Paper for Consideration by MSDIWG

Business case for a further development of the Danish marine spatial data infrastructure (MSDI)

Submitted by:	MSDI Chair
Executive Summary:	The business case for a further development of the Danish marine spatial data infrastructure (MSDI).
Related Projects:	

Introduction / Background

This paper describes the business case for a further development of the Danish marine spatial data infrastructure (MSDI). MSDI serves as the official map of the Danish marine waters and makes it possible to access and compare marine data and information.

Analysis/Discussion

The Danish Geodata Agency implemented the current version of the MSDI in the period 2015 to 2017 together with ten other authorities. The objective of the current version of the MSDI is to gather authoritative marine data from the 11 authorities; also, the MSDI serves as a tool which makes it easy to get an over-view of available data as well as retrieve and use the data on a day-to-day basis.

The further development of the Danish MSDI will result in: the MSDI being accessible to the public, an increase in the amount of marine geographical data as well as the development of new tools to support the retrieval and presentation of data. The purpose of this business case is to clarify the benefits of and costs associated with the further development of the MSDI, which will be referred to as 'MSDI 2.0'.

The business case is based on a three-step development plan for MSDI 2.0. The three steps are illustrated in figure 1 below:

Figure 1: Three-step development plan for MSDI 2.0

	Step 1. Open basic MSDI solution for authorities, businesses and citizens	Step 2. Introduce marine data – new data for multiple users and multi-use purposes	Step 3. Enhanced technical solution with new data and tools for authorities
Description	• Open basic MSDI solution that is accessible to authorities, businesses and citizens • Portal containing information and geographic maps as well as links to data sources and descriptions • Full access to current themes which are available to the general public • Still possible to include sensitive data which are not accessible to the general public - only to authorities	• More data in an open basic MSDI solution that will be displayed by authorities • Data can be downloaded directly from the data owner (from the different authorities) • New data themes targeted at businesses and authorities, including agreements with new data providers • Improved description of themes and their applicability • Initiate procurement of an extended technical solution	• Enhanced technical solution for the portal, GIS, application and database entailing improved security and reliability of data supply • Several new themes and agreements with new data providers, including time-series data and data targeted at citizens and associations • Will allow for the use of themes by additional users, e.g. local authorities, for the purposes of climate-change adaption and combined physical planning (land-sea)
Benefits	• The authorities can use MSDI to communicate new guidelines and decisions. • Other users will benefit from improved access to data. The technical specifications put limits on the benefits at this point.	• Improved downloading services increase the benefits for all potential users and allow for the development of services based on the MSDI solution and the integration of these into the potential users' own systems • The improvement from additional data and analyses increases the potential benefits • Increase in the number of potential users – all new data imply new potential users/benefits	• Increased focus on extending the use of the MSDI solution will result in the identification of new users and increase the potential benefits • Time-series data have been in great demand

The analysis has identified four main interest groups that will benefit from MSDI 2.0. The first group consists of the 11 authorities that use and developed the current version of the MSDI and other authorities with an interest in the ocean. The second group is made up of private companies; both existing marine companies which can improve existing offerings and/or products and potential start-ups that can build their business models based on the opportunities provided in MSDI 2.0. The third group consists of researches, teachers and students who can use marine data from the MSDI in their research, work or studies. The last and fourth group consists of associations and individuals with an interest in the ocean, e.g. an interest in sailing, canoeing, kayaking, bird watching, etc.

MSDI 2.0 will allow these groups to access, retrieve and use authoritative marine data. This is in line with the Danish government's growth plan 'The Blue Denmark', which consists of 36 initiatives aimed at development and improvement of the marine sector to stay internationally competitive in the future.

Conclusions
The analysis has indicated a strong demand for MSDI 2.0 as a free and open data infrastructure for marine data. The business case shows an annual net benefit of DKK 2 million from 2024 and onwards – 2024 being the year in which MSDI 2.0 is expected to be fully developed. The project

cost is DKK 7.1 million, and the development period will be from 2019 to 2022. The net value of the business case is DKK 0.3 million. Figure 2 shows the net benefit per year from 2019 to 2028.

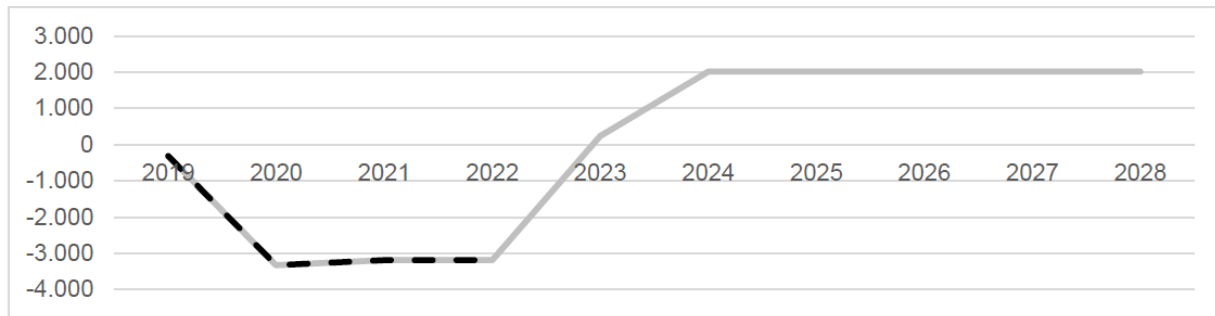*Figure 2: Net benefit per year from MSDI 2.0*

Figure 2: Net benefit per year from MSDI 2.0

The aggregated benefits of MSDI 2.0 support that MSDI 2.0 could be an important step towards realising the government's growth plan for 'The Blue Denmark', which promotes sustainable growth in the marine sector. It will also be in line with the objective of the Danish government's general 'Digital Strategy 2016-2020', which seeks to create the foundation for a future Digital Public Sector that can support economic growth and new business opportunities.

Recommendations
The MSDIWG is recommended to use this paper, as it may seem fit for a discussion about the need for MSDI Business Cases and how the IHO MSDIWG can support this.

Action Required of MSDIWG
The MSDIWG is invited to:

    a.   note this report;

    b.   take appropriate actions.