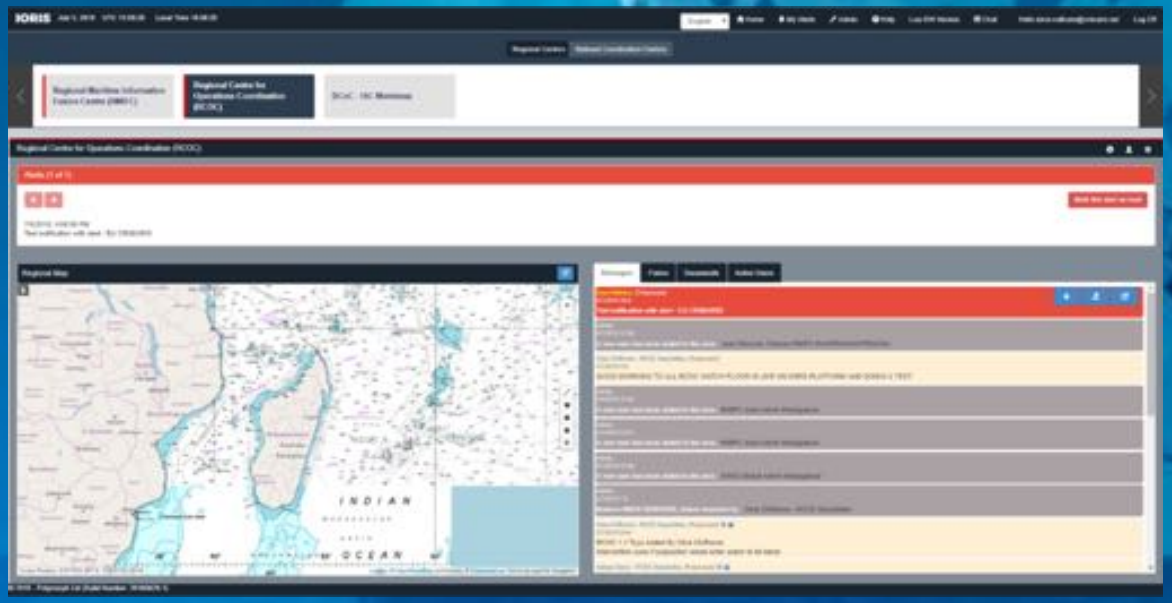
Critical Maritime Routes Programme
Instrument contributing to Stability and Peace (IcSP)

IORIS

(Indian Ocean Regional Information Sharing & Incident Management Network)



Sustainable Blue Economy Conference – Nairobi, Kenya. 26-28 Nov 2018
Create MDA (Maritime Domain Awareness) for enhancing the

David Nattrass – EU CRIMARIO Information Sharing Manager

EU CRIMARIO – CRITICAL MARITIME ROUTES INDIAN OCEAN

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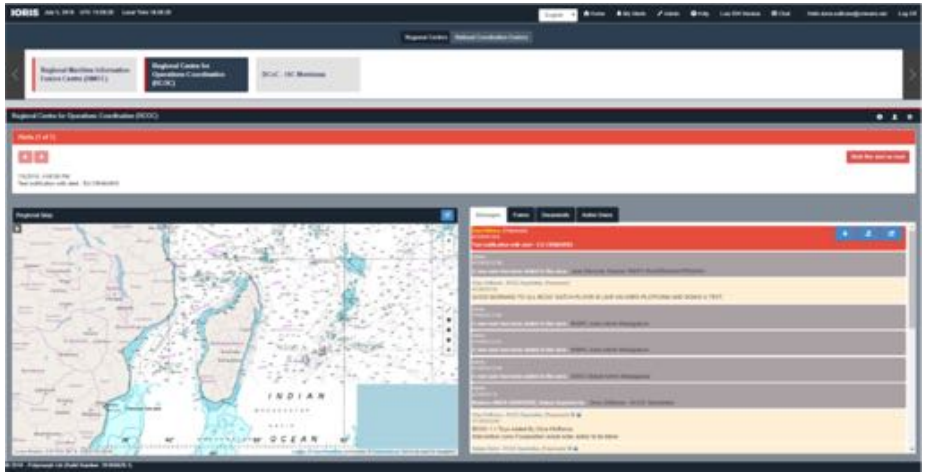
What is IORIS?

Indian Ocean Regional Information Sharing

- Web based communications platform with end to end encryption



- Can be used for:
  - Information sharing
  - Incident Management
  - Collaboration at both National and Regional.

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- Ability to retain full control over who, what and when information is shared.
  - Essential part of the process to build Trust and Confidence

- Funded by EU, Designed in collaboration with regional partners, Implemented by EU CRIMARIO project

- IORIS concept built on lessons learned since 2010 from
  - DCoC ISN / MERCURY / ReCAAP IFN / IFC Changi / NCE / APAN / SeaVision

Ownership and Management

We are mandated to transfer IORIS ownership to the region by the end of 2019

- Regionally Owned
- Regionally Managed
- Regionally Located

- **Ownership and Management**
  - Current dialogue anticipates possible ownership by IOC on behalf of the region, managed through RCOC and RMIFC.

Developed by Polymorph

- Experienced in developing software for the Maritime Domain
  - EU NAVFOR – Mercury
  - EU CRIMARIO – IORIS
  - OCEANUSLIVE.ORG

Complimentary Systems

- IORIS compliments existing systems to avoid fragmentation of information sharing & work in synergy with;
  - MERCURY
    - Dedicated in support of EUNAVFOR Atalanta
    - Owned and Managed by EU - Administered by MSCHOA
    - Essential to the region for the link to Atalanta & (Indirectly) Maritime Community
  - Sea vision
    - Dedicated platform for Maritime Data visualisation (AIS, SAIS, etc.)
    - Owned and managed by US
    - Essential to the Region for providing the COP (Common Operational Picture)
  - RMIFC Fusion Platform (anticipated 2019)
    - Dedicated platform for data fusion and analysis in the Regional Maritime Fusion Center in Madagascar

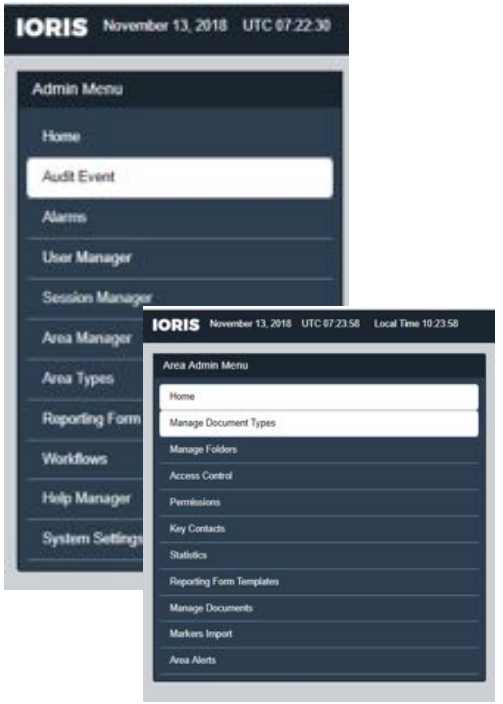
Interoperability

- SeaVision
  - Export / Import a set of objects (ships, areas etc.) to an IORIS user/area with Admin rights. A snapshot of a situation or area.
  - Interoperability in development with SPAWAR / POLYMORPH.
  - Trial during Cutlass Express 19 - Jan/Feb ’19

- RMIFC Fusion Module

IORIS is designed with multiple Areas

- Flexibility / Unlimited Areas can be created
  - Regional Centre area
  - National Coordination Center area
  - Create an area or multiple areas to manage a specific incident or incidents
  - Can be assigned local administration to control access
  - Full autonomy over your area and information.



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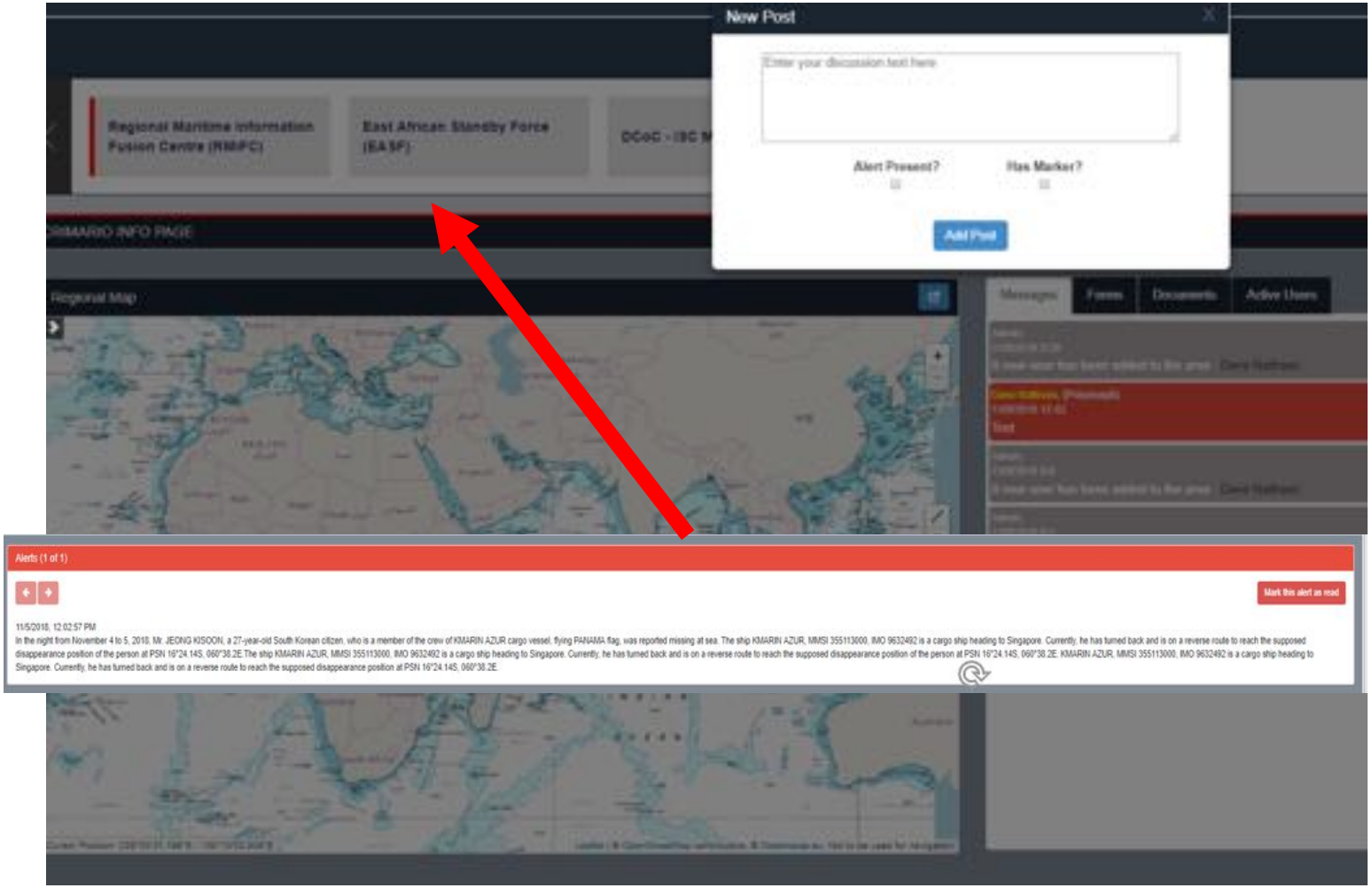
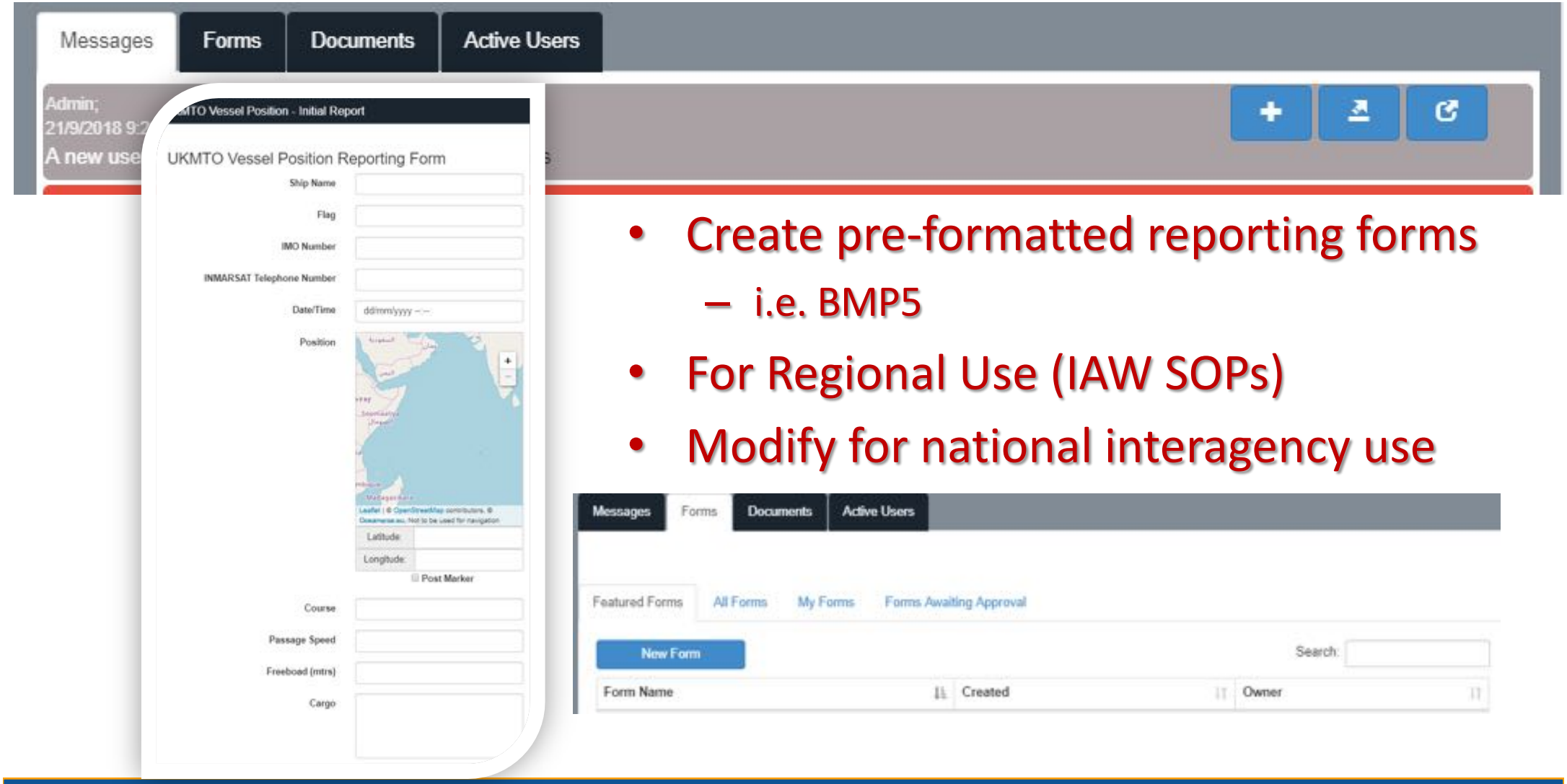
Messages / Discussion Area



- Messages / Discussion. Posts can be seen by all members of the area
- Create an Alert (visual / audible)
- Create a marker linked to map.

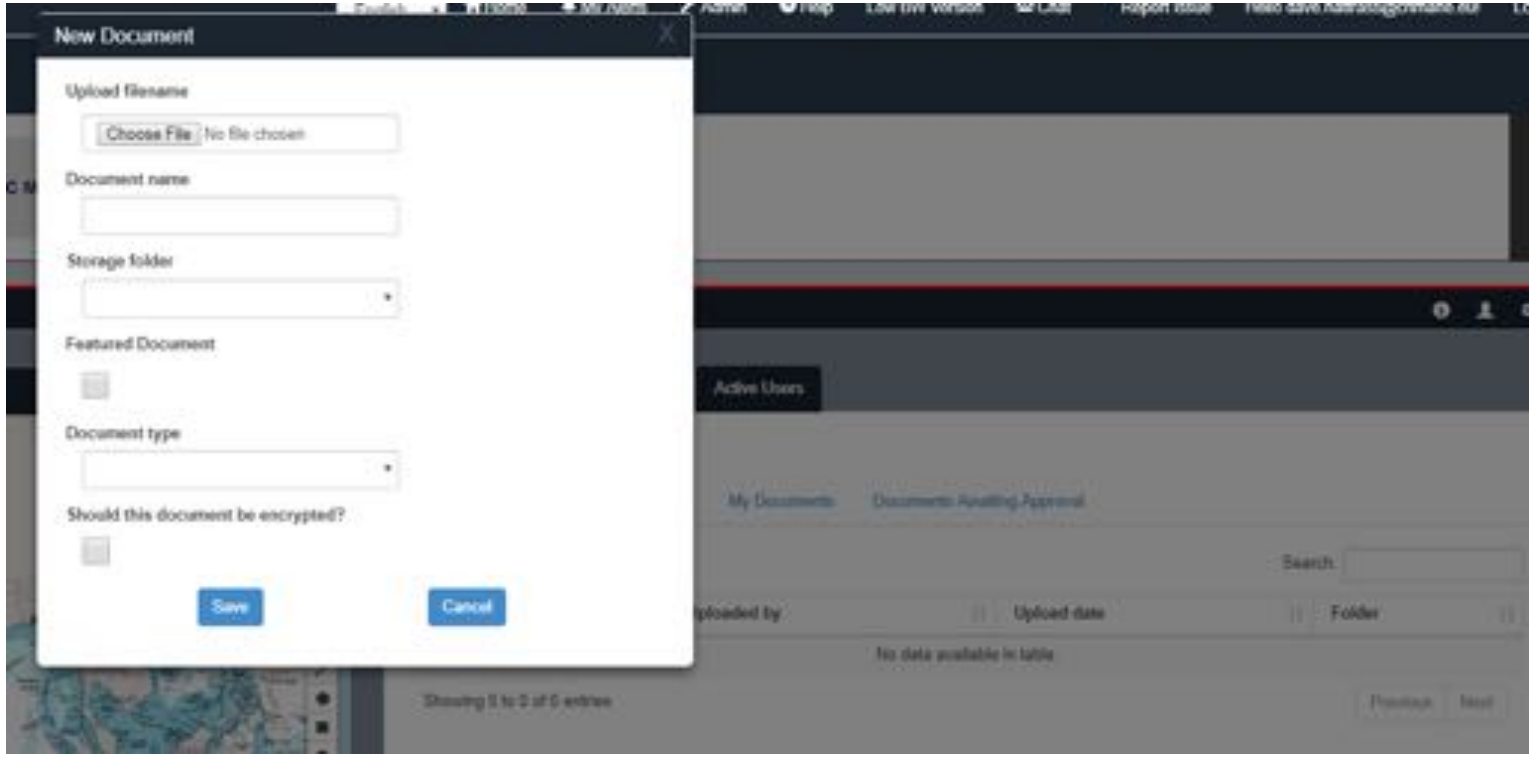
Forms



- Create pre-formatted reporting forms
  - i.e. BMP5
- For Regional Use (IAW SOPs)
- Modify for national interagency use

Documents

- Upload and share documents and files (any format)
- Encrypt if required
- Create folders
- Create documents types (i.e. daily reports)



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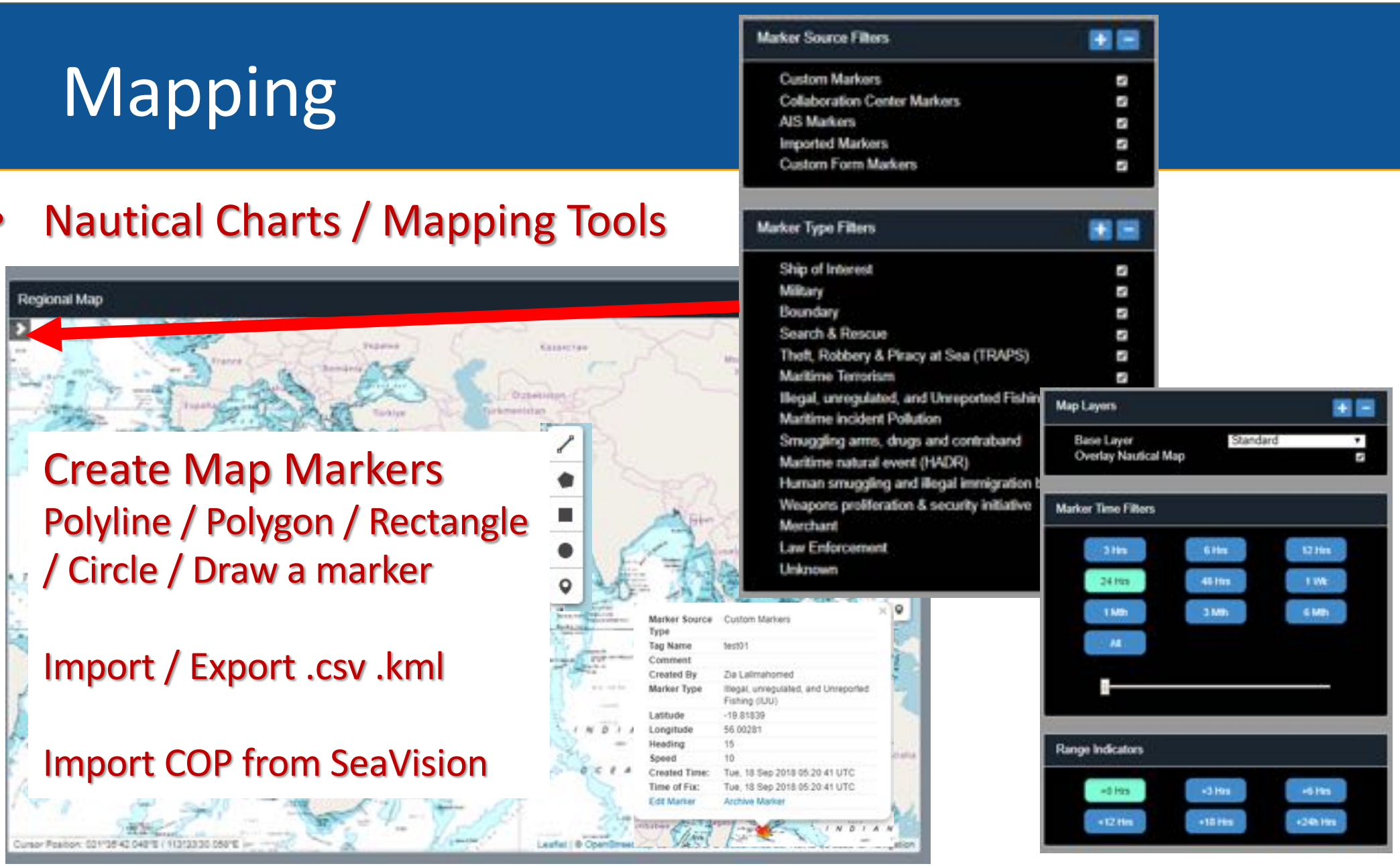
File encryption tool

- Where additional file protection is required, these can be individually encrypted at source (AES256) before sharing.

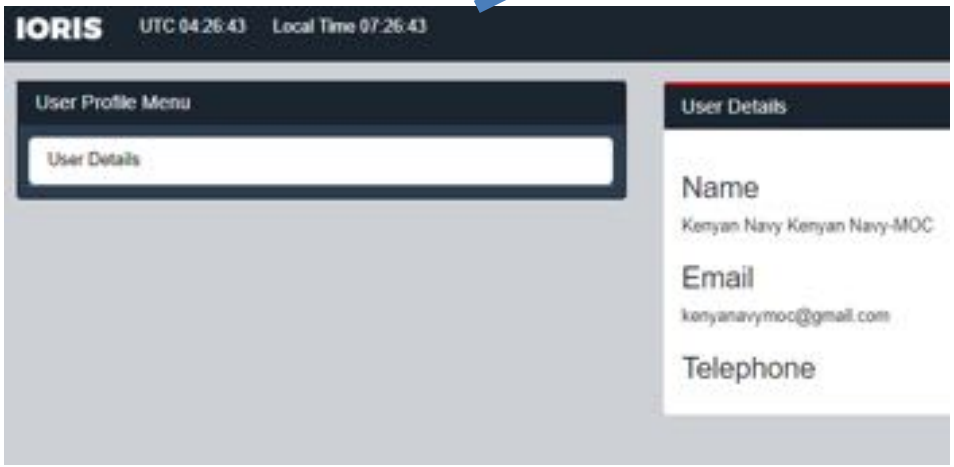
- User transmits encryption key via different medium

Mapping

- Nautical Charts / Mapping Tools



Active Users / Chat



- View active users
- View user profile
- Create Private Chat

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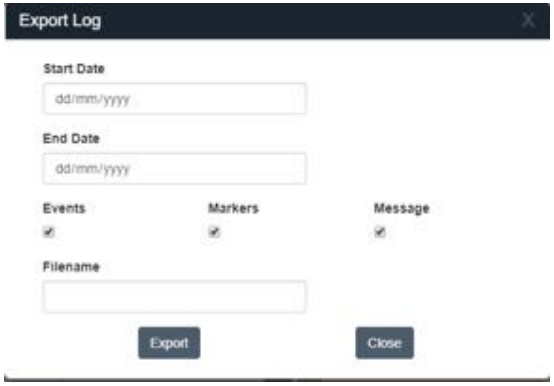
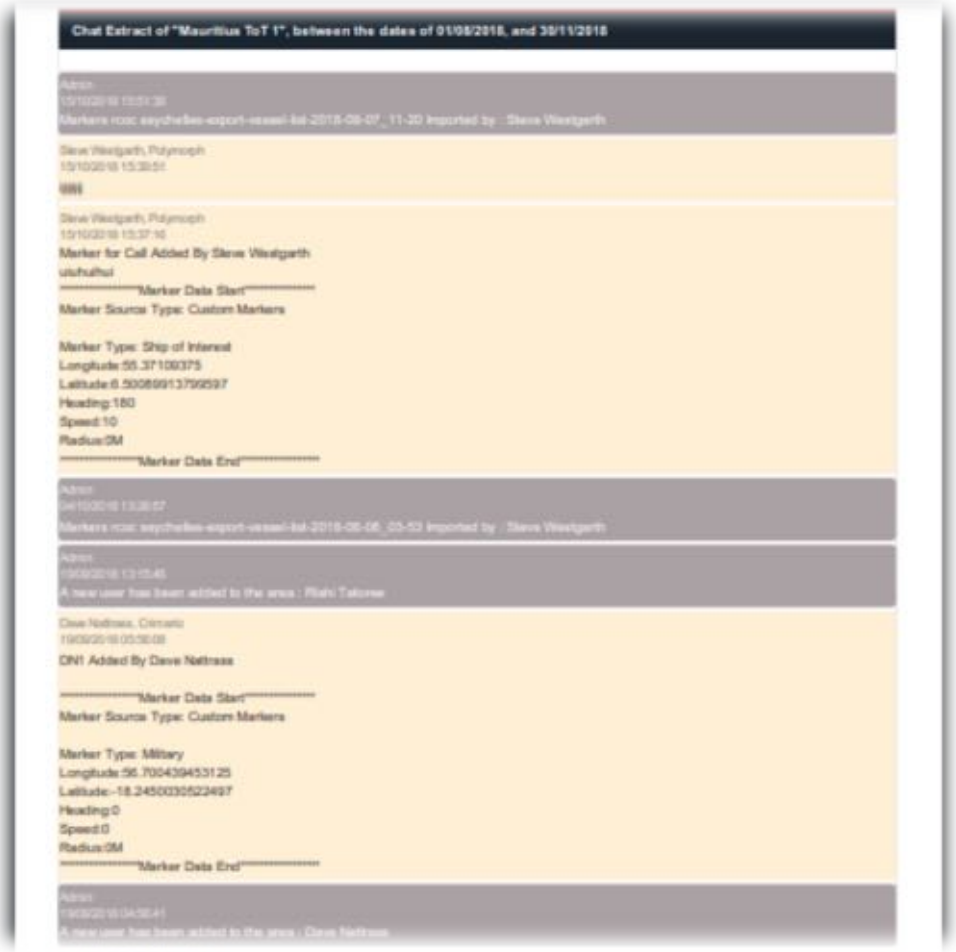
Export Log:

- Export Log
  - Ability to export logs from an area to PDF
    - For an incident
      - Assist reporting
      - Legal requirement/finish





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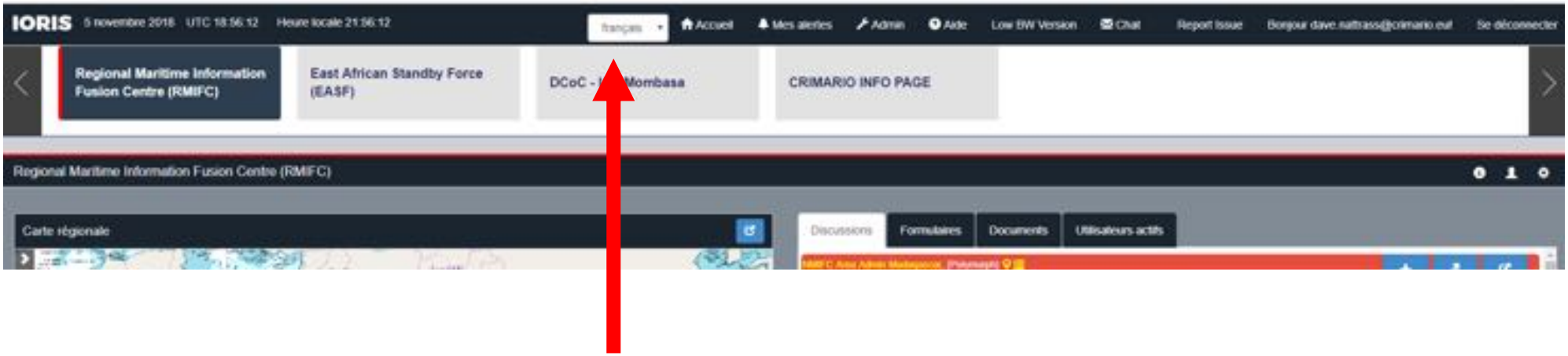
Menu Languages



- English & French available now
- Arabic, Portuguese and Somali by January 2019
- No direct translation within the platform

VoIP – Voice over IP

- Reviewing possible addition of Voice over IP function during Phase II development in 2019

Who can access IORIS?

- SISE (Single information sharing environment)
- Scope of license
  - Operational Use
    - Indian Ocean Region Countries
    - Including DCoC member countries
  - Membership - Global
    - Countries outside of the above scope can still have an account and be assigned to a regional area (i.e. All users will have access to the RMIFC Madagascar page)

System requirements

- No special equipment required
- PC with Internet access
- Robust local system/user Security Policies in place / Up to date antivirus / anti-malware
- Centres should assign a Static IP Address
- Optimised for Google Chrome
- Low bandwidth version available without mapping function

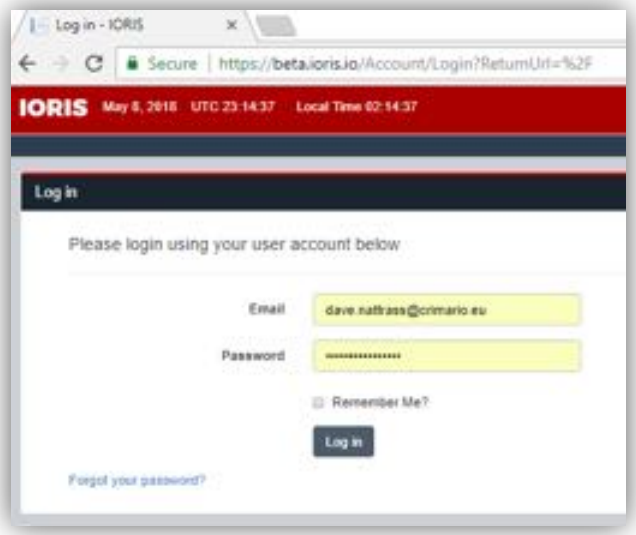
Accounting / Auditing

- Full System accountability – Permanent event logs
- Auditing functions
  - Oversight by ILOs located in Regional Centres essential to build trust and confidence

Security

- End to end encryption of all page content over the wire (from PC to PC)

- Username and password with global predefined complexity / renew / history
- Optional 'two-factor authentication'
  - To authenticate mobile users for example
- IP Restriction – white list of allowable IP addresses for an account
- AES 256 encryption. Store and share encrypted documents using industry standard.
- Periodic Penetration testing (Annually, and after major updates).



IORIS – Focus on Sustainability

- EU CRIMARIO have fully funded development of Phase I, + interoperability with SeaVision
- Will fund Phase II (2019)
- Includes lifetime license for IORIS under current geographical scope

Anticipated running cost after CRIMARIO

- Annual cost based on:
  - Hosting (Microsoft Azure – will migrate to South Africa)
  - Maintenance (Polymorph)
  - 24/7/365 Operational Level Support (Polymorph)

Up to €40’000 per year

CRIMARIO will fund all hosting / maintenance and support until April 2020

As with any system, future costs should take into consideration any developments to continue to meet regional needs.

Cutlass Express 19 – IORIS

- IORIS will provide the Primary Communications during Cutlass Express 19.
  - P: IORIS
  - S: SeaVision
  - T: WhatsApp
- Interoperability functions will be tested between SeaVision and IORIS during Cutlass Express.
- Feedback from users of the Cutlass Express exercise will be used to help develop Version II of IORIS to be developed in 2019 under CRIMARIO project.

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Training

A duplicate version of IORIS is available for training, clear identified with Red banner and ‘Training Site’

- **Kenya** Kenya Navy (Train the Trainer), enya Ports Authority (Train the Trainer), Kenya Maritime Authority (Train the Trainer), KRA / KWS / KFS (Basic Introduction - 2 day course)
- **Madagascar** MIFC / NMIFC (Train the Trainer), Armed forces, Maritime Affairs, Fisheries, Government
- **Seychelles** (Train the Trainer) RCOC, Seychelles Coastguard, DRDM
- **Mauritius** NPS – Coastguard (Train the Trainer), Maritime Shipping (Train the Trainer), Mauritius Radio Service (Basic Introduction - 2 day course)

Training

To be trained:

• **Tanzania**	Dec '18 / Early Jan ‘19 (tbc)
• **Mozambique**	Dec '18 / Early Jan ‘19 (tbc)
• **Djibouti**	December 17 to 20, Djibouti
• **Comoros**	December 03 to 06, Moroni
• **Somalia**	January 13 to 17, Mogadishu
• EASF (tbc)	IORIS Trainers in Kenya

MSCHOA – Cooperation for 2019

- CRIMARIO will organize up to 6 CPX exercises commencing March 2019 (tbc).
- Focused on piracy within the EUNAVFOR Mandate
- March may be the first exercise during handing over to Brest (France)/Rota(Spain)

Implementation Strategy Meeting

- Planned in Madagascar at the RMIFC January 2019
- IOC / EU CRIMARIO
- Plan IORIS implementation strategy for 2019
- Agree draft User / System policies pending transfer of ownership to the region

Run IORIS Video

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