



Brussels, 5.9.2019
SWD(2019) 322 final

COMMISSION STAFF WORKING DOCUMENT

**Review of the Common Information Sharing Environment (CISE) for the maritime
domain: 2014 - 2019**

Table of Contents

1. Introduction.....	2
2. The overall legal and policy context.....	3
2.1 The EU Maritime Security Strategy	3
2.2 The interagency cooperation at EU level	4
2.3 The new European Border and Coast Guard Regulation	6
2.4 CISE and the EU Digital Single Market (DSM)	7
2.5 CISE and the sustainable development of the Blue Economy	7
3. Progress on CISE since the 2014 Communication	8
3.1 The EUCISE2020 Pre-Operational Validation Project	8
3.2 A CISE Handbook and the "responsibility to share"	9
3.3 Interoperability standards	10
3.4 The modernisation of national maritime IT systems	11
3.5 Data protection	12
3.6 Aligning legislation	13
3.7 Managing Maritime CISE	13
3.8 Financial investment in CISE	14
3.9 The transitional phase	15
4. Conclusions.....	16

1. Introduction

The development of the maritime CISE was proposed by the Commission in 2009¹. CISE is a voluntary collaborative initiative which seeks to ensure increased information exchange, across sectors² and borders, between EU and Member States authorities involved in maritime surveillance. CISE will ensure effectiveness and cost-efficiency of maritime surveillance activities by facilitating a rapid and secure access by maritime authorities to added-value/critical information. The objective is to ensure that maritime surveillance information collected by one maritime authority and considered necessary for the operational activities of others can be shared and be subject to multiuse, rather than collected and produced several times, or collected and kept for a single purpose. The timely and quick access to relevant information provides the EU Agencies and National Authorities with the necessary maritime pictures to plan and conduct maritime operations at strategic, operational and tactic level.

Since 2009, the concept of CISE has been regularly refined by the Commission and endorsed by the Member States in subsequent Commission Communications and Council Conclusions³.

The last Communication on CISE, adopted by the Commission in 2014⁴ (hereinafter: the 2014 Communication), described the progress achieved both at EU and national level until that moment and established a number of actions to address the remaining challenges.

The 2014 Communication identifies the main characteristics of CISE as follows:

- CISE is a voluntary collaborative process in the EU seeking to further enhance and promote relevant information exchange between authorities involved in maritime surveillance;
- CISE is promoting a decentralised framework for these exchanges;
- CISE should bring added value and complementarity to existing maritime data system, services and sharing processes, while avoiding duplication. It should be seen as part of

¹ Commission Communication – "Towards the integration of maritime surveillance: A common information sharing environment for the EU maritime domain" ([COM/2009/538 final](#)).

² The sectors involved are the following: maritime safety, security and prevention of pollution by ships, fisheries control, marine pollution preparedness and response - marine environment, customs, border control, general law enforcement and defence.

³ Commission [Communication on a Draft Roadmap towards establishing of the CISE for the surveillance of the EU maritime domain \(COM\(2010\)584 final\)](#); CISE - [Council Conclusions on integration of maritime surveillance 17 November 2009](#) :

[Council conclusions on integration of maritime surveillance 18 April 2011](#);

[Council conclusions on Integrated Maritime Policy 2 June 2010](#);

[Council Conclusions on the Marine and Maritime Agenda for Growth and Jobs 22 November 2012](#);

[Council conclusions on the Integrated Maritime Policy 24 June 2013](#); [Council conclusions on Global Maritime Security 19 June 2017](#).

⁴ Communication from the Commission to the European Parliament and the Council: Better situational awareness by enhanced cooperation across maritime surveillance authorities: next steps within the Common Information Sharing Environment for the maritime domain - COM(2014)451 final and its accompanying Commission Staff Working Document Impact Assessment (SWD(2014)225 final)

a more comprehensive information and exchange framework across the EU and its implementation should work towards coherence with this framework.

CISE should neither have an impact on the administrative structures of the Member States, nor on the existing EU legislation. The 2014 Communication highlighted the need to improve information exchange between civilian and military authorities. Including the defence community and identifying information that could be exchanged between civilian and military authorities in a Maritime CISE will be important since military authorities are one of the main holders of maritime surveillance data.

The 2014 Communication also announced that a review process would be launched in 2018 to assess the implementation of a maritime CISE and the need for further action. To this end, in 2018 the Commission commissioned a study to support the review, in order to assess the progress made since 2014, covering all the actions set out in the Communication. The report of this study ("Study to support the CISE review" – hereinafter "the CISE review study") is made available together with this Staff Working Document.

This staff working document presents the progress made in implementing CISE during the period 2014-2019, also on the basis of the assessment carried out by the review study. It also highlights the lessons learned from this period and flags key elements for further consideration. Finally, it describes the transitional phase that aims at leading to a fully operational CISE.

2. The overall legal and policy context

As new security challenges have emerged in recent years, maritime security has been high on the political agenda of the EU. The deteriorated global security situation has led to a great number of security-related initiatives at EU level. In this respect, the policy developments that can be considered particularly relevant for CISE are the adoption of the EU Maritime Security Strategy (EUMSS) in 2014, and the establishment of the interagency cooperation between the European Border and Coast Guard Agency (EBCGA-Frontex), the European Fisheries Agency (EFCA) and the European Maritime Safety Agency (EMSA).

The purpose of CISE to create an enhanced environment for cross-sectoral and cross-border exchange of information for maritime authorities in Europe comes in line with and supports several of the Commission priorities:

- The EU Agenda for Migration: CISE is key action directly supporting the implementation of the EU Maritime Security Strategy (which addresses migration related challenges in the maritime domain);
- The Digital Single Market: CISE enables the promotion of interoperability and standardisation in the maritime surveillance domain;
- The jobs, growth and investment priority: CISE contributes to ensure safer, more secure and cleaner seas as a fundament condition for blue jobs and growth.

The progress of CISE is assessed therefore against the background of these important policy developments, described more in details below.

2.1 The EU Maritime Security Strategy

The EU Maritime Security Strategy was adopted by the Council in 2014. The EUMSS was conceived at the time of the escalating migration crisis in the Mediterranean, and the increasing threats from drugs and arms trafficking, piracy and armed robbery at sea in other

parts of the world, all interconnected and directly influencing the economic interests of the EU and its Member States (MS).

The EUMSS provides for a comprehensive political and strategic framework to address maritime security challenges through the employment of all relevant instruments at the international, EU and MS level, and it covers both the internal and external aspects of the EU maritime security. The EUMSS has a strong focus on the need to increase cross-sectoral cooperation among civil and military authorities and to strengthen the coherence among all available instruments. It is complemented by an Action Plan (EUMSS AP) detailing the concrete actions to be carried at the EU and MS level.

Maritime awareness, surveillance and information sharing are identified in the EUMSS as one of the five areas to strengthen the EU response for the implementation of the strategy, and the development of CISE is one of the actions envisaged in this context. The Action Plan also called for the establishment of a coordinated civil-military research agenda for maritime security, with maritime surveillance featuring among the topics to be addressed. In the civil-military research agenda established in December 2017, CISE is recognised as a major initiative for the interoperability of data sharing.

Five years later, the “raison d’être” of the EUMSS and its Action Plan proves to be still valid. While human trafficking remains a challenge in the Mediterranean, new challenges arise in the global maritime environment, with threats related to cyber-crimes and terrorism. A new international agenda on ocean governance, which includes maritime security, is simultaneously gaining momentum. Hence, the EUMSS AP was revised in 2018 in order to make it fit for current and future challenges, and to ensure full coherence with other strands of work, notably in the area of security and defence, and existing EU legislation and policies. Maritime surveillance as a key enabler for maritime security and the swift implementation of CISE are well reflected in the revised Action Plan.

The revised EUMSS AP further stressed the benefits of civilian-military cooperation and the importance of promoting synergies between civilian and military actors. The Council also recalled the importance of ensuring policy coherence and full exploitation of all instruments and initiatives for capability development in the maritime domain, and the relevance, in this context, of the European Defence Fund, the European Maritime and Fisheries Fund (EMFF) and the Asylum, Migration and Integration Fund (AMIF).

The EUMSS should be considered also in connection with other important policy developments of the last years, such as the renewed Internal Security Strategy⁵ and the Global Strategy for the EU Common Foreign and Security Policy⁶. The EUMSS should thus contribute to the implementation of those policies, in which maritime surveillance and CISE could have an enabling role.

2.2 The interagency cooperation at EU level

A cooperation in the field of coastguard functions between the European Border and Coast Guard Agency (EBCGA-Frontex), the European Fisheries Agency (EFCA) and the European Maritime Safety Agency (EMSA) started in September 2016. This cooperation is referred to in the legal acts establishing each of the three agencies.

⁵ Council Conclusions on the Renewed European Union Internal Security Strategy 2015 – 2020, doc. 9798/15

⁶ Shared Vision, Common Action: A Stronger Europe. A Global Strategy for the European Union Common Foreign and Security Policy

A clear role in enabling a European cooperation on maritime surveillance was hence given to these three agencies⁷, further strengthening the information exchanged at the EU level between agencies. The revised mandate of the three agencies stipulates that the agencies shall cooperate with each other and support national authorities, in their capacity as coastal States, carrying out coast guard functions at the national and Union level.

The mandate of the three agencies defines five areas for improved interagency cooperation: information sharing, surveillance and communication services, capacity building, risk analysis, capacity sharing. On the basis of this mandate, the three agencies defined the modalities of their enhanced cooperation in a Tripartite Working Arrangement and adopt a common Annual Strategic Plan. Each Agency leads on one or more of the areas of cooperation, notably EMSA on information sharing and surveillance and communication services, EFCA on capacity building, and EBCGA on risk analysis and capacity sharing.

With regard, in particular, to information sharing, and on the basis of the revised mandate, the cooperation among the agencies has increased considerably. For example, EMSA shares with EFCA and EBCGA information relevant for coast guard functions in the framework of its mandate, using the Union Maritime Information and Exchange System (SafeSeaNet), and including its central exchange system, as well as the Long Range Identification and Tracking (LRIT) EU Data Centre (where EU Member States as flag States have so agreed). EMSA and EBCGA operate the Copernicus security services on behalf of the Commission. The EU Copernicus Space programmes provide a whole range of Earth Observation based information services including by operating EU own Space assets. EMSA, EFCA and EBCGA have developed cooperation in the area of real time data exchange covering most coast guard functions. A number of information services provided by EFCA, EMSA and EBCGA assets are provided to Member States border management authorities via the Eurosur Fusion Services. Such information from the Agencies are directly used also in the operational field and integrated into multipurpose maritime activities e.g. for fisheries monitoring control and for vessel traffic monitoring. The Annual Strategic Plan developed jointly by the three Agencies includes further actions for increased cooperation in this domain.

In the area of surveillance and communication services, the surveillance assets operated by the three agencies contribute to the integrated maritime picture.

The revised EUMSS AP encourages the Agencies to deepen their cooperation. It also calls to improve cooperation and information sharing between Common Security and Defence Policy (CSDP) missions and operations and Justice and Home Affairs (JHA) agencies, thus contributing to ensure consistency with the internal-external nexus of EU policies when the legal basis so allows. In this regard, it is worth noting the positive results obtained with the establishment of the Crime Information Cell that has allowed EUNAVFORMED Operation Sophia to cooperate closely with EBCGA and EUROPOL in countering the smuggling networks in Central Mediterranean, thus highlighting the importance of cross-sectorial

⁷ The relevant Regulations of the European Parliament and of the Council 1624/2016, 1625/2016 and 1626/2016:

http://frontex.europa.eu/assets/Legal_basis/European_Border_and_Coast_Guard.pdf

<http://eur-lex.europa.eu/legal-content/EN/TXT/?uri=celex%3A32016R1626>

http://eur-lex.europa.eu/legal-content/EN/TXT/?uri=uriserv%3AOJ.L_.2016.251.01.0077.01.ENG

cooperation on exchanging information. Moreover, EMSA cooperates with CSDP operations, notably EUNAVFOR Somalia Operation Atalanta and EUNAVFOR MED Operation Sophia, by providing enhanced maritime surveillance services aimed at improving the operations capacity to establish a sound maritime situational awareness, which is very important in order to contribute to the CSDP operations' mandate delivery, e.g. countering Piracy acts.

2.3 The new European Border and Coast Guard Regulation

On 12 September 2018, the Commission adopted a proposal for European Border and Coast Guard (EBCG)⁸. On 2 April 2019, the co-legislators reached an agreement on a compromise text⁹. The new Regulation is expected to enter into force in November 2019.

The new Regulation will encompass and repeal the current EBCG and EUROSUR¹⁰ Regulations. It sets up a legal framework for information exchange in the area of border management including maritime border surveillance.

The means and responsibilities of the European Border and Coast Guard Agency have been considerably reinforced. The EBCGA will be equipped with a standing corps of operational staff which will reach by 2027 a capacity of 10000 border and coast guards. These border and coast guards will have the possibility to exert executive powers, under the command and control of the Member States hosting the land or maritime border operations. The Agency will be able to rely on its own staff and its own equipment, such as vessels, planes and vehicles.

Following an evaluation of the EUROSUR Regulation, the EUROSUR framework has been expanded and developed to cover all aspect of Border Management. EUROSUR frames the exchange of information and the operational cooperation between national authorities of Member States with the EBCG Agency as well as other EU Agencies International Organization and authorities of third countries in the area of border management including maritime border surveillance.

A committee to be established under the new Regulation will adopt implementing acts, which will lay down the situational picture including the type of information to be provided, the entities responsible for collecting, processing, archiving and transmitting specific information, the maximum time limits for reporting, the data security and data protection rules and related quality control mechanisms. Those implementing acts will be binding for the Member States authorities and for the EU Agencies involved in border management including maritime border surveillance.

In addition to the legally binding standards set up by this implementing act, the European Border and Coast Guard Agency has been given a standardization role in particular to develop technical standards for interconnection of networks and information exchange systems, broadcasting and positioning, where not already existing or in operation.

⁸ COM(2018) 631 final https://ec.europa.eu/commission/sites/beta-political/files/soteu2018-border-coast-guard-regulation-631_en.pdf

⁹ <https://data.consilium.europa.eu/doc/document/ST-8354-2019-INIT/en/pdf>

¹⁰ Regulation (EU) No 1052/2013 of the European Parliament and of the Council of 22 October 2013 establishing the European Border Surveillance System (Eurosir)

The future developments of CISE related to information exchange and cooperation in the area of maritime border surveillance will ensure the interoperability with that new Regulation.

2.4 CISE and the EU Digital Single Market (DSM)

”The internet and digital technologies are transforming our world. Barriers online can deny people the full benefits that digital developments can offer. Making the EU's single market fit for the digital age requires tearing down unnecessary regulatory barriers and moving from individual national markets to one single EU-wide rulebook”¹¹.

CISE has co-existed in a complementary way with the EU DSM and developed to become an interoperability driver/ “guardian of interoperability” for the maritime domain. Being involved and supporting the CISE development process, national and EU maritime authorities increasingly factored in collaboration at legal, organizational, semantic and technical levels¹² to better perform their missions, regardless of what country or sector they represent.

CISE has been therefore embedded in the ISA (Interoperability Solutions for public administrations) programme¹³ developing interoperability solutions in line with the European Interoperability Framework. CISE is meant to become a practical instrument implementing an advanced interoperability between maritime authorities across sectors and borders.

Moreover, in line with the DSM, the development and consolidation of the CISE data and service model and other CISE solutions to become European interoperability standards has been a priority for both the Member States and the Commission. The results of the national and European CISE-related projects has been assessed, in close coordination with the industry, with the aim to be launched through a dedicated standardisation process.

2.5 CISE and the sustainable development of the Blue Economy

The benefits of maritime surveillance to facilitate growth in the blue economy were already recognised in the Commission's 2007 proposal for an integrated maritime policy¹⁴. Maritime security and CISE were also highlighted amongst the enablers for blue growth in the Staff Working Document “Report on the Blue Growth Strategy Towards more sustainable growth and jobs in the blue economy” [SWD(2017) 128 final]¹⁵.

¹¹ https://ec.europa.eu/commission/priorities/digital-single-market_en

¹² These are the four “layers” of interoperability as per the European Interoperability Framework http://ec.europa.eu/isa/documents/isa_annex_ii_eif_en.pdf which is part of the Communication from the Commission to the European Parliament, the Council, the European Economic and Social Committee and the Committee of Regions 'Towards interoperability for European public services'

¹³ Decision (EU) 2015/2240 of the European Parliament and of the Council of 25 November 2015 establishing a programme on interoperability solutions and common frameworks for European public administrations, businesses and citizens (ISA2 programme) as a means for modernising the public sector

¹⁴ Communication “An Integrated Maritime Policy for the European Union”, COM(2007) 574

¹⁵ https://ec.europa.eu/maritimeaffairs/sites/maritimeaffairs/files/swd-2017-128_en.pdf

Blue Growth is the long term strategy to support sustainable growth in the marine and maritime sectors as a whole. Seas and oceans are drivers for the European economy and have great potential for innovation and growth. It is the maritime contribution to achieving the goals of the Europe 2020 strategy for smart, sustainable and inclusive growth¹⁶.

The content and speed of information gathering facilitated by CISE will also greatly contribute to a suitable protection of marine ecosystems and economic assets and equally for a better management of the maritime activities in ports and at sea. Eventually, it will also contribute towards achieving Sustainable Development Goal 14 - Life below water.

3. Progress on CISE since the 2014 Communication

The 2014 Communication identified the following seven areas of activity as the next steps for a maritime CISE, both at EU and MS level:

- the launch of an EU interoperability project to test a Maritime CISE,
- the development of a CISE handbook and the "responsibility to share",
- measures to develop, maintain and disseminate interoperability standards,
- the modernisation of national maritime surveillance IT setup, through national projects supported by EMFF funding,
- data protection compliance,
- removing remaining legal barriers,
- managing maritime CISE.

The CISE review study examines in detail the progress in the implementation of each area of activity. On the basis of this assessment, it identifies the challenges, opportunities and best practices for the further operational implementation of CISE.

3.1 The EUCISE2020 Pre-Operational Validation Project

The 2014 Communication states that *"the Commission plans to launch a project in 2014 under the EU's Seventh Framework Programme for Research (FP7) in order to test a Maritime CISE on a large scale, in particular between civilian and military authorities. In addition, the Commission will foster the uptake of innovations funded by the European Union framework programmes for research and innovation."*

The project "European test bed for the maritime Common Information Sharing Environment in the 2020 perspective" (hereinafter "EU CISE2020") aimed at achieving the pre-operational information sharing between maritime authorities of the EU Member States, across sectors, through the creation of a political, organizational and legal environment, to pave the way for a fully operational CISE. It built upon previous interoperability projects such as BlueMassMed, MARSUNO and CoopP and on several studies¹⁷ promoted by the Commission, and it brought together thirty-nine national authorities involved in maritime surveillance from fifteen Member States. The project was completed on 31 March 2019.

¹⁶ https://ec.europa.eu/maritimeaffairs/policy/blue_growth_en

¹⁷ "IT Landscaping relevant to CISE", 2012; "Sustainability and Efficiency of Vision for CISE", 2013; "CISE Architecture Vision", 2013; "CISE Impact Assessment", 2014

EUCISE2020 has developed a pre-operational network for information exchange based on a set of common software components and has validated the CISE concept and interoperability specifications by interconnecting real maritime surveillance systems and using real data. It has thus demonstrated the technical feasibility of CISE, with the successful operation of ten national nodes connecting up to eighteen national authorities systems during a six-months pre-operational validation phase. Although operational services offered in the pre-validation phase remained limited, the value of such an information exchange environment and the potential benefits for its end-users are now a reality.

On the technical level, the interoperability solutions developed by EUCISE2020 should be considered as a prototype. The extent to which the building blocks developed by EUCISE2020 would need to be further developed or reengineered should be assessed at an early stage in the upcoming transitional phase (see point 3.9). According to the CISE review study, scalability, the capability for massive data transfers, maintainability and proven genuine security features are among the issues to be addressed in the upcoming phase.

Furthermore, and perhaps more importantly, EUCISE2020 was successful in stimulating the interest of many public authorities, creating a momentum around a dynamic community of participants promoting maritime surveillance issues, despite the voluntary nature of CISE. In parallel with the interoperability developments at national level, it contributed to support and amplify the interest created through the precursor projects so as to create a real momentum to move CISE to the next stage, in line with the willingness for a swift implementation of CISE expressed by the Member States in the revised Action Plan on the EUMSS and the related Council Conclusions.

Several military authorities from Member States have been involved in EUCISE2020, showing the potential interest of the military community for CISE. This could develop into an improved information exchange between civilian and military authorities, as foreseen by the 2014 Communication, and as part of CISE's original aim

3.2 A CISE Handbook and the "responsibility to share"

According to the 2014 Communication, *"the Commission will, in close co-ordination with Member States, develop a nonbinding Maritime CISE handbook by end 2016 with best-practice recommendations and useful information on how to apply Maritime CISE. Recommendations are amongst other things intended to promote a "care to share to be aware" culture across and between different sectors among national authorities involved in maritime surveillance. The handbook will also provide guidance on the recommended handling of personal or commercially sensitive information by the relevant authorities. The handbook should take into account the results of various preparatory actions such as the FP7 project, the Cooperation Project, and pilot projects such as Marsuno, Bluemassmed and a project funded under the Integrated Maritime Policy Programme (IMP) 'Evolution of SafeSeaNet to support CISE and other communities', among others"*.

After careful consideration and some preparatory work, the Commission's services concluded that the development of a CISE handbook including best practices, recommendations and guidance on the handling of sensitive information would be premature, in view of the preliminary level of development of CISE and of the fact that the same aspects were addressed under the EUCISE2020 project. The need for appropriate communication about CISE, including recommendations to the end-users and training, should be thoroughly

assessed in the transitional phase, as CISE progresses towards full operational implementation.

Through the adoption of the border and coastguard package in 2016, the Commission was tasked to make available, in close cooperation with the Member States, Frontex, EMSA and EFCA, a practical Handbook on European cooperation on coast guard functions. Future work on a CISE Handbook should also take into account this process.

This action also suggests to promote a "care to share to be aware" culture among maritime authorities cross-sector and cross border. The need to encourage information sharing stems from the voluntary character of CISE. Since 2014, and in particular in the framework of EUCISE2020, the notion of "care to share to be aware" has evolved into a more robust "responsibility to share" concept, which aims to foster enhanced commitment from the authorities to share the information they own while fully respecting the voluntary nature of CISE.

This concept started among the EUCISE2020 members, should be further discussed in the transitional phase, with all Member States, to better assess and evaluate how to further define the concept and promote the widest compliance. At the same time, more clarity and guidance would be needed for authorities and operators on how to implement it. An endorsement at high political level in the EU might be required in order to consolidate and promote the concept.

3.3 Interoperability standards

The third action proposed by the Commission in the 2014 Communication states as follows: *"the Commission will support measures to develop, maintain, and disseminate standards allowing maritime surveillance systems to be interoperable. Such standards will facilitate maritime information exchange between surveillance authorities and the development of IT solutions, which is major challenge for co-operation between Member States, industry development and competitiveness. They would include pursuing a common data model, built on technological solutions already established and required by Union Law, to serve as a translation tool between maritime surveillance information systems, in particular between civilian and military systems. A technical reference architecture for public services will be defined by end 2017, in line with the European Interoperability Reference Architecture developed by the programme on "Interoperability Solutions for European public administrations" (ISA programme), within the framework of the Digital agenda for Europe. Specifications to support virtual collaboration from existing IT systems¹⁹ will also be needed"*.

Progress on the development of interoperability standards in the years 2014 – 2018 was achieved mainly through the work of EUCISE2020 (with the fundamental contribution of the Commission), which built upon the interoperability framework initiated in BlueMassMed and strengthened through CoopP. The CISE interoperability standards (data model, service model, architecture) are now pre-operationally tested. The interoperability framework produced by EUCISE2020 has gained a large technical consensus that will allow to proceed with its formal standardisation. This aspect will be further assessed in the transitional phase, which should also allow for more extensive testing and possible improvements.

The CISE review study reports the interest of some Member States to compare/evaluate the CISE interoperability standards towards other initiatives and projects such as the maritime National Single Window and MARSUR. As regard the maritime National Single Window, a

new Regulation establishing a European Maritime Single Window environment and repealing Directive 2010/65/EU, has been published on June 2019¹⁸: the subsequent delegated provision will include an harmonised data set aligned with the customs data foreseen by the Union Custom Code (UCC) - Regulation (EU) 952/2013 and following delegated acts¹⁹ and implementing acts²⁰. Any standardisation needs to take into consideration these existing and future legal acts.

The way forward will need to be fully aligned with the provisions of the Commission Communication on the European Interoperability Framework adopted in 2017²¹, and notably its five interoperability layers (legal, organisational, semantic and technical, as well as the interoperability governance) and with the relevant provisions of the new EBCG Regulation.

The CISE review study includes a detailed analysis of what these layers would imply for an operational CISE and the challenges ahead.

As far as the interoperability with other maritime IT systems is concerned, the CISE concept may be complementary to the Union Maritime Information and Exchange System²² (Safe SeaNet) established in the VTMIS Directive, as it may facilitate the voluntary exchange of information other than those already required and shared through SSN, such as voluntary reporting.

CISE has demonstrated the technical possibility to interlink non secure networks irrespectively of their native standards.

3.4 The modernisation of national maritime IT systems

The 2014 Communication states, as a fourth action, that *"Member States should in parallel be encouraged to continue to work on modernising their maritime surveillance IT set up, where there is a need, and further enhance information sharing between authorities involved in maritime surveillance. Some funding is available at EU level to support small improvements"*.

The Commission launched three successive calls for proposals under the European Maritime and Fisheries Fund (EMFF) in order to finance national interoperability projects aiming at the modernisation of maritime IT systems. Nine Member States applied, some proposing more than one project, and thirteen grants were awarded for a total funding of 5.8 million euros. While two projects were cancelled due to difficulties in procurement procedures or in securing national co-funding, most of them were successfully completed. The projects financed under the third call for proposals will be completed at the end of 2019.

¹⁸ Regulation (EU) 2019/1239 of the European Parliament and of the Council of 20 June 2019 establishing a European Maritime Single Window environment and repealing Directive 2010/65/EU

¹⁹ Commission Delegated Regulation (EU) 2015/2446

²⁰ Commission Implementing Regulation (EU) 2015/2447

²¹ Communication from the Commission to the European Parliament, the Council, the European Economic and Social Committee and the Committee of the Regions – European Interoperability Framework – Implementation Strategy COM(2017)134

²² Commission Directive 2014/100/EU of 28 October 2014 amending Directive 2002/59/EC of the European Parliament and of the Council establishing a Community vessel traffic monitoring and information system

Most of the national projects consisted of both preparatory studies and the development of technological capabilities. The preparatory studies aimed to identify the requirements to improve cross-sector and cross-border information exchange in the domain of maritime surveillance. All projects dealt with interoperability for cross-sector information exchange between different maritime surveillance authorities, while some also included a cross-border angle involving two Member States. One project aims to develop specific, added value services based on data gathered through CISE and using data mining technologies.

All projects contributed, to various degrees, to the overall development of CISE by aligning the national systems with CISE, and preparing the ground for future CISE – compatible developments and interactions with CISE. The modernisation of the national maritime IT systems often progressed in parallel with EUCISE2020 and benefitted from synergies with it.

The national projects were able to mobilise several national maritime authorities and to gain support for the CISE concept at national level, thus contributing to create a positive momentum. Several projects have been or will be continued with national funding.

3.5 Data protection

The fifth action described in the 2014 Communication deals with data protection: "*Member States should also involve the competent national data protection authorities as early as possible to ensure that the operational means and objectives comply with national data protection requirements. Prior impact assessments could be one way of support for national initiatives in order to ensure that the most effective and cost efficient measures are put in place*".

As highlighted in the review study, the work on data protection compliance carried out since 2014 – by means of studies and analyses within national projects and EUCISE2020 – contributed to clarify what issues related to data protection requirements should be addressed in order to implement an operational CISE.

Data protection legislation, and in particular the General Data Protection Regulation (GDPR)²³ applies to the handling of personal data in CISE. The processing of personal data in any of the current projects but also in planned projects and seven areas of activity must fully comply with the applicable data protection legislation.

According to the CISE review study, consistent interpretation of the GDPR among all Member States is crucial. There seem to be uncertainty among operators regarding compliance with data protection rules. The involvement of data protection authorities can assist data processors and controllers with legal questions.

The CISE review study highlighted the importance of such compliance, though it observed that the involvement of national data protection authorities had been so far limited. It is up to such authorities to supervise the lawfulness of processing of personal data by national authorities, but also to assist national authorities in ensuring compliance.

²³ Regulation (EU) 2016/679 of the European Parliament and of the Council of 27 April 2016 on the protection of natural persons with regard to the processing of personal data and on the free movement of such data, and repealing Directive 95/46/EC (General Data Protection Regulation) (Text with EEA relevance)

In a system such as CISE, where the exchange of data is on a voluntary basis and in the absence of a harmonised legislation on the tasks of the authorities concerned and objectives underlying the information access and usage, the legal basis for processing data is unclear.

3.6 Aligning legislation

The sixth action of the 2014 Communication states as follows: *"the Commission will continue to review existing sectorial legislation at EU level in order to remove possible remaining legal barriers to cross-sectorial information sharing while ensuring compliance with relevant data protection requirements. Although the Commission believes that most of these have been addressed, they may still exist at national level. These may persist due to the organisational structures of Member State authorities"*.

The view of the Commission, that possible legal barriers at the EU level have been already addressed, has been confirmed since 2014. The CISE review study refers to the legal analysis carried out under BlueMassMed according to which "there are no legal restrictions on the exchange of personal data between law enforcement authorities of the Member States, if made for the purpose of criminal prevention, safeguarding the rights of nationals and residents, as well as commercial rights, under the consent of the national data protection authorities".

With regard to data security, on the basis of interviews with the various user communities, the CISE review study further elaborates that the current low level of exchange of sensitive information, rather than a legislative issue, might be merely a policy or technical one that could be addressed through a better harmonised interpretation and explicit guidance for the different user communities. According to the CISE review study, the presence of legal obstacles might be claimed by the users because of the uncertainty about solid legal grounds for exchanging information or because of the lack of sufficient endorsement by the hierarchy of the "responsibility to share" paradigm.

The CISE review study assessed that bilateral or limited multilevel agreements could possibly be a way to overcome the national legislation barriers. An alternative solution could be the adoption of legislation, which should not, however, result in the adoption of a lowest common denominator.

3.7 Managing Maritime CISE

The seventh action of the 2014 Communication points out that *"further reflection is required on the administrative structures needed to manage a Maritime CISE, in particular the need for service level agreements between national authorities"*.

After the conclusion of the EUCISE2020 project, the Commission deemed appropriate to prepare a transitional phase aiming to lead to a full operational phase. This transitional phase is described in detail in chapter 3.9 below.

In order for the transitional phase to be effective, it appeared necessary to entrust a single body or entity with the responsibility to manage the next phase of CISE, and in particular to organise and coordinate the work at the EU level and with the Member States, despite the decentralised nature of CISE. This will contribute to ensure the coherence of all efforts by the Member States while also bearing in mind the complementarity of CISE with existing information exchange systems. EMSA was tasked with leading and coordinating the

transitional phase, in agreement with the Member States, on the basis of the governance model described in detail in chapter 3.9.

The governance structure of a fully operational CISE will have to be discussed in detail and agreed at a later stage, and the discussions and the experience gained during the transitional phase could contribute to shape the future governance.

3.8 Financial investment in CISE

Overall, the European Union and Member States have made significant human resource and financial investments into developing CISE and laying the foundations for its successful implementation.

The review study made an overview of the financial costs (incurred or committed) for developing CISE in the period between 2014 and 2018. The assessment included the European projects and studies and the various national projects.

Overall, the investment in CISE in the 2014 – 2020 period consists of:

- EUCISE2020 pre-operational validation project: around €17 million out of which €13 million funded by the Commission under the FP7 programme. The 39 partners in the project covered the remaining costs of about €4 million.
- ISA and ISA2 programmes: A total of €1.7 million have allocated to the CISE action²⁴ for the period 2014-2020, facilitating specific European studies and pilot projects in support of CISE development.
- EMFF in direct management 2014-2019: a total amount of about €16.5 million has been committed to support the design, development and testing of CISE at EU and national²⁵ (grants to Member States) levels and to facilitate the direct involvement of EMSA in the alignment of CISE with the EU information systems embedded in EU law and for the transitional phase towards operational CISE.
- EMFF in shared management (Priority Axis 6 of operational programmes) 2014 – 2020 (envisaged): about €22 million have been allocated to directly support the integration of maritime surveillance (CISE) at national level.

The successful completion of the transitional phase and the subsequent operation of CISE will require continuity of operations at EU level (see section 3.9 below) and investments by the participating Member States to achieve connectivity and interoperability with their national systems.

For the Member State components, the proposal by the Commission on the European Maritime and Fisheries Fund²⁶ under the next multiannual financial framework envisages the possibility of supporting actions contributing to the achievement of the objectives of the CISE under shared management. For the EU component, the proposal also envisages the possibility

²⁴ https://ec.europa.eu/isa2/actions_en

²⁵ About €5.8 in grants for 13 projects led by Member States (including private entities), with an additional national co-financing of about €1.6 million

²⁶ Proposal for a Regulation of the European Parliament and of the Council on the European Maritime and Fisheries Fund and repealing Regulation (EU) No 508/2014 of the European Parliament and of the Council COM/2018/390 final

of supporting the promotion of maritime security and surveillance, including through data sharing, under direct management.

3.9 The transitional phase

As the EUCISE2020 project was coming to an end, in 2018 the Commission set the ground to prepare for the full implementation of CISE and to support the transition into operations, in line with what decided by the Council in its conclusions of June 2018 and with the revised Action Plan on the EUMSS (notably actions A.2.1 and A.2.2). The Commission proposed to involve EMSA for setting up and coordinating the actions envisaged for the transitional phase, in view of its specific role on maritime surveillance in the framework of the interagency cooperation and on the basis of its relevant ancillary task as provided for in the mandate of the agency²⁷.

The transitional phase was discussed with the Member States at experts level (Member States Experts Sub-Group on the Integration of Maritime Security and Surveillance, MSEsG). The Council (Friends of the Presidency group on the EUMSS - FoP) was also kept informed about this process.

The transitional phase was agreed with the Member States, several agencies and the EEAS and is detailed in the documents "CISE Transitional Phase: Activities" and "CISE Transitional Phase: Governance Structure".

The transitional phase will aim also to ensure coherence of CISE with the overall maritime surveillance framework and the existing EU maritime information systems, thus avoiding duplication of efforts (Action A2.1 of the EUMSS AP), while taking into account the existing legislation.

The main objective of the transitional phase is to further support Member States to implement the CISE interoperability building blocks into their systems, on the basis of the elements developed and tested by EUCISE2020. To this aim, the Commission and the members of EUCISE2020 have negotiated an agreement for the transfer to the Commission of the intellectual property rights on the products developed by EUCISE2020.

The activities envisaged for the transitional phase should allow addressing the issues that emerged in the last years, identified in the CISE review study and already mentioned in this staff working document. In particular, a thorough analysis of the deliverables of EUCISE2020, including the software, should be carried out by EMSA and the JRC. On the basis of an agreed definition, preparatory work should start on the implementation of the responsibility to share concept, identifying gaps and weaknesses and proposing measures for mitigation or improvement. The agreements necessary to support the operational exchange of information should be established by EMSA with the agreement of the CISE Stakeholders Group. Training and sharing of best practices and lessons learnt is also envisaged so as to involve directly the operational users. A key element for the success of the transitional phase will be the technical and operational support to the Member States to maintain the existing network in operation and to consolidate it.

²⁷ Regulation (EC) No 1406/2002 of the European Parliament and of the Council of 27 June 2002 establishing a European Maritime Safety Agency

The transitional phase should also allow the opportunity to look in depth into issues of security of IT systems and create the conditions for an enhanced participation of the military communities in CISE.

The governance of the transitional phase ensures that all stakeholders have a say in the further developments of CISE, through a dedicated CISE Stakeholders Group coordinated by EMSA, and where appropriate through the MSEsG and the FoP. This model of governance could be a test for developing the governance of a fully operational CISE.

The transitional phase should contribute to keep the positive momentum about CISE, created by EUCISE2020, the national projects and the political endorsement at the Council level. This positive momentum has contributed to widen the interest for CISE also among those Member States that were not part of EUCISE2020, and that might join CISE in the next years. It will be important to facilitate the participation of those Member States in CISE while preserving the continuity of what has been put in place already by those Member State that have already committed considerable resources to CISE.

Another very positive development for the transitional phase is the increasing involvement of EU agencies in the process and their participation in the works of the CISE Stakeholders Group. In particular, the participation of the agencies that operate maritime information systems, like EBCGA, EFCA or the European Defence Agency (EDA), could contribute to ensure the necessary complementarity and coherence of CISE with their respective systems. The transitional phase will also be taken into account by EMSA, EFCA and EBCGA in the framework of interagency cooperation.

4. Conclusions

CISE is taking shape. The EUMSS and its Action Plan have been critical in creating the political framework which allowed the idea of CISE to move forward since 2014. Thanks to CISE, a significant political mentality change has been achieved over the years, towards the understanding that, by cooperating in exchanging information, national and EU maritime authorities are stronger than when acting in isolation.

While EUCISE2020 involved the participation of several Member States, CISE received widespread support within the Council. The parallel and combined efforts of EUCISE2020 and the national projects have produced considerable progress since 2014. CISE is now ready to start to develop from the products of a research project into an operational, sustainable environment for information exchange. The Commission will continue to provide financing the EU components of CISE under the EMFF in direct management, and an operational CISE will require support at national level for Member State components, which could benefit from co-financing under the EMFF in shared management.

EUCISE2020 raised the interest of many authorities involved in maritime surveillance, thus contributing to create a "CISE culture" based on the voluntary nature of CISE. It also helped to foster a basic common understanding about the "responsibility to share" paradigm, which should be further explored in the transitional phase. Furthermore, it allowed partners to exchange real information from real systems and demonstrated the feasibility and the value of such an environment.

The involvement of military authorities in EUCISE2020 is also a welcome development as it allowed for concrete discussion about civil-military exchange of information. The work on the

security features to allow the exchange of sensitive information is still at an early stage and will need to be further developed to allow operational information exchange.

The interest to participate in the transitional phase expressed by Member States not involved in EUCISE2020 is a positive development towards an EU-wide common information sharing environment. The involvement of several EU agencies and the EEAS in the governance body of the transitional phase also confirms the interest raised by CISE among stakeholders engaged in the maritime domain. The participation of the Agencies in the CISE Stakeholders Group can contribute to work toward coherence of CISE with the overall European maritime surveillance framework and exchange information systems, which is one of the aims of the CISE transitional phase.

The CISE review study highlighted the need to enhance efforts on the visibility and the communication about CISE among operators. It also underlined issues that still need to be addressed such as data protection, improvements in interoperability standards, the consolidation of the results of EUCISE2020, and the adaptation of the national authorities' systems in the Member States.

The transitional phase managed by EMSA in agreement with the CISE Stakeholders Group should enable to continue and coordinate the work on CISE at the EU and national level in the next two years. Further reflection is needed, also at political level, in order to make CISE effective and successful.