IORIS

IORIS Inauguration – Seychelles - Tuesday 4th September 2018

EU CRITICAL MARITIME ROUTES INDIAN OCEAN
CRIMARIO

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EXPERTISE FRANCE

What is IORIS?

Implemented by EU CRIMARIO project, developed by Polymorph Ltd, designed in collaboration with regional partners, IORIS is a new secure web communications tool designed through a long process of collaboration with regional partners for information sharing and incident management in the Maritime Domain.

IORIS can be used at both Regional and National level

Its design compliments and works in synergy with existing platforms, and takes into consideration future planned systems.

IORIS ownership will transfer to the region by the end of 2019

Collaboration process / Dedicated for the Region

- **Designed through collaboration process with regional partners since 2015.**
  - Madagascar / Seychelles / Kenya / Mauritius / Comoros / Yemen)
  - Looked at Sea Vision / NCE / APAN / ReCaap IFN / Mercury / ISN (DCoC)

- **Dedicated to the region - IORIS will be:**
  - **Regionally Owned** (membership for each zone defined by owner)
  - **Regionally Managed** (managed by a designated regional entity)
  - **Regionally Located** (Secure Hosting facility to be located in the region)

Tender Process

- **Early 2017 – Part 1 Tender**
  - Open Tender – Distributed to regional contact points and TED (EU Tenders Electronic Daily) website.

- **March – July 2017 – Legal process**
  - Tender contract validated by Expertise France Legal
  - Ownership – Licensing – IP (Intellectual Property)

- **August 2017 – Launched Part 2 Tender**
  - Polymorph Ltd. Selected – Contract signed October 17

- **Consultation Meeting with Polymorph in Seychelles Nov 17**

Who can access IORIS?

- ## SISE (Single information sharing environment)
  - There should be no restriction on membership (DCoC / IOC /EASF etc.)
  - Membership will be decided by the region.

- ## Scope of license
  - Operational Use - IO Region – including DCoC countries
  - Membership - Global

- ## Ownership and Management
  - Regional – (with a designated Regional IORIS Management authority for Global administration – proposed RCOC Seychelles)
  - Current process foresees possible ownership by IOC on behalf of the region

Complimentary Systems

- **IORIS will provide the essential communications link that compliments existing systems / work in synergy.**

- **MERCURY**
  - Dedicated to Anti-piracy in support of EUNAVFOR Atalanta
  - Administered by MSCHOA (Northwood, UK)

- **Sea vision**
  - Dedicated platform for Maritime Data visualisation
    - Common Operational Picture (COP)
  - Owned and managed by US – Volpe Center
  - IORIS will be used as the comms platform for Cutlass Express 19
  - We are also discussing a possible trial during the exercise to export a specific target from Sea Vision directly to IORIS (Jan/Feb 2019).

- **RMIFC Fusion Platform (anticipated 2019)**
  - Dedicated platform for data fusion and analysis in the Regional Fusion Center

IORIS Key Objectives for development

1. Real time communications tool

2. Regional, with private National functionality

3. Secure/encrypted environment to communicate and share information/data.

4. Interoperability and complementarity with planned RMIFC/CRFIM Fusion Module (2019)

5. Training

6. Low running costs for long term sustainability

7. Avoid duplication – consolidate

Build trust and confidence

IORIS – Single platform – Unlimited areas

- IORIS - single software environment providing multiple 'Areas' that can be created by the Users designated as 'Area Admins'

- For example, dedicated pages can be created for:
  - Regional Centres RCOC/RMIFC / Regional Organisations (DCoC/EASF/AU)
  - National – National coordination Centres
  - Agency/Administration (Local Organisations)

- Ability to create unlimited areas as required for incidents or collaboration

- Security, access to each page remains autonomous / access by permissions or by invitation.

Nautical Charts Overlay - Geographical Scope
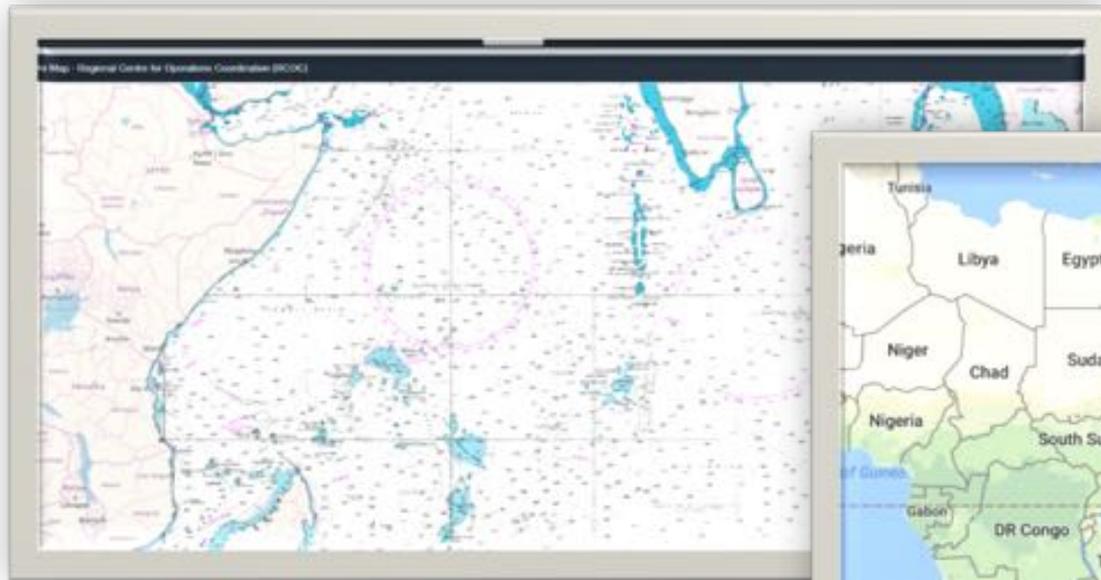
File sharing database
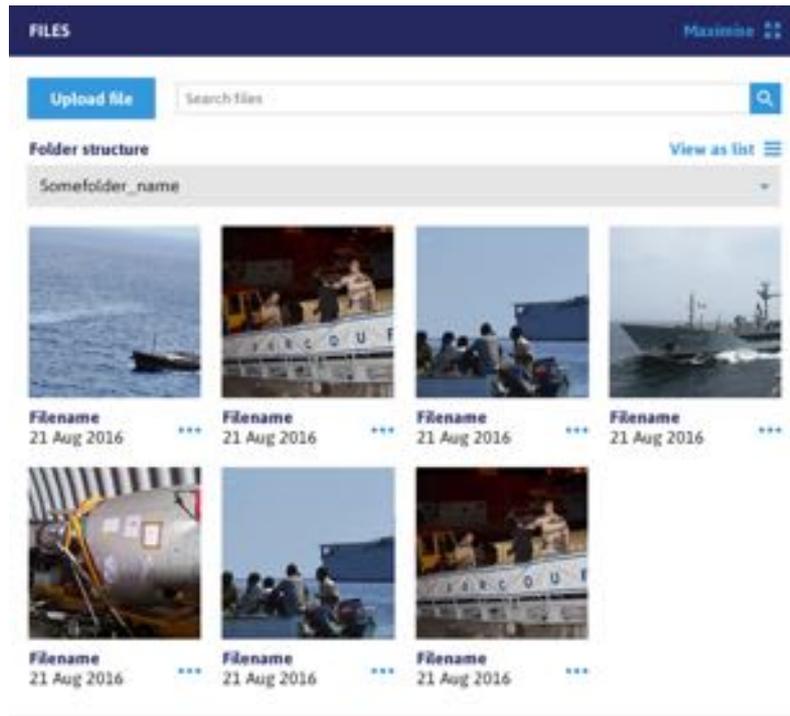
- Upload images, word documents, PDF's etc.

Other functions:

- **Automatic generation of reports**
  - Ability to create digest of information automatically for reporting / knowledge sharing

- **Form creation/customisation**
  - Each collaboration area can maintain it's own templates for the reports (headers, footers, sections, generic guidance to vessel crews etc.)

- **Workflow (postponed to Phase II development in 2019)**
  - The system will allow the creation of "workflow" objects which can be attached to any of the following and executed after their initial submission:
    - Forms (reports)
    - Files / Images

  - The configuration of a workflow will consist of defining a series of "steps" that form the workflow, some of these steps / actions will include (but not limited to):
    - Conditional check (i.e.: If form value equals a constant, continue)
    - Route for approval to named account
    - Modify a form value
    - Publish a form / file

Low Bandwidth and Training Platform

- An IORIS 'low bandwidth' version will be included with essential functionality only for:
  - Areas with slow internet / Vessels at sea / Mobile users /

- Training Platform
  - Duplicate of IORIS in a non-operational environment for exercise/training etc.

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

- Store and share encrypted documents using industry standard **AES256 encryption**
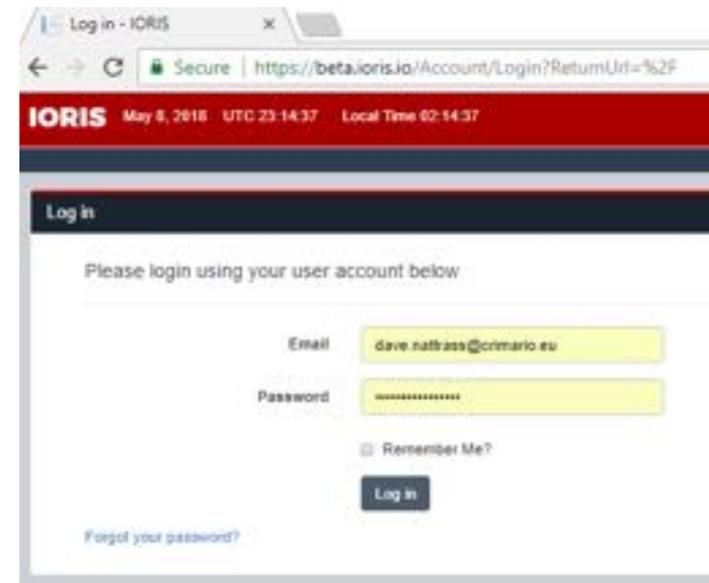
Additional file encryption tool

- Where additional protection is required, files can be individually encrypted at source before sharing.

- The user who encrypted the file set the password can then:
  - Send a link to the file and/or;
  - Separately send (via SMS or email for example) the password so the file can be un-encrypted by the end user

Server Location/Security/Penetration Testing

New Microsoft Azure Cloud Hosting Facility will come online in South Africa in 2018

Trusted Cloud: Microsoft Azure Security, Privacy, and Compliance

Microsoft

©Microsoft Corporation

Perimeter ➡	Buildings ✖	Computer room 📹
• Security staff around the clock • Facility setback requirements • Barriers • Fencing	• Alarms • Security operations center • Seismic bracing • Security cameras	• Two-factor access control: biometric and card readers • Cameras • Days of backup power

Full security penetration testing conducted by an external 3rd Party Security

Hosting

EU Crimario – IORIS; Architectural Overview
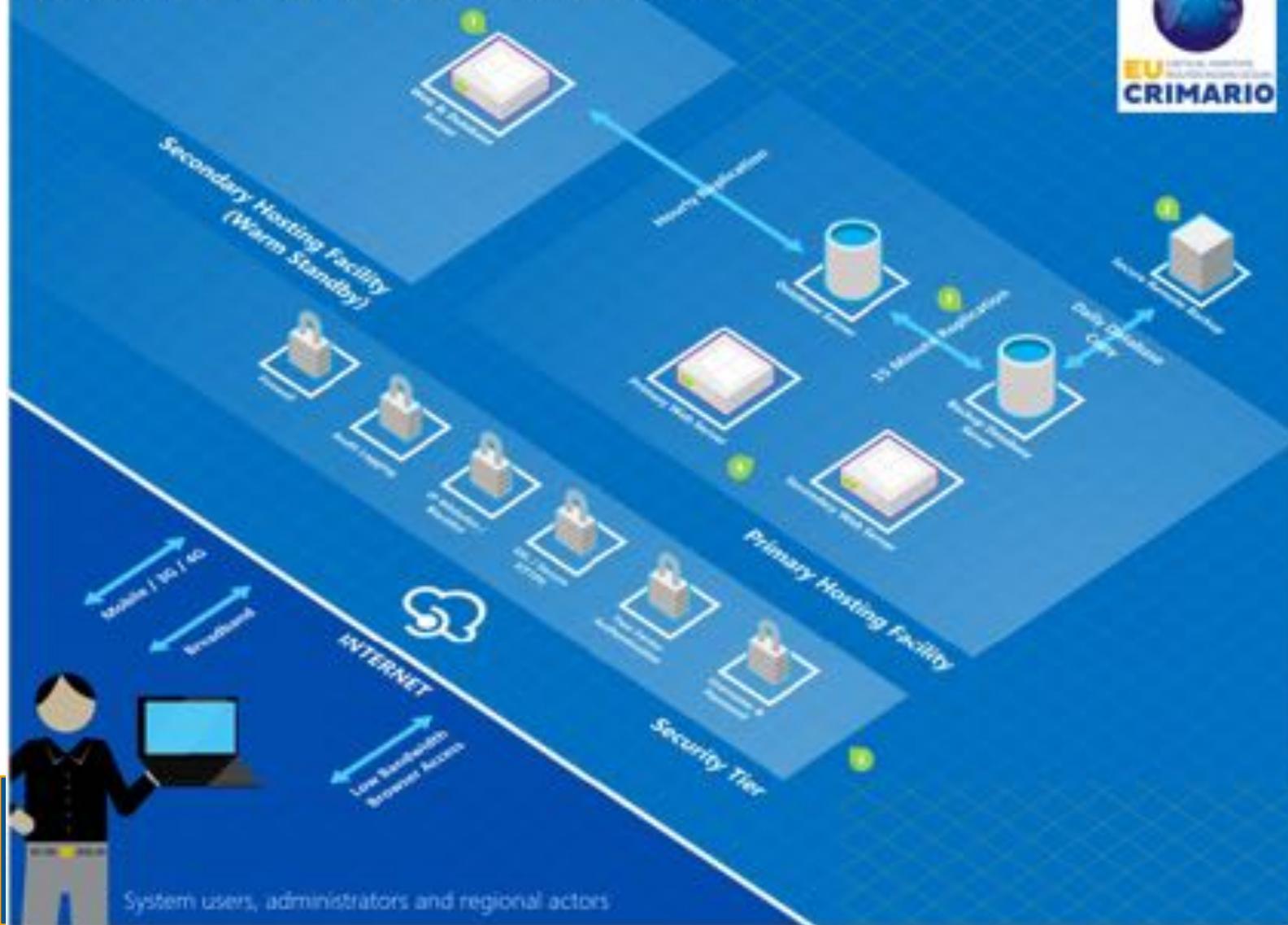
Accounting / Auditing / Support

- System activity (including who accessed activity log)

- Administrators can set alarms for particular activities, or combination of activities
  - Some alarms will already be set within the system such as, i.e. failed login

- Azure 'insights' monitoring - comprehensive analytics and error logs

- 24/7/365 Support

IORIS – Regional Ownership - Legal

- A perpetual usage license with no ongoing fees
  - For the agreed Phase I operational sphere (i.e. Indian Ocean Regional including current DCoC countries)

- A copy of the software / source code

- Rights to modify the source code after 2 years/CRIMARIO support finishes with 3rd party developer.

- Intellectual Property
  - Rights for the core software and initial development will remain with the developer
  - Intellectual Property rights for future developments shall remain with the Customer / License Holder

Implementation timeline

- IORIS Phase I - BETA testing commenced April 2018

- First Train the trainer – Held in Seychelles April 2018

- 1st July 2018 – v1.0 Operational

- July 2018 – Jan 2019 – User feedback – Plan Phase II
  - IORIS will be utilised as the communications tool for Cutlass Express 19
  - Discussion are taking place to conduct a trial between Sea Vision and IORIS during the exercise

- Feb – April 2019 – Development Phase II

- May 2019 – Launch IORIS v2.0

We listen to our partners - Enhancements due this week

When creating forms, the user that is assigned does not receive the form, or a notification to say the form is awaiting approval		Add spinners around the site to show when things are loading (to prevent duplicate entry)
Ability to draw circular markers		Add permission column – 'can users delete documents Y/N'
Must have the ability to edit and update markers – CRUD		Need specific colours for marker boundary and polygon - use selects when editing to the map
Enter polygon or line with co-ordinates		Area admins should be able to import forms (templates and copies of forms already filled)
Lat and long – be able to enter North, South, East and West in dialogue box		Area admins should be able to import any objects (markers, docs) from other areas he is also admin of.
Plot a marker, make 'draft' until marker published		Forms should be exported as pdf, including redactor's name, signatory name, and time stamp of signature.
Provide ability to set alert when something has entered a specific polygon		Lat Long must be available in decimal degrees ([+-]DD.dddddddddd) AND degrees minutes and decimal minutes DD°MM.mmm[NS] DDD°MM.mmm[EW] everywhere (enter and display)
Ability to add 'Permanent' map markers		Forms should include table as field.
Use current marker to create a new marker pre-populated i.e. easy way to move a marker		Range indicator: a hour/hour ruler would be better than buttons.
Ability to filter by tag name on the map - wildcard option		When user encounters multiple boxes, it would be great to have a "select all" and "deselect all" buttons.
Users should be able to select 'archive marker' on the marker popup on the map to remove the marker from the map and archive it.		The system should remember historical passwords and prevent users using passwords that have been used before

Communications tools
Mrs Isabelle Gachie-Vinson

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CRIMARIO on the Net

- Knowledge platform: www.crimario.eu

- CMR website:
  http://www.criticalmaritimeroutes.eu/

- @EUCrimario EU Crimario

- Monthly newsletter (online subscription)

- For any contact: info@crimario.eu

CRIMARIO Secure Web Forum

www.crimario.eu

Any Questions / Discussion

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