



Feasibility Study On An Observatory For The Blue Economy And The Sea Satellite Accounts For The European Union

Appendices

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Introduction

This document presents the supporting material that was developed in the context of the study "Feasibility Study On An Observatory For The Blue Economy And The Sea Satellite Accounts For The European Union" [ISBN 978-92-95225-21-3], available through the publications office of the EU.

This document includes the following appendices:

- 1.** Database for sectors>sub-sectors>Industries with identified sources and data quality indicators; Consolidated view on identified data sources List of organisations reach out and interview summary
- 2.** List of questions used for interviews used for data collection with National Statistics offices
- 3.** Results of the data collection for case study countries (Eurostat/NSO, Independent databases and BE report 2020)
- 4.** Detailed list of activities and benefits of observatories
- 5.** Questionnaires used for the interviews for the feasibility of Observatories and Sea-satellite accounts
- 6.** Final Cost Structure of the observatory scenarios
- 7.** Feasibility and cost calculations for the Sea Satellite Account

LIST OF ABBREVIATIONS

BEA	Bureau of Economic Analysis (US)
CPA	Classification of Products by Activity
DG MARE	Directorate-General for Maritime Affairs and Fisheries
DK	Denmark
EASME	Executive Agency for Small and Medium-sized Enterprises
EMFF	European Maritime and Fisheries Fund
EMODNET	European Marine Observation and Data Network
EMSA	European Maritime Safety Agency
EMSO	European Multidisciplinary Seafloor and water-column observatory
ENMC	European network of Maritime Clusters
ESPO	European Sea Ports Organisation
EUMOFA	European Market observatory for Fisheries and aquaculture products
GVA	Gross Value Added
GWI	Global Water Intelligence
ICPC	International Cable Protection Committee
IOOS	The U.S. Integrated Ocean Observing System
ISIC	International Standard Industrial Classification
NACE	Statistical Classification of Economic Activities in the European Community
NACF	Statistical Classification of Economic Activities for France
NCA	National Competent Authorities
NGO	Non-Governmental Organisation
NOAA	National Oceanic and Atmospheric Administration
NSO	National Statistics Office
OECD	Organisation for Economic Co-operation and Development
PRODCOM	Production Communautaire (Community Production)
RO-RO units	Roll-on/roll-off units
SBS	Structural Business Statistics
SME	Small Medium Enterprise
SNA	System of National Accounts
SSA	Sea Satellite Accounts
TEU	Twenty-foot-Equivalent Unit (measure of volume in units of twenty-foot long containers)

List of appendices

Appendix 1: Database with identified sources and data quality indicator

Justification

Overview of data sources for established and emerging sectors

Version: 2.0

Latest Update: 10-02-2021

Today: 10-12-2021

For question regarding this Excel please contact gurvarora@deloitte.nl

Context

This database has been created in light of the study commissioned by the European Commission. The study aims to evaluate the feasibility of establishing an Observatory on the Blue Economy, including the construction of Sea Satellite Accounts for Member States of the European Union that cover all sectors of the Blue Economy.

This database forms the deliverable of Task 1 of the study, where the activities in Task 1 encompass:

- Comprehensive identification of established and emerging sectors and sub-sectors
- Extensive investigation of database availability and scope for each of the activities identified, including and not limited to: databases on tour companies, industry or sector associations, official national statistics, port and marina authorities, commercial statistics, clubs and membership organisations etc.
- Examination of data quality, frequency and comparability

Legend

Sheets:

- ▶ **Established sectors**
- ▶ **Emerging sectors**

1.1. Data sources on industry level for the established sectors

1.2. Data sources on industry level for the emerging sectors

Emissions sector	Sector breakdown	Industry	Coverage by primary sources										If not Completely covered by primary sources, coverage by alternative data sources										Case studies	Relevant case study countries	Data request status	Internal data status	Note			
			Coverage by EuroStat			NAICS codes			CAP and PRODCOM codes				Name alternative data source			Type of data source		EURO27 coverage		Data type availability		Data periodicity		Link		Note on source				
Sub-sector			EU28	EU27	EU28	EU27	EU28	EU27	EU28	EU27	EU28	EU27	EU28	EU27	EU28	EU27	EU28	EU27	EU28	EU27	EU28	EU27	EU28	EU27	EU28	EU27	EU28	EU27	EU28	EU27
Bio energy	Renewable energy	Wind farms	Partial 1	D 0.11	D 0.12	Source not specified	EU28	Intermediary authority	United Kingdom	06_16, 07_08, 08_09, 09_10, 10_11, 11_12, 12_13, 13_14, 14_15, 15_16, 16_17, 17_18, 18_19, 19_20, 20_21, 21_22, 22_23, 23_24, 24_25, 25_26, 26_27, 27_28, 28_29, 29_30, 30_31, 31_32, 32_33, 33_34, 34_35, 35_36, 36_37, 37_38, 38_39, 39_40, 40_41, 41_42, 42_43, 43_44, 44_45, 45_46, 46_47, 47_48, 48_49, 49_50, 50_51, 51_52, 52_53, 53_54, 54_55, 55_56, 56_57, 57_58, 58_59, 59_60, 60_61, 61_62, 62_63, 63_64, 64_65, 65_66, 66_67, 67_68, 68_69, 69_70, 70_71, 71_72, 72_73, 73_74, 74_75, 75_76, 76_77, 77_78, 78_79, 79_80, 80_81, 81_82, 82_83, 83_84, 84_85, 85_86, 86_87, 87_88, 88_89, 89_90, 90_91, 91_92, 92_93, 93_94, 94_95, 95_96, 96_97, 97_98, 98_99, 99_100, 100_101, 101_102, 102_103, 103_104, 104_105, 105_106, 106_107, 107_108, 108_109, 109_110, 110_111, 111_112, 112_113, 113_114, 114_115, 115_116, 116_117, 117_118, 118_119, 119_120, 120_121, 121_122, 122_123, 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Appendix 2: List of organisation reach out and interview summary

2.1. Summary of reach-out

Organisation	Contact person	Position or department	Purpose	Result
<u>Sustainable Pearls</u>	Laurent Cartier	Unknown	For processing and distribution data on other fisheries products (i.e. jewellery and pearls)	No pearl producers in the EU. French Polynesia is a large producer but not considered part of the EU, and even so, will need to contact the national jewellery association in countries directly for economic data.
<u>ECORYS</u>			For data on travel agency activities	No response received
<u>TUI Group</u>	Email sent		For data on tour operator activities	No response received
<u>ICOMA</u>	Stanislava Try	Communications manager	For data on activities of sport clubs (e.g. gamefishing clubs, yacht and sailing clubs etc.)	Received data on shipbuilding and services providers (e.g. marina operators, naval architects, brokers, boat transportation companies, travel agents, marina shops etc.) but not data on activities of its members (i.e. national boating/membership associations). No economic data for membership organisations were available. Was advised to contact its members individually for each EU country
<u>JRC as per ICES report (p.13)</u>	Natacha Carvalho	Unknown	For data on the recreational fishing sector	DCF rec fishing catch data by species provided. Can compile with EUMOFA data for species prices to get estimate of catch value, but not expenses of rec fishers that can be a proxy for value to personal satisfaction from fishing (i.e. benefits of nature)

Organisation	Contact person	Position or department	Purpose	Result
<u>European boating industry</u>	Philip Easthill	Secretary General	For activities of other membership organisations n.e.c. (e.g. service activities to promote gamefishing, surfing tournaments etc.)	Referred to ICOMIA report and several other interesting reports, but all information are related to recreational boating (e.g. shipbuilding, exports, number of rec boats and marinas/berths). No information on activities of membership organisations or sports clubs. Will check if they can help in identifying other relevant organizations
<u>European Council for Maritime Applied R&D</u>	Email sent			No response received
<u>Federation of European Maritime Associations of Surveyors and Consultants</u>	Rene van Dijk	Managing Director of Arntz (member of FEMAS)	For data on services provided in maritime consultancy (under governance and data)	Was only able to provide number of maritime surveyors (i.e. for insurance purposes) who are members of FEMAS, and the rough income/turnover of 220k-225k euros per year. However, not all surveyors are members of FEMAS and there are also other consultancy and surveying services not covered by FEMAS. Will also reach out to members to check for additional information
<u>International Water Sports Federation</u>	Email sent			No response received
<u>European Association of Zoos and Acquaria</u>	Myfanwy Griffith	Executive Director	For data on zoos and aquariums	Had plans to conduct a Socio-Economic Impact Assessment for their 300+ members in March 2020 to gather the latest data from on members on many values of interest to us. However put on hold due to Covid-19. Referred us to EUAC and report by Milieu.

Organisation	Contact person	Position or department	Purpose	Result
<u>Milieu Consulting for its EU report on evaluation of the zoos directive</u>	Nathy Rass-Masson	Senior Manager	For data on zoos and aquariums	No economic information collected as part of their study. Advised for us to contact EAZA and EAAM, but even then their membership is estimated to only represent 20% of the operators in the sector. However, there are hardly any databases of zoos at national level, and so it's impossible to know how many zoos and aquariums there are in the EU
European Union of Aquarium Curators	Lauren Florisson	Unknown	For data on aquariums	Do not collect data from members, as members are individuals (curators) and not organisations
<u>The European Waterpark Association</u>	Klaus Batz	Managing Director	For data on activities of amusement parks	Unable to provide a response now due to Covid-19 crisis
<u>EnergyPeat (Swedish Peat Association)</u>	Pia Holmberg	Chairman of the board	For data on peat mining and extraction	The Swedish Peat association does not have members that operate seabed dredging of peat market. All of the peat extraction is either land based or in drained peatlands. Follow up email sent to help us identify other associations with seabed mining activities
<u>EU Offshore Authorities Group</u>	Email sent		For data on sea-bed extraction of natural gas and crude oil	No response received
<u>EU Dredging Association</u>	Email sent		For data on extraction of salt, harvest of gravel, sand and other minerals including sea-bed mining	No response received
<u>Central Dredging Association</u>	Email sent		For data on extraction of salt, harvest of gravel, sand and other minerals including sea-bed mining	No response received
<u>EU Salt Producers Organisations</u>	Email sent	Regulatory and Policy Manager	For data on extraction of salt	Followed up on 24th June; responded with 3 new sources for point of contacts: Roskill, Selsdefrance abd Brasdelpot
<u>Roskill</u>	Email sent			No response received

Organisation	Contact person	Position or department	Purpose	Result
<u>Selsdefrance</u>	Email sent			No response received
<u>Brasdelport</u>	Email sent		Data on salt production in Spain	Replied on 30th and will get dataset in the coming days
<u>European Peat and Growing Media Association</u>	Email sent		For data on peat mining and extraction	No response received
<u>European community shipowners association</u>	Martin Dorsman	Secretary General	For data on cargo handling and other services in ports	Study on the economic impact of shipping industries and sub-sectors share with us. The study is from 2020 for the EU area. In a follow-up email, contact of Marjolein van Noort was shared from ECMC to reach out for information on Blue Energy and Blue bio-economy.
<u>European network of Maritime Cluster</u>	Marjolein van Noort	Coordinator	For data on sources for renewable and blue bio-economy sectors	ECMC is working closely with its members currently to collect data on Blue Energy and Blue-Bio Economy, especially Seaweed. We have been invited to an internal call with ECMC members in May to share our requests directly.
<u>International seabed authority</u>	Email sent		for data on mining of other non-ferrous metal ores	No response received
<u>Global cold chain alliance</u>	Email sent		For data on cold storages in transport and logistics	Meeting conducted with GCCA in July. The latest figures are currently in compilation and will be available late in 2020. Due to Corona, the plans to publish in August were delayed
<u>Intermodal Steel Building Unit Association</u>	Barry Naef	Director	For data on lease of shipping containers	Awaiting response from the Director Barry Naef as they requested for additional time to review our request internally. Followed up on 21 April

Organisation	Contact person	Position or department	Purpose	Result
LeaseEurope	Jurgita Bucyte	Senior economic advisor	For data on vehicle lease for recreation and tourism sectors	Lease Europe is consolidating the economic data that was requested by the consortium on leased vehicles in travel and tourism. They have indicated to share the data by end of April
EMSA	Andrea Tassoni	Head of executive office	For data on the traffic control and safety maritime services	EMSA has a library of technical information on maritime control and safety measures, including vessel tracking and monitoring. They do not collect information on economic indicators as requested by the consortium. They requested us to reach out to IALA for economic information
IALA	Email sent		For data on the traffic control and safety maritime services	Followed up on 24th June; response received and they do not have the data available, but suggested to reach out to local authorities
OSPAR	Chris Moulton	Data Administration	For data on Blue energy, specifically wind energy	OSPAR collects and disseminates technical data on Blue Energy.
European Algae Biomass Association	Email sent		For data on usage of Blue-bio economy resources	Response received with link to a paid report. Link attached in Appendix 1
European Marine Biological Research Centre	Dr Nicholas Pade	Executive Director	For data on usage of Blue-bio economy resources for pharmaceutical industry	
GWI water data	Rebekah Donald	Key Account manager	For water supply data	GWI WaterData is a strategy validation tool for companies with exposure to the international water market. It provides information on the size of different markets and how fast they are growing, market dynamics and key players within different industries, and also information on how to access new markets

Organisation	Contact person	Position or department	Purpose	Result
				DG GROW has access to the data and have set up a dummy account for us to explore data for 1 country
<u>Desaldata</u>	Rebekah Donald	Key Account manager	For water treatment and desalination data	DesalData is an online database which tracks over 20,000 desalination plants and projects. It provides information on existing plants, upcoming projects, forecasts for the coming 5 years, country profiles, company outlines and more, showing you where opportunities will be arising and which markets are developing. They have set up a dummy account for us to explore data for 1 country
<u>Centre for Sustainable Tourism and Transport, NHV</u>	Email sent		Coastal tourism and transportations	No response received
<u>WindEurope</u>	Email sent		For data on Blue energy, specifically wind energy	Data on Wind and Solar power shared with the team. Attached in Appendix 1
<u>Ocean Energy Europe</u>	Email sent		For data on Blue energy, specifically Ocean energy	No response received

Organisation	Contact person	Position or department	Purpose	Result
<u>SolarPowerEurope</u>	Rafaelle Rossi	Policy Analyst	For data on Blue energy, specifically solar energy	Received a report To their knowledge, the main area where the solar industry contribute to the Blue Economy is in relation to floating PV. However, this is a quite novel application, with just a handful of global players active on the market. Please note that floating PV is mostly installed in artificial lakes, rather than open waters Requested to reach out to Akuo Energy, which is highly active in this domain
<u>Sea Europe</u>	Email sent		For data on naval shipbuilding, weaponry, repair and maintenance	Received reply on 1st July, interview conducted with Lanfranco benedetti
French spiruliners association	Email sent on 24th June		Primary production and Processing and distribution	No response received
PROALGA-portuguese association of algae producers,			Cannot find the contact details	No response received
IFREMER,	Email sent on 24th June		For data on primary production, but also maritime services	No response received
Danish Seaweed Organisation	Email sent on 24th June		For data on Blue bio-economy	No response received
CEVA	Email sent on 24th June		For data on Shipping and freight	No response received
ICPC	Keith Schofield	General Manager	For data related to submarine cables	Received response and had an interview call on 23rd June. Data attached in the Appendix 1
ESCA EU Org	Email sent on 24th June		For data related to submarine cables	No response received

2.2. Summary of interviews

Organisation	Interview participants	Position or department	Subject of interview	Purpose of the interview	Relevant task	Status	Key discussion points
European boating industry	Mr Philip Easthill	Secretary General	Data availability for the European boating industry, recreational sector	Data collection	Task 1	Conducted	
Eurostat	Mr Arturo De La Fuente	Environmental statistics and accounts	Information on data breakdown at EU and national level, according to NACE/SBS and PRODCOM classifications	Data disaggregation, contact approach for MS	Task 1 and 2	Conducted	- Understanding the information reporting and linkage between NACE PRODCOM and CPA data - Requesting available data at more level of detail than NACE 4-digit - Understanding the reach out approach for National statistics offices
	Mr Salah Ziade	Structured Business statistics					
Desaldata and GWI Data	Ms Rebekah Donald	Key accounts, Global Water Intelligence	Data availability for water supply and desalination sector	Data collection	Task 1	Conducted	DesalData is an online database which tracks over 20,000 desalination plants and projects. It provides information on existing plants, upcoming projects, forecasts for the coming 5 years, country profiles, company outlines and more, showing where opportunities will be arising and which markets are developing. DG GROW has a license to the data but more licenses can be purchased

Organisation	Interview participants	Position or department	Subject of interview	Purpose of the interview	Relevant task	Status	Key discussion points
European Maritime Safety Agency	Mr Andrea Tassoni	Executive Director	Data availability on traffic control and safety within Maritime services sector	Data collection	Task 1	Conducted	-In traffic control, support member state and collect information about traffic safety, connect national traffic monitoring system. EMSA does not collect and publish Economic data - Recommendation to reach out to International association of lighthouse authorities
European network of Maritime Clusters	Ms Marjolein van Noort	Coordinator	Data availability on blue economy data and current sectors and new sectors including the various subsectors that make the maritime value chain	Data collection	Task 1	Conducted	ENMC will reach out to their members to request data available for maritime services sector. They are currently in process of consolidating Blue Energy and Bio-economy data data and have asked the consortium to join the next ENMC member call and channel our data request directly
Arntz van Helden	Mr Rene van Dijk	Managing Director	Data availability for the European maritime surveyors, Governance and data sector	Data collection	Task 1	Conducted	Number of surveyors member to FEMAS, representability of the sector as a whole and value added from the surveyors (i.e. operating cost is quoted to be quite low, only need a camera, laptop and car to do the work but the income from surveyors are quite high ~200k-225k/year) FEMAS will also reach out to

Organisation	Interview participants	Position or department	Subject of interview	Purpose of the interview	Relevant task	Status	Key discussion points
							their member organizations and request for granular available data
Statistics Sweden	Johanna Barry Vallin	Structured Business statistics	Information on Blue economy data per sectors, sub-sector and industry at national level, including information on data quality and feasibility in case data is unavailable	Data collection, disaggregation and collection feasibility assessment	Task 2	Conducted	Questions list shared with Ms Johanna so that she can redirect us to the right person in her department. Interview conducted with Ms Viveka Palm. Data on the questionnaire received
Statistics Sweden	Caisa Bergman	Structured Business statistics	Information on Blue economy data per sectors, sub-sector and industry at national level, including information on data quality and feasibility in case data is unavailable	Data collection, disaggregation and collection feasibility assessment	Task 2	Conducted	Redirected to Ms Johanna Barry Vallin
Insee - National Institute of Statistics and Economic Studies France	Emmanuel Gros	Structured Business statistics	Information on Blue economy data per sectors, sub-sector and industry at national level, including information on data	Data collection, disaggregation and collection feasibility assessment	Task 2	Conducted	Refer detailed meeting minutes, Data received from national statistics INSEE and contact made with French Observatory of the Sea

Organisation	Interview participants	Position or department	Subject of interview	Purpose of the interview	Relevant task	Status	Key discussion points
			quality and feasibility in case data is unavailable				
Spanish Statistical Office - INE	Maria Dolores Rebollo Rivelott	Structured Business statistics	Information on Blue economy data per sectors, sub-sector and industry at national level, including information on data quality and feasibility in case data is unavailable	Data collection, disaggregation and collection feasibility assessment	Task 2	Conducted	Ms Maria declined the request for an interview and provided answers to our questions in written format due to high workload
Joint Research Centre	Rita Araujo				Task 1 and 2	Conducted	Role of JRC in the development of the Blue Economy report made clear
ICPC	Keith Scholfield	General Manager	Information on submarine cables	Data collection, identify alternative sources	Task 2	Conducted	Recommended to reach out to European Submarine Cables Association. No central datasource available on EU cables
Sea Europe	Lanfranco BENEDETTI	Sea Naval Direcotr	Information on Maritime Defense sector	Data collection, identify alternative sources	Task 2	Conducted	Sea Europe cannot share the data on defense figures as member companies do not prefer to share the data with each other due to hyper competitiveness 90% of the European Naval defense sector is focussed in ES, FR, IT, DE, SE, NL DK, and 10% in NO, FI, PT, GR

Organisation	Interview participants	Position or department	Subject of interview	Purpose of the interview	Relevant task	Status	Key discussion points
European Market Observaotry of Fisheries and Aquacukture products (EUMOFA)	Laurene Jolly and Frangiscos Nikolian	DG MARE coordinator for EUMOFA	Information on the Observatory and the Sea Satellite account	Feasibility of the Observatory and the SSA	Task 3 and 4	Conducted	EUMOFA helped us review the initial list of activities drafted for the Blue observatory, while providing us relevant and useful information on the conceptualisation and intial planning phases of the observaotry
COGEA	Alessandro Pittito	Project Manager EUMOFA	Information on the Observatory and the Sea Satellite account	Feasibility of the Observatory and the SSA	Task 3 and 4	Conducted	COGEA, is the consortium lead that manages EUMOFA on behalf on DG MARE. They shared with us the key benefits of EUMOFA as well as a division of work and resources throughout the last 4 years of its functioning
French Observatory for the Sea	JOASSARD Ireneé	(Adjoint au sous-directeur, chef du bureau de l'état des milieux)	Information on the Observatory and the Sea Satellite account	Feasibility of the Observatory and the SSA	Task 3 and 4	Conducted	French Observaotry for the Sea, is (was) the national marine and sea observatory of France that has been phased out slowly over the last 4 years. It is now transitioned into an internal agency that helps in dissemination of ad-hoc information as requested by various ministries.
Central Bureau of Statistics (NL)	Adam Walker	Senior Statistics Researcher	Information on the Observatory and the Sea Satellite account	Feasibility of the Observatory and the SSA	Task 3 and 4	Conducted	CBS helped us to review out initial structure of the Sea Satellite account while providing us with relevant insights on how a similar

Organisation	Interview participants	Position or department	Subject of interview	Purpose of the interview	Relevant task	Status	Key discussion points
							exercise was carried out in the Netherlands. We also received resource and workload estimates
Statistics Portugal	Ms Cristina Ramos and Angela Lobo	Coordinator for the Portuguese SSA	Information on the Observatory and the Sea Satellite account	Feasibility of the Observatory and the SSA	Task 3 and 4	Conducted	The applicability of the Portuguese SSA methodology to other countries depends on how advanced their national accounting system is. In theory, it is possible to construct SSAs based on data collected via 'local activity units' as part of the national accounting framework
National Oceanic and Atmospheric Administration	Monica Grasso, Kate Quigley	Coordinator for the US SSA	Information on the Observatory and the Sea Satellite account	Feasibility of the Observatory and the SSA	Task 3 and 4	Conducted	Similar to NL, in the early days NOAA also relied more heavily on geographic divisions to split maritime activities for sectors benefiting from the sea. However, as the data collection and analysis matured, they moved towards more industry/activity based definition (e.g. warehouses away from coastlines but store marine sector goods)

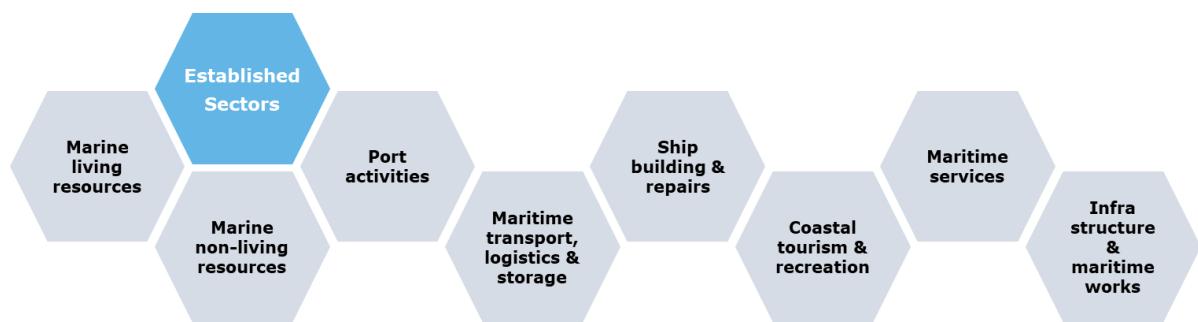
Organisation	Interview participants	Position or department	Subject of interview	Purpose of the interview	Relevant task	Status	Key discussion points
Bureau of Economic Analysis	Edward Morgan, William Nicolls	Joint coordinator for the US SSA	Information on the Observatory and the Sea Satellite account	Feasibility of the Observatory and the SSA	Task 3 and 4	Conducted	The level of information available to NOAA is extensive, they have over 20 years of experience monitoring ocean activities and work closely in collaboration with other federal agencies (i.e. Bureau of Labor and Bureau of Economic Activities) who have data on national accounts. Domestically, SUTs are published annually to the level of 120x120 and every 5 years a benchmark SUT of 400x400 is made publicly available.

Appendix 3: List of questions used for interviews used for data collection with National Statistics offices

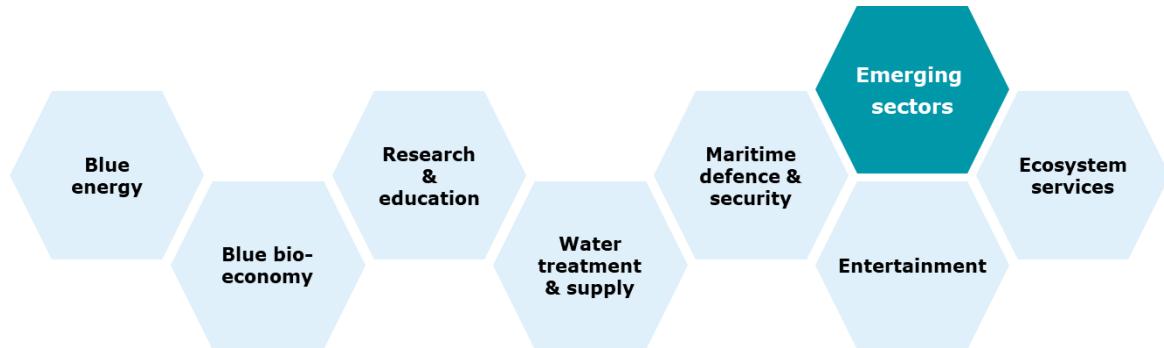
3.1. Introduction to the Blue Economy

Blue Economy, as defined by the [Blue Economy report 2019](#), consists of all those activities that are marine-based or marine-related. It consists of;

- **Established sectors** - Sectors that have traditionally contributed to the Blue Economy



- **Emerging sectors** – sectors which hold huge potential for the future development



3.2. Objective of study



We are reaching out to your organization for data collection for the sectors that are relevant for this study

3.3. Open Questions for the first interview

3.3.1. General Information

Name of the interviewee:

Affiliation:

Department:

Institution:

3.3.2. Blue Economy Sectors

1. Does your institution collect, compile and disseminate data on the sectors of the Blue economy as defined in the introduction section?

Yes No

- a. If yes, could you provide a list of the sectors on which this data is collected, compiled and disseminated? **(Reference List attached with email)**

2. How are these sectors defined and measured in your organization's framework? (Are they defined in a similar way as the Blue economy or in a different way)

3.3.3. Data Collection and Produce Estimates

1. To your knowledge, what data (on indicators) is currently collected on the Blue Economy by your institution/organisation?

- Gross Value Added
- Total Revenue turnover

- Employment (number of people) within the industry
- Number of companies within the sector
- Other (Please indicate) ...
- Other (Please indicate) ...

2. How is this the data on the Blue Economy collected? (products vs activities)
3. Once the data is collected, how does your organization structures the data for reporting? (products to activities vs activities to products)
4. Are you aware of the of PRODCOM, NACE Rev 2 and CPA classifications?

Yes **No**

If yes, next question, if no, skip to question 8

5. Does your organization structure the data through any of the following classifications?

NACE Rev 2.0 **PRODCOM** **CPA** **Other**

6. Are there other organizations/departments that use any of these classifications? **Yes** **No**

a. Could you share with us the contact details _____

Based on the structure of the reported data,

7. **For data collected:**

- a. At what level of aggregation (4 digits, 6 digits, 8 digits) is the data currently reported?
- b. If the data is stored using a different system, is it translated to the NACE or PRODCOM system? **Yes** **No**
 - i. If yes, could you share the translation table?

In our analysis, we have identified certain sectors which may include only a share of activity++ attributed to the Blue Economy. For example, in the case of Eurostat NACE rev 2.0, **Coastal recreation and Tourism** contain hotels under accommodation, but there is no indication on the proportion of the hotels that are near beaches, marinas etc.

8. In your organisation's current reporting of the data, do you explicitly split these activities/products where a share is attributed to the Blue Economy?
- Yes** **No**

- a. If yes, what is your approach to collect data for these sectors? (skip to Question 9)
9. If no, is it feasible to calculate these shared coefficients for the purpose of this study? **Yes** **No**
- a. If yes, could you share with us the activities/product coefficients or tables with the coefficients applied?
 - b. If no, what would such an initiative cost? (FTEs, cost per FTE, institutional arrangements, time)
10. To your knowledge, are there any other institutes who are calculating these coefficients / have calculated them in the past?
- a. Could you provide us with the contact information?
11. Does your organization share the collected data with Eurostat?
- Yes** **No**
- a. If yes, at what level of detail do you share the collected data with Eurostat/other controlling agencies? (NACE/PRODCOM 4/6/8 digit code)
12. Could you share the data collected by your organization on Gross Value Added, Employment, Company turnover and the number of companies for the list attached with the survey? (**Reference List attached with email**)
13. To your knowledge, which other organizations, accounts or other entities in your country generate data on the Blue Economy?
- a. Could you provide us with the contact details?

3.3.4. Data Quality and Features

1. At what geographical level is the data collected within your organization?
 2. From how many sources does your organization receive the data?
 - a. How well does the number of sources reflect the total sector?
 3. How often is the data collected?
 4. How often is the data published?
 5. Is the data available free of charge/in an open database?
- Yes No
- a. If yes, How can that data be accessed?

6. What is the format of the data and can it be linked with other sources either national or from other countries? (pdf, csv, xlsx, etc.)

Appendix 4: Results of the data collection for case study countries

4.1. Data sources on industry level for the established sectors (Macro-level data - Eurostat)

Sector breakdown			Coverage by primary sources					France (2017)			Spain (2017)			Sweden				
Established sector	Sub-sector	Industry	Coverage by EuroStat	NACE-codes	CAP and PRODCOM codes	Companies	Turnover (€m)	GVA (€m)	Employed	Companies	Turnover (€m)	GVA (€m)	Employed	Companies	Turnover (€m)	GVA (€m)	Employed	
Marine living resources	Primary production	Commercial marine fishing sector (inc. ornamental fish)	Complete	A 03.1	Complete at NACE level					Not available								
		Marine aquaculture sector	Complete	A 03.2	Complete at NACE level					Not available								
	Processing and distribution	Processing and preserving of fish, crustaceans and molluscs	Complete	C 10.2	Complete at NACE level					607	6050,416	814,598	20,367	209	586,4995714	90,17329044	1,591	
		Manufacture of oils and fats	Partial 1	C 10.41	10.41.12	Confidential	Confidential	Confidential	Confidential	Not available								
		Preserved food products (incl. meals and dishes)	Partial 1	C 10.85 & C 10.89	10.85.12 & 10.89.14	1955	8873,1	2251,2	25657	1,472	4217,924	855,005	19,073	155	298,8481893	61,32613884	920	
		Processing and preserving of fisheries products (incl. meal, bait, feed, pet food etc.)	Partial 1	C 10.91 & C 10.92	Source not specified	304	9113,2	1631	13545	762	12598,28	1034,609	13,124	97	696,0672408	71,70281208	824	
		Processing of other fisheries products (incl. pearls and leathers)	Partial 1	C 32.12	32.12.11	Confidential	Confidential	Confidential	Confidential	8386	1,708	515,74	148,166	4,873	1,164	95,56916053	28,95091834	429
		Wholesale of fisheries products	Partial 1	G 46.38	46.38.1	786	3669	446,3	5337	8,480	21276,946	2117,097	46,882	1,396	2514,060392	334,0251115	3,835	
		Retail sale of fisheries products	Complete	G 47.23	Source not specified	1945	751,2	194,7	2478	10,163	170,019	324,346	20,248	352	189,1667531	53,02480025	1,019	
		Extraction of crude petroleum	Partial 1	B 06.1	Source not specified	37	274,3	171,3	Confidential	Not available								
Offshore drilling, oil and gas	Extraction of natural gas	Partial 1	B 06.2	Source not specified	5	Confidential	Confidential	Confidential	Confidential	Not available								
		Support activities for petroleum and natural gas extraction	Partial 1	B 09.1	Source not specified	36	289,8	185,8	495	Not available								
	Other minerals (incl. seabed mining)	Harvesting of gravel, sand, clay and kaolin	Partial 1	B 08.12	Source not specified	524	2768,1	847,6	8469	949	841,281	271,309	6,128	Not available	Not available	Not available	Not available	
		Extraction of salt	Complete	B 08.93	Source not specified	172	16,4	5,5	82	54	134,267	53,28	640	Not available	Not available	Not available	Not available	
		Extraction of peat	Partial 1	B 08.92	Source not specified	10	39	10,7	111	7	10,977	2,166	38	Not available	Not available	Not available	Not available	
		Mining of chemical and fertiliser minerals (e.g. phosphate rock)	Partial 1	B 08.91	Source not specified	26	84,6	22,2	279	15	434,525	113,156	1,599	75	29,98858566	-10,3766732	109	
		Quarrying of ornamental stones (e.g. limestone) and gravel and sand	Partial 1	B 08.11	Source not specified	299	561,9	141,4	1570	801	714,474	284,428	5,494	Not available	Not available	Not available	Not available	
		Mining of other non-ferrous metal ores	Partial 1	B 07.29	Source not specified	Confidential	Confidential	Confidential	Confidential	44	867,221	421,375	2,001	Not available	Not available	Not available	Not available	
		Manufacture of refined petroleum products	Partial 1	C 19.2	Source not specified	24	Confidential	Confidential	Confidential	13	38125,505	3496,897	8,708	Not available	Not available	Not available	Not available	
Marine non-living resources	Manufacture of industrial gases	Partial 1	C 20.11 & C 35.21	Source not specified	152	1461,1	505,4	2896	65	1018,391	279,735	2,233	90	660,9940853	219,9854727	1,437		
		Manufacture of dyes and pigments	Partial 1	C 20.12	Source not specified	29	763,7	176,3	1343	58	934,408	211,74	2,130	Not available	Not available	Not available	Not available	
	Processing and distribution	Manufacture of fertilisers and nitrogen compounds	Partial 1	C 20.15	Source not specified	105	2581,2	448,3	5662	340	1895,102	383,642	4,888	46	445,9894158	94,5314932	703	
		Manufacture of perfumes and toilet preparations (e.g. ambergris)	Partial 1	C 20.42	Source not specified	966	16850,8	5540,7	42080	560	4095,858	1151,586	15,785	202	276,7458753	81,66441839	1,063	
		Manufacture of other chemical products n.e.c.	Partial 1	C 20.59	Source not specified	235	5881,4	1558,2	9048	440	3547,868	702,878	7,857	130	1162,60247	535,2288056	2,232	
		Manufacture of ceramic products	Partial 1	C 23.3 & C 23.4	Source not specified	3048	2721,6	1029,4	12553	1,320	4614,903	1576,608	23,190	Not available	Not available	Not available	Not available	
		Manufacture of lime and plaster	Partial 1	C 23.52	Source not specified	19	Confidential	Confidential	Confidential	77	417,624	146,018	1,560	16	380,2013075	120,2656428	722	
		Cutting, shaping and finishing of stone	Partial 1	C 23.7	Source not specified	2581	762,8	322,6	5125	3,224	1999,525	655,566	17,995	Not available	Not available	Not available	Not available	
		Precious metals production	Partial 1	C 24.41	Source not specified	Confidential	Confidential	Confidential	Confidential	Not available	Confidential	Confidential	Confidential					
		Lead, zinc and tin production	Partial 1	C 24.43	Source not specified	13	Confidential	Confidential	Confidential	18	112,755	227,978	1,546	Confidential	Confidential	Confidential	Confidential	
		Copper production	Partial 1	C 24.44	Source not specified	21	1066,9	119,6	2149	28	533,705	458,871	1,960	Confidential	Confidential	Confidential	Confidential	
		Other non-ferrous metal production	Partial 1	C 24.45	Source not specified	38	650,3	160,5	1457	35	66,344	16,409	307	Confidential	Confidential	Confidential	Confidential	
Port activities	Distribution of gaseous fuels through mains	Partial 1	D 35.22	Source not specified	5	Confidential	Confidential	Confidential	597	41	1552,94	1248,419	2,080	Confidential	Confidential	Confidential	Confidential	
		Wholesale of solid, liquid and gaseous fuels and related products	Partial 1	G 46.71	Source not specified	647	54035,1	12199	14244	1,395	71123,158	2492,382	11,209	762	11440,59355	462,0732593	1,931	
	Biosecurity	Wholesale of metals and metal ores	Partial 1	G 46.72	Source not specified	937	6091,1	936,4	8116	1,888	1357,26	984,809	17,452	498	235,439452	293,9711528	2,514	
		Wholesale of chemical products (incl. industrial acids)	Partial 1	G 46.75	Source not specified	1399	11133,1	1699,2	13685	4,418	14923,855	1912,529	26,378	666	3136,349486	376,1544049	3,043	
		Agents involved in the sale of fuels, ores, metals and industrial chemicals	Partial 1	G 46.12	Source not specified	363	27544	401,9	4363	4,108	364,478	228,178	5,427	168	147,5562935	40,88409256	293	
		Support activities for other mining and quarrying	Partial 1	B 09.9	Source not specified	30	25,1	5,4	94	15	112,124	42,08	686	Confidential	Confidential	Confidential	Confidential	
		Port activities	Complete	H 52.22	52.22.11 to 52.22.16	321	1415,5	701,1	7081	872	462,256	2145,732	18,836	196	396,5680191	222,684077	1,625	
		Cargo handling	Partial 1	H 52.24	52.24.11 to 52.24.13	86	1327	493,9	4772	708	2243,805	1224,187	17,348	Not available	Not available	Not available	Not available	
		Supply of electricity to port	Partial 1	D 35.13	Destination not specified	138	Confidential	Confidential	Confidential	376	6245,956	5606,202	10,422	208	5725,744526	3127,5529114	6,627	
Maritime transport, logistics and storage	Cleaning and de-biofouling activities	Partial 1	N 81.29	Source not specified	4028	1375,2	702	10364	3,850	1601,532	1147,15	37,401	981	302,1687247	155,3387984	2,209		
		Laboratory examination and checks	Partial 1	M 71.2	71.20.12	11834	8802,2	4477,7	68883	10,153	3349,672	2035,267	49,081	Not available	Not available	Not available	Not available	
	Support services	Quarantine provision and custom services	Partial 1	O 84.13	84.13.11	Not available												
		Sea and coastal freight water transport (water transport)	Complete	H 50.2	Complete at NACE level	91	Confidential	Confidential	6950	105	1327,356	353,237	3,305	See above	See above	Not available	Not available	
		Inland freight water transport	Complete	H 50.4	Complete at NACE level	694	Confidential	Confidential	1264	10	3,845	1,87	78	Not available	Not available	Not available	Not available	
		Sea and coastal passenger water transport (airline)	Complete	H 50.1	Complete at NACE level	615	1653,3	263,7	4874	338	702,484	290,102	3,983	Not available	Not available	Not available	Not available	
		Inland passenger water transport	Complete	H 50.3	Complete at NACE level	259	340,9	142,7	2414	59	22,666	14,039	495	Not available	Not available	Not available	Not available	
		Renting and leasing of water transport equipment	Complete	N 77.34	Complete at NACE level	358	135,5	63,1	Confidential	1,692	340,667	196,375	2,537	81	58,10937014	47,1100965	65	
		Service activities incidental to water transportation	Complete	H 52.22	Complete at NACE level	See above	See above	See above	See above	872	462,256	2145,732	18,836	196	396,5680191	222,684077	1,625	
		Warehousing	Partial 1	H 52.21	52.10.19	1376	6693,3	2437,1	32794	1,672	4287,457	205,656	29,798	300	488,1187091	205,4581301	2,221	
Shipbuilding and repairs	Sale of containers, (incl. dry, reefer, oil etc.)	Partial 1	H 52.21	H 52.10.11	190	649,9	212,2	3005	See above	Not available	See above	See above	See above					
		Lease of containers, (incl. dry, reefer, oil etc.)	Partial 1	N 77.39	77.39.12	19400	5757,7	1979,9	14163	1,572	317,483	149,131	4,957	2,072	1448,791118	640,0332054	2,921	
	Repairs and maintenance	Repair of fabricated metal products (incl. R&M of containers)	Partial 1	C 33.11	33.11.12	973	4982,1	1725,4	26808	207	241,416	118,793	3,024	Not available	Not available	Not available	Not available	
		Building of ships and floating structures	Complete	G 30.11	Complete at NACE level	Confidential	6056,8	1616,1	15669	316	1717,708	185,03	9,226	155	369,0982671	119,020442	1,403	
		Building of pleasure and sporting boats	Complete	G 30.12	Complete at NACE level	328	1557,2	516,8	7655	Not available	520	215,0423368	58,83573726	1,010				
		Dismantling of wrecks	Complete	E 38.31	Complete at NACE level	551	298,4	93,7	1606	183	661,768	111,322	2,143	Not available	Not available	Not available	Not available	
		Repair and maintenance of ships and boats	Complete	G 33.15	Complete at NACE level	2307	979,1	309,1	4529	2,101	1226,855	534,357	12,822	951	339,5247484	112,068071	1,602	
		Repair of machinery	Partial 1	C 33.12	33.12.11	7781	7314,9	2696,1	33783	8,675	3532,352	1594,315	40,204	3,991	1581,612535	58,8695714	8,366	
		Repair of communication equipment	Partial 1	S 95.12	95.12.10	807	845,6	274	5362	7,772	900,844	439,657	17,191	307	129,6046487	31,44131991	720	

		Repair of other equipment (incl. fishing nets, chiming drums etc.)	Partial 1	C 33.19	33.19.10	530	199,5	80,8	1201	217	54,403	27,187	846	133	55,51520183	23,24374805	384
Coastal tourism and recreation	Accommodation	Hotels and similar accommodation	Partial 1	I 155.1	Destination not specified	21792	18197	8597,6	165198	12,619	21347,375	11402,998	256,450	Not available	Not available	Not available	Not available
		Holidays and other short-stay accommodation	Partial 1	I 155.2	Destination not specified	23222	5722,9	1543,4	31162	12,408	2455,865	1173,322	38,114	Not available	Not available	Not available	Not available
		Camping grounds, recreational vehicle parks and trailer parks	Partial 1	I 155.3	Destination not specified	5109	3022,3	1417	19029	957	619,568	341,951	8,842	628	234,4090485	110,0965031	1,720
		Other accommodation	Partial 1	I 155.9	Destination not specified	294	124,2	39,1	2168	732	246,82	160,297	5,637	25	7,678738197	2,59416831	43
		Passenger air transport	Partial 1	H 51.1	Destination not specified	575	Confidential	Confidential	Confidential	104	10815,52	2634,719	28,858	Not available	Not available	Not available	Not available
	Transport	Sea and coastal passenger water transport	Complete	H 50.1	Complete at NACE level	See above	See above	See above	See above	338	702,484	290,102	3,983	Not available	Not available	Not available	Not available
		Passenger rail transport, Interurban	Partial 1	H 49.1	49.10.11	19	24527	16076,4	Confidential	7	237,204	1416,045	13,867	26	112,690671	498,4953824	4,866
		Boat chartering	Partial 1	Not available	77.21.10	Not available	Not available	Not available	Not available	1,037	132,967	46,74	2,628	Not available	Not available	Not available	Not available
		Urban and suburban passenger land transport	Partial 1	H 49.31	Destination not specified	1268	7232,7	5383	74253	241	3143,119	2780,386	47,595	Not available	Not available	Not available	Not available
		Retail sale of automotive fuel in specialized stations	Partial 1	G 47.3	Destination not specified	3094	8429,5	1397,6	13528	6,184	18041,743	1859,05	53,952	1,320	5168,205873	586,8008716	7,502
	Tour services	Rental and leasing of cars and light motor vehicles	Partial 1	N 77.11	Destination not specified	8191	15650,8	8185,3	23320	3,678	5660,515	2752,5	18,986	616	784,9953305	371,1736017	1,762
		Taxi operation	Partial 1	H 49.32	Destination not specified	55314	3872,5	1990,4	Confidential	Not available	Not available	Not available	8,388	1802,220608	995,330497	18,035	
		Travel agency activities	Partial 1	N 79.11	Destination not specified	3051	3744,4	794,7	14017	9,689	17476,215	1823,217	43,018	770	2620,109993	336,9305801	4,000
	Recreational activities	Tour operator activities	Partial 1	N 79.12	Destination not specified	1218	6943,6	947,3	15191	192	3666,895	359,101	5,304	1,356	4213,136686	353,7407907	4,018
		Other reservation service and related activities	Partial 1	N 79.9	Destination not specified	4270	1688,4	329,8	10975	14,570	22079,776	2470,923	58,435	1,529	201,0999274	29,57351873	1,063
		Activities of sport clubs (e.g. gamefishing clubs, yacht and sailing clubs etc.)	Partial 1	R 93.12	93.12.10	1628	2669,9	1150,7	6881	7,185	5361,721	3025,821	48,949	211	205,1468299	107,6061015	1,337
	Other expenditures	Other sports activities (incl. recreational fishing)	Partial 1	R 93.19	93.19.11	8905	1140,5	375,8	3808	6,719	1301,466	617,705	21,387	Not available	Not available	Not available	Not available
		Activities of other membership organisations n.e.c. (e.g. service activities to promote gamefishing, surfing, entertainment etc.)	Partial 1	S 94.99	94.99.16	131	88,5	22,7	290	Not available	Not available	Not available	Not available	715	105,7383003	23,65881498	821
		Other amusement and recreation activities (incl. activities of marinas)	Partial 1	R 93.29	93.29.11	27653	1964,5	808,6	15862	10,635	2259,408	961,564	58,119	4,251	406,2467573	127,0104804	2,489
	Traffic control and safety	Retail sale of cultural and recreation goods in specialised stores (e.g. souvenir shops)	Partial 1	G 47.78	Destination not specified	38460	16456,8	4541,5	60170	23,720	4585,981	1513,048	66,093	Not available	Not available	Not available	Not available
		Retail sale of other goods in specialised stores (e.g. sports equipment; outdoor or special clothing/gear; as swimwear, dive gear; fishing and bath sheets)	Partial 1	G 47.64 & G 47.71	Destination not specified	30356	42799	9938	175962	56,783	24670,132	5691,655	226,732	Not available	Not available	Not available	Not available
		Food and beverage service activities (incl. restaurants and cafeterias)	Partial 1	I 56.1 to I 56.3	Destination not specified	196032	59603,4	26023,3	528140	257,772	43334,491	16908,898	1,016,005	25,462	10687,7659	4617,723358	102,918
		Renting and leasing of recreational and sports goods	Partial 1	N 77.21	77.21.10	2753	744	253,3	4155	1,037	132,967	46,74	2,628	473	63,40147349	21,99854727	270
		Provision of wireless and satellite communications	Partial 1	J 61.2 & J 61.3	61.20.30 & 61.30.10	269	19989,1	8645,2	26716 + confidential	881	11584,119	4164,038	12,605	242	4793,815503	1841,963267	7,660
		Manufacture of railway locomotives and rolling stock (incl. signalling and traffic control equipment for inland waterways)	Partial 1	F 43.21	Destination not specified	55931	34376,5	11654,3	160377	Not available	Not available	Not available	Not available	10,452	6633,495901	280,041507	40,773
		Maritime traffic controllers (incl. lighthouses)	Complete	H 52.22	52.22.19	See above	See above	See above	See above	See above	Not available	Not available	See above	196	398,5680191	222,6834077	1,625
		Vessel tracking and e-monitoring services	Complete	H 52.22	52.22.19	See above	See above	See above	See above	See above	Not available	Not available	See above				
		Water police, coast guards and other rescue services	Partial 1	O 84.24	84.24.19	Not available	Not available	Not available	Not available	Not available	Not available	Not available	Not available	Not available	Not available	Not available	Not available
		Lifeguards	Partial 1	R 93.29	93.29.11	See above	See above	See above	See above	See above	Not available						
Maritime services	Insurance and financial services	Property or other non-life insurance	Partial 1	K 66.3 & M 69.2	65.12.34, 65.12.35 and 65.20.23	Not available	Not available	Not available	Not available	Not available	Not available	Not available	Not available	Not available	Not available	Not available	Not available
		Finance & lending	Partial 1	K 64.9	64.91.10	Not available	Not available	Not available	Not available	Not available	Not available	Not available	Not available	Not available	Not available	Not available	Not available
		Accountancy, book keeping and consultancy	Partial 1	K 66.3 & M 69.2	Destination not specified	27969	34389	19046	173750	Not available							
		Employment agencies for recruitment services	Partial 1	N 78.1	Destination not specified	972	913	580,1	5352	2,847	599,994	364,47	14,717	2,262	154,010584	912,109577	14,754
		Real estate services (e.g. buying and leasing of buildings and rooms)	Partial 1	L 68	Destination not specified	23520	77607,4	42422,8	201100	173,532	28694,54	15032,181	265,341	Not available	Not available	Not available	Not available
	Provisioning services	Maritime law services (e.g. to challenge fines or defend oil spill lawsuits)	Partial 1	M 69.1	Destination not specified	65714	24618,9	17842,3	96080	87,674	10374,142	6525,446	164,898	Not available	Not available	Not available	Not available
		Public relations and marketing services	Partial 1	M 70.21	Destination not specified	21462	2256,2	978,1	8623	1,093	442,995	214,266	4,957	3,986	665,8711217	349,4863547	3,949
		Sale of machinery, industrial equipment, ships and aircraft	Partial 1	G 46.14	46.14.12	21462	2256,2	978,1	8623	5,634	641,436	424,106	7,965	Not available	Not available	Not available	Not available
		Sale of food, beverages and tobacco (e.g. for vending on fishing vessels and also suppliers to fishing vessels)	Partial 1	G 46.17	Destination not specified	2305	77628	7023,8	41485	8,480	1008,529	523,679	13,315	703	684,6529003	118,5016084	1,408
		Supply of marine diesel and fuel bunkering services	Partial 1	G 46.71	Destination not specified	647	54035,1	12199	14424	1,395	71123,158	2492,382	11,209	762	11440,59355	462,073293	1,931
	Associations and organisations	Actions of business and employees membership organisations (e.g. fishing and aquaculture industry associations)	Partial 1	S 94.11	Destination not specified	909	675	297,9	7777	Not available							
		Cleaning services for yachts, cruses and ships (less than 12m in length)	Partial 1	N 81.29	81.29.13	See above	See above	See above	See above	3,850	1601,532	1147,15	37,401	981	302,1687247	155,3387984	2,209
		Septic and waste disposal service for boats, houses and ships	Partial 1	E 38.11	Destination not specified	924	3270,6	1368,8	23605	1,646	4197,8	2940,105	72,246	276	1782,504929	673,9649268	7,831
	Infrastructure and maritime works	Weather forecasting and ocean monitoring services	Partial 1	M 74.9	74.90.14	25333	3789	1514,1	16188	33,518	3752,353	2406,216	65,822	7,125	2722,423991	585,4519041	6,216
		Construction of port projects (incl. harbours, moorings, jetties etc.)	Complete	F 42.91	Complete at NACE level	185	1997,3	592,9	3603	Not available	Not available	Not available	Not available	139	84,98495382	24,90401577	346
		Construction of seawalls, offshore breakers and artificial headland etc.	Complete	F 42.91	Complete at NACE level	See above	See above	See above	See above	Not available	Not available	Not available	Not available	613	1309,847463	288,6790495	3,306
		Construction of utility projects for electricity and telecommunications (incl. submarine cables)	Partial 1	F 42.22	Destination not specified	550	3784,6	1523,2	21014	Not available	Not available	Not available	Not available	613	1309,847463	288,6790495	3,306
		Installation of tubes, pipes and hoses	Partial 1	G 33.2	Destination not specified	8159	13015,2	5000,5	59838	518	1515,064	645,149	13,765	661	435,7165093	180,9691813	2,168
		Repair and maintenance of tubes, pipes and hoses	Partial 1	C 33.19	Destination not specified	530	199,5	80,8	1201	217	240,153	144,203	846	133	55,51520183	23,24374805	384
		Construction of oil and gas pipelines	Partial 1	F 42.99	Destination not specified	1667	4120,8	680,3	9312	Not available	Not available	Not available	Not available	1376	284,6321469	60,7035345	746
		Construction of roads and motorways (incl. surface work on bridges and in tunnels)	Partial 1	F 42.11	Destination not specified	844	27507,2	10761,7	123343	Not available	Not available	Not available	Not available	653	404,053959	103,110823	11,190
		Construction of bridges and tunnels	Partial 1	F 42.13	Destination not specified	4	Confidential	Confidential	Confidential	Not available	Not available	Not available	Not available	65	381,5218429	76,2685483	963
		Construction of utility projects for fluids (incl. canals, pipelines, water well drilling)	Complete	F 42.21	Complete at NACE level	701	3566,7	1101,3	17505	Not available	Not available	Not available	Not available	573	482,2040054	161,9798693	1,733
	Other infrastructures	Other specialised construction activities n.e.c. (incl. subsurface work, waterproofing treatment, outdoor swimming pools etc.)	Partial 1	F 43.99	43.99.10	3455	4257,9	1205,6	16855	Not available	Not available	Not available	Not available	1,597	1880,356958	869,3576839	5,960
		Renting and leasing of construction and civil engineering machinery and equipment	Partial 1	N 77.32	Destination not specified	2357	3513,7	1377,9	14903	3,421	1647,177	752,646	15,482	1,597	1880,356958	869,3576839	5,960
		Renting and leasing of other machinery, equipment and tangible goods n.e.c.	Partial 1	N 77.39	Destination not specified	See above	See above	See above	See above	5,366	2364,708	1065,199	14,532	See above	See above	See above	See above

		Research and experimental development on basic sciences	Partial 1	M 72.11	Destination not specified	978	3659,5	665,2	13078	1.317	452.863	467	1.374	0	#	
		Research and experimental development on social sciences and humanities	Partial 1	M 72.2	Destination not specified	1534	337,6	195,6	1295	1.613	60.456	668	1.120	0	#	
		Other research and experimental development on natural sciences and engineering	Partial 1	M 72.19	Destination not specified	3117	5262,5	1823,5	27107	3.137	1.771.447	2.887	30.630	3	#	
		Engineering activities and related technical consultancy	Partial 1	M 71.12	71.12.16	43796	38957,9	17357,7	198627	42.952	7.651.145	Not available	Not available	Not available		
		Seabed exploration survey and mapping	Partial 1	M 71.12	71.12.3	1929	1000,6	707,5	9301	See above	See above	Not available	Not available	Not available		
		Technical testing and analysis	Partial 1	M 71.2	Destination not specified	11834	8802,2	4477,7	68883	10.153	2.035.267	See above	See above	See above		
		Repair of electronic and optical equipment (incl. lab equipment)	Partial 1	C 33.13	33.13.11	See established	See established	See established	See established	See established	See established	103	500	0	#	
		Activities of professional membership organisations (e.g. IIFET, EAFE etc.)	Partial 1	S 94.12	Destination not specified	745	793,1	285,6	6999	Not available	Not available	Not available	Not available	Not available		
		Business and other management consultancy activities (incl. fish stocks management)	Partial 1	M 70.22	Destination not specified	132740	26708,7	13906,4	107066	20.263	3.992.955	61.186	111.250	12	#	
		Data and information services	Partial 1	J 63.11	Destination not specified	3925	4889,2	2271,4	22216	4.904	811.958	1.862	39.595	4	#	
		Digitalisation services	Partial 1	J 62	Destination not specified	73637	73408,9	38938,7	365502	37.778	14.453.247	Not available	Not available	Not available		
		Technical and vocational secondary education (incl. tuition for ship licences, life guard and survival training)	Partial 1	P 85.32	Destination not specified	1531	169	89,1	2047	Not available	Not available	Not available	Not available	Not available		
		Post-secondary non-university education	Partial 1	P 85.41	Destination not specified	48	24,5	15,1	220	Not available	Not available	190	604	0	#	
		Tertiary education (e.g. marine biology, naval engineering etc.)	Partial 1	P 85.42	Destination not specified	2851	971,4	471	6398	Not available	Not available	583	897	0	#	
		Sports and recreation education (incl. instructor training for sports and recreation activities, e.g. surf diving, and professional athletes)	Partial 1	P 85.51	Destination not specified	42845	2020,1	982	9147	Not available	Not available	7.871	2.744	0	#	
		Naval and related defence activities	Defence activities	Partial 1	O 84.22	84.22.11	Not available	Not available	Not available							
		Shipbuilding and weaponry	Manufacture of military vehicles (incl. ship building of submarines, aircraft carriers etc.)	Partial 1	C 30.4	Destination not specified	Confidential	Confidential	Confidential	Not available	Not available	52	29.988	3	#	
			Manufacture of maritime weapons and ammunition	Partial 1	C 25.4	Destination not specified	119	Confidential	Confidential	Confidential	45	167.305	63	7.045	1	#
			Manufacture of specialised maritime military equipment (incl. communications, navigation, sonar and radar etc.)	Partial 1	C 25.5 & C 26	Destination not specified	4268	38917,6	13240,1	131499	3.785	3.032.345	556	3.978	0	#
		Repair and maintenance	Repair of specialised maritime military equipment	Complete	C 33.15	Complete at NACE level	See established	951	3.272	0	#					
			Repair of specialised maritime products (incl. R&M of navigation and warning systems)	Partial 1	C 33.11	33.11.14	See established	212	1.472	0	#					
		Film entertainment	Motion picture, video and television programme production activities	Partial 1	J 59.11	Destination not specified	15897	5387,2	3703,1	37226	Not available	Not available	6.908	20.240	2	#
		Photography	Photographic activities	Partial 1	M 74.2	Destination not specified	18373	1147,3	446,7	4617	12.409	221.706	Not available	Not available	Not available	
		Events	Organisation of festivals, conventions and trade shows	Partial 1	N 82.3	Destination not specified	7436	5183,4	1725,4	17214	7.201	637.376	1.357	5.965	1	#
		Amusement parks and aquaria	Botanical and zoological gardens and nature reserves, research activities	Partial 1	R 91.04	Destination not specified	196	272,5	157,1	2172	176	189.839	85	857	0	#
		Professional sport competitions and related sectors	Operation of sports facilities (incl. organisation of sport events for professionals e.g. marine (NFCM)-events, football, tennis, basketball, soccer etc.)	Partial 1	R 93.21	Destination not specified	3702	3570,5	1206,2	19973	1.399	353.860	152	2.704	0	#
			Gambling and betting activities	Partial 1	R 93.11	Destination not specified	2326	1474,4	697,7	12002	5.670	1.378.752	Not available	Not available	Not available	
			Artistic creation	Partial 1	R 92	Source not specified	411	19555,9	3685,6	19487	12.490	4.774.211	420	37.519	4	#
		Cultural tourism and other cultural (market) values	Physical well-being activities (e.g. wellness retreats)	Partial 1 & Partial 2	R 90.03	Source not specified	70828	1709,9	899,5	1755	20.159	348.546	21.945	4.988	1	#
			Museums activities	Partial 1	S 96.04	Destination not specified	11881	826,7	397,6	8834	637	53.686	13.216	5.152	1	#
				Partial 1	R 91.02	Source not specified	258	91,8	32	805	542	276.543	235	595	0	#

4.2. Data sources on industry level for the established sectors (Company-level data)

Research and education	Research and development	Research and experimental development on social sciences and humanities	Partial 1	M 72.11	Destination not specified	Data is being gathered for all countries	2			1			5			
		Other research and experimental development on natural sciences and engineering	Partial 1	M 72.19	Destination not specified	Data is being gathered for all countries	Not available	Not available		Not available	6	Not available	521	Not available	Not available	Not available
		Engineering activities and related technical activities	Partial 1	M 71.12	71.12.16	Data is being gathered for all countries	7.411	5.490.955.802	39.597	1.216	545.883.876	2.535	5.993	14.485.413.977		150.346
		Seabed exploration survey and mapping	Partial 1	M 72.19	Destination not specified	Data is being gathered for all countries	43.618	23.806.211.439	88.514	34.310	21.097.239.904	60.097	50.092	50.007.406.566		166.492
		Technical testing and analysis	Partial 1	M 71.2	Destination not specified	Data is being gathered for all countries	7.413		1.214				5.990			
		Repair of electronic and optical equipment	Partial 1	C 33.13	33.13.11	Data is being gathered for all countries	Not available	Not available	Not available	Not available	Not available	Not available	Not available	Not available	Not available	
		Activities of professional membership organisations (e.g. IIFET, EAIE etc.)	Partial 1	S 94.12	Destination not specified	Data is being gathered for all countries	94	105.866.757	713	0	0	0	66	54.171.232		199
		Business and other management consultancy activities (incl. fish stocks management)	Partial 1	M 70.22	Destination not specified	Data is being gathered for all countries										
		Data collection and information services	Partial 1	J 63.11	Destination not specified	Data is being gathered for all countries	Not available	Not available	Not available	Not available	Not available	Not available	Not available	Not available	Not available	
		Data management and digitalisation services	Partial 1	J 63.11 & J 63.12	Destination not specified	Data is being gathered for all countries	Not available	Not available	Not available	Not available	Not available	Not available	Not available	Not available	Not available	
Maritime security and defence	Education	Technical and vocational secondary education (incl. tuition for ship's crews, life guard and survival training)	Partial 1	P 85.32	Destination not specified	Data is being gathered for all countries	16	6.890.000	215	Not available	Not available	Not available	326	67.706.234		794
		Post-secondary non-tertiary education	Partial 1	P 85.41	Destination not specified	Data is being gathered for all countries	Not available	Not available	Not available	Not available	Not available	Not available	Not available	Not available	Not available	
		Tertiary education (e.g. marine biology, naval architecture, maritime law)	Partial 1	P 85.42	Destination not specified	Data is being gathered for all countries	Not available	Not available	Not available	Not available	Not available	Not available	Not available	Not available	Not available	
		Sports and recreation education (Inc. instruction in sports, leisure and recreation activities, e.g. surf, diving, and professional athletes)	Partial 1	P 85.51	Destination not specified	Data is being gathered for all countries	Not available	Not available	Not available	Not available	Not available	Not available	Not available	Not available	Not available	
		Defence activities	Partial 1	O 84.22	84.22.11	Data is being gathered for all countries	10	58.820.301	267	5	Not available	50	0	0	0	
		Manufacture of military vehicles (incl. ship building of submarines, aircraft carriers etc.)	Partial 1	C 30.4	Destination not specified	Data is being gathered for all countries	9			Not available	Not available	Not available	Not available	Not available	Not available	
		Manufacture of maritime weapons and equipment	Partial 1	C 25.4	Destination not specified	Data is being gathered for all countries	64				46			367		
		Manufacture of specialised maritime military equipment (incl. communications, navigation, sonar and radar etc.)	Partial 1	C 25, 26	Destination not specified	Data is being gathered for all countries	Not available	Not available	Not available	Not available	Not available	Not available	Not available	Not available	Not available	
		Repair of specialised maritime military equipment	Complete	C 33.15	Complete at NACE level	Data is being gathered for all countries										
		Repair of specialised metal products (incl. R&M of aerospace and aviation systems)	Partial 1	C 33.11	33.11.14	Data is being gathered for all countries	Not available	Not available	Not available	Not available	Not available	Not available	Not available	Not available	Not available	
Entertainment	Cultural tourism and other cultural (market) values	Film entertainment	Motion picture, video and television programme production activities	Partial 1	J 59.11	Destination not specified	Data is being gathered for all countries	10.804	5.035.035.256	20.433	6.113	2.506.073.499	6.259	19.752	8.175.071.794	53.427
		Photography	Photographic activities	Partial 1	J 74.2	Destination not specified	Data is being gathered for all countries	62								
		Events	Organisation of festivals, conventions and trade fairs	Partial 1	N 82.3	Destination not specified	Data is being gathered for all countries	Not available	Not available	Not available	Not available	Not available			11.593	
		Amusement parks and aquariums	Partial 1	R 91.04	Destination not specified	Data is being gathered for all countries	1.430							402		
		Professional sport competitions and related sectors	Partial 1	R 93.21	Destination not specified	Data is being gathered for all countries	Not available	Not available	Not available	Not available	Not available	Not available	Not available	4.954		
		Operation of sports facilities (incl. organisation of international competitions, e.g. marine Olympic sports and other racing events)	Partial 1	R 93.11	Destination not specified	Data is being gathered for all countries	Not available	Not available	Not available	Not available	3.436					
		Gambling and betting activities	Partial 1	R 92	Source not specified	Data is being gathered for all countries	Not available	Not available	Not available	Not available	Not available	Not available	Not available	598		
		Artistic creation	Partial 1 & Partial 2	R 90.03	Source not specified	Data is being gathered for all countries	Not available	Not available	Not available	Not available	Not available	Not available	Not available	Not available	Not available	Not available
		Physical well-being activities (e.g. wellness retreats)	Partial 1	S 96.04	Destination not specified	Data is being gathered for all countries	Not available	Not available	Not available	Not available	21					
		Museums activities	Partial 1	R 91.02	Source not specified	Data is being gathered for all countries	897			1.132			1.240			

4.3. Data sources on industry level for the emerging sectors (Macro-level data - Eurostat)

4.4. Data sources on industry level for the emerging sectors (Company-level data)

4.5. Data sources on industry level for the established sectors (BE report)

All data based on Blue Economy Report 2020

4.6. Data sources on industry level for the emerging sectors (BE report)

All data based on Blue Economy Report 2020

Appendix 5: Detailed list of activities and benefits of observatories

5.1. Observatory Tasks Longlist

Task Categories

1. Gathering
2. Structuring
3. Aggregating
4. Disseminating
5. Supporting activities
6. Miscellaneous

User groups

Economic users: industry, consumers, etc.
 Science: Research and development
 Societal: NGOs, developmental institutions and the public
 Policymakers: decision-makers and regulators

TaskID	Task	Category	Appears in...						# Observatories with this task	Relevant for user groups...			
			1	2	3	4	5	6		Economic users	Science	Societal	Policymakers
1	Gather primary (survey) data and secondary data from various sources	1. Gathering							1	X	X	X	X
2	Structure the collected data under different classification standards based on the nature of data (Activities, products, etc)	2. Structuring							1	X	X	X	X
3	Develop [data] standards across disciplines as well as within them	2. Structuring	2.1.8	2.1.2	Integrated Ocean Observing System				2		X		X
4	Accompany data with metadata, statements on ownership, accuracy and precision	2. Structuring	2.1.8	EMODnet					1	X	X	X	X
5	Develop key indicators and methodology to structure data	2. Structuring							1	X	X	X	X
6	Describe activities in monetary terms and organise these statistics into a full set of accounts	2. Structuring	2.1.12	Environmental Protection Expertise					1	X		X	X
7	Create a consolidated database of aggregated and harmonised data	3. Aggregating	2.1.2	2.1.3	2.1.5	2.1.7	2.1.8	2.1.10	6	X	X	X	X
8	Process and validate data at different levels (national, sea-basin, European)	3. Aggregating	2.1.8	EMODnet					1	X	X	X	X
9	Set up "price structure" methodology and case studies for analysing price transmission of specific products in specific markets	3. Aggregating	2.1.3	EUMOFA					1	X			
10	Provide deep sea high quality, long term time series data	4. Disseminating	2.1.5	The European Multidisciplinary S					1		X		
11	Develop and publish new tools and forecasts to improve safety, enhance the economy, and protect the environment	4. Disseminating	2.1.2	Integrated Ocean Observing System					1	X		X	X
12	Create easier and better access to data through a centralized data management and communication system	4. Disseminating	2.1.2	2.1.3	2.1.8	EMODnet			3	X	X	X	
13	Create a macroeconomic dashboard, reporting main indicators for contextualising analysis	4. Disseminating	2.1.3	EUMOFA					1	X	X	X	
14	Create interactive country profiles, offering a detailed snapshot of the relevant activities and insights of each EU country.	4. Disseminating	2.1.3	EUMOFA					1	X		X	X
15	Provide information on projects and companies funded by EU and Member states programmes, specifically in relation to projects that	4. Disseminating	2.1.9	EASME - maritime data hub					1	X			
16	Promote innovation and knowledge-sharing by publishing data under emerging themes of interest	4. Disseminating	2.1.5	The European Multidisciplinary S					1	X			
17	Conduct outreach and communication within scientific community (e.g. by organizing conferences and publishing papers)	4. Disseminating	2.1.5	The European Multidisciplinary S					1	X			
18	Preparation and execution of ad hoc assignments / analyses requested by public authorities	4. Disseminating	2.1.3	2.1.7	European 5G Observatory				2				X
19	Identify gaps in observing coverage or needs for capital improvements	4. Disseminating	2.1.2	Integrated Ocean Observing Syst					1				
20	Write and publish a periodic congressional report	4. Disseminating	2.1.2	Integrated Ocean Observing Syst					1				
21	Monitor market developments	4. Disseminating	2.1.7	European 5G Observatory					1	X			
22	Monitor product and components developments	4. Disseminating	2.1.7	European 5G Observatory					1	X			
23	Monitor pre-commercial trials and partnerships	4. Disseminating	2.1.7	European 5G Observatory					1	X			
24	Monitor national strategies	4. Disseminating	2.1.7	European 5G Observatory					1	X		X	X
25	Provide scientific and professional services on request	4. Disseminating	2.1.5	The European Multidisciplinary S					1	X		X	X
26	Prepare budgets and secure funding for own activities	5. Supporting activities	2.1.2	Integrated Ocean Observing Syst					1				
27	Build on existing efforts where data communities have already organized themselves	5. Supporting activities	2.1.8	EMODnet					1				
28	Create a large ecosystem of experts from various disciplines	5. Supporting activities	2.1.3	EUMOFA					1				
29	Attract scientist, technicians, managers and industries	5. Supporting activities	2.1.5	The European Multidisciplinary S					1				
30	Collaborate with European and International Organization and Institution through joint research and fact-finding programmes	5. Supporting activities	2.1.5	The European Multidisciplinary S					1				
31	Establish a System Advisory Committee (advising on administration, operation, management, and maintenance of the observatory; the	5. Supporting activities	2.1.2	Integrated Ocean Observing Syst					1				
32	Draft a public-private data use policy process	5. Supporting activities	2.1.2	Integrated Ocean Observing Syst					1				
33	Create a merit-based competitive funding process to provide public funding	6. Miscellaneous	2.1.2	2.1.7	2.1.8	EMODnet			3		X	X	
34	Develop a decision-making process for priorities that is user-driven	6. Miscellaneous	2.1.8	EMODnet					1				X
35	Promote marine data as a public good with public bodies	6. Miscellaneous	2.1.8	EMODnet					1	X	X	X	
36	Develop technology for sensors, communications, offshore operations	6. Miscellaneous	2.1.5	The European Multidisciplinary S					1	X			

5.2. Plotted Tasks

1. Gathering	2. Structuring	3. Aggregating	4. Disseminating	6. Miscellaneous
Set up surveys and template-based data collection	Develop standards for collecting and reporting data	Consolidate, aggregate and harmonise data	Create easier and better access to data through a centralized data management and communication system	Create a process to provide public funding
Share survey with relevant bodies Conduct expert interviews	Develop key indicators and structuring methodology Structure data under different classification standards	Process and validate data at different (geographical) levels Set up case studies to test methodology on aggregated data	Report secondary indicators to contextualise analyses Provide information on projects and companies funded by EU and Member states programmes	Develop a user-driven prioritisation process Promote marine data as a public good with public bodies
Identify relevant secondary sources Gather data through legal registrations and financials reported to government	Include metadata on ownership, accuracy and precision		Conduct outreach and communication within scientific community Prepare and execute ad hoc assignments requested by public authorities and/or other parties Identify gaps in data coverage or needs for capital improvements Write and publish periodic reports to inform policy makers Monitor market developments and (inter)national strategies	Develop technology for sensors, communications and offshore operations
5. Supporting activities				
Prepare budgets and secure funding or own activities Build on existing efforts where data communities have already organized themselves Create a large ecosystem of experts from various disciplines Collaborate with European and International Organizations and Institutions through joint research and fact-finding programmes Establish an Advisory Committee to oversee and advise on the Observatory's activities Draft a public-private data use policy process				

5.3. Finalized Tasks

Activity	Category	Task
Data collection, processing and analysis	1. Gathering	Gather primary (survey) data and secondary data from various sources Develop standards for collecting and reporting data
	2. Structuring	Develop key indicators and structuring methodology Structure data under different classification standards Include metadata on ownership, accuracy and precision
	3. Aggregating	Consolidate, aggregate and harmonise data Process and validate data at different (geographical) levels Set up case studies to demonstrate methodology on aggregated data
Market analysis and forecasts		Monitor market developments and (inter)national strategies Report secondary indicators for contextualizing analyses
Project flexibility		Prepare and execute ad hoc assignments requested by public authorities and/or other parties
Dissemination and communication	4. Disseminating	Create easier and better access to data through a centralized data management and communication system Identify gaps in data coverage or needs for capital improvements Conduct outreach and communication within scientific community Provide information on projects and companies funded by EU and Member states programmes Provide external translations
IT services		Running the website Prepare budgets and secure funding or own activities
Ordinary management and administration	5. Supporting activities	Build on existing data community efforts Create an ecosystem of experts Collaborate with European and international organisations through joint research and programmes Establish an Advisory Committee Draft a public-private data use policy process
	6. Miscellaneous	Create a process to provide public funding Develop a user-driven prioritisation process Promote marine data as a public good with public bodies Develop technology for sensors, communications and offshore operations

5.4. Benefits of the Observatory

General benefits	Benefits per user group			
	Economic users	Science	Societal	Policymakers
Centralized access to data from multiple sources	Reporting on (marine-related) issues can inform CSR or sustainability policy	Observatories can provide guidance on data reporting practices, increasing comparability and ease of data sharing	Reporting on (marine-related) issues can inform societal decision making (investment decisions, political decisions, etc.)	Reporting on (marine-related) issues informs policy making
Informs users on data limitations and context	Reporting on (marine-related) issues can inform investment and business decisions	Research can be conducted more efficiently by gaining access to information that is already there	Reporting on (marine-related) issues can help focus NGO / developmental institution efforts	Observatories can provide guidance on (public) data reporting practices, increasing comparability and ease of data sharing
Increased manageability and interpretability of the data through key indicators and data structure	Transparency in fund allocation can steer business efforts towards areas of interest for public bodies	Observatories promote collaboration and knowledge-sharing for faster advancements in science	Transparency in allocation of public money	Third-party analyses or assignment requested by policymaker can help answer specific questions to steer policy
Comparable, reliable and complete data that has high relevance and specificity	Transparency in fund allocation to external parties can help identifying potential candidates for partnerships or collaborations	Informed decision making on where to focus research efforts, both in terms of funding opportunities and knowledge gaps to address	Transparency in fund allocation to external parties can help identifying potential candidates for partnerships or collaborations	Data on different geographical levels allows for cross-border comparison, informing policy on national and international level
Public access to (marine) data that is difficult to obtain directly	Equal access to data can help leveling the playing field in industry, fueling innovation and R&D	Science can leverage new technology to gather more, other or better data	Third-party analyses or reports bring solidity / trustworthiness to NGO or developmental institute missions	
Higher ease of access to data through central and user-friendly interface	Some observatories perform lobbying activities for (blue economy-related) industry	Funding for research activities	Funding for (marine-related) activities	
Free access to (marine) data by continued focus on (marine) data as a public good	Industry can leverage new technology to expand business activities or fuel innovation			

Appendix 6: Questionnaires used for the interviews for the feasibility of Observatories and Sea-satellite accounts

6.1. Introduction

This questionnaire has been developed in relation to a study commissioned by the European Commission, which is carried out in partnership by Wageningen University & Research and Deloitte.

The study aims to evaluate the feasibility of an **Observatory on the Blue Economy and a Sea Satellite Accounts**. This Observatory and Account should enable a comprehensive and integrated approach to measuring the impacts of the Blue Economy, expanding the sources currently in existence with complementary sources.

All information provided by you in this questionnaire will be stored and handled in a confidential manner and in compliance with the GDPR.

Thank you in advance for providing support for this important study!

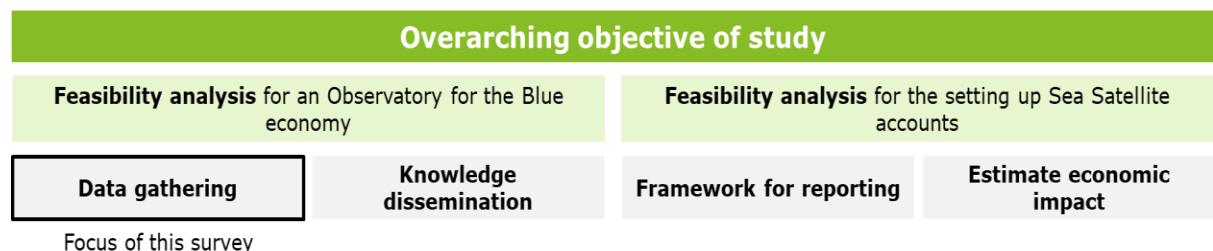
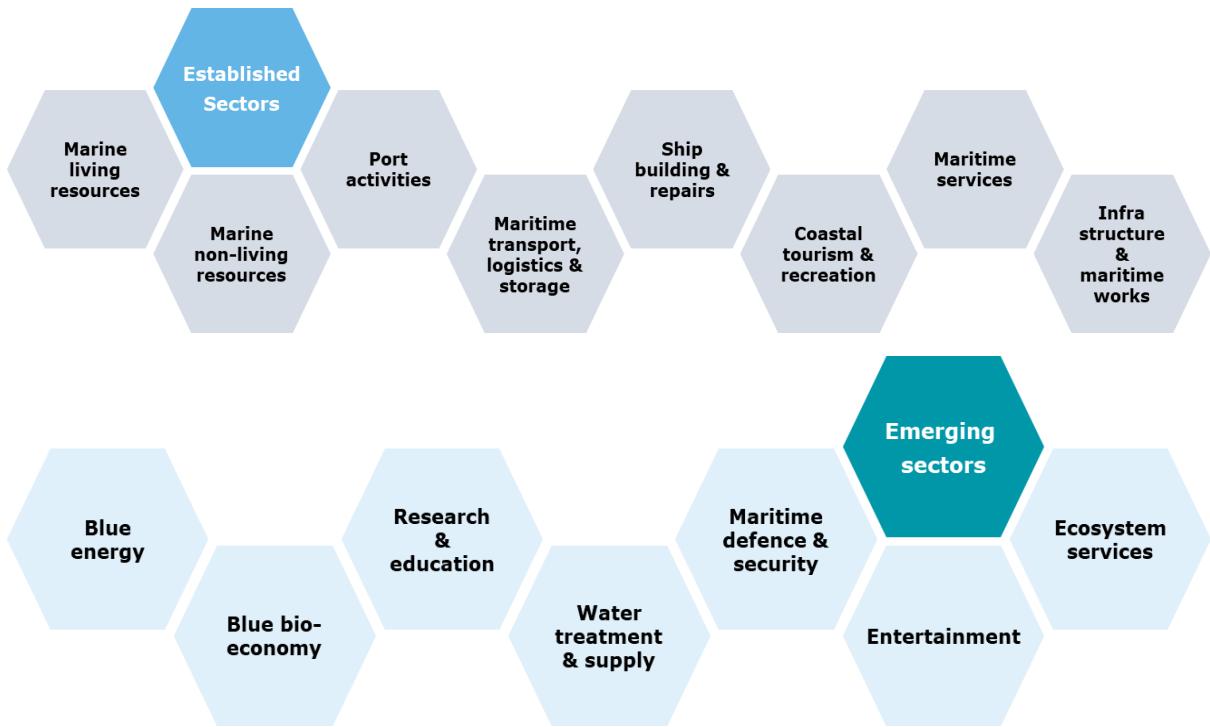


Figure 1: infographic

6.2. Background

Blue Economy, as defined by the Blue Economy report 2019, consists of all those activities that are marine-based or marine-related. It consists of;

- **Established sectors** – Sectors that have traditionally contributed to the Blue Economy
- **Emerging sectors** – sectors which hold huge potential for the future development



6.3. Questionnaire

National statistics office	✓	Observatory	
Statistics office within a ministry (e.g. fisheries, transport, energy)		Industry association	
Sea satellite account task unit		Consultant assisting in statistical work	
What is the structure proposed for the Observatory? Were there different structures considered?			
Was there a business case or cost effective analysis conducted for the establishment of the Observatory?			
How is this the data on the Blue Economy collected? (products vs activities)? Is the primary data collection carried out by your own department/organization, or by others?			
And at what level of aggregation (4 digits, 6 digits, 8 digits) is the data currently reported? How is the data disaggregated from the governing reporting framework at regional and international levels (e.g. ISIC (UN), CPC (UN), HS (UN), NACE (EU), CAP (EU), PRODCOM (EU))?			
Is the data split between marine and land? If so, how is the splitting process performed?			
What are the costs in resources and time to split the data between marine and land origin? If the statistics were to be re-structured to make the			

distinction between marine and land origin, what would the one-off cost (in resources and time) be then?	
For the construction of a Sea Satellite Account, what are the costs in terms of resources and time to undertake the exercise? How were the data split or disaggregated from national or international reporting framework to single out marine sector? And what is the cost to provide data that is split/single out for the marine sector?	
For the construction of Satellite Accounts other than the maritime sector (e.g. Environment, Tourism etc.), what are the costs in terms of resources and time to undertake the exercise? How were the data split or disaggregated from national or international reporting framework to single out the relevant sector? And what is the cost to provide data that is split/single out for the relevant sector?	
For the provision of data to the EU Blue Observatory, are there current ratios available for the separation of activities/products for the marine sector? If not, what will be the cost (in terms of resources and time) to provide ratios for separating activities/products from the marine sector?	

6.4. Sector Breakdown: Established

Established sector	Sub-sector	Industry
Marine living resources	Primary production	Commercial marine fishing sector (inc. ornamental fish)
		Marine aquaculture sector
	Processing and distribution	Processing and preserving of fish, crustaceans and molluscs
		Manufacture of oils and fats
		Prepared food products (incl. meals and dishes)
		Processing and preserving of fisheries products not fit for human consumption (incl. bait, feed, pet food etc.)
		Processing of other fisheries products (incl. pearls and jewellery)
		Wholesale of fisheries products
		Retail sale of fisheries products
Marine non-living resources	Offshore drilling, oil and gas	Extraction of crude petroleum
		Extraction of natural gas
		Support activities for petroleum and natural gas extraction
		Harvesting of gravel, sand, clay and kaolin

	Other minerals (incl. seabed mining)	Extraction of salt
		Extraction of peat
	Processing and distribution	Mining of chemical and fertiliser minerals (e.g. phosphate)
		Quarrying of ornamental stones (e.g. limestone) and gravel and sand
		Mining of other non-ferrous metal ores
		Manufacture of refined petroleum products
		Manufacture of industrial gases
		Manufacture of dyes and pigments
		Manufacture of fertilisers and nitrogen compounds
		Manufacture of perfumes and toilet preparations (e.g. ambergris)
		Manufacture of other chemical products n.e.c.
		Manufacture of ceramic products
		Manufacture of lime and plaster
		Cutting, shaping and finishing of stone
		Precious metals production
		Lead, zinc and tin production
		Copper production
		Other non-ferrous metal production
		Distribution of gaseous fuels through mains
		Wholesale of solid, liquid and gaseous fuels and related products
		Wholesale of metals and metal ores
		Wholesale of chemical products (incl. industrial salt)
		Agents involved in the sale of fuels, ores, metals and industrial chemicals
		Support activities for other mining and quarrying
Port activities	Ports and wharfage	Port activities
		Cargo handling
		Other services (incl. utilities and water)
	Biosecurity	Cleaning and de-biofouling activities
Maritime transport, logistics and storage	Shipping and freight	Laboratory examination and checks
		Quarantine provision and custom services
	Passenger transport	Sea and coastal freight water transport (water transport)
		Inland freight water transport
	Support services	Sea and coastal passenger water transport (water transport)
		Inland passenger water transport
	Warehouse and storage	Renting and leasing of water transport equipment
		Service activities incidental to water transportation
		Warehousing
		Cold stores
		Sale of containers, (incl. dry, reefer, oil etc.)

		Lease of containers, (incl. dry, reefer, oil etc.)
		Repair of fabricated metal products (incl. R&M of containers)
Shipbuilding and repairs	Shipbuilding and engineering	Building of ships and floating structures
		Building of pleasure and sporting boats
		Dismantling of wrecks
	Repairs and maintenance	Repair and maintenance of ships and boats
		Repair of machinery
		Repair of communication equipment
		Repair of electronic and optical equipment (incl. navigation, aeronautical and nautical equipment)
		Repair of electrical equipment (incl. electrical motors)
		Repair of other equipment (incl. fishing nets, shipping drums etc.)
Coastal tourism and recreation	Accommodation	Hotels and similar accommodation
		Holidays and other short-stay accommodation
		Camping grounds, recreational vehicle parks and trailer parks
		Other accommodation
	Transport	Passenger air transport
		Sea and coastal passenger water transport
		Passenger rail transport, Interurban
		Boat chartering
		Urban and suburban passenger land transport
		Retail sale of automotive fuel in specialized stores
		Renting and leasing of cars and light motor vehicles
	Tour services	Taxi operation
		Travel agency activities
		Tour operator activities
	Recreational activities	Other reservation service and related activities
		Activities of sport clubs (e.g. gamefishing clubs, yacht and sailing clubs etc.)
		Other sports activities (incl. recreational fishing)
		Activities of other membership organisations n.e.c. (e.g. service activities to promote gamefishing, surfing tournaments etc.)
		Other amusement and recreation activities (incl. activities of marinas)
	Other expenditures	Retail sale of cultural and recreation goods in specialised stores (e.g. souvenir shops)
		Retail sale of other goods in specialised stores (e.g. sports equipment; outdoor or special clothing/gear such as swimsuits, dive gear; fishing and bait shops)
		Food and beverage service activities (incl. restaurants and catering)
		Renting and leasing of recreational and sports goods

Maritime services	Traffic control and safety	Provision of wireless and satellite communication services
		Manufacture of railway locomotives and rolling stock (incl. signalling and traffic control equipment for inland waterways)
		Electrical installation (incl. of illumination and signalling systems)
		Maritime traffic controllers (incl. lighthouses)
		Vessel tracking and e-monitoring services
		Water police, coast guards and other rescue support services
		Lifeguards
	Insurance and financial services	Property or other non-life insurance
		Finance & lending
		Accountancy, book keeping and consultancy
		Employment agencies for recruitment services
		Real estate services (e.g. buying and leasing of buildings and plants)
		Maritime law services (e.g. to challenge fines or defend oil spill lawsuits)
		Public relations and marketing services
	Provisioning services	Sale of machinery, industrial equipment, ships and aircraft
		Sale of food, beverages and tobacco (e.g. for victualling on fishing vessels and also suppliers to cruise ships)
		Supply of marine diesel and fuel bunkering services
	Associations and organisations	Activities of business and employers membership organisations (e.g. fishing and aquaculture industry associations)
	Other services	Cleaning services for yachts, cruises and ships (excl. defouling services)
		Septic and waste disposal service for boat homes and ships
		Weather forecasting and ocean monitoring services
Infrastructure and maritime works	Water projects	Construction of water projects (incl. harbours, marinas and dykes etc.)
		Construction of seawalls, offshore breakers and artificial headland etc.
	Underwater sea cables	Construction of utility projects for electricity and telecommunications (incl. submarine cables)
		Installation of tubes, pipes and hoses
		Repair and maintenance of tubes, pipes and hoses
	Oil and gas pipelines	Construction of oil and gas pipelines
	Other infrastructures	Construction of roads and motorways (incl. surface work on bridges and in tunnels)
		Construction of bridges and tunnels
		Construction of utility projects for fluids (incl. canals, pipelines, water well drilling)

		Other specialised construction activities n.e.c. (incl. subsurface work, waterproofing treatment, outdoor swimming pools etc.)
Support services		Renting and leasing of construction and civil engineering machinery and equipment
		Renting and leasing of other machinery, equipment and tangible goods n.e.c.

6.5. Sector Breakdown: Emerging

Emerging sector	Sub-sector	Industry
Blue energy	Renewable energy	Wind farms
		Ocean energy and hydro industries
		Solar farms at sea
		Other energy
Blue bio-economy	Pharmaceuticals	Manufacture of pharmaceutical products
		Wholesale and retail of pharmaceutical goods
		Manufacture of marine bio-based cosmetics
		Wholesale and retail of marine bio-based cosmetics
	Agriculture, livestock, veterinary products, and aquaculture	Processing and preserving of fisheries products not fit for human consumption (incl. feed, pet food etc.)
		Manufacture of veterinary pharmaceuticals (incl. antibiotics)
		Manufacture of pesticides and other agrochemical products
	Bio-plastics	Manufacture of plastic plates, sheets, tubes and profiles (i.e. bio-plastics)
		Manufacture of plastic packaging goods
		Wholesale of bio-plastic goods
	Bio-fuel and other bio-refined chemicals	Manufacture of bio-fuel and other chemical products
		Wholesale of chemical products (incl. industrial salt)
Research and education	Research and development	Research and experimental development on biotechnology
		Research and experimental development on social sciences and humanities
		Other research and experimental development on natural sciences and engineering
		Engineering activities and related technical consultancy
		Seabed exploration survey and mapping
		Technical testing and analysis
		Repair of electronic and optical equipment (incl. lab equipment)

Emerging sector	Sub-sector	Industry
Maritime economy	Governance and data	Activities of professional membership organisations (e.g. IIFET, EAFE etc.)
		Business and other management consultancy activities (incl. fish stocks management)
		Data collection and information services
		Data management and digitalisation services
	Education	Technical and vocational secondary education (incl. tuition for ship licences, life guard and survival training)
		Post-secondary non-tertiary education
		Tertiary education (e.g. marine biology, naval engineering etc.)
		Sports and recreation education (incl. instructor training for sports and recreation activities, e.g. surf, diving, and professional athletes)
	Water treatment and supply	Water collection, treatment and supply
		Remediation activities and other waste management services
		Test drilling and boring
	Desalination	Desalination
Maritime security and defence	Naval and related defence activities	Defence activities
	Shipbuilding and weaponry	Manufacture of military vehicles (incl. ship building of submarines, aircraft carriers etc.)
		Manufacture of maritime weapons and ammunition
		Manufacture of specialised maritime military equipment (incl. communications, navigation, sonar and radar etc.)
	Repair and maintenance	Repair of specialised maritime military equipment
		Repair of fabricated metal products (incl. R&M of weapons and weapon systems)
Entertainment	Film entertainment	Motion picture, video and television programme production activities
	Photography	Photographic activities
	Events	Organisation of festivals, conventions and trade shows
	Amusement parks and aquariums	Botanical and zoological gardens and nature reserves activities
		Activities of amusement parks and theme parks (e.g. water parks, esp. aqua parks on lakes and sea)
	Professional sport competitions and related sectors	Operation of sports facilities (incl. organisation of sport events for professionals e.g. marine Olympic sports and other racing events)
		Gambling and betting activities
		Artistic creation

Emerging sector	Sub-sector	Industry	
	Cultural tourism and other cultural (market) values	Physical well-being activities (e.g. wellness retreats) Museums activities	
	Regulating	Climate regulation (incl. carbon sequestration) Nutrient cycling Water purification Waste treatment Coastal and flood protection Erosion control and sediment retention Climate regulation Biological control and habitat provisioning	
Ecosystem services		Aesthetics value (e.g. higher house or apartment values)	
		Non-market cultural values (incl. biodiversity, species preservation, cultural heritage etc.)	
		Other non-use values: existence/bequest value	

Appendix 7: Feasibility calculation - Sea Satellite Account

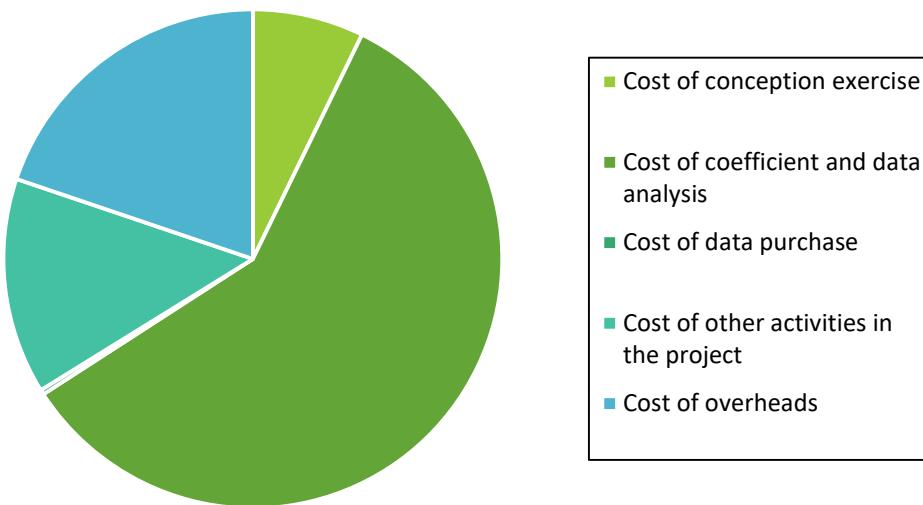
7.1. Maturity

Maturity of national accounts	CBS Netherlands	Statistics Portugal	Bureau of Economic Activities (US)
Unique commodity codes	220	433	~5000
- Those related to the blue economy	n.a.	221	~1200
Local Kind of Activity Units (LKAUs)	2.2 million	1.4 million	34.4 million
- Those related to the blue economy	n.a.	56.613	n.a.
Supply Use Table (SUT)			
-Industries	130	127	400
-Products	220	433	400

7.2. Resources

7.3. Table for report

Cost of pilot exercise	Euros	Share
Cost of conception exercise	€ 27.838	7%
Cost of coefficient and data analysis	€ 226.317	59%
Cost of data purchase	€ 1.216	0,30%
Cost of other activities in the project	€ 54.027	14%
Cost of overheads	€ 76.454	20%
Total cost	€ 385.853	100%





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