Lat.   6°14.6948'N
Lon.   98°06.9762'E
Local Geodetic Datum
   WGS84

PLAY

OLDEST -   2019/07/30 06:00:00.00   -   2019/07/30 06:31:00.00
LATEST
2019/07/30 06:00:11.50

X 1

● 12 hours
○ All

| Voyage | Alarm Status | AIS | Radar/ECDIS |
| | | Print | Setup |

Smart Ship Viewer

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2020-04-10T06:33:22Z

Time (UTC)	**2020-04-10T06:33:22Z**
Latitude	**34° 30.081'N**
Longitude	**133° 44.149'E**
Speed	**0.1 [kn]**
Course	**227.5 [°]**
Destination	**JP MIZ A**
ETA	**04/10 01:00**
NavStatus	**Moored**

Monitoring route

Track

Voyage

Conning

AIS

VDR Data Request

Upload interval

Own ship

AIS vessels
from on-board AIS

Smart Ship Viewer

Track route in blue linked trend chart

Conning

Navigation   Text View   Engine   Alert

N-UP   H-UP

HDG
305.7 [°]

Position
2° 37.778'N
101° 23.985'E

SOG
16.5 [kn]

COG
307.0 [°]

ROT
* [°/min]

Trend chart

SOG   PropellerPitchCenter   PropellerRevCenter

2020-04-07T12:47:51Z
SOG: 14.4

Blue: Ship speed
Green: Propeller RPM

Ship

From   2020-04-01 02:01:00

To   2020-04-09 02:01:02

Show

Items   SOG, Propeller

Speed, Course, Wind speed/direction, Rudder angle, Propeller/Shaft RPM and Thruster are available

What JRC can provide is
- Network for always-on connection between land and ships
- Advanced maintenance utilizing Remote Maintenance System
- "Ship's Visualization of ships" with VDR data
- Land-ship cooperation function of equipment (VDR、ECDIS、NeCST)

JRC keeps to expand cloud services for the future to provide "new value" together with new technology.

Summary

➤No additional hardware is necessary

➤Just connect VDR with VSAT(Inmarsat FX) and ready to start

➤Easy to get VDR data remotely instead of visiting on-board to bring out the data by engineer

➤RMS with J-Marine Cloud is going to Condition Based Maintenance

➤High accuracy and frequency position tracking

➤Comparison of "Monitoring route" (planned by ECDIS) and "Track" (Actual report by GPS) simply find out sailing result

Thank you for your attention.