

Executive summary

Impact assessment study that supports the establishment of CISE

COWI carried out an impact assessment study in 2013-14 as input to the European Commission, DG MARE's own Impact Assessment of "A Common Information Sharing Environment (CISE) for the surveillance of the EU maritime domain". The impact assessment study was implemented in parallel with several other activities initiated by DG MARE thus benefitting from the advice of the Technical Advisory Group (TAG) and the Member States' Expert sub-Group (MSEsG) on the integration of maritime surveillance, and in particular from the close collaboration with the Cooperation Project that provided valuable estimates of the benefits of improved maritime surveillance.

Overall, the results of the study, and thus the input to DG MARE, support the establishment of CISE. The legal analysis shows that it is feasible to develop and implement policy options that will create a functioning environment for CISE, and the cost and benefit analysis shows that such policy options could lead to high benefit-cost ratios with significant benefits in the economic, social and environmental domains.

Assessment of current situation in the EU maritime domain

The assessment of the likely cost and benefits from CISE was made on the basis of a thorough assessment of the current situation in the EU maritime domain. This assessment started from the recognition that tens of thousands of activities take place in the EU waters every day. To ensure that these activities take place in a safe manner, and to assess and manage their impact on security, economy, and the marine environment and beyond, there is a critical need for surveillance. This need – hereunder the need for improvement – gives rise to a complex daily reality for the maritime surveillance authorities endeavouring to manage and respond appropriately to associated maritime risks.

Furthermore, COWI benefited from the expertise of the Wise Pens International in assessing the situations and events that may negatively affect the EU maritime domain in the coming years. This risk assessment highlights if and where CISE may reduce such risks. One of the main conclusions is that the maritime risk picture differs across the sources of risks and sea basins. For example, security-related risk factors appear to show high diversity among sea basins, while environment-related risks seem more homogenous. The application of a Delphi consultation approach concluded that maritime risks in the EU maritime domain

overall tend to be in the range of “medium to high”; hence leaving room for improvement.

The starting point for CISE is, however, not a situation with no information sharing *within* user communities across Member States or *between* user communities. User communities here refer to maritime safety, fisheries control, marine pollution, customs, border control, general law enforcement, and defence. Indeed, great efforts have already been made to increase the efficiency of surveillance activities through the collection and exchange of maritime surveillance information (position of ships, cargo data, etc.) between control authorities – including across national borders – *within* the respective maritime surveillance user communities. However, the sharing of surveillance data *between* user communities has not taken place to the same extent leading to situations where data that could be useful to other user communities are not shared, or where several authorities are collecting the same data.

Technical, legal and cultural limitations to information sharing

Through a scrutiny of the current maritime surveillance systems and cooperation arrangements in the EU maritime domain, the impact assessment study concludes that there are few *technical* limitations to achieve a higher degree of information sharing. The *legal* conditions for information sharing at the EU level are fragmented and based on a primarily sectoral (vertical) approach. In other words, while the vast majority of the legal provisions of EU sectoral legislation provide for the sharing of information only *within* the sectors, there are very few provisions providing specifically for the sharing of information *between* functions. However, this does not necessarily exclude sharing between sectors – i.e. provided that the sharing is not prohibited by personal data protection legislation or national rules governing confidentiality, IP rights, etc. The legal complexity nevertheless often results in uncertainties about what information may be shared, with whom and for what purpose. Finally, there are *cultural* factors affecting information sharing. These are much related to the high degree of sectoral thinking that prevails in maritime surveillance – and that is underpinned by sectorial legislation as just underlined. Overall, the study concludes that increased information sharing will demand a change in the attitude of maritime surveillance authorities towards a *common interest* in the sea.

EU reason and right to act

The assessment of the current situation in the EU maritime domain and the legal analysis conclude that there is both a reason and a right for the EU to act to improve the sharing of maritime surveillance information. One reason is that CISE is part of the EU regulatory trend based on transnational information networking. The transnational nature of CISE is characterised by horizontal interaction among national administrations, primarily driven by the synergies of networking. Such an approach corresponds to the European transnational tendencies in information networking as already employed. It encourages the direct interaction among national administrations, and it is a good case of the practical application of the principles of subsidiarity.

Policy options

The next step is to select the policy option which provides the best conditions for the Member States to connect to CISE thereby improving information sharing for the surveillance of the EU maritime domain. This would enhance efficiency and cost-effectiveness of maritime operations, including strengthening cooperation

between maritime authorities. This means selecting the policy option, which best reduces technical, legal and cultural limitations.

The preferred policy option was identified through an the analysis of a number of different options, which, in addition to the option of (1) no further EU action, were categorised either as (2) voluntary cooperation or as (3) legally binding options:

- › **Policy option 1: No EU action** (baseline scenario) leaves the current approach unchanged. The CISE-specific EU framework will be based on the existing non-binding policy arrangements, and the future development of CISE will depend on the initiatives of Member State and EU agencies to integrate maritime surveillance information sharing systems primarily at national, regional or international levels.
- › **Policy option 2: Voluntary cooperation** seeks to implement CISE by employing instruments that stimulate voluntary cooperation between Member States. Policy option 2 is divided into two sub-options:
 - › **Sub-option 2.1: Recommendation for the implementation and management of CISE** will provide recommendations, best practices and guidelines on information sharing, administrative practice and cooperation, and technical and operational guidelines.
 - › **Sub-option 2.2: Joint undertaking** seeks to institutionalise the voluntary cooperation into a formal structure, which would provide a framework for further activities, encourage and, when appropriate, assist EU Member States to increase maritime surveillance information sharing across user communities and to achieve more effective and coordinated information sharing.
- › **Policy option 3: Legally binding options** seeks to address the CISE objectives by applying legally binding provisions. It comprises also two sub-options:
 - › **Sub-option 3.1: Removing legal limitations in sectoral legislation to cross-border and cross-sector information sharing** will identify and remove limitations by legislative acts amending the existing sectoral legislation to the extent necessary for the effective implementation of CISE. This may include the possibility to transfer personal data to certain enumerated functions under the condition that such data are safeguarded in accordance with the principles of protection of the fundamental rights of an individual.
 - › **Sub-option 3.2: Introducing a binding CISE framework** aims to introduce a binding legal framework encompassing multiple user communities depending on their legal basis, applicable legislative procedures, and constitutional opt-ins and opt-outs from the EU Treaties. From a legal perspective, it is foreseen that such a legal framework, split into several umbrella packages, would rely on multiple legal bases.

It is naturally also possible to combine voluntary and legal policy options. An analysis of suitable combinations is therefore also included in the impact assessment study.

Architectural visions and policy options

In practice, a CISE policy option will be implemented through the support of a CISE architecture. A number of architectural visions were developed by DIGIT and DG MARE and subsequently evaluated/commented on by the MSEsG. This led to the preference for a “hybrid vision” based on multiple providers of CISE services, coordinated by Member States and user communities. Similarly, the analysis of the CISE policy options led to a preference for the hybrid vision as the most suitable solution to support the implementation of each of the options.

Analysis of impacts of policy options

The analysis of the impacts of the CISE policy options was done using both a top-down and a bottom-up approach. The top-down approach was primarily based on information collected through a questionnaire survey of maritime stakeholders in the Member States, through interviews with selected stakeholders, and through literature reviews, including the two pilot projects: BluemassMed and MARSUNO. Being the main approach, the bottom-up approach was based on estimates provided by the Cooperation Project of cost savings and other benefits for a number of different use cases of information sharing. Since this latter analysis was based on cases, it did not cover every possible situation in which CISE can provide benefits. Hence, the reported results are denoted as *minimum benefits*.

Cost estimates for CISE were mainly provided by Gartner. These estimates cover the development and maintenance of the necessary information exchange standards and IT components and the interconnection of existing EU sector-specific systems as well as existing Member State systems. Furthermore, the cost estimates include non-IT elements such as personnel, electricity and floor space. Gartner estimates that the total cost of CISE over a *ten year period* will be between MEUR 67.6 and MEUR 115.7.

CISE does not involve any significant, additional administrative burden. The core of CISE and the preferred mix of policy options (see below) build upon already existing legislative measures, agreements and voluntary cooperation between relevant authorities. This implies that the administrative activities related to CISE will be business as usual costs.

Benefit estimates for CISE distinguish, as already mentioned, between cost savings and other benefits, such as economic, social and environmental benefits. Cost savings result from, for example, less data duplication due to cross-sectorial information sources or from streamlining of the deployment of surveillance assets such as ships and aircrafts. As such, cost savings belong to the group of economic benefits, which also include estimates of the value to society from a reduction in smuggled and counterfeit goods entering the EU markets. Social benefits from CISE include better handling of irregular immigration, a fall in casualties at sea due to fewer maritime accidents, and alleviation of the socioeconomic impact from less drugs and weapons entering the EU. Finally, environmental benefits mainly arise from reductions in the costs of oil spills and other discharges.

The benefit estimates for the different economic, social and environmental impacts of CISE – based on the findings of the Cooperation Project – lead to a total *full potential benefit* estimate in the order of magnitude between MEUR 162.7 and 179 per year, where *potential* means that the estimates are derived under the assumption that there are no limitations to information sharing in the different use cases. The cost saving potential accrues to between MEUR 40.1 and 44.1 per year while the value of economic, environmental and social impacts amounts to between MEUR 122.6 and 164.9 per year. As mentioned above, these estimates are calculated using a *minimum benefit* approach, and it should be noted here that the Cooperation Project estimates even more optimistic CISE benefit scenarios. These higher benefit estimates strengthen the case for investing in CISE put forward by this impact assessment study.

Benefit-cost ratios were then – as shown in the below table – estimated for the different CISE policy options. These estimates are based on assumptions about how much of the *potential* additional amount of maritime surveillance information (which currently is not shared) will *actually* be shared as a result of the implementation of a given policy option. Furthermore, the cost and benefit estimates for the *ten year period* assume that the implementation of CISE takes time and so both costs and benefits increase over time.

The table shows that all CISE policy options are expected to deliver high benefit-cost ratios. This ratio is as high as 4.65 for Option 2.2: voluntary cooperation through joint undertaking, slightly higher than that of the policy mix. However, the highest benefits are assessed to come from the policy mix – which also has the largest difference between benefits and costs in absolute terms. The policy mix is therefore considered the preferred option. The lowest benefit-cost ratio is expected for the “White Paper” option – since a major part of the costs here is a fixed cost that needs to be covered equally by the benefits of all policy options.

There is an almost even distribution among economic, social and environmental benefits – with the highest benefits however occurring in the social domain. However, in this context it must be emphasised that the estimates only include the benefits that were selected by the Cooperation Project and only those that could be quantified. Hence, other economic benefits; such as higher income to the shipping industry from safer EU waters, additional social benefits; such as local job opportunities, and environmental benefits; such as reduced chemical pollution, should be kept in mind when assessing the added value of CISE. This said, the calculations speak in favour of the implementation of CISE even without considering these additional benefits.

Total costs, cost savings and impacts [other benefits] (in MEUR, from 2014-2023) of policy options, and performance ratios

	Policy Option 1: No EU action	“White Paper”	Option 2.1	Option 2.2	Option 3.1	Option 3.2	“Technical Regulations”	Policy mix: “White Paper” + 2.1 + 2.2 + 3.1
Key measures (MEUR)								
Total cost (TCO)	0	60	75	106	86	86	86	133
Cost saving	0	37	75	122	94	94	94	151
Impact	0	114	228	373	286	286	286	460
Total benefit	0	151	303	495	380	380	380	611
- economic benefit	0	45	90	146	112	112	112	181
- social benefit	0	50	101	165	126	126	126	203
- environmental benefit	0	56	112	184	141	141	141	227
Performance ratios								
Cost-saving/TCO	0	0.62	1.00	1.15	1.09	1.09	1.09	1.14
Impact/TCO	0	1.88	3.05	3.51	3.34	3.34	3.34	3.47
Total benefit/TCO	0	2.50	4.05	4.65	4.43	4.43	4.43	4.61

Source: COWI calculations.

Note: The two options: “White Paper” and “Technical Regulations” which are included in the Impact Assessment produced by DG MARE have for consistency been included in the presentation of the calculations. Hence, for a description of these please, consult the DG MARE IA report.

Conclusion: the study results support the establishment of CISE

In conclusion, the impact assessment study supports the establishment of CISE. The assessment of the current situation in the EU maritime domain and the legal analysis conclude that there is a reason for EU to act to improve the sharing of maritime surveillance information – and that there is a right to act. Hence, it is concluded that it is feasible to define and implement policy options that will create a functioning environment for CISE. Furthermore, all relevant CISE policy options are assessed to deliver high benefit-cost ratios. Finally, it is concluded that the preferred policy option for CISE is a mix of voluntary and legal measures.