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Organization name of lead participant for this deliverable: Danmarks Tekniske Universitet (DTU)





Dissemination level						
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СО	Confidential, only for members of the consortium (incl the Commission Services)					

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Keywords

Dissemination, Communication, Outreach, Web sites (extranet, intranet), Capacity Building, Management Advice Provision, Training (Courses/Webinars), Workshops, Survey and Fishery Manuals/Videos, Stakeholder Engagement, Informed consent, Mesopelagic resources

Executive Summary

The Deliverable D8.1 Project Dissemination Plan, vers.2, is a public deliverable (PU) and also a demonstrator (DEM) making it a living document under the MEESO project. This is the second version by the end of the first project reporting period in month 18. It functions as an external and internal project dissemination plan that is updated and expanded on continuous basis. The project will communicate existing knowledge and project results through public platforms and scientific journals following an internal and external Project Dissemination Plan.

The Project Dissemination Plan provides the strategies and overview for the external and internal project communication, dissemination. and outreach communication means, structures, pathways, and timelines. This also includes an overview of planned reports, publications of different types (e.g. scientific articles and reports), project products (e.g. public extranet and internal sharepoint intranet web sites, training and capacity building through courses/webinars, workshops with stakeholder engagement, survey and fishery manuals/videos), management advice provision, administrative documents, exploitation plans, data management plans, and other dissemination by work package and overall for the project and between work packages, including the management work package. There is to the extent necessary distinguished between the public and the project internal products and outcomes.

The outreach, communication, engagement and impact will communicate existing knowledge and project results (Task 8.1) through public platforms and scientific journals following an internal and external Project Dissemination Plan (Task 8.1). Capacity building and feed-back mechanisms for partners, stakeholders and governance bodies (Task 8.2) are as a cooperation between all work packages prioritized through e-learning training courses or webinars, workshops, symposia, and survey/trial fishery participation promoting new techniques, methods, models and knowledge. This also includes identification of key factors determining social acceptance of mesopelagic exploitation through focus group discussions and stakeholder engagement as a collaboration between work packages. Efficient data guidance, management and standardization (Task 8.3) are as a cooperation between work packages promoted through existing platforms to secure optimal storage, long term use, and public availability of historic/new data including "data mining". Recommendations and advice on management strategies and governance processes (Task 8.4) are provided under the Blue Growth rationale, following UN/EU precautionary principles on Maximum Sustainable Yield.





Table of Contents

1.	PR	OJECT ABSTRACT	5
1	.1.	PROJECT PARTICIPANTS	5
2.	DIS	SSEMINATION AND COMMUNICATION STRATEGY & STAKEHOLDER OUTREACH	6
3.	PR	OJECT INTERNET REPRESENTATION AND WEB PLATFORMS	. 10
4.	PR	OJECT WORKSHOPS & STAKEHOLDER ENGAGEMENT STRATEGY	. 13
5.	TR	AINING COURSES INVOLVING STAKEHOLDERS	.17
6.	PR	ESS AND SOCIAL MEDIA OUTREACH & SCIENTIFIC PUBLICATIONS	. 20
7.	CR	RUISE CAMPAIGNS, VIDEOS AND MANUALS	.31
8.	DA	ATA GUIDANCE, MANAGEMENT AND FLOW	.32
9.	RE	COMMENDATIONS ON ADVICE, MANAGEMENT STRATEGIES, AND GOVERNANCE	.34
10.		INTERNAL MEESO PROJECT COMMUNICATION	.38
ANI	NEX	1 ENGAGEMENT STRATEGY	.44
INA	NEX	2 RESEARCH ACTIVITIES WITH HUMAN PARTICIPANTS	.52
		INFORMED CONSENT	
		RECRUITMENT OF RESEARCH PARTICIPANTS	
		3 QUALITATIVE AND QUANTITATIVE DATA COLLECTED FROM STAKEHOLDERS	
		SURVEY DATA	
		QUALITATIVE WORKSHOP AND INTERVIEW DATA	
A.3.	4 RI	EFERENCES & WEB SITES	. 63
ANI	NEX	4 DIGITAL CONSENT	55
ANI	NEX	5. CHECK LIST FOR ENGAGING EXTERNAL STAKEHOLDERS AND PHYSICAL CONSENT	. 68

1. Project abstract

The overall goal of MEESO is to quantify the spatio-temporal distributions of biomass, production and ecosystem role of mesopelagic resources and to assess options to sustainably manage and govern their exploitation. To reach this goal, MEESO will create new knowledge and data on the mesopelagic community, its biodiversity, drivers of its biomass, its role in carbon sequestration, its role in the oceanic ecosystem and its interactions with the epipelagic community which includes several important commercial fish stocks. Besides applying state of the art experimental and quantitative methods, MEESO will develop and implement new acoustic and trawling technologies necessary for the knowledge and data generation in relation to this largely unknown and remote part of marine ecosystems. MEESO includes a significant amount of in-kind financing for technology development and scientific surveys. MEESO will apply the new knowledge and data to determine the potential of the mesopelagic biomass to be sustainably exploited for products included in the human food chain. For the first time combining leading experts in science, engineering, fisheries and governance, MEESO will develop commercial fishing and processing technologies and mapping of contaminant and nutrient contents to explore the basis for a viable fishery and creation of jobs. Mesopelagic organisms represent one of the largest unexploited resource left in the world's oceans, with a recent biomass estimate at 10 billion metric tons. The new tools and technologies, as well as assessment and management roadmaps, developed in MEESO will establish the trade-offs between exploitation, sustainability and viability of the resource, and identify options for its governance.

1.1. Project Participants

Participant No	Participant organisation name	Country
1 (Coordinator)	HAVFORSKNINGSINSTITUTTET	NO
2	MARINE INSTITUTE	IE
3	SINTEF OCEAN AS	NO
4	FUNDACION AZTI - AZTI FUNDAZIOA	ES
5	MARINE AND FRESHWATER RESEARCH INSTITUTE ICELAND	IS
6	WAGENINGEN UNIVERSITY	NL
7	DANMARKS TEKNISKE UNIVERSITET	DK
8	UNIVERSITY OF STRATHCLYDE	UK
9	INTERNATIONAL COUNCIL FOR THE EXPLORATION OF THE SEA	DK
10	LIEGRUPPEN FISKERI AS	NO
11	WORLD MARITIME UNIVERSITY	SE
12	COLLECTE LOCALISATION SATELLITES SA	FR
13	IMAR- INSTITUTO DO MAR	PT
14	NOFIMA AS	NO
15	UK RESEARCH AND INNOVATION (terminated 01.11.2019)	UK
16	TEAGASC - AGRICULTURE AND FOOD DEVELOPMENT AUTHORITY	IE
17	PELAGIA AS	NO
18	BORD IASCAIGH MHARA	IE





19	EUFISHMEAL	DK
20	NATIONAL OCEANOGRAPHY CENTRE	UK

2. Dissemination and Communication Strategy & Stakeholder Outreach

The MEESO Project Dissemination Plan covers dissemination, communication and exploitation of results. The first goal of dissemination and exploitation is to spread and embed the project's results and tools to appropriate audiences so that the knowledge, products and recommendations generated by MEESO can be applied and have real and tangible impacts for the industry, managers and other stakeholders (trans-disciplinary, actionable science). This approach helps to ensure that the project results and tools are embedded within end-user workflows in order to maximise impact. A second goal of the MEESO engagement strategy is to measurably contribute to the implementation and development of national and international policies and management that support the development of the European fishing industry (relying on Technological and Societal Readiness Levels to gauge progress), facilitating sustainable exploitation of potential new resources. A third, related goal of MEESO is to share knowledge and understanding with the academic community as well as the wider public to increase general public and consumer awareness and demonstrate, in case, how mesopelagic fisheries can achieve long-term sustainability.

The dissemination plan gives an overview on project communication and dissemination with communication means, structures, pathways, and timelines. This also includes an overview of planned reports, publications of different types, articles, project products, exploitation plans, data management plans, and other dissemination by work package and overall for the project and between work packages. This reflects the lists of deliverables and milestones in the project. There will be distinguished between the public and the project internal products and outcomes. The different work packages and work package leads including the project management and coordinator will directly specify and deliver work package explicit input to the dissemination plan with outcomes and products according to the respective work packages and management coverages, topics and responsibilities. This will also facilitate the internal project communication and ensure an efficient and collaborative approach to all tasks and project activities. There is a strong interdependence between work packages in the project. To ensure smooth communication, knowledge transfer and data flow, anchor persons for each participant will get the role of knowledge brokers and regularly follow the development of the project collaboration, both during the scheduled project meetings and via internet meetings.

Dissemination and exploitation are inextricably linked with communication and stakeholder (fishing industry, NGOs, fisheries scientists involved in stock assessment and policy makers) engagement activities (Fig. 1). MEESO will therefore approach these stakeholders and aspects in a coherent and integrated way by drawing them together in an overarching engagement strategy coordinated through work package 8, but implemented through work across work packages (Figs. 1-2). The latter covering among other: Dissemination through public extranet web-platforms, news media, magazines and scientific journals (T8.1), elearning training courses or webinars, workshops, and symposia (T8.2), efficient data guidance, management and standardization through existing platforms (T8.3), advice on

potential exploitation and management strategies through existing platforms (T8.4), focus group work, interviews, and stakeholder analysis (T6.3), as well as training of policy-makers (T7.5) and dissemination of results in joint expert committees (T8.5) together with other project work packages (see all following detailed figures on the interactions between work packages on the above). The project integrates a cohesive and holistic plan for the communication, dissemination and exploitation of project results designed and coordinated through WP8 to maximize the impact of the project and achieve our overarching goals. The approach draws on the expertise and experience of all research and industry partners to effectively disseminate, communicate and engage the relevant audiences of our research and to define the tools and channels which the consortium will use to reach its target audience.



Figure 1: Illustration of the MEESO Engagement Strategy and the interconnections among dissemination and exploitation, communication and stakeholder engagement with central elements (workshops and training) at the interface of these activities.

MEESO has identified key audiences for this internal and external project dissemination plan (who), the main objective of engagement (what), and the key materials and activities (how) in order to maximise the communication and dissemination of the work package outputs and stakeholder engagement (Fig. 2). The Table A1.1 in Annex 1 of the Project Dissemination Plan gives a summary of the MEESO engagement strategy for targeting key audiences as well as general project materials aimed at these and broader (more general) audiences. This is also reflected in the MEESO project list of deliverables provided in Table 1 below. The effectiveness of the materials, channels, and various tools deployed, will be continuously evaluated during the project and adapted if necessary. This continuous





improvement and cyclic full-feed-back process in close contact with stakeholders and the continuous use of best-practices will help ensure that communication, dissemination and engagement activities yield high project impact.

MEESO will explicitly ensure robust communication and engagement with each of these primary groups involving stakeholders and general public throughout the four years of the project. The project partnership has extensive experience in multi-national, multi-lingual, multi-disciplinary, and multi-partner collaborative research, and in the effective communication of progress and results. Moreover, RTD and SME partners are strongly networked with the European fisheries industry.

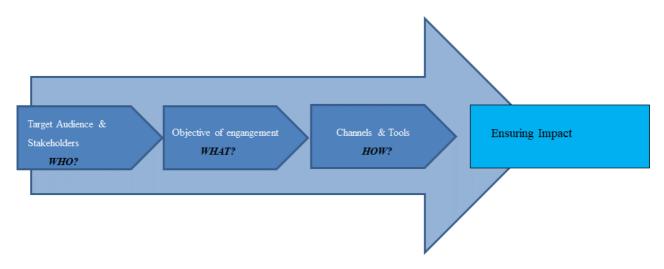


Figure 2: MEESO tailors its dissemination and exploitation activities by answering three key questions ("who", "what" and "how") to help ensure high project impact and stakeholder outreach.

With respect to communication activities, MEESO will develop outreach materials to enable the dissemination of project results and encourage the uptake and exploitation of its tools and recommendations. To achieve this, communication activities will foster an ongoing relationship with our audiences and engage them in the project as it progresses to ensure they are receptive to our output materials and responsive to our progress (Figs. 3 & 4).

Concerning the internal MEESO project communication, then the communication strategy adopted in the project will keep all the partners fully informed about the status of the different ongoing and upcoming activities. The target is to reach maximum transparency for all parties involved and hence increase cooperation. All reports produced (such as meeting notes, intern and external project reports, visit reports, publications, etc.) will be communicated to the PMT which will be responsible for providing this information to other partners when appropriate. Similarly, the Coordinator will distribute relevant information obtained from sources outside the project (other H2020 Blue Growth programs, from the Commission, or from various agencies) to the partners. Internal web-based communication tools will be used for easy exchange of information and documents within the consortium, in addition to web-based meetings. The EC will be kept informed of project progress and other communications/outreach activities from the project.

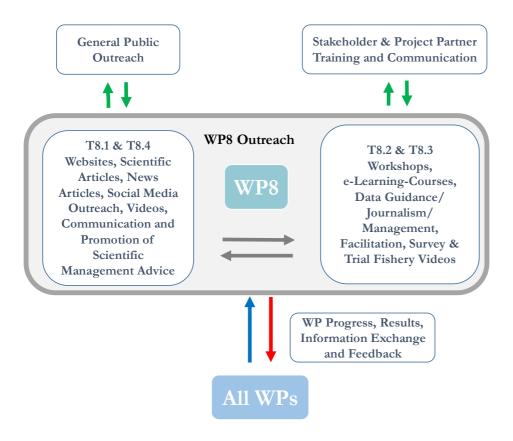


Figure 3: Overview MEESO Project Communication and Dissemination Strategy as coordinated by work package 8 and implemented and conducted in cooperation with the other project work packages.

D8.1.1 Project Dissemination plan

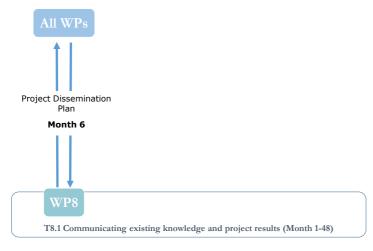


Figure 4: Overview of MEESO Project Dissemination Plan with respect to timing, input and responsibilities across project tasks and work packages.





Dissemination / Communication Activity	Туре	WP	No Events / Status	Date / Month	Target Audience	No. Pers. Reached
Project Dissemination Plan version1	PDP vers. 1	8 + All	1, Published	6	Public	> 10 000 through web site
Project Dissemination Plan version 2	PDP vers. 2	8 + All	1, Published	18	Public	> 10 000 through web site

3. Project Internet Representation and Web Platforms

MEESO aims to facilitate a scientifically sound public and governmental discussion of the exploitation of new mesopelagic resources. A key task here is to raise awareness and support the uptake of project results among external stakeholders. This includes efficient dissemination of existing and new knowledge using a broad range of communication platforms.

The major platform for this is establishment of a public project extranet website and portal relevant existing well established scientific/advisory/management portals/platforms, e.g. the ICES portal (among other associated to some relevant data portals for the project). There is established a public project web site (MEESO Extranet Website, <u>www.meeso.org</u>) reflecting the project aims, contents, and structure integrating all work packages and main topics, tasks and deliverables hereunder (Figs. 5-6). This gives access to the public parts of the project including publications of different types, public reports, news articles, public teaching material (links to webinars or e-learning courses), workshop materials, exploitation plan, public data products and the data management plan, etc. Importantly, there is also be established an associated project internal portal (MEESO Sharepoint intranet, https://havforskningsinstituttet.sharepoint.com/sites/hi/Meeso) with password access for project partners giving access to the project internal parts and reports including status and progress reports, management reports, administrative documents, minutes and reports from meetings and workshops and similar by work package. The different work packages and work package leads including the project management and coordinator directly specify and deliver work package explicit input to the web site (extranet) and the sharepoint intranet, and accordingly also to the project dissemination plan updates, with outcomes and products according to the respective work packages and management coverages, topics and project responsibilities.

The main external communication, dissemination and outreach communication from the project goes through the public MEESO extranet website, and internally through the MEESO Sharepoint intranet, to ensure the availability of project results and deliverables and their duration beyond the live time of the project and duration of specific tasks. In this way, MEESO will maximize communication and dissemination of the project approach and progress. This includes the production of website summaries of key MEESO research and developments linked to specific policy areas. These will be placed on the MEESO project extranet web site with appropriate links to relevant existing EU and other websites and channels, e.g. the DG-Communication, DG-MARE Channel, etc.

D8.1.2 Project internet representation established

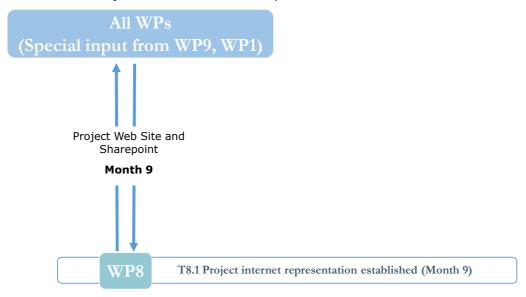


Figure 5: Overview of MEESO Project internet representation with respect to timing, input and responsibilities across project tasks and work packages.

Dissemination /	Type	WP	No Events /	Date /	Target	No. Pers.
Communication Activity			Status	Month	Audience	Reached
Public Project Web Site:	Internet	8 +	1,	9 & up-	Public	> 10 000
www.meeso.org	Web Site	All	Established	dated		as public
				cont'd.		web site
Project Intranet and	Project	8 +	1,	9 & up-	Project	> 200 as
Sharepoint:	Intranet	9 +	Established	dated	Consor-	intranet
https://havforskningsinstit	Web Site	All		cont'd.	tium	site
uttet.sharepoint.com/sites/						
hi/Meeso						

The project internet representation has been established through two web platforms under the MEESO Project and they have been developed with a full structure as agreed during the first WP8 Dissemination Planning Workshop in Copenhagen 14-15 November 2019. This is partly the MEESO Sharepoint intranet which was implemented and taken into use by 1st January 2020: https://havforskningsinstituttet.sharepoint.com/sites/hi/Meeso/ hosted by IMR, Norway, and partly the MEESO Public extranet web site which has been developed and established, and fully implemented and publicly launched by May 2020 (Project Month 9): www.meeso.org hosted by DTU Aqua, Denmark (Figure 6).





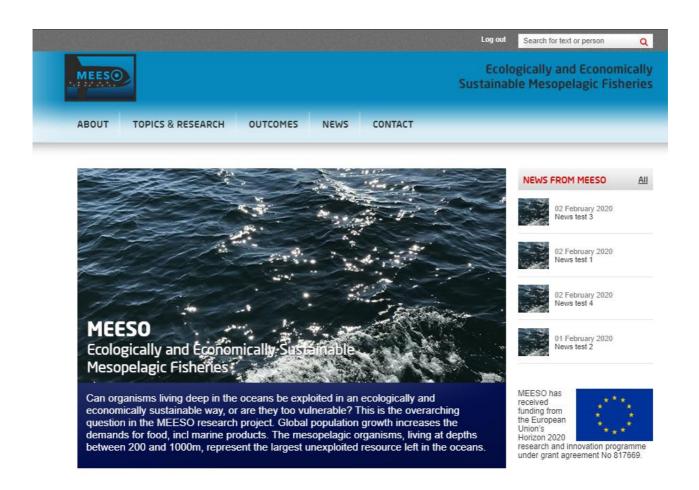


Figure 6. Overview figure of the public extranet web page (<u>www.meeso.org</u>) for the MEESO project as developed by DTU Aqua.

4. Project Workshops & Stakeholder Engagement Strategy

Capacity building and full feedback mechanisms (promoting new techniques, methods, models and key knowledge for project participants, external stakeholders, and governance bodies) are within MEESO work packages 1-8 prioritized through workshops, e-learning training courses/webinars, symposia (MEESO will explore the potentials for co-convening a symposium with cooperating EU projects), and survey/trial fisheries. This also includes identification of key factors determining social acceptance of mesopelagic exploitation through focus group discussions in collaboration with WP6. Additional to publishing results in high ranking peer reviewed scientific journals, regional workshops will be conducted with relevant stakeholders to make sure that the project progresses under a close communication and cyclic-full-feedback-process with stakeholders in order to adjust project investigations according to stakeholder feedback.

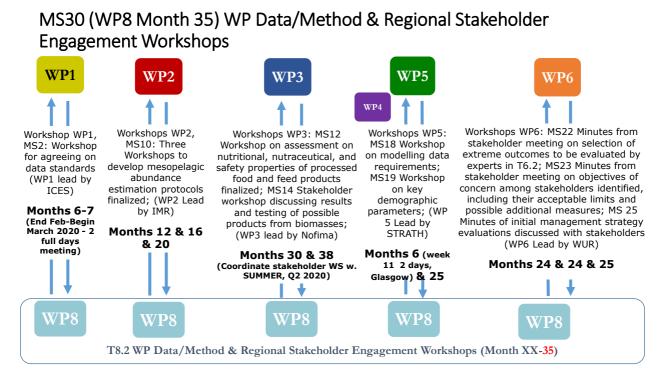


Figure 7: Overview of MEESO project regional stakeholder engagement workshops internet representation with respect to timing, input and responsibilities across project tasks and work packages

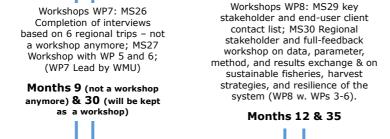
A series of consultations and external workshops (Figs. 7-8) with relevant stakeholders identified through a stakeholder list or database and internal instruction workshops between WPs/project participants are conducted at the onset of the project as a cooperation between all work packages. At least 11 workshops will be conducted as specified under the different work pages: WP1, M.1.3 (Workshop for agreeing on data standards from M.1.1 and practical training for specific project implementation). WP2, M.2.7 (3 Workshops to develop mesopelagic abundance estimation protocols).





WP3, M.3.2 (Workshop on different processing techniques to be assessed), M3.3 (Workshop on assessment on nutritional, nutraceutical, and safety properties of processed food and feed products, M.3.5 (Stakeholder workshop discussing results and testing possible products from biomasses). WP5, M.5.1.1 (Workshop on modelling data requirements), M.5.1.2 (Workshop on key demographic parameters). WP7, M7.2 (Workshop with WP5 and WP6). WP8, M.8.2.4 (Regional stakeholder and full-feedback workshop on data, parameter, method, and results exchange & on sustainable fisheries, harvest strategies, and resilience of the system.

MS30 (WP8 Month 35) WP Data/Method & Regional Stakeholder Engagement Workshops WP7 WP5 WP6 WP6 WP6 WP6 WP6 WP7



WP8
T8.2 WP Data/Method & Regional Stakeholder Engagement Workshops (Month XX-35)

Figure 8: Overview of MEESO project regional stakeholder engagement workshops internet representation with respect to timing, input and responsibilities across project tasks and work packages

Dissemination /	Type	WP	No Events /	Date /	Target	No. Pers.
Communication Activity			Status	Month	Audience	Reached
WP8 Dissemination	Workshop	8 +	1,	3,	Project	> 1000
Planning Workshop &	(incl. Key	1	Conducted	(14-15 /	Consor-	through
initial WP1 Workshop for	Stakeholder			11-19)	tium + Int.	press
Agreeing on Data	& End-User				Press	release
Standards	Client Con-				Represent.	
	tact List)					
WP1 Workshop for	Workshop	1 +	1,	6,	Project	> 100
Agreeing on Data		8	Conducted	(18-19 /	Consor-	
Standards				02-20)	tium	

WPS Workshop on Modelling Data Workshop Modelling Data 8 Conducted 7, 10 Project > 25 Requirements Workshop 2 + 1, 9, Industry, 50-100 WP2: Workshop on the Use of Vessel Mounted Acoustics for the Assessment of Mesopelagic Organisms Workshop 4 Conducted (25- Scientists in mesopelagic 27/05- lagic acoustics 1 in mesopelagic 27/05- lagic acoustics WP2 1st Workshop to Develop Mesopelagic Abundance Estimation Protocols Workshop 2 + 1, 16, Project 200- lagic acoustics > 100 WP2 2nd Workshop to Develop Mesopelagic Abundance Estimation Protocols Workshop 2 + 1, 21-22, Project 200- lagic acoustics > 100 WP7 Policy Brief Workshop 4 1, 21-22, Project 200- lagic acoustics > 100 WP7 Completion of Interviews based on 6 Regional Trips – not a workshop anymore Workshop 7 + 1, 15, MEESO + > 100 WP6 Industry Stakeholder Morkshop (Catch Sector, Gear Manufacturers and Scientists) on Cost Parameters & Selection of Acceptable Limits and Extreme Outcomes Kend-User Client Contact List) 8 Conducted 19, Project Project Nosor- 200 Nosor- 200 Nosor- 200	MDC M. 1.1	*** 1 1		1 0	7 10	D	25
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Focus group work, interviews, and stakeholder analysis are conducted under WP6 (T6.3) with managers, industry, NGOs, general public and other relevant stakeholders including the different types of project participants. Also training of policy-makers and dissemination of results in joint expert committees such as LDAC and RFMO's are conducted under WP7 (T7.5). These activities are coordinated with the other training courses/webinars and stakeholder workshops in close cooperation with WP8 (see also section 5 below).

The aim of the consultations and workshops is to identify and discuss the key dynamics, trends and patterns in the mesopelagic ecosystems and their potential exploitation, as well as to identify the knowledge gaps that impede efficient resource management. The task will identify problems and discuss methods and technologies with stakeholders according to societal readiness levels.

There are identified and made lists of relevant stakeholders (Fig. 9) through a key stakeholder and end-user client contact list which in the first place are appointed by MEESO work package leads and main topic. This list will include details for each stakeholder including type of stakeholder/company, location/nationality (main office or main contact site), stakeholder contact person, etc. The relevant types of stakeholders will among others include industry (catch and processing sectors and their organizations, global fish oil and fish meal producers and their organizations), press (general public), governmental and management bodies on national/regional/international levels (EU, RFMOs, national administrations, other Policy Fora, FAO, WOC, etc.), scientific management advisory bodies (ICES, NAFO, FAO, RFMO's, etc.), and NGOs (e.g. WWF).

An important activity is to identify contacts and develop a list or database of relevant stakeholders who are interested in MEESO and its results. Key stakeholders are actively involved in the project (e.g. industry partners), while others are added as the project progresses and networks are established. Additional key stakeholders are identified at the first regional workshops held for the five European Case Study regions. A second, passive route building this contact list is via a potential client database implemented with MEESO's extranet web site to collect contact information of stakeholders and interested public. A contact form on the extranet web site would allow visitors to easily contact the MEESO office and join the database.

MS29 (WP8) Stakeholder and End-User Client Contact List & MS29 (WP8) + D9.6 Project Exploitation Plan

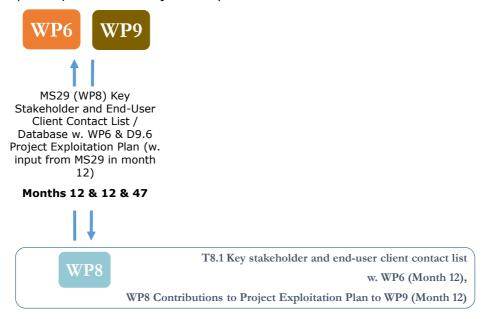


Figure 9: Overview of MEESO Project key stakeholder and end-user client contact list with respect to timing, input and responsibilities across project tasks and work packages.

Dissemination /	Type	WP	No Events /	Date /	Target	No. Pers.
Communication Activity			Status	Month	Audience	Reached
Key Stakeholder and End-	Stakeholder	8 +	1,	12 &	Consor-	> 500
User Client Contact List	& Client	6	Established	up-	tium +	
	List			dated	Stake-	
				cont'd.	holders	
Project Exploitation Plan	Exploitation	9 +	1,	12 &	Consor-	> 10 000
	Plan	8 +	Published	47, up-	tium +	through
		All		dated	Public	web site
				cont'd.		

5. Training Courses Involving Stakeholders

The project are running e-learning courses or webinars to deliver training and knowledge exchange for capacity building covering new methods and technologies implemented for internal project participants and relevant external stakeholders. A row of training courses are conducted as a part of Task 8.2 in cooperation with other work packages. These training courses are conducted as either e-learning courses or webinars in relation to i) data guidance, management, standardization, and database design, ii) new monitoring, survey and fishing techniques implemented, iii) further development of assessment and





management strategy evaluation methods and models, etc. Each course or webinar is associated with different work packages as shown in Figure 10 below. The courses or webinars are arranged in the respective work packages and coordinated in a broader course plan under WP8. The material from the e-learning courses or webinars are made available at the project public extranet web site hosting the project outreach material. Each course is designed for a target audience according to needs and relevance, and have a broad participation and outreach because they are arranged as e-learning courses or webinars. Course content is discussed with stakeholders as part of MEESO's co-framing and co-creation with stakeholders (e.g. initial stakeholder workshops). The training material and activities maximizes the uptake of new methodologies among relevant stakeholders.

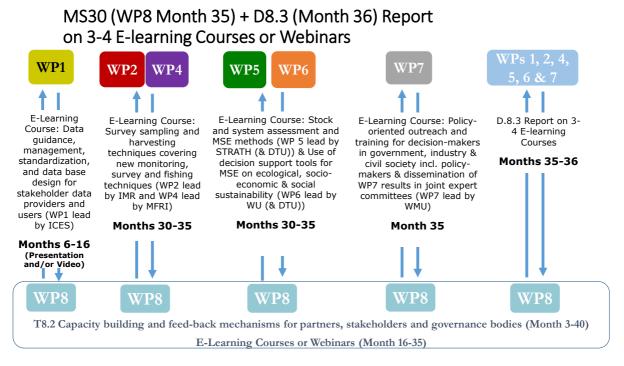


Figure 10: Overview of MEESO project training activities involving e-learning courses or webinars with respect to timing, input and responsibilities across project tasks and work packages. In each individual case it will decided whether the form will be a webinar or an elearning course. The respective work package and project task responsibilities has the WP leads as main responsible.

Specifically, there are held minimum 4 e-learning training or webinar courses involving stakeholders as a cooperation between WPs 1-8. The training courses / webinars involve i) survey sampling techniques (in cooperation with WP2 and WP4), more specific a course/webinar on data guidance, management, standardization, and data base design targeting stakeholder data providers and users in form of fishing industry expert representatives, fisheries advisors and their organizations, fisheries scientists in national institutes, and managers from EU and relevant coastal states (organized by WP1 in cooperation with WP8), ii) harvesting techniques, more specific a course/webinar in new monitoring, survey and fishing techniques implemented targeting relevant representatives

from fishing industry, NGOs, managers and scientific management advisors / fisheries scientists (organized by WP2-4 in cooperation with WP8), iii) data limited stock assessment techniques and improved codes, data and data portals required for stock and system assessments, more specific a course/webinar in development of assessment and management strategy evaluation methods and models targeting relevant fishery advisory representatives, fishing industry experts, and scientific experts (organized by WP5 in cooperation with WP6 and WP8 and WP1), iv) e-learning or webinar training course under WP7 (in cooperation with WP6 and with support from WP8) with development of policy oriented outreach and training materials targeting decision-makers in government, industry, and civil society, more specific the course or webinar is training and learning of policy-makers and dissemination of results from WP7 in joint expert committees (e.g. LDAC and RFMO's). The courses or webinars are augmented with updated online resources using state-of-the-art techniques with online training lectures and manuals that are all publicly available through the MEESO project public platforms and related links (e.g. the ICES System).

Dissemination /	Type	WP	No Events /	Date /	Target	No. Pers.
Communication Activity			Status	Month	Audience	Reached
E-Learning Course: Data Guidance, Management, Standardization, & Data Base Design for Stakeholder Data Providers and Users. Transformed into an: E-Learning Document for Data Handling	EU-Lear- ning-Course transformed into a E-Learning Document	1	1, Provided (M2.1 + part D8.3)	6-18, up- dated cont'd.	Consortium + Stake- holders & Public	> 500
IMR & Arctic University of Norway Open MEESO Webinar: Food from the Ocean and Ocean Science for Sustainable Develop- ment – Bridging Decades side	Open Webinar	9	1, Provided	17, (27/02- 21)	Public	> 2 000
University Course WUR (NL): Case study on fishing the mesopelagic zone under Marine Resource Management Course.	University Course	6, 8 (P6, WU R)	1, Provided	17, (Jan 2021)	University Students	> 25

Under Task 1.2 there has in accordance with the DoA been established a meta-data catalogue for data resources with provision of a MEESO-specific project label within the existing ICES Geonetwork meta-data catalogue. Here a guidance document (or e-learning





resource) is produced on how partners generating or providing datasets and/or data products create metadata records for the catalogue. According to the DoA an e-learning training course under WP1 should be conducted as a cooperation between WP1 and Tasks 8.2 and 8.3 on data portals/database design/database hosting according to needs (in support to WP1). Further, D8.3 and MS30 in the DoA describe 4 e-learning training courses/webinars conducted involving among other input from i) data guidance, management, standardization, and data base design for stakeholder data providers and users (WP1 lead by ICES). The meta-data catalogue has been produced as planned (D1.2 Report), but there has in this context not been made an e-learning training course by WP1 on this. Instead there has been produced an E-Learning-Document on Data Handling by WP1 in the project month 18 among other based on the Data Management Workshop in month 6 and supporting the D1.2-Report with a Meta Data Catalogue for Data Resources. Training of data submission and the metadata catalogue reporting was conducted in this data management workshop. For wider distribution and dissemination, the produced E-Leaning-Document is essential for data-submitters and data users, as well as for the overall data handling prospective. The E-Learning-Document is in an easily readable and public accessible pdf-file made available at the project web sites and cover data guidance and information about the general data model used in the project.

There are produced short overview or summary reports on (public) availability of training materials and course or webinar contents including lectures, manuals, online training lectures / webinars and resources, etc. for 4 e-learning training courses or webinars covering and conducted as well as involving input from i) data guidance, management, standardization, and data base design for stakeholder data providers and users (WP1 lead by ICES), ii) survey sampling and harvesting techniques covering new monitoring, survey and fishing techniques (WP2 lead by IMR and WP4 lead by MFRI), iii) techniques for on board and on land processing (WP3 lead by Nofima and SINTEF) iv) information on food safety (WP3 lead by IMR) v) data limited stock assessment methods/models, codes, data and data portals required for stock and system assessments and management strategy evaluation (WP 5 lead by STRATH (and DTU)) also demonstrating use of multi-disciplinary decision support tools that can facilitate management strategy evaluations according to scenarios for sustainable (potential) exploitation both covering ecological sustainability, socio-economic efficiency and sustainability, as well as social acceptance (WP6 lead by WU (and DTU)), and vi) development of policy-oriented outreach and training (materials) for decision-makers in government, industry, and civil society including training and learning of policymakers and dissemination of results from WP7 in joint expert committees (e.g. LDAC and RFMO's) (WP7 lead by WMU)

6. Press and Social Media Outreach & Scientific Publications

MEESO uses and link up to existing communication platforms (e.g. news and broadcast platforms electronically and printed, scientific and popular scientific journals) among other through links in the MEESO public extranet website. In this way, MEESO maximizes

communication and dissemination of the project approach, progress and results. This includes the production of extranet website summaries of key MEESO research and developments linked to specific policy areas. These are placed at the MEESO extranet web site with links to relevant existing EU and other websites and channels, e.g. the DG-Communication, DG-MARE Channel, etc. to ensure availability within and extending beyond the project lifespan.

The MEESO project make regular media and press releases (Fig. 11) and/or call for press conferences, as well as conduct social media releases, covering breaking news and new research findings on the mesopelagic system and its potential for, and resilience to, exploitation under strict sustainability criteria. The project produce media releases targeting newspaper articles (among other based on interviews with key stakeholders) as well general public and scientific popular magazine articles to a broader audience and the wider community extending beyond the scientific community.

M8.1 Press and Social Media Outreach

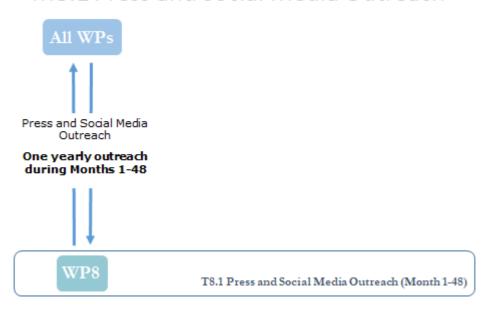


Figure 11: Overview of MEESO project press and social media outreach with respect to timing, input and responsibilities across project tasks and work packages.

Continuous press releases (minimum one per project year) will involve professional communication officers (DTU, IMR, ICES, WUR, AZTI, MFR) who facilitates the production of broadcast output and media news releases which work as contributions to newspaper articles, existing web platforms and social media, as well as the promotion of peer-reviewed and popular scientific articles (Fig. 11).

There has under WP8 been produced a List of Press Releases and Press Contacts (and Social Media Outreach Reported) under MEESO. This list contains the following main activities:





Dissemination / Communication Activity	Туре	WP	No Events / Status	Date / Month	Target Audience	No. Pers. Reached
General Press & Media Release Text for MEESO Kick-Off uploaded at the Project Partner Official Homepages (extranet Web Sites)	Press Release	8 + All	18, Provided (All 18 Partners Web Sites)	1, (Sep. 2019)	Press + General Public + NGO's + Industry + Scientific Community	> 10 000 through web sites
WebEx Press Meeting and Interview of MEESO Steering Group by Katy Askew, Senior Editor, FoodNavigator.com	Press Meeting & Interview	8	1, Conducted	3, (15/11- 19 at WP8 Work Shop)	Same as above;	> 1 000
Press Contact to Olive Heffernan, PhD., Freelance Science Writer, Adjunct lecturer, Johns Hopkins University	Press Contact	4	1, Contacted	3-8,	Same as above;	?
EFFOP News Letter 20/6-2020	Press Release	3	1, Published	10, (20/06- 20)	Same as above;	> 1 000
Press News on MFRI Website: Icelandic Cruise & 1 Radio + 1 Newspaper Interview with MEESO WP4 Leader	Press Release & Interview	4 (P5, MF RI)	3, Provided	10-11, (Jun-Jul 2020)	Same as above;	> 10 000
Press News on IMR Website: Cruise with RV Dr. Fridtjof Nansen to the Sognefjorden.	Press Release	2	1, Provided	17, (25/01- 21)	Same as above;	> 1 000
Press News on MI Website: Interview for "Women in Science" Campaign: https://www.marine.ie/Ho me/site-area/news- events/news/women- science-%E2%80%93- alina-wieczorek	Press Release	8 + All	1, Provided	18, (11/02- 21)	General Public, Marine Scientists	> 1 000
Sunday Times Irish and UK National Newspaper: "Scientists dive deep in quest for sustainable superfood"	Newspaper Article; Interview with Reporter	8 + All P18, BIM	1, Published	20, (04/04- 21)	Press + General Public + NGO's +	> 1 mill. UK & Irish National readership

		Industry + Scientific	c. 1.5 million
		Commu-	
		nity	

Communication tools are developed regularly during the project and adapted as needed to target particular audiences (e.g. sending the correct messages to the correct people). Initial activities are aimed at raising awareness of the project and promoting its objectives and the tools applied evolve with the project to most effectively share MEESO's achievements and findings as these are realised. MEESO makes use of social media to tap into existing contact networks, create new groups and encourage followers in order to capitalise on these current and active communication channels to keep stakeholders up-to-date. It also target industry-related magazines (e.g. Eurofish, EU Commission Maritime Affairs and Fisheries) and these and other web sites that are key communication channels for many of MEESO's stakeholders (both EU wide and at the regional level).

Dissemination / Communication Activity	Type	WP	No Events / Status	Date / Month	Target Audience	No. Pers. Reached
Project Twitter Account Established: Name: MEESO_Horizon	Social Media Outreach, Tweeds, etc.	9 + All	1, Conducted	18	Press + General Public + NGO's + Industry + Scientific Community	> 1 000
Social Media Outreaches on Project Participants Social Media and Personal Accounts in relation to MEESO	Social Media Outreach, (Tweeds, etc.)	All	> 10, Conducted	1-18	Same as above;	> 10 000
Social Media Outreaches in relation to MEESO Survey Campaigns on Project Participants Social Media and Personal Accounts	Social Media Outreach, (Twitter, Instagram, Facebook)	All	> 10, Conducted	1-18	Same as above;	> 10 000
Twitter Campaign: 14 Days of Mesopeagic Organisms (Fun & Facts)	Social Media	All, (P2, MI)	> 10, Conducted	7, (10-31 / 3-20)	Same as above;	> 1000 impress., >100 eng.
MEESO and Mesopelagics-YouTube Channel	Social Media	All, (P5, MF RI)	1, Provided	5, (Jan 2020)	Same as above;	> 1 000
Twitter Post and Instagram Photo Post	Social Media	All, P20	2, Provided	16, (08/12- 20)	Same as above;	> 1 000





All materials are designed to be accessible and engaging and consider cultural and gender issues to ensure products and services appeal to as wide an audience as possible and do not discriminate in any way. All products are written using nontechnical terminology and will be produced in English or in project partner national language, and translated versions are created where required in order to target a wider audience.

Peer review by appropriate scientific communities and production of papers to recognized international scientific peer reviewed journals ensure high quality standards. Peer-reviewed articles and scientific conference contributions are made publicly available either via open-access or as pre-print versions in public repositories. As outlined in the list of deliverables the project plan to deliver 20 scientific reports / paper manuscripts and 13 technical reports. An overview of these papers and reports are given in the List of Deliverables in Table 1 below including its type and dissemination level, as well as work package affiliation, lead partner and delivery date.

1	Article in Journal	Structure and functioning of four North Atlantic ecosystems - A comparative study	Webjørn Melle, Thor Klevjer, Kenneth F. Drinkwater, Espen Strand, Lars Johan Naustvoll, Peter H. Wiebe, Dag L. Aksnes, Tor Knutsen, Svein Sundby, Aril Slotte, Nicolas Dupont, Anne Gro Vea Salvanes, Rolf Korneliussen, Geir Huse	Deep Sea Research Part II: Topical Studies in Oceanography	Yes	Green	10.1016/j.dsr2.2020.104838
2	Article in Journal	An acoustic method to observe the distribution and behaviour of mesopelagic organisms in front of a trawl	Melanie J. Underwood, Eva García-Seoane, Thor A. Klevjer, Gavin J. Macaulay, Webjørn Melle	Deep Sea Research Part II: Topical Studies in Oceanography	Yes	Green	10.1016/j.dsr2.2020.104873
3	Article in Journal	Nonlinear crosstalk in broadband multi-channel echosounders	Babak Khodabandeloo, Egil Ona, Gavin J. Macaulay, Rolf Korneliussen	The Journal of the Acoustical Society of America	Yes	Green	10.1121/10.0002943
4	Article in Journal	Estimating target strength and physical characteristics of gasbearing mesopelagic fish from wideband in situ echoes using a viscous-elastic scattering model	Babak Khodabandeloo, Mette Dalgaard Agersted, Thor Klevjer, Gavin J. Macaulay, Webjørn Melle	The Journal of the Acoustical Society of America	Yes	Green	10.1121/10.0003341
5	Article in Journal	100 Opportunities for More Inclusive Ocean Research: Cross- Disciplinary Research Questions for Sustainable Ocean Governance and Management	Wisz MS, Satterthwaite EV, Fudge M, Fischer M, Polejack A, St. John M, Fletcher S and Rudd MA	Frontiers in Marine Science	Yes	Green	10.3389/fmars.2020.00576

Open Access: To ensure general access, our peer-reviewed articles are deposited in an institutional and/or subject-based repository, as plain text, and as editorial open access for those producing new tools and reviews (i.e. outputs). Following the "Guidelines on Open Access to scientific publications and research data in Horizon 2020", MEESO uses green OA and, in some cases, also gold OA and any other methods acceptable to the EU which potentially become available during the lifetime of MEESO. This enhances the transparency, credibility and efficiency of our research and further promotes the use of data and results for policy and/or business, by stakeholders, end-users and scientists. Key, synthetic/synthesis articles produced by MEESO are published as Open Access (gold) to the extent resources are available for this. MEESO partners have set aside some funds to publish 1 to 2 OA articles and the coordinator also maintains a publication budget to support OA.

Dissemination /	Type	WP	No Events /	Date /	Target	No. Pers.
Communication Activity			Status	Month	Audience	Reached
Popular Science Article: Wieczorek, AM; Schadeberg, A; Reid, D (2021) How Do Scientists Use Sound to Count Fish in the Deep Sea? Frontiers for Young Minds.	Popular Science Article	2 + 4 + All	1, Accepted	18	General Public	> 1 000
Functional Food Ingredient Development from Mesopelagic Fish. Maria Hayes and Azza Naik, TRESEARCH SPRING 2021 VOLUME 16: NUMBER 1	Popular Press Article	3, (P16 P14)	1, Published	17-18, (2021)	General Public, Industry, Costumers	> 1000
Master Thesis: Two MSc students have written their thesis on an Applied General Equilibrium analysis of mesopelagic fishing under WUR (NL).	Master Thesis	6	2, Produced	1-18	Scientific Commu- nity	> 100

Table 1: List of Deliverables including Overview of Scientific Manuscripts and Scientific and Technical Reports

Deliverable Number	Deliverable Title	WP number	Lead beneficiary	Туре	Dissemination level	Due Date
D1.1	Report on available data standards per data type	WP1	9 ICES	Report	Public	8
D1.2	Report on meta-data catalogue for data resources	WP1	9 ICES	Report	Public	12
D1.3	Report on transfer of data to international data collections	WP1	9 ICES	Report	Public	46
D2.1	Report on the implementation of acoustical, optical and catch methods for enhanced identification and biomass estimation of mesopelagic species.	WP2	1 IMR	Report	Public	18
D2.2	Report on the use of enhanced catch and optic methods for accurate quantification of mesopelagic sampling tools.	WP2	1 IMR	Report	Public	18





D2.3	Report on the behaviour of mesopelagic species to trawls and submersible platforms.	WP2	1 IMR	Report	Public	24
D2.4	Report documenting the protocol for abundance estimation of biomass and diversity in the mesopelagic zone.	WP2	1 IMR	Report	Public	36
D3.1	Report on the development and testing of specialized trawls	WP3	14 Nofima	Report	Confidential, only for members of the consortium including the EC services	18
D3.2	Determination of the most effective on board processing methods with regards to desired product, cost of processing and market possibilities. Draft	WP3	14 Nofima	Report	Confidential, only for members of the consortium including the EC services	18
D.3.3	Report on the development and testing of specialized trawls, and the potential negative environmental effects of the herding methods	WP3	3 SO	Report	Public	36
D3.4	Determination of the most effective on board processing methods with regards to desired product, cost of processing and market possibilities.	WP3	14 NOFIMA	Demonstrat or	Public	36
D3.5	Determination of the most effective land based processing methods with regards to products, markets, scalability and economics.	WP3	14 NOFIMA	Demonstrat or	Public	46
D3.6	Database on contaminants, nutraceuticals and nutrients.	WP3	1 IMR	Demonstrat or	Public	46
D.3.7	Report on identification of possible biotechnological products from the processed mesopelagic catch in terms of production possibilities and value	WP3	14 NOFIMA	Report	Public	40
D3.8	Report matching of possible products from processing, contaminants and bioactivity testing with market	WP3	14 NOFIMA	Report	Public	40

	possibilities and environmental impact.					
D3.9	Prototype production of selected scaled processes for market evaluation and circular prototype improvement.	WP3	14 NOFIMA	Demonstrat or	Public	44
D4.1	Collated cruise reports with regional maps of distribution and abundance of mesopelagic communities in the North Atlantic based on conducted MEESO cruises by month 18 and other cruises available to MEESO	WP4	5 MFRI	Report	Confidential, only for members of the consortium including the EC services	18
D4.2	Collated cruise reports with regional maps of distribution and abundance of mesopelagic communities in the North Atlantic focusing on potential fishing areas.	WP4	5 MFRI	Report	Public	30
D4.3	Synthesis report on the stocks, oceanographic relationships, vital rates, ecological position, distribution and dynamics of mesopelagic fauna.	4	5 MFRI	Report	Public	46
D4.4	Synthesis report on biomass distribution in the MEESO regions in relation to environmental variables.	WP4	2 MI	Report	Public	46
D4.5	Report on the relative roles of passive and active Carbon flux.	WP4	1 IMR	Report	Public	46
D5.1	Modelling workshop report	WP5	8 STRA	Report	Public	8
D5.2	Report on initial demographic parameters.	WP5	7 DTU	Report	Public	26
D5.3	Report on the outputs of the S6 assessment model.	WP5	7 DTU	Report	Public	36
D5.4	Report on the outputs of the harvest strategies and climate change scenarios.	WP5	8 STRA	Report	Public	46
D6.1	Scientific report on current fisheries sector economics for selected fleet components in perspective of potential mesopelagic resource exploitation. Draft	WP6	6 WU	Report	Confidential, only for members of the consortium including the EC services	18
D6.2	Scientific report on current fisheries sector economics for selected fleet components in	WP6	6 WU	Report	Public	24





	perspective of potential mesopelagic resource exploitation.					
D6.3	Manuscript on the potential effect of mesopelagic fisheries on world markets and private and social cost-benefit analysis, to be submitted to scientific journal.	WP6	6 WU	Report	Public	36
D6.4	Manuscript on development and evaluation of management strategies for mesopelagic exploitation, to be submitted to scientific journal.	WP6	7 DTU	Report	Public	46
D6.5	Manuscript on extreme outcomes of mesopelagic exploitation and their plausibility, to be submitted to scientific journal.	WP6	6 WU	Report	Public	46
D6.6	Manuscript on the frames, perceptions, and values related to mesopelagic exploitation, to be submitted to scientific journal.	WP6	6 WU	Report	Public	46
D7.1	Policy landscape manuscript.	WP7	11 WMU	Report	Public	22
D7.2	Report on training materials. Draft	WP7	11 WMU	Report	Confidential, only for members of the consortium including the EC services	18
D7.3	Manuscript on specific economic effects of changing carbon sequestrations patterns under various harvest strategies, management regimes, and assumptions regarding the social cost of carbon.	WP7	11 WMU	Report	Public	46
D7.4	Report on training materials.	WP7	11 WMU	Report	Public	44
D7.5	Policy landscape manuscript. Draft	WP7	11 WMU	Report	Confidential, only for members of the consortium including the EC services	18

D7.6	Manuscript on specific economic effects of changing carbon sequestrations patterns under various harvest strategies, management regimes, and assumptions regarding the social cost of carbon. Draft	WP7	11 WMU	Report	Confidential, only for members of the consortium including the EC services	36
D8.1	Project Dissemination Plan.	WP8	7 DTU	Demonstrat or	Public	6
D8.2	Project internet representation established.	WP8	7 DTU	Web sites, patents filing, etc	Public	9
D8.3	Report on 3-4 E-learning courses or webinars (specific courses / webinars listed under milestones).	WP8	7 DTU	Report	Public	36
D8.4	Videos and potentially manuals on best fishing and surveying practice.	WP8	1 IMR	Web sites, patents filing, etc	Public	36
D8.5	Data Management Plan in cooperation with WP1.	WP8	9 ICES	ORDP Open research data pilot	Public	6
D8.6	Report on input to national, regional, European and international advisory bodies e.g. ICES, GFCM, RFMO's, STECF, EU ACs, FAO, etc., on biological sustainable management of potential key mesopelagic resources - typically following ICES advisory standards.	WP8	7 DTU	Report	Public	47
D8.7	Scientific report on economic perspectives, efficiency, projections for (a) fleet components potentially exploiting mesopelagic resources, and (b) the processing sector.	WP8	7 DTU	Report	Public	47
D9.1	Minutes from the kick-off meeting.	WP9	1 IMR	Report	Confidential, only for members of the consortium including the EC services	3
D9.2	Minutes from General Assembly year 1	WP9	1 IMR	Report	Confidential, only for members of	13





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					the consortium including the EC services	
D9.3	Minutes from General Assembly year 2	WP9	1 IMR	Report	Confidential, only for members of the consortium including the EC services	25
D9.4	Minutes from General Assembly year 3	WP9	1 IMR	Report	Confidential, only for members of the consortium including the EC services	37
D9.5	Minutes from General Assembly year 4	WP9	1 IMR	Report	Confidential, only for members of the consortium including the EC services	47
D9.6	Final exploitation plan	WP9	1 IMR	Report	Public	47
D9.7	Cooperation between MEESO and SUMMER. Activities and contributions to project outcomes	WP9	1 IMR	Report	Public	47
D10.1	H - Requirement No	WP10	1 IMR	Ethics	Confidential, only for members of the consortium including the EC services	6
D10.2	POPD - Requirement No. 2	WP10	1 IMR	Ethics	Confidential, only for members of the consortium including the EC services	6
D10.3	A - Requirement No. 3	WP10	1 IMR	Ethics	Confidential, only for members of the consortium including the EC services	6

D10.4	EPQ - Requirement No. 4	WP10	1 IMR	Ethics	Confidential, only for members of the consortium including the EC services	6
D10.5	NEC - Requirement No. 5	WP10	1 IMR	Ethics	Confidential, only for members of the consortium including the EC services	6

7. Cruise Campaigns, Videos and Manuals

MEESO provide videos and manuals on best surveying and fishing practices for focus mesopelagic species and resources. The project run cruise campaign blogs and invite journalists where relevant to cruise and trial fisheries campaigns in a coordinated manner. There are released, in a cooperation between WP2, WP3 and WP4, short introductory videos or manuals of survey and fishing processes showing best fishing and surveying practice (Fig. 12). This task includes also presentations of newly developed products at industry events (with WP3).

MS30 (WP8 Month 35) + D8.4 (Month 36) Cruise Campaign Blogs, Videos and Potential Manuals on Best Survey and Fishing Practices

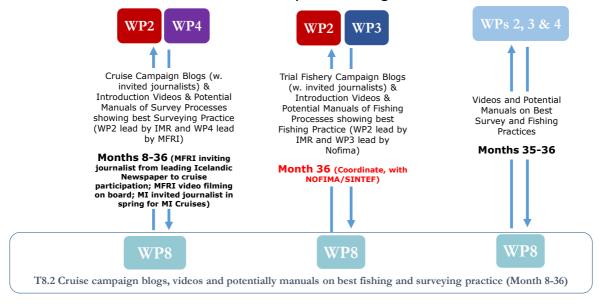


Figure 12: Overview of MEESO project cruise campaign blogs, videos and potential manuals on best survey practices with respect to timing, input and responsibilities across project tasks and work packages. The respective work package and project task responsibilities has the WP leads as main responsible.





Videos are produced in order to communicate, with visual impact, the biological resources and ecological communities, new survey methods, new fishing methods, and processing procedures and products.

Dissemination / Communication Activity	Туре	WP	No Events / Status	Date / Month	Target Audience	No. Pers. Reached
Video Cruise Campaign &	Video	4 +	1,	18,	General	> 1 000
Video Manual on Survey	Campaign	2	Produced	(Feb.	Public	
Practices: Introduction	& Video			2021)		
Video on MEESO Surveys	Manual					
(MFRI).						

8. Data Guidance, Management and Flow

MEESO work package 1 - in cooperation with work package 8 - provide a Data Management Plan, which is a living document with continuous updating throughout the project duration. The detailed data management plan, outlining the research data generation, collection and sharing standards is developed within the first months of the project, as part of the Engagement Strategy, which account for all relevant Intellectual Property Right (IPR) issues as specified in the Consortium Agreement (CA). MEESO build on and make use of existing resources as for example the UK's Digital Curation Centre's online guidance and tools for data management planning.

This plan provides guidance on and promote efficient data management through existing data platforms to secure optimal storage, long term use, standardized designs and formats, as well as public availability of historic/new data including Data Journalism Communities for "data mining". This includes advice on appropriate links to data sets with standardized design and format for ICES and EU STECF and OECD data centers as well as to EMODNET, COPERNICUS and similar relevant data platforms (Fig. 13). This also includes providing information from and connecting to other existing data platforms such as Global Fishing Watch (fishing effort maps) and other relevant stakeholder platforms.

This also include an e-learning training course or webinar under WP1 conducted as a cooperation between WP1 and WP8 on data portals/database design/database hosting according to needs (see Section 5 5 Training Courses above). The Data Management Plan developed ensures long-term availability of project data and results.

Establishment of new data including biological data, fisheries data, and socioeconomic data for which the major part will be made publicly available with standardized design and format according to the ICES and EU STECF data centers. This is accomplished through a catalogue and existing platforms for efficient data guidance, management and standardization.

D8.5 & MS2(WP1) & MS7 (WP1) & MS31 (WP8) & D1.3 (WP1): Guidance on and Promote Efficient Data Management & Make Data Available

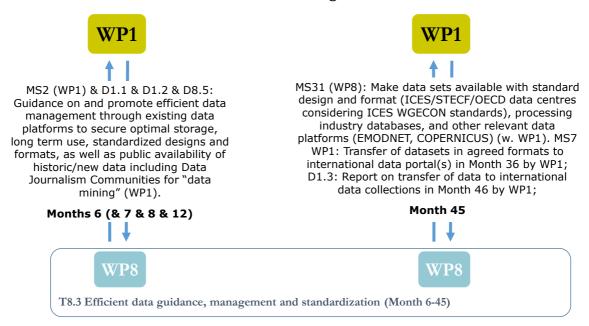


Figure 13: Overview of MEESO project guidance and promotion of efficient data management including data availability with respect to timing, input and responsibilities across project tasks and work packages. The respective work package and project task responsibilities has the WP leads as main responsible.

Dissemination /	Туре	WP	No Events /	Date /	Target	No. Pers.
Communication Activity			Status	Month	Audience	Reached
Data Management Plan:	Data	1 +	1,	8-12	Public	> 1000
	Manage-	8	Continously		Scientific	through
Report on Available Data	ment Plan		updated		Commu-	ICES
Standards per Data Type					nity,	
					Project	
Report on Meta-Data					Partners	
Catalogue for Data						
Resources						
WP8 Dissemination	Workshop	8 +	1,	3,	Project	> 1000
Planning Workshop &	(incl. Key	1	Conducted	(14-15 /	Consor-	through
initial WP1 Workshop for	Stakeholder			11-19)	tium + Int.	press
Agreeing on Data	& End-User				Press	release
Standards	Client Con-				Represent.	
	tact List)					
WP1 Workshop for	Workshop	1 +	1,	6,	Project	> 100
Agreeing on Data		8	Conducted	(18-19 /	Consor-	
Standards				02-20)	tium	





WP1 E-Learning Course:	EU-Lear-	1	1,	6-18,	Consor-	> 500
Data Guidance,	ning-Course		Provided	up-	tium +	
Management,	transformed		(M2.1 +	dated	Stake-	
Standardization, & Data	into a		part D8.3)	cont'd.	holders	
Base Design for	E-Learning				& Public	
Stakeholder Data	Document					
Providers and Users.						
Transformed into an:						
E-Learning Document for						
Data Handling						

Furthermore, an overview of guidance on and promotion of efficient economic data management including making data available as a cooperation between work packages 6, 3 and 8 is shown in Figure 16 below.

9. Recommendations on Advice, Management Strategies, and Governance

MEESO provide recommendations and advice on management strategies and governance processes in relation to potential exploitation of mesopelagic resources according to sustainability measures. This covers the dissemination of advice and management recommendations following fisheries management and advisory standards, systems, processes and sustainability criteria provided through e.g. ICES, NAFO and relevant RFMO management advice bodies, EU Advisory Councils (Long Distance, Market, Aquaculture, North-Western Pelagic Stocks) under consideration of relevant current management strategies under international conventions. The latter covers relevant UN conventions on ecosystem based sustainable exploitation of marine living resources (UNCLOS) and on marine biodiversity, relevant regional (e.g. EU CFP, EU MSFD, etc.) and national management directives, as well as relevant socio-economic Blue Growth strategies. In this process, relevant existing public platforms on Marine Resource Exploitation, Fisheries Ocean Governance, etc., are identified and used for dissemination of advice and management recommendations. Recommendations are provided under the Blue Growth rationale, following UN/EU precautionary principles on Maximum Sustainable Yield.

The work involves cooperation between work packages 6 and 8 on focus group work, interviews, and stakeholder workshop analyses in work package 6 with managers, advisors, scientists, industry, NGOs, general public and other relevant stakeholders including the different types of project participants (Figs. 14-15). This also involves an e-learning course or webinar on implemented decision support tools as a cooperation between work packages 6 and 8. The course or webinar in cooperation with work package 6 demonstrates use of multi-disciplinary decision support tools that can facilitate management strategy evaluations according to scenarios for sustainable (potential) exploitation of mesopelagic marine living resources both covering ecological sustainability, socio-economic efficiency and sustainability, as well as social acceptance. Also under work package 7, an e-learning course or webinar in capacity building in governance and management will be offered. The latter includes knowledge transfer according to efficient institutional capacity building and key requirements for efficient and sustainable management of potential mesopelagic marine living resources.

D8.6 (Month 47) MS31 (WP8 Month 45) Demonstration of innovative assessment models, advisory methods, management evaluation tools.

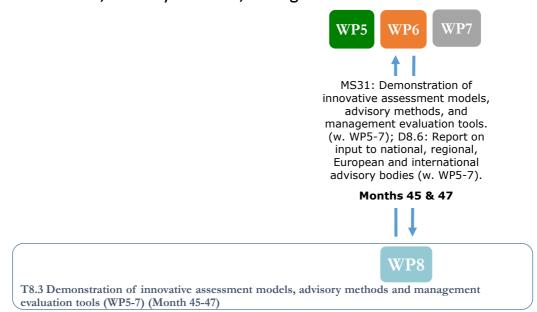


Figure 14: Overview of MEESO project demonstration of innovative assessment models, advisory methods, and management evaluation tools with respect to timing, input and responsibilities across project tasks and work packages. The respective work package and project task responsibilities has the WP leads as main responsible.

The work so far has mainly covered discussions of plans, design and type of recommendations and management advice, and as stated in the aim of the task there has already been made some frame decisions on this. That is, that the dissemination of advice and management recommendations will follow fisheries management and advisory standards, systems and processes provided through e.g. ICES, NAFO and relevant RFMO management advice bodies, EU Advisory Councils (Long Distance, Market, Aquaculture, North-Western Pelagic Stocks) under consideration of relevant current management strategies under international conventions. The latter covers relevant UN conventions on ecosystem based sustainable exploitation of marine living resources (UNCLOS) and on marine biodiversity, relevant regional (e.g. EU CFP, EU MSFD, etc.) and national management directives, as well as relevant socio-economic Blue Growth strategies. In this process, relevant existing public platforms on Marine Resource Exploitation, Fisheries Ocean Governance, etc., are identified and used for dissemination of advice and management recommendations. Recommendations are provided under the Blue Growth rationale, following UN/EU precautionary principles on Maximum Sustainable Yield.





Dissemination /	Type	WP	No Events /	Date /	Target	No. Pers.
Communication Activity			Status	Month	Audience	Reached
WP7 Policy Brief	Workshop	7 +	1,	15,	MEESO +	> 100
Workshop		Sis-	Conducted	(Nov.	SUMMER	
		ter		2020)	Consortia	
		Proj.				
WP7 Completion of	Workshop	7	Several,	9-20	Project	> 100
Interviews based on 6	Converted		Partly	(On-	Consor-	
Regional Trips – not a	to Online		Conducted	going)	tium+Sta-	
workshop anymore	Interviews				keholders	

D8.6 Management Advice Report

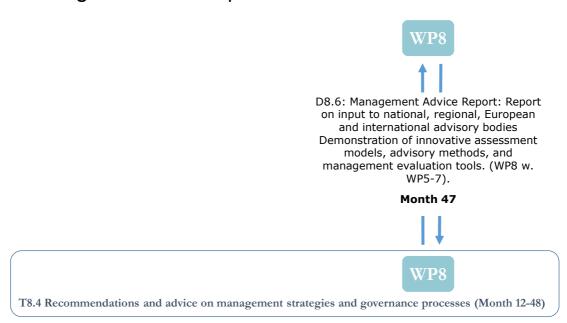


Figure 15: Overview of MEESO project management advice report with respect to timing, input and responsibilities across project tasks and work packages. The respective work package and project task responsibilities has the WP leads as main responsible.

The MEESO project will produce a report with input to national, regional, European and international advisory bodies e.g. ICES, GFCM, RFMO's, EU STECF, EU ACs, FAO, etc., on biological sustainable management of potential key mesopelagic resources – typically following ICES advisory standards (Figs. 14-15). The scientific report will be in format of standard ICES stock advice sheets following ICES advisory standards and principles according to MSY reference on biological sustainable management for focus key mesopelagic fish stocks, including potential sustainable harvesting of them given different harvest control rules, and with descriptions of vulnerability for exploitation. This scientific publication and advisory report and its supplementary material will provide the basis for biological advisory input to different advisory and management bodies from the project with focus on key stocks.

Furthermore, MEESO will as a cooperation between work packages 6, 3 and 8 produce a scientific report on economic perspectives, efficiency, projections for (a) fleet components potentially exploiting mesopelagic resources, and (b) the processing sector (Fig. 16). This scientific report is for part (a) directly linked and associated to a manuscript on development and evaluation of management strategies for mesopelagic exploitation, to be submitted to scientific journal (D6.4). For part (b) is directly linked and associated to the determination of the most effective land based processing methods with regards to products, markets, scalability and economics (D.3.5).

Guidance on and Promote Efficient Economic Data Management

& Make Data Available (MS31 + MS32 WP8) MS31: Make data sets available with D8.7: Scientific report on standard design and format (M45); economic perspectives, MS32: Results from fact finding efficiency, projections for (a) interviews, focus group meetings and fleet components potentially stakeholder analysis in WP6 (covering exploiting mesopelagic managers, industry, NGOs, general resources, and (b) the public, other relevant stakeholders / processing sector. (WP3 & WP6). project participants (w. WP6, M23). Month 47 Months 23 & 45 T8.4 Scientific report on economic perspectives, efficiency, projections for (a) fleet components potentially exploiting mesopelagic resources, and (b) the processing sector. (WP3 & WP6) (Months 23, 45 & 47)

Figure 16: Overview of MEESO project guidance and promotion of efficient economic data management including data availability with respect to timing, input and responsibilities across project tasks and work packages. The respective work package and project task responsibilities has the WP leads as main responsible.

Dissemination /	Type	WP	No Events /	Date /	Target	No. Pers.
Communication Activity			Status	Month	Audience	Reached
WP6 Industry Stakeholder	Workshop	6+	1,	19,	Project	> 1000
Workshop (Catch Sector,	(incl. Key	3 +	Conducted	(29 /	Consor-	through
Processing Sector, Gear	Stakeholder	8		03-21)	tium +	stakehold
Manufacturers and Scien-	& End-User				Stakehold	er organi-
tists) on Cost Parameters	Client Con-				ers	zations
& Selection of Acceptable	tact List)					
Limits and Extreme						
Outcomes						





Pelagic Fishermen	Industry	6, 8	6,	1-18	Project	> 200
Interviews	Interviews	+	Conducted		Consor-	
(DK, ESP, NL, ICE)		All			tium+Sta-	
					keholders	

10. Internal MEESO Project Communication

As described under the dissemination strategy above then the internal communication strategy adopted in the MEESO project keep all the partners fully informed about the status of the different ongoing and upcoming activities. This is illustrated through the flow diagrams of information and deliverables between work packages as shown in Figures 17-25 below where each figure shows the input to and output from each project work package according to specific topics as information flow between work packages. The target is to reach maximum transparency for all parties involved and hence increase cooperation. All reports produced (such as meeting notes, intern and external project reports, visit reports, publications, etc.) are communicated to the PMT which will be responsible for providing this information to other partners when appropriate. Similarly, the Coordinator will distribute relevant information obtained from sources outside the project (other H2020 Blue Growth programs, from the Commission, or from various agencies) to the partners. Internal web based communication tools (intranet) are used for easy exchange of information and documents within the consortium, in addition to web based meetings. The EC will be kept informed of project progress and other communications/outreach activities from the project.

Dissemination / Communication Activity	Type	WP	No Events / Status	Date / Month	Target Audience	No. Pers. Reached
WP8 Dissemination Planning Workshop & initial WP1 Workshop for Agreeing on Data Standards	Workshop (incl. Key Stakeholder & End-User Client Con- tact List)	8+1	1, Conducted	3, (14-15 / 11-19)	Project Consor- tium + Int. Press Represent.	> 1000 through press release
Project Dissemination Plan version1	PDP vers. 1	8 + All	1, Published	6	Public	> 10 000 through web site
Project Dissemination Plan version 2	PDP vers. 2	8 + All	1, Published	18	Public	> 10 000 through web site
Public Project Web Site: www.meeso.org	Internet Web Site	8 + All	1, Established	9 & up- dated cont´d.	Public	> 10 000 as public web site
Project Intranet and Sharepoint: https://havforskningsinstit uttet.sharepoint.com/sites/ hi/Meeso	Project Intranet Web Site	8 + 9 + All	1, Established	9 & updated cont'd.	Project Consor- tium	> 200 as intranet site

Key Stakeholder and End-	Stakeholder	8 +	1,	12 &	Consor-	> 500
User Client Contact List	& Client	6	Established	up-	tium +	
	List			dated	Stake-	
				cont'd.	holders	
Project Exploitation Plan	Exploitation	9 +	1,	12 &	Consor-	> 10 000
	Plan	8 +	Published	47, up-	tium +	through
		All		dated	Public	web site
				cont'd.		

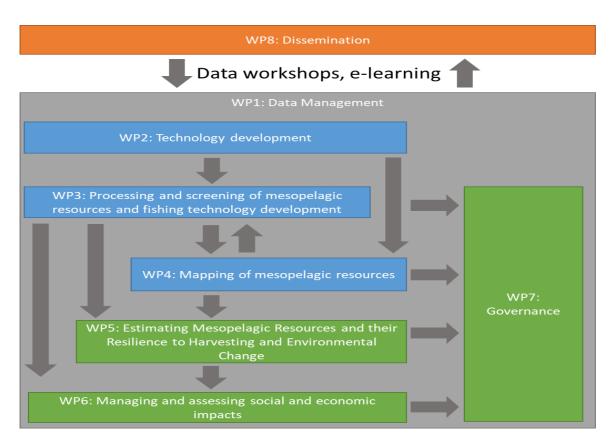
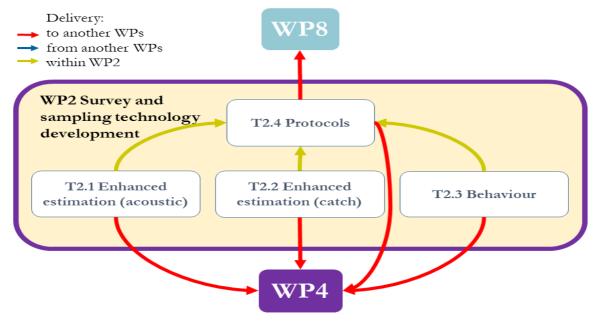


Figure 17. Overview diagram of internal information and deliverable flow with specific topics from and to work package 1, Data Management, in relation to the other MEESO project work packages.

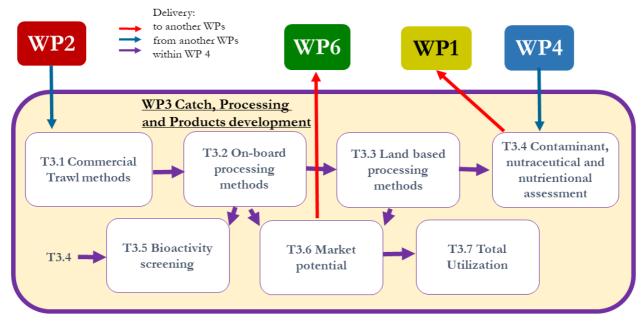






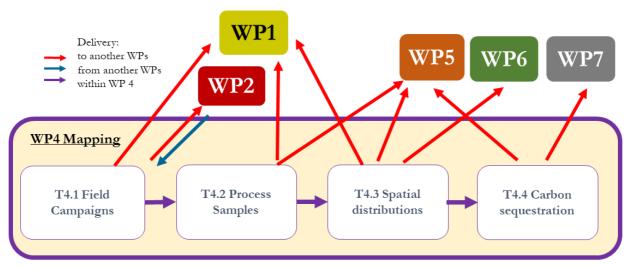
Flows of information and data to, from and within WP2

Figure 18. Overview diagram of the internal information and deliverable flow with specific topics from and to work package 2, Survey and Sampling Methodology Development, in relation to the other MEESO project work packages, as well as between internal WP2 tasks.



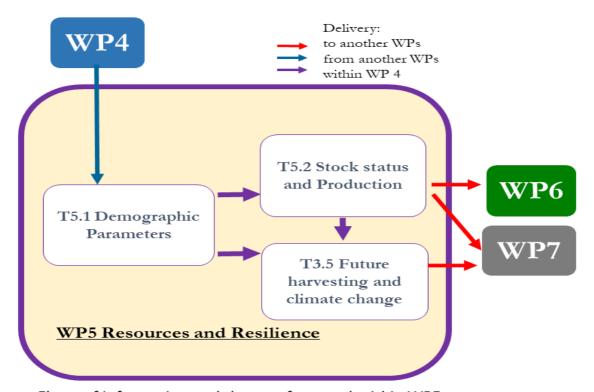
Flows of information and data to, from and within WP3

Figure 19. Overview diagram of the internal information and deliverable flow with specific topics from and to work package 3, Catch, Processing and Products Development, in relation to the other MEESO project work packages, as well as between internal WP3 tasks.



Flows of information and data to, from and within WP4

Figure 20. Overview diagram of the internal information and deliverable flow with specific topics from and to work package 4, Mapping of Mesopelagic Resources, in relation to the other MEESO project work packages, as well as between internal WP4 tasks.

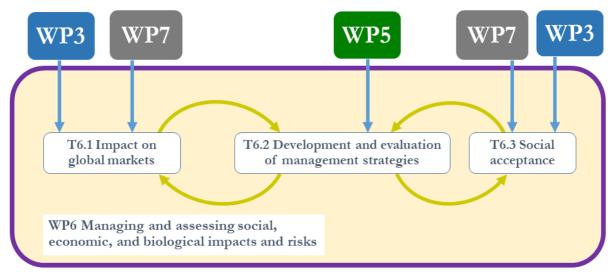


Flows of information and data to, from and within WP5

Figure 21. Overview diagram of the internal information and deliverable flow with specific topics from and to work package 5, Estimating Mesopelagic Resources and their Resilience, in relation to the other MEESO project work packages, as well as between internal WP5 tasks.







Flows of information and data to, from and within WP6

Figure 22. Overview diagram of the internal information and deliverable flow with specific topics from and to work package 6, Managing and Assessing Social & Economic & Biological Impacts and Risks, in relation to the other MEESO project work packages, as well as between internal WP6 tasks.

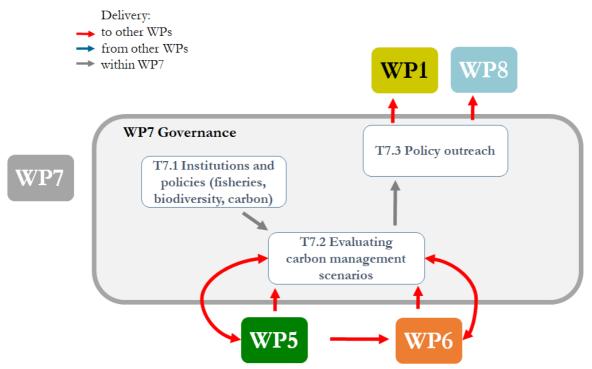


Figure 23. Overview diagram of the internal information and deliverable flow with specific topics from and to work package 7, Governance, in relation to the other MEESO project work packages, as well as between internal WP7 tasks.

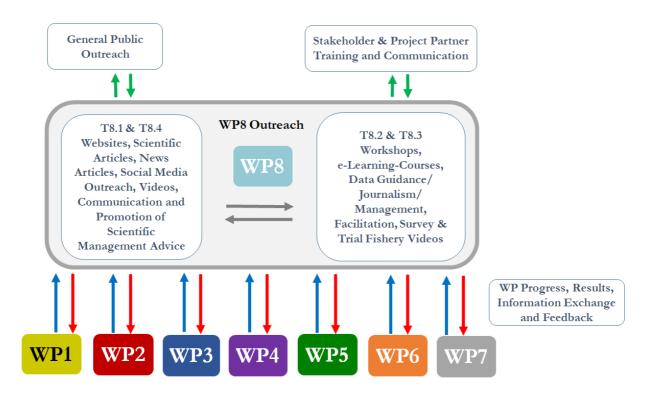


Figure 24. Overview diagram of the internal information and deliverable flow with specific topics from and to work package 8, Outreach: Communication, Engagement & Impact, in relation to the other MEESO project work packages, as well as between internal WP8 tasks.

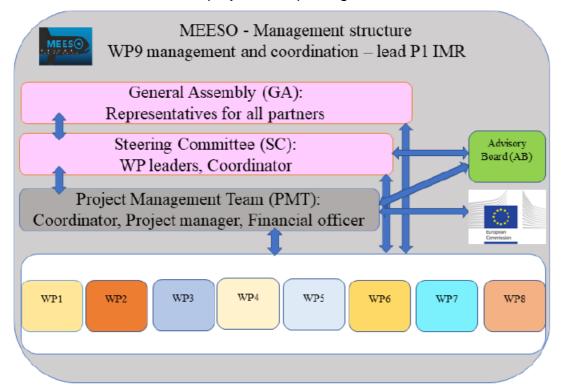


Figure 25. Overview diagram of the internal information and deliverable flow with specific topics from and to work package 9, MEESO Management and Management Structure, in relation to the other MEESO project work packages, as well as between internal WP9 tasks.





Annex 1 Engagement Strategy

Encouraging multi-directional communication is a key activity within MEESO, which is facilitated in a number of ways; through stakeholder engagement and scoping (central to WPs 1-4 and 6-8) via regional workshops and face-to-face interviews, a large and active MEESO Advisory Board (AB) and an informative and interactive extranet web site. This helps to ensure that the project is effectively co-framed with the European fisheries industry and RFMO's (to the mutual benefit of the project and its stakeholders) and that the project remains adaptive to industry and policy trends (e.g. as consequences of new technologies and Brexit).

These activities form part of the comprehensive Engagement Strategy (Table A1.1) which is refined and implemented in the project. The strategy includes different online and offline communication measures, individualized materials for target groups and a detailed schedule corresponding with MEESO progress, product developments and scientific findings. All partners will agree to The Engagement Strategy as listed here, creating transparency for and between partners on their role and responsibility regarding both internal and external communication and engagement.

Table A.1.1: Summary of the MEESO engagement strategy for targeting key audiences as well as general project materials aimed at these and broader (more general) audiences.

Target group/ Audienc e (Who?)	Message/ Objective of the engagement (What?)	Channels, tools and materials used and timeframe / regularity (How?)	Expected engagement outcome	Quantitative targets (some repeated in more than one row)
General public	 Help the wider public understand the mesopelagic populations, community, and broader ecosystem complexity and considerations as well as challenges and opportunities for European fisheries potentially exploiting the system. Raise consumer awareness of the food security challenges and positive, societal impacts of European fisheries and aquaculture (food 	 Use relevant existing EU platforms as project website(s) with a duration extending much longer than the project duration. Short introductory videos and of survey and fishing processes. Social media outreach. Press releases / conferences, Newspaper / general public and scientific popular magazine articles. 	Raised awareness of general public about key elements of the MEESO project, its research goals and accomplishment considering sustainability and perspectives in potential exploitation of mesopelagic resources. Prepare material for a well- informed public	 One MEESO project website 3-4 videos on fishing practice and abundance estimation. Social media outreach, press releases and other articles as needed (there will be submitted at

	security and employment). • Raise awareness of the importance of collaborative research for European fishers and the Blue Economy.		discussion on exploiting some of the planet's last pristine resources.	least 1 major press release or 1 newspaper article or made one press conference per project year which will also be communicat ed as social media
				outreach).
Scientifi c commun ity (research and educatio n)	Provide new understanding to the marine and fisheries scientists and the broader scientific community (i.e. researchers in fisheries policy, economics and social-sciences) to support advancement of research and development.	 Peer-reviewed publications (R) in the form of articles, posters, conference/symposia proceedings, research publications. Scientific conferences and symposia, e.g. ICES, NAFO, etc. Input to relevant scientific ICES working or study group(s). Data sets with standardized design and format for ICES and STECF data centres – publicly available. E-learning training courses/webinars and workshops in relation to a) data guidance, management, standardization, and database design, b) new monitoring, survey and fishing techniques implemented, c) further development of assessment and management strategy evaluation methods and models, etc. 	 Research publications advancing the science and policy (e.g. biological knowledge of stocks / ecosystems, reliable, stock projections, sustainability, economic efficiency, socio-economic and social impacts, etc.). Training in methods, techniques, system characteristics and complexity in governance, policies and institutional setup of relevant users and stakeholders including the scientific (management advisory) 	 About 30 scientific reports 6 demonstrati ons of equipment, methods and prototypes 5 scientific manuscripts for publication in scientific journals Aiming at 1 symposium A MEESO public database and database on contaminant s, nutraceutica ls and nutrients. Extension of the current open access seafood





- Presentations at EU and international symposia.
- Public Deliverable Reports
- The approach of peer review by appropriate scientific communities will ensure quality standards.
- The relevant existing EU websites used for the project will provide links to all publications, dissemination results and activities, public reports, etc.
- Workshops: WP1, M.1.3 (Workshop for agreeing on data standards from M.1.1 and practical training for specific project implementation); WP2, M.2.7 (3 Workshops to develop mesopelagic abundance estimation protocols); WP3, M.3.2 (Workshop on different processing techniques to be assessed), M3.3 (Workshop on assessment on nutritional, nutraceutical, and safety properties of processed food and feed products, M.3.5 (Stakeholder workshop discussing results and testing possible products from biomasses); WP5, M.5.1.1 (Workshop on modelling data requirements), M.5.1.2 (Workshop on key demographic parameters), WP7, M7.2 (Workshop with WP5 and WP6), WP8, M.8.2.4

community, as well as the industry and relevant managers, policy makers, and NGOs.

- database on nutrients and contaminant s
- 4 training courses/web inars which are summarised under Task 8.2 including their titles. contents and association to specific project work packages (see also below)
- 3-4 manuals on methods for abundance estimation, fishing practice and processing.
- 11 workshops as described here and further specified under the different work pages.
- Several presentation s at internationa l symposia (not quantified)

		(Regional stakeholder and full-feedback workshop on data, parameter, method, and results exchange & on sustainable fisheries, harvest strategies, and resilience of the system.		
Key end- user: Policy makers & Fisheries Manager s (includin g NGOs)	 Co-frame key questions and needs. Provide new knowledge and project results to the people who implement rules, regulations and statutes, prepare to maximize Blue Growth and the long-term sustainability of European fisheries. 	• Key stakeholder and client database. Specific stakeholders will be engaged based on establishment of "A Key Stakeholder and End-User Client Contact List" which is produced in the first project year as specified in Task 8.2 and M.8.2.3 as a cooperation with among other WP6. • In WP6 stakeholders are involved in Task 6.1, RQ 1 (collection of relevant cost data from industry in cooperation with WP7 and WP8); Task 6.2, RQ 1 (focus group discussions with industry, NGOs, etc on management strategies); Task 6.2, RQ 2 (focus group discussions with industry, NGOs, etc on worst outcomes); Task 6.3, RQ 1 (focus group discussions with industry, NGOs, consumer orgs to map perceptions and values); Task 6.3, RQ 2 (overlaps/links with Task 6.2, RQ 1). We aim to combine as many sessions as possible. • Training of policymakers and dissemination of results in joint expert	 Access to and uptake (implementation) of MEESO tools. Adjusting fishing exploitation to levels that ensure both short- and longterm MSY and socio-economic sustainable and social acceptable resource use and management and policies. Create jobs (contribute to EU strategies). The job creation in fisheries will likely occur in areas where fisheries are already established as an industry. Specifically, pelagic industry is likely to adapt to new opportunities in fishing, however new opportunities will also attract 	 One stakeholder and client database. Maximum 3 focus group discussions with stakeholders 4 e-learning courses/web inars as described above; 11 workshops as specified under the different work pages and described above. The intention is at least one web site summary per project year (from the MEESO Website) on at least one relevant existing EU Website of key MEESO approach, research





- committees such as LDAC and RFMO's.
- Website summaries at relevant existing EU Websites of key MEESO research and developments linked to specific policy areas.

• There will be held 4 e-

learning training/webinar

- courses of 3-5 days duration involving stakeholders as specified under Task 8.2, Task 8.4, D.8.2.1, M.1.5, M.8.1, M.8.2.2, and WP7 (as a cooperation between WPs 1-8 and as further detailed in the other replies below) where relevant experts will be invited from fishing industry (pelagic catch sector organizations, fish processing industry for industrial purposes), fisheries advisors from relevant advisory bodies (ICES, NAFO, FAO, EU-STECF, etc.), managers (from EU, RFMOs, and national administrations from involved coastal states of mesopelagic resource exploitation) and relevant NGO's (e.g. WWF, Greenpeace, etc.).
- Description of case study results.
- Demonstration of innovative assessment models and management evaluation tools.
- Manuals and DSTs for Fisheries Managers, detailing the trade-offs between incentives, job

- new industry players.
- Additional job creation is likely to occur in the industries supporting the fisheries. For the boats, the technological adaptation of fishing boats to fish mesopelagic species.
- Job creation is also likely in the processing industry that will produce new products from the mesopelagic species.
- Specific stakeholders are invited to the specific workshops as detailed below by the respective WP leaders in charge of the workshops. The stakeholder workshops are discussion and feedback workshops where we obtain direct feedback from the stakeholders with sector and stakeholder specific

- and developmen ts.
- Demonstrati on of at least 2 assessment models and managemen t strategy evaluation tools (S6, DISPLACE

	T			I
		creation, regulations and resources conservation needs.	information, data, feedback and evaluations on methods and approaches applied, gear technology and fishing methods, business or entity information, production methods and business plans, social/economic /environmental policies and stakeholder specific opinions regarding project objectives and approaches, and end-user	
Key end-user: Europea n Fisheries (includin g capture fisheries, fish processi ng industry and aquacult ure)	• Co-create MEESO with the European fisheries industry, co-frame questions, and provide continual dialogue as the project proceeds; provide the European fisheries industry with the knowledge, tools and training that will support them to make vital business decisions in a changing environment (both politically and from a biological resource perspective, as well as economically).	 Key stakeholder and client database. Manuals / Films on best practice. Visualisation of economic projections for fleets, etc. Articles in industry magazines and on relevant websites. Presentations of newly developed products at industry events. Specific pages on relevant public websites. Regional stakeholder engagement workshops (WP1-4, 6-8). There will be held a row of consultation and external workshops organized by 	feedback. • Provide new tools (e.g. online fishery data repository), training courses (physical and web-based) and best-practice manuals and promote their uptake by fishers; Improve the professional skills and competences, create transparency and more participatory management.	 One stakeholder and client database 3-4 manuals and films on best practice One visualisatio n of economic projections for fleets. Several articles in industry magazines and websites





project partners with • Create new invitation and value by participation of relevant exploiting stakeholders identified presently through the stakeholder underutilized database as specified in: resources in an WP1, M.1.3 (Workshop economically for agreeing on data efficient and standards from M.1.1 ecologically and practical training for acceptable specific project manner. implementation); WP2, • Raise awareness M.2.7 (3 Workshops to of a new, develop mesopelagic probably abundance estimation essential protocols); WP3, M.3.2 resource for (Workshop on different expanding the processing techniques to European be assessed), M3.3 aquaculture (Workshop on sector. assessment on nutritional, nutraceutical, and safety properties of processed food and feed products, M.3.5 (Stakeholder workshop discussing results and testing possible products from biomasses); WP5, M.5.1.1 (Workshop on modelling data requirements), M.5.1.2 (Workshop on key demographic parameters); WP7, M7.2 (Workshop with WP5 and WP6); WP8, M.8.2.4 (Regional stakeholder and full-feedback workshop on data, parameter, method, and results exchange & on sustainable fisheries, harvest strategies, and resilience of the system. • One-on-one interviews and focus group meetings for fact finding.

• 1-2

Presentation

s of newly

developed products at

industry

• At least 11

different

and

one

workshops

as specified under the

work pages

described

interviews

and focus

meetings

for fact

finding.

group

above:
• 3 One-on-

events

• Specific information	
material designed to	
present relevant MEESO	
results for feedback and	
co-development.	





Annex 2 Research activities with human participants

Whereas the MEESO consortium implement the involvement and participation of human participants as part of the project's research, this section aims to highlight that no ethical issues result from the undertaking of such research activities. In the course of the MEESO project, social scientific research with human participants is undertaken in the form of surveys, face-to-face interviews and interactive formats such as round table or focus group discussions and workshops.

High quality of data collection (such as workshops or face-to-face interviews with stakeholders) is ensured by:

- Preparation of a large evidence base on each topic before the information and data collection takes place (academic literature, legislation, regional developments) to ensure the consortium's prior familiarity with the topics;
- verifying the information obtained by stakeholders through the collection of participant feedback during interviews or group discussions or workshops;
- clarifying with the stakeholders, if needed, any grey areas or ambiguities in the information or data after its collection;
- cross-checking and triangulating evidence from various sources of information (such as document analysis and academic publications).

A 2.1 Informed consent

The research undertaken in MEESO include social scientific studies (surveys, interviews, focus group discussions, workshops) with human participants. For all research activities involving human participants, informed consent is obtained from all participating individuals.

Informed consent forms has been created for MEESO for two cases:

- a) Distribution of surveys via the email lists to stakeholders in existing networks of the MEESO project partners (see Annex 1).
- b) Participation in physical meetings such as workshops or focus group discussions (see Annex 2).

These documents cover information on the voluntary nature and benefits of participation, potential risks, confidentiality of collection, use and storage of personal information and data, consent on follow-up interviews or workshops, MEESO contact information for any questions arising, as well as a section asking electronic consent to participation and all given information. The informed consent forms are handed out by the members of the consortium to research prospective participants in the following cases and forms:

- 1. Electronic informed consent form (Annex 1) in the case of distribution of surveys to stakeholders
- → Electronic storage of filled-out consent forms; and
 - 2. Distribution of digital or printed version of informed consent form before physical meetings such as workshops, round tables, face-to-face interviews or focus group discussions
- → Electronic storage of filled-out digital consent forms / storage of hardcopies of consent forms + digitalization of printed forms for electronic record-keeping.

MEESO research participants can withdraw their consent to participate in any research activities at any time. This withdrawal will lead to the immediate deletion of their stored personal data.

A.2.2 Recruitment of research participants

The participation by humans in any MEESO research is voluntary. Participants are recruited both from within existing networks of the consortium as well as among actors in the project's topic area. Persons approached for participation in MEESO's research activities cover a range of stakeholder groups such as the fishing and processing industry, fisheries advisory and management bodies, the policy sector, news, press and journalism bodies, NGO's (Non-Governmental Organizations), representatives of ministries as well as decision-makers from different levels (local to international).

In its recruitment of human research participants, the MEESO consortium relies on several non-probability sampling methods (cf. Bryman 2012: 201ff). Relevant stakeholders that are already part of the MEESO project partners' networks are approached for survey, interview and workshop participation based on a full sample; meaning that all stakeholders from the existing networks are contacted for participation in MEESO. These stakeholders are divided into various groups and, depending on the specific focus of a research activity, approached selectively for different surveys or interviews or workshops.

Based on these existing networks, new stakeholders are continually identified and invited to participate the project's research activities by ongoing effort through outreach activities at events, conferences and research and fisheries-related meetings at different levels (local to international). This sampling of new human research participants, thus, occur in a snowball sampling approach (cf. Richie et al. 2013).

These chosen recruitment practices do not result in discriminatory practices. Any individual from the stakeholder groups relevant for the MEESO project is eligible to participate in the





surveys, interviews and workshops carried out by the project. The natural composition of these stakeholder groups is likely to result in stronger participation in MEESO by male individuals; however, this bias is representative for the fishing sector and thus not a risk that can be avoided.

A.2.3 Exclusion of risks to research participants

The MEESO research activities do not involve any participants identified in the Horizon 2020 guidance on ethics as persons requiring ethics approval, including: persons unable to give informed consent (including children and minors); vulnerable individuals or groups; children or minors; patients; or healthy volunteers for medical studies. The research does not involve persons with a learning disability or cognitive impairment or individuals in a dependent or unequal relationship, and it does not involve sensitive topics that might cause psychological stress, anxiety or humiliation, deception, or any potential increased danger to participants, or the collection of sensitive personal data. Research with humans undertaken by the MEESO project does not involve physical interventions on the study participants. The participation in any MEESO research activity is voluntary. Furthermore, the research in MEESO will not involve:

- sensitive topics such as participants' sexual, illegal or political behavior, experiences of violence, abuse or exploitation, mental health, or gender or ethnic status;
- participant groups where permission of a gatekeeper is required for initial access to members such as ethnic or cultural groups, native peoples or indigenous communities;
- research involving deception or conducted without participants' full and informed consent at the time when the study is conducted;
- research involving access to records of personal or confidential information such as genetic or other biological information, or concerning identifiable individuals;
- research that could induce psychological stress, anxiety or humiliation or cause any physical or emotional pain;
- research involving intrusive interventions or invasive techniques such as the administration of drugs or other substances, vigorous physical exercise, or techniques such as hypnotherapy, the collection of human cells or tissues, surgical or medical interventions, etc. It does not involve collection of biological samples. Participants will not encounter any interventions that could cause them to reveal information that causes concern in the course of their everyday life.

Annex 3 Qualitative and quantitative data collected from stakeholders

Data are collected from stakeholders throughout the lifetime of MEESO through survey questionnaires, workshops and face-to-face interviews. A description of the stakeholder groups involved in MEESO and the methods used for data collection can be found in the continuously updated MEESO Stakeholder and End-User Client Contact List that is the Milestone 29 under WP8 available by MEESO project month 12. This section covers the ethical questions of origin, nature and use of the collected data, as well as its storage, privacy and anonymization.

A.3.1 Survey data

Data set name	Digital survey data
Project partner creating/	P6 – WU – Lead WP6
collecting the data and	P11 – WMU – Lead WP7
name of researchers	P7 – DTU – Lead WP8
WP/Task	WP6, WP7 (task 7.1, 7.2), WP8
Time frame	Months 12-48
Data set description	1) origin:
	 The data are <u>collected</u> in the following way: face to face interviews or written questionnaires: MEESO project partners involved in the different studies (e.g. from the fishing industry or research institutions); Stakeholders from the consortium's networks from industry, NGOs, RFMOs, international organizations, policy and government/ ministries
	2) nature: Digital dataset. The survey questionnaire covers questions to the stakeholders about policy trajectories and potential scenarios for fisheries, biodiversity and carbon policy. Moreover, collected data includes the region where the stakeholders are active, stakeholder group, organization/institution/company, and a question for consent to be contacted for further interviews about MEESO topics. Along with the survey questionnaire, an informed consent form for data use is distributed to all persons contacted for participation in the survey.
	3) usage : The data are used to





	<i>p</i> . 1
	 scope fisheries, carbon and biodiversity policy, and policy options and trajectories in the MEESO study area access consequences of potential policy decisions scope regional developments gaps in ecosystem based management and governance in the MEESO study area
Safety of digital data	1) storage The data provided via the survey questionnaire are stored on the project repository MEESO on the fileserver of the WU and WMU (access only by the MEESO staff of WP6 and WP7, respectively). Data security: Server building with special security (additional protection against burglary). Systems secured by firewall and intruder detection techniques.
	2) access The fileserver on which the data are stored can be accessed only with individual login and password by the WU or WMU or DTU staff working for MEESO and the administrator of the IT department of WU or WMU or DTU (respectively) upon request by MEESO staff. The results from the survey questionnaires will be made available to the other project participants under the respective work package folders at the projects Sharepoint intranet site, only accessible for project partners.
	3) privacy The data is not public, and access is restricted to the MESO staff of WU or WMU or DTU responsible for stakeholder engagement: Dr. Rolf Groeneveld and Dr. Mary Wisz and Prof. J. Rasmus Nielsen, as well as to the system administrators of WU and WMU and DTU. The data from the surveys will be used to shape the general direction of research in MEESO and to write the deliverables D7.1-D7.5.
Retention and	Not applicable, since no personal data will be stored
destruction of digital data	beyond project end.
Anonymisation	No anonymisation or pseudo-anonymisation
,	necessary
Hard copies	No hard copies involved

A.3.2 Qualitative workshop and interview data

Data set name	Qualitative information and data from workshops and face-to-face interviews
Project partner creating/ collecting the data and name of researchers	Below is given an overview of the workshops planned under the MEESO project with the respective project work package responsibilities and with the WP leads as main responsible.
WP/Task	For interviews: WP6, WP7 (7.1, 7.2), WP8. P6 – WU – Lead WP6 P11 – WMU – Lead WP7 P7 – DTU – Lead WP8 For workshops: See below workshop overview
Time frame	figures. Months 1-48 (see specific workshop months in the workshop overview figures below).
Data set description	1) origin: The data are collected in the following ways: - Stakeholder workshops conducted by project partners with different foci; - face-to-face interviews in with stakeholders from industry, policy, researchers, NGOs and international organizations; - informal dialogue with members from the consortium's networks.
	2) nature: Qualitative information and data are collected during the MEESO's workshops and interviews and stored in a digitalized form on the file servers of the project partners conducting the respective activities. Moreover, the data are collected centrally by the respective work package leaders and stored on their fileservers as well as on the MEESO sharepoint intranet under workshops for the respective work packages. Information and data collected during these research activities will be - stakeholders´ input with information on
	modelling data requirements on key demographic parameters including biological and hydro-acoustic information, data and parameters for stock assessment models and fish distribution models, as well as stakeholder





- feedback on the proposed models and methodology used;
- stakeholders´ input on agreements on data standards;
- stakeholders´ input on developing mesopelagic abundance estimation protocols;
- stakeholders' input on processing data and methodology;
- stakeholders input on assessment on nutritional, nutraceutical, and safety properties of processed food and feed products as well as testing of possible products from biomasses:
- stakeholders' input into the development of fisheries management scenarios under changing environmental and economic conditions including selection of extreme outcomes;
- discussion with stakeholders of developed management scenarios and concerns among stakeholders identified, including their acceptable limits and possible additional measures;
- stakeholders' needs and suggestions for topics of training courses/webinars;
- results from governance interviews with selected stakeholders:
- stakeholder's feedback on data, parameter, method, and results exchange & on sustainable fisheries, harvest strategies, and resilience of the system.
- scope fisheries, carbon and biodiversity policy, and policy options and trajectories in the MEESO study area
- access consequences of potential policy decisions
- scope regional developments gaps in ecosystem based management and governance in the MEESO study area

No personal data are stored together with the qualitative data other than stakeholder group, affiliation (organization/institution) and region.

3) **usage**:

The data are used to

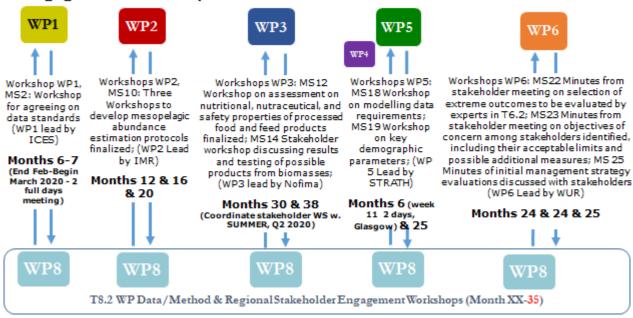
document stakeholder involvement in MEESO,

	 inform analyses for D7.1-D7.5 disseminate outreach material, provide contacts of stakeholders to project partners, e.g. for invitation to workshops and interviews. 		
Safety of digital data	1) storage The information and data are stored as minutes/transcripts in research institutes' specific databases protected by limited accessibility as well as the MEESO SharePoint under workshops under the different work packages.		
	2) access Only the staff of MEESO project partners have access to the raw information and data. Stakeholders will get a summary of discussion results.		
	3) privacy The collected data is not very sensitive as it mirrors the stakeholders' general perspectives on challenges in fisheries management and stock assessment. Nevertheless, only a limited group of people will have access to it (see above).		
Retention and destruction of digital data	Not applicable, since no personal data will be stored beyond project end.		
Anonymisation	As the participants of the workshops and interviews perform as experts and not as private individuals, all personal information will be deleted. Only the stakeholder group and affiliation (organization/institution) of the participants will be mentioned. This anonymization will be undertaken to a degree where no particular individuals can be identified from their statements or perspectives.		
Hard copies	No hard copies involved		





MS30 (WP8 Month 35) WP Data/Method & Regional Stakeholder Engagement Workshops



MS30 (WP8 Month 35) WP Data/Method & Regional Stakeholder Engagement Workshops

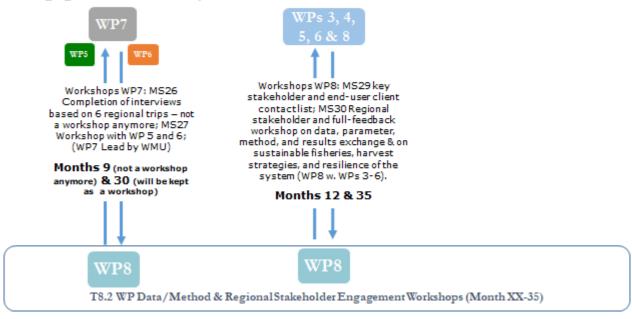


Figure A.3.1. Overview of the workshops planned under the MEESO project with the respective project work package responsibilities and with the WP leads as main responsible.

In addition to the qualitative research undertaken during stakeholder events of MEESO, social scientific research *about* stakeholder engagement in MEESO and in fisheries science more generally is carried out as one research activity of the project. This research is likely

to feature qualitative methods such as face-to-face interviews and informal dialogue with project partners and regional stakeholders. Project partner WU and WMU will be responsible for this research. The following data set is likely to emerge from these activities:

Data set name	Qualitative data from face-to-face interviews and informal dialogue			
Project partner creating/	P6 – WU – Lead WP6			
collecting the data and				
name of researchers				
WP/Task	WP6			
	WP7			
Time frame	Months 10-48			
Data set description	1) origin:			
	 The data are collected in the following ways: Qualitative face-to-face interviews with members of the MEESO consortium and stakeholders; informal dialogue between members of the MEESO consortium and stakeholders (documented through notes and minutes); analyses of minutes of MEESO project meetings; analyses of minutes of other fisheries-related EU projects; potentially: face-to-face interviews with staff of former fisheries-related EU projects as well as members of the European Commission. 			
	 2) nature: Qualitative, social scientific data are collected through face-to-face interviews and informal dialogue during MEESO workshops and events. This data is stored in a digitalized form on the file servers of WU and WMU. Data collected during these research activities are: the perspectives of project consortium members on policy trajectories and the implications of model outputs from analyses (task 7.3) 			
	No personal data are stored together with the qualitative data other than stakeholder group, affiliation (organization/institution) and region. 3) usage: The data will be used to			





	 undertake social scientific research into the process of stakeholder engagement and science-practitioner cooperation in MEESO create peer-reviewed publications in recognized social scientific, geographic and fisheries scientific journals; hold feedback discussions with stakeholders about the results of said social scientific research about stakeholder engagement and transdisciplinary cooperation in fisheries.
Safety of digital data	1) storage The data are stored as minutes/transcripts on WU and WMU fileserver protected by limited accessibility.
	2) access Only the staff of MEESO partner WU and WMU, have access to the raw data. Stakeholders gets a summary of research results upon request. Publications are accessible via Green or Gold Standard Open Access.
	The collected data mirrors the stakeholders' general perspectives on challenges in transdisciplinary cooperation in fisheries science and stock assessment. It is not sensitive in the sense of containing personal data about health, gender, ethnicity or political opinions of the participants. Nevertheless, it mirrors their personal perspectives on barriers to transdisciplinary cooperation and only a limited group of people have access to the raw data (see above). In any publication, the data are anonymized to a degree where no individuals will be traceable based on their statements given in the research process.
Retention and destruction of digital	Not applicable, since no personal data are stored beyond project end.
data	
Anonymisation	As the participants of the interviews and informal dialogue perform as experts and not as private individuals, all personal information is deleted. Only the stakeholder group, affiliation and role (in organization/ institution) of the participants is

	mentioned. This anonymization is undertaken to a degree where no particular individuals can be		
	identified from their statements or perspectives.		
Hard copies	No hard copies involved		

A.3.4 References & Web Sites

Bryman, A. (2012): Social Research Methods – 4th Edition. (Oxford University Press) Oxford.

Richie, J., Lewis, J., McNaughton Nicholls, C. & R. Ormston (eds) (2013): Qualitative Research Practice: A Guide for Social Science Students and Researchers. (Sage) Los Angeles, London, New Delhi, pp. 129ff.

https://ec.europa.eu/research/participants/data/ref/fp7/89807/informed-consent_en.pdf

https://www.who.int/ethics/review-committee/informed_consent/en/





Annex 4. Digital Consent

MEESO -

Ecologically and economically sustainable mesopelagic fisheries

Consent Form for Digital Surveys

You are invited to participate in a digital survey on This is a research project being led by Havforskningsinstituttet (IMR, Bergen, Norway) and in cooperation with 19 other project partners from across Europe. This questionnaire should take approximately 15 minutes to complete

Participation

Your participation in this survey is voluntary. You may refuse to take part in the research or exit the survey at any time without penalty. You are free to decline to answer any particular question you do not wish to answer for any reason

Benefits

You will receive no direct financial benefits from participating in this research study. However, your responses will help us to tailor-fit the MEESO project to the needs of decision- and policy-makers as well as the European fisheries industry in our different study regions. In particular, your input will be valuable for our understanding ofas well as current management practices and gaps in the fisheries sector.

Risks

There are no foreseeable risks involved in participating in this study other than those encountered in day-to-day life

Confidentiality

You are kindly asked to email your survey answers to (......, xx.xxx@nn.nn). Data will be stored in a password protected electronic format. The MEESO project does not collect identifying information such as your name, email address, or IP address. Therefore, your responses will remain anonymous. No one will be able to identify you or your answers, and no one will know whether or not you participated in the study

Interview Consent

At the end of the survey you will be asked if you are willing to participate in an additional interview by phone, in person, or per email. If you choose to provide contact information such as your phone number or email address, your survey responses may no longer be anonymous to the researcher. However, no names or identifying information would be included in any publications or presentations based on these data, and your responses to this survey will remain confidential.

Contact

If you have questions at any time about the study or the procedures, feel free to contact MEESO's stakeholder engagement coordinator, xxx, via phone at +4xxxxx or via email at nn.nn@xx.xx.

If you feel you have not been treated according to the descriptions in this form, or that your rights as a participant in research have not been honored during the course of this project, or you have any questions, concerns, or complaints that you wish to address to someone other than the investigator, you may contact the coordinator of this project, Webjørn Melle, via email at webjoern.melle@hi.no.

Electronic consent

Please select your choice below. You may print a copy of this consent form for your records. Clicking on the "Agree" button indicates that

- You have read the above information
- You voluntarily agree to participate
- You are 18 years of age or older

	_
	Agree Disagree
	Disagree
First name, last name, da	nte

Electronic signature





MEESO – Ecologically and economically sustainable mesopelagic fisheries



Digital Consent Form for Workshops

You are invited to participate in a workshop on This is a research project being led by Havforskningsinstituttet (IMR, Bergen, Norway) and in cooperation with 19 other project partners from across Europe.

Your involvement as a participant is entirely voluntary and you may withdraw your participation at any given time.

MEESO research includes the involvement of natural persons through participatory events such as workshops. With respect to the nature of the activities to be conducted, these will involve group discussions of different sorts. The MEESO research is anticipated to provide both immediate and long-term benefits for the involved participants and their associated networks. MEESO discussions will not involve sensitive topics which might induce psychological stress, anxiety or humiliation, deception, or any potential increased danger to participants. MEESO will not involve the collection or processing of any sensitive personal data such as health, sexual lifestyle, ethnicity, political opinion, religious or philosophical conviction, the collection of genetic information or the tracking or observation of participants.

To organise our workshop programme, MEESO partners may have collected some **personal data** - which might include, for example, your name, your professional/personal email address or your professional/personal telephone number (most often from publicly available sources). Furthermore MEESO research activities may indirectly result in collecting other personal data information as part of the wider consultation process, e.g. through interviews.

It should be noted that the collection of personal data *per se* is not the main purpose of MEESO, but personal data may represent information that is pertinent to the research (e.g. the Member State/region in which you are located) or may be required to enable us to carry out mandatory communication activities (e.g. publication of an attendance list). As part of the research project, we will need to be able to attribute your position/view to the organisation you are representing, or to you as an independent expert - depending on what capacity you have been invited to contribute to this event.

If you do not wish your contact details to be made available to other participants, please let the event organiser know in advance.

During this event, **photos and/or videos** may be taken to contribute to the communication and outreach objectives of this Horizon 2020 research project. During the performance of these activities, care will be taken to minimise the potential collection of personal data such as name tags.

The collection and processing (e.g. creating a list of invitees for future events) of any personal data will otherwise remain strictly confidential - unless it is relevant for this study, in which case it will be as anonymised, unless specifically discussed and agreed with you in advance.

As a general rule, the MEESO team will ensure that all presentations and MEESO reports are made available to all of those attending workshop s and participating in the research.

If you have questions at any time about the workshop or the procedures, feel free to contact MEESO's workshop organiser, xxx, via phone at +4xxxxx or via email at nn.nn@xx.xx.

If you feel you have not been treated according to the descriptions in this form, or that your rights as a participant in research have not been honored during the course of this project, or you have any questions,

concerns, or complaints that you wish to address to someone other than the investigator, you may contact the coordinator of this project, Webjørn Melle, via email at webjoern.melle@hi.no.

Electronic consent

Please select your choice below. You may print a copy of this consent form for your records. Clicking on the "Agree" button indicates that

- You have read the above information
- You voluntarily agree to participate
- You are 18 years of age or older

	•	C		
	Agree			
	Disag	ree		
First name, last name, date				
Electronic signature				





Annex 5. Check list for engaging external stakeholders and Physical consent

Check list for engaging external stakeholders in MEESO

1) Ethics

- a. Provide to a stakeholder an information sheet (e.g. a letter printed on your organisation letter paper) see an example attached. This is a draft letter that you please edit for the particular consultation. For the convenience of the stakeholders, consider translating it into their mother tongue.
- b. Provide a consent form if any personnel data (as name, e-mail address etc.) will be collected and recorded— see attached (last page). It should be translated in stakeholder's mother tongue if they do not speak English fluently.

2) EC Requirements for dissemination

- a. Use the <u>project logo</u> in each document or presentation
- b. Use the EU Emblem (European Flag)
- c. Don't forget to include a mandatory funding statement:

This project has received funding from the European Union's Horizon 2020 research and innovation programme under grant agreement No 817669

d. Use the <u>Project template for your presentations</u> (it already contains the required funding statement, EU emblem and project logo)

3) Documentation

- a. Make a note for every meeting. Do not forget to record next actions and outcomes of the event.
- b. Sign a list of participants.
- c. In case of interviews/surveys please document them carefully (either by recording [with consent of the interviewee] or taking notes) and you do not need to create an additional meeting protocol.
- d. Enter every stakeholder engagement activity into the MEESO stakeholder activity register at the Projects SharePoint intranet site.

MEESO – Ecologically and economically sustainable mesopelagic fisheries



Information Sheet about MEESO Stakeholder Engagement, Communication and Outreach

MEESO is a Horizon 2020 EU project with research partners from 10 different European countries. MEESO seeks to quantify the spatio-temporal distributions of biomass, production and ecosystem role of mesopelagic resources and to assess options to sustainably manage and govern their exploitation.

MEESO, in close cooperation with industry and policy stakeholders will collect new information on: i) modelling data requirements on key demographic parameters including biological and hydro-acoustic information, data and parameters for stock assessment models and fish distribution models, ii) proposed models and methodology used, iii) agreements on data standards, iv) developing mesopelagic abundance estimation protocols, v) processing data and methodology, vi) assessment on nutritional, nutraceutical, and safety properties of processed food and feed products as well as testing of possible products from biomasses, vii) development of fisheries management scenarios under changing environmental and economic conditions including selection of extreme outcomes, viii) management scenarios and concerns among stakeholders identified, including their acceptable limits and possible additional measures, and ix) governance perspectives. For more information on the project, please visit our website: www.meeso.eu

We would like to invite you to contribute to MEESO. You have been identified as an important stakeholder which whom we would like to co-frame the research taking place within MEESO and from whom the participants of the project may learn. Moreover, we would like to share information with you and discuss the insights developed by MEESO.

Example	: 1: For this	purpose	we would lil	ke to ask	if you wo	uld like to p	participate in	a workshop	that will	be
held	(date, plac	ce)								

Example 2: For this purpose we would like to ask if you would like to participate in an online survey/face to face interview.(date, place)

We look forward to hearing from you. Please do not hesitate to contact us if something is unclear. We very much appreciate your cooperation.

Your Sincerely,
Name/ address Institute etc.





MEESO – Ecologically and economically sustainable mesopelagic fisheries

Information Consent Form for MEESO Stakeholder Engagement, Communication & Outreach

Your involvement as a participant is entirely voluntary and you may withdraw your participation at any given time.

MEESO research includes the involvement of natural persons through participatory events such as that being held today. With respect to the nature of the activities to be conducted, these will involve group discussions of different sorts. The MEESO research is anticipated to provide both immediate and long-term benefits for the involved participants and their associated networks. MEESO discussions will not involve sensitive topics which might induce psychological stress, anxiety or humiliation, deception, or any potential increased danger to participants. MEESO will not involve the collection or processing of any sensitive personal data such as health, sexual lifestyle, ethnicity, political opinion, religious or philosophical conviction, the collection of genetic information or the tracking or observation of participants.

To organise our engagement programme, MEESO partners may have collected some **personal data** - which might include, for example, your name, your professional/personal email address or your professional/personal telephone number (most often from publicly available sources). Furthermore, MEESO research activities may indirectly result in collecting other personal data information as part of the wider consultation process, e.g. through interviews.

It should be noted that the collection of personal data *per se* is not the main purpose of MEESO, but personal data may represent information that is pertinent to the research (e.g. the Member State/region in which you are located) or may be required to enable us to carry out mandatory communication activities (e.g. publication of an attendance list). As part of the research project, we will need to be able to attribute your position/view to the organisation you are representing, or to you as an independent expert - depending on what capacity you have been invited to contribute to this event.

If you do not wish your contact details to be made available to other participants, please let the event organiser know in advance.

During this event, **photos and/or videos** may be taken to contribute to the communication and outreach objectives of this Horizon 2020 research project. During the performance of these activities, care will be taken to minimise the potential collection of personal data such as name tags.

The collection and processing (e.g. creating a list of invitees for future events) of any personal data will otherwise remain strictly confidential - unless it is relevant for this study, in which case it will be as anonymised, unless specifically discussed and agreed with you in advance.

As a general rule, the MEESO team will ensure that all presentations and MEESO reports are made available to all of those attending workshop s and participating in the research.

Date and place	
Signatures:	
	MEEGO
Interviewee/Participant	MEESO partner representative