



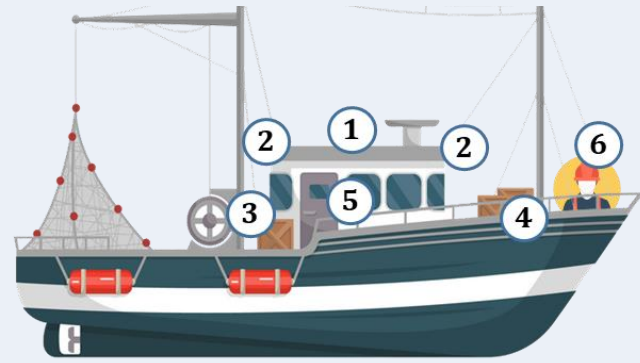
Department of Fisheries, THAILAND

Electronic Monitoring

Presentation by Aekkarat Wongkeaw



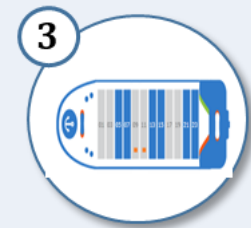
Technology involve



VMS/AIS: track vessel route and position of vessels



CCTV: record activities related to fishing and transshipment at all time



Hatch sensors: monitoring usage hatch and fish hold



ERS:
 - E-Logbook (**only FVs**)
 - Request and report transshipment/Loading

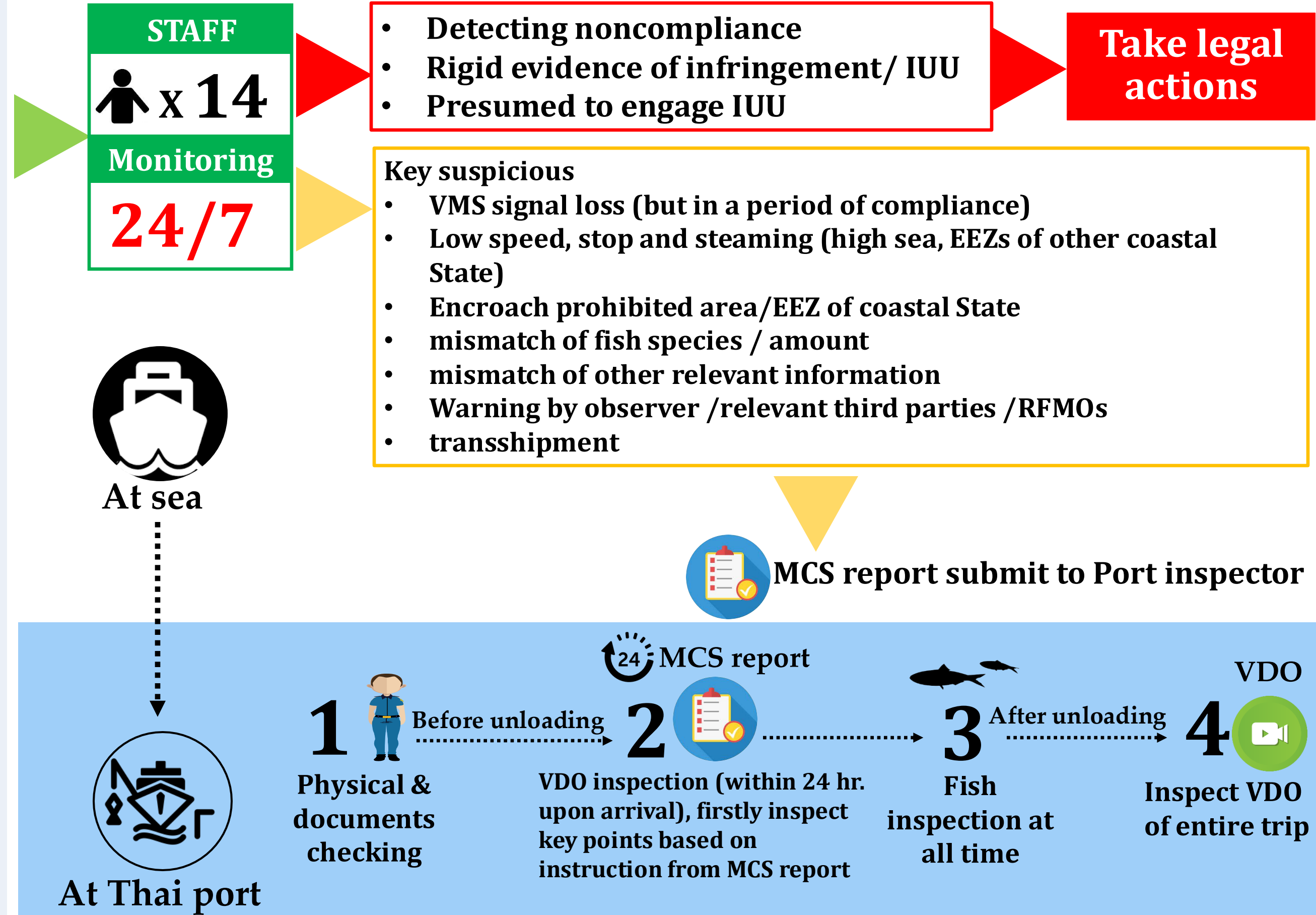


Drum-rotation sensors: monitor fishing gear usage to indicate fishing activity (**only FVs**)



Observer report application:
 Daily report
 Transshipment report

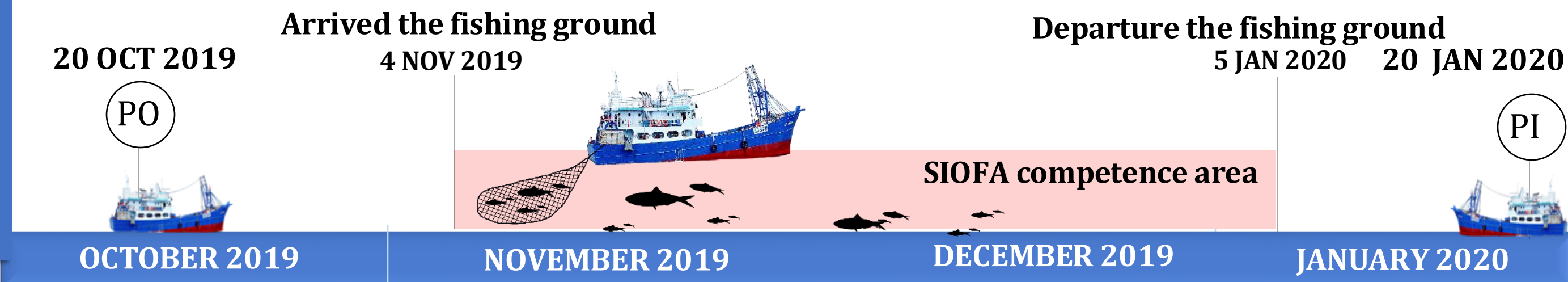
Monitoring & Cross-checking





The operation of the Electronic Monitoring System

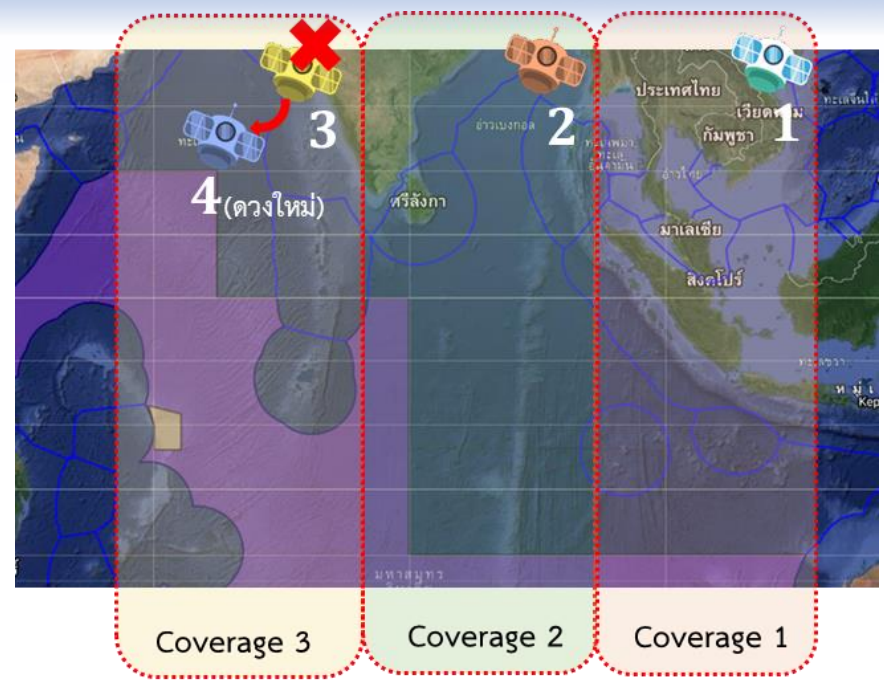
“For broadband satellite, In 2019 VSAT was found not be appropriate for using in SIOFA competence area and later it was replaced with Fleet Express”



First system

VSAT

Frequency : KU-Band
Service provider: SPEEDCAST

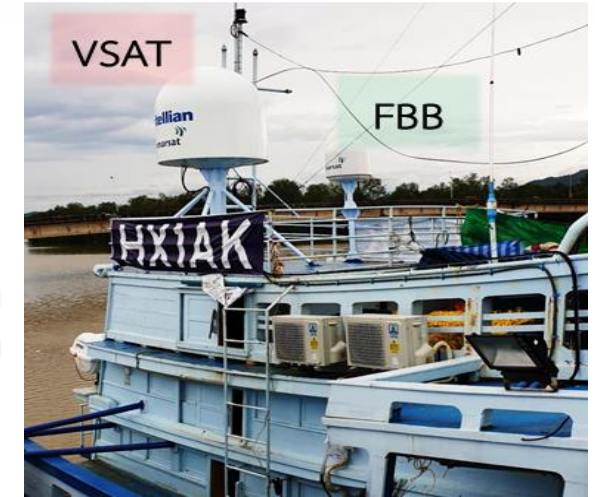


- Satellites switching result in the instability of link
- The operation is in the rainy season causing degradation of satellite link
- Inappropriate antenna size limit the improvement of link
- Could only contact the FMC 3 times

Current system

FLEET XPRESS

Frequency : KA-Band + L-Band
Service provider: INMARSAT



- No need to change satellite beam
- In bad weather, satellite link will change to a more stable L-band back up system
- Change antenna to a bigger size from 80 cm to 100 cm
- Able to contact FMC all the time

Our Thai oversea fishing fleet

MANEENGERN 5



Vessel registration no.: 520082776

Size 312.73

Vessel marking: HX2AK

Type: Otter board trawlers /Handliner

IMO Number: 8540630

Call sign: HSN9398

CHOKEPHOEMSIN 1



Vessel registration no.: 390900099

Size 230.22

Vessel marking: HX1AK

Type: Otter board trawlers /Handliner

IMO Number: 8546191

Call sign: HSN5625

SUPDAOPAMONG 5



Vessel registration no.: 560001485

Size: 257.95 GT

Vessel marking: : HX4AK

Type: Otter board trawlers /Handliner

IMO Number 8692275

Call sign: HSN5642

Current status

Sold to Maldives

SUPDAOPAMONG 7



Vessel registration no.: 580000629

Size: 279.6 GT

Vessel marking: : HX8AK

Type: Otter board trawlers /Handliner

IMO Number 8692110

Call sign: : HSN5696

Current status

Sold to Maldives

Electronic Monitoring system : EM



FLEET
BOARDBAND

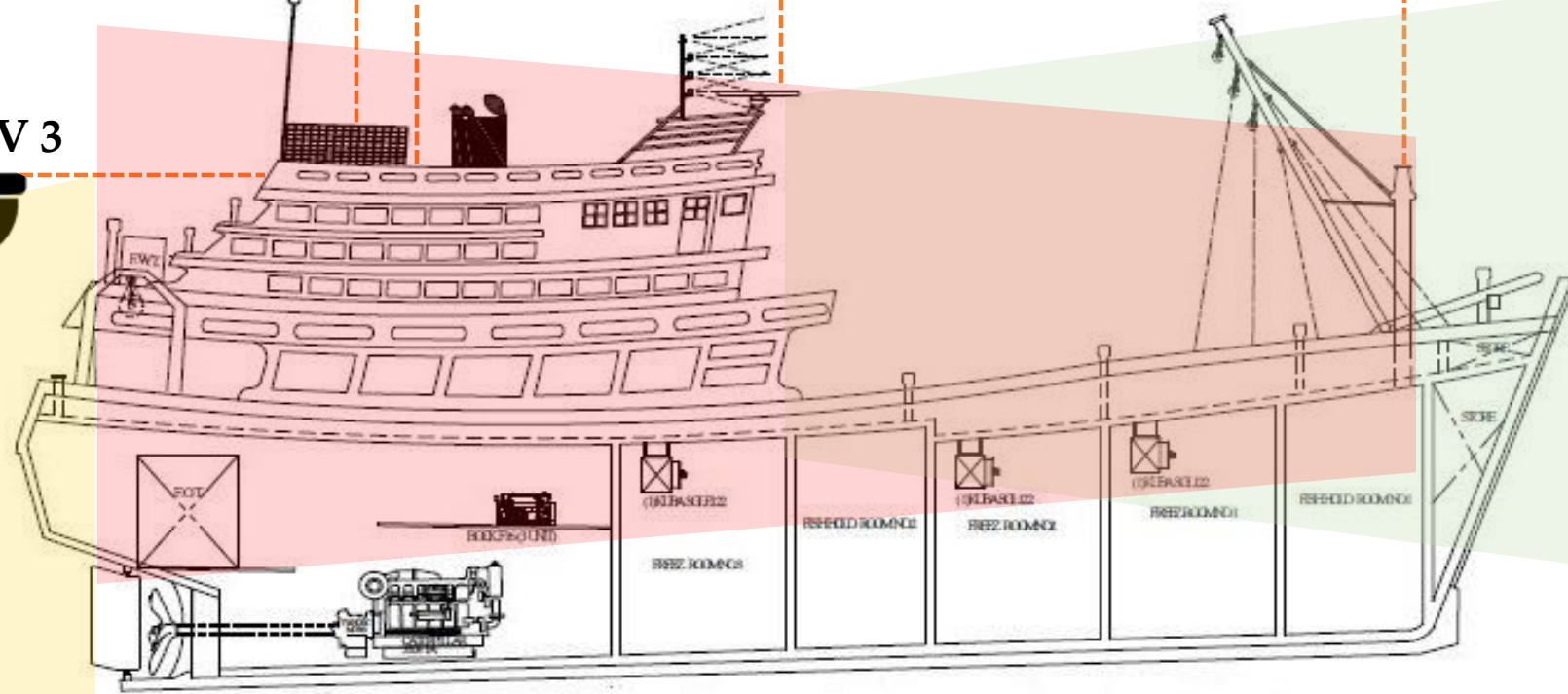


CCTV 2



CCTV 1

CCTV 3



Starboard side

CCTVs

- ❖ Coverage all onboard activity



CCTV 1

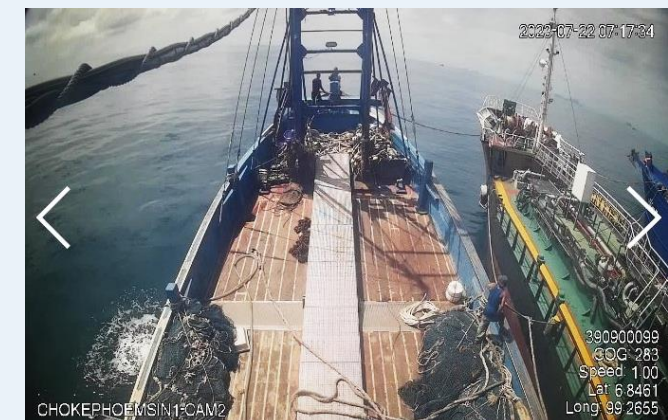


CCTV 2



CCTV 3

- ❖ Record activity at all time
- ❖ Footage



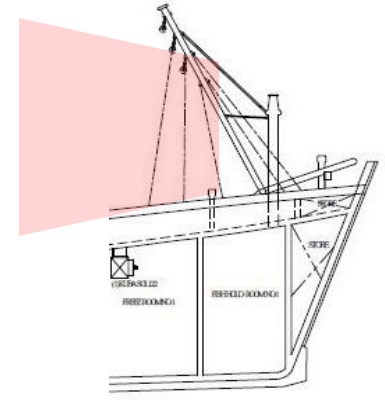


Electronic Monitoring system : EM

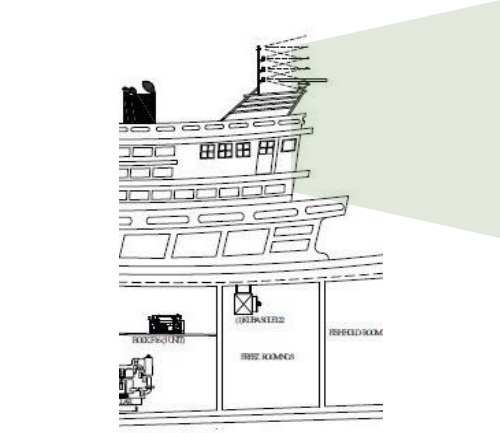
CCTV Coverage



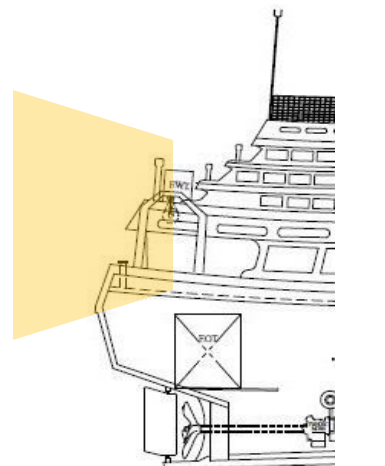
CCTV 1



CCTV 2



CCTV 3



Footage



Date & Time (UTC)



Vessel name



Thai registration no.

COG

Speed.

Position



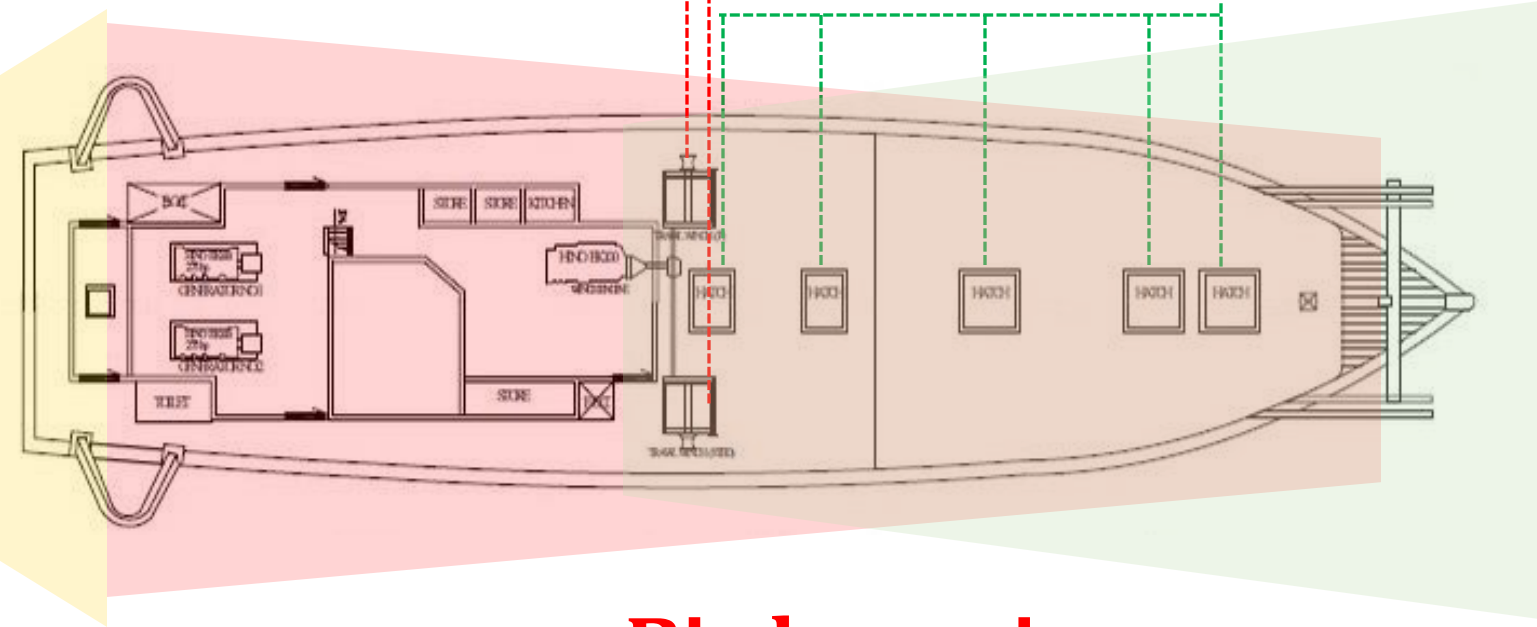
Electronic Monitoring system : EM



Drum sensor



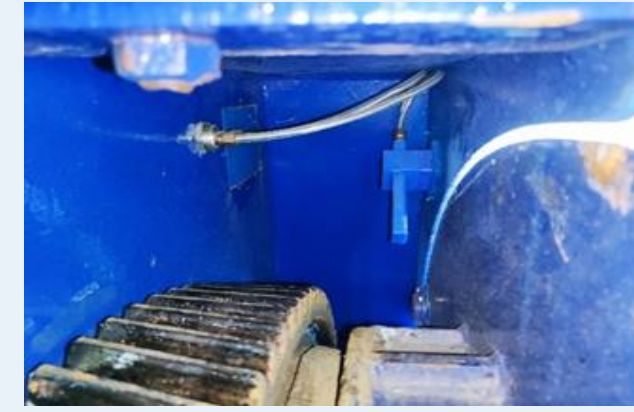
Hatch sensor



Bird eye view

Sensors

❖ Drum rotation



Hatch



Photo snapshots

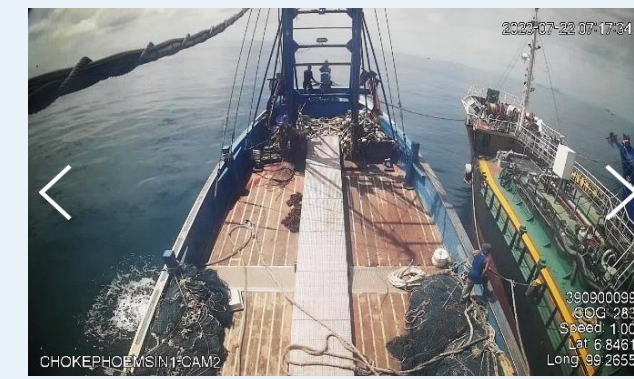
❖ Drum rotation



Hatch



Photo polling



Supply vessel transfer fuel to oversea fishing vessel

EM

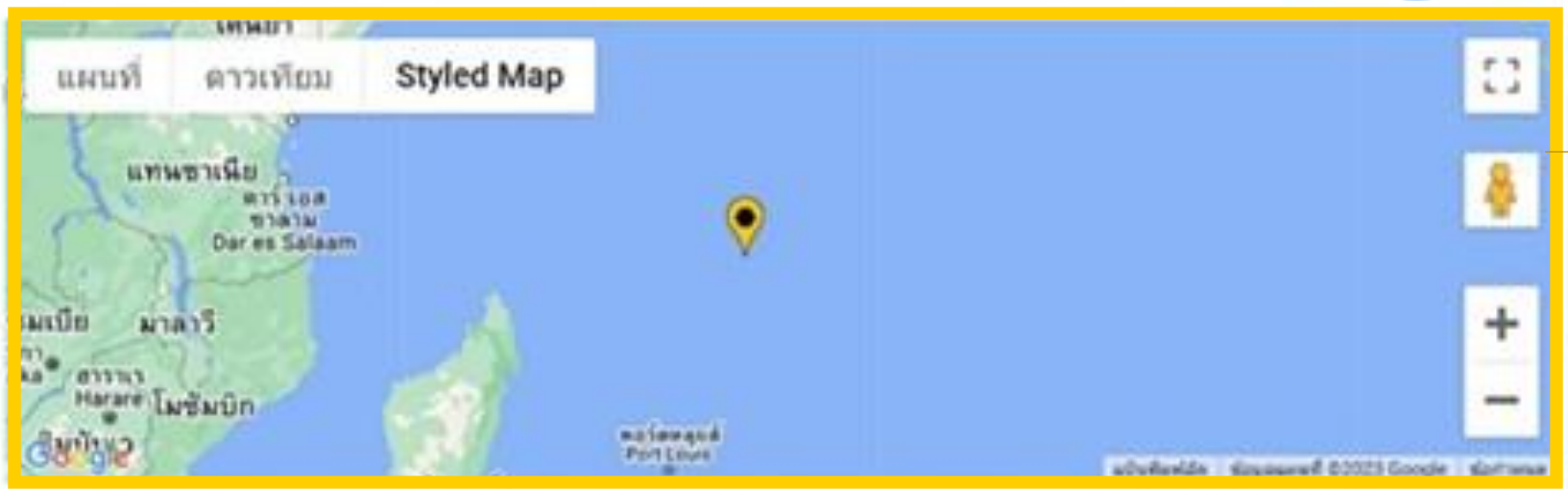
Vessel name

ชื่อเรือประมง
 560001485: ทุมประมง 5

The time period when require to monitoring the vessel.

วันที่เริ่ม
 20/03/2564 เวลา (UTC) 00:00
 วันที่จบ
 20/03/2564 เวลา (UTC) 23:30

Position

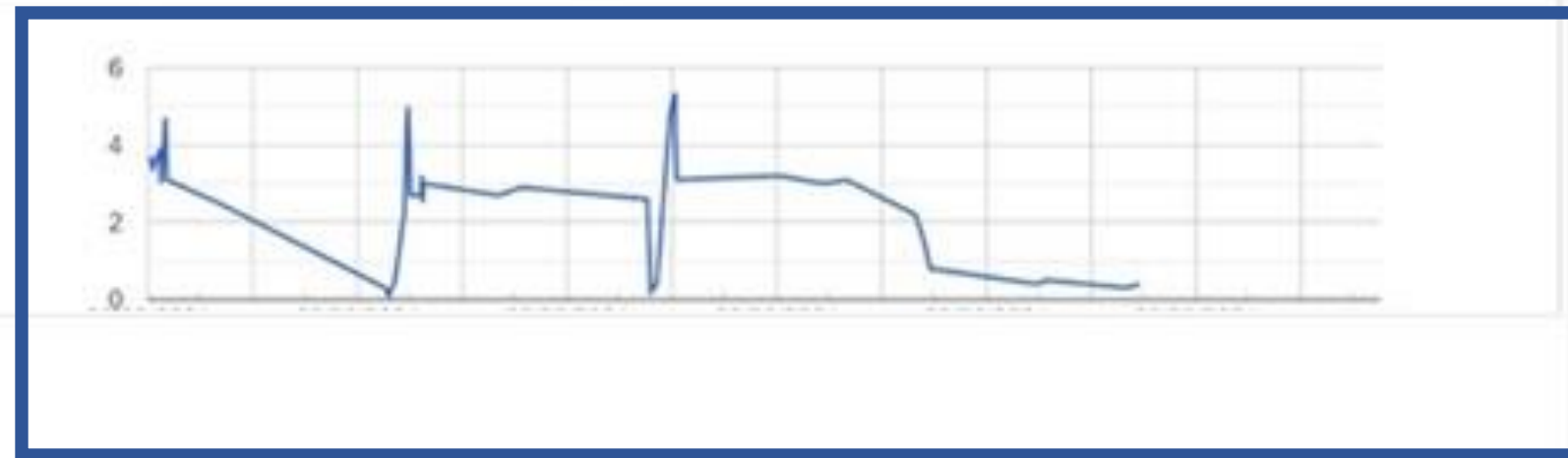


Vessel information

- Vessel registration no.
- Position
- COG
- Speed

ทะเบียนเรือ	560001485
Latest Data	20/03/2564 18:56:00
Latitude	-10.3738
Longitude	61.0467
ทิศทาง	90
ความเร็ว	0.4

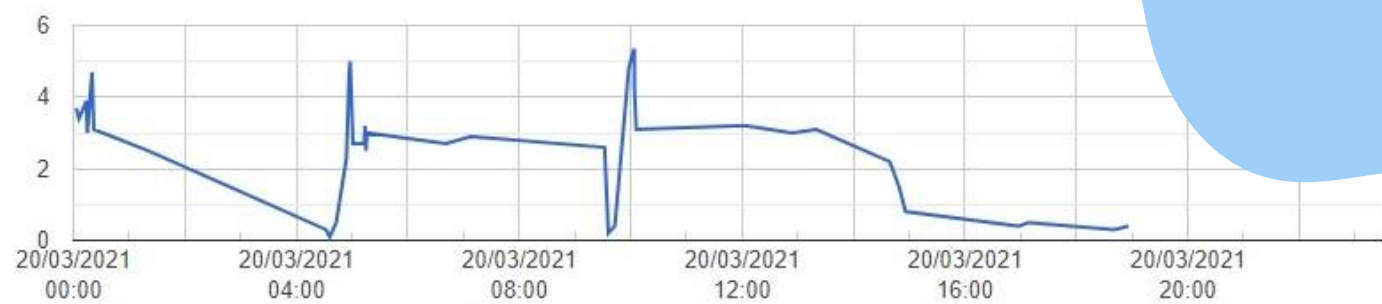
Graph showing speed and time interval



Screen showing the trigger of Drum rotation, Net and hatch operation



ทะเบียนเรือ
 Latest Data 20/03/2564 18:56:00
 Latitude -10.363
 Longitude 61.2338
 Area 51

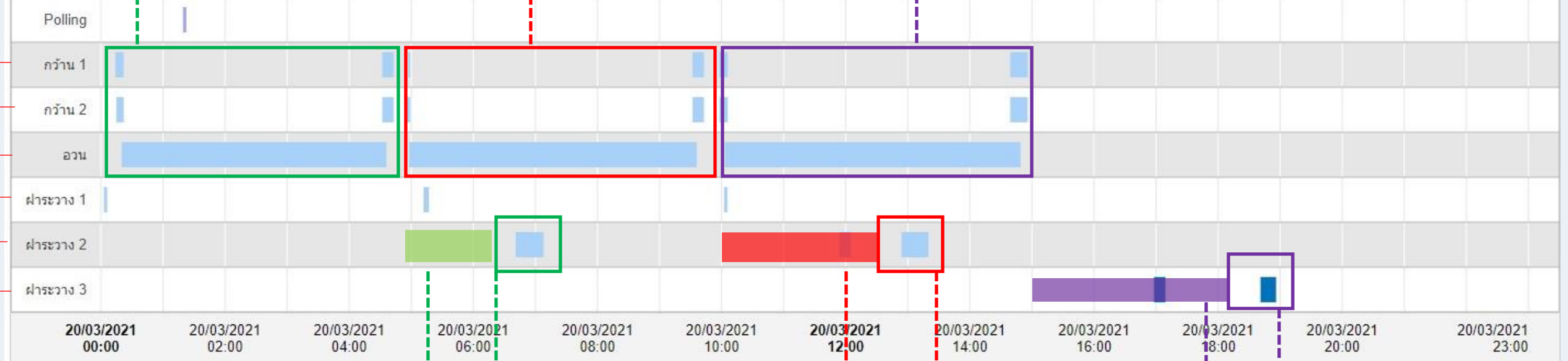


Fishing set #1
 Shooting time 00.20 (UTC)
 Hualing time 04.36 (UTC)
 Fishing effort 4.16 hrs.

Fishing set #2
 Shooting time 04.58 (UTC)
 Hualing time 09.36 (UTC)
 Fishing effort 4.38 hrs.

Fishing set #3
 Shooting time 10.03 (UTC)
 Hualing time 14.49 (UTC)
 Fishing effort 4.46 hrs.

Drum rotation No.1
 Drum rotation No.2
 Fishing activity
 Hatch No.1
 Hatch No.2
 Hatch No.3



Time for sorting fish from fishing set #1
 Start time 04.36 (UTC)
 End time 06.41 (UTC)
 Sorting effort 2.05 hrs.

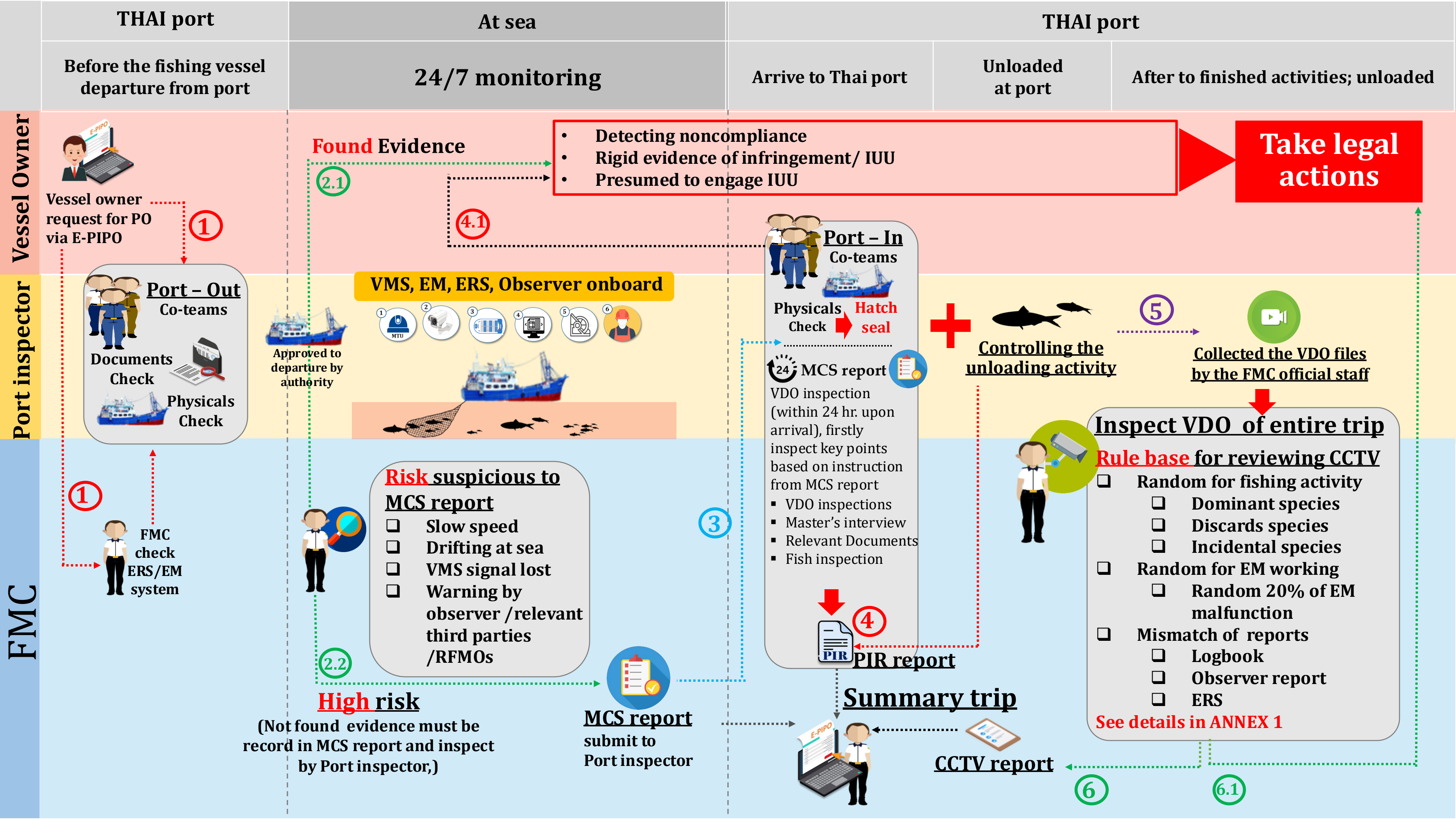
Time for sorting fish from fishing set #2
 Start time 09.36 (UTC)
 End time 12.54 (UTC)
 Sorting effort 3.18 hrs.

Time for sorting fish from fishing set #3
 Start time 14.49 (UTC)
 End time 18.41 (UTC)
 Sorting effort 3.57 hrs.

Time for hatch open and close of fishing set #1
 Start time 06.41 (UTC)
 End time 07.08 (UTC)
 Total 0.27 hrs.

Time for hatch open and close of fishing set #2
 Start time 12.54 (UTC)
 End time 13.20 (UTC)
 Total 0.26 hrs.

Time for hatch open and close of fishing set #3
 Start time 18.41 (UTC)
 End time 18.56 (UTC)
 Total 0.15 hrs.



THAI port

At sea

THAI port

Before the fishing vessel departure from port

24/7 monitoring

Arrive to Thai port

Unloaded at port

After to finished activities; unloaded

Vessel Owner

Port inspector

FMC



Vessel owner request for PO via E-PIPO

1

Port - Out Co-teams

- Documents Check
- Physicals Check

Found Evidence

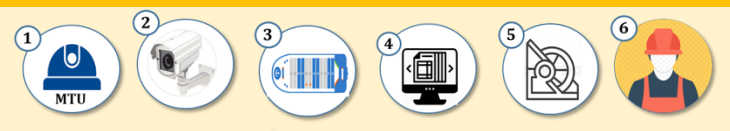
2.1

4.1

- Detecting noncompliance
- Rigid evidence of infringement/ IUU
- Presumed to engage IUU

Take legal actions

VMS, EM, ERS, Observer onboard



Approved to departure by authority



Port - In Co-teams

Physicals Check → Hatch seal

24 MCS report

VDO inspection (within 24 hr. upon arrival), firstly inspect key points based on instruction from MCS report

- VDO inspections
- Master's interview
- Relevant Documents
- Fish inspection

4

PIR report

Controlling the unloading activity

5

Collected the VDO files by the FMC official staff

Inspect VDO of entire trip

Rule base for reviewing CCTV

- ❑ Random for fishing activity
 - ❑ Dominant species
 - ❑ Discards species
 - ❑ Incidental species
- ❑ Random for EM working
 - ❑ Random 20% of EM malfunction
- ❑ Mismatch of reports
 - ❑ Logbook
 - ❑ Observer report
 - ❑ ERS

See details in ANNEX 1

1

FMC check ERS/EM system



Risk suspicious to MCS report

- ❑ Slow speed
- ❑ Drifting at sea
- ❑ VMS signal lost
- ❑ Warning by observer / relevant third parties / RFMOs

2.2

High risk

(Not found evidence must be record in MCS report and inspect by Port inspector,)



MCS report submit to Port inspector

Summary trip

CCTV report

6

6.1

Thank you

