

ITALIAN COAST GUARD HEADQUARTERS



CASE STUDIES FROM ITALY ON USE OF IMDATE

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MAY 2014

ITALIAN COAST GUARD HEADQUARTERS

AGENDA OF CASES AND SCENARIOS

- 1) MONITORING VESSELS WITH “NOT REPORTING” LRIT STATUS USING IMDatE PLATFORM
- 2) MONITORING MSC LIRICA DURING NAVIGATION IN RED SEA
- 3) SAT-AIS FOR FISHERIES ACTIVITY CONTROL
- 4) EXAMPLES OF SAT-AIS INTEGRATION USING IMDatE PLATFORM



AGENDA OF FEEDBACKS

- SURVEILLANCE TOOLS – AREA IN – SPEED CHANGE
- FEEDBACK ON LATEST VERSION
- DATA NEEDS
- NEW FUNTIONALITIES REQUIRED
- IT TRAINING EXPERIENCE



CASE 1:DESCRIPTION

MONITORING VESSELS IN “NOT REPORTING” STATUS ON EU LRIT DC

If a LRIT shipborne device has technical problems the vessel is highlighted as in “**not reporting**” status on EU LRIT DC.

ITCG uses the IMDatE platform for monitoring these vessels.

Ship name	IMO	MMSI	Request status	Request date	Reporting status	Date of last position
AIDamar	9490052	247312900	Executed	08/05/2012 06:57:30	Not reporting	20/04/2014 05:42:00
ASSO VENTUNO	9183192	247355000	Executed	13/03/2014 14:05:48	Not reporting	24/04/2014 02:42:00
CALA PULA	9164768	247585000	Not reachable	29/04/2014 06:37:48	Not reporting	22/04/2014 14:08:00
F. LLI FAZIO	9276444	247055200	Not reachable	29/04/2014 19:53:02	Not reporting	26/04/2014 12:06:00
GANDA	9298129	247097600	Not reachable	20/04/2014 16:50:06	Not reporting	24/02/2014 21:10:00
GHETTY BOTTIGLIERI	9232034	247063100	Not reachable	29/04/2014 19:53:02	Not reporting	22/04/2014 11:14:00
GRANDE BENIN	9343170	247275400	Not reachable	20/04/2014 16:50:06	Not reporting	09/04/2014 03:52:00
IEVOLI BLACK	9439242	247332100	Not reachable	29/04/2014 19:53:02	Not reporting	16/04/2014 02:58:00
MARE DI GENOVA	9326512	247254200	Not reachable	20/04/2014 16:50:06	Not reporting	11/02/2014 14:20:00
MARIGOLA	9173070	247567000	Not reachable	20/04/2014 16:50:06	Not reporting	22/03/2014 00:24:00
SANTANGELO	9343948	247185800	Not reachable	29/04/2014 16:17:00	Not reporting	25/04/2014 10:36:00
SECOMAR QUATTRO	8502975	247072300	Not reachable	29/04/2014 19:53:02	Not reporting	28/04/2014 09:16:00
SN OLIVIA	9437983	247283800	Not reachable	29/04/2014 19:53:02	Not reporting	28/04/2014 01:28:00
VOS HADES	9552264	247278100	Not reachable	26/04/2014 12:51:05	Not reporting	23/04/2014 05:24:00
VOS PURPOSE	9664225	247325200	Not reachable	20/04/2014 16:50:06	Not reporting	18/04/2014 03:42:00



CASE 1:DESCRIPTION

In the **Vessel Track Query** functionality we created a group called “LRIT NOT REPORTING” containing the list of vessels in status “Not Reporting”

Our “Ship LRIT data manager” keeps updated this list and in this way he can follows the ships.

The screenshot displays the Vessel Track Query interface. On the left, a sidebar contains a search bar, layers, and a query section. The 'Vessel Track Query' section is active, showing a list of vessels under the 'LRIT NOT REPORTING' group. The main map area shows the Mediterranean Sea with several red circles and lines indicating vessel tracks. A yellow line highlights a specific track. The bottom panel shows a table of vessel data and a section for displaying a vessel's track.

Vessels:

- ☒ LRIT NOT REPORTING
- ☒ Vessels
- ☒ AIDAmar
- ☒ ASSO VENTURO
- ☒ CALA PULA
- ☒ F. LLI FAZIO
- ☒ GANDA
- ☒ GHETTY BOTTIGLIERI
- ☒ GRANDE BENIN
- ☒ EVOLI BLACK
- ☒ MARE DI GENOVA
- ☒ MARIGOLA

Time range: Last 10 Days

Advanced options:

Sources: ALL

Interpolation:

- ☐ Fuse and smooth
- ☐ Extrapolate

Submit Save Load

Integrated Ship Profile

Selection Info

Vessel Tracks

Number of Vessels: 9 Total positions: 1036 Time selection:

IMO

MMSI	IMO	IR	Ship Name	Call Sign
247097600	9298129	N/A	GANDA	IBDG
247254200	9326512	N/A	MARE DI GENOVA	ICDD
247185800	9343948	N/A	SANTANGELO	IFQO2
247283800	9437983	N/A	SN OLIVIA	IBKC

Number of positions: 0

Timestamp	Lat	Lon	Heading	Speed	Source
Select one vessel to display its track					

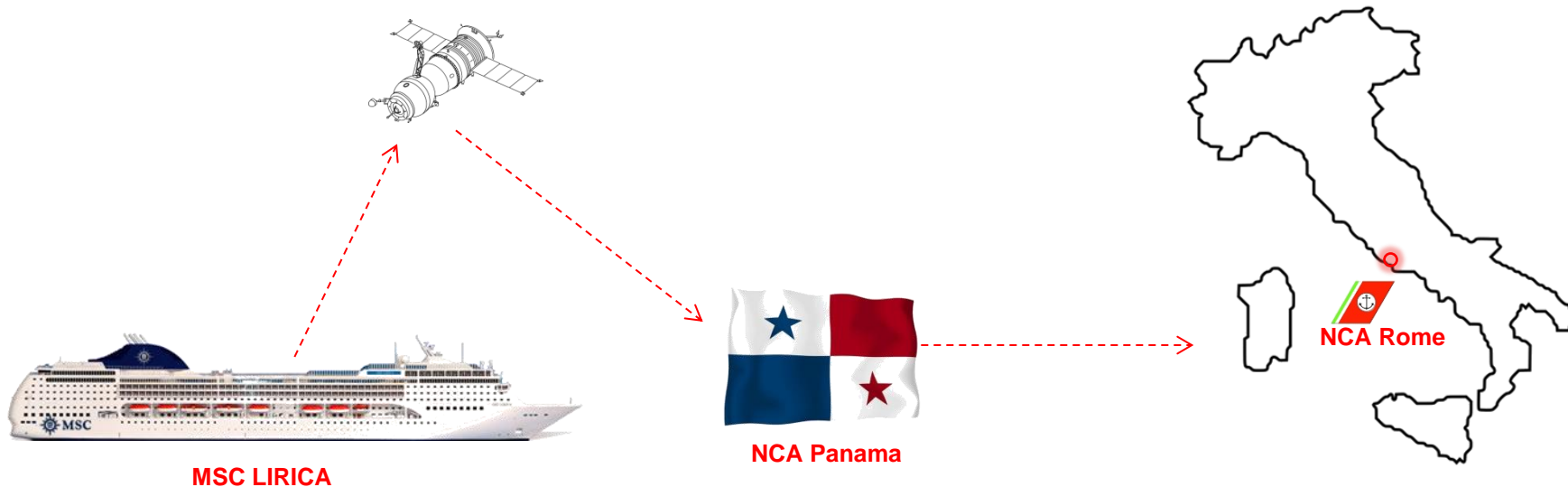
CASE 2:DESCRIPTION

MONITORING MSC LIRICA DURING NAVIGATION IN RISK AREA

Often the MSC Company requests to ITCG to track the MSC LIRICA, during the navigation in the Red Sea.

MSC LIRICA, Republic of Panama Flag, having on board 120 crew and about 300 Italian passengers

ITCG has no access to the LRIT data of Panama flag vessels (the area of interest is over the 1000 NM from Italian coasts) and usually we asked to Panama NCA to send us the updated positions of the MSC LIRICA.



CASE 2:DESCRIPTION

MSC LIRICA POSITIONS RECEIVED WITHIN 24 HOURS.



MSC LIRICA / 9246102 / HOPW
(435604220 4SP060B7E124)

Position: $36^{\circ} 5.8' \text{ N}$, $4^{\circ} 51.32' \text{ W}$ ***

Speed: 19

Course:256

Position sent: 3/27/2012 2:14:00 PM

Position received: 3/27/2012 2:16:04 PM

Position: $36^{\circ} 5.96' \text{ N}$, $4^{\circ} 50.52' \text{ W}$

Speed: 19

Course:257

Position sent: 3/27/2012 2:12:00 PM

Position received: 3/27/2012 2:13:54 PM

Position: $36^{\circ} 6.12' \text{ N}$, $4^{\circ} 49.72' \text{ W}$

Speed: 18.4

Course:256

Position sent: 3/27/2012 2:08:00 PM

Position received: 3/27/2012 2:10:59 PM



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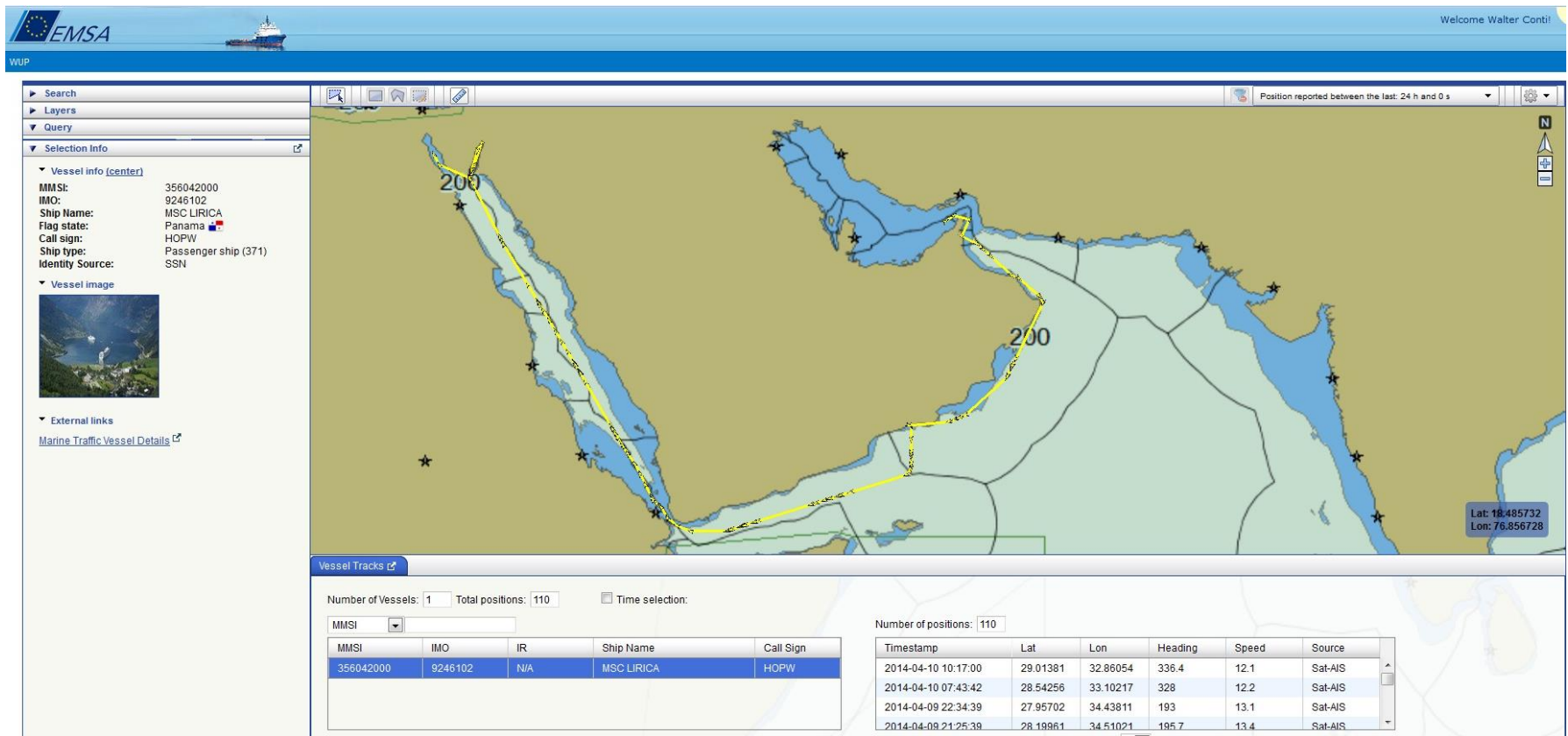
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CASE 2:DESCRIPTION

Last month we monitored MSC LIRICA using IMDatE platform

Since 31st march until to 10th April **110 SAT-AIS positions** were received

So we had available about 10 reports per day against standard 4 positions per day provided by Panama LRIT NCA.



CASE 3:DESCRIPTION

SAT-AIS FOR FISHERIES ACTIVITY CONTROL

3 February 2014

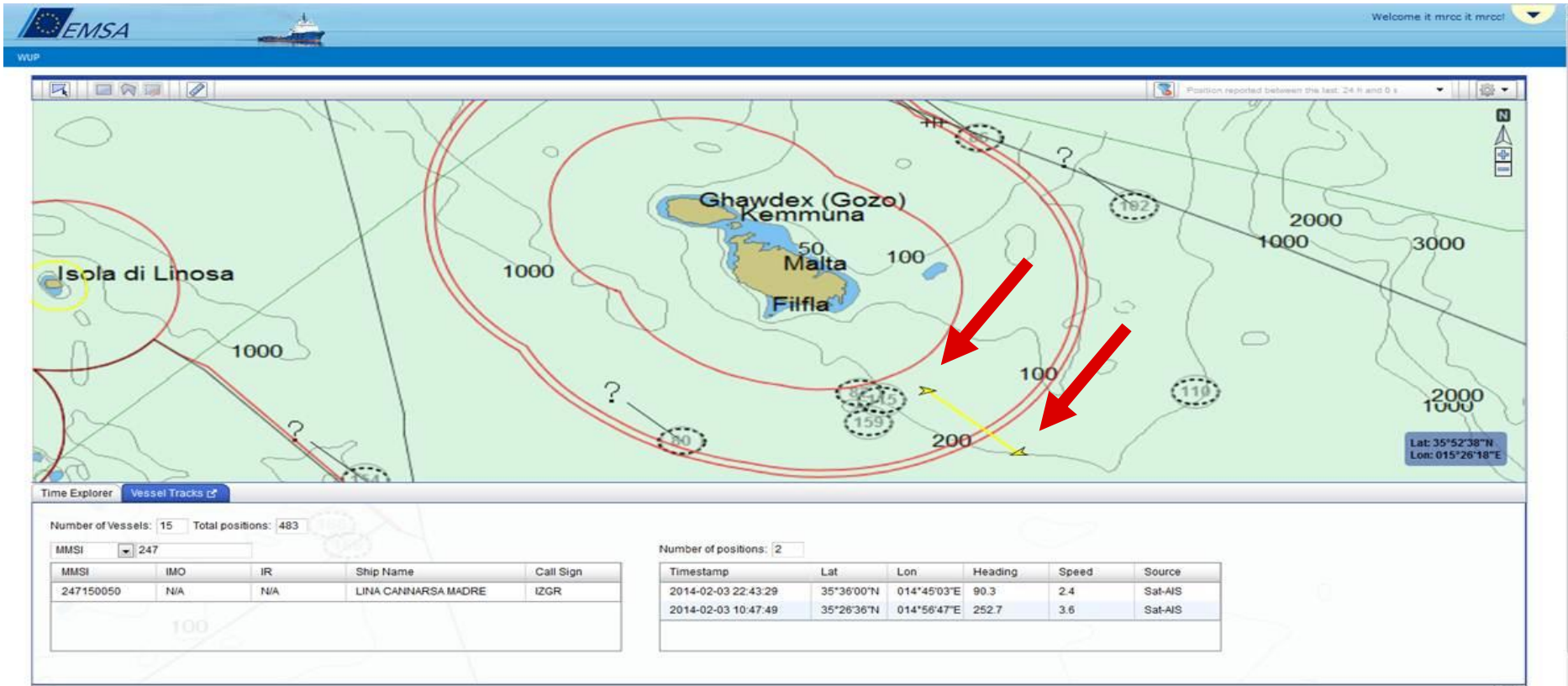
Malta FMC reported the activity of F/V LINA CANNARSA MADRE inside the Maltese 25 NM (Council Regulation EC N. 813/2004 of 26.04.2004 FMZ - Fisheries Management Zone).

According to EU regulation, Malta FMC can receive, the VMS data of the vessel inside the FMZ, while there were no AIS data within the 25 NM zone.



CASE 3:DESCRIPTION

F/V “LINA CANNARSA MADRE” MONITORING USING IMDatE WITH SAT-AIS SOURCE



In order to have more waypoints inside the Maltese FMZ, we looked for AIS data in IMDatE. We found two SAT-AIS positions, one of them inside the 25 NM zone.

CASE 4:DESCRIPTION

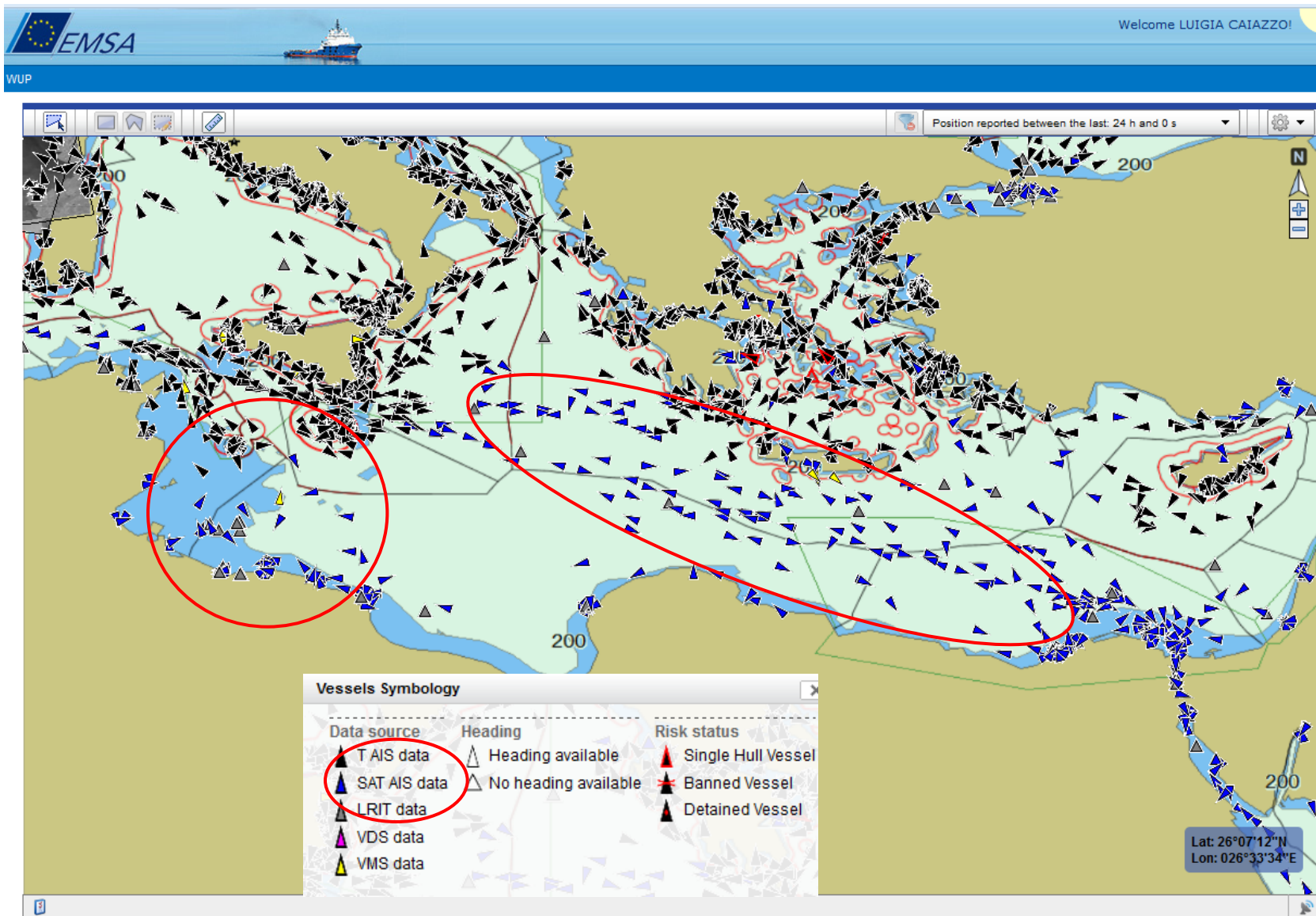
EXAMPLES OF SAT-AIS INTEGRATION USING IMDatE PLATFORM

In particular sea areas there are lacks of terrestrial AIS coverage.

ITCG is testing SAT-AIS information available through IMDatE.



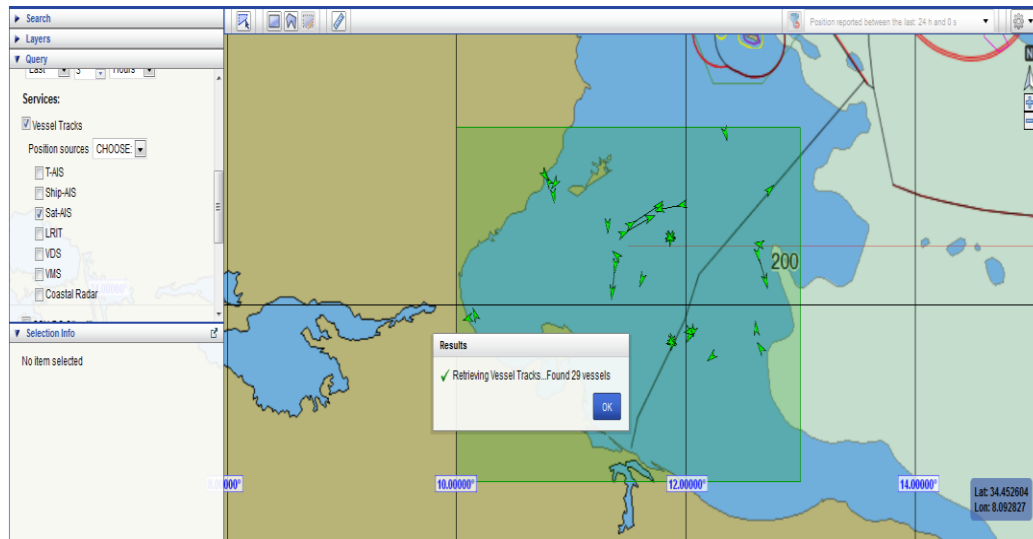
BENEFITS OF USING IMD_{atE} WITH SAT-AIS SOURCE



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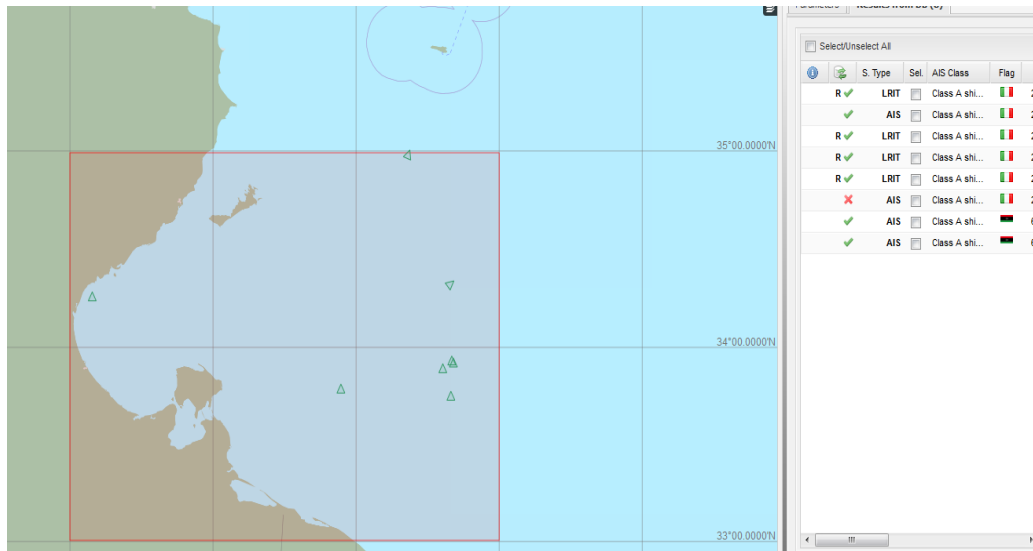
COMPARISON BETWEEN IMDatE WITH SAT-AIS AND T-AIS/LRIT



IMDatE

The data we got in a interval of 3 hours

We got 32 Targets (29 SAT-AIS)

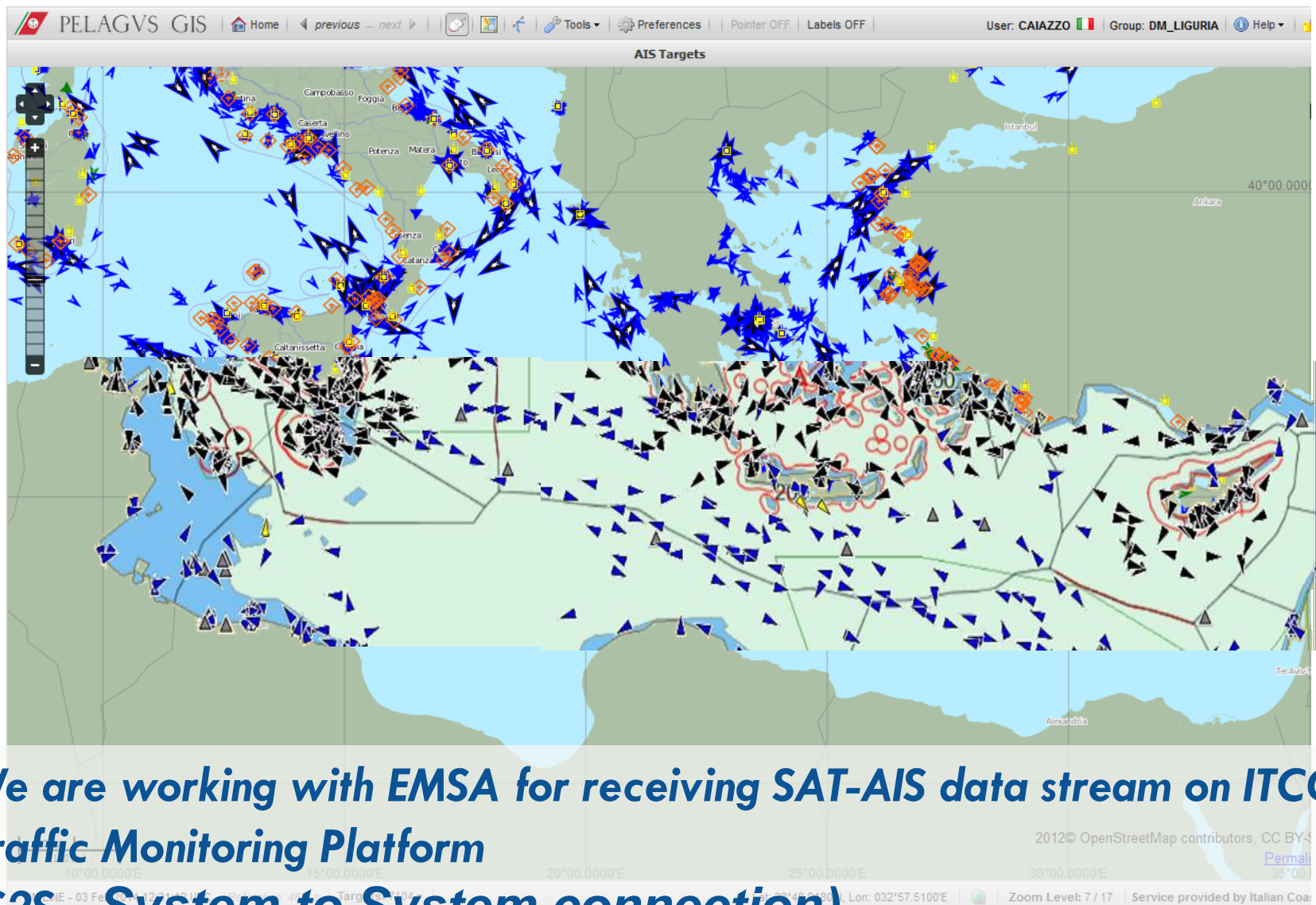


PELAGUS

(IT National system)

Only find 8 targets in the same time interval (T-AIS – LRIT)

THE BEST SOLUTION FOR ITCG OPERATIONAL PURPOSES



We are working with EMSA for receiving SAT-AIS data stream on ITCG Traffic Monitoring Platform (S2S - System to System connection).



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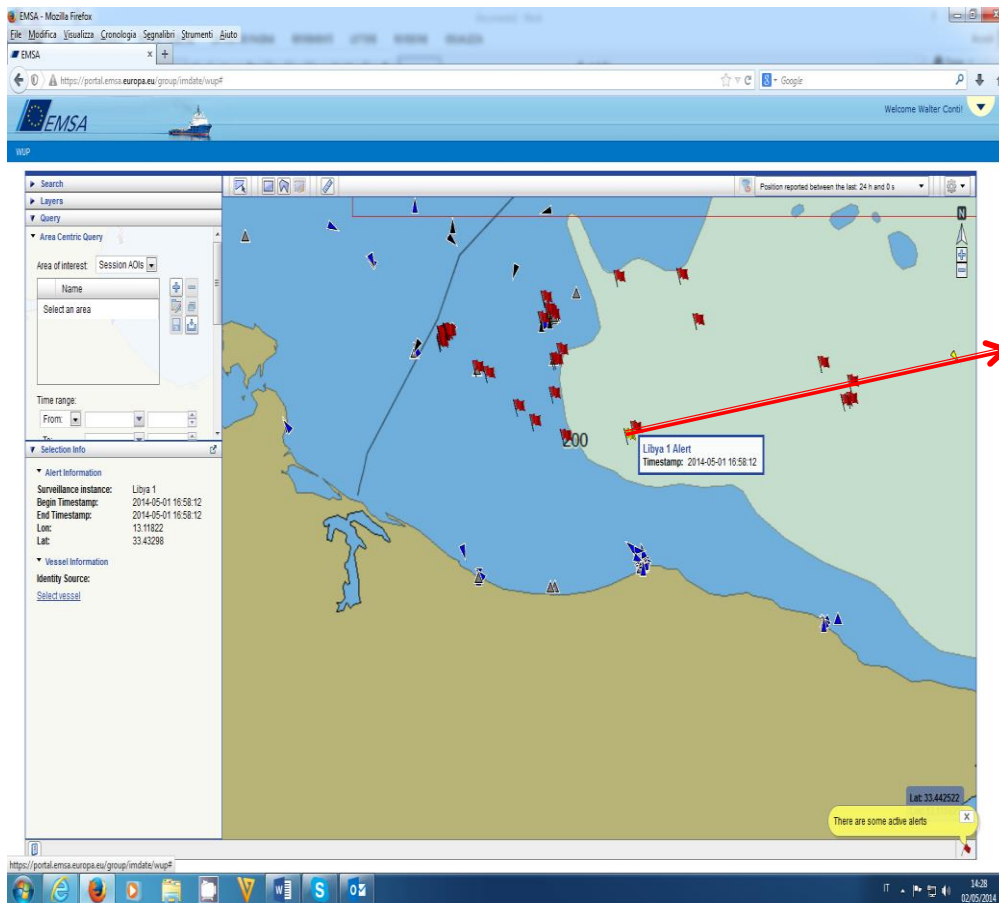
BENEFITS OF USING SAT-AIS DATA

In particular sea areas and/or in particular situations, if there is lack of terrestrial AIS coverage the SAT-AIS data availability represents an important resource in support of ITCG operations.



SURVEILLANCE TOOLS

AREA IN



EMSA IMDate - Alert Report

ID:1398965412500

Surveillance type:InArea

Surveillance instance:Libya 1

Start Time:2014-05-01T17:31:43-00:00

End Time:2014-05-01T17:31:43-00:00

Event locations:

InArea event

status:IN

position.timestamp:2014-05-01T17:31:43-00:00

position.latitude:33.462828333333334

position.longitude:13.15572

Involved vessels:

Imdate

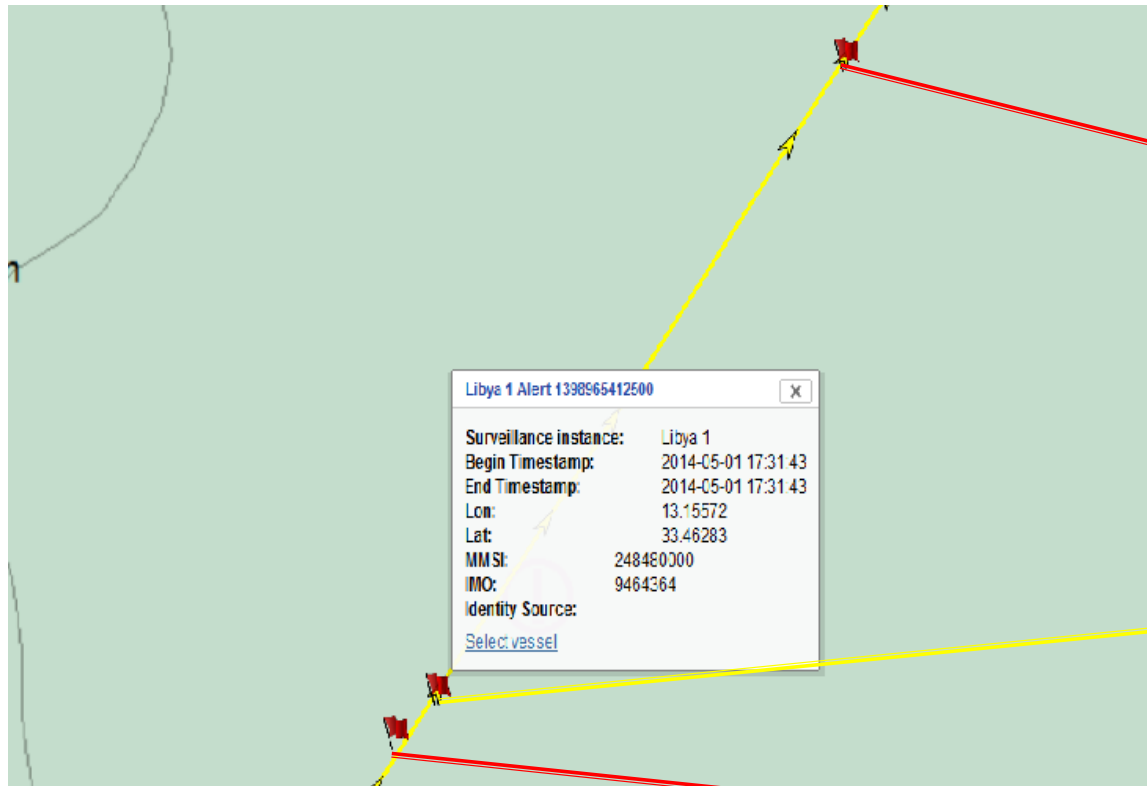
ID:63565MMSI:248480000IMO:9464364IR:N.A.Call

Sign:9HA2380Name:AGIOS NIKOLAOS IVFlag State:MT

We tested this tool, we asked to EMSA for defining an area in order to receive an alert when the vessel will be inside this area.

SURVEILLANCE TOOLS

AREA IN



EMSA IMDatE - Alert Report
ID:1398981533982
Surveillance type:InArea
Surveillance instance:Libya 1
Start Time:2014-05-01T20:12:43-00:00
End Time:2014-05-01T20:12:43-00:00
Event locations:
InArea event
status:IN
position.timestamp:2014-05-01T20:12:43-00:00
position.latitude:33.898875
position.longitude:13.517775
Involved vessels:

EMSA IMDatE - Alert Report
ID:1398965412500
Surveillance type:InArea
Surveillance instance:Libya 1
Start Time:2014-05-01T17:31:43-00:00
End Time:2014-05-01T17:31:43-00:00
Event locations:
InArea event
status:IN
position.timestamp:2014-05-01T17:31:43-00:00
position.latitude:33.46282833333334
position.longitude:13.15572
Involved vessels:
Imdate ID:63565MMSI:248480000IMO:9464364IR:N.A.
Call Sign:9HA2380Name:AGIOS NIKOLAOS IVFlag
State:MT

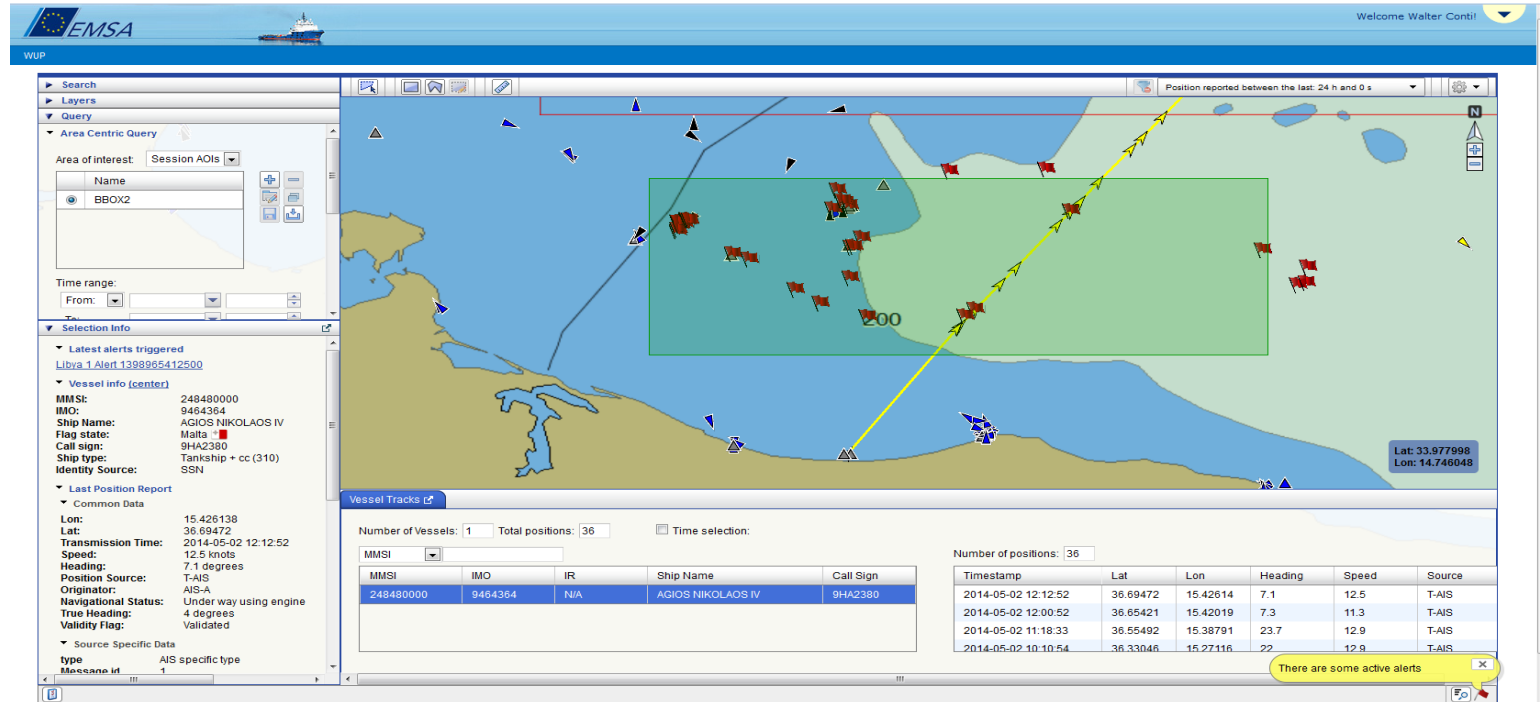
EMSA IMDatE - Alert Report
ID:1398964205335
Surveillance type:InArea
Surveillance instance:Libya 1
Start Time:2014-05-01T16:58:12-00:00
End Time:2014-05-01T16:58:12-00:00
Event locations:
InArea event
status:IN
position.timestamp:2014-05-01T16:58:12-00:00
position.latitude:33.432977
position.longitude:13.118218
Involved vessels:

Sometimes the alert received has no reference about the vessel involved.

In this case we got 3 alerts but in only one case is reported the vessel involved

SURVEILLANCE TOOLS

AREA IN

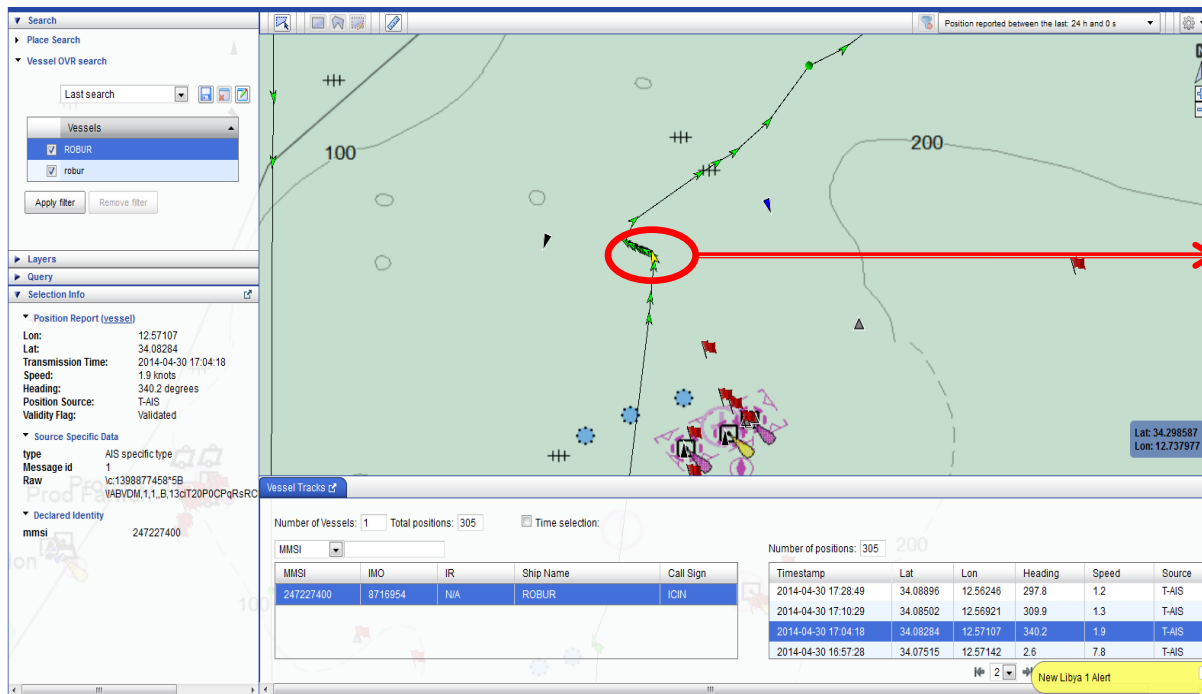


Other observations:

- The tool doesn't show on the screen the area of interest
 - The alerts are not correlated on the screen with the vessel track.
- In this sample we can see 3 flags indicating the alarms, the operator has to add manually the track for understanding if the 3 alarms are related to the same vessel
- Clicking on the flags It needs to visualize the track correlated in an automatic way.
- The alert should have to advice only when the ships enter in/exit from the area

SURVEILLANCE TOOLS

SPEED CHANGE

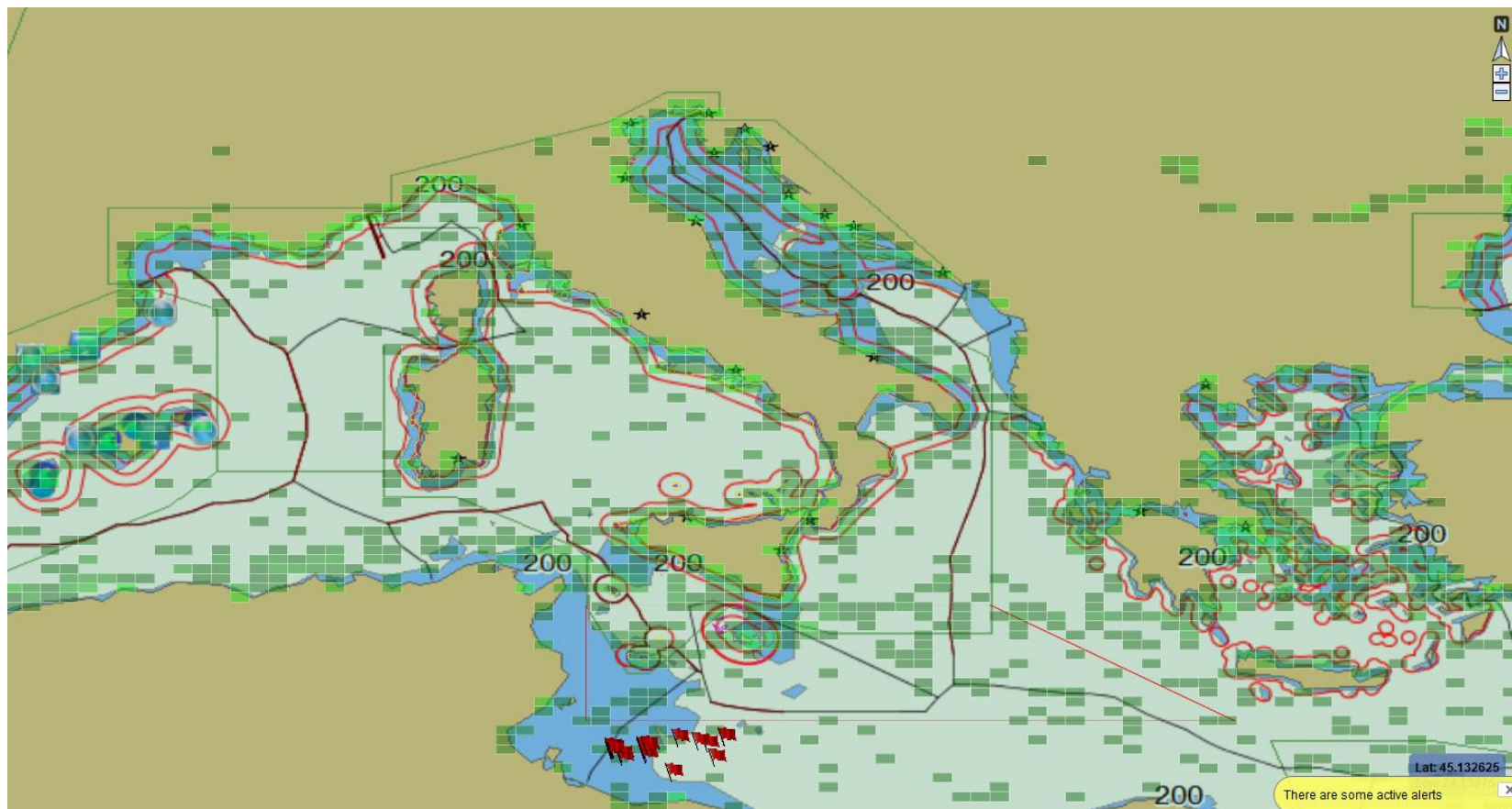


EMSA IMDeE - Alert Report
ID:1398877369653
Surveillance type:SuddenChangeOfSpeed
Surveillance instance:Libya 1 - Speed Change
Start Time:2014-04-30T17:04:18-00:00
End Time:2014-04-30T17:04:18-00:00
Event locations:
SuddenChangeOfSpeed event
status:YES
currentPosition.timestamp:2014-04-30T17:04:18-00:00
currentPosition.latitude:34.08284166666667
currentPosition.longitude:12.571068333333333
currentPosition.speed:0.9774444444444444
currentPosition.heading:0.0
previousPosition.timestamp:2014-04-30T16:57:28-00:00
previousPosition.latitude:34.075145
previousPosition.longitude:12.571416666666666
previousPosition.speed:4.012666666666667
previousPosition.heading:0.0
Involved vessels:
Imdate ID:23407MMSI:247227400IMO:8716954IR:N.A.
Call Sign:ICINName:ROBURFlag State:IT

An alert is generated when a ship changes her speed more then 50% within an observation interval of 15 min.

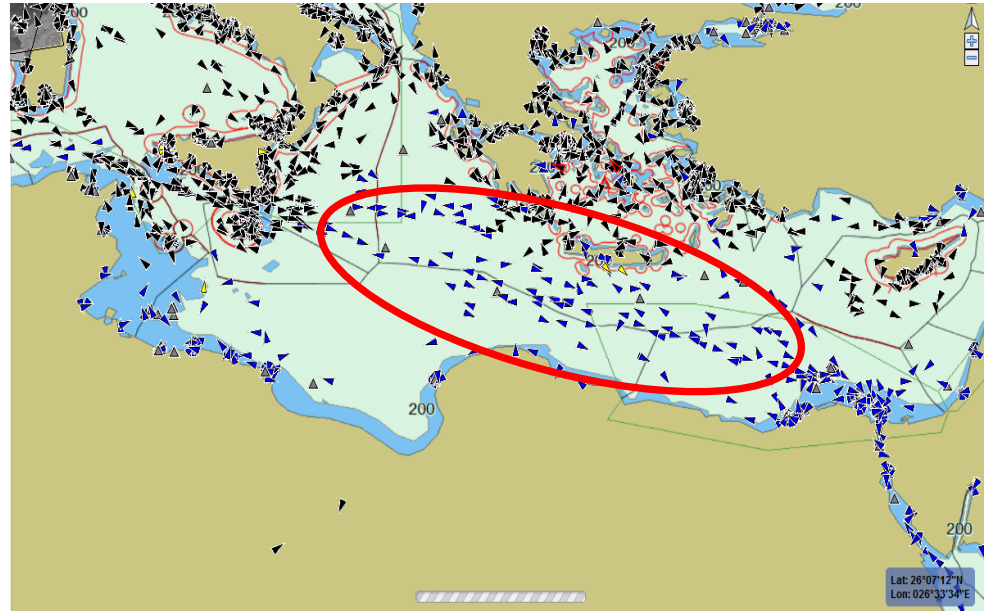
Using this tools, we receive the alert but on the screen nothing is visualized.

FEEDBACK ON LATEST VERSION



Thanks to new clustering architecture the elaboration speed of the system is really improved and the operators can benefit of higher performance

DATA NEEDS



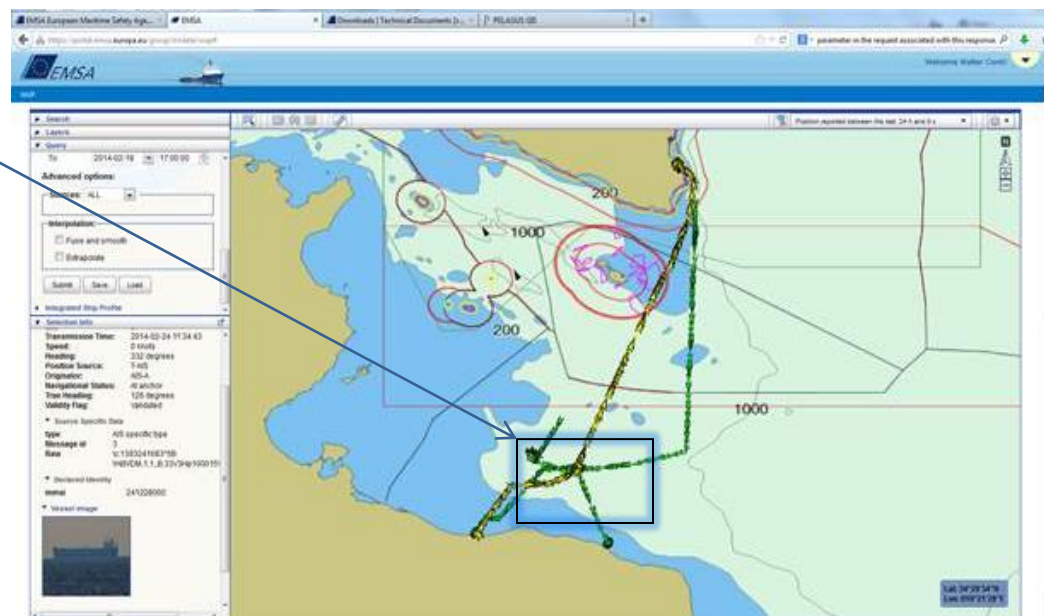
- Ais Sart
- Met-hydro data
- SAT-AIS S2S requested by Italy 4 months ago (last update: yesterday we solved the connection problem and during the next weeks we will complete the SAT-AIS integration in our system)



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NEW FUNCTIONALITIES REQUIRED



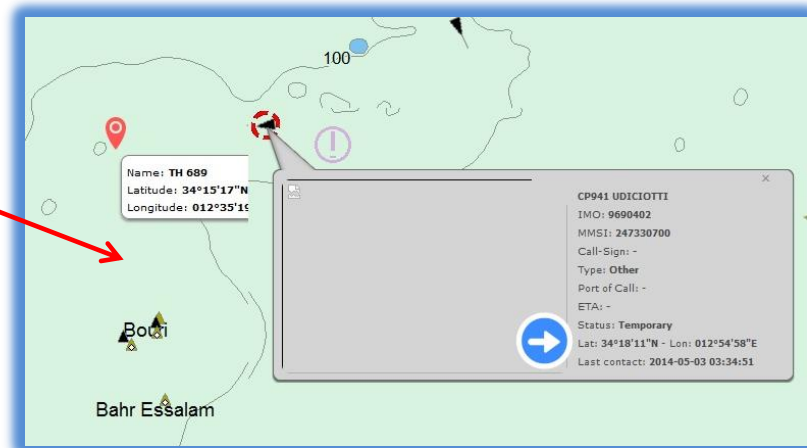
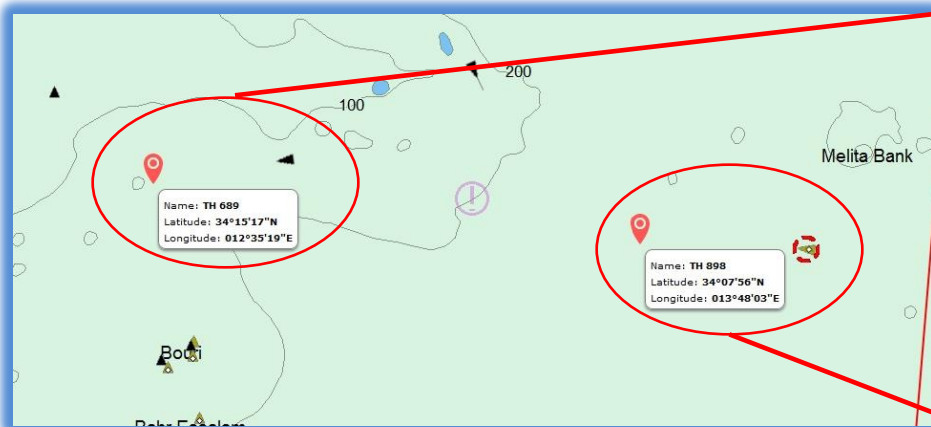
SAR Surpic



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NEW FUNCTIONALITIES REQUIRED



Reference Points



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IT TRAINING EXPERIENCE



- *Back to back with SSN and LRIT meeting we had IMDatE training*
- *25 people trained (23 from Italy and 2 from Croatia)*
- *We were able to discover some tricks and additional use cases*
- *The training was excellent .*



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THANK YOU FOR ATTENTION!



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4rd IMDatE Meeting, Lisbon may 7th 2014



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