



Achievements of the CISE's Reference Implementation

EUCISE 2020

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EUCISE2020 received funding from the European Union's seventh framework programme under grant agreement no: 608385





- CISE Framework
- Project basic information
- EUCISE2020 status
- Network Architecture and Functions
- Transition to CISE





CISE: Common Information Sharing Environment

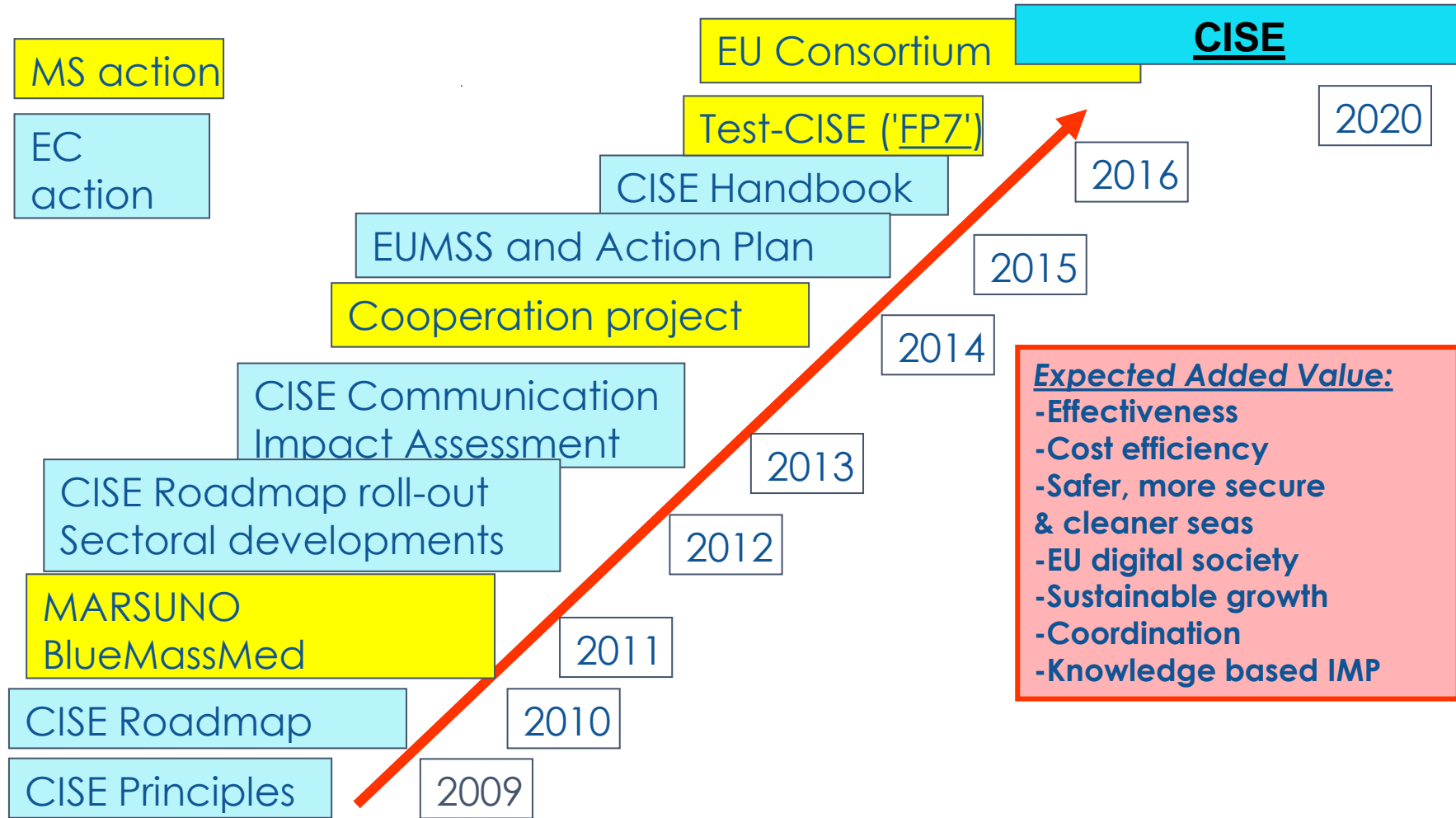


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Cross – Sectorial interoperability for better **“Maritime Governance”**



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EUCISE2020 Partners

- 39 Partners
- 15 EU/EEA maritime Countries
- Open to new partners and to collaborations with EU Agencies



- ★ Maritime Authorities
- ◇ Experts
- Research Institutions

Two new partners:

1. SGMER – France
2. Ministry of Fishery - Spain



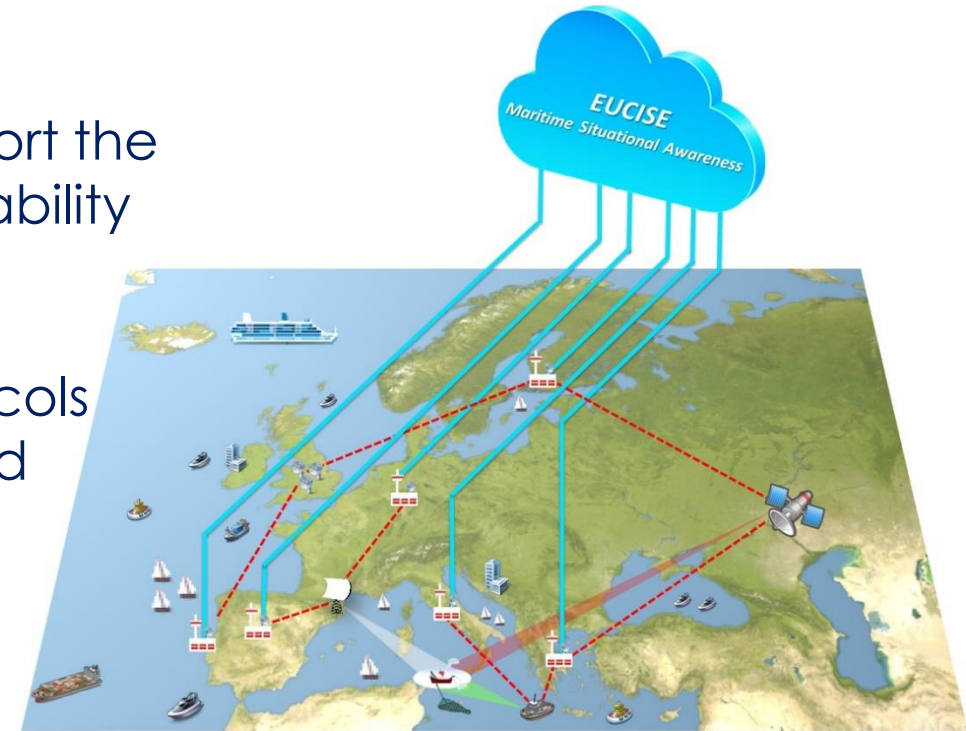
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Primary mission of EUCISE2020 is to support the EU Maritime Situational Awareness capability by means of an **Information Sharing Environment** capable to implement adequate security measures and protocols ensuring the confidentiality, integrity and availability of the data required and transmitted in the CISE community.

EUCISE2020 will not affect the functionalities of the operational information systems belonging to the participating Public Authorities or of the European existing sectorial information systems.



Blue lines depict flows of information within the CISE community, while the red dashed lines depict flows of information within the legacy systems belonging to single Public Authorities.





EUCISE2020 Principles

- Military/civilian cooperation;
- Management of EU RESTRICTED information through a special channel
- Complete decentralization according to CISE Hybrid Architecture: no central system, no central database
- Independence from any system and sensor
- Independence from any national or European architecture
- Firm adherence to standards and open source software
 - Adherence to the CISE data and service models
 - EUCISE2020 will promote standardizations groups inside the EU bodies (ETSI)
- Open to new partners and to European Agencies
- IPR management and sharing
- Common technical architecture





USER FUNCTIONS

User functions have been analysed with reference to 9 different operational scenarios studied in the Cooperation project and enhanced in the first phase of the project:

- Use Case 13b: Inquiry on a specific suspicious vessel (cargo related).
- Use Case 13c: Inquiry on a specific suspicious vessel (crew and ownership related).
- **Use Case 25b**: Investigation of antipollution situation (law enforcement).
- **Use Case 37**: Monitoring of all events at sea in order to create conditions for decision making on interventions.
- **Use Case 44**: Request for any information confirming the identification, position and activity of a vessel of interest.





USER FUNCTIONS

- **Use Case 57:** Knowledge of surveillance capacities of partner authorities in a given sea area to plan basic tactical surveillance (Baseline and Targeted operations).
- **Use Case 70:** Suspect Fishing vessel/ small boat is cooperating with other type of vessels (m/v, Container vessel etc.).
- **Use Case 85:** Anti-Piracy Maritime Surveillance and free navigation control: Merchant vessels at sea (outside Territorial waters) sends an alert that it is under Piracy attack.
- **Use Case 93:** Detection and behavior monitoring of IUU listed vessels.

For each of the above mentioned scenario a full set of operational views for operational node connectivity and operational activity model are defined.





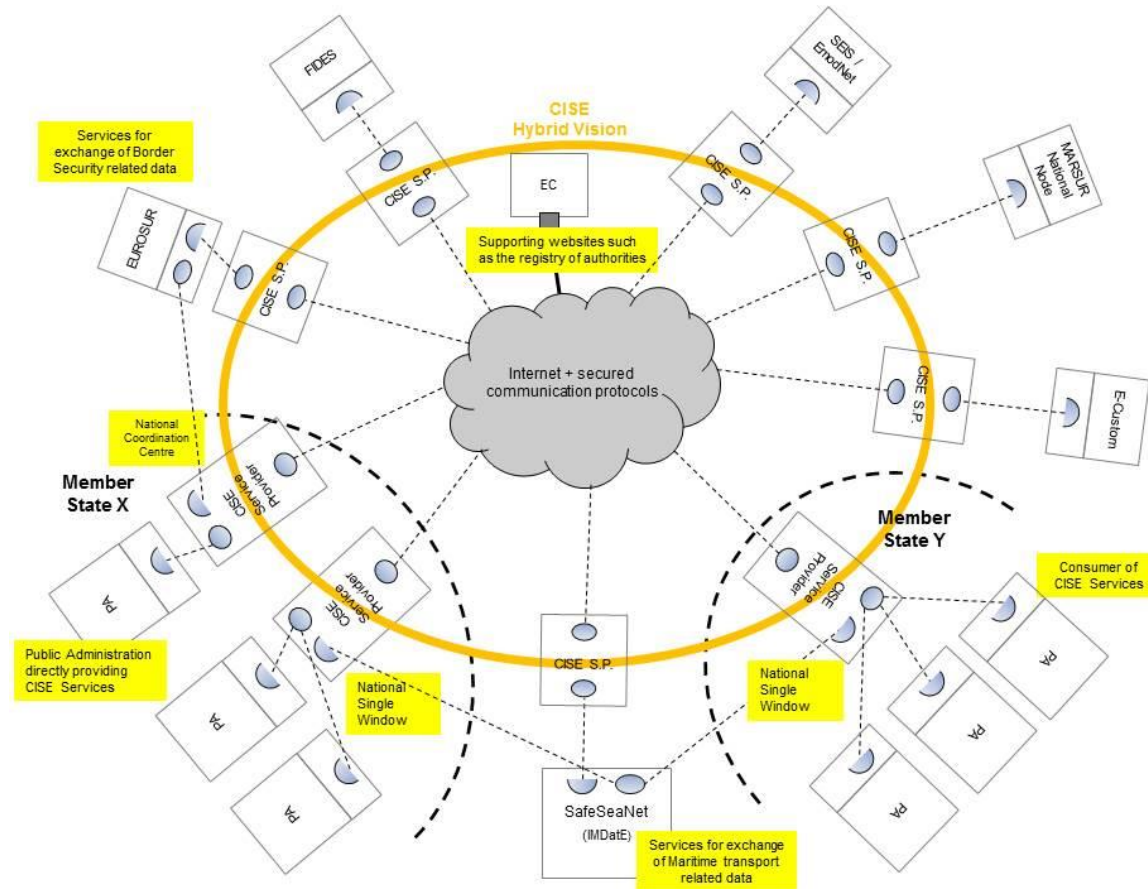
NETWORK TOPOLOGY

The network topology of EUCISE2020 is based on the CISE hybrid vision concept. Each Member State and Community can adopt one of the following paradigms:

- Single-way approach: All Public Authorities of a Member State are connected to the EUCISE2020 Network through a single access point
- Multiple-way approach: Public Authorities of a Member State are connected to the EUCISE2020 Network through different access points



Hybrid CISE architecture





Common EUCISE2020 system configurations will include the following components:

- **CISE Adaptor** allows a Legacy System (LS) to connect to a CISE Gateway. It translates the LS data into the common CISE Data Model
- **CISE Gateway** (GW) implements the common CISE specifications and implements the CISE messaging protocol to exchange with the CISE adaptor or with the other CISE Gateways
- **CISE Node** (NODE) is an enhanced gateway, capable of performing advanced business related activities like fusion and storing of information (EUCISE Advanced Services).





Three different configurations of the EUCISE2020 network architecture are implemented:

- **Configuration A:** single Public Authority belonging to a single Member State will connect to EUCISE2020 contributing with a single Legacy System
- **Configuration B:** each Public Authority of the same Member State taking part in the EUCISE2020 information exchange connects its own Legacy System to a dedicated Adaptor; several Adaptors connect to a EUCISE2020 Gateway type B that will access the EUCISE2020 Network.
- **Configuration C:** Public Authorities belonging to the same Member State connect their Legacy Systems to the EUCISE2020 Network through a single EUCISE2020 Node type C

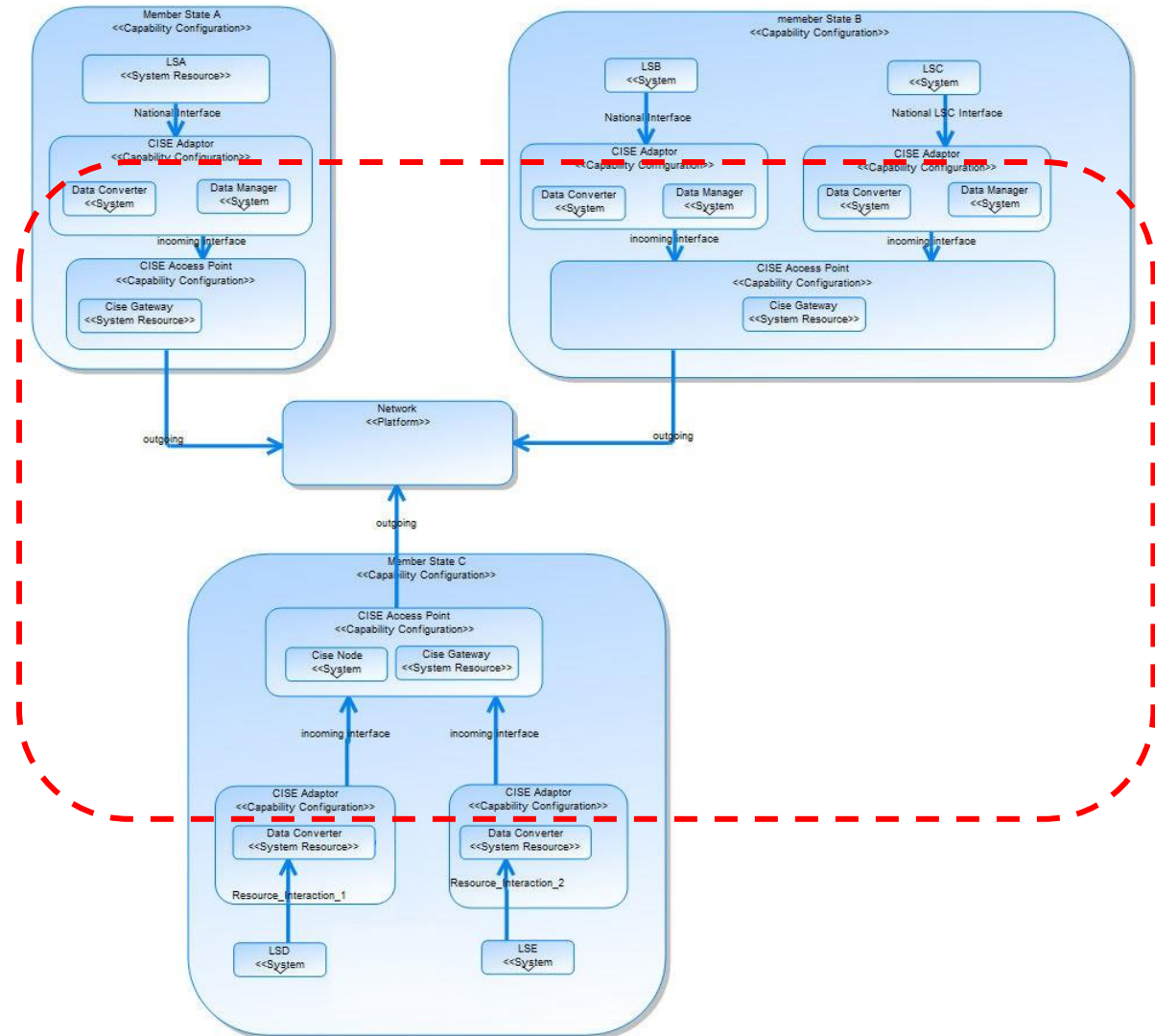




Logical Architecture of EUCISE2020 Configurations A, B and C:

A, B and C:

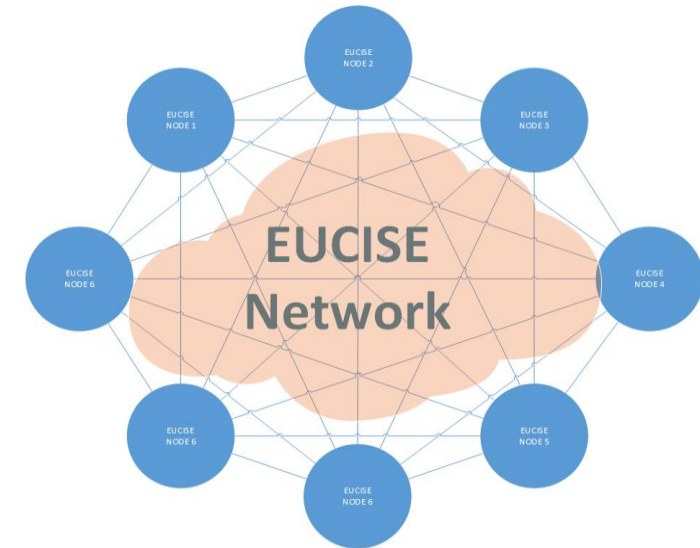
- Inside the red line components developed through the European tender
- Outside the red line interfaces developed through the national procurements





Status at 31 May 2018

- Installation and test of the first group of 5 nodes (FI, DEU, NO, PT, DISS HUB) completed in April
- Integration with legacy systems and initial information exchange among 3 nodes (FI, PT, DISS HUB) completed today
- Live demonstration on the exchange of information among the integrated nodes: EUCISE2020 Workshop of 01/06/2018 (Burgas Free University - Room 110, floor 1)
- Second group of nodes (7) installed and integrated as soon as each is ready





- The result of the project will be a validated technical and operational reference framework
- Enhanced maritime awareness will help ensuring more secure, safer and cleaner seas
- Clear evidence of the cost/effectiveness of the approach will be provided
- The consolidation of requirements and joint procurement will lead to future reduced procurement and maintenance costs
- Participants will verify and optimize their technological choices
- The results will create important market opportunities worldwide for the European industry





Transition to CISE Implementation

EUCISE2020 Consortium highlight the need to plan the transition to CISE Implementation, taking into account the goal to have CISE operational by 2020.

The Project Consortium highlights the following points:

- The need to maintain operational the information exchange infrastructure between the 11 countries participating in the pre-operative CISE phase after the end of EUCISE2020 (December 2018)
- Definition of infrastructure governance criteria implemented
- Protection of the intellectual property of the partners, who financed the pre-operative phase
- Adherence of CISE Implementation to CISE principles, to which EUCISE2020 conformed; in particular:

Cross-sector and cross-border exchanges of information

Inclusion of all user communities

Civilian military cooperation

Fully decentralized architecture without centralized databases or monitoring functions

Full adherence to functional and technological standards

System to system interoperability





The Transition Project

- The European partners participating in EUCISE2020 are convinced of the need for a smooth transition between the results of EUCISE2020 and CISE; the transition shall avoid an undesired new start
- The transition shall start as from January 1, 2019, without interruption, to avoid the deterioration of the network already realized, and the vanishment of competence, knowledge, experience, and the investments made.
- Partners consider that the operational management of CISE operational implementation must remain under the direct control of MSs and EU maritime authorities
- The CISE transition must be based on the collaboration of the core group of European maritime Partners that have already established their own national nodes in the EUCISE2020 network (other partners, European maritime States and authorities, European agencies are welcome)





Transition Project

- EUCISE 2020 Authorities managing the current operational network intend to promote a EU Consortium to manage the Transition Project
- The Consortium is open to other interested European maritime States and authorities, European agencies are welcome
- The Consortium envisages the support of one EU Agency for the legal, technical, administrative and logistical activities
- The project shall start from January 2019
- The proposal will be presented to DG MARE in June





THANK YOU FOR ATTENTION!

<http://www.eucise2020.eu/>



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Achievements of the CISE's Reference Implementation

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