

# WORKSHOP:

## How to set up an adaptor

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# HOW TO SET UP AN ADAPTOR

## L'océan en référence



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# Summary



## CISE ALERT OPERATIONAL TRIALS SCENARIOS & PARTICIPATING PARTNERS April – September 2024



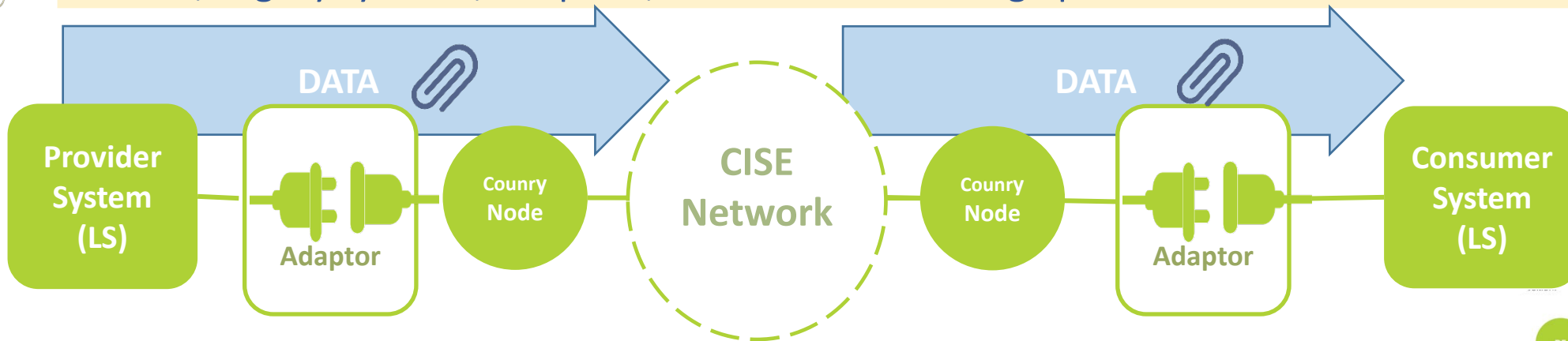
## For trials to be conducted:

- Specific steps to join CISE
- **fully functional** national node
- Implementation of **Operational Services** in MS authorities systems
- Development and tests of **adaptors**



# How to develop an adaptor

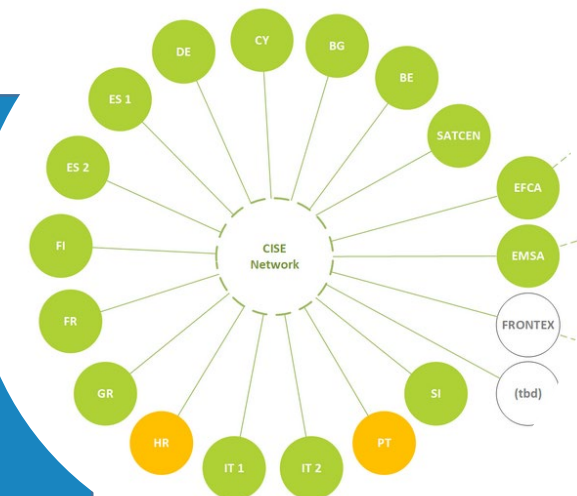
Nodes, Legacy systems, adaptors, services and exchange protocols



CISE Network  
– version March 2024

## CONFIGURATION OF ADAPTORS WITH CISE SERVICES

- Implementation /configuration of « services » in the adaptor:
  - categories + entities defined in **CISE data model** and **Catalogue**
  - **exchange protocol** (push/pull/subscribe)
- **Compatible Data model entities + exchange protocols required** (push/pull/subscribe) for both provider and consumer adaptors



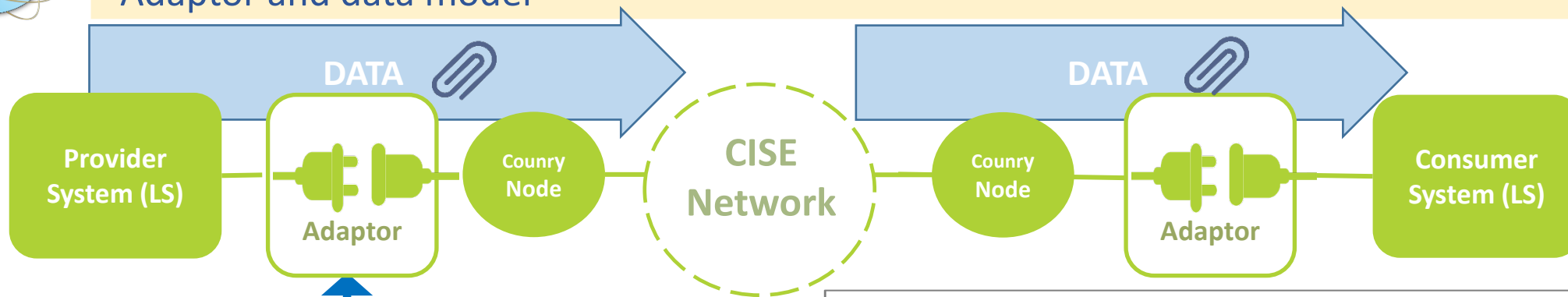
LEGEND:

CISE Node status:

- Node V2 installed
- In the process to install V2
- Under preparation

# How to develop an adaptor

## Adaptor and data model



**CISE Core Vocabulary Specification**

**Vessel**  
Core Entity

**Core Vocabulary Metadata**

Publisher  
DG JRC  
Model Version  
1.5.3  
Status  
Under development  
Doc Version  
23-Nov-2017

For support, please contact:  
CISE Support Team.

**Vessel** CISE Core Vocabulary Specification

**Table of Contents**

**Model Element**

- ConditionOfTheCargoAndBallastType
- FishingGearType
- HullMaterialType
- INFClassType
- ISPSecurityLevelType
- NavigationalStatusType
- SanitaryMeasureType
- ShipConfigurationType
- Vessel
- VesselType

**UML Conceptual Model**

The UML Conceptual Model diagram shows a hierarchy and relationships between classes. At the top are 'Agent' and 'Vessel'. 'Agent' has subclasses 'Person' and 'Organization'. 'Vessel' has subclasses 'OperationalAsset' and 'Cargo'. 'Vessel' is associated with 'VesselType'. There are also relationships between 'Vessel' and 'ConditionOfTheCargoAndBallastType', 'FishingGearType', 'HullMaterialType', 'INFClassType', 'ISPSecurityLevelType', 'NavigationalStatusType', 'SanitaryMeasureType', and 'ShipConfigurationType'.

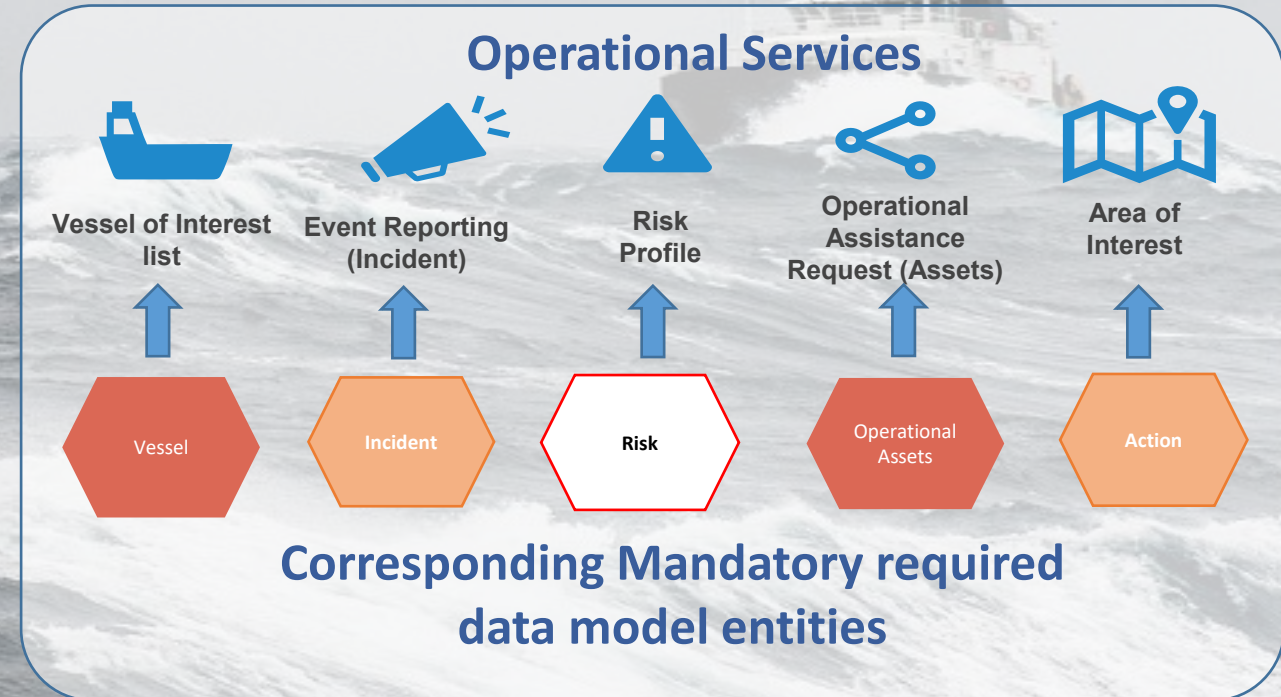


# Operational Services

CISE “Operational Services” define how to use CISE services in a specific operational scenario.

They are defined by workflows that comprise one or more CISE services/data model entities. Ex: 2 or more organisations exchanging information about vessels of interest.

- Dedicated to Maritime surveillance OPERATIONAL authorities and situations
- Implemented in MS systems
- Combine different services
- 1 corresponding mandatory entity from data model





# Shom: French Hydrographic Service Reference data provider



Understand  
Description  
Forecast  
Dissemination

Marine  
Physical  
Environment

## Missions

- Meet surface navigation needs
- Support armed forces
- Support public policies

Role in CISE: data provider only

# Adaptor 1 – WMS Adaptor developed by JRC (2022)



SHOM DATA.SHOM.FR

? [Icons] ALL OUR SITES

Search...

**MASTER DATA**

**Cartography**

**Maritime boundaries**

- Navigation categories for professional ships
- Maritime ship classes
- Military practice areas
- Maritime Boundaries
- Sovereignty or jurisdiction maritime spaces

**Administrative limits**

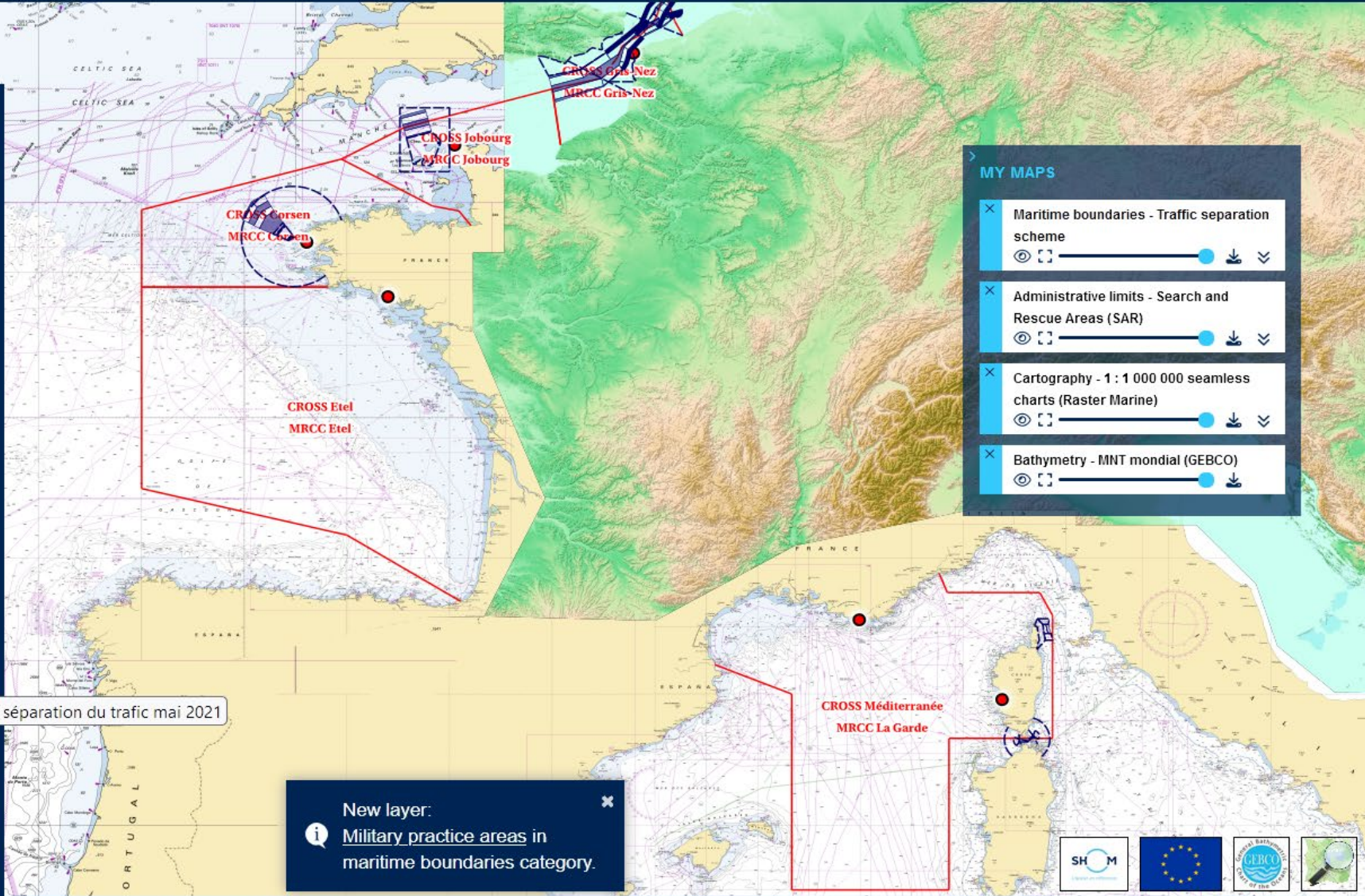
- Salted water limits
- Limit of maritime affairs
- Transverse limits of the sea
- Limits related to fishery uses
- Limit of the preventive archeology licence fee
- Search and Rescue Areas (SAR)

**Traffic separation scheme**

- Land-sea limit
- Overseas France coastline
- High Resolution Coastline - French subantarctic islands
- Global coastline

**Maritime and coastal database**

**Lidar - Litto3D**



**MY MAPS**

- Maritime boundaries - Traffic separation scheme
- Administrative limits - Search and Rescue Areas (SAR)
- Cartography - 1 : 1 000 000 seamless charts (Raster Marine)
- Bathymetry - MNT mondial (GEBCO)

New layer: Military practice areas in maritime boundaries category.

WMS CISE Adaptor developed with JRC during EU Project

Dispositifs de séparation du trafic mai 2021

Legal notice (PDF) - Personal data (PDF) 200 km 45° 08' 41.83" N, 10° 17' 37.31" W Scale 1 : 6,933,504

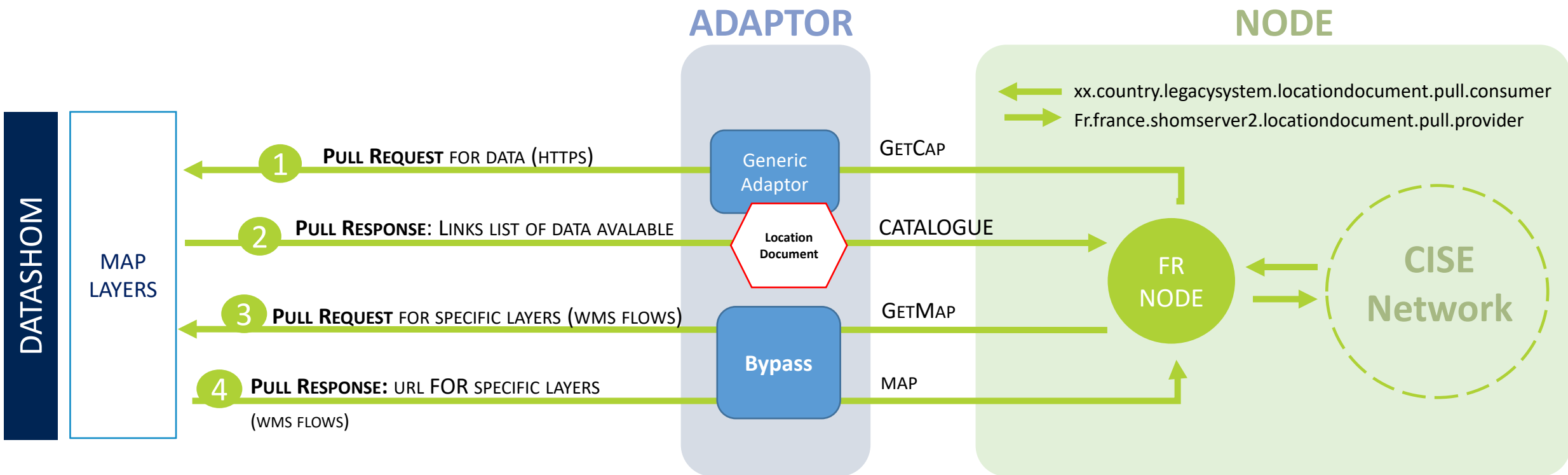




# Adaptor 1: WMS adaptor

Protocol and Data model entity. Shom: data provider only => Pull protocol

WHAT ?		HOW?	SERVICE ID in NODE Interface
LS	Info/ Data?	Process	Code/country/LS Name.Protocol.Role

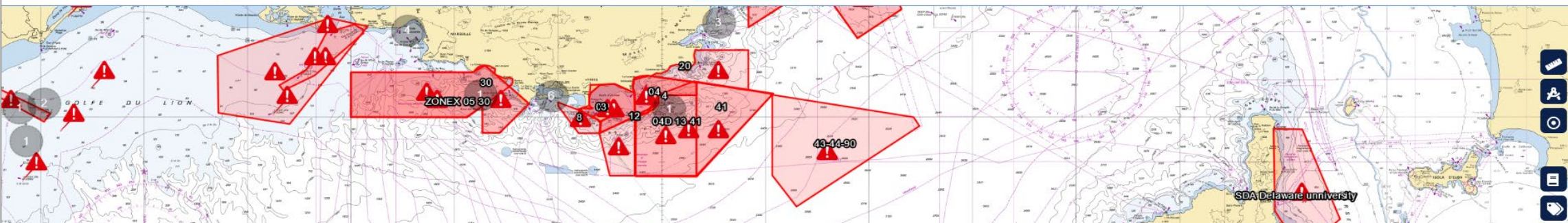




# Adaptor 2: Nav Warnings

Map Table Area: Select area

NAVAREA navigational warnings  Coastal navigational warnings  Local navigational warnings  Notices **Other filters**



**AVURNAV LOCAL TOULON 3106/24 Details**

- Area : CORSE - ABORDS POINTE DE SENETOSA.
- General Category : hazard, other
- Cancel AVURNAV LOCAL TOULON 3104/24
- Cancel this warning on : 2024/09/16 00:59:00 UTC
- Published from : 2024/08/16

Part(s) Visualize all

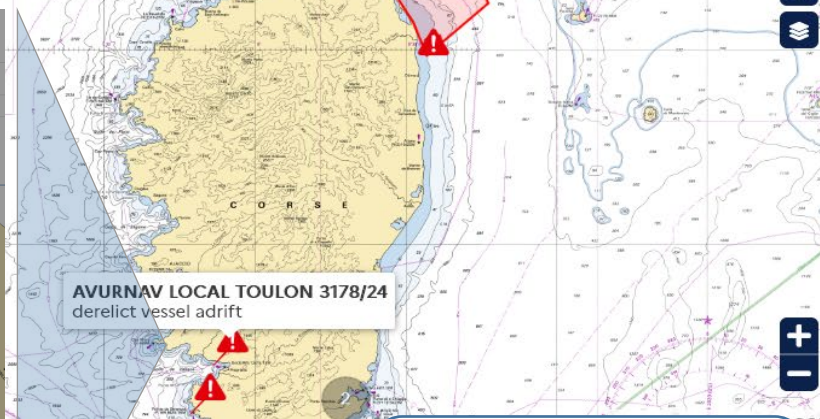
**Part 1**

NAVIRE YACHT "MANTA" COULE A LA POSITION : 41-33.466N 008-47.086E  
COQUE A 75% IMMERGEE ET INSTABLE  
PRESENCE LEGERE COUCHE HYDROCARBURE  
DANGEREUX POUR LA NAVIGATION

Warning links

Status

- Status : published



PING Platform Navigational Warnings developed under Project



# Adaptor 2: Nav Warnings

## Development Steps

1 What ? For who? Why?

Navigational Warnings for authorities to contribute enhance Maritime Situational awareness authorities

2 Understand CISE

Access to CISE Interface + Study of CISE DATA MODEL

3 Service identification:

Data model Risk entity

4 Validation of protocol

Pull / Provider to respond to a request from an authority

5 Development phase

Outsource. Example provided by EMSA in java.

6 Test at national level

EMSA simulator

7 Test with other EU country

BG and GR : operational Risk Service in Pull Protocol (FR partners implementation ongoing)

8 Improvements

Addition of type of information as per data model (not all fields required)



# Understanding CISE

## Access and understand exchanges with Node interface

**CISE**

THIS NODE

- Authorities
- Contact persons
- Participants
- Services
- Access Control Rules
- Logs
- System status
- Accounting

REMOTE NODES

- CISE network
- Authorities
- Contact persons
- Participants
- Services

Administration Console

fr.france node.chance.fr.cisenet.eu

PARTICIPANT ADMINISTRATOR  
Armelle Sommier (armelle.sommier)

List of Services  
Home / Remote Nodes - Services

FILTERS

Service ID Community Service Type Service Role Data Location...

Country Function Service Operation Service Status Data Freshness

Participant ID

CLEAR APPLY

Service ID ↑	Service status	Service type	Service Operation	Service role	Node ID	Participant ID
gr.nodegr.nss-adaptor.action.push.consumer	Online	ActionService	Push	Consumer	gr.nodegr	gr.nodegr.nss-adaptor
gr.nodegr.nss-adaptor.action.push.consumer.aoi	Online	ActionService	Push	Consumer	gr.nodegr	gr.nodegr.nss-adaptor
gr.nodegr.nss-adaptor.action.push.provider	Online	ActionService	Push	Provider	gr.nodegr	gr.nodegr.nss-adaptor
gr.nodegr.nss-adaptor.action.push.provider.aoi	Online	ActionService	Push	Provider	gr.nodegr	gr.nodegr.nss-adaptor
gr.nodegr.nss-adaptor.action.subscribe.consumer	Online	ActionService	Subscribe	Consumer	gr.nodegr	gr.nodegr.nss-adaptor
gr.nodegr.nss-adaptor.action.subscribe.consumer.aoi	Online	ActionService	Subscribe	Consumer	gr.nodegr	gr.nodegr.nss-adaptor
gr.nodegr.nss-adaptor.action.subscribe.provider	Online	ActionService	Subscribe	Provider	gr.nodegr	gr.nodegr.nss-adaptor
gr.nodegr.nss-adaptor.action.subscribe.provider.aoi	Online	ActionService	Subscribe	Provider	gr.nodegr	gr.nodegr.nss-adaptor
gr.nodegr.nss-adaptor.agent.feedback.consumer	Online	AgentService	Feedback	Consumer	gr.nodegr	gr.nodegr.nss-adaptor
gr.nodegr.nss-adaptor.agent.pull.consumer	Online	AgentService	Pull	Consumer	gr.nodegr	gr.nodegr.nss-adaptor

Services per page: 10 231 - 240 of 438

- Data Model Entity (Service)
- Exchange Protocols: Push, Pull, Subscribe
- Role in exchange: Consumer or Provider
- Country Node
- Stakeholder System (LS)

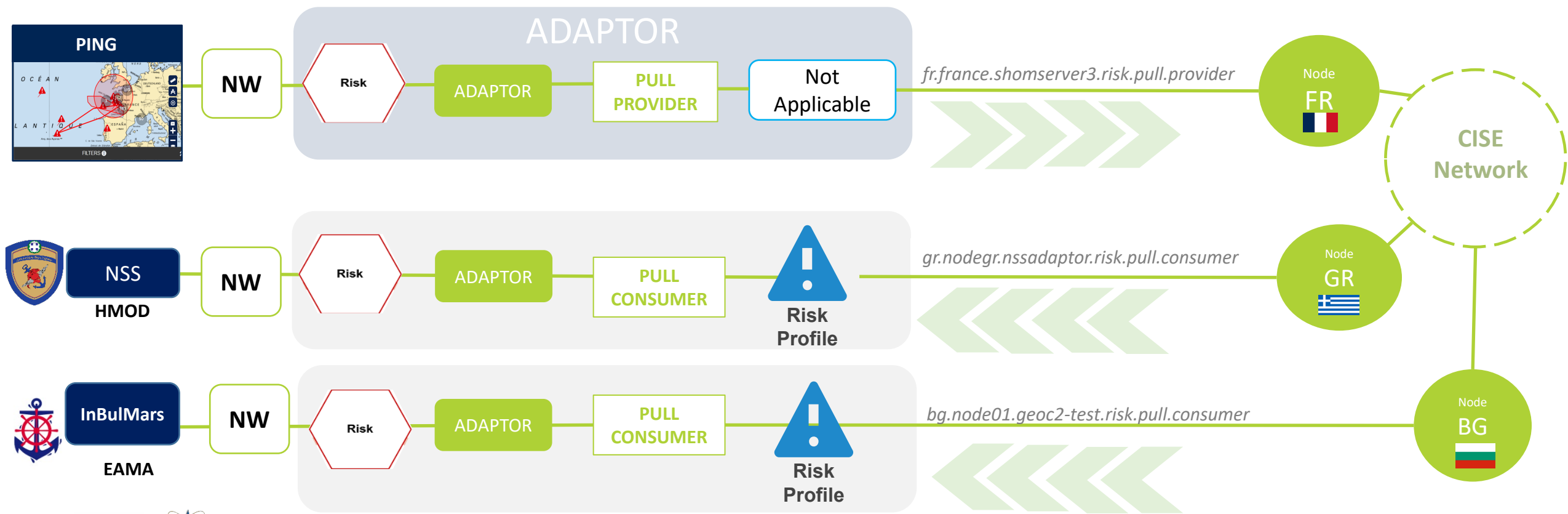




# Adaptor 2: Nav Warnings

## Data model entity & Protocol

WHAT ?		HOW ?			SERVICE ID IN CISE NODE INTERFACE ?
System ?	Info/ Data ?	Service(s) ?	Protocol & Role ?	Operational Service ?	⇒ Service name in CISE Interface: Code/country/LS Name.Protocol.Role





# Configuration of adaptator with a Risk object

xml example:  
Extract from **Training Booklet** produced by HMOD:



```

<Risk xmlns:ns2="http://www.cise.eu/servicemodel/v1/authority/" xmlns:ns3="http://www.cise.eu/servicemodel/v1/service/"
xmlns:ns4="http://www.cise.eu/servicemodel/v1/message/" xmlns:ns5="http://www.cise.eu/datamodel/v1/entity/location/"
xmlns:ns6="http://www.cise.eu/datamodel/v1/entity/document/" xmlns:ns7="http://www.cise.eu/datamodel/v1/entity/organization/"
xmlns:ns8="http://www.cise.eu/datamodel/v1/entity/incident/"
  <Identifier>
    <GeneratedBy>
      <AlternativeName>SATWAYS</AlternativeName>
      <IdentificationNumber>SATWAYS</IdentificationNumber>
      <LegalName>SATWAYS</LegalName>
      <OrganizationClassification>Governmental</OrganizationClassification>
      <OrganizationPurpose>MarineEnvironment</OrganizationPurpose>
      <OrganizationPurpose>MaritimeSafetyAndSecurity</OrganizationPurpose>
      <OrganizationRole>NonSpecified</OrganizationRole>
    </GeneratedBy>
    <GeneratedIn>2024-03-06T07:52:29.358Z</GeneratedIn>
    <UUID>d57aa869-6df1-445e-997d-a0a2ef8abaf1</UUID>
  </Identifier>
  <Metadata>
    <Description/>
  </Metadata>
  <RiskLevel>High</RiskLevel>
  <RiskProbability>Frequent</RiskProbability>
  <RiskSeverity>Catastrophic</RiskSeverity>
  <RiskType>Accident</RiskType>
  <LocationRel>
    <Location>
      <Geometry>
        <Altitude>0.0</Altitude>
        <Latitude>37.818191984242375</Latitude>
        <Longitude>25.77529907226563</Longitude>
        <WKT>POINT (25.77529907226563 37.818191984242375)</WKT>
      </Geometry>
    </Location>
  </LocationRel>

```

### CISE Risk Important Fields

- Identifier
  - GeneratedBy providing the IdentificationNumber
  - UUID
- RiskLevel
- RiskProbability
- RiskSeverity
- RiskType
- OccurencePeriod , UTC Start / End Date
- Location WKT Point Geometry



# Configuration of adaptator with a Risk object

## Current xml illustration

```
<Risk>
<Identifier>
<UUID>
nw_published_avurnav_toulon_v2_en.fid--6678a655_191be711143_-159e
</UUID>
</Identifier>
<Metadata>
<Abstract>generalarea</Abstract>
<Comments>PROVENCE</Comments>
<Language>eng</Language>
<PublicationDate>2024-09-04T00:00:00.000Z</PublicationDate>
</Metadata>
<OccurrencePeriod>
<Duration>P0Y1M0DT0H0M0S</Duration>
</OccurrencePeriod>
<RiskLevel>NonSpecified</RiskLevel>
<RiskProbability>NonSpecified</RiskProbability>
<RiskSeverity>NonSpecified</RiskSeverity>
<RiskType>Accident</RiskType>
<LocationRel>
<Location>
<Geometry>
<WKT>
POLYGON ((5.500016666775801 42.96668333351419, 5.633350000356742 43.03835000008024, 5.633350000356742 42.666683333136895,
5.500016666775801 42.666683333136895, 5.500016666775801 42.96668333351419))
</WKT>
</Geometry>
</Location>
</LocationRel>
</Risk>
```



# Tests with project partners

Logs in CISE French node interface showing activity between GR and FR systems

Navigational Warnings from PING displayed in HMOD system (Sept 2024)

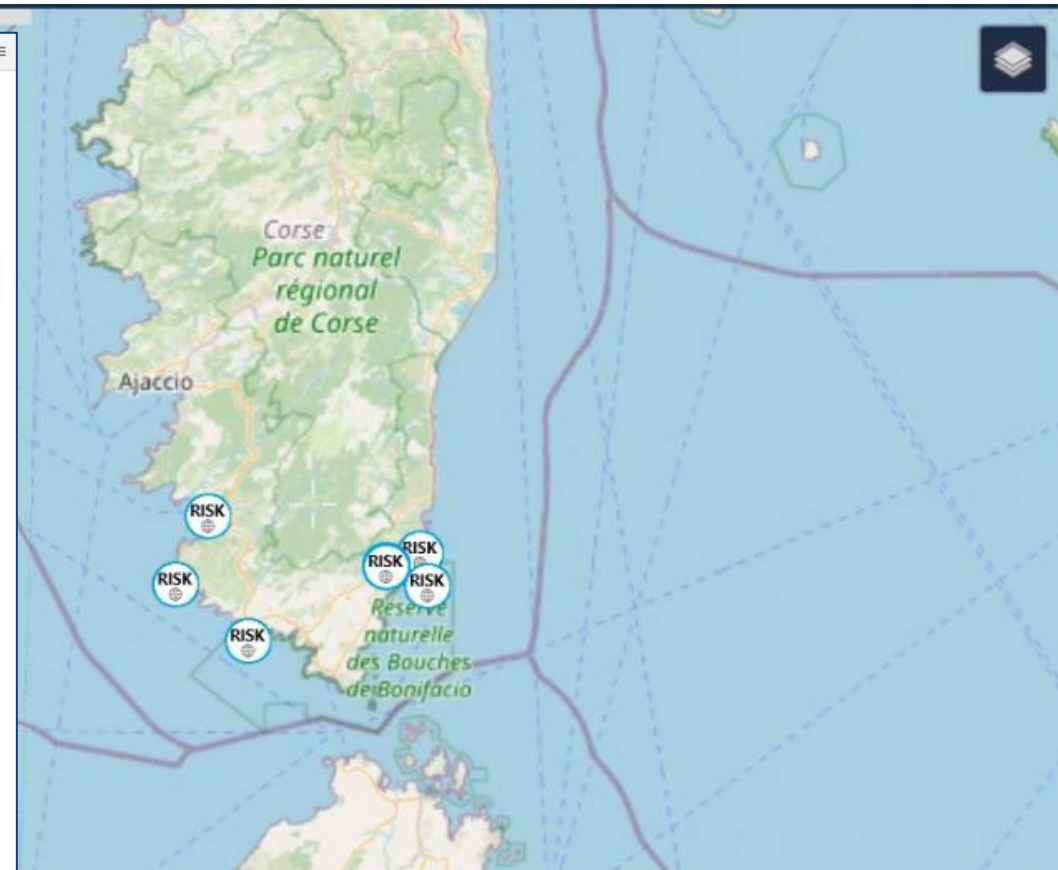
https://console.int.france.fr.cisenet.eu/my-node/accounting/service-events

SEARCH

Start date: 05/09/2024 08:48 End date: 05/09/2024 10:48 User: Element: Event Type...

Service ID: Element: CLEAR SEARCH

Timestamp ↓	Service ID	User	Element	Event Type	Description	Details
05/09/2024 10:11 CEST	fr.france.shomserver3.risk.pull.provider/gr.nodegr.nss-adaptor.risk.pull.consumer	system	message	message_sent	Message with MessageID: 5b8e86c6-2466-4a59-b226-70309baf4264_03953b0d-8a60-4cf6-aeae-4718fcbd310b sent	
05/09/2024 10:11 CEST	fr.france.shomserver3.risk.pull.provider/gr.nodegr.nss-adaptor.risk.pull.consumer	system	message	message_to_be_sent	Message with MessageID: 5b8e86c6-2466-4a59-b226-70309baf4264_03953b0d-8a60-4cf6-aeae-4718fcbd310b to be sent	
05/09/2024 10:11 CEST	fr.france.shomserver3.risk.pull.provider/gr.nodegr.nss-adaptor.risk.pull.consumer	system	message	message_authorized	Message with MessageID: 5b8e86c6-2466-4a59-b226-70309baf4264 authorized	
05/09/2024 10:11 CEST	fr.france.shomserver3.risk.pull.provider/gr.nodegr.nss-adaptor.risk.pull.consumer	system	message	message_addressed	Message with MessageID: 5b8e86c6-2466-4a59-b226-70309baf4264 addressed	
05/09/2024 10:11 CEST	fr.france.shomserver3.risk.pull.provider/gr.nodegr.nss-adaptor.risk.pull.consumer	system	message	message_prioritised	Message with MessageID: 5b8e86c6-2466-4a59-b226-70309baf4264 prioritised	
05/09/2024 10:11 CEST	fr.france.shomserver3.risk.pull.provider/gr.nodegr.nss-adaptor.risk.pull.consumer	system	message	message_verified	Message with MessageID: 5b8e86c6-2466-4a59-b226-70309baf4264 verified	
05/09/2024 10:11 CEST	fr.france.shomserver3.risk.pull.provider/gr.nodegr.nss-adaptor.risk.pull.consumer	system	message	message_received	Message with MessageID: 5b8e86c6-2466-4a59-b226-70309baf4264 received (REST)	
05/09/2024 10:11 CEST	fr.france.shomserver3.risk.pull.provider/gr.nodegr.nss-adaptor.risk.pull.consumer	system	message	message_sent	Message with MessageID: 8290e82d-dff3-44ec-b879-a3627d761d8b sent	



Request Responses Query Filters Access Rights Share

	Sender	Recipient	Type	Message ID	Correlation	Route	Creation Date	No. Entries
1	fr.france.shom...	gr.nodegr.nss-...	RiskService	0421658b-098d...	dd32550b-73fb...	Incoming	06/09/2024 10:...	102





## Challenges:

- Node fully operational and connected is key
- Time and resources need to be allocated for full understanding of environment, data model and notion of Services
- Combined understanding of both field operational needs and technical requirements is mandatory.
- Implementation of same attributes necessary for full interoperability

## Recommendations:

- **EMSA Tools:** CISE CATALOGUE, Wiki...
- CISE Alert Training booklet (by HMOD) available with illustrated examples for each step
- Refer to existing available xml examples
- Anticipation of evolution of data model to comply with standards in place or up-coming.  
Ex: Navigational Warnings: S124 based on guidelines set in the joint IHO/IMO/WMO Manual on Maritime Safety Information (MSI) which will be at term used on ECDIS onboard vessels



# CISE-ALERT

CISE's operationalization launch through A Long Endurance and Real live Test

Thank you !



L'océan en référence

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Projet CISE ALERT – VIP Days Rome – 12 Sept 2024

