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NAUTILOS - New Approach to Underwater Technologies for Innovative, Low-cost Ocean observation is an H2020 project funded under the Future of Seas and Oceans Flagship Initiative, coordinated by the National Research Council of Italy (CNR, Consiglio Nazionale delle Ricerche). It brings together a group of 21 entities from 11 European countries with multidisciplinary expertise ranging from ocean instrumentation development and integration, ocean sensing and sampling instrumentation, data processing, modelling and control, operational oceanography and biology and ecosystems and biogeochemistry such, water and climate change science, technological marine applications and research infrastructures.

NAUTILOS will fill-in marine observation and modelling gaps for chemical, biological and deep ocean physics variables through the development of a new generation of cost-effective sensors and samplers, the integration of the aforementioned technologies within observing platforms and their deployment in large-scale demonstrations in European seas. The fundamental aim of the project will be to complement and expand current European observation tools and services, to obtain a collection of data at a much higher spatial resolution, temporal regularity, and length than currently available at the European scale, and to further enable and democratise the monitoring of the marine environment to both traditional and non-traditional data users.

NAUTILOS is one of two projects included in the EU's efforts to support the European Strategy for Plastics in a Circular Economy by supporting the demonstration of new and innovative technologies to measure the Essential Ocean Variables (EOV).

More information on the project can be found at: http://www.nautilos-H2020.eu.

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EXECUTIVE SUMMARY

The present Dissemination and Communication Plan (10.1) introduces the NAUTILOS project **Outreach, Communication and Dissemination Strategy** and its implementation plan to be used by the Consortium to ensure the high visibility, accessibility, promotion and dissemination of the project and its results.

In summary, the following strategy will outline:

- o The vision and objectives for the communication and dissemination,
- o Strategic Planning Components
 - Target audience
 - Key messages
 - Tools, channels and tactics
- o Implementation of the plan
 - Dissemination Campaigns
 - Citizen Science Campaigns
 - Policy Campaigns
- o Ways to monitor KPIs, evaluate performance and adjust the plan accordingly,
- o EC Communication Requirements and NAUTILOS' alignment to those
- o Management underlying the communication and dissemination planning
 - Roles and responsibilities
 - Planning and timeline
 - Budgeting
 - Response to the 2019-2020 COVID-19 pandemic.

The Outreach, Communication and Dissemination Strategy will be a living document to be updated and adjusted as the project progresses, will serve as a reference framework for planning the communication and dissemination activities to be carried out within the project and for evaluating the impact of those.



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LIST OF ACRONYMS AND ABBREVIATIONS

Abbreviation	Definition
AMAP	Arctic Monitoring & Assessment
	Programme
AtlantOS	Optimising and Enhancing the Integrated
	Atlantic Ocean Observing Systems
BASEMAN Project	Defining the baselines and standards for
	microplastics analyses in European
DEIG	waters
BEIS	Department for Business, Energy & Industrial Strategy (UK)
BIOLIT Project	Integrating Biological Literature with
BIOLIT Project	Databases
BLUE-CLOUD PROJECT	Piloting innovative services for Marine
	Research & the Blue Economy
CA	Consortium Agreement
CDE	Communication, Dissemination and
	Exploitation
CIGESMED Project	Coralligenous based Indicators to
	evaluate and monitor the "Good
	Environmental Status" of the
	MEDiterranean coastal waters
CLAIM Project	Cleaning Litter by developing and
	Applying Innovative Methods in european
CMEMS	seas Copernicus Marine Environment
CIVIEIVIS	Monitoring Service
COMBER Project	Citizen's Network for the Observation of
	Marine Biodiversity
COMMON SENSE Project	Cost-effective sensors, interoperable
	with international existing ocean
	observing systems, to meet EU policies
	requirements
DEEPEASTMED	State of the knowledge on deep-water
	vulnerable species and habitats in the
DECDA	Eastern Mediterranean
DEFRA	Department for Environment, Food & Rural Affairs (UK)
DG CNET	Directorate-General for Communications
	Networks, Content and Technology
DG ENV	Directorate-General for Environment
DG GROW	Directorate-General for Internal Market,
	Industry, Entrepreneurship and SMEs
DG MARE	Directorate-General for Maritime Affairs
	and Fisheries
DG RTD	Directorate-General for Research &
	Innovation
DOOS	Deep Ocean Observing Strategy
GrAg	Grant Agreement



EAB	External Advisory Board
EB	Engagement Board
EC	European Commission
ECMWF	European Centre for Medium-Range
	Weather Forecasts
ECSA	European Citizen Science Association
EEA	European Environment Agency
EGU	European Geosciences Union
EMB	European Marine Board
EMSA	European Maritime Safety Agency
EMODNet	European Marine Observation and Data Network
EPHEMARE	Ecotoxicological effects of microplastics
	in marine ecosystems is investigating the
	toxic effects of microplastics on marine
	organisms.
ESFRI	European Strategy Forum on Research
	Infrastructures
ESPCE	European Strategy for Plastics in a
	Circular Economy
EthAB	Ethics Advisory Board
EU	European Union
EuroGOOS	European Global Ocean Observing
	System
EuroSea	Improving and Integrating European
	Ocean Observing and Forecasting
	Systems for Sustainable use of the Oceans
EUROqCHARM	EUROpean quality Controlled
	Harmonization Assuring Reproducible
	Monitoring and assessment of plastic pollution
FAO	Food and Agriculture Organization of the
140	United Nations
FLOTSAM	Floating Litter and its Oceanic TranSport
1 20 107 1171	Analysis and Modelling, SCOR Working
	Group
GA	General Assembly
GEOBON	Group on Earth Observations Biodiversity
	Observation Network
GEOSS	Global Earth Observation System of
	Systems
GESAMP	Group of Experts on the Scientific Aspects
	of Marine Environmental Protection
GMOS	
GOOS	Global Ocean Observing System
HELCOM	Helsinki Commission, The Baltic Marine
	Environment Protection Commission
Intl	International



IOC	Intergovernmental Oceanographic
	Commission (under the auspices of
	UNESCO)
IOOS	Integrated Ocean Observing System
KOM	Kick-off meeting
KPI	Key Performance Indicator
LifeWatch ERIC	European Infrastructure Consortium
Lifewater Livie	providing e-Science research facilities to
	scientists seeking to increase our
	knowledge and deepen our
	understanding of Biodiversity
	organisation and Ecosystem functions
	and services
MARE	Directorate-General for Maritime Affairs
	and Fisheries
MSFD	Marine Strategy Framework Directive
NeXOS Project	Next Generation Web-Enabled Sensors
	for the Monitoring of a Changing Ocean
NIR	Near-infrared
NGO	Non-governmental organisation
POPD	Protection of Personal Data
REA	Research Executive Agency
RECONNECT Project	Re-connect the lines to protect marine
j	life
RESPONSE Project	Towards a risk-based assessment of
	microplastic pollution in marine
	ecosystems
RRI	Responsible Research and Innovation
SEO	Search Engine Optimisation
STEM	Science, Technology, Engineering and
	Mathematics
TcL	Task Co-Leader
TIB	Technical and Innovation Board
TIM	Technical and Innovation Manager
OCM	Outreach, Communication &
	Dissemination
OSPAR Convention	The Convention for the Protection of the
	Marine Environment of the North-East
21.24.44	Atlantic
PlaMoWa network	Network for Plastic Monitoring in Waters
PM	Project Manager
RTD	Research and Technology Development
SEO	Search Engine Optimisation
TechOceanS	Technologies for Ocean Sensing
TL	Task Leader
UN	United Nations
UNDP	United Nations Development Programme
UNEP	United Nations Environment Programme
UNESCO	United Nations Educational, Scientific and
	Cultural Organization



WMO	World Meteorological Organisation
WPL	Work Package Leader
WPcL	Work Package Co-Leader
UN	United Nations



Introduction

1. CONTEXT

Dissemination, outreach and communication of scientific knowledge are becoming more and more important in today's society, where social inclusion is an integral part of environmental protection and sustainable development. This is particularly true for the world of ocean research, a world that is largely hidden from our view, representing an added challenge to the communication of marine research and innovation. The public has a low level of knowledge and awareness of the concepts and issues pertaining to ocean ecosystems, ocean-atmosphere interrelationships, and the connections between the ocean and human beings and their activities (Steel et al., 2005; The Ocean Project, 2009). There is an increasingly urgent need for scientists to engage and communicate more effectively with the public about scientific issues (Leshner, 2007; Lubchenco, 1998).

The ultimate success of the NAUTILOS project is also dependent on well-coordinated communication and dissemination activities. An effective communication and dissemination plan should have clear goals, be designed before the start of the project and expanded once the project has commenced, identify the target groups and define the methods or tools to be used according to target groups and objectives. The communications and dissemination activities must ensure that relevant information will be accessible and delivered to the appropriate stakeholders in easily understandable and accessible format and that the new knowledge will reach all stakeholders. From its inception, the Ocean Literacy movement has advocated closer interaction between marine scientists, educators and other stakeholders (the public, policy-makers, private sector), and inspired new events and networks all over the world. Science communication principles, in combination with ocean literacy, will underline the communication and dissemination within the project.

2. VISION AND OBJECTIVES

The main objective of the project is to develop and demonstrate cost-effective, compact and low-energy consumption sensors and samplers for the measurement of marine biogeochemistry and biology essential ocean variables thus addressing the currently existing observational gaps of seas and ocean observation systems. Yet, it is the mass uptake and the provision of the instruments developed within the project to a much wider class of policy makers, researchers, local users and citizen scientists which will essentially contribute to its success and enable large-scale and long-term impact. These achievements will allow the shift of ocean observation towards the "Big Data" paradigm. So as to achieve the above engagement and collaboration with key stakeholders should be wide-encompassing and multi-stakeholder knowledge should be used throughout the entire project length including such from policy decision makers, the commercial sector, end-users, non-governmental organisations and the broader community, including citizen scientists.

According to the EC Research & Innovation Participant Portal Glossary/Reference Terms, "Communication on projects is a strategically planned process that starts at the outset of the action and continues throughout its entire lifetime, aimed at promoting the action and its results. It requires strategic and targeted measures for communicating about the



action and its results to a multitude of audiences, including the media and the public and possibly engaging in a two-way exchange."

The EC Glossary also provides a definition for dissemination, that is: "The public disclosure of the results by any appropriate means (other than resulting from protecting or exploiting the results), including by scientific publications in any medium."

With these two definitions clear in mind, we are also aware of the fact that, as the EU IPR desk guide "Making the most of your H2020 project" effectively explains, the boundaries between communication and dissemination activities can sometimes overlap or interplay.

Hence, the **strategic communication and dissemination objective of NAUTILOS** is a combined one and focuses on:

Awareness raising, outreach and enabling the widespread adoption of the NAUTILOS developments to the widest possible range of users and stakeholders (un legislators to citizen scientists. Indeed, one of the underlying foundations of nautilos is the idea of mass expansion of marine observations conducted through more, widespread, cost-effective apparatus and the utilization of simpler instrumentation.

The strategic objective will be achieved in the following ways:

- o Engagement will be ensured via tailored CDE campaigns to cross-sectorial stakeholders from civil society to policy makers. In WP10 communication (formal and informal) will be initiated with important ocean observing stakeholders and users including aquaculture, commercial fishing, and shipping industry contacts.
- o Project aims and developments will be presented in appropriate meetings (external to the project) in which stakeholder will be attending and this will be intended both as an outreach activity and a possibility to receive feedback useful to the project progress.
- Policy round table and presentations (T10.3), as well as two dedicated, projectspecific capacity building initiatives will be organised to target young researcher (T12.3).
- o Five citizen science campaigns, in line with the Belém statement objective number 5 will be carried out (T10.4, T12.2) to enhance and promote community engagement in science. Citizen scientists can increase the temporal and spatial frequency as well as the sampling duration, contribute to the cost-effectiveness (labour cost and time savings) for monitoring programmes of differing scales, increase awareness of marine-related issues, building rudimentary STEM skills and also bridge the science-to-society gap More specifically, citizen science plastic-related campaigns will be organised for cruise passengers (T12.2) who will collect micro/macro-plastics while on the cruise ships using the above mentioned sampler (T4.3), sensor (T4.4) and smartphone NIR scanner (T8.4) for plastics counting and identification.



o Interactions and synergies with active citizen science projects (e.g. projects on diving, reef monitoring and coral bleaching monitoring) will be developed during the NAUTILOS project (T10.5, T12.1).

All communication and dissemination activities will be aligned to RRI principles.

3. Scope

A well-planned communication and dissemination strategy would ensure that the main message of the project will be conveyed to all interested parties. The communication strategy is considering both online and offline communication tools, targeted messages, means and language and is working at the right level according to the identified needs (local, regional, national).

Communication activities will involve the use of mass media to share relevant information, raise awareness of the growing importance of ocean observation for the purpose of marine preservation and promote the project and its findings to various audiences, including groups beyond the project's own community. The creation of a coherent image, messages adapted to the specific audiences and the translation of scientific results into layman terms by science communication and ocean literacy principles will enable the broadest possible outreach of the project and focus on the potential of converting members of the general public to citizen scientists.

The editorial coverage in the press, or on the web, reaches very large audiences and the consortium partners will make use of regional, national and European media. The consortium will make use of the media mailing lists of the EC and will get in contact with the Information Communications Unit of the EC that invites journalists to frequent thematic press briefings.

Beneficiary institutions and individuals involved in NAUTILOS will act as ambassadors and interpreters of the project's results. From its very beginning the project will start promoting the aim, goals, the framework, the preliminary results and any project achievement. Suitable framed messages delivered through suitable tools will publicise NAUTILOS work: generate (research) market demand for the data and products developed; encourage typical and non-typical data users to use and exploit the project's results; draw the attention of national and regional governments and other public and private funding sources to the needs and benefits of the innovation actions; attract the interest of supporting institutions; enhance the reputation and visibility at local, national and international level.

4. Strategic Communication and Dissemination Plan

The following table summarises the Outreach, Communication and Dissemination Strategy which will be adopted within the project – it will be adaptive in its nature pulling together the work and information from different work packages and stakeholders' meetings, applied by all project partners during and following the project's end, addressing all relevant stakeholder groups and potential users of the project's results.



Who: Key Target Group	Why: Objective	How: Tools, Channels and Tactics	
		During the project	After the project, Legacy
EU and Intl networks	Ensuring compliance and alignment to gaps and needs	EAB representation, Stakeholder meetings, Nautilos initial, mid and final conferences	Project website
Policy and decision makers	Represent NAUTILOS interests to decision makers, bridge the science-policy gap	EAB representation, 3 policy briefs, policy roundtable, newsletter (policy section), 3 presentations elaborated for European institutions, Nautilos initial, mid and final conferences, Social Media, Website, Project videos	Project website, project videos
		Industry	
Blue economy commercial and industrial sector operators	Inform about NAUTILOS marine technological developments relevant to their sector, primarily aquaculture and fisheries	EAB representation, Stakeholder brokerage meetings, Nautilos initial, mid and final conferences, External events participation (i.e. congresses, trade shows), Social media, Website	Social Media, Project website, project videos, Joint proposal applications
European observation commercial sector (technology providers)	Inform and collaborate for NAUTILOS marine technological, modelling and data developments and products	EAB representation, Stakeholder brokerage meetings, Nautilos initial, mid and final conferences, External events participation (i.e. congresses, trade shows), Social media, Website, Project videos	Social Media, Project website, project videos, Joint proposal applications
	Res	search & Academia	
The fundamental and applied marine research community	Be informed and feed information into the project	EAB representation, Journal publications, Synergies building activities, Capacity building dissemination campaign and learning labs, Stakeholder meetings, Nautilos conferences, External events participation (i.e. conferences, symposia, workshops)	E-learning material, joint proposal applications, project website
Related projects in the areas of marine and earth observation	Ensure synergies, differentiation, building on previous projects and increasing project's impact	Synergies building and clustering activities, Articles, Nautilos conferences, External events participation	Clustering initiatives, Joint proposal applications, Project website
		Society	
NGOs and citizen scientists	Bridge the society-science gap, recruit citizen scientists for the campaigns	ocean literacy and public engagement campaign, citizen science trainings and campaigns, Online campaign	Project website, project videos, e- learning material
The general public	Inform and engage the public, convert it to citizen scientists	ocean literacy and public engagement campaign, citizen science campaigns	Project website, Social media, project videos, e-learning material
The media	Inform & publicise	Press releases, website, newsletter	Project website

Table 1. Strategic Communication and Dissemination Plan



11.

STRATEGIC PLANNING COMPONENTS

1. TARGET AUDIENCE

The last step in the recent evolution of the European science communication strategy is constructed around "Innovation Union 2020," where innovation is seen as the key tool for strong and sustainable growth. In this framework, the Responsible Research and Innovation (RRI) concept and the focus on participatory research and innovation implies that all societal actors (e.g., researchers, citizens, policy makers, third sector organizations, etc.) work together during the research and innovation process to align its outcomes with the needs, values and expectations of society. The approach to defining the target audience within NAUTILOS has been constructed around this concept and the Quadruple Helix Innovation Model in which policy, scientific community, industry and society work in tandem.

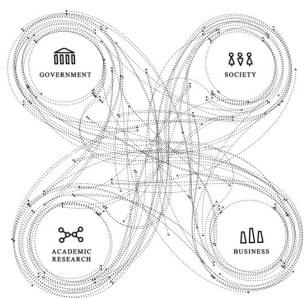


Figure 1. Quadruple Helix Innovation Model

On the basis above, and via consultations with all project partners during the proposal stage, the following **key stakeholders** have been identified for the communication and dissemination during the project's lifetime and following its end:

1.1. POLICY AND DECISION MAKERS

Who: In the context of NAUTILOS public policy and decision makers refers to governmental agencies which formulate, adopt, implement, evaluate, or change environmental and marine-related policies with those decisions occurring at any governmental level. This might include institutions exclusively dedicated to the ocean (IOC), institutions with broader mandates but also dealing with ocean affairs (UNEP, FAO) and intergovernmental organisations (EU, HELCOM).

The following group can be subdivided into:

The European Commission – the Research Executive Agency (REA), the project's funder; relevant Directorate-Generals (e.g. Directorate-General for Maritime Affairs and Fisheries (MARE)), Directorate-General for Environment (DG ENV), Directorate-General for Research &



Innovation (DG RTD), DG for Internal Market, Industry, Entrepreneurship and SMEs (DG GROW), Directorate-General for Communications Networks, Content and Technology (DG CNET)); framework programs and strategy mechanisms (Horizon 2020, Horizon Europe, etc.)

- European Parliament (committees, intergroups, MEPs),
- European Environment Agency (EEA),
- European Satellite agencies (European Maritime Safety Agency (EMSA),
 European Space Agency (ESA), etc.)
- Regional Sea Commissions and Conventions (OSPAR, HELCOM, Barcelona Convention),
- International Ocean Governance Initiatives,
- UN Agencies and programmes (UN-Oceans interagency collaboration mechanism, UNEP, FAO, UNDP, UNESCO – IOC, etc.)
- Members States governmental bodies, national funding agencies (e.g. DEFRA, BEIS in the UK), supporting agencies, officials, legislators
- Ocean Governance Initiatives (EU International Ocean Governance Forum

Ocean observing programmes and panels and EU and international ocean data aggregation initiatives - GEOSS (EuroGOOS, DOOS, IOOS, CIOOS, IMOS, GEOBON, GMOS), CMEMS, EMODnet, Copernicus, SeaDataNet - will act as an overarching umbrella of all activities to take place within NAUTILOS.

How: Many observation and monitoring programmes inform policies designed to enable protection of the global oceans. Hence, a two-way interaction with policy makers will be sought - they will be informed about the project's results and will be actively engaged in providing feedback on whether project outcomes address current limitations, match the needs of those making decisions on policies affecting the marine environment and answer future needs.

Any recommendations to policy and decision makers will be kept short and concise and all related visual and written content will be adapted so as to fit the policy context.

1.2. RESEARCH AND ACADEMIA

Fundamental and applied research community, including oceanography institutes

Who: The subgroups part of this group can be divided into:

- Research community (incl. research Infrastructures (e.g. ESFRI), data management initiatives, oceanographic research bodies, national oceanographic, hydrographic and met agencies and institutes, and universities; EU and international weather forecasting centres (ECMWF, WMO);
- National research managers and funders
- Coordinating bodies (overlaps with 1.1)
- Students/Early career scientist.

The latter group includes students or early career scientists in, for example, marine physics, biology and ecology, chemistry and climate science which has primarily targeted



for the two (2) capacity building learning labs to be carried out in the framework of the project.

Related projects in the areas of marine and earth observation

To highlight opportunities for collaboration, inter-linkages and the possibility of feeding from and transferring NAUTILOS results to other projects and areas (cf. Section III, part 4. Synergies building campaigns).

How: They will be informed and feed information to the project's processes, activities and technological developments so as to influence the appropriate usage of tools and outcomes.

1.3. INDUSTRY

European observation commercial sector

Who: The following group includes technology providers for ocean observing sensors, vehicles and equipment, developers of oceanographic services and products; data, services and product users delivered via NAUTILOS.

How: The companies that intend to commercialise the products and services developed in the demo work packages will require robust exploitation plans, risk and benefit assessments, and methodologies. They will also benefit from the networking opportunities in the project. A focus on dissemination and exploitation activities will be paramount for this group.

Blue economy commercial and industrial sector operators

Who: The following target group includes the fishing industry, aquaculture operators, offshore energy industry (oil and gas exploration, wind and tidal generation), seabed extractive activities, the tourism and recreation sector, marine biotechnology and bioprospecting, telecommunications, coastal protection, defence, search and rescue.

How: The blue economy is a major contributor to the European economy, but the multiple socio-economic benefits provided by the ocean are reliant on observations, measurements, and forecasts. Key blue economy stakeholders are reliant on the data and information of ocean observation (hence, the technologies developed within the project and its impact will be communicated to them through various means) but they can also provide the context in which ocean observation innovation might take place (hence, connection with them from the project's onset will be sought).

1.4. SOCIETY

- NGOs and citizen scientists

Who: citizen scientists, activists and volunteers from marine-related NGOs are an integral component of the project - they can share the knowledge, raise awareness, participate in project campaigns and field work and act as change ambassadors.

How: NAUTILOS Ocean literacy campaigns will target them from the project's beginning, make them aware and engaged, including so that a critical mass can be involved in the citizen science campaigns throughout the project, contribute with data and be long-term engaged following the project's end. Community driven, grassroots approach will be utilised for the citizen science campaigns.



- The general public

Who: The following group includes all members of the public which are not members of any of the above target audiences and have only a basic knowledge and understanding on marine-related issues.

How: Raise awareness of the importance of the ocean, the challenges it faces and the role of monitoring and observation in preserving and restoring it. The general public will be engaged both in the ocean literacy campaigns as well as the citizen science activities.



2. KEY MESSAGES

Project partners have developed key messages aimed to be embedded in all communication related to the project. They will be selected and adapted based on the specific communication needs, project timeline, relevant context and circumstances. When part of a local communication strategy, they will be adapted taking into consideration the local context, including language, and the internal institutional specifics, if applicable.

Whilst the list presented below is a provisional and dynamic one it will only be amended to a certain extent within the project without any fundamental change of the core messages conveyed.

Message 1: NAUTILOS will demonstrate a broad range of sensors and samplers for the comprehensive and regular measurement of a variety of EOVs across the entire water column, from seabed to the surface.

Message 2: EU marine technological research and innovation efforts within NAUTILOS will contribute to making ocean observations and data management in European seas fit for the future, in line with multiple international agreements (the G7 Future of the Oceans Initiative, the Paris Climate Agreement, the UN Decade of Ocean Science for Sustainable Development, and the needs of the Marine Strategy Framework Directive). RTD efforts need to be promoted to increase mass understanding of the cumulative impacts that affect our oceans (focus on science communication).

Message 3: The observation and monitoring technologies developed within NAUTILOS can significantly contribute to policymaking in research, innovation and technology aimed at promoting the good environmental status, conservation and protection of marine ecosystems.

Message 4: NAUTILOS will develop the first microplastics sensor and several other instrumentations/measures directly addressing the European Strategy for Plastics in a Circular Economy (ESPCE) thus contributing to determining the distribution and fate of marine litter and microplastics.

Message 5: NAUTILOS develops emerging marine operational monitoring technologies, with high potential for future applications thus contributing to EU being a global leader in ocean observing and forecasting.

Message 6: NAUTILOS will foster economic value in the EU blue economy by shortening the time span between research and innovation, improving the professional skills and competences of those working and being trained to work within the blue economy and in the context of open data sharing.

Message 7: NAUTILOS lays the foundations for and contribute to the sustainable management and protection of marine and coastal ecosystems to avoid significant adverse impacts (UN SDG 14) by engaging a broad range of users and ocean stakeholders, including marine citizen scientists, with the aim of widespread adoption of the technologies developed within it. Marine citizen scientists have an active role to play in contributing to both the science and to seeking solutions.



3. Tools, Channels & Tactics

3.1. PROJECT VISUAL IDENTITY

Logo

The project's logo has been designed by EP in M1 following consultation with all partners via an online proofing, review and approval design feedback tool. It has been presented during the project's kick-off meeting.

Since the NAUTILOS brand is to be used across a wide range of media and will be targeting a diverse range of stakeholders, the tone and feel of the brand identity have been chosen to appeal to both scientists and policy makers but also science and nature/marine lovers, including non-scientists (citizen scientists).

The visual of an actual Nautilos has been used within it and it simultaneously bears connection to the sea but also to novel marine technologies. The type is fresh, clean, sharp, and dark blue whilst the pictorial mark (logo symbol) is multi-coloured in the blue gamma.



Figure 2. NAUTILOS Logo



Figure 3. NAUTILOS Logo – colour variation on a non-white background

Graphic Charter

In addition to the logo a graphic charter has been created outlining the standards and rules regarding the communication of the NAUTILOS brand.

A graphic charter aims to create consistency and uniformity, supports the creation of a strong brand image and allows the project to be easily recognized and remembered by all relevant stakeholders.

All NAUTILOS communication tools should be presented according to the rules set out in the graphic charter. With it, the message is correctly transmitted, uniformly, from the project to the target audience.

The graphic charter includes graphical components, but also editorial elements:



- Typography,
- Institutional Palette,
- Possible colour variations.

www. nautilos-h2020.eu



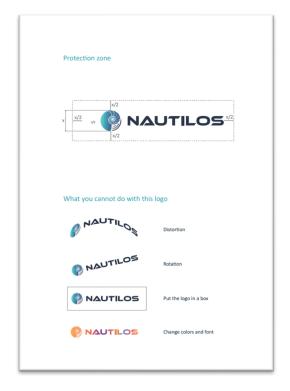
Graphic charter

Typography - logo - templates



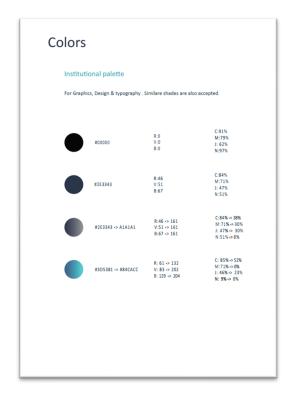
NAUTILOS is a project on the development, integration, validation and demonstration of new cutting-edge marine technologies including sensors, interoperability and embedding skills. The project is abobased on the technological innovations needed to support the growing demand for wider, cost-effectiveglobal ocean and coastal observing systems — systems that establish environmental baseline conditions, detect and monitor environmental changes, and underpin the provision of primary environmental services. Project's objectives: - Develop and demonstrate improved observing systems in coastal and shelf-sea environments; theopen ocean and deep-sea environments, (below 2000 m); for anthropogenic debris (i.e. marce-micro-mano-plastics), in commercial operations, i.e. Inding vessels, aquaculture facilities, shippord opportunity, that utilitie animal-borne sensors - Quantitatively assess the potential improvements on ocean simulation, ocean forecasting andremote sensing derived from NAUTILOS developments Appropriately collate, process, and archive all primary environmental data generated during NAUTILOS on ensure that it is maximally Findable, Accessible, interoperable, and Reusable - Promote and enable the widespread adoption of the NAUTILOS developments to the widest possiblerange of users and stateholders (UNlegistators to critices scientists) - Promote and develop a broad range ofcollaborations and contributions tointernational, regional, and national foraconcerned with the sustainablemrangement of marine resources and the uropeantstrategy for Plastics in a Circularticonomy













How to display the acknowledgement of EU funding?





Usage for specific publication & dissemination material

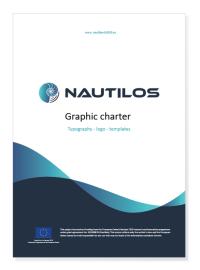
Type of communication	Placement of logo/ guidelines for use	
Website and social media account	Same place on every page, ideally as part of the website frame which appears on all sections, landing or intro page (social media)	
Brochure, information leaflet, factsheet, newsletter, poster	Bottom right corner of publication, front or back cover, on white background (unless placed on a large photo or illustration as on a poster	
Report and internal project publication	Front cover	
Power point or other graphical presentation	First or last slide of a presentation or in the footer of each slide	
CD-ROM, DVD	On label of jewel box or CD label	
Video and animation	Intro or closing screenshot	

Public works

When	What	How
Before / during the works	Billboard/signage erected on site	Must contain funding statement and EU emblem
After the works	Permanent commemorative plaque or billboard/signage	Must contain funding statement and EU emblem

Stationary

Word document - Title page









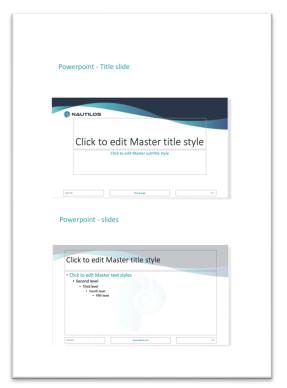




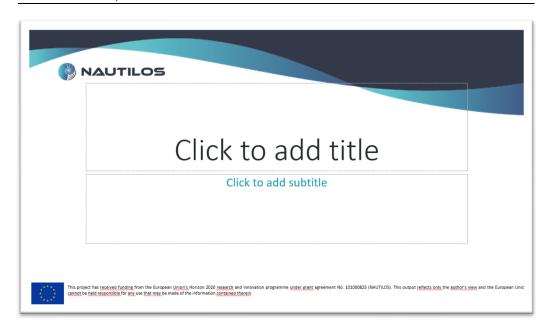
Figure 4. NAUTILOS' Graphic Charter

Both the logo and the Graphic Charter are available to all project partners under the project's ownCloud.

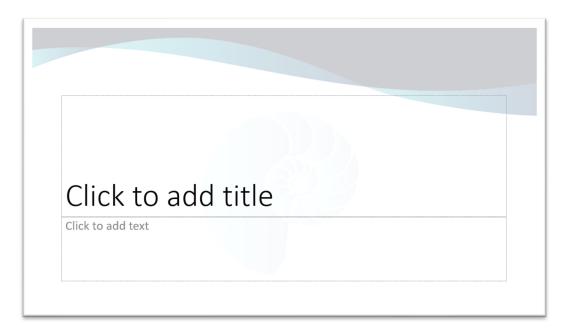
3.2. GENERAL TEMPLATES

The project's general templates have been designed based on the standards and rules set out within the project's graphic charter. Thus, in addition to facilitate the management of the project, they also convey the common project visual identity. All partners must be aware of their existence and use them appropriately. All project communication and management templates are available under the project's ownCloud account.

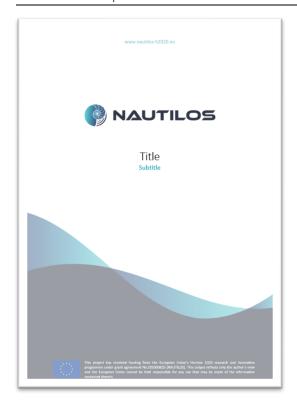
PPT Master Template

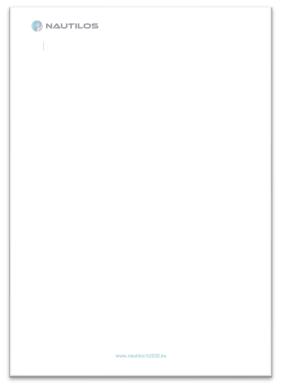






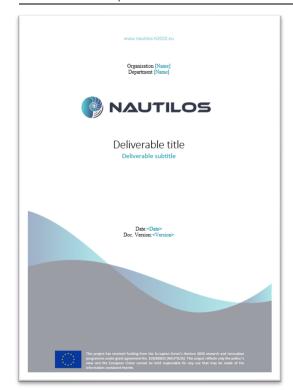
Basic Word Template

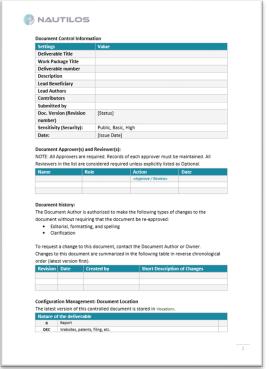


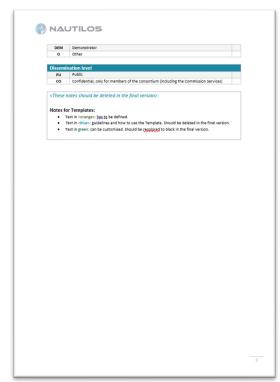




Deliverables template

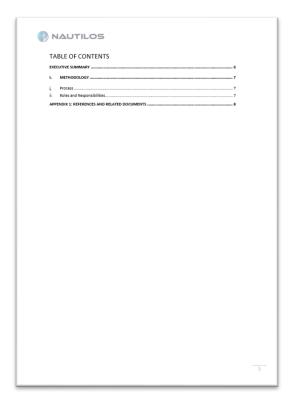






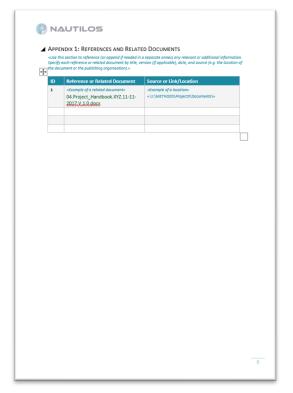






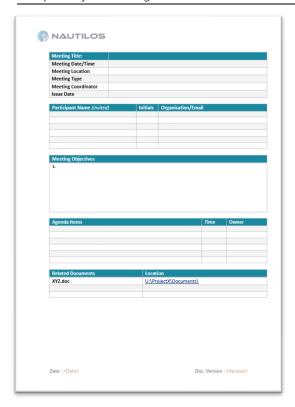


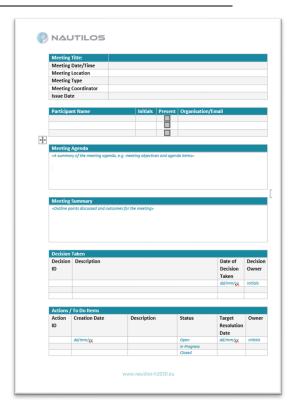


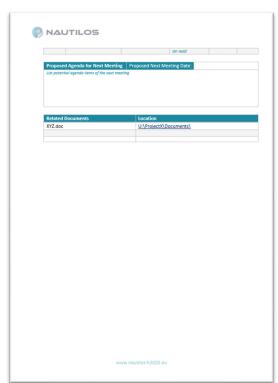




Templates for meeting minutes



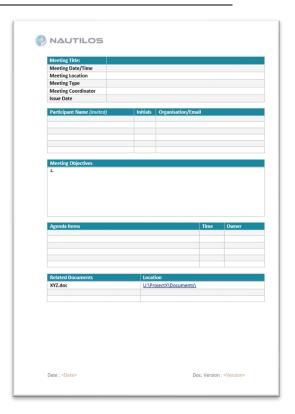






Template for meeting agenda





3.3. MARKETING COLLATERAL

The marketing and promotional materials within NAUTILOS will include brochures, posters and images adapted for use on social media, presenting the project, its objectives, expected results and benefits to end-users.

Communication materials will be designed by EP and modified as requested by partners to achieve maximum impact and the widest possible outreach. The materials will initially be created with a common vision and later adapted with specific messages, for particular events and/or target audiences.

Introductory Project Presentation (M3)

A simplified introductory PowerPoint presentation will be designed to describe the key points of the project in a visual format (a visual representation of the project fact sheet). The presentation will be divided into the following sections:

- o Project overview,
- o Consortium Partners,
- o Project objectives: all the outcomes that will result from the development of the project,
- Project structure: the different work packages and how they are embedded within the project organization; a brief outline of how the project will achieve the proposed objectives,
- o Expected impact,
- o Call for action: information on how to engage in the different project activities.

The following presentation will be available to all partners via the project's ownCloud.



Digital Brochure (M3)

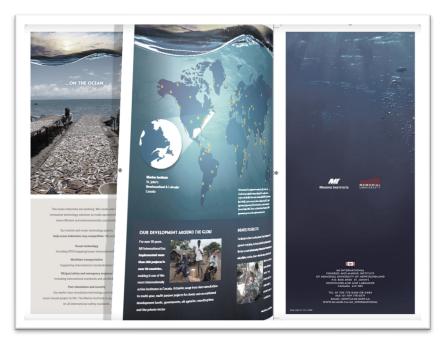


Figure 5. Mock-up of NAUTILOS e-brochure

In M3 a digital brochure will be created. It will serve as a basis on which basis the rest of the communication collateral within the project will be created:

- o highly optimisable for various digital mediums including the web,
- o easily customizable to serve each partner's needs,
- o easily sharable across various social media channels,
- o multi-screen compatible.

Online communication tools will also be uploaded on the website, distributed via social media channels and distributed over partner's networks.

3.4. MEDIA RELATIONS AND PUBLICATIONS

The main achievements of the project and the related events are promoted via the local press with the support of organizations' press offices, whenever feasible.

NAUTILOS can provide to the press offices of the partner organizations a **press kit** including: a project fact sheet (currently developed, to be ready in M3), press releases, images and relevant links. Materials will be issued in English and translated into local languages according to partners' needs.

The **fact sheet** is a summary that includes the main information about the project. It is written in an accessible, non-technical language, and will be distributed among the media and other stakeholders. It includes the following points:

- o Description of NAUTILOS project,
- Work approach and timeline,
- o Outline of expected results,



- Duration and details of the funding scheme,
- Web and social media,
- contact details.

Press releases

The press releases are the means by which relevant news are communicated to the press. UNICA will provide a draft for the press releases, which will be edited by partner organizations' press offices according to journalistic publishing standards. The press releases will include the following points: title, lead, text, relevant links, contact details. Four press releases are to be released during the timeframe of the project (M2, M18, M36, M48). The first one has been released in M1 and is presented below (cf. fig. 6)

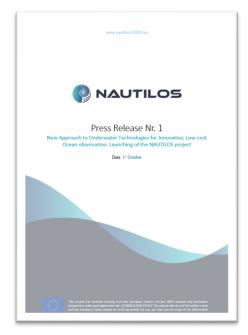




Figure 6. NAUTILOS First Press Release (M1)

Publications

Publicising the work and results of NAUTILOS is essential for meeting the project's objectives. Partners are encouraged to speak about the project in public venues and to publish results obtained through the project. In preparing speaking material and publications partners should focus on their own work and results.

All partners are advised to keep a record of press reviews (both paper-based and online published articles about NAUTILOS) and share it with the coordinator and the WP8 leader. Press reviews will be actively monitored at the level of the partners and of the WP leader EurOcean and co-leader EP, who will regularly ask for updates. Contents about the project will also be promoted on sector-specific blogs and magazines. The contents published on the website can be shared under a Creative commons license to promote sharing and reuse.

- o Any proposed publication relating to the Project, including contributions of foreground to standards, as well as press releases shall be sent to the Coordinator and to all other Parties within 30 days
- o Any of the Parties may object to the publication within 30 days if:



- The protection of foreground would be adversely affected,
- The publication includes confidential information.
- One of the following disclaimers, the one applicable, shall be included with all publications:
 - "This project has received funding from the European Union's Horizon 2020 research and innovation programme under grant agreement No. 101000825 (NAUTILOS). This output reflects only the author's view and the European Union cannot be held responsible for any use that may be made of the information contained therein."
 - "This [infrastructure][equipment][insert type of result] is part of a project that has received funding from the European Union's Horizon 2020 research and innovation programme under grant agreement No. 101000825 (NAUTILOS)."

All NAUTILOS templates include the disclaimer reported above.

3.5. PROJECT WEBSITE

NAUTILOS Website

At the beginning of the project, in Oct 2020, The NAUTILOS domain name had been acquired. The project's website can be found at the following link: www.nautilos-h2020.eu. Until the project's website is launched in M4 (January 2021) a landing page will only be available - fig. 7.



Figure 7. NAUTILOS Website Landing Page – under development (M2)

In collaboration with all partners EP will design, develop, update and maintain the NAUTILOS website. At M4 the website will be ready and online (D10.2). The NAUTILOS website will be functioning and accessible 2 years after the project's end. Thus, project partners, key stakeholders and the general public will have access to the knowledge and data accumulated during the project.

The specific goals of the website are the following:

Raise awareness about the project's objectives and results,



- o Increase the visibility of the project and its partners,
- o Build understanding and facilitate the adoption of the project's results,
- o Enable effective communication between the project and external stakeholders, the press and the wider public.

Based on initial partner discussion the project's sections will include:

- public area the public area will provide:
 - information on the project,
 - overview of the consortium,
 - description of the project results (including public deliverables and only once final), including key exploitation results (KERs),
 - demonstration sites overview,
 - news and links and topic related information,
 - calendar, including past and upcoming events,
 - project e-newsletter (once available, M4),
 - project videos (once available, M6),
 - social media links.
- o private area an ownCloud enabled private space. It has been created in M1 and will facilitate the dialogue and exchange of information within the consortium as well as hold all the reference documentation that partners will need during the project.



Figure 8. Suggestive headers structure for the NAUTILOS website

As a reference communication tool, the website's address (URL) will feature in all project's communication materials.

Additionally, the website will be SEO optimised to improve NAUTILOS' website user experience and performance in organic search results. This will be achieved in the following way:

- o Keywords: Primary keywords will be targeted for each website page,
- Content optimisation and submission: page titles are created, strategic search phrases are placed on pages, page URLs will be optimised, title tags will be optimised,
- Social media share buttons will be installed and strong social media presence will be maintained throughout the project's timeframe,
- o Testing and measuring: Seek further improvements in the website's SEO through active use of Google Analytics.

Partner's Websites

Project partners' websites will also be utilised to promote the project with partners encouraged to make reference to the project on their own websites.



3.6. SOCIAL MEDIA

Social media, and social media networking, when used strategically, can be a very effective tool for engaging with a variety of stakeholder audiences. NAUTILOS will utilise relevant social media networks to promote the project, its partners and results – scientific knowledge and RTD Innovations. The objectives are the following:

- o Increase project awareness and visibility in a cost-effective manner,
- o Raise interest on the project topic among both expert and non-expert audiences,
- Use as a tool for target group interactions, feedback gathering and consultations,
- Raise the awareness of other communication and dissemination activities, informing the follower community about those,
- o Promote the knowledge, activities, benefits and outcomes generated during the project's lifecycle,
- Enhance project positioning through engine search, image search, local search, etc.

To select the most appropriate channels the consortium has applied the **Social Network Honeycomb Framework** in identifying the most appropriate social media channels. The framework is composed of seven building blocks used to analyse and understand social networks' structures, including:

- o **Identity**, the central block extent to which information regarding the users are part of the social media, incl. disclosure of preferences, opinions, etc.
- Conversations the importance of connecting, talking and confronting with other users.
- Sharing importance of distributing contents.
- o **Presence** importance that availability has in the social network, including extent of user's participation in the social network activity.
- o **Relationship** the extent and centrality of connections among users. Higher the importance, deeper the created relationships.
- Reputation the possibility to create different standings on the social network to be "recognised" by others.
- o **Groups** the possibility to create sub-groups among the social network population.

The most relevant blocks for the structure of each social network are darker in colour with white being the least important (cf. fig. 9, fig. 11).

Twitter

The social network honeycomb framework (cf. fig. 7) emphasises the importance of the sharing and conversation blocks, with presence following and identity and reputation coming after that. Twitter is considered as one-to-many broadcast networks which has a conversation pace much faster than on other related social media websites. It has multi-actors presence and whilst the information does not have a staying power there are several features which have made the consortium to select it as one of the primary and the initial social media network to be utilised within NAUTILOS:



- o Provides a strong platform for social activism and (viral) hashtag campaigns
- o Allows for the use of audio, video, audio clips (testing feature), initiating polls,
- o Takes measures to halt the spread of misinformation.

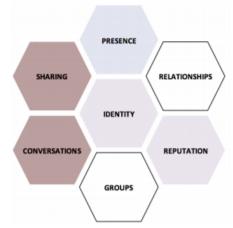


Figure 9. Social Network Honeycomb Framework (Twitter)

NAUTILOS created its Twitter account (https://twitter.com/nautilos-h2020) at the project's onset, in Oct 2020. It is managed by EP and EurOcean with the support and inputs of all partners and will be active until the project's end. Increase in the account's activity has been planned during the most intensive period during the project's communication and dissemination waves.

The account is used to raise awareness of the project – sharing information about the partners, the project's development but also relevant topic-specific news, articles and events. The consortium aims to establish synergies with other projects, initiatives or organisation by following their respective accounts, retweeting relevant content, using hashtags with keywords to appear in the relevant search lists. The Twitter account is actively used to share information from the partners' networks, including social media and news related to their activities; local, regional, national and Pan-European relevant information, events and developments. Later within the project it will be actively utilised for dissemination purposes.

Information posted on the social media account is done in a way that ensures consistency and coherence of the post by using the appropriate messages, avoiding jargon and aligning with the project's objectives. EP and EurOcean have created an editorial (publishing) guideline to facilitate the posting of relevant project's content with the aim to post at least once per week and share relevant content generated by another user (retweet) at least twice. Additionally, a follow button will be integrated on the project's website and a Tweet button will also be integrated as part of the news or other relevant sections of the website. As of end of Nov 2020 the account had 75 followers.



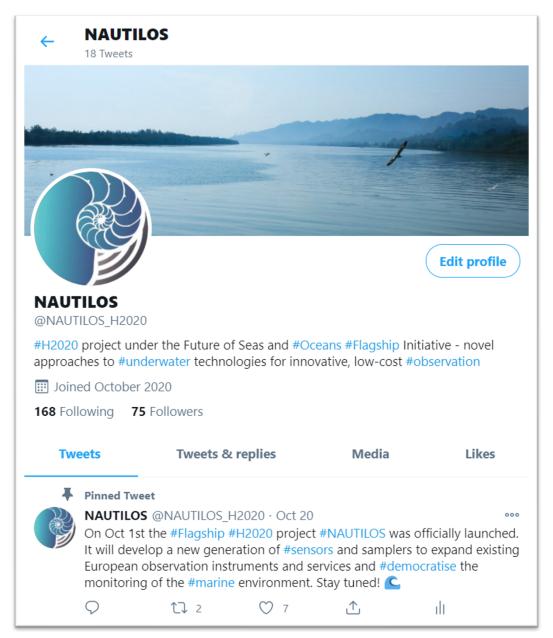


Figure 10. NAUTILOS Twitter Account (Nov 2020)

Use of other social media networks

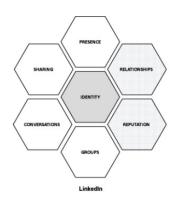
Whilst the consortium has selected Twitter as its primary and initial social media network this would not limit the addition of new ones as the project progresses and the needs of the project change.

Such potential platforms include:

Facebook

According to the framework the social media's focus is on relationships, with presence, identity, reputation, and conversations being also important. Since Facebook is a one-to-one or one-to-a-few network thus resembling social relationships it has stronger "network effects" - each additional subscriber makes the service more useful for others. Its much broader user base (as compared to Twitter) and wider can make the network particularly useful for citizen science engagement campaigns to be carried out in the second part of the project.





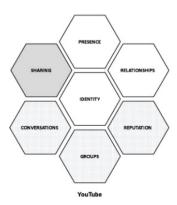


Figure 11. Social Network Honeycomb Frameworks (LinkedIn and YouTube)

o The project will also consider the use of **YouTube** especially following the release of its videos, as well as **LinkedIn** (cf. fig. 11).

Partners also use their personal and business social media accounts to communicate about the project and refer to the project's website.

3.7. E-NEWSLETTER

Despite the increasing diversity of online communication according to data from 2019 80% of marketers have reported an increase in email engagement. Currently, newsletters are still considered a cost-effective, high conversion tool which can substantially boost audience engagement.

A short, visually appealing newsletter will be sent out to all subscribers, partners' networks and participants in NAUTILOS every 4 months starting from M4. The newsletter's content will be subject to the project's development at the current stage of the project development. Its general structure will include:

- o latest news from the field, including on the "European Strategy for Plastics in a Circular Economy",
- o project progress and results obtained, if any,
- o upcoming events,
- o featured partners,
- o call to action (one primary call of action to be chosen for each newsletter).

The newsletter will also be available for download on the project's website. Targeted online ad campaigns will be run especially in respect to engagement of citizen scientists.

Compliance

The NAUTILOS newsletter will be designed in full compliance to legal requirements including GDPR. The email footer will display the sender's address and will offer a convenient and visible unsubscribe/opt out button.

The newsletter will also be completed in full compliance with GDPR rules and will require readers to manually opt-in to receive emails. GDPR compliance within NAUTILOS will be described within D1.3. Data Management Plan and D13.2, POPD – Requirement No. 2



and, and D13.1 H - Requirement No. 1, where the template for the informed consent applicable to the newsletter is provided.

3.8. PROJECT VIDEOS

An introductory project video will be created in M6, and ensuing 3 Project Videos in M18, M36 and M48. Videos are an essential communication tool which has high reach, improves SEO and accounts for half of all mobile traffic (surpassing all other communication tools).

The videos will be shared via social media networks, uploaded on the website, (can be broadcasted at events, on the website and through social media.

- o Create awareness of the project (Introductory video),
- o Raise interest on the project's topics (2nd video),
- o Invoke engagement in the later project stages (3rd video, cf. Section III. Implementation),
- o Ensure the continuity and legacy of NAUTILOS (Final video).

Regarding the video recording and publication, eventual external participants will be provided with suitable forms to fill and sign for an informed consent, details are given in D13.1 H – Requirement No. 1.

3.9. EVENTS

Throughout the project's lifetime, the consortium will keep track of the events they attend and organize for NAUTILOS that fall under these predefined categories and estimate the number of audiences reached. The consortium will thus measure their progress in reaching the communication and dissemination objectives.

Yet, considering the undergoing COVID-19 epidemic which has been ongoing at the time of finalizing the CDE plan, events partners would have participated in or have planned to organize will either seek to be carried out via an alternative format (virtually), be postponed or even cancelled. Hence, a defined schedule of events to be attended will only be finalised following the end of the pandemic. Refer to section VI, part 5 regarding NAUTILOS' communication and dissemination response to the 2019-2020 COVID-19 Pandemic.

Internal

NAUTILOS activities and events to be organised in the timeframe of the project:

- Policy engagement: by increasing policy communication NAUTILOS will aim to bridge the science-policy gap thus creating a shared understanding of science and innovation and raising public confidence in the project's outcomes. 3 Policy briefs, 3 NAUTILOS presentations elaborated for European Institutions and 1 Policy Round table in Brussels (Year 2) will be carried out to achieve this purpose.
- o **Citizen science-related events**: 4 citizen science training sessions for each of the respective campaigns, 2 citizen science campaigns
- Capacity Building Summer Schools: 2 summer schools will be organised within the framework of the project



- 3 international conferences organised to coincide with the communication waves:
 - 1. Initiation conference (M12): to inform and raise awareness among the general public and key stakeholders
 - 2. Mid-term conference (M30): to inform and obtain feedback from key stakeholders on the projects progress;
 - 3. An international final conference (M48) will be organised at the end of the project in parallel to the final field demonstrations. It will aim to spread the results of NAUTILOS and ensure sustainability of the initiative after the EC funding is over. Targeted number of participants is 100 from all key stakeholder groups.
- Activities to be coordinated with other projects, networks and initiatives

External

Partners will be encouraged to present the project (poster, paper) at relevant national, European and international events. Additionally, prior to the project's onset and during its start EP has started collecting information from partners on the events they are planning to attend for dissemination purposes. This initial approach to be continued during the next months in cooperation with all partners.

Table 2. NAUTILOS External Events (mode of attendance dependant on COVID-19 restrictions)

Name of the conference/event	Area/Descriptions			
EurOCEAN conferences	Major European marine science policy conferences			
EMODnet Workshops	Community workshop collecting and sharing latest updates on parameters/network-oriented recordings and progress towards the development of common standards and best practices			
European Maritime Day (EMD) Conference and Expo	Annual two-day event for the maritime community meet to network, discuss and forge joint action on maritime affairs and sustainable blue economy			
European Marine Board Biennial Open Forum	Platform bringing together marine science stakeholders to discuss and share knowledge, identify common priorities, develop common positions			
International Workshop on Modelling the Ocean (IWMO)	Annual event focussing on all aspects of ocean and coupled air-wave-sea, ice and current-sediment modelling			
European Marine Biology Symposium	Annual event for marine biologists			
International Symposium on GIS/Spatial Analyses in fishery and aquatic sciences	Symposium highlight developments, applications, improvements, techniques of GIS/Spatial analyses in Fishery and Aquatic Sciences			
EGU	EGU provides a forum for geoscientists			



Oceanology International	Marine technology exhibition with associated international conference			
AGU Ocean Sciences Meeting	Biennial international ocean science conference			

III. IMPLEMENTATION: CAMPAIGNS

A strategic dissemination and exploitation approach is to be adopted within the project by clearly defining the communication, dissemination and exploitation objectives, outlining the target groups, audience and message followed by a decision on the media channels to be used to spread the message. Table 1highlights the various activities to be conducted during and after the project's end, the target groups they will be aimed at and the tools which will be used to reach them.

1. DISSEMINATION CAMPAIGNS

Dissemination campaigns will be focused on increasing the visibility of the project and its opportunities to all project stakeholders, including but not restricted to: Researchers, Industry, Society and Policy makers, thus, expanding the reach and impact of the project in developing cross disciplinary interactions. These campaigns will aim generally at:

- o Engage stakeholders and optimise final uptake of the project's key outputs,
- o Publish and promote the research results delivered by the project,
- Capture and protect intellectual property in collaboration with industry participants,
- o Raise awareness of training opportunities available through NAUTILOS,
- o Raise awareness of citizen opportunities available through NAUTILOS,
- o Raise awareness about the project's objectives, consortium, progress and benefits for stakeholders,
- o Maximise visibility of the project's results and achievements,
- o Enhance ocean literacy in the general public and among young people,
- o Increase likelihood of social, environmental, and economic benefits.

Dissemination campaigns will be launched when required, aligned with major milestones of the project, the following campaigns are already foreseen:

The NAUTILOS project launch campaign was carried out along Month 1 (October 2020) with the aim of maximising visibility of the project's existence and objectives, and start to create an online community of followers in the social media.

- Target groups: general public, research community, industry players, policy makers, NGOs, Other relevant networks.
- Main content conveyed: project's objectives, expected impacts, future and communication channels
- Channels: Press release, NAUTILOS partners websites, NAUTILOS Partners Social Media Channels, NAUTILOS Twitter



1.1. Two Capacity Building Learning Labs Campaigns

Two summer schools will be offered focusing on sensors and samplers covered in WP3 and 4, including also, an introduction to the ESPCE strategy. The two campaigns will aim at enhancing the number and quality of the participants.

- o **Target groups**: Early career scientists and marine technicians.
- o Main content conveyed: Training Opportunities
- o **Channels**: Press releases, NAUTILOS partners websites, NAUTILOS Partners Social Media Channels, NAUTILOS Social Media, NAUTILOS website, Events.

1.2. OCEAN LITERACY AND PUBLIC ENGAGEMENT CAMPAIGNS

The Ocean literacy campaign will promote innovative methods of engagement across society by piloting state of the art communication tools and digital technology to enhance understanding of ocean science research and create a more 'Ocean Literate' public. It will seek to engage, educate, inform and inspire a range of audiences. Over the second half of the project a screening of all the projects outcomes will be carry out and it will identify key messages and data to be promoted through an ocean literacy campaign.

- Target groups: Citizen scientists, activists, volunteers from marine-related NGOs and the public at large.
- o Main content conveyed: Project Outcomes
- O Channels: NAUTILOS partners websites, NAUTILOS Partners Social Media Channels, NAUTILOS Social Media, NAUTILOS website, Events.

2. CITIZEN SCIENCE CAMPAIGNS

The Citizen Science campaigns aim to transfer knowledge, raise awareness and encourage participation of the general public in simple and user-friendly scientific activities related to the specific outcomes of the project. The campaigns that will be organised within WP10 will be mainly focused on the technological outputs of the project and will promote the use of novel cost-effective sensors and samplers (WP3, WP4) measuring and recording different physical and chemical parameters in the marine environment (e.g. temperature, salinity, chlorophyll). A network of observatories will be developed with the participation of diving associations and leisure diving centers which will be provided with the necessary equipment for marine data collection. The citizen scientists will be able to download the collected data at regular intervals and upload them to the dedicated online platform (T8.4). A visual database will be created hosting the collected data and a series of thematic maps will be created in order to facilitate visualisation of seawater parameter values. This initiative will build upon previous Citizen Science projects for divers operated by HCMR (see COMBER project, CIGESMED project, RECONNECT project).

Furthermore, during WP10 additional campaigns including crowd-sourcing for visual marine image annotations will be organised for Citizen Scientists. Underwater photographs from subtidal, shelf-sea and deep-sea areas will be annotated in order to visually classify the seabed habitat and to detect the coverage of larger and more easily recognizable fauna present (e.g. sponges, corals and other major seafloor organism types). The citizen scientists will also have the opportunity to annotate macroplastics when these will be present in the photos and estimate their abundance. Available



images will be taken from partner's repositories or will be generated through optical sensing during the project (sub-task 6.3.1). The Automatic Image Analysis algorithms (T8.5) will be also possibly used to integrate feedback to and from the Citizen Scientists e.g. through an automated detection with subsequent crowd-sourced annotation.

Additional Citizen Science campaigns will be organised within WP12 mainly which will be mainly focused on the European Strategy for Plastics in a Circular Economy (ESPCE) aiming to raise awareness regarding the impact of plastic's pollution and the elimination of their use. The following types of campaigns will be organised: a) dissemination of information through "chapters" on touch screen consoles on cruise ships, museums, science centers, etc, b) collection of micro/macro-plastics using WP4 samplers on cruise ships (passengers) or by hand when visiting the shore (e.g. schools, citizens and NGOs), c) counting and identification of plastics with microscopes, micro NIR cameras and smartphone NIR scanner (T8.4), d) collection of water and sediment samples to isolate microplastics and identify their type, using simple methods such as sieving, filtering and density separation. The citizen science data produced during these campaigns will be published in the citizen science interface (T8.4) and graphical maps indicating locations and respective quantities/frequencies of plastic litter data will be produced.

- O Target groups: the public, citizen scientists, school/university students, activists, NGOs volunteers, divers, nature lovers.
- o **Main content conveyed:** marine technology (sensors/samplers, image annotation), image analysis, knowledge transfer and awareness.
- O **Channels:** schools visits, events, campaigns, press releases, social media, website, citizen science online platform, thematic maps, brochures, videos.

3. POLICY STAKEHOLDER ENGAGEMENT CAMPAIGNS

These activities will aim to represent NAUTILOS interests to decision makers including National bodies, EC, Parliaments, MS officials, UN bodies, HELCOM and OSPAR commissions. Within the framework of its participation in hearings, groups of experts, or meetings concerning MSFD, ocean and climate and research.

- Target groups: National, Regional, European and International Policy and Decision makers.
- o Main content conveyed: Project Outcomes and interests
- o **Channels:** 3 policy briefs, 3 NAUTILOS presentations, 1 Round Table at Brussels.

4. Synergies Building Campaigns

The project aims to establish collaborations and expand the existing network with current and past projects, initiatives, networks and relevant stakeholders, in order to magnify the impact and building capacity of the European Strategy for Plastics in a Circular Economy.

- The twin project funded under the same scheme, BG-07-2019-2020 The Future of Seas and Oceans Flagship Initiative, TechOceanS - Technologies for Ocean Sensing
- The other two connected BlueGrowth projects which started one year earlier than NAUTILOS: EuroSea – Improving and Integrating European Ocean



- Observing and Forecasting Systems for Sustainable use of the Oceans, and Blue-Cloud: Piloting innovative services for Marine Research & the Blue Economy
- Initiatives related to plastics pollution and littering: SCOR Working Group FLOTSAM (CNR), AMAP Litter and Microplastics Expert Group (CNR), PlaMoWa Network (DFKI), Norman Network QUASIMEME and GESAMP (NIVA, DFKI)
- Projects related to plastics: EUROqCHARM (CNR & NIVA), CLAIM (HCMR), JPI-Oceans projects BASEMAN (CNR), JPI-Oceans projects EPHEMARe and RESPONSE (UALG), national project in Portugal Plastic-Sea (UALG)
- O Projects related to citizen science with divers: COMBER (HCMR), CIGESMED (HCMR), RECONNECT (HCMR), BIOLIT (FR), OBSERVADORES DEL MAR (ES), projects where citizens are involved in the monitoring of reef systems, such as the "REEF Volunteer Fish Survey Project", the "REEF CHECK", in the monitoring of coral bleaching through the project "BLEACHWATCH", the "DIVING WITH A PURPOSE" project
- Active image annotation projects BLACK SEA WATCH (BG, TR), EYESONWATER (INTL), PLANKTON PORTAL (Intl)..
- Initiatives related to biodiversity and the environment: MSFD (CNR, HCMR),
 LifeWatch ERIC (HCMR)
- Synergies with ECSA (European Citizen Science Association) and Copernicus will be sought to seek further engagement, ensure long-term and larger scale impact
- O Stakeholders related to plastics: World Bank and Asian stakeholders (Philippines, Cambodia, Myanmar & Vietnam) (DFKI)

EP, with the support of EurOcean, will analyse running and previous projects' scopes and objectives, establish where further collaborations are possible (Partners have participated in a variety of relevant projects, NEXOS, AtlantOS, Common Sense, JERICO3, CLAIM, DEEPEASTMED etc., the results of which will be incorporated and built upon in the existing project, including projects funded under the Oceans of Tomorrow (2010-2013) calls. When such are identified, a contact will be established with the respective project's coordinator and a collaboration mechanism will be implemented, with possible joint activities including: cross-dissemination, joint participation as speakers to events, co-organisation of events, cross-project demonstrations, etc. Activities in this task will run through from M1 until the end of the project and will be further identified during the project.

Additionally, active marine citizens' observatories and related initiatives at regional and European level will be reviewed to identify the ones which will benefit from having access to the instrumentation, citizen science interface or modelling to be developed within the consortium in WPs 8 and 9.



IV. Monitoring and Evaluation

The project has an overall evaluation strategy to ensure the quality, however a separate monitoring for dissemination and communication is vital, since the impact of those activities contributes to the successful implementation of the project. It is important that this evaluation is carried out on a continuous basis, to ensure:

- An effective impact assessment and update or redefinition of dissemination and communication activities
- o The quality of the dissemination and communication carried out

KEY PERFORMANCE INDICATORS AND IMPACT-TRACKING

As defined in the Grant Agreement the project has defined the following key performance indicators:

Related to strategic objectives:

- o Number of citizen science campaigns carried out 5
- Number of capacity building activities carried out 2
- o Policy-related initiatives carried out 4
- o Number of collaborations targeted within the timeframe of the project > 30
- Number of collaborations in relation to ESPCE targeted within the timeframe of the project > 20

Related to NAUTILOS' impact:

- o IMP13.1 Scientific Papers \rightarrow Number of published papers multiplied by the journal impact factor,
- Number of papers reads and downloads, Whenever possible number of citations
- o IMP13.2 Conferences and exhibitions → Number of papers/presentations/posters > 10, Number of event attendees > 25 per event
- o IMP13.3 Workshops \rightarrow Number of workshops, Number of attendees > 5
- o IMP13.4 Video tutorials and video lessons → Number of tutorials * number of followers > 200
- o IMP13.5 Open data access → Number of connected infrastructures, Number of data downloads
- o IMP13.6 Web portal → Number of hits (tracked by analytics tools) > 2000
- o IMP13.7 Social media campaign \rightarrow Number of followers > 500, Number of retweet/share/like > 100

The partners of the consortium will provide information on their communication and dissemination activities (number and type of stakeholders reached in events, articles published, flyers distributed, etc.) in a dissemination tracker. The information gathered via the dissemination tracker will be joined with the information in the internal project report to be done by the WP leaders every six months.



1. MONITORING THE JOINT DISSEMINATION ACTIVITIES

Partners will be asked to report every 6 months communication and dissemination activities they have performed, using the appropriate Internal Progress Report template. It will be filled in every 6 months by each WP leader and sent to the project coordinator.

To facilitate an accurate monitoring and assessment of the dissemination and communication activities, and to understand the impact of the actions carried out, it is necessary for all partners to register the activities that they implement, therefore:

- O All partners should prepare their dissemination and communication activities accordingly, to this deliverable,
- o All partners should report all dissemination and communication activities, at least every 6 months,
- o All partners should register the activities in the dissemination and communication reporting template,
- o All partners should save evidence of the activities conducted.

By performing regular monitoring of the activities, it is possible to assess if this strategy is being carried out properly and on time. It will also be possible to see which activities had the biggest impact on the stakeholders (both in quantitative and qualitative terms) and to improve communication actions if necessary.

Based on the reporting documents received from the partners, EurOcean will provide recommendations for the future dissemination and communication activities and actions.

To facilitate the process of collecting information on dissemination activities, the NAUTILOS ownCloud shared folder contains all relevant and necessary templates to be used among partners.

2. MONITORING OF CITIZEN SCIENCE CAMPAIGNS

Participation in Citizen Science campaigns will be carefully evaluated and monitored using:

- o number of participants (i.e. diving associations) in the network of observatories,
- o log in accounts in the citizen science interface (platform),
- o data uploaded on citizen science interface,
- o number of thematic maps/layers released,
- o number of photos annotated by citizen scientists,
- photos taken during shore visits and events,
- o number of students/citizens/participants in events,
- o number of users for touch screens, registration forms,
- o number of downloads for the NIR scanner app,
- o number of video viewings.

3. Monitoring of participation in relevant events

Dissemination activities within this framework will be carefully evaluated *ex ante, in fieri* and *ex post,* to maximize the visibility of the project. Examples of impact monitoring in this framework are:



- o photos taken from events,
- o registration sheets and
- o presentations.

4. STATISTICS ON THE USAGE, REACH AND ENGAGEMENT OF THE WEBSITE AND THE SOCIAL NETWORKS

NAUTILOS will be analysing trends, statistics, and the impact of each activity performed on the website and on social networks. This will track metrics and allow for adjustments in activities. A number of online tools will be utilised, including Google analytics for the website, Twitter analytics and other online tools covering several social media at once (e.g. Hootsuite), allowing partners to better understand the most appropriate timing, communication style and target audience of each message.

The effectiveness of the website will be periodically analysed via Google Analytics. This will inform project partners of:

- o Unique users count visiting the website,
- o Average visit time and bounce rate,
- o Languages and locations of visitors,
- o Number of page views and average page views per visit,
- o Top landing page and bounce rate for different pages.

The information gathered via the analytical tools will be reported in the dissemination tracker.



V. EC COMMUNICATION REQUIREMENTS

As a beneficiary of H2020 one of the project's and partners legal obligations is to acknowledge EU funding and display the EU emblem in all your information and communication material.

1. How to display the acknowledgement of EU funding

1.1. DISPLAY THE EU EMBLEM

Display the EU emblem and write one of the disclaimers listed below (cf. 1.2.).

1.2. USE A DISCLAIMER

Use the following disclaimers whenever using the funding logo:

- "This project has received funding from the European Union's Horizon 2020 research and innovation programme under grant agreement No. 101000825 (NAUTILOS). This output reflects only the author's view and the European Union cannot be held responsible for any use that may be made of the information contained therein."
- "This [infrastructure][equipment][insert type of result] is part of a project that has received funding from the European Union's Horizon 2020 research and innovation programme under grant agreement No. 101000825 (NAUTILOS)."

1.3. USAGE FOR SPECIFIC PUBLICATION & DISSEMINATION MATERIAL

Table 3. Acknowledgement of EU funding in publication and dissemination materials

Publications & dissemination material					
Website & Social media account	 Same place on every page Ideally as part of the website frame which appears on all sections Landing or intro page (social media) 				
Brochure, information leaflet, factsheet, newsletter, poster	 Bottom right corner of publication Front or back cover On white background (unless placed on a large photo or illustration as on a poster) 				
Report & internal project publication	Front cover				
Power Point or other graphical presentation	First or last slide of a presentation or in the footer of each slide				
CD-ROM, DVD	On label of jewel box or CD label				
Video & animation	Intro or closing screenshot				



Table 4. Acknowledgement of EU funding in public works

Public Works		
Before / during the works	Billboard/signage erected on site	Must contain funding statement and EU emblem
After the works	Permanent commemorative plaque or billboard/signage	Must contain funding statement and EU emblem

The information contained herein is also available in the project's Graphic Charter.



VI. MANAGEMENT

1. ROLES AND RESPONSIBILITIES

1.1. GENERAL

The WP10 leader, EurOcean, takes responsibility for the steering and implementation of WP10. As task 10.1 leader, EP, in collaboration with the WP 10 leader – EurOcean and the task leads in the rest of the task leaders (HCMR – task lead of T10.4), has prepared this Outreach, Communication and Dissemination Strategy, and will keep track of it throughout the project's period. The plan will be updated by those respective partners following partner's inputs from the 6-month internal review with an updated version prepared and submitted in parallel to the first interim report (M18). This will give the opportunity to focus the dissemination and communication on the most relevant publications, events and stakeholders to achieve an effective and proactive dissemination aligned with the exploitation plan.

1.2. PER TASK

Table 5. WP10 roles and responsibilities on a per work package, task and sub-task level

Work package/Task/Sub-task title	WP leader	WP co- leader	Task leader	Sub-task leader	Other partners involved
Work package 10: Outreach, Communication and Dissemination	EUROCE AN	EP			all
Task 10.1: Communication and Dissemination Strategy and Tools			EP		all
Task 10.2: Communication and Dissemination Campaigns			EUROCEA N		all
Sub-task 10.2.1: Dissemination Campaigns				EUROCEA N	all
Sub-task 10.2.2: Ocean Literacy and Public Engagement Campaign				EUROCEA N	
Task 10.3: Policy Stakeholder Engagement			EUROCEA N		CNR, NIVA, HCMR, EP, CEiiA, ETT
Task 10.4: Citizen Science Campaigns			HCMR		



Task 10.5: Synergies building with relevant initiatives, projects	EP	
and programmes		

2. SCHEDULE, PLANNING PROCESS AND DELIVERABLES

2.1. SCHEDULE

WP10 is a horizontal work package which will run throughout all 4 years of the project's length. However, it will be separated into several communication waves with the focus put on a specific aspect. A generalised summary has been presented below and the detailed representation of each campaign has been described under Section III. Implementation.



Figure 12. NAUTILOS Outreach, Communication, Dissemination & Exploitation Waves

2.2. DELIVERABLES

Deliverables of high quality are essential to the success and long-term impact of the project. All WP10 deliverables are available to the public and will thus be accessible long after the project's completion. For deliverables that do not take the form of a written report, a written record will nevertheless be prepared to include supporting material for the accomplishment. The table below represents a summary of deliverables in WP10, lead beneficiary, type, dissemination level and due date.

Table 6. List of WP10 NAUTILOS Deliverables

Del. No.	Deliverable Title	WP no.	Lead benefici ary	Type	Dissemi nation level	Due Date (in mont hs)
D10.1	Outreach, Communication and Dissemination Strategy	WP10	21 - EP	Report	Public	2
D10.2	NAUTILOS Project Website	WP10	21 - EP	Websites, patents filling, etc.	Public	4



D10.3	Policy Briefs	WP10	17 - EUROCE AN	Report	Public	36
D10.4	Dissemination impact reports - 1	WP10	17 - EUROCE AN	Report	Public	24
D10.5	Strategic Policy Agenda	WP10	17 - EUROCE AN	Report	Public	24
D10.6	Report on communication activities at key events	WP10	17 - EUROCE AN	Report	Public	36
D10.7	Report on established synergies	WP10	21 - EP	Report	Public	48
D10.8	Outreach, Communication and Dissemination Strategy 2	WP10	21 - EP	Report	Public	18
D10.9	Report on Citizen Science Campaigns (WP10)	WP10	2 - HCMR	Report	Public	48
D10.10	Dissemination Impact Reports - 2	WP10	17 - EUROCE AN	Report	Public	48

3. INTELLECTUAL PROPERTY

Dissemination of project results as well as open access to scientific publications and research data is governed by the procedure described in the Grant Agreement.

All Consortium partners are contributors to the dissemination and communication activities under the WP10: Communication, dissemination and exploitation, led by EurOcean. NAUTILOS partners will use their networks as detailed above for the following purposes:

- o Identifying and informing about dissemination opportunities (e.g. events, publications, etc.),
- Providing relevant information and documentation to enrich the project website,
- Posting news and project results in social media.

The dissemination of the project's results should not cause intellectual property issues to NAUTILOS partners. To ensure this, all concerned partners will be notified about the content of each dissemination related to their activities. If necessary, partners will have the possibility to refuse dissemination of their own know-how.



4. MANAGEMENT OF COMMUNICATION SUSTAINABILITY

NAUTILOS will be fully aligned to apply marine sustainability and stewardship principles throughout its existence. This would be applicable within its communication and dissemination efforts as well.

4.1. EVENT PLANNING

Events can serve as an effective platform to advance sustainability, drive innovation and have a positive impact on society. Virtual meetings or conferences, e.g. in the forms of webinars, will be planned to substitute for some of the physical events of the project. Thus, those events will not only be more environmentally conscious in terms of reduced consumption, waste or travel emissions but would also be much further reaching, inclusive and safe, especially in the midst of the COVID-19 crisis during which the project has commenced.

4.2. Marketing Collateral

The project's communication and marketing materials will be largely digitally based (e.g. e-brochure, social media visuals, newsletter). If the need for a printed marketing material arises green procurement will be utilised to make more cost-effective and environmentally friendly purchasing decisions. Considerations will be made of the material utilised (e.g. FSC® certified paper), the printing methods, the end of life of the used material; carbon offsetting will be largely promoted as well.

4.3. AWARENESS BUILDING ON MARINE SUSTAINABILITY

Throughout its communication and dissemination waves the project has planned a series of strategic multi-stakeholder conversation which would bring awareness to sustainability efforts.

Awareness building campaigns will begin from the project's onset and will continue throughout the project's length focussing on a different set of strategic project stakeholders (cf. Section III. Implementation).

5. Internal Communication

5.1.1. Frequency

The following initial internal meeting frequency has been set during the project's KOM. Whilst it will be subject to amendments and alteration it will serve as the initial structure for the project communication:

- Weekly between the project coordinator (CNR) and the project manager (EP)
- o Bi-monthly (depending on the intensity of the work) WP/set of WPs meetings in ongoing work packages
 - Initiated and chaired by the respective WP leader/s
 - Follow the project dynamics
- o Other, ad-hoc meetings
 - E.g. technical teams, 1:1

Currently, partners participating in WP10 have had several one-to-one meetings and a joint post-KOM meeting combining focussing on communication, dissemination, exploitation and building synergies with ESPCE (WP10, WP11 and WP12).



5.1.2. Tools

a. Email

Email represents a primary means of communication within NAUTILOS. All partner representatives contact information is available on ownCloud and shared among all partners.

Several communication levels have been identified during the project preparation phase and the grant agreement preparation. Those include:

- o **Intra-WP**: mostly between two or three partners; specific issues, technical communication, ad-hoc.
- o **Inter-WP**: addressing the issues between different WPs, interfacing, dependencies. The communication is organized by the relevant WP leads.
- General Assembly: delegates are defined in the chapter I of this document. The communications are organized by the project coordinator.

To enable the smoother and easier the communication among those specific groups of partners **distribution lists** have already been created by EP (using the NAUTILOS website domain). The ones relevant for WP10 include:

- o All NAUTILOS partners
- o Work package leaders and co-leaders
- o General Assembly members
- o Technical and Innovation Board members
- o WP10 partners distribution list

b. Online Meetings and Web Conferencing Tools

Modern communication tools enable collaborative work and may greatly improve cooperation between different partners. Project teleconferences will be conducted within NAUTILOS when required, each based on its own schedule (e.g. WP meetings, task-specific meetings, TIB calls).

So far NAUTILOS partners have used the following web conferencing tools:

- Skype
- o **Microsoft Teams** for larger meetings. Microsoft teams allows for online face to face meetings, screen sharing, co-authoring files, and whiteboarding in Microsoft Teams. The tool has a free plan, whilst a selection of NAUTILOS partners have the business plans which have extended functionalities.
- o **ZOOM** for larger meetings. Zoom is a complete meetings tool package with high-quality video and a wide range of app integrations. Apart from screen sharing, it also provides cross-platform messaging and file sharing. It allows partners to host larger virtual conferences (e.g. management meetings) and produce webinars, if required. The tool has a free plan, whilst a selection of NAUTILOS partners have the business plans which have extended functionalities.

The above list however does not prevent partners from utilising other web conferencing tools considering that they provide sufficient functionality and security during the respective meeting.



- c. File storage and collaborative working space ownCloud and Google Drive
- o **ownCloud** the project has its ownCloud account which contains all project related documents and can be used as a co-working space and for sharing various documentation.
- Google Drive it has been agreed between partners that Google Drive will be utilised for collaborative work when multiple edits are required in specific documents. Hence, within the project it will be used for storing temporary documents.



6. RESPONSE TO THE 2019-2020 COVID-19 PANDEMIC

In light of the coronavirus pandemic affecting not only partners' countries but having major repercussions Europe-wide, the partners, whilst still aiming to achieve the objectives and impact set out in the project's work plan, will also strictly abide by national and European regulations and take all necessary measures to ensure the health and safety of all participants involved during outreach, communication & dissemination activities.

In case there are still restrictions on local and international travel due to the COVID-19 pandemic during the time when in person communication and dissemination activities and events have been planned, they will either be postponed for the length of time required or will be held as webinars or virtual meetings or conferences following the same agenda adapted for the digital medium. The following three options will be pursued:

- o **Live streaming of an event** speakers are presenting live and the audience is encouraged to actively interact by communicating between each other, engaging in Q&A sessions or participating in polls,
- Content which has been pre-recorded in case there is no option for live streaming events will be pre-recorded and shared with the respective audience.
 Whilst the event will not be live presenters will still be encouraged to interact with viewers as they would during a live session,
- o **Blended or hybrid model** combining the two models above while some parts of the events will be live streamed other will be pre-recorded.

Partners will jointly decide on which approach to take when required. Reports about project events which have taken place will be made publicly available on the project's website and will be distributed over the project's and partners' digital media channels thus potentially having much greater reach and impact than originally planned in case of physical attendance events only.



APPENDIX 1: REFERENCES AND RELATED DOCUMENTS

Deliverable 10.1 has been developed in accordance with the provision outlined within the following related documents:

- o NAUTILOS Grant Agreement,
- o NAUTILOS Consortium Agreement Nr. 101000825.

ID	Reference Document	or Related	Source or Link/Location
1	NAUTILOS Agreement	Grant	NAUTILOS ownCloud
2	NAUTILOS Agreement 101000825.	Consortium Nr.	NAUTILOS ownCloud