



EUCISE 2020



# EUCISE2020

## EUropean test bed for the maritime Common Information Sharing Environment in the 2020 perspective

*September, 23, 2015*



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





- EUCISE2020 Context and challenges
- Roadmap and principles
- Legal References
- FP7 Topic and objectives
- EUCISE2020 fundamentals



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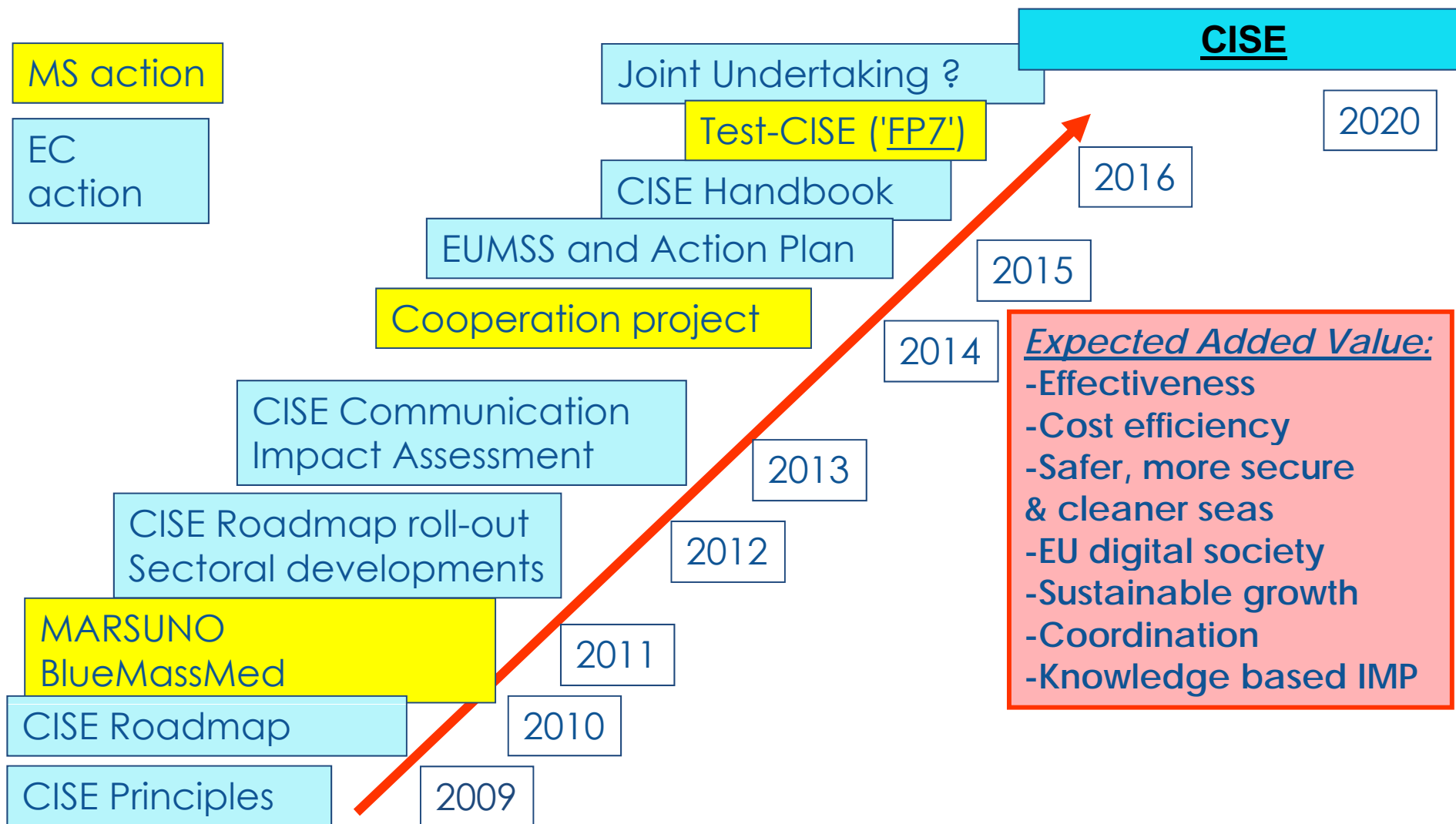
Surveillance activities are carried out by States but most of the activities and threats that they address are transnational in nature. Within most States surveillance activities concerning fisheries, the environment, policing of the seas including traffic monitoring, or border control fall under the responsibility of several different enforcement agencies operating independently from each other. *The aim of integrated maritime surveillance is to generate a situational awareness of activities at sea, impacting on*

- Maritime safety and security
- Border control
- Maritime pollution and marine environment
- Fisheries control
- General Law enforcement
- Defence
- Trade and economy





CISE: Common Information Sharing Environment  
Cross – sectorial interoperability for better “Maritime Governance”





- ***CISE is a set of specifications for interoperability***

Once Member States implement them, information will be easier to share.

- ***CISE will be based on the work of the Pilot Projects (BluemassMed and MARSUNO) and of the Cooperation project***

These specifications will be based on the work of the Pilot Projects (BluemassMed and MARSUNO) and of the Cooperation Project.

- ***CISE will not impose any organisational constraints***

Member States are free to choose their service providers and consumers.

- ***EUCISE2020 will be the reference implementation of CISE***

Member States of 12 maritime EU/EEA Countries will jointly develop EUCISE2020, in connection with the EU Commission (DG MARE, JRC, DGIT, DG CONNECT), co-funded by FP7 Security Research-DG ENTERPRISE.

- ***EUCISE2020 architecture adopts the CISE Hybrid Vision Model***

Principles and technical solution will be based on the CISE Hybrid Vision model (CISE Architecture Visions Document - v3 00 - <http://www.eucise2020.eu/publications>).





- Creation / consumption of services in CISE should be facilitated as much as possible: the creation of a reference implementation of the services shall be envisaged
- EUCISE2020 will reuse building blocks of eSens (eDelivery, eInteraction, eID, eSignature...)
  - e-SENS (Electronic Simple European Networked Services: [www.esens.eu](http://www.esens.eu) ) *is a large-scale project that embodies the idea of European Digital Market development through innovative ICT solutions. The project will consolidate, improve, and extend technical solutions to foster electronic interaction with public administrations across the EU.*
  - e-SENS includes governance and vision on sustainability of IT solutions
  - Likely: output of e-SENS to become corporate Commission solution to connect public authorities in all policy domains





- The specifications of services and the common data model are based on the output of the pilot projects (BluemassMed and MARSUNO) and of the Cooperation Project
- The Incubator Project is taken under consideration
- High value services will be developed and integrated
- Specifications to be transformed into **standards**
- The long term vision is that IT providers of maritime surveillance technologies and solutions one day implement and test IT solutions EU wide based on commonly agreed international standards





- JOINT COM TO THE EUROPEAN PARLIAMENT AND THE COUNCIL “For an open and secure global maritime domain: elements for a **European Union Maritime Security Strategy**” – JOIN (2014) 9 final
- CISE - Com from the Commission to the European Parliament and the Council - [COM\(2014\)451 final](#) “Better situational awareness by enhanced cooperation across maritime surveillance authorities”
- Impact assessment - [SWD\(2014\)225 final](#)
- GENERAL AFFAIRS Council meeting, 23 May 2011 [Conclusions on Integration of Maritime Surveillance](#)
- [Com from the Commission to the Council and the European Parliament on a Draft Roadmap towards establishing of the Common Information Sharing Environment for the surveillance of the EU maritime domain \(COM\(2010\)584 final\)](#)
- GAERC [Conclusions on the Integration of Maritime Surveillance](#) (17.11.2009)
- [Commission communication on the integration of maritime surveillance](#) (2009)
- GENERAL AFFAIRS Council meeting, [Conclusions on Integrated Maritime Policy and Maritime Surveillance](#) (8.12.2008)  
*“The Council ..... confirms that an integrated approach to maritime issues constitutes a major objective, since the synergies, the coherence and the added value of sectional action ... need to be reinforced by being integrated into a comprehensive vision of the seas, oceans and coastlines, taking account of distinctive regional features and in accordance with the principle of subsidiarity.”*
- EU Council document, 2008 [Maritime surveillance - Overview of ongoing activities](#)





## EUCISE2020 references:

- 7 main initiatives sponsored by FP7 Security Research about maritime surveillance supporting the EUROSUR Roadmap: Perseus, I2C , Seabilla , Dolphin, Nereids, Simtisys + Pre Operational Validation Project Closeye
- 2 Pilot projects: BluemassMed and MARSUNO
- Cooperation Project
- CISE Incubator
- POV CISE to support the CISE Roadmap implementation





The large majority of existing maritime surveillance systems is characterized by:

- **verticality** – i.e., responds to the needs of a specific community,
- **operational nature** – i.e., supports operational processes more than exchange of information,
- **centralization** – i.e., centrally manages common resources.

These characteristics are very different from the CISE goals; only BluemassMed and MARSUNO, built as CISE pilots, fully respond to the cross-sector and cross-border CISE mission in terms of functions, architecture and governance models.





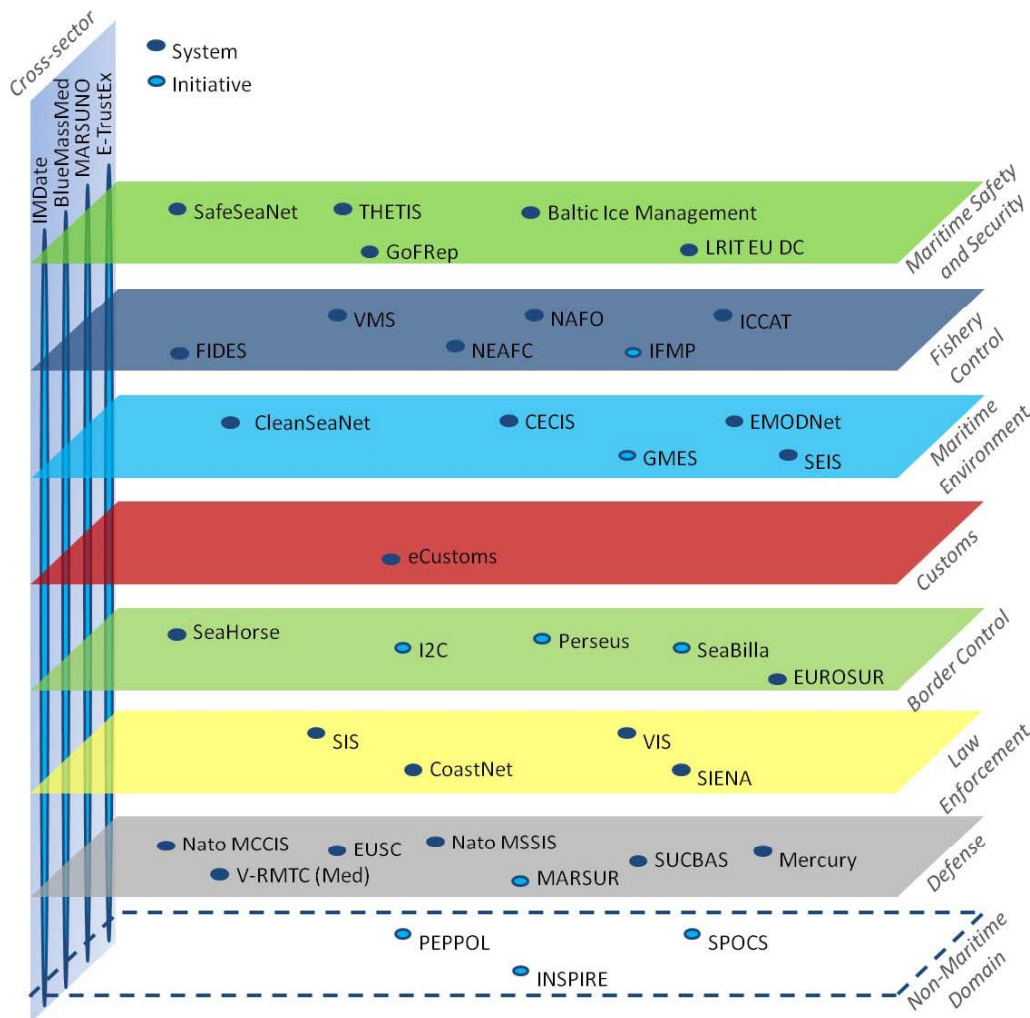
The existing CISE landscape includes a variety of systems and initiatives across all seven CISE User Communities. The nature of systems and initiatives and their purpose varies to a significant extent. However, according to studies promoted by DG MARE, a number of facts gives an overall characteristic of the existing landscape:

- 47% of studied systems/initiatives is central systems, representing stand-alone solutions with centralised data (e.g. CECIS, THETIS, CleanSeaNet, Coastnet, Baltic Ice Management, etc.)
- 25% of studied systems/initiatives is distributed networks, interconnecting existing (national) systems across EU
- The remaining part of the landscape represents a variety of initiatives, reports, studies and supporting projects (e.g. MARSUNO report, EUROSUR resource projects, the INSPIRE Directive, etc).
- The majority of the systems is focused on the exchange of unclassified data
- out of the full analyzed landscape, there are 4 large (having more than 1000 users, covering most of the Member States) operational systems (10%), namely CleanSeaNet, SafeSeaNet, SIENA and EUROSUR.
- **Only 3 initiatives (7%) out of the analyzed landscape are focused on cross-sector collaboration, namely BluemassMed, MARSUNO and IMDate.**





Source: Deloitte, 2012, *Draft Final report Study on current surveillance landscape and the resulting options for the Common Information Sharing Environment for Surveillance in the Maritime Domain (CISE)*



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According to the R&D Topic –"Testing the interoperability of maritime surveillance systems – POV (Pre-Operational Validation)"- EUCISE2020 will combine two components with synergistic effects:

- a. **Networking and coordination activities:** for public bodies in Europe to cooperate in the innovation of their public services through a strategy that includes POV.
- b. **Joint research activities:** related to validating the POV strategy jointly defined by the public bodies participating in the action. This would include the exploration of possible solutions for the targeted developments towards a prototype for CISE, and the testing of the proposed solutions against a set of jointly defined concepts of operations and performance criteria.





**The specific objective of EUCISE2020 is to have a test-bed network of nodes connecting participating public authorities for cross sectorial information services and data exchange; the network will be used to assess in the context of CISE:**

- the technical feasibility of option(s) for the Common Information Sharing Environment (CISE);
- the identification of technological alternatives for the achievement of the set of user defined operational objectives;
- the demonstration that there are existing innovative solutions (services) which provide the required capabilities;
- the feasibility of the integration of the proposed solution, taking into consideration the limitations imposed by the existing surveillance systems;
- the performance under realistic operational and formal conditions of the test bed developed;
- the cost-benefit ratio of the option(s) tested;
- the identification of the maturity level showed by the solution(s) in order to promote short/mid term utilisation;
- the definition of innovative applications, business models and procurement schemes that can facilitate the migration to these new solutions from the existing tools;





- the evaluation of the experimentation results, promoting their widening to future solutions;
- the definition of advisable technical management structure for CISE;
- elaboration of the action plan for the operational validation of new elements of R&D needed to develop CISE (concepts of architecture, concepts of operation, standards of data and services, new services, new processes, ...);
- development of an open European test bed for incremental advancement of CISE in the medium-long term;
- independent Verification & Validation of the new elements of R&D;
- assessment of organizational instruments necessary to sustain the appropriate governance structure and to stimulate public-private cooperation.

EU CISE 2020 draws a major space of opportunity for national and European maritime Institutions to collaboratively innovate their processes and systems, and for European enterprises to develop a new range of solutions and services competitive in the international market.





EUCISE2020 will not:

- Develop a new system
- Develop new sensors
- Connect networks of sensors



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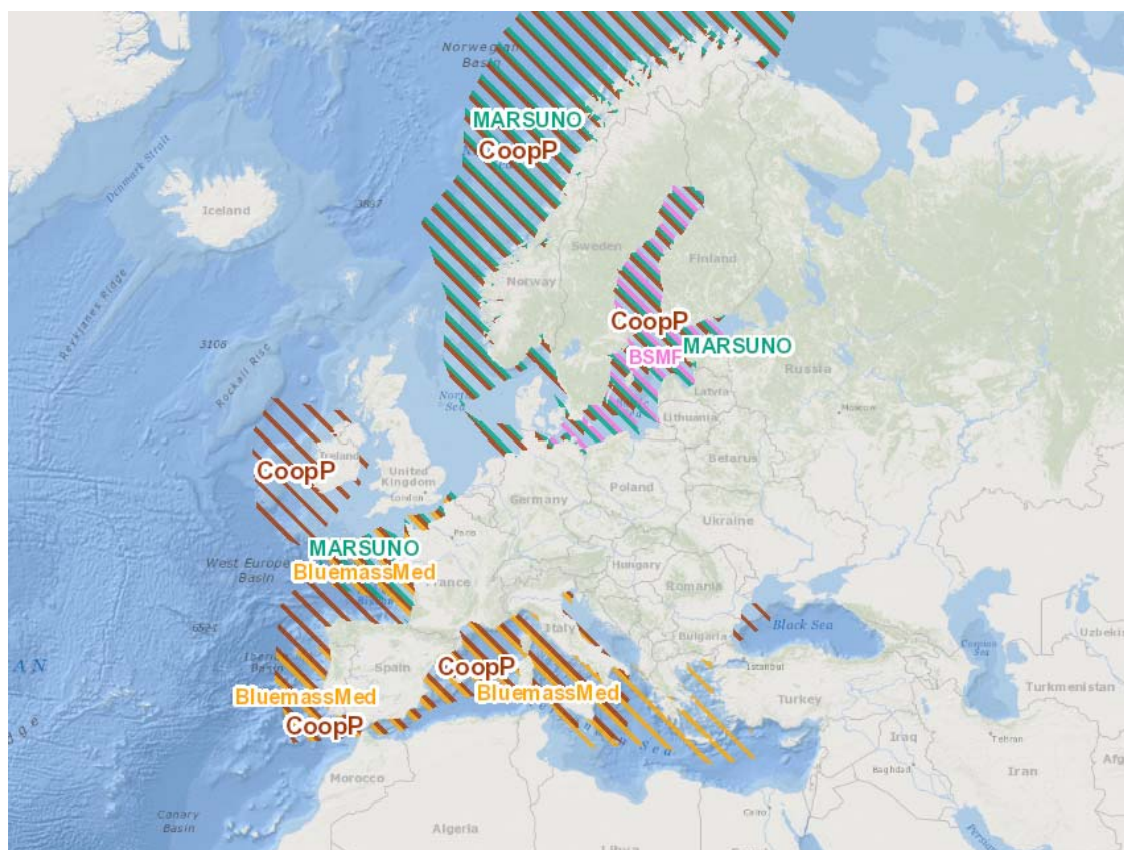




CoopP: The Cooperation Project is paving the way for smooth data transmission and easy access, whenever relevant, between public authorities (including EU Agencies) in the execution of the defined maritime surveillance functionalities (2012-2014)

MARSUNO – Pilot project on Maritime Surveillance in the Northern Sea Basins (2010-2012)

BLUMASSMED - Pilot project on Integration of Maritime Surveillance in the Mediterranean Sea and its Atlantic approaches (2009-2012)



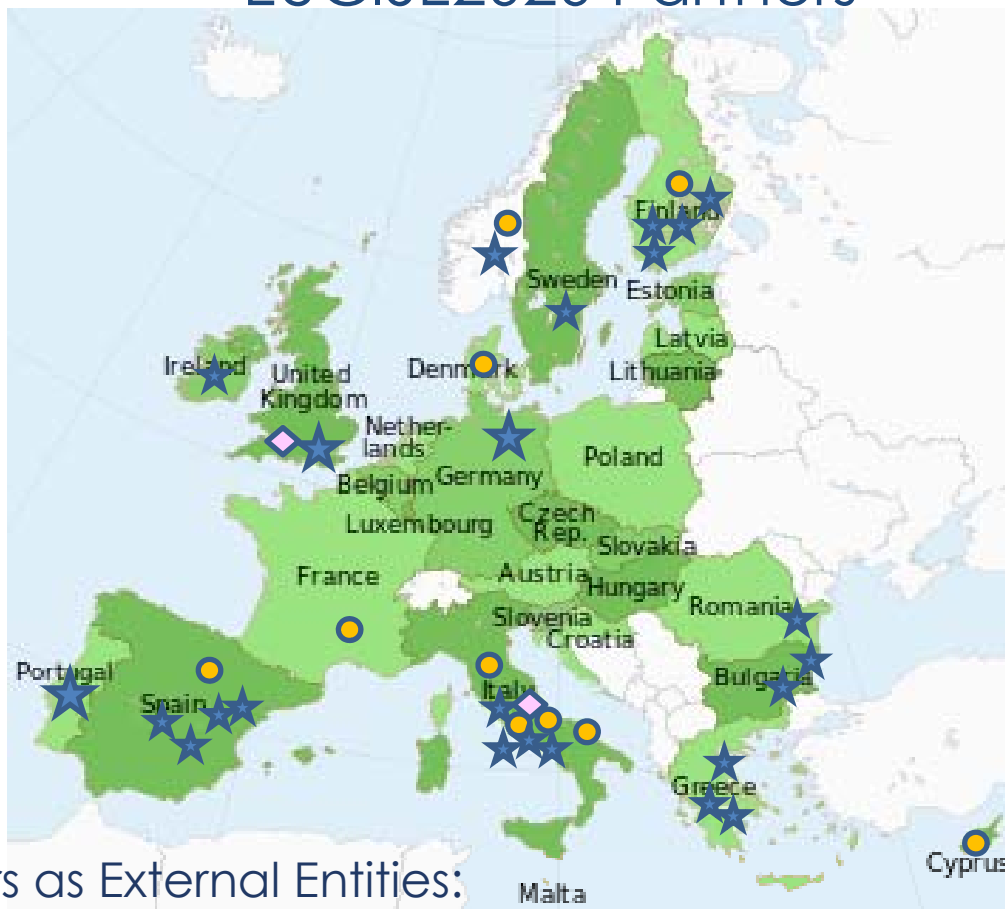
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## EUCISE2020 Partners

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



- ★ Maritime Authorities
- ◇ Experts
- Research Institutions

Two new partners as External Entities:

- EFCA - European Fisheries Control Agency
- MARSAFENET – Network of experts on the legal aspects of maritime safety and security; more than 70 legal experts from 22 countries



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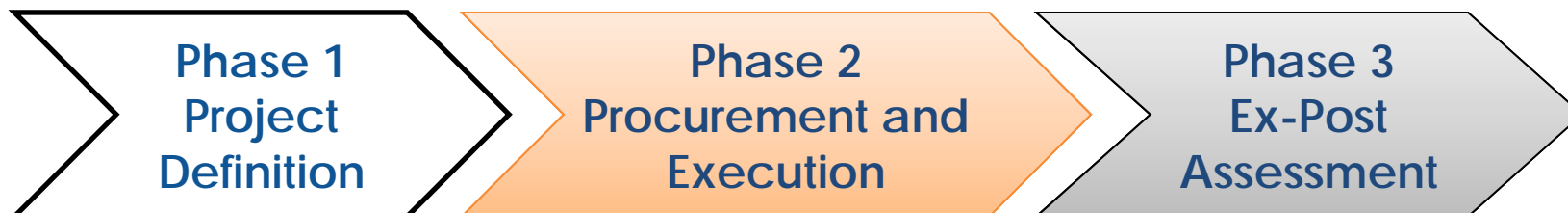


Partner	website	Partner	website
ASI	<a href="http://www.asi.it">www.asi.it</a>	DMI DK	<a href="http://www.dmi.dk">www.dmi.dk</a>
MMI	<a href="http://www.marina.difesa.it">www.marina.difesa.it</a>	NERSC	<a href="http://www.nersc.no">www.nersc.no</a>
MEF GDF	<a href="http://www.gdf.gov.it">www.gdf.gov.it</a>	AEAT ES	<a href="http://www.agenciatributaria.es">www.agenciatributaria.es</a>
MIT GC	<a href="http://www.guardiacostiera.gov.it">www.guardiacostiera.gov.it</a>	CIT	<a href="http://www.cit.ie">www.cit.ie</a>
MDE ES	<a href="http://www.defensa.gob.es">www.defensa.gob.es</a>	DGPM	<a href="http://www.dgpm.mam.gov.pt">www.dgpm.mam.gov.pt</a>
GUCI	<a href="http://www.guardiacivil.es">www.guardiacivil.es</a>	MARAD	<a href="http://www.marad.bg">www.marad.bg</a>
SASEMAR	<a href="http://www.salvamentomaritimo.es">www.salvamentomaritimo.es</a>	DEMOKRITOS	<a href="http://www.demokritos.gr">www.demokritos.gr</a>
EUSC	<a href="http://www.satcen.europa.eu">www.satcen.europa.eu</a>	RBP	<a href="http://www.politiadefrontiera.ro">www.politiadefrontiera.ro</a>
SWED CG	<a href="http://www.kustbevakningen.se/sv/the-swedish-coast-guard">www.kustbevakningen.se/sv/the-swedish-coast-guard</a>	FINNAVY	<a href="http://www.puolustusvoimat.fi/en/Navy">www.puolustusvoimat.fi/en/Navy</a>
MIN INT FBG	<a href="http://www.raja.fi">www.raja.fi</a>	FGMSSC	<a href="http://www.bmvi.de">www.bmvi.de</a>
FTA	<a href="http://www.liikennevirasto.fi">www.liikennevirasto.fi</a>	HMOD	<a href="http://www.mod.mil.gr">www.mod.mil.gr</a>
TRAFI	<a href="http://www.trafi.fi">www.trafi.fi</a>	HCR	<a href="http://www.hcg.gr">www.hcg.gr</a>
BG PORT	<a href="http://www.mtitc.government.bg">www.mtitc.government.bg</a>	MERCATOR	<a href="http://www.mercator-ocean.fr">www.mercator-ocean.fr</a>
MTC	<a href="http://www.regjeringen.no">www.regjeringen.no</a>	MISE	<a href="http://www.sviluppoeconomico.gov.it">www.sviluppoeconomico.gov.it</a>
LAUREA	<a href="http://www.laurea.fi">www.laurea.fi</a>	GLT	<a href="http://www.studiotosato.it">www.studiotosato.it</a>
OC UCI	<a href="http://www.ucy.ac.cy">www.ucy.ac.cy</a>	DFT	<a href="http://www.gov.uk/government/organizations/department-for-transport">www.gov.uk/government/organizations/department-for-transport</a>
APRE	<a href="http://www.apre.it">www.apre.it</a>	LCU	<a href="http://www.unilink.it">www.unilink.it</a>
INGV	<a href="http://www.ingv.it">www.ingv.it</a>	WPI	<a href="http://www.wisepens.com">www.wisepens.com</a>
CMCC	<a href="http://www.cmcc.it">www.cmcc.it</a>		



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*13 months*

*15 months*

*8 months*

Phase 1 - Initial Definition Phase (CSA)

Phase 2 - Preparatory and Execution Phase (CP/RTD)

Phase 3 - Ex-Post Assessment (CSA)

Total duration: 33 months

Starting date: December, 1<sup>o</sup>, 2014





Activity	Cost in €	EU Grant in €
Total Project	€ 17.053.931	€13.000.000
In Phase 2 Commonly European Procured R&D Services	€ 4.500.000	€ 3.375.000
Nationally Procured R&D Services	€ 1.200.000	€ 900.000

By the end of 2015, the EUCISE2020 Consortium will launch a European tender to develop the reference implementation of CISE.

Partners participating in the demonstration will manage national tenders to develop the national interfaces to the interoperability platform.

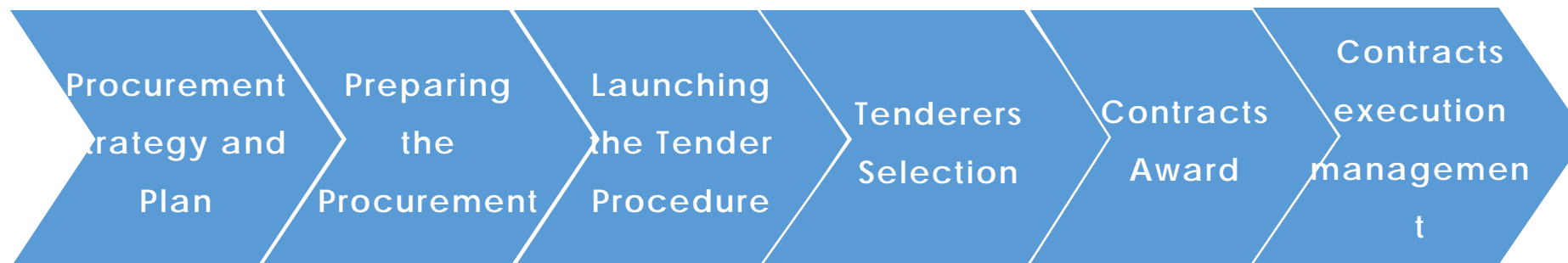


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## Procurement Process articulated in different steps:



We are here

From the point of view of the tenderers, selection in two phases:

- Phase 1: submission of candidatures
  - Publication on the OJ
  - Prequalification criteria based on administrative, financial and technical capabilities
- Phase 2: submission of offers





Selection in two phases:

- Phase 1: submission of candidatures
- Phase 2: submission of offers





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# Background Information on EUCISE2020 Deliverables and Organization



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Phase	Specific Objectives	Deliverables
Phase 1 Initial Definition Phase (CSA)	<p>Identification of elements requiring new R&amp;D that should be tested and validated in cooperation</p> <p>Definition of an action plan, setting scenarios and issues for concrete implementation of activities</p> <p>Establishment of modalities and procedures for POV evaluation and monitoring (common evaluation criteria and implementation methods)</p> <p>Drafting a preliminary CISE IPR strategy for the (expected) outcome of the Call for Tender</p> <p>Allocation and training of additional resources for implementation (if appropriate)</p> <p>Building cooperation with other stakeholders (if appropriate)</p>	<p>Needs Analysis and Requirements Document</p> <p>Partners Cooperative plan</p> <p>Validation Strategy Document, <i>(including a practical Exercise Plan and the proposed set of key performance indicators)</i></p> <p>IPR concept strategy</p> <p>Technical Specifications</p> <p>Joint POV Call for Tender</p> <p>Common REQs for national CISE procurements</p>





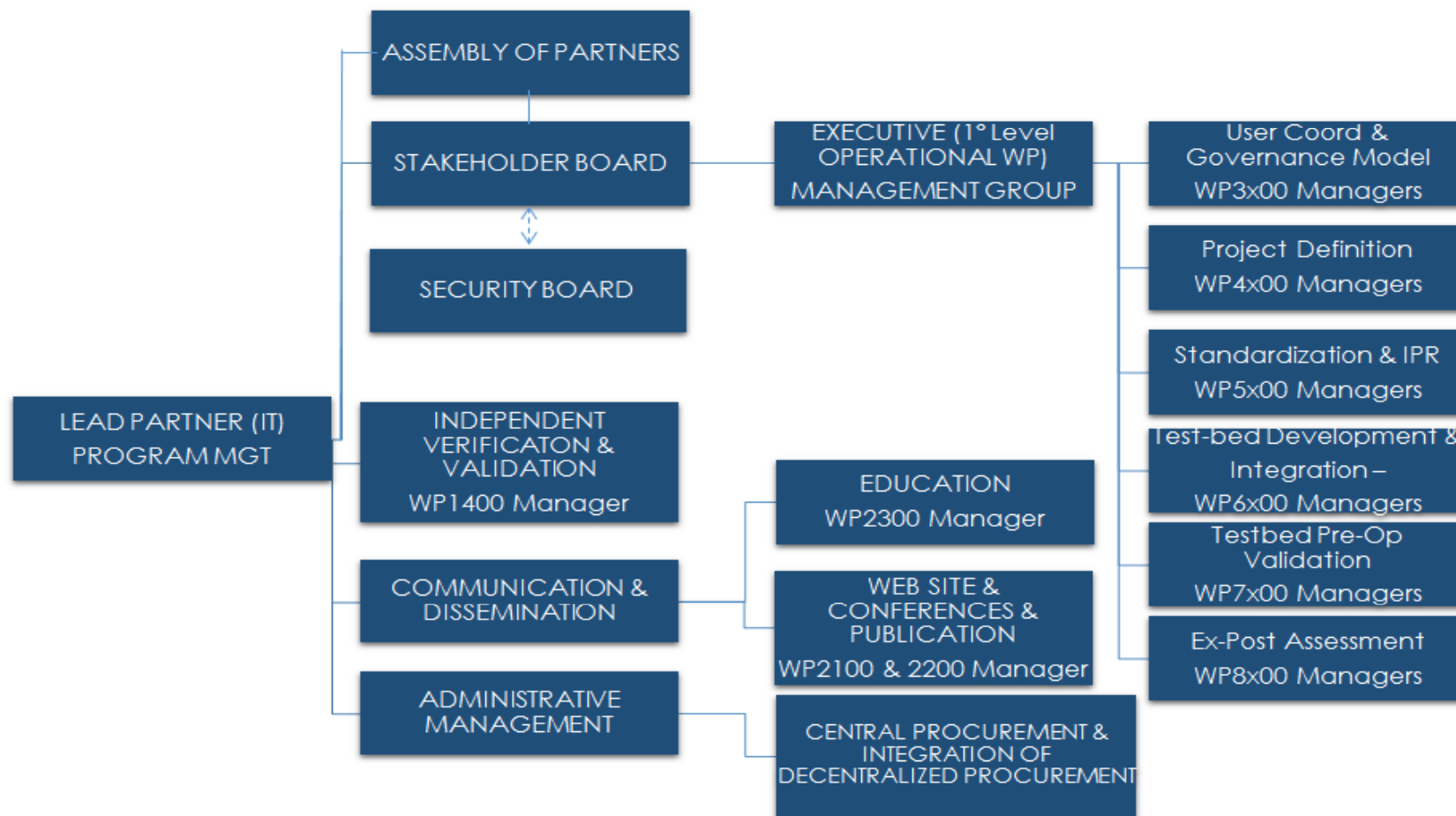
Phase	Specific Objectives	Deliverables
Phase 2 Preparatory Work & Execution Phase (CP)	<p>Implement the strategy and action plan as prescribed by the participating authorities in Phase 1</p> <p>The providers of solutions to be implemented and tested will execute their work according to the prescription of the action plan, working under the supervision of the concerned participating public authorities, having the network of systems tested by them for cross sectorial data exchange under realistic operational and formal conditions, at basin and European levels</p>	<p>Preliminary Design of Prototype CISE (response to the POV Call for Tender)</p> <p>Detailed Design of Prototype CISE</p> <p>Authorities/MS Interface policy with legacy systems</p> <p>Prototype Test-bed</p> <p>Integration &amp; Validation Procedures and Reports</p> <p>Testing exercises data sets and report</p>





Phase	Specific Objectives	Deliverables
Phase 3 Final Ex-post Assessment Phase (CSA)	Thorough assessment of the performance of the network of systems, against the set of jointly defined performance criteria.  Confirm the IPR strategy and include dissemination of results to standardisation bodies (if appropriate).	Ex-post Assessment Report IPR strategy Data Access Policy and Implemented Rules CISE KPI and Strategy Map Dissemination Plan CISE Standardisation Proposals





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## Management Roles

ROLE	PARTNER	NATION
Project Coordination & Tendering (WP1 & WP9)	Italian Space Agency	ITALY
Stakeholders Board Chair	Italian Space Agency	ITALY
Security Board Chair	all partners on rotation basis	n/a
Communication & Dissemination (WP2)	Laurea University of Applied Sciences	FINLAND
Executive Manager for Users Coordination & Governance Model (WP3)	Hellenic Ministry of Defence	GREECE
Executive Manager for Project Definition (WP4)	Italian Marina Militare	ITALY
Executive Manager for Standardisation & IPR (WP5 & WP10)	FMGSSC	GERMANY
Executive Manager for Test-Bed Development & Integration (WP6)	Portuguese Directorate for Maritime Policy	PORTUGAL
Executive Manager for Test-Bed Pre-op validation (WP7)	Spanish Guardia Civil	SPAIN
Executive Manager for Ex-Post Assessment (WP8)	Finnish Border Guard	FINLAND



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# Background Concepts from CISE Architecture Visions Document - v3 00

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



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**CISE is a set of specifications for interoperability**

Once Member States implement them, information will be easier to share.

**CISE will be based on the work of the Cooperation project**

These specifications will be based on the work of the Cooperation Project.

**CISE will not impose any organizational constraints**

Member States are free to choose their service providers and consumers.





Based on the 9 principles of CISE, different Architecture Visions have been defined

**Interlinking any public authority in the EEA**

**Need-to-know and responsibility-to-share**

**Privilege decentralisation**

**Civilian and military interoperability**

**European, national, sectorial and regional interoperability**

**Privilege reuse**

**Seamless and secure information exchange**

**Sector neutral**

**Flexible service offering**





Architecture Visions were described according to the European Interoperability Framework,



evaluated along 3 criteria



and combined into a **hybrid Architecture Vision** for CISE to offer **maximum flexibility** to the Member States based on core elements



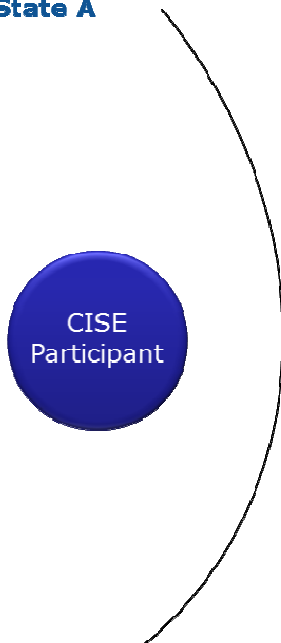


## Hybrid Vision for CISE

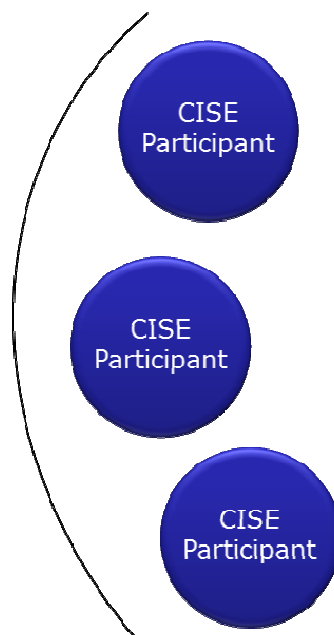
Does **NOT** impose an organizational structure to Member States. ANYONE can participate to CISE individually. Member States can choose to offer services from any number of systems

Organisational

Member State A



Member State B





CISE is **NOT** a system.

Semantic

Technical

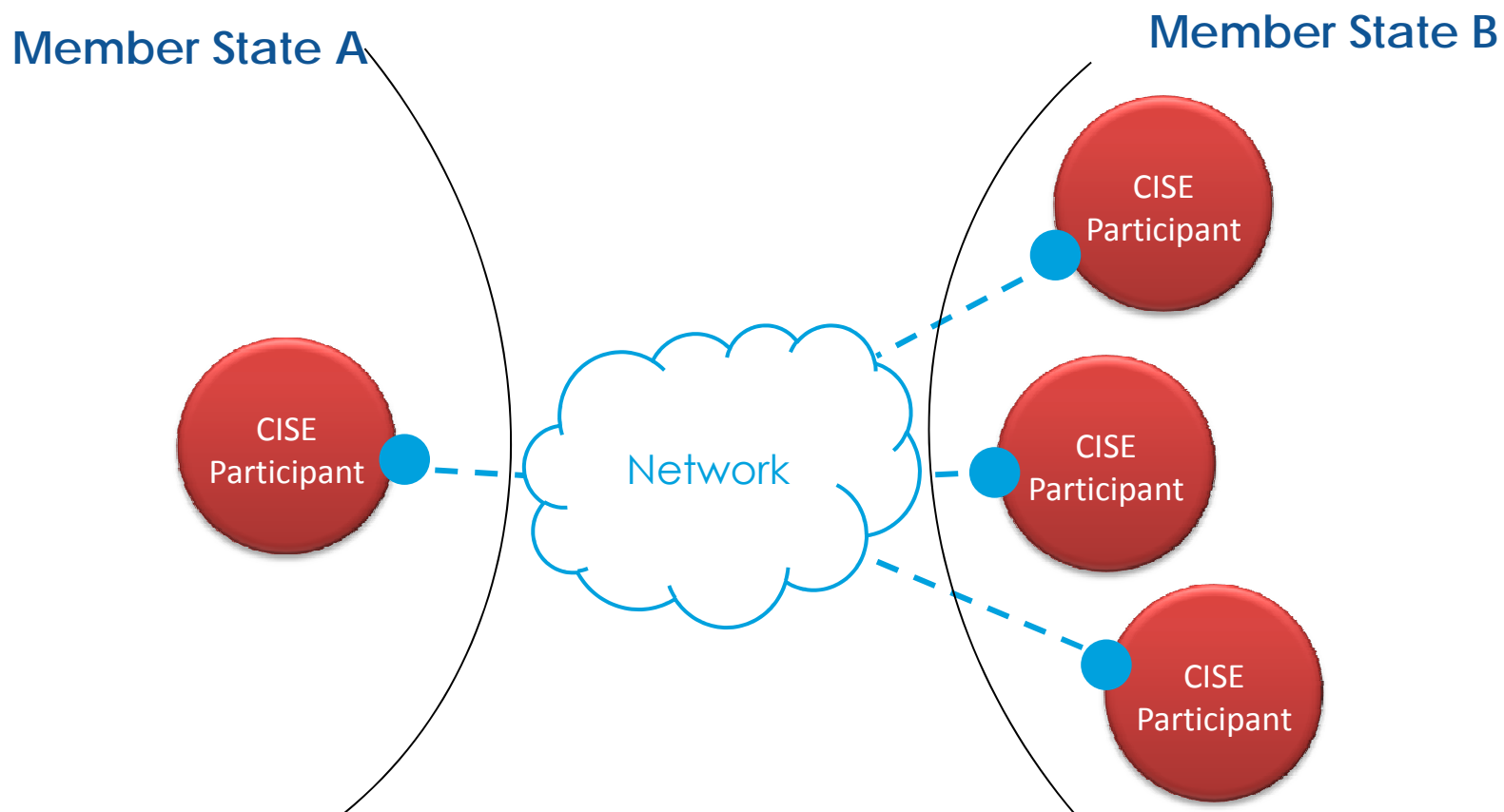
It is a **set of agreed specifications** for an interoperability layer which, once implemented, will ease information exchange. These specifications are based on the results from the Cooperation Project.



CISE is also a **set of supporting tools**:

- A registry of Authorities (i.e. contact details and services).
- Virtual collaboration tools (e.g. instant messaging).
- A reference implementation





The Hybrid Vision combines **organisational flexibility** with **semantic and technical interoperability** through the CISE Interoperability layer.



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 CISE Interoperability Layer