



The Standards People

# Opportunities for the CISE communities exploiting standardization

Presented by:

Paolo Pagano (CNIT, ETSI CDM Chair)

to:

**CISE ALERT VIP DAYS**

ASI headquarters – Rome (I), 12/09/2024





# Outline



- ETSI and CISE
- CDM scope and activities
- CISE Testing Platform project and assets
- Objectives & Opportunities      2024/25
- Conclusions



# ETSI and CISE

---



# EU recognized ESO



- European Telecommunications Standards Institute (ETSI) is a European Standardisation Organisation (ESO), officially recognized by the European Union
- Regulation (EU) No 1025/2012 (amended by Regulation (EU) No 2480/2022) - also known as the Standardisation Regulation:
  - a legal framework allowing the EC to request ESOs to draft standards for goods and services in support of EU policies and EU law, for EU support of the European Standardisation System (ESS)
  - a central role to three ESOs, namely CEN, CENELEC and ETSI. To date, these are the only entities allowed to develop European standards in support of EU legislation.



# ETSI initiative: the ISG CDM

Industry Specification Group for European CISE service and Data Model



- ETSI started CISE standardization in 2019
  - focusing on the development of technical specifications to allow data exchange among different legacy systems in a cooperative network;
  - enabling User Communities, Member States, Public Authorities and EU Agencies to facilitate information exchange between all parties.
- Results (as of Aug 2024):
  - comprehensive review of the technical reports and specifications for the maritime domain (release 1);
  - extension of the maritime CISE Data Model to the Land Border Surveillance Domain (release 2);
  - two funded initiatives (STF - Specialist Task Forces) completed.
- New technical activities (started in 2024):
  - SAREF4MARI ontology extension to include the maritime domain and the CISE Data Model (jointly with TC SmartM2M);
  - TVRA and security requirements for CDM (supported by TC CYBER);
  - Integration of underwater communications protocols and data format (GUWMANET/GUWAL).
  - (forthcoming) Extension of the CDM Data Model based on the outcomes of the EU funded AI-ARC project (situational picture in Arctic regions)
  - (to be decided) A collaboration with IMO/FAL around the “Compendium on Facilitation and Electronic Business”

ISG CDM Members:

<https://portal.etsi.org/TB-SiteMap/CDM/List-Of-CDM-Members>

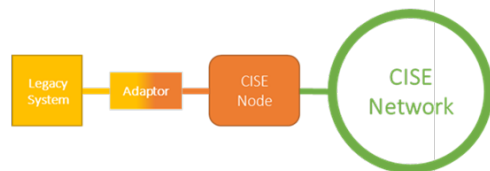
new members: Fraunhofer (DE), Telecom Italia (I), Ecole des Mines – Saint’ Étienne (F), Universidad Politécnica de Madrid (ES)

# ETSI ISG CDM - Outputs

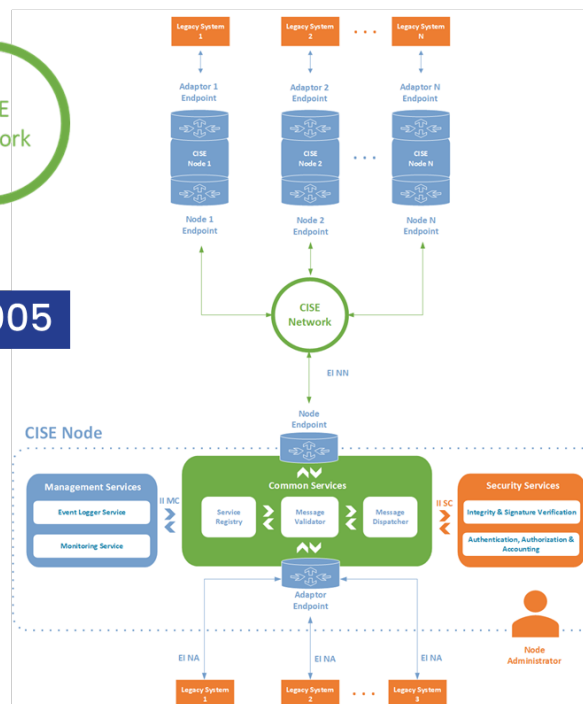


Use Cases CDM-001

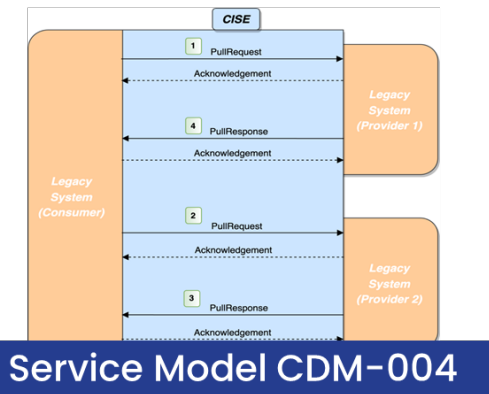
System-level specs CDM-002



Architecture CDM-003



Data Model CDM-005



Service Model CDM-004

Results (as of Aug 2024):

- comprehensive review of the technical reports and specifications for the maritime domain (release 1):
  - alignment with the CISE Operational Phase led by EMSA;
- extension of the maritime CISE Data Model to the Land Border Surveillance Domain (release 2);
- 15 standards in force (Release 1 & 2)
  - 12 published in July/Aug 2024.

# CISE- Testing Platform Project (STF637)

---





# Why a Testing Platform ?



## ● Motivation :

- in the EC [Rolling Plan 2022](#)
  - also recalled in RP 2023 and RP 2024

## ● Funding:

- EISMEA call SMP - STAND- 2022- ESOS- 01- IBA
- Project: 101099627-CISE Data Model ([ETSI STF637](#))

## ● Objectives

- a Testing Platform (a private cloud with requested tools and services);
- a Test Suite validated against a reference implementation (i.e., a CISE v2 test node and candidate adaptor);
- an updated set of CISE normative standards (architecture, data and service models).

## ● Timeline:

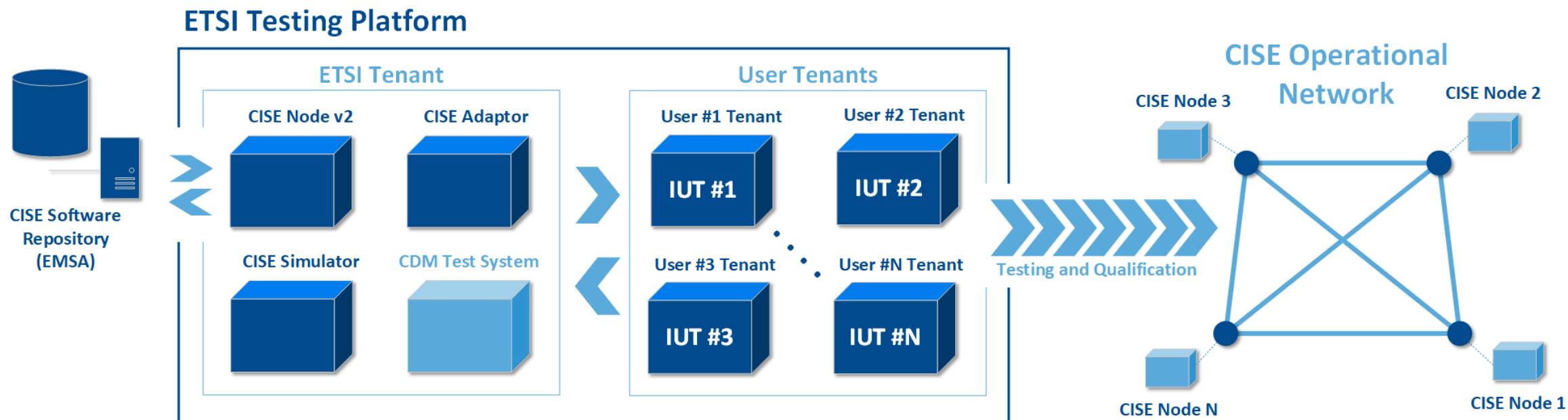
- Jan 2023 → Jul 2024



# ETSI Testing Platform

Cloud-based solution:

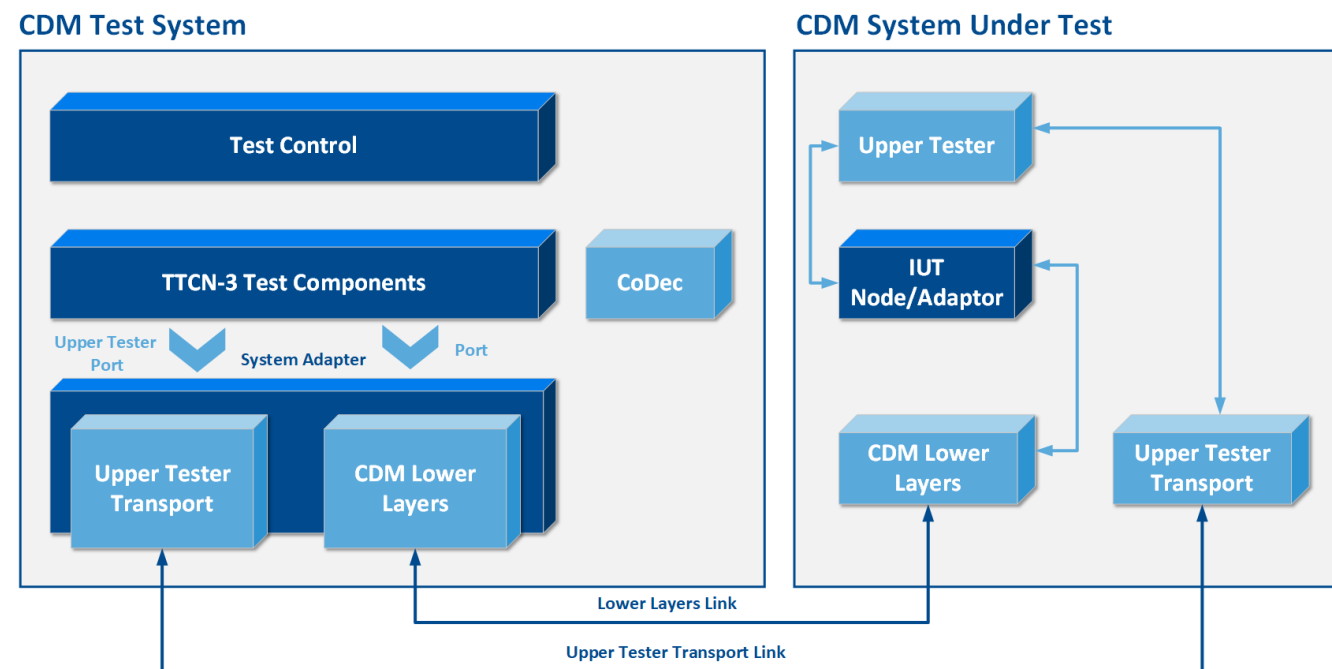
- including CISE Node v2 (copy of DEU CISE node installed in Cuxhaven), CISE Adaptor, CISE Simulator v1.4.4 and CDM Test System.
- accessible by MS authorities for the validation of candidate CISE Nodes and/or Adaptors (\*).



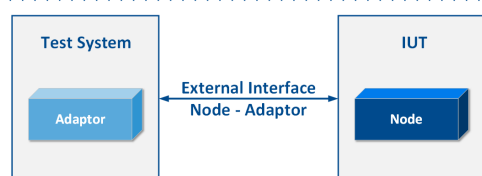
(\* ) Plugtests (interop) campaign will be organized by ETSI in 2025 using EU/EISMEA funds

# ETSI CDM Test System

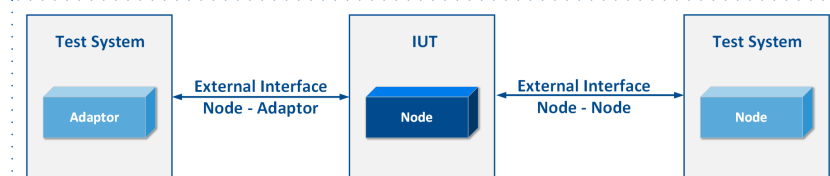
- Allows the execution of all developed test cases against a given IUT;
- Up and running on ETSI Testing Platform;
- Supports three different testing configurations for conformance and interoperability testing;
- Used for conformance testing against Simulator, Nodes and Adaptors:
  - Services: Vessel, Action Anomaly, Certificate Document, Incident, Irregular Migration Incident, Law Infringement Incident, Meteorological Conditions, Organization, Risk, Cargo
  - Operation Types: pull (including security), discovery, subscribe, notification, feedback



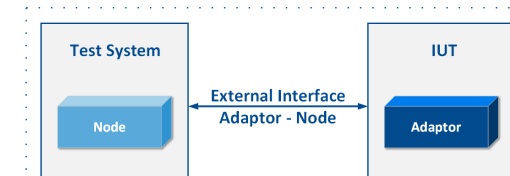
Testing Configuration 1 (Node - Adaptor)



Testing Configuration 2 (Node - Node)



Testing Configuration 3 (Adaptor - Node)



# Objectives & Opportunities 2024/25

---



# What to do together?

ETSI invites you to fill in a questionnaire by Sep 30th (← 2nd extended deadline):

- to check CSG (members and contractors) interest in the Testing Platform;
- to properly manage the access and the use of the private cloud;
- to have a clear understanding of the Use Cases you are considering in the Operational Phase and beyond.

## ETSI Testing Platform CSG questionnaire

### Preamble

From 2019, upon the completion of the EUCISE2020 project, with the unanimous support of the consortium and the EU Commission, ETSI has framed the CISE standardization activities into an Industry Specifications Group (ETSI ISG CDM), open to every institutional and industrial organizations.

ETSI standards are expected to enable cross-sectoral and cross-border information exchange between European public authorities linked via the CISE. The CISE standards published so far can be found from ETSI website ([ETSI CDM](#)).

ETSI standards are published in “releases” allowing the implementers to progressively migrate from one release to the next one without disrupting the reached degree of conformity.

The activities of ISG CDM also include conformance testing and validation of candidate nodes and adaptors exploiting the recent implementation of a Testing Platform hosted by the CNIT laboratory in Livorno.

### Activities on the Testing Platform

The Testing Platform is organized as a private cloud. The users are expected to provide their own implementation of the CISE assets (e.g. new implementation of nodes or adaptors) to check their conformity with the normative standards or to experiment a full interoperability with other implementations.

Considering the Testing Platform nature, the conformance and interoperability testing can also be done from remote thus saving time and costs for the operators. Users can run conformity testing on their own at the time of their own choice. Further information and guidance on the use of and access to testing platform can be requested from the chair of the ETSI ISG CDM ([paolo.pagano AT cnit.it](#)).

As ETSI organizes testing campaigns for conformance and interoperability (the so-called Plugtests™), it is also possible to test the interoperability between adaptors and nodes from different manufacturers. ETSI has provisionally considered Q1/2025 to organize Plugtests related to CISE standards.



# Funding opportunities (examples)



An official EU website How do you know? ▾

European Innovation Council and SMEs Executive Agency (EISMEA)

**EISMEA**

The Agency implements the European Innovation Council and manages other EU programmes focusing on SME support, innovation and the single market

About EISMEA >

as STF637  
(Testing Platform)

**Horizon Europe**

as ANDROMEDA  
and AI-ARC



as STF672  
(land border extension)

# Finally...



## Participate in ETSI ISG CDM

- no need of being ETSI members
  - most EU institutions are members anyway
- meeting on-line on a regular basis (6 plenary VTC a year)
- forthcoming F2F plenary Q4/2024
- technical support and collaboration (e.g. participation to interoperability events)

# Wrap-up



## Discussed

- on-going activities and deployed assets through ETSI ISG CDM activities
- relevance of these activities, as from the EU RRF 2022/24
- opportunities offered by EU funded programmes

## Expectations

- to increase awareness of CISE standardization activities in ETSI
- to encourage CSG to conform with ETSI standards
- to inform about the existence of ETSI testing platform
- to gather information on the need to use the testing platform (please fill in the questionnaire)
- to gather more participation to the ETSI ISG CDM from MS attending CSG

# ETSI CDM Contacts



Paolo Pagano

ETSI ISG CDM Chairman

Director of CNIT Laboratory @ Port of Livorno

Dogana d'Acqua di Livorno - 57123 - Italy

Tel: +39 340 40 34 214

[paolo.pagano@cnit.it](mailto:paolo.pagano@cnit.it)



Joachim Beckh

ETSI ISG CDM Vice Chairman

Project Manager Cloud Solutions

IBM Consulting / Cluster Defense & Intelligence

Tel: +49 174 99 66 805

[joachim.beckh@ibm.com](mailto:joachim.beckh@ibm.com)

ETSI CDM technical officer: Andrea Lorelli ([andrea.lorelli@etsi.org](mailto:andrea.lorelli@etsi.org))





Thank you for your attention

# Rolling Plan 2024 (upon request)



What is the Interoperable Europe space on [Joinup](#)?

- It's the European Commission's initiative for a reinforced interoperability policy showcasing news and events about government-related interoperability, along with initiatives and best practices that support the digitalisation of EU public administrations. Interoperable Europe covers the policy angle of interoperability.

The annual [Rolling Plan for ICT Standardization](#):

- a unique bridge between EU policies and standardisation activities concerning information and communication technologies (ICT).
- result of an annual dialogue involving a wide-range of interested parties as represented by the European multi-stakeholder platform on ICT standardisation (MSP).
- The Rolling Plan focuses on actions that can support EU policies and does not claim to be as complete as the work programmes of the different standardisation bodies.

# Rolling Plan 2024



## The Rolling Plan:

- considers EU policies subject to ICT standardization in:
  - FOUNDATIONAL DRIVERS (e.g. ePrivacy), KEY ENABLERS (5G and Cloud) and SOCIETAL CHALLENGES (e.g. eGovernment), INNOVATION FOR THE DIGITAL SINGLE MARKET (e.g. eProcurement), SUSTAINABLE GROWTH (e.g. ITS-CCAM, [CISE](#)).

## For each subject:

- surveys the topic from the institutional perspective (A)
- proposes a set of actions (B)
- lists the reference activities in SSO (C), where to frame the actions

## Through (notably among others) EISMEA:

- the EC can support projects implementing the actions in (B)



# RP 2024: CISE Actions



## COMMON INFORMATION SHARING ENVIRONMENT (CISE) for the EU maritime domain

(A.) Policy and legislation

(B.) Requested actions

**Action 1:** Based on the existing CISE architecture, data and service model, complete semantic and technical interoperability specifications within the CISE network to exchange surveillance information between competent authorities could be standardised.

**Action 2:** The following complementary actions could be developed in addition to the standardisation action (these activities will have to take into account future developments to extend the CISE components to other domains such as Land Border Control):

- Development of reference specifications (i.e. the CISE Data and Service model) to be used for the CISE software components to facilitate the adoption of CISE by interested authorities.
- Assessment of the digital solutions based on CISE developed by the MS authorities to prove the conformity with the standardised specifications making use of the ETSI Testing Platform. These activities will have to take into account future developments to extend the CISE components to other domains such as Land Border Control.
- Organization of interoperability testing campaigns among MS authorities exploiting the digital facilities provided by the ETSI Testing Platform.
- Development of template service level agreement or memorandum of understanding for the future agreements on sharing information between Member States, taking into account the one developed in the framework of the CISE transitional phase

Action 1- Completion of standardization:

- complete semantic and technical interoperability specifications, i.e. work on the existing CISE and provide complete specifications for E2E interoperability
  - this is mapped into the completion of the CDM TWP

Action 2- Assessment and extension (in bold using the ETSI platform):

- **Action 2a: standardizing CISE beyond maritime (for land borders, etc.)**
- **Action 2b: assessing CISE-based solutions adopted by Member States (e.g. adaptors)**
- **Action 2c: organization of interoperability testing campaigns (e.g. Plugtests)**
- **Action 2d: preparation of template Service Level Agreement or Memorandum of Understanding for CISE-based communication among MS**