JERICO-DS DELIVERABLE

Joint European Research Infrastructure of Coastal Observatories - Design Study

DELIVERABLE #, WP# and full title	JERICO-DS D19/D6.2 – WP6 –" Communication Strategy of JERICO-RI"
5 Key words	JERICO-RI, Communication Strategy, Visibility, Nations Engagement, Communication towards Users & Stakeholders
Lead beneficiary	IH
Lead Author	Joao Vitorino
Co-authors	Vania Lima, Taavi Liblik, Martin Pfannkuchen, Urmas Lips, Nelli Rünk
Contributors	Nations Representatives
Submission date (dd/mm/yyyy)	31/01/2024

Nature

X R = Report, □ P = Prototype, □ D= Demonstrator, □ O = Other

Dissemination level :

X PU □ PP □ RE □ CO

PU = Public, PP = Restricted to other programme participants (including the Commission Services), RE = Restricted to a group specified by the consortium (including the Commission Services), CO = Confidential, only for members of the consortium (including the Commission Services)

GRANT N°: 951799
PROJECT ACRONYME : JERICO-DS
PROJECT NAME : Joint European Research Infrastructure network of Coastal Observatories - Design Study
COORDINATOR : Laurent DELAUNEY - Ifremer, France - design.jerico@ifremer.fr

DOCUMENT TECHNICAL DESCRIPTION

Document ID	JERICO-DS-WP6-D19/D6.2-310124_V1.0

REVISION HISTORY

Revision	Date	Modification	Author
V1.0	31/01/2024	Final version	Joao Vitorino

APPROVALS

	Name	Organisation	Date	Visa
Coordinator	Laurent Delauney	Ifremer	31/01/2024	X
WP Leaders	Joao Vitorino	IH	31/01/2024	X

Diffusion list

Consortium beneficiaries	Third parties	Associated Partners	other
X			

According to the Regulation (EU) 2016/679 of the European Parliament and of the Council of 27 April 2016 on the protection of natural persons with regard to the processing of personal data and on the free movement of such data, and repealing Directive 95/46/EC (General Data Protection Regulation) and the 78-17 modified law of 6 January 1978, you have a right of access, rectification, erasure of your personal data and a right of restriction to the data processing. You can exercise your rights before the Ifremer data protection officer by mail at the following address: IFREMER – Délégué à la protection des données- Centre Bretagne – ZI de la Pointe du Diable – 29280 Plouzané - FRANCE or by email: dpo@ifremer.fr + design.jerico@ifremer.fr
Ifremer shall not hold your personal data for longer than necessary with regard to the purpose of the data processing and shall destroy it thereafter.

Table of Content

EXECUTIVE SUMMARY

The communication of JERICO-RI with the different Users and Stakeholders to which this Research Infrastructure is directed, is of paramount importance. It supports the visibility and interaction which are the bases to assure the relevance, the fit for purpose, the capacity to improve and the sustainability of the European Research Infrastructure for Coastal Observation. Communication is also at the core of the basic foundations of the RI, which result from the combined efforts of multiple partners in different European nations, each one contributing with a given capacity for the observations of the coastal ocean area. Internal communication is key to align these different dynamics around a common goal and to build a sense of community. The importance of JERICO-RI communication increases at the moment when this Research Infrastructure steps forward, with the perspective of insertions in the ESFRI roadmap and to initiate the lifecycle of an European Research Infrastructure.

The present report presents the design of the Communication Strategy for JERICO-RI. The design study builds from the work developed in the JERICO-S3 project and from the more detailed analysis conducted in project JERICO-Design Study (JERICO-DS). Starting with a background perspective about the importance of communication to research infrastructures and the characteristics of JERICO-RI, it continues by proposing a two steps design, corresponding to two levels of granularity on the communication. The first step introduces a number of main communication objectives, narratives and messages that can be used by JERICO-RI to communicate with internal and external audiences along the complete lifecycle of the RI. The second level details specific communication directed to identified Target Audiences, and is aimed to be used during the first phases of the ESFRI lifecycle (Preparation and Implementation Phases). In this level of granularity, a specific communication strategy is proposed to Core Target Audiences, which include high priority Users and Stakeholders of JERICO-RI. The Communication Strategy also includes a general overview of the different communication channels and tools that JERICO-RI can use during the Preparation and Implementation Phases and a perspective of the expected activity that the RI will develop in the use of those communication tools during the two mentioned phases. A brief reference to organizational aspects of JERICO-RI communication is also provided.

1. Introduction

The JERICO-Design Study (JERICO-DS) is aimed to study and design a state-of-the-art, fit-for-purpose and visionary observational European Research Infrastructure (RI), that will provide expertise and high-quality data on European coastal and shelf seas. Such infrastructure - JERICO-RI - will support world-class research, high-impact innovation and European excellence worldwide. The Design Study will support the proposal of JERICO-RI to enter the European Strategic Forum of Research Infrastructures (ESFRI) Roadmap. It will plan the European Research Infrastructure for Coastal Ocean Observations taking in account the multi-decade timeline that corresponds to the different phases of insertion in the ESFRI Roadmap.

1.1 Research Infrastructures

Research Infrastructures play a key role in our society, through complex and diversified ways that were captured by the Brno Declaration on Fostering a Global Ecosystem of Research Infrastructures (EU2022.CZ), issue at the end of the recent International Conference of Research Infrastructures (Brno, Czech Republic, 19-21 October 2022). Research Infrastructures:

- are top-class facilities providing the research and innovations communities with the unique conditions that are essential to conduct to the main breakthrough research, to drive excellence, to advance in technology development, to feed science-driven innovation and provide services in support of tackling the great societal challenges, including the United Nations Sustainable Development Goals;
- bring together a critical mass of human, material and financial resources and integrate a large variety of stakeholders in a multi-disciplinary and cross-sectorial way;
- strengthen the resilience and preparedness of the society to address crisis scenarios requiring knowledge- and science-based solutions;
- anchored in regional and national strategies, they can trigger and accelerate societal and economic development of their sites and neighboring regions through attracting both public and private investments (e.g., science and technology parks, innovation hubs, etc.), offering jobs (managerial, scientific, technical, administrative and other highly skilled positions), stimulating the supply chains, and amplifying the civil infrastructure and related services;
- by creating geographically well-balanced and excellence-based networks of knowledge hubs, have a huge potential to help bridge the research gap and close the innovation divide between macro-regions;
- can increase the competences of communities to resolve their local and regional urgent social, health, environmental and economic needs, as well as to contribute to responding to the grand societal challenges of the macro-regional and even global relevance and impact. In that way, the RIs ecosystem represents a key component of the critical infrastructure (i.e., physical and virtual systems and assets which are essential for the functioning of a society and its economy), in addition to energy,

environmental, emergency, healthcare, defense or security infrastructures. It empowers scientists and equip innovators to come up with novel and feasible solutions to address sudden threats, and increase the immediate response capacity of the society to deal with acute crisis scenarios;

- when operated on a broad access policy basis for all their potential users, can catalyse scientific enterprise by concentrating needful resources and help maximise the returns of R&I investments. They also enable broader and more diverse user communities to achieve R&I results that would be very difficult to achieve by individual R&I actors;
- when they have a strong international dimension, including those based on interconnected networks of RIs, benefit from exchanging experiences and good practices. They enrich their outputs from sharing access to their scientific data and information. They attract talents and, therefore, act as platforms for talent circulation. They can join their forces to tackle grand societal challenges on a global scale. For that purpose, they need to address interoperability requirements, including for their evolution and instrumentation.
- with an international dimension, in addition to their primary R&I missions, can play a key role as tools facilitating science diplomacy, keeping communication channels open and building trust between nations and cultures, including those with difficult political relationships. The current geopolitical situation has put this role to a test

The importance of this long description of the different tonalities assumed by Research Infrastructures is that it allows us to clearly see that although the purpose and *modus operandi* of a specific Research Infrastructure can be simply stated, the ways in which it interacts and impacts the global society are always complex and multi-toned.

1.2 The importance of Communicating Research Infrastructures

In such a complex picture, it is no surprise that Communication assumes a key role. A well designed communication strategy should provide the mechanism through which the Research Infrastructure can maintain a permanent dialogue with their multiplicity of users and stakeholders, both at internal and external level, exploring the channels and providing the messages that more suitable, at each time, to inform about the RI capabilities, to present the data and products that explore the full potential of the data collected, to maintain the engagement of the users communities and funders and other stakeholders, to assure the long-term sustainability and to maintain the community engaged in the overall mission.

The importance of communication was also well expressed in the online consultation conducted in communities such as the European Research Area (ERA) stakeholders, ESFRI projects, ESFRI delegations, ERICs and others, launched by the European Commission in December 2015 (European Commission, 2016) with the aim of collecting their views on the interrelated pre-conditions that could ensure the long term sustainability of Research Infrastructures and the potential actions or measures to tackle the challenges posed by their implementation.

The responses to this survey highlighted that the international outreach of RI is only limitedly addressed and that improving cooperation with strategic partners and stakeholders and promoting it with an effective and multi-channel communication strategy are considered the main measures to tackle the challenges posed by the need to better structure the international dimension of RIs.

In some cases, user consultations are complemented with the inputs from scientific advisory boards, panels of experts, other RI and industrial partners. These pointed out that upgrading of the infrastructure will be most importantly based on available facts and figures from the actual usage of the RI services and user feedback. In addition, they also suggest that any decision on upgrade will be taken based on close communication with the nodes and researchers regarding their technology needs and expectations, the technology trends relevant to industry on latest instrument and prototype developments, advice from independent and internationally leading senior scientific and technical experts, from RI operators to public

When asked to identify measures that could better promote the international outreach and visibility of pan-European RIs, in particular in the international domain, the consulted communities recurrently indicated as the main theme the improvement of the communication strategies and networking events. More specifically, many responses pointed to the importance of enhancing cooperation with strategic partners and stakeholders, particularly the establishment of global wide collaboration within the community in order to increase the development and use of RI with international partners/communities beyond Europe, ensuring scientific and technological excellence of European RI. Many others suggested to better promote dissemination and communication actions and to increase the number of International outreach events by organizing workshops, seminars and conferences.

The urge for an effective communication strategy is particularly well expressed by the words of one of the respondent to the survey: "Adopt a communication strategy that, beyond outreach, education and training activities, involves also:

- a public debate as a basis to integrate societal needs, ideas and expectations in the definition of research programs, and
- a dialogue between research and innovation actors (which can be promoted, for instance, by organizing workshops between scientists and companies' representatives)"

In summary, the EU survey highlighted improving cooperation with strategic partners and stakeholders and promoting it with an effective and multi-channel communication strategy are the main measures to tackle the challenges posed by the need to better structure the international dimension of RI (European Commission, 2016).

Communication is also at the core of the resolutions adopted in 2022 by the European Research Council regarding Research Infrastructures (RIs). Seen as a cornerstone in the development of the European Research Area (ERA), the Council conclusions recognize the need to further strengthen Research Infrastructures and facilitate broader access to them, since they can greatly contribute to the competitiveness of the European economy. In particular, it stresses that the objectives of the new European Research Area:

- More investments in research and innovation for a green and digital future

- Uptake of research and innovation results on the markets
- Better access to infrastructure and facilities for researchers
- Promotion of researchers mobility, skills and career development opportunities
- Support for open science and better knowledge-sharing
- Promotion of gender equality
- Stronger engagement of citizens and research and innovation organizations

can only be achieved if a strong communication strategy is implemented allowing that each Research Infrastructure can inform and engage their audiences.

Important discussions on the specificities and requirements of the communication supporting Research Infrastructures were recently conducted and these can provide important feedback to guide JERICO-RI design of communication strategy. The importance of communication to attract investment in RIs in the future was at the core of the roundtable discussion on "The investment challenge: How to assess the impact of research infrastructures", hosted in June 2022 by Science|Business in partnership with Elsevier and gathering representatives from RIs and European Union institutions, governments officials, funders, scientists and industry executives

The discussions highlighted that presently public funding to RIs must be justified and that global value is expected. Participants highlighted the importance of engaging the broader scientific community, particularly the importance that the scientific community clearly explain its needs and the challenges the RIs will enable it to overcome.

Research Infrastructures made available key data to boost scientific research. But data is, however, not enough as one of the participants in the meeting emphasized. It should always be accompanied by context and narrative. RIs need to address how they can help societal development and scientific excellence. This can begin with describing RIs as places of continuous learning and discovery, one participant suggested, and stakeholders understanding how they can impact RIs and vice versa.

Scientists can provide strong arguments for the negative impact of not investing in RIs, but not necessarily the need for and benefits of them. Policymakers may have difficulty justifying their investment decisions because they cannot explain the scientific narrative in a convincing way. For politicians, short-term pitches are often required because they may not be in power for long, while long-term pitches are appropriate for the scientific community and the Commission as part of an EU strategy for competitiveness.

Ultimately, "our best allies are citizens and we need a different narrative for them". This means thinking about the social impact and common good of RIs, in addition to return on investment and risk-benefit analysis. Benefits to citizens are paramount, as well as a low-carbon footprint. And the importance of communicating a compelling narrative to taxpayers.

These ideas go in the same direction of the conclusions from the discussion that recently gathered a group of specialist invited to contribute to the discussions on the theme "Society and Economic Benefits and impact of Research Infrastructures" that were held during the International Conference on Research Infrastructures (Brno, Czech Republic, 19-21 October

2022). Debating during a session dedicated to "Communicating successes and raising awareness among decision-makers, their influencers, and the public" (O'Neill. et al., 2022), the panelist recognized that one of the main challenges in communicating the importance and benefits of Research Infrastructures to decision makers and the public is the complexity of the language of science and how to translate it to wider communities without creating communication barriers. They highlighted that it is important to make the case to policy makers that the money spent on research and research infrastructures will return value to society, both in the short and especially in the long term. Given that science is rarely at the top of the political agenda, it is important to find ways to properly communicate the potential benefits of research whose outcomes are inherently uncertain. In this perspective, they consider that storytelling (from promises and plans to results and benefits for society) is an effective communication tool to achieve these goals.
The main points to communicate better about RIs are, in their view:

- to know your audience well and adapt the way you communicate to them,
- to focus on people and results, not RI itself,
- to communicate these results simply and compellingly using visualizations.

In essence, successful RIs communication is about finding ways to connect with individuals (the public, influencers or decision-makers). And the basis of good communication is simplicity. And a key aspect not to be forgotten is to give feedback to the researchers involved in the communication.

In a more detailed discussion about communication tools, these experts considered that investing in communication marketing strategies and making heavy use of the complex social media environment are also part of effective communication and agreed that press releases may not be the best communication strategy and that visuals are a very good tool to get the message across, keep the momentum of the communication going and maximize its impact on the target audience (O'Neill. et al., 2022).

1.3. Elements supporting the shaping of JERICO-RI communication strategy

In the preparation and designing of the JERICO-RI communication strategy a number of supporting guidelines and material were used.

General EU Communication and Visibility Guidelines

The main guidelines for communication emanated by the European Union provide a starting point for designing a communication strategy of a coastal ocean research infrastructure (JERICO-RI) aimed to integrate the ESFRI roadmap. These guidelines are described in EU documents such as, for example, the recent "Communicating and raising EU visibility - guidance for external actions" (EU, 2022), provided by the European Commission's Directorate-General for Communication and intended to support partners implementing a number of specific EU-funded external actions. The guidance provided in these documents can be adapted to shape our communication strategy.

Strategic communication is identified in these documents as a key component of EU programs implementing the EU political priorities. Strategic communication plays a key role in raising awareness of the EU political priorities and demonstrating the EU's positive contribution to people's lives. The EU intends to focus its communication effort on key political priorities and activities that demonstrate scale and impact. Communication activities should focus not only on what the action is, but why it is needed, including by emphasizing shared values, interests and impact. By doing so, these will help ensure awareness, understanding and perception of the EU and its role in the world, demonstrating the added value of the EU's support

A Strategic Communication Plan should be prepared, based on sound analysis, proper sequencing, and an appropriate budget, ensuring the requisite scale and focus to achieve impact. It should cover, at least, the following elements:

(a) A **narrative**, focusing not only on what the action is, but why it is needed, including by emphasizing shared values, interests, and impact. Effective messaging requires researching how the target audience thinks and feels, and why. It involves understanding their needs, hopes and fears. By framing messages in a way which resonates with the values, interests, and motivations of the target audience, they are more likely to remember and act accordingly.

(b) Specific and measurable **communication objectives**, that should be ambitious yet attainable, aligned to the overall objectives of the action. Only objectives that are relevant to achieving the overall goal should be included, indicating the timeframe required for achieving the objective

(c) Properly identified and segment **target audience**, a key factor to successful communication. Each objective may have multiple target audiences, and the Strategic Communication Plan should ensure that messages and tactics for reaching each one are defined accordingly.

Audience research is recommended to better understand their values and drivers, meaning messages are framed and communicated in a way which resonates with them. In a broad perspective, strategic communication activities should primarily target two complementary types of audience: Wider audiences, comprising ordinary members of the public who are not involved in the specified field of the action and who may not be aware of the EU action, and specialized audiences, including key expertise in the fields of the action and opinion leaders, the wider research community, think tanks, business community and private sector and other relevant multipliers

(d) A proposed **approach** that will be adopted to achieve the objectives and that is dependent on the audience targeted. This involves the identification of:

- the channels that best reach our audience, of the content that may reach and resonate on our different audiences and is appropriate to the channel used,
- networks and multipliers, among the different partners, that can increase reach, credibility and impact,
- influencers, recognized voices who can not only amplify the reach of content, but who can also connect with and engage the target audience.

(e) The different **activities** that, at different stages of the project cycle, may be required. These must always be designed to fit the objectives and target audiences.

(f) A clear strategy for **measuring the impact** MEASURING IMPACT by adopting clearly defined key performance indicators (KPIs) to measure, in a continuous and systematic way, the activity's success in meeting the objectives set, thereby also improving transparency and accountability of spending on communication.

(g) An evaluation of the **risks** that may eventually be associated with the planned communication activities, according to the context and previous experience. These risks may mean that the activities do not succeed, are misinterpreted, or do not reach the targeted audiences. For each risk identified, an assessment should be provided about its likelihood, impact, and the mitigation measures which should be put in place to minimise the risk as much as possible.

(h) A **budget** in which the Strategic Communication Plan must be properly resourced. The budget foreseen should be commensurate with the scale, context and nature of the activities proposed.
(As a general guideline, recommendations to allocate approximately 30 percent of the communication budget for the production of content and the remaining 70 percent for dissemination via relevant channels).

Specific Communication for Research Infrastructures

The recognition of the key role of Communication for the success of a Research Infrastructure led to a number of European funded projects that aimed to specifically discuss this subject and develop tools that would help Research Infrastructures in the shaping or their own Communication Strategies. This was the case of H2020 funded project RI-VIS ("Expanding research infrastructure visibility to strengthen strategic partnerships") which, between 2019 and 2022, gathered 13 partners from 12 RIs working in the fields of biomedical sciences, social sciences and environmental sciences with the aim of increasing the visibility of European research infrastructures to new communities in Europe and beyond (RI-VIS webpage, https://ri-vis.eu/network/rivis/home))

In the present report, we follow several of the recommendations issued by the RI-VIS team, with a particular focus on the guidelines developed in Deliverable 4.2, "Communication Strategy" (Vincenz-Donnelly et al., 2020). This RI-VIS deliverable was aimed to provide a guide that helps research infrastructure managers to develop a communication strategy for their own research infrastructure. The document is complemented by a "Communication Toolkit for European Research Infrastructures" (Costa Abecasis et al., 2020) which provides a practical set of tools, guidelines and materials to integrate into communication strategies and activities of research infrastructures.

The experience gathered by existent Environmental RIs

The design of the communication strategy for JERICO-RI also benefited from the knowledge developed by other Environmental Research Infrastructures. A particular importance is given to European RIs and, among these, to the ones with which JERICO-RI can directly

articulate. These include, for example, the European Multidisciplinary Seafloor and water-column Observatory European Research Infrastructure Consortium (EMSO ERIC, Dañobeitia et al. 2021), the Integrated Carbon Observation Systems (ICOS ERIC; ICOS ERIC, 2019) or the European Plate Observing System (EPOS-ERIC). A particularly detailed overview of the communication strategy adopted by the EPOS-ERIC was presented in Balli et al. (2022), aimed as a framework in which other Research Infrastructures can inspire to design their own communication strategies.

In a broader perspective, the discussion on how the communication activities of the different Environmental Research Infrastructures (ENVRI community) in Europe can articulate and benefit from common communication and engagement actions, was developed in the framework of ENVRI FAIR project and directly involved the JERICO-RI communication team (as part of the activities developed in JERICO-S3 project).

The work developed involved 17 Research Infrastructures (ICOS ERIC, LifeWatch ERIC, EUFAR, IAGOS, EMSO ERIC, SIOS, eLTER, DANUBIUS, EISCAT, EUROFLEETS, AQUACOSM, Euro-Argo ERIC, EMPHASIS, EMBRC, ACTRIS, AnaEE and JERICO-RI) as well as representatives of the Board of EERi, and led to the dissemination of a document on ENVRI community building, engagement and communications strategy (Brus, M. et al., 2020).

It was also of particular importance to analyze the experiences in the area of communication that was gathered by Ocean Observing Systems operating outside Europe, with particular emphasis for those systems that address the coastal ocean environment.

The U.S. Integrated Ocean Observing System (IOOS) is a national, integrated, and centralised ocean observing system that prioritizes regional needs and has become a premier source of authoritative ocean, coastal, and Great Lakes data, information, and services that meet the safety, economic, and stewardship needs of the US (U.S. Integrated Ocean Observing System, 2022). IOOS is a "system of systems" that links local and regional coastal, ocean, and Great Lakes observations to the national and global level, and comprises a national network of 11 Regional Associations. IOOS partners are distributed across Federal and state agencies, non-governmental organizations, and private industries around the country. Coordination and communication are essential for success.

IOOS relies on balanced and robust partnerships built on trust and a shared mission. It closely works with the national network of Regional Associations to develop and nurture these relationships on a regional and national level. Underserved communities must be engaged in the co-design of observing systems and tailored products to ensure that all have access to information and tools needed to fully prepare for and respond to coastal change. As stakeholder needs evolve over time, partnerships must remain nimble and transparent through effective communications and engagement to remain a cohesive and effective Enterprise. (U.S. Integrated Ocean Observing System, 2022). IOOS specific objectives also include fostering the next generation of science, technology, engineering, and math specialists through targeted education, training, and research opportunities as wells as elevating outreach and engage new audiences to convey the societal and economic value of sustained ocean, coastal, and Great Lakes observing systems

1.4 Designing JERICO-RI Communication Strategy: the approach followed in JERICO-DS

Designing the long-term communication strategy for JERICO-RI was a main goal of JERICO-DS Work Package 6 ("Communication strategy") of JERICO-DS, in parallel with the communication strategy of the project itself and the general one internal to the consortium. From the JERICO-DS DOA, the activities developed by JDS WP6 are taken as pilot actions for designing the communication strategy of the future RI.

WP6 was structured in five tasks, each one contributing with key elements for the overall JERICO-RI communication strategy as shown in Figure 1. Task6.1 (Internal communication) developed the internal communication strategy required to build a strong cohesive community around the evolution towards the ESFRI roadmap. This task originated two milestones, MS6.1 (Report on Dissemination and Exploitation of Knowledge) and MS6.2 (Report on Training on the ESFRI methodology and expectations) describing the most suitable communication tool (e.g specific web page, dedicated newsletter, specific action in social media) that can be used to promote a broad information about ESFRI and the ESFRI call among the partners.

A total of 3 tasks were used to shape the external communication strategy. Task 6.2 (Engaging with Users) focused the Users community exploring the different communication messages, channels and tools to promote JERICO-RI among the main users (Case Study), synthesizing the results in MS 6.5 (Communication Plan directed to Users).

Task 6.3 ("Engaging with Selected Stakeholders") was dedicated to design JERICO-RI communication aimed to engage the main stakeholders of this Research Infrastructure, leading to MS6.5 (Communication Plan to Engage Stakeholders) where the main results were synthesized. In this task, a particular emphasis was given to the communication dedicated to engage National Governments and European Institutions. A base stone of the Design Study is the nation's involvement in the co-construction of JERICO-RI, from the scientific and technical design to the business plan and governance, to support their future engagement towards a Preparation Phase. Accordingly, the focus was centered in the establishing of the links with the nations, through the dialogue with the different representatives and the interaction of these with the national governments. (MS 6.4, Specific communication tools to engage National Governments).

Finally, Task 6.4 developed the communication strategy that JERICO-RI should develop to potentiate the visibility of the Research Infrastructures and the engagement of the Society in general. This included the implementation of national language translation the JERICO-RI website (described in D6.1) and a study of the most efficient communication strategy to engage with society in general and to develop in the young generations of Europe the interest in Marine Sciences and Technologies, detailed in MS 6.6 (Report on Case Study for Interactions between JERICO-RI community and initiatives at national level in education)

An important aspect that should integrate the communication strategy is the evaluation of the performance of the infrastructure in those aspects that relate to communication. This was developed in Task 6.5 that proposed a number of communication Key Performance

Indicators that can be integrated in the JERICO-RI overall KPIs (MS6.2, Identified Potential Communication KPIs to feed general KPIs table).

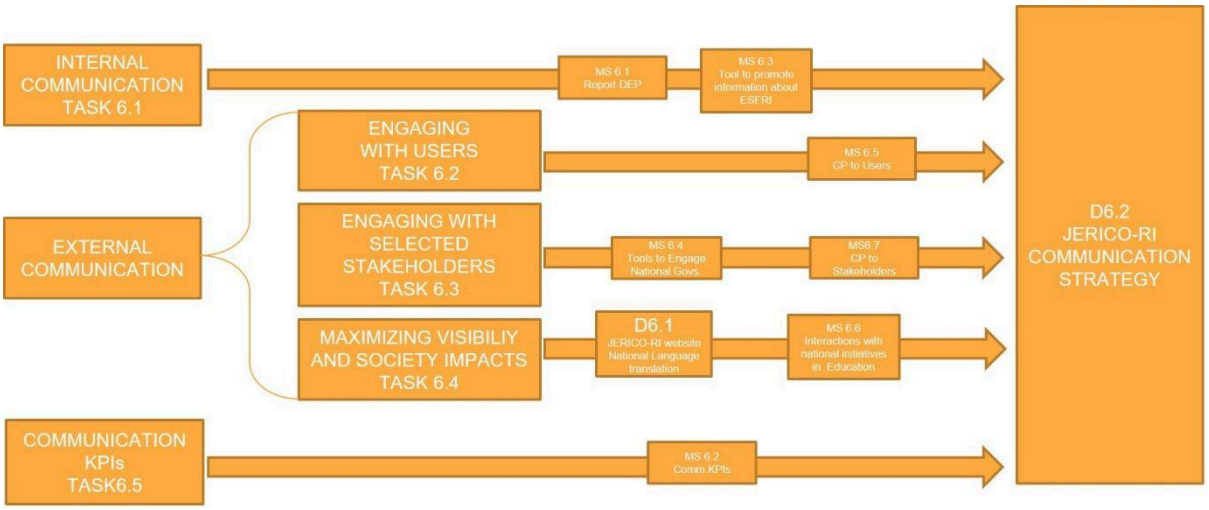

Figure 1. Structuration of the JERICO-DS "Communication Strategy" Work Package (WP6)

The ESFRI process and the timelines for JERICO-RI communication

Following the proof of concept step that was developed by projects JERICO (FP7), JERICO-NEXT (H2020) and JERICO-S3 (H2020, ongoing), JERICO-DS develops the Design Study of a European Research Infrastructure for the Coastal Ocean. This corresponds to the first step in regards to the insertion of the JERICO-RI in the ESFRI roadmap and in the ESFRI cycle for a Research Infrastructure.

The development, submission and evaluation of the JERICO-RI proposal to the ESFRI roadmap can be viewed to occur in a time frame of 2-3 years. If the JERICO-RI proposal to integrate the ESFRI roadmap is succeeded, the coastal ocean research infrastructure will then start a period of 4-5 years (Preparation Phase) during which the design and planning of the research infrastructure is fully consolidated.

The Preparation Phase being completed with success, the Research Infrastructure will continue to the Implementation Phase, a period of 3 years during which the different components required for full operation are implemented following the previously prepared design. It is only after completion of this phase that the Research Infrastructure can step forward to full operation, starting with a Pre-Operation Phase (1 year duration) which is followed by the fully Operation Phase (decades duration).

In the course of these different phases, the JERICO-RI communication is expected to evolve, adapting to the different needs and the changing characteristics of the Research Infrastructure, of the Target Audiences and of the Communication Channels and Tools that best respond to the needs. Trying to accommodate, in the present Communication Strategy, all these future requests was simply not possible, considering the large time span involved

and the many different needs that at each stage can emerge. In alternative, we have here followed a simpler approach that can, however, provide a basis for future development and consolidation of the JERICO-RI Communication Strategy.

The approach develops in two steps, which correspond to two levels of granularity that we can associate to the JERICO-RI communication strategy. The first step corresponds to the identification of (core) Main Objectives for Communication, both for Internal Communication as well as for External Communication. These objectives are derived from the JERICO-RI Vision, Mission and Values (presented in JERICO-DS Deliverable D5.3, synthesized in section 2.1), and are expected to persist as key guidelines along the lifetime of the research infrastructure. For each one of these core communication objectives, we associated a Narrative and Main Messages. In anticipation that these will change from the Preparation/Implementation Phases to the Pre-Operational/Operational Phases, these two time windows are considered. The Main Messages are, in some cases, already the results of a broad discussion and approval by the JERICO-RI partners, in other cases simply indicative of the messages that should in the future be discussed.

The second step corresponds to a more detailed view of the communication strategy that JERICO-RI can implement in the timeframe of the Preparation and Implementation Phases, covering roughly a period of 5 to 10 years from now, that we designate as the Medium Term. This strategy is direct to audiences that are already identified and have specific objectives that, at this stage, can be well defined.

2. Communication Strategy of JERICO-RI

In this section we describe the long-term Communication Strategy (and related Communication Plan) of JERICO-RI. The overall objective of the Communication Strategy to be proposed to JERICO-RI is to support and promote the development of the Research Infrastructure to meet the high-level goals expressed in its Vision, Mission and Value statements, which are here summarized in section 2.1. These will provide the basis to shape a core of main objectives for communication and associated narratives and messages, both for internal communication (section 2.2) as well as for external communication (section 2.3).

The Main Objectives for Communication described are seen as the backbone for the development of an overall communication strategy for JERICO-RI, from which specific communication objectives, narratives, messages and actions, adapted to different audiences and different time periods, can be derived.

2.1 JERICO-RI Vision, Mission and Values

The JERICO RI Mission, Vision and Values were developed by JERICO-DS and are expressed in Deliverable D5.3 (JERICO-RI Conceptual Design Report).

VISION: JERICO will be the integrated gateway to pan-European observations of marine systems (observing strategy, expertise and data) and related services, supporting science and sustainable socio-economic development.

MISSION: JERICO mission is to provide pan-European harmonised observatories, facilities, expertise and data in support to a sound understanding of coastal ecosystems and their responses of coastal marine systems to natural and anthropogenic stressors.

To do so, JERICO adopts a systematic approach to observe, explore and analyse coastal marine systems and processes in order to reach reliable information of their structure and functioning in the context of global change and anthropogenic impacts. JERICO supports the whole range of environmental sciences, technologies and data sciences. It performs observation at pan-European, regional and local scales, through the integration, implementation and the harmonisation of multi-platform and multidisciplinary observation systems. JERICO enables open-access to state-of-the-art and innovative facilities, expertise, FAIR data and fit-for-purpose services, fostering international science collaboration and best practices.

VALUES:

- JERICO cares the marine environment
- JERICO declines scientific excellence through a regional approach
- JERICO implements multiplatform and multidisciplinary observation systems
- JERICO seeks for collaboration and co-creation
- JERICO removes barriers

JERICO-RI Specificities

JERICO-RI is distributed along 14 different countries, covering a broad range of marine and maritime regions each one with specific scientific priorities, user needs and administrative rules. This results in a heterogeneous community of intermediate and end-users, among nations, marine and maritime regions, both in terms of sector of activities and scientific problems. The JERICO-RI user community includes stakeholders, as key external users as well as internal ones at various levels of engagement and interest, such as scientists, national, regional, or local funding bodies, private companies, industries, citizens, etc.

To accomplish the particular purpose of JERICO-RI, a key concept has been designed through the previous JERICO projects and in some National Research Infrastructures that considers the entire data cycle: from sensor and method developments to products and services, following the FAIR principles. Because of its pluridisciplinary aspect, involving biology, chemistry and physics, the ecosystem approach of JERICO-RI implies to deal with multiple data life cycles, which nowadays are driven by various harmonisation procedures and organisation.

The development strategy of JERICO-RI has been elaborated to tackle three main Key Scientific Challenges (Grémare et al., 2019). This strategy is aiming at strengthening and enlarging a solid and transparent European network in providing operational services for the

timely, continuous and sustainable delivery of high-quality environmental data and information products related to marine environment in European coastal seas. In the elaboration of the JERICO-RI strategy, a fundamental aspect is the integrative character of the coastal ocean observation. Enhancing the integration of the coastal ocean observation is the bedrock of the JERICO strategy that will support the 3 structuring pillars of the strategy:

- Pillar #1: Fostering societal impact for a larger community of stakeholders,
- Pillar #2: Developing innovative technologies for Coastal Ocean observing and modeling,
- Pillar #3: Interfacing with other Ocean Observing Initiatives.

All together these 3 ground floor pillars are transferring the integration strength of the bedrock, supporting the establishing observing objectives, strategy and implementation both at the regional level (organized in 13 regions) and at the pan-European level.

2.2 JERICO-RI Internal Communication

2.2.1 Main Objectives for Internal Communication and associated Narratives

Three Main Objectives for Internal Communication (MOICs) are proposed here as the main axis for internal communication JERICO-RI. These correspond to nuclear objectives for the JERICO-RI internal communication strategy, which should persist through the Preparation and Implementation Phases to the Pre-Operation and Operation Phases, although with changes in the narratives. Following the discussion in section 1.4, two timelines are associated with each one of these Main Communication Objectives.

MOIC#1: (Internal Communication should be used to) maintain implementing partners aligned towards JERICO-RI development/operation and the ESFRI process.

- Timeline1 (Preparation & Implementation Phases):
  - Description: Two-way communication is required during these phases to guarantee that all the implementing partners have a clear view on how the RI is being designed and implemented, consolidating their understanding of the ESFRI process and guaranteeing that national perspectives and expectations are shared inside the community. This last aspect assumes a particular importance during these two phases, when national commitments are being consolidated.
  - Narrative: JERICO-RI builds from the engagement of different national partners, sharing a common vision that merges diverse national views. A successful inclusion of JERICO-RI in the ESFRI roadmap requires a full understanding, from all implementing partners, of the ESFRI processes and the requirements the RI needs to comply to be part of the roadmap.
  - Main Messages: JERICO-RI builds from the nation's engagement and commitment.

- Timeline2 (Pre-Operation & Operation Phases):

- Description: JERICO-RI enters in full operational mode and a continuous (two-way) communication connects the RI coordination and the different national partners, contributing to assure a smooth operation of the infrastructure and the fulfillment of its objectives, while fulfilling ESFRI requirements.
- Narrative: Fulfilling JERICO-RI mission depends on a permanent engagement and commitment of the national partners. A continuous communication is the basis for assuring the cohesion of the community around the common objective.
- Main Messages: JERICO-RI builds from the nation's engagement and commitment.

MOIC 2: Inform implementing partners about achievements, need to improve, others, contributing to build and maintain a community spirit.

 Timeline1 (Preparation & Implementation Phases):

- Description: Sharing among the JERICO-RI community our achievements and exploits, our weakness and needs to improve, is essential to build a sense of community engaged in the co-creation of a European infrastructure, inserted in the ESFRI roadmap. During these two phases, these are trump cards to use in engaging to secure nations commitment.
- Narrative: JERICO-RI is a dynamic and living entity, with achievements, needs to improve, areas that require additional concentration of efforts or collaborations, and success stories. Understanding how the JERICO-RI evolves and how the vision is being built is key to connect partners to the community.
- Main Messages: JERICO-RI means working together, sharing experience and going beyond imagination in the exploration of the coastal ocean. It's triggered by a continuous impulse to improve and expand its horizons

 Timeline2 (Pre-Operation & Operation Phases):

- Description: JERICO-RI is progressing to the full operational phase, the sharing of the different RI success stories will contribute to consolidate the sense of mission achieved and boost new ideas for improvements. Sharing of needs to improve continues to be essential to rapidly progress.

- Narrative: JERICO-RI is developing as a successful European RI, delivering the data, products and services that European users and stakeholders need. New opportunities and achievement's build from our successes and our clear perception of where we need to improve.

- Main Messages: A common perception, our strength to move farther

MOIC 3: Support implementing partners in communicating JERICO-RI to their national audiences (governments, users, general public), particularly to the national representatives in the RI Assembly of Members

 Timeline1 (Preparation & Implementation Phases):

- Description: During these two fundamental phases, the development of JERICO-RI is conducted at institutional, national, European and international level, the dialogue with the national audiences being of key importance to

assure that national relevant actors are involved in the process and nations commitment is secured. This requires impacting communication about JERICO-RI to be transmitted to the national partners.

- Narrative: JERICO-RI builds from the nation's commitment to the coastal ocean. Engaging the diverse national actors for the coastal ocean, maintaining nation's governments secure the political support, requires that JERICO-RI is adequately transmitted to these national audiences.
- Main Messages:
  JERICO-RI builds from the nation's engagement and commitment.
  JERICO-RI - supporting national communities, answering European challenges

- Timeline2 (Pre-Operation & Operation Phases):
  - Description: JERICO-RI is in full operation and a permanent monitoring of how it fits to nations expectations and needs is fundamental to maintain the nation's commitment, securing political and financial support in the long-term. Dialogue with national partners is needed to understand what messages work best among the national audiences, and build from there specific JERICO-RI communication directed to nations.
  - Narrative: JERICO-RI data, products and services can only serve Europe purposes if they fit the nation's needs. JERICO-RI perception by national audiences evolves in time, and partner's feedback is the key to assured that JERICO-RI messages have impact on these audiences.
  - Main Messages:
    A sustainable JERICO-RI is the one that talks with nation's language
    Dialoguing with Nations, looking closer to see at European scale.

2.2.2 Specific Objectives for Internal Communication in the medium term

In the timeframe of about one decade, JERICO-RI is expected to progress along the Preparation Phase to the Implementation Phase, accomplishing fundamental steps in the structuration of a functional and responsive Research Infrastructure and in the consolidation of the national expressions and commitments. During this period, JERICO-RI will have to consolidate and implement its vision, to secure nations engagement, to expand and open to users a number of products and services, among many other tasks.

Besides the global objectives mentioned before, specific internal communication should be developed, to address specific needs that arise during this crucial period. These can comprise:

- Specific communication objectives for this period also include a strong publicizing of JERICO-RI in:
  - general meetings gathering the implementing partners and aimed to discuss the general aspects of the RI structuration and implementation, where specific narratives and messages addressing the needs of the stage of development can build and disseminated among partners,

- sectoral meeting, held between the infrastructure and the partners from a specific nation or from a group of nations in a specific region, which can be used to discuss and/or share communication strategies and materials to further promote the engagement of the national communities.

- The optimization of JERICO-RI website capacities to promote internal communication
- The discussion with partners of national presence in the centralized JERICO-RI website versus the implementation of distributed JERICO-RI national nodes websites
- Identify the internal communication champions, partners that can strongly promote JERICO-RI inside the community

2.2.3 Channels and Tools for Internal Communication.

A broader discussion about the different communication channels and tools that JERICO-RI can use to reach their target audiences, both internal as well as external, is conducted in section 2.4. Here we detail a few aspects that are specific to the channels and tools used for internal communication.

In the course of JERICO-S3 and JERICO-DS projects, several mechanisms to promote the internal communication between partners were explored. Among them, audience interaction tools such as Slido or Mailchimp were used by some of the groups. Also visual collaboration platforms such as Mural or Miro were explored, particularly in association with main events, to collect the community perspective over key aspects about the research infrastructure and ways to move forward towards the ESFRI process.

From the experience gathered in these projects, which developed under normal and abnormal (Covid19 crisis) conditions, the more robust and efficient ways to promote a permanent internal communication were achieved through the combination of:

- Email exchanges
- Virtual Meetings (conducted using platforms such as Zoom or Teams)

complemented by in person meetings that are conducted at specific moments (general assemblies, steering committee meetings, task team meetings)

In particular, the relevant information about the ESFRI process has been successfully transmitted to the consortium through the National Representatives Meetings. These were used not only to inform the partners about the ESFRI process, but also provided an opportunity for sharing information collected by the partners during the meetings with their ESFRI National Representatives. This contributed to developing a team spirit and the alignment of the JERICO-RI community towards the ESFRI process. During the Preparation and Implementation Phases, this same approach can be adopted to promote a more efficient internal communication during the period where critical developments of the Research Infrastructure may occur in relatively short time periods. During implementation, the mechanisms to promote efficient internal communication should be evaluated and reformulated to cope with the new needs and organization functioning when JERICO-RI enters the full operation phase.

The JERICO-RI website, although more specifically aimed to promote the external communication of JERICO-RI, can also be used as a specific tool to reinforce the overall perception that each partner gets about the research Infrastructure. In this regard, the JERICO-RI website can in the future incorporate more material directed to internal communication, addressing for example the challenges faced by this distributed, pan-European Research Infrastructure, and contributing to maintain the alignment of all the partners.

The JERICO-RI repository of graphical material, photos and videos will provide the resources required to accommodate the material shared by the national partners or collected by JERICO-RI communication services. These will provide the area from where the RI communication office can collect material for institutional communication, but also from where nations partners can get materials to answer their needs in specific communication actions directed to their nations communities.

JERICO-RI Newsletter and Brochure, while mainly directed to the external audiences, can also provide a mechanism to connect the JERICO-RI community, informing about new developments and achievements.

2.3 External Communication

Following the methodology described in section 1.4, the JERICO-RI Vision, Mission and Values provided the basis to introduce a number of (core) Main Objectives for External Communication (MOECs). These are presented in section 2.3.1 below, and will be used to shape the long-term JERICO-RI communication directed to the different external audiences. Based on the identification of JERICO-RI Core Target Audiences, introduced in JERICO-S3 deliverable D10.4 and presented in section 2.3.2, a detailed communication strategy for JERICO-RI is proposed for each of these audiences for the time window of 5-10 years (that we designate by the Medium Term) covering the Preparation and Implementation Phases of the ESFRI RI lifetime cycle.

2.3.1 Main Objectives for External Communication and associated Narratives

The three Main Objectives for External Communication are:

MOEC #1: Promote JERICO-RI data, products and services among the different users

- Timeline 1: (Preparation & Implementation Phases):
  - Description: JERICO-RI communication engages different users at national, regional and European level, "making the case" for the add-value of a pan-European Research Infrastructure in providing the essential data, products and services required to boost scientific knowledge and to capacitate Europe to answer to the Grand Societal Challenges, capturing their interest in knowing more about the RI and to become engaged.

- Narrative: Europe's coastal ocean is a complex and strategic domain, where phenomena connecting different geographical regions and operating at diverse spatial-temporal scales concur to shape environmental conditions, to support ecosystem sustainability and to modulate the fate and well-being of Human population. JERICO-RI brings together the installed capacities and expertise of more than 19 European countries, operating more than 672 different observing systems, articulating and harmonizing those efforts to deliver to the users a unique pan-European containing the multiple dimension in which the coastal environment unfolds, and a portfolio of high quality FAIR data and related products and services required to support the research community, Blue Economy actors, policy makers and general public, among many others.
- Main Messages:
  JERICO-RI, the European gateway to long-term scientific observations and related services for European coastal marine systems
  JERICO-RI - Marine Coastal Observatories, Facilities, Data and Expertise for Europe
  JERICO-RI, FAIR data, add-value products and services for the coastal ocean

 Timeline 2 (Pre-Operation & Operation Phases):

- Description: During the previous period, JERICO-RI consolidated among a group of initially engaged users its recognition as a reliable provider of a unique offer of data, product and service for the European coastal ocean. As it enters the full operational phases, it expands its constellation of users, using different communication actions, channels and tools to explore new engagements and opportunities.
- Narrative: JERICO-RI is the European Research Infrastructure for the Coastal Ocean, operating observing systems all around Europe and with a robust knowledge of the provision of data, products and services to the Research Community and other users and stakeholders. Success stories of already engaged users provide the basis for showing the RI reliability in providing the key information needed for the European coastal ocean.
- Main Messages:
  Coastal Ocean Knowledge spells JERICO
  JERICO-RI, a present and reliable partner in Europe's coastal ocean environment

MOEC #2: Promote the engagement of funding entities at European and National level.

 Timeline 1 (Preparation & Implementation Phases):

- Description: JERICO-RI reinforces and consolidates the nation's commitments, making the case to national governments and European structures for the need and added-value of a European Research Infrastructure for coastal ocean observation.
- Narrative: JERICO-RI, the European Research Infrastructure for the Coastal Ocean, fills an essential gap in the European Research Infrastructures landscape, bridging the deep ocean and continental domains, the atmosphere and the sea bottom domains. It brings together the installed capacities of 19 nations along the complete pan-European coast, providing the essential observations that enable scientific breakthrough on key coastal ocean/marine challenges (climate change,

impacts on coastal populations, marine biodiversity), supporting the Blue Economy, environmental managers and crisis response structures..

- Main Messages:
  Filling the Coastal Ocean Gap, Answering to Grand Societal Challenges
  JERICO-RI, a key player in the European and National agendas of Innovation, Competitiveness, Climate Action, Green Deal, SDGs.

 Timeline 2 (Pre-Operation & Operation Phases):

- Description: National Governments and the European Commission are the core funding entities for the Research Infrastructure. During the different phases of implementations and operation, other funding
- Narrative: JERICO-RI continuously adapts to the evolving needs of Nations and Europe, providing seamless support and impacting strongly the communities it serves, reinforcing the long-term commitments of JERICO-RI stakeholders and funders.
- Main Messages:
  An incubator of knowledge and technology for the marine environment

MOEC #3: Promote Research of Excellence in a Europe Globally Engaged

 Timeline 1 (Preparation & Implementation Phases):

- Description: JERICO-RI inscribes in the landscape of European Research Infrastructures, providing the coastal ocean observation that bridges the deep ocean and the continental domain, the atmosphere and the sea bottom. The articulation with the other European RIs allows to fine-tune complementarities and explore synergies, rendering visible how these contribute to boost Europe excellence in the global Earth System environment.
- Narrative: Europe's response to the Grand Scientific Challenges asks for an articulated effort in observing and understanding the different compartments of the Earth System and their interactions. JERICO-RI brings to the ESFRI constellation of RIs the capacity to observe the pan-European coastal ocean and a strong expertise in the different processes that characterize this domain. This is a key contribution to unveil the global picture.
- Main Messages:
  Sewing the clothes in the great Earth System tapestry.

 Timeline 2 (Pre-Operation & Operation Phases):

- Description: Consolidated its articulation with the other European RIs, during the previous phases, JERICO-RI is now the key component of Europe's observing capacity for the coastal ocean, expanding its complementarities and synergies with other similar observing systems in the World.
- Narrative: JERICO-RI provides the key datasets and products to understand how the European coastal ocean is contributing to the global Earth System behavior.
- Main Messages:
  Bridging research communities around common challenges

2.3.2 JERICO-RI Main External Audiences.

The main communication objectives introduced above are aimed to reach the broad community of external users and stakeholders of JERICO-RI. In the ideal case, specific communication directed to each one of the identified JERICO-RI users and stakeholders groups would be produced, by identifying the communication objectives, messages and tools that best resonate for each of these audiences. Given the large number of users and stakeholders already identified for JERICO-RI, it is simply impossible to shape such an ideal communication. A more pragmatic strategy that can be adopted during the Preparation and Implementation Phases consists in:

(a) Identify users and stakeholders of high priority – the Core Target Audiences - which are readily recognized as key to support the JERICO-RI inclusion in ESFRI roadmap and to co-design and co-create the research infrastructure during those two initial phases of the RI lifecycle.

(b) For each Core Target Audience, build a communication strategy shaped around common communication objectives and messages, which are recognized to resonate commonly to each member of the Core Target Audience.

These two steps allowed us to build a communication effort that is directed to the key target audiences, with a strategy that, while simple, has the potential to strongly resonate in each of the different specific users in each Core Target Audiences. They are complemented by the following third step:

(c) Identify, inside each Core Target Audience, those specific users that, along the development of the Preparatory and Implementations Phases, should become highly engaged and highly collaborative towards JERICO-RI.

Communication directed to these specific users and to can be built by additional messages or specific material to the common messages used to reach the Core Target Audiences in which these specific users are inserted.

As this initial communication strategy, based on the 3 steps described above and directed to the Core Target Audiences, becomes well established and JERICO-RI enters in the Pre-Operation and Operation Phases, additional groups of users/stakeholders can be identified as Core Target Audiences and integrated, building specific communication directed to engage them.

The identification of the JERICO-RI users and stakeholders was developed in project JERICO-S3. Based on the results of JERICO-S3 D9.1 "User requirement and classification" – User Survey), the Communication Work Package of JERICO-S3 (JS3 WP10) proposed 7 Core Target Audiences (CTAs) and detailed the different requests and communication strategies required for each of these (JERICO-S3 D10.4).

These Core Target Audiences are indicated in Table 1. The order in which the CTAs are listed in this table reflects our perception of the impact and importance they have for the development of JERICO-RI. The table also specifies the Level (or domain of intervention) of each CTA, and provides some examples of the typical users/stakeholders that integrate each type of audience.

Core Target Audiences (CTAs)	Level	Type of audiences
#1: Research Community	National	Universities, State Laboratories & Research Centers, Research Groups, Individual Researchers - Research of national coastal ocean
	European & Global	Universities, European Research Centers, European Research Groups, Individual Researchers - Research of regional or Pan-European coastal ocean
#2: National Governments and associated entities	National Local	Gov. authorities, ministries, policymakers, regional and local govs and policy makers, Agencies responsible for the national implementation of MSFD and WFD, Env. protection agencies, Env. stakeholders, responsible agents for the national contribution to regional sea conventions, Responsible agencies in the area of Education, Agencies responsible for Crisis Response, Defense sector, National monitoring programs, coastal monitoring authorities.
#3: European Commission and associated entities	European & Global	European Commission, EC Agencies (DGs Research, Mare, JRC, CLIMATE, ENV, RTD), ESFRI, EuroGOOS & ROOSses, EMB, EU Environ. Agencies, EU & Global Environ. Stakeholders, EOOS, UN Environmental Program – Mediterranean Action Plan (UNEP-MAP), Regional Sea Conventions (OSPAR, HELCOM, Barcelona and Bucharest Conventions), GOOS, GEO/GEOSS
#4: Blue Economy Sectors	National	Fisheries Fleets, Aquacultures, Ports, Maritime Transport, Coastal Engineering, Tourism, Sports, Renewable Energy, Oil and Gas, Blue Tech clusters, Marine-based industry, Dredging, Safety & Surveillance, Marine biotech, High tech Marine services, Coastal Management
	European & Global	International Maritime Transport, Cruise Line operators, Renewable Energy, Oil and Gas, Technology for marine environment , Main Marine Service Providers
#5: Ocean Data & Forecast Service Providers	National	Numerical Modelers and Forecast Providers operating at national level, SMEs specialized in providing tailored solutions and services for observation of the national marine areas, National Data Aggregators.
	European & Global	Main Data Aggregators (EMODNET, Sea Data Net), Earth Observation Data and Service Providers (CMEMS, ESA, EUMEDSAT), Development platforms and resources providers (Blue Cloud, EOSC)
#6: Other Environmental RIs	National	Operators of national observing capacities for the coastal ocean not already contributing to JERICO-RI operators of national observing capacities in complementary domains (e.g. continental domain, deep-ocean, atmosphere)
	European	AQUACOSM, DANUBIUS, EMSO, Lifewatch, EMBRC, eLTER, EuroArgo, ICOS-OTC, IOOS (US), CIOOS (Canada), IMO (Australia)
#7: Schools, Citizen Science & General Public	National / European	National Governmental Initiatives in the area of Education, Local Governmental initiatives in the area of Education and Public Outreach, Organizers of National and European Events directed to Education or Public Outreach, Citizen Science associations

Table 1: Core Target Audience of JERICO-RI (from JS3 D10.4)

2.3.3 JERICO-RI Communication Directed to Users

In JERICO-DS the analysis of the most suitable communication strategy to be adopted for each one of these CTAs was discussed separately for JERICO-RI Users and JERICO-RI Stakeholders. In table 1, a total of 5 Core Target Audiences (colored in green) correspond to JERICO-RI Users, which directly use the data, products and services generated by the research infrastructure in their activities. The present section discusses in detail the JERICO-RI communication strategy directed to each one of these Users CTAs. The discussion profits from the analysis of a number of user case studies, conducted in JERICO-DS Task 6.2 and reported in JERICO-DS milestone, MS65. These case studies used selected users from each category of Users CTAs, to identify the user's expectations and how the JERICO-RI communication can promote user engagement.

Before starting the detailed analysis per CTAs, we discuss first our present perception of the positioning of some of the main recognized JERICO-RI individual users, viz-a-viz the Research Infrastructure, and how we expect that this positioning evolves as JERICO-RI progresses along the Preparatory and Implementation Phases. This analysis can help us to identify, inside each User Core Target Audiences, those specific users to which, as described in section 1.4, a more pointed communication can be built from the common communication directed to the Core Target Audiences in which those specific users are inserted

This discussion is based on the power-interest diagram, recognized as a useful tool to analyze users and stakeholders and to prioritize communication efforts towards specific groups (Vincenz-Donnelly et al., 2020; Brus et al., 2020). In this diagram target audiences are indicated in relation to their degree of interest in/availability towards the Research Infrastructure as well as their influence on/ power regards to the IR development.

Figure 2a presents the power-interest diagram that reflects our perception of the present day scenario for the users of JERICO-RI. Here we have presented some of the most relevant users that are included in the different Core Target Audiences, distinguishing between those that develop their activities at a National or Local dimension (in back) from those that develop their activities at a European or Global dimension (in white). In this diagram we have identified a number of national and European/Global users that are particularly relevant for the JERICO-RI but that we recognize that are still today not well aware of the IR and the stage of.

Figure 2b shows the same power-interest diagram but now for the scenario that we want to achieve in the course of the next 5-10 years, covering the JERICO-RI Preparation and Implementation phases. We expect that JERICO-RI communication strategy contributes to the evolution show for the different users.

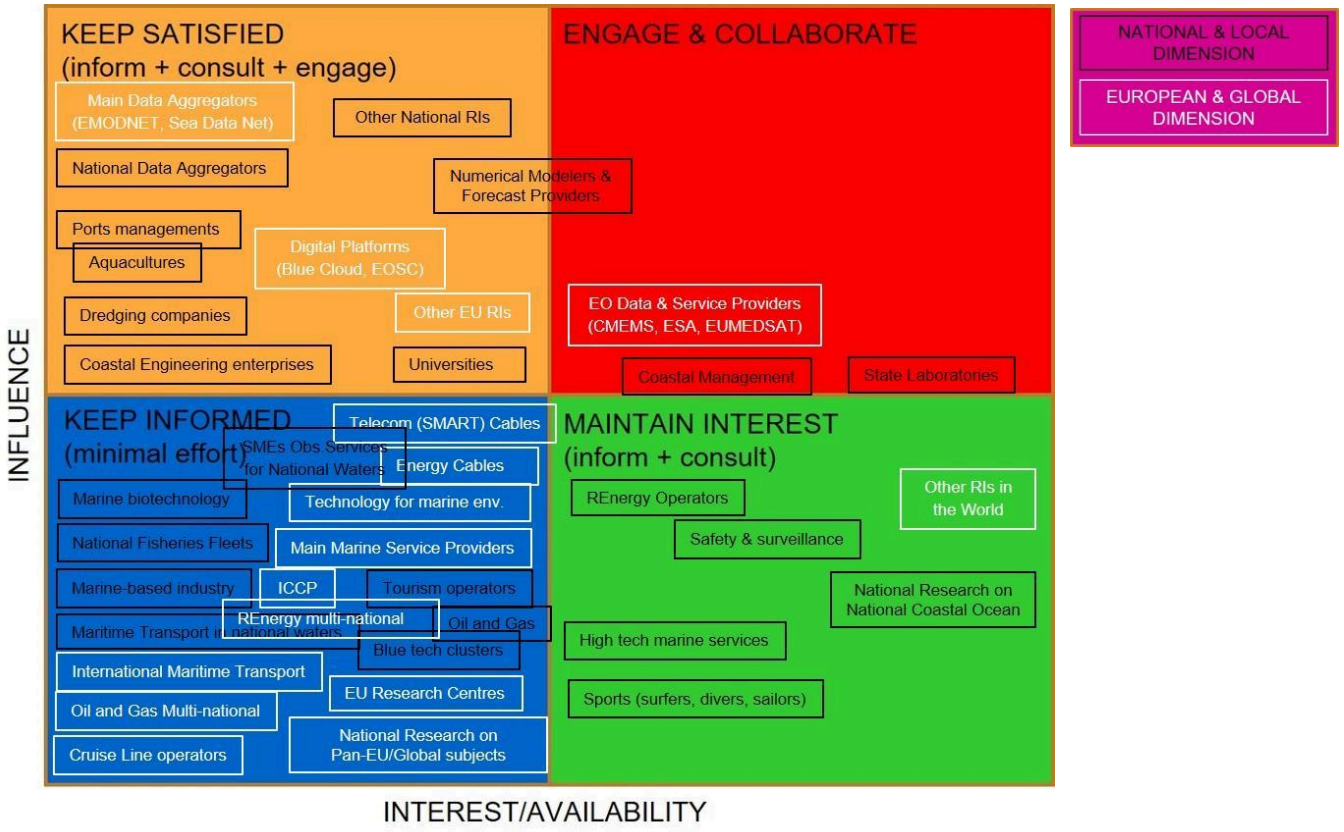

Figure 2a. Power-interest diagram for users of JERICO-RI (present day scenario).

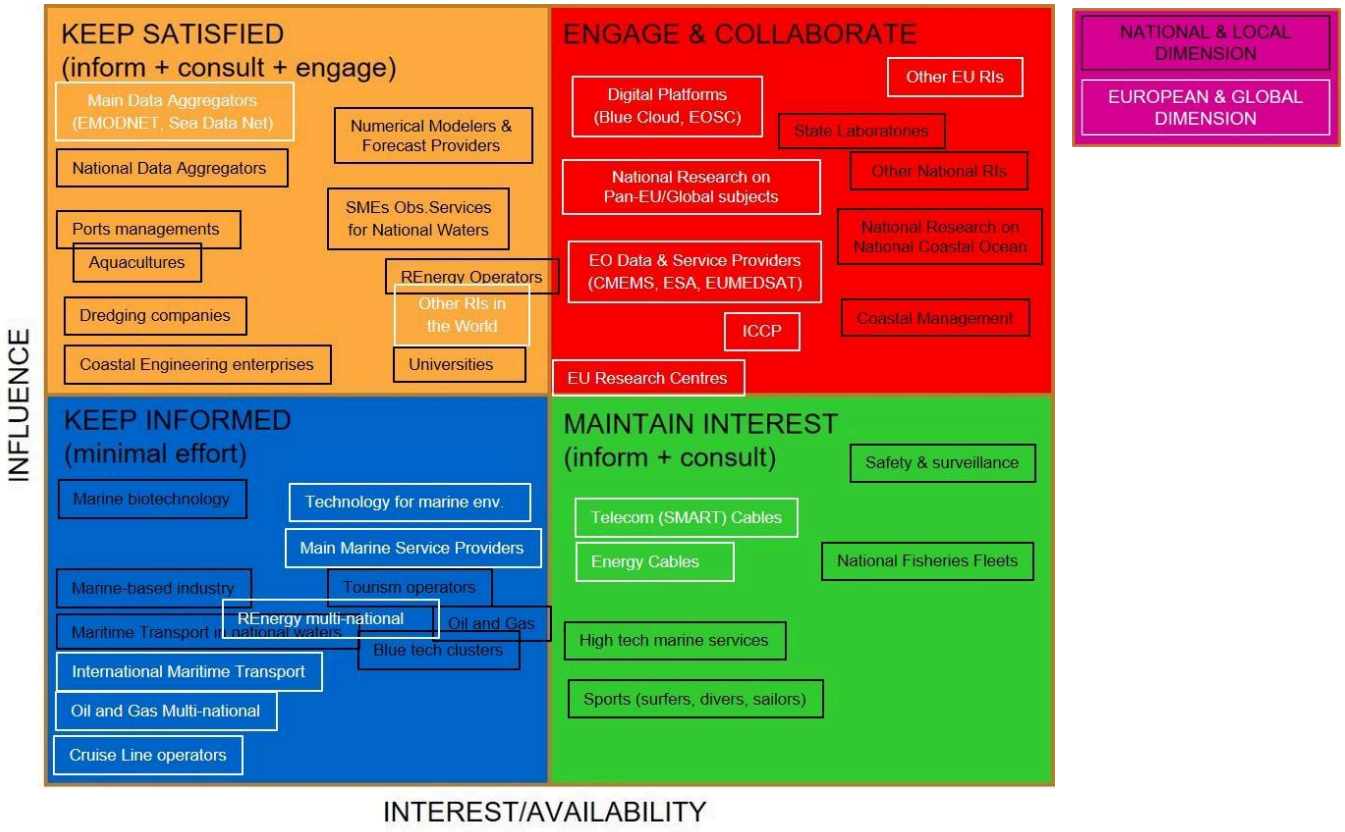

Figure 2b. Power-interest diagram for users of JERICO-RI (expected scenario after the Preparation and Implementation phases)

Core Target Audience #1: Research Community

Being a Research Infrastructure, JERICO-RI's first goal is to promote excellence in coastal ocean research by supporting the research community with the data, products and services needed to advance in the understanding of the key processes that control these areas and their evolution in time. The research community comprises a broad range of institutions, research groups and individual researchers, developing research in the areas of Marine Sciences and Marine Technologies that focus on the specific problems and challenges of the coastal ocean environment. But it can also include researchers from more diverse areas of the Environmental Sciences and Technologies, that share common points of interest with the marine domain and, in particular, with the coastal ocean domain. In regards to the categories of entities covered, this core target audience extends over the Academia (Universities and other research), Public (State Laboratories, part of the public administration), Private (environmental research units in some enterprises) and Military categories.

Table 2 synthesizes the main aspects of the proposed JERICO-RI communication strategy directed to this Core Target Audience. The strategy distinguishes between the national dimension and the European/Global dimension and proposes a number of specific communication objectives and messages that can resonate in this audience and the communication activities, communication channels and communication tools that can be explored to best interact with members of these communities.

In the framework of JERICO-DS Task6.2, the analysis of how JERICO-RI communication strategy could be shaped to the Research Community CTA was discussed using the Numerical Modelling Community as a case study (JDS MS65). In that analysis, the numerical modeling community that is included in CTA#1 was characterized as comprising researchers, institutions or companies that use numerical models of the Earth system either following a non-operational perspective (e.g. to conduct process studies, to develop scenarios of the Earth system evolution at different time scales, to combine observations and numerical models in order to extract the most value as possible from a specific observation action) or following an a semi-operational perspective, to support specific groups or actions (e.g. providing operational support during a crisis at sea or to a research action). Other numerical modeling groups, involved in the operational forecasting, were not consider here since they integrate the Ocean Data & Forecast Services Providers Core Target Audiences (CTA#5 discussed below).

The Numerical Modelling Community users, as a whole, were seen as particularly receptive to messages that highlight aspects such as:

- JERICO-RI provides High Quality, Harmonized FAIR data, covering physics, biogeochemical and biological parameters.
- JERICO-RI observations integrate local and national capacities to provide regional and Pan-European views of the coastal ocean area.
- JERICO-RI data availability copes with operational requirements (in case of users involved in the semi-operational forecasting described above, namely the requirements enabling the assimilation of the observations by the models).
- JERICO-RI expertise on coastal ocean processes is used to develop products and services tailored to the user needs.

Clearly, the narratives and messages introduce in section 2.3.1 in association to the Main Objectives for External Communication (particularly in MOEC #1 and MOEC #3) resonate strongly with specific users. This is also the case of the specific communication objectives and messages that can be shaped to reach the Core Target Audience#1 Research Community as a whole, presented in table 2. These can then be used in communication actions, such as JERICO-RI participation in meetings, workshops and symposiums (at National or European/Global level) gathering the Research Community or in more direct meetings between JERICO-RI partners with research institutions, to raise the interest of researchers from the numerical modeling community involved in those actions.

Additional messages (and associated narratives) can be proposed to specifically engage users in the Numerical Modelling Community and included in the more general communication directed to the Research Community. This additional communication can even be shaped to be directed to numerical models that fall in one of the two above mentioned perspectives. For example, numerical modelers involved in process studies or in climate research can be particularly receptive to additional messages highlighting the broad range of temporal scales covered by JERICO-RI data - associated with high sampling rates (allowing to characterize the high frequency processes in the coastal ocean) and to the very long time coverage of the observations (allowing to study the long-term variability and climate change impacts, contributing to the validation of the evolution predicted by the International Climate Change Panel - ICCP - scenarios). Or to JERICO-RI role in the development of new technologies for the coastal ocean observation, for example those allowing the modulation of the sampling characteristics to observe the different processes of interest.

Numerical modelers involved in semi-operational forecasting, directed to crisis response or adaptive sampling actions, can be more receptive to messages emphasizing the short time delay to access JERICO-RI data for the geographical areas of interest or the regional perspective of JERICO-RI coverage.

Table2. Specific JERICO-RI communication strategy directed to the Research Community (Core Target Audience#1 in table 1)

Core Target Audience	Dimension	Communication objectives – Main messages	Activities/Channels/Tools
Research Community	**National**	• To present the National Capacities for observing coastal waters (installed/open) • Improving research of national coastal waters via a Pan-European integrated RI, providing FAIR data and add-valued products and services • Showing how JERICO scientific strategy (KSQ) translates to the national domain • How national communities involved in marine technology can gain from JERICO technological developments for the coastal ocean. • Training the New Generations, Reinforcing National Competencies	• Informal contacts with researchers/printed, videos • Dedicated meetings with institutions/Presentation, printed, videos • Participation in national scientific meetings/ presentation & slides, posters,roll-ups, other printed • Participation in interviews in national media/slides, photos, videos
	European & Global	• Only a sustained (long term) Pan-European capacity can answer to Global Challenges • JERICO multisystem/multiregional strategy capture the multiscale complexity of coastal ocean regions, providing FAIR data and add-valued products and services • Understanding long-distance impacts triggered by remote disturbances is only possible from high quality observations collected along the complete Pan-European domain. • JERICO-RI provides an open (TA) and flexible infrastructure that can adapt to the requirements of the Research Community • JERICO is boosting marine technology development in Europe to meet the challenges in coastal ocean observation • Training the New Generations of European Marine Researchers, Engineers & Technicians.	• Informal contacts with researchers/printed, videos • Dedicated meetings with European institutions /Presentation, printed, videos • Participation in European scientific meetings/presentation & slides, posters, roll-ups, other printed • Participation in interviews, documentaries, information programs broadcasted by EU or Global media and focusing Grand Environmental Challenges/ slides, photos, videos • Workshops and webinars aiming to promote knowledge transfer from JERICO to the EU research community

Core Target Audience #4: Blue Economy Sectors

The community of agents and operators from Blue Economy sectors constitute an essential group of users of JERICO-RI data, products and services that requires a particularly adapted communication. The User Survey conducted by JERICO-RI WP9 (Fernández et al. 2021) revealed important examples of Blue Economy actors that are presently already using the observations and associated products collected by the JERICO-RI partners. These users were recipients of JERICO-RI Key Exploitation Results in the Dissemination and Exploitation Plan developed in JERICO-S3 Deliverable D10.1 (Durand et al., 2020).

Despite the different nature of the needs and expectations (regarding JERICO-RI) of these users, a specific communication strategy, aimed to engage this Core Target Audience as a whole, can be identified and used as a first step of communication with these users during the Preparation and Implementation Phases of the ESFRI lifecycle. This strategy is based on common communication objectives, narratives and messages that resonate equally in the different groups included in this CTA, and which add to the Main Communication Objectives for External Communication (and associated narratives and messages) that were previously introduced for the external audiences in general.

The specific common communication objectives (for which associated narratives and messages are developed) aimed to engage Blue Economy Sectors as a whole, as well as the communication activities, communication channels and communication tools that can be explored to best interact with the members of these communities, are presented in table 3.

A first level of structuration of the specific communication strategy towards Core Target Audience #4 derives from the distinction between Blue Economy users operating at national scales, which typically interact predominantly with the national partners of JERICO-RI, and those operating at European or Worldwide scales, which should typically interact with the JERICO-RI community as a whole. Examples of these different users were provided in JERICO-S3 Deliverable D10.4 ("Report on communication tools: description of the tools per targeted group") and are synthesized in table 1 above.

As JERICO-RI evolves along the Preparatory and Implementation Phases, specific groups of users of high relevance (some of which are included in the diagrams of figures 2a and 2b) can be identified or emerge from the Blue Economy Sectors and a specific communication (with specific objectives directed to those groups can progressively be shaped, adding specific narratives, messages and tools that resonate best to these groups.

The validity of this approach for JERICO-RI communication with the Blue Economy Sectors CTA can be evaluated using the analysis of two case studies developed in JERICO-DS and reported in JERICO-DS Milestone MS65 (Vitorino et al., 2024). The first case study focused on industry users involved in technology development for coastal ocean monitoring and the second one focused on the offshore wind farms sector. Both these groups of users are recognized to have a National expression as well as a European/Global expression.

The discussion of the different needs and requirements from these two sectors confirms that they are both receptive to the narratives and messages associated with the Main Objectives

for External Communication developed in section 2.2.1, particularly those expressed by MOEC #1, which aims to promote JERICO-RI data, products and services among the different users. So, the broad communication that JERICO-RI can direct to external users, during the complete lifecycle of the RI, do contain elements that resonate in these two specific sectors of the Blue Economy. Using this broad communication narratives and synthetic messages in events gathering heterogeneous external audiences, can trigger the interest of users from these two specific sectors to know more about JERICO-RI.

In a second, higher granularity level of communication, we recognize that the specific objectives (from which associated narratives and messages are built) to be used in communication with the Blue Economy sectors as a whole, include the more specific aspects that resonate in one or the other of the two case studies. For example, in the communication actions specifically directed to Blue Economy Sectors (e.g. participation in National, European or Global ocean technology fairs) this specific JERICO-RI communication directed to this CTA will contain elements highlighting the access to physical infrastructures or the cutting edge technological developments conducted by JERICO-RI, both highly appealing to companies developing technology for coastal ocean observations. But it will also contain elements emphasizing the availability of coastal ocean observations of high quality, in real-time or delayed mode, for long time periods, and showing the regional and pan-European articulation of these observations. Both these aspects will resonate particularly strongly in the offshore wind industry users.

Finally, specific communication actions or material can be produced to engage each one of the two user sectors discussed in the case studies. In this case, specificities of these sectors can be added to the two steps described above. For technological developers, this can be for example, adding details about how new technological solutions have been developed by JERICO-RI, or the technological challenges that RI faces in the long-term observation of the coastal ocean environment. For offshore wind energy, these details can include for example references to new sensors and new parameters that become available in JERICO-RI or to other capacities, products and services that are provided by JERICO-RI that can complement the basic support directed to users in this sector.

Table3. Specific JERICO-RI communication strategy directed to the Blue Economy Sectors (Core Target Audience#4 in table 1)

Core Target Audience	Dimension	Communication objectives – Main messages	Activities/Channels/Tools
Blue Economy Sectors	**National**	• JERICO FAIR data, products and services have an unique value to support the planning and day to day operations of national Blue Economy actors • JERICO opens physical access to many components of the RI (calibration facilities or systems at sea) • JERICO development of cutting edge technology for coastal ocean observation fosters innovation potential, in strong links with national industry and R&I partners • Evolving conditions in the regional or Pan-European context force and modulate the national coastal ocean waters, JERICO has a unique capacity to provide this broader view that is key to coastal management.	• Success stories of JERICO TA • Direct meetings with representatives of the BE sectors /Printed materials, slides, video (national language) • Meetings with local authorities focusing support to BE sectors locally relevant. • Participation in main national or regional BE events /Posters, roll-ups, brochures, leaflets, exhibition area • Social Media channels (Twitter/X, Facebook or LinkedIn).
	European & Global	• JERICO provides high quality and harmonized, near-real and delayed mode observations over the Pan-European domain supporting day to day operation as well as scenarios evaluation. • JERICO-RI FAIR data, products and services follow accepted Best Practices, guarantying an harmonized and high quality support to economic agents; • Access to JERICO physical infrastructure (TA) opens to Blue Economy agent's opportunities to test prototypes and methodologies in a harmonized way and over diversified range of conditions that can be found in the European coastal ocean.	• Participation in European events dedicated to Blue Economy sectors. • Specific JERICO-RI events bringing together representatives of the main Blue Economy sectors in Europe (User Event) • Social Media channels (Twitter/X, Facebook or LinkedIn).

Core Target Audience #5: Ocean Data & Forecast Service Providers

JERICO-RI delivers a continuous flow of data collected on the European coastal ocean area. This data, and the associated products, can feed a large community of service providers that specialized in providing to users in Europe a diversified range of products and services comprising ocean observation, Earth observation and numerical simulations and forecasts.
The interaction with these users assume a particular importance due to the dual role they play. They are natural users of JERICO-RI data, products and services. But many of them are also linked to the development of JERICO-RI. For example, JERICO-RI data is accessible and traceable through the European Marine data portal (EMODnet, SeaDataNet). And JERICO-RI is building synergies with initiatives such as the Blue Cloud of EOSC, CMEMS and EMODNET services.

Designing the communication strategy directed to this Core Target Audience will require a good assessment of what their needs are and what specific requirements must be met by JERICO-RI data, products and services. In this process, important information can be obtained in existent surveys among the different users that are included in this CTA, revealing potential areas that JERICO-RI communications can explore to better inform the users of what is provided and how it can meet the user's needs.

As an example, we can indicate the recent survey conducted by EuroGOOS (Capet et al., 2020) among operational forecasts centers in Europe, which identified some of the strengths and weaknesses in the interactions between observation providers and numerical modelers. This survey confirmed that in the majority of the centers, observations of the real conditions offshore the coast are used (in post-operational time) to validate the numerical modeling products. But, it also revealed that these centers were not particularly investing on data assimilation, due to the difficult access to quality data provided with the time delay required to be used by the operational forecasting. JERICO-RI communication can present compelling arguments showing that JERICO-RI can change this paradigm and deliver the data needed for the coastal ocean area.

A second example comes from the User Survey that was conducted by JERICO-RI WP9 (Fernández et al. 2021), which clearly indicated that the Virtual Access mechanism is the option of choice used by these users in the access to data and associated products and services. When shaping JERICO-RI communication directed to these users, emphasis should then be given to JERICO-CORE (the e-infrastructure of JERICO-RI), in general, and to the capacities of the Virtual Access service, in particular.

JERICO-RI communication strategy to engage Ocean Data & Forecasts Service Providers (OD&FS) takes in account the different scales at which these users operate, separating from OD&FS that operate at the National (even Local) dimension from those that operate in the European or Global dimension. Examples of users that are included in both cases are provided in table 2.

As a common basis, the users included in this Core Target Audience are very receptive to a communication emphasizing that:

- JERICO provides High Quality, Harmonized FAIR data, covering physics, biogeochemical and biological domains
- JERICO observations integrate local and national capacities to provide regional and Pan-European views for the coastal ocean area.
- JERICO data availability copes with operational requirements
- JERICO expertise on coastal ocean processes is used to develop products and services tailored to user's needs.

The narratives and messages associated with the Main Objectives for External Communication described in 2.2.1 (in particularly with MOEC #1 and MOEC #3) clearly comprise many of these aspects. This means that the communication actions to be conducted by JERICO-RI and directed to the external audiences contain, in general, the main elements that resonate strongly in the Ocean Observations & Forecast Providers category of users.

A specific communication strategy directed to this Core Target Audience is based on the communication objectives (from which narratives and messages are built) presented in table 4. Proposed communication actions, channels and tools are also provided. This specific communication, to be used during the Preparation and Implementation Phases, aims to support (a) the consolidation of the engagement in JERICO-RI of already existing users of the different national infrastructures that are contributing and (b) the engagement of new OD&FS users.

JERICO-DS Task 6.2 discussed (in Milestone MS65) the JERICO-RI communication towards this Core Target Audience by focusing two particular important case studies, both operating in the European/Global scenario and both already showing a level of interaction with JERICO-RI that requires a more specific, user-tailored, communication to be used during the Preparatory and Implementation Phases.

The first case study discussed the communication towards Copernicus, based in the work developed by JERICO-S3 WP2 and JERICO-DS WP4, in particular the discussion between the potential areas of interaction between JERICO-RI and Copernicus discussed in JERICO-DS deliverable D4.1 (Fernandez, Cocquempot and Durand, 2023).

In Copernicus, observations are used by the Copernicus Marine (CMEMS) Thematic Assembly Centers (TACs), to create data products, and by the CMEMS Marine Forecasting Centers (MFCs) to validate/constrain global/regional ocean analysis and forecasting systems. In situ data are of paramount importance to CMEMS. They provide information about the ocean interior (which cannot be observed from space) and they locally sample the high-frequency and high-resolution ocean processes that, in particular in the coastal zone, are essential for model and satellite validation activities.

The dialogue already established between JERICO-RI and Copernicus allowed us to identify potential future axes of collaboration that will be developed in the following years. The future evolution of Copernicus Marine Service (CMEMS) to the coastal areas will lead to the development of Copernicus marine coastal products, to add to the CMEMS portfolio. This will create an increasing need to establish links with JERICO-RI as a data provider infrastructure with the capacity of improving the access to coastal data and coastal

observations. One area in which the potential future interaction can develop is the use of JERICO-RI data towards ocean colour activities. JERICO-RI can contribute to the Ocean Colour Thematic Assembly Center (OCTAC) - a Copernicus satellite product on ocean colour – in areas such as routine operations, calibration of satellite OC sensors and validation and improvement of ocean colour remote sensing algorithms and products. Finally, the interaction between JERICO-RI and Copernicus can also explore potential areas or collaboration associated with the European Green Deal and the European Digital Twin of the Ocean initiative.

These different aspects, to be explored and developed during the Preparatory and Implementation Phases of JERICO-RI, will require a specific (and frequent) communication directed to Copernicus, aiming to maintain Copernicus clearly informed about the existent capacities in JERICO-RI in situ-observations and the planned expansion of these capacities. This clear understanding of what JERICO-RI can provide is crucial. For example, the lack of awareness of JERICO services, especially by the CMEMS-OCTAC actors, was pointed as one of main factor why the high quality in situ measurements (and associated uncertainties) of relevant variables that is collected by JERICO-RI on a regular or continuous basis, are not yet regularly used by OTAC-CMEMS, although fitting the requirements. It also stressed the importance of JERICO-RI participation (as a main European Coastal Data provider infrastructure) in the workshops promoted by Copernicus to discuss and decide updated requirements for in situ observations.

JERICO-RI communication will have here an important role in designing and produce impacting materials (presentations, printed material) showing in a simple and clear way the status of the RI and full range of data, products and services available, presenting compelling evidences of the high quality and easy availability of JERICO-RI data, showing that it meets the latest Copernicus requirements for in situ observations. In order to maintain the Copernicus actors permanently aware of JERICO-RI, news of capacities, developments and activities of particular interest to CMEMS activities should be regularly included in JERICO-RI website and newsletter and disseminated through the main social media channels (LinkedIn, YouTube, Twitter/X).

The second case study of OD&FS analyzed, the Blue Cloud (presently, Blue Cloud 2026 ongoing) EU project, combines European Open Science Cloud (EOSC) vision with the needs of the Blue Research communities, in the implementation of a collaborative web-based environment providing simplified access to the vast amounts of multidisciplinary datasets from observations, analytical services and computing facilities essential for the blue science, progressing towards a Federated European Ecosystem to deliver FAIR and Open data and analytical services, instrumental for the marine research.

A strong synergy is being developed between JERICO-RI and Blue Cloud, traduced in the implementation of a JERICO-RI Virtual Lab in the Blue Cloud Virtual Research Environment and in the participation of JERICO-RI partners in Blue Cloud2026, to develop the technical aspects required for articulation between JERICO-CORE and Blue Cloud infrastructure and in the implementation of a specific Virtual Lab to show the full potential of integration of JERICO-RI data and expertise in coastal ocean areas.

Given this level of engagement, during the Preparation and Implementation Phases JERICO-RI communication towards Blue Cloud should be structured along the following axis:

- To clearly show to Blue Cloud the strong add-value of JERICO-RI in providing not only high-quality FAIR data for the coastal ocean, but products that integrate the observations with a strong expertise about the coastal ocean processes and environment, and which can strongly boost scientific research.
- To demonstrate the potential and full capabilities of JERICO-CORE, the e-infrastructure of JERICO-RI which will directly interact with the Blue Cloud VRE.
- To boost the discussions exploring how JERICO-RI and Blue Cloud synergies can be used to contribute to main European Initiatives such as the European Digital Twin of the Oceans.

This communication can efficiently be developed by the participation of JERICO-RI in specific events promoted by Blue Cloud (e.g. in hackathons dedicated to present the Virtual Labs based on JERICO-RI capacities) or the participation of Blue Cloud in events promoted by JERICO-RI. Also, the insertion of specific pages in JERICO-RI website describing the synergies with Blue Cloud and how these contribute to expand the access to (and the offer of) data, products and services generated from JERICO-RI, could also contribute to improve the communication between the two communities.

Table4. Specific JERICO-RI communication strategy directed to Ocean Data and Forecast Service Providers (Core Target Audience#5 in table 1)

Core Target Audience	Dimension	Communication objectives – Main messages	Activities/Channels/Tools
Ocean Data & Forecast Service Providers	**National**	• JERICO provides high-quality & harmonized observations of national coastal water AND surrounding regional context • JERICO data availability copes with operational requirements • Near real-time observations provide a unique source of data for model validation and assimilation. • JERICO products and services combine coastal ocean observations with a large knowledge of the coastal ocean environment. • JERICO TA and VA are key vehicles to expand SMEs capacities in providing services for national coastal ocean areas	• Specific meetings with the users • interactions during the participation in national events (symposiums, conferences, …) • Brochure, leaflets (general, specific for national capacities); specific leaflet on how JERICO could support Operational Forecasting. • JERICO-RI website (JERICO-Core, VA, TA)
	European & Global	• High-quality and harmonized observations of the Pan-European coastal ocean • Near real-time observations over the Pan-European domain • JERICO products and services combine robust observations with solid expertise on coastal ocean processes of the European margin.	• brochure, leaflets (general, specific for national capacities); specific leaflet on how JERICO could support Operational Forecasting. • JERICO-RI website (JERICO-Core, VA, TA)

Core Target Audience #6: Other Environmental RIs

The development of JERICO-RI, the European Research Infrastructure for the Coastal Ocean, during the Preparatory and Implementation Phases of the ESFRI lifecycle, must necessarily include the establishment and consolidation of collaborations with other existing observing capacities for the Earth environment. JERICO-RI communication strategy during these phases should clearly aim to promote the engagement of these other Environmental RIs, launching the basis from which a long term engagement and communication can develop.

The concept of Environmental RIs used here is a broad one and includes many different existent capacities for the observation of the Earth environment that can be either installed at National (and even Local) level or that operate at the European or Global level. Table 1 presents several examples of ENVRIs operating in one or the other of these two scenarios.

How JERICO-RI communication should be designed to specifically engage the users bellowing to one or the other of these two scenarios was discussed in JERICO-S3 Deliverable D10.4 and in JERICO-DS Milestone MS65. Before discussing this more detailed view, it is important to evaluate if, at a lower level of granularity, JERICO-RI communication directed to external audiences as a whole can indeed reach this Core Target Audience.

The analysis of the basic components of JERICO-RI communication directed to external audiences, presented in section 2.3.1, clearly show that Narratives and Messages associated with the Main Objectives for External Communication (MOECs), which will be used in JERICO-RI communication actions directed to external audiences in general, already contain several elements that are appealing to operators of Environmental RIs, either at National as well as at European and Global level. These elements include, for example, the ideas of JERICO-RI as a reliable partner providing high quality FAIR data, products and services for the European coastal marine systems (embedded in the messages of MOEC#1), on how JERICO-RI, by filling the presently existing coastal ocean gap, can contribute to answer to the Great Societal Challenges (expressed in MOEC#2) or even that it is at the core of JERICO-RI the perception of the role of this infrastructure as a bridge between different Environmental domains (in MOEC#3).

A more specific communication directed to other Environmental RIs, should be developed, particularly to be used during the Preparatory and Implementation Phases. Table 5 presents some of the specific communication objectives that JERICO-RI can define during these two phases, from which Narratives and Messages can be built. These are structured by distinguishing between ENVRIs operating at National/Local levels and those operating at European/Global level, as discussed above. The correspondent communication actions, channels and tools that can be used to promote the engagements of this Core Target Audience is also presented in table 5.

The communication with other Environmental RIs operating at National (and even Local) level is developed mainly through the national partners of JERICO-RI. This communication is directed to two types of audiences.

(a) To National institutions that have installed capacities for the observation of the national coastal ocean areas and are not included in the national contribution to JERICO-RI. The communication to be developed by JERICO-RI during the Preparation and Implementation Phases will aim either to engage these National institutions in JERICO-RI, adding those capacities to the national contribution, or to maintain the communication channels open to a continuous dialogue and collaboration between JERICO-RI and those institutions, in case the institutions want to continue to operate independently but in straight collaboration with JERICO-RI.

(b) To National institutions operating observation capacities in domains that are complimentary of the coastal ocean domain in which JERICO-RI operates. These may consist in monitoring capacities installed in rivers and estuaries (land/continental domain), installed in the deep-ocean offshore the national coastal ocean zones or capacities directed to atmospheric measurements. These capacities may or may not be integrated in other European RIs. In any case it would be of utmost importance to interact with these operators and seek the development of synergies or collaborations.

JERICO-RI specific communication directed to other European Research Infrastructures for the Environment, either individually or through ENVRI, is based on analysis developed in the framework of both JERICO-S3 and JERICO-DS, which involved the participation of partners from these two projects (namely the Nations Representatives in JERICO-DS) in discussions and meeting with representatives of EU RIs (e-LTER, Danubius, EMBRC, ICOS, EMSO, EuroARGO, AQUACOSM). Brix and Lips (2021), for example, synthesize part of the work conducted in this subject in the framework of JERICO-DS WP5. The discussion with the other European RIs highlight several communication activities and channels indicated in Table 5.

Table 5. Specific JERICO-RI communication strategy directed to Other ENVRIs (Core Target Audience#6 in table 1)

Core Target Audience	Dimension	Communication objectives – Main messages	Activities/Channels/Tools
Other ENVRIs	**National**	• clearly present JERICO-RI capacities installed in the national coastal ocean waters • "make the case" for the add-value of interacting with an infrastructure observing the national coastal ocean but also the regional and Pan-European background • highlight ongoing interactions at national level and at regional or Pan-European level, when these national RIs are related to other European ESFRI infrastructures • present JERICO-RI technological developments for coastal ocean observations that are relevant for other national RIs. • promote JERICO-CORE for the access to data, products and services relevant to other national RIs	• Meetings with representative of other national RIs • Meetings with local operators of observation systems, also local government authorities. • Participation in national events focused on the discussion of national capacities (e.g. promoted by national governments)
	European & Global	• emphasize that articulation between JERICO and others ENVRIs leads to a win-win situation in which increased knowledge is gained by each sector of the global Earth system • "Making the case" that Europe's capacity to answer Grand Societal Challenges depends on the joint efforts of the different ENVRIS, JERICO-RI bringing to the table a key component of the global puzzle. • show how JERICO-RI Key Scientific Challenges include or articulate with key research axis developed at national level • promote JERICO-CORE for the access to data, products and services for the European coastal ocean.	• Participation in RI's specific yearly workshops • Organization of common workshops to contribute to the interoperability and standardization of data across the European RI landscape, • Shared organization of brokerage events with industry, stakeholders and policy makers • Participation in ENVRI community meetings. • Link to ENVRI community in JERICO-RI website containing material specifically stressing how JERICO-RI is articulating with other European RIs. • Participation in international events (conferences, symposiums) • JERICO-RI presentations, brochure, videos, newsletter, printed material

Core Target Audience #7: Schools, Citizen Science & General Public

The coastal ocean environment directly interacts with the majority of human society, shaping most of our collective joys and fears related to the ocean. It is in the coastal ocean that human populations all around the World found the basis for subsistence, for economic growth, for interaction with other societies. It is also through these areas that coastal populations receive the impacts of the energetic manifestations of ocean's moods.

The strong impacts of coastal ocean areas in the imagination of human society is a key aspect that must be profited by JERICO-RI communication directed to the general public. It can boost the interest of this audience to know more about these complex marine regions, opening the opportunity to explain how JERICO-RI contributes to build our understanding on phenomena such as the ones that can be seen in the beach or that affect the conditions along the coast.

The many complex (and still largely unknown) processes that JERICO-RI addresses in coastal ocean environments, the cutting edge technologies and analytical approaches that this research infrastructure needs to develop and operate to achieve the observation and analysis of these processes, all contribute to stimulate the interest of students for the areas of marine sciences and technologies.

JERICO-DS Communication Work Package (WP6) analysed how JERICO-RI communication should be designed to specifically engage this Core Target Audience. Based on the results from this analysis, Table 6 summarizes the proposed specific communication strategy directed to this Core Target Audience, during the Preparatory and Implementation Phases. It presents some of the main specific communication objectives (from which specific Narratives and Messages can be built) and specific communication actions, channels and tools that can support this strategy.

This analysis was developed using as case studies the communication towards Citizen Science communities, developed in Task 6.2 and reported in Milestone MS65 (Vitorino et al., 2024a) and towards Governmental Initiatives in the area of Education and Public Outreach, developed in Tasks 6.2 and 6.4 and reported in Milestones MS65 (Vitorino et al., 2024a) and MS66 (Vitorino et al., 2024b).

The discussion of JERICO-RI communication towards Citizen Science initiatives was largely based on the work developed in the framework of JERICO-S3 WP6 and described in Thijsse and Gorringe (2021). Citizen Science initiatives are recognized to have a huge potential in collaboration with JERICO-RI, both by inscribing in an integrated capacity to observe the coastal ocean environment, by leading to education, "empowerment" and a raise of awareness. The use of the data collected by citizen science initiatives still is received with skepticism among policy makers and scientists and JERICO-RI has can have here an important role to change this paradigm, with the communication strategy directed to users and stakeholders being used to "make the case" about the robustness of Citizen Science initiatives in the framework of an integrated approach to observe the coastal ocean.

JERICO-RI can also capitalize from the greater public exposure that Citizen Science actions typically have.
The discussion of JERICO-RI communication specifically directed to engage Governmental Initiatives in the area of Education and Public Outreach was developed through the analysis of three case studies that explored different perspectives of National Governmental initiatives and Local Governmental initiatives, both directed to the national communities audiences but with a strong potential of articulation in a broader European domain.

JERICO-RI, centered in the coastal ocean domain (that directly connects with human societies and activities), providing an integrated (and frequently real-time) vision over this multifaceted 3D environment, a based on complex cutting edge technology and complex operations, gathers all the ingredients required to capture the imagination of the general public, in particular of young generations.

JERICO-RI communication can contribute in several ways to significantly increase the society impacts of JERICO-RI in the areas of Education and Public Awareness about the Marine Environment. This can be achieved by exploring several of the communication channels that are associated with both National as well as Local Governmental initiatives directed to this area. Some of these are indicated in Table 6, a much detailed vision is provided in JERICO-DS MS66 (Vitorino et al., 2024b).

A particular aspect that emerged from the analysis of the case studies is the potential of this kind of initiatives to develop in the national communities a sense of belonging to a "common space", full of diversity but also plenty of similarities. This "common space" perspective can be used as a base ground over which awareness about aspects such as climate change impacts or threats over the marine environment can be more easily transmitted to the local and national communities in the different pan-European nations. JERICO-RI communication can contribute to the development of these aspects through, for example, the participation or promotion in events organized at the National and Local level, that exploring the articulation between partners at pan-European scale to identify common aspects that enable the articulation between events occurring in different European nations. Or the participation in events at European scale, such as the European Researchers' Night, exploiting the pan-European dimension of JERICO-RI to present the coastal ocean in both the local/national as well as the integrated regional/pan-European perspective

Table 6. Specific JERICO-RI communication strategy directed to Schools, Citizen Science & General Public (Core Target Audience #7 in table 1)

Core Target Audience	Dimension	Communication objectives – Main messages	Activities/Channels/Tools
Schools, Citizen Science & General Public	**National**	• Raise the interest of the national students towards Marine Sciences & Technologies, using recognizable and impacting aspects of the national coastal oceans areas. • Contribute to the training of teachers in areas related to Marine Sciences and Technology, using the national coastal ocean areas • To align Citizen Scientists with observation requirements of JERICO-RI (continued information about Best Practices, Sensor Technology, among others). • Maintain Citizen Scientists informed about the uses of the data they collect and the research, policy or societal outcomes they contribute to. • Promote nation's society awareness of national coastal ocean areas, the phenomena these areas host, their fragilities and the threats over them, their links with the pan-European coastal ocean.	• Participation in national initiatives directed to promote science and technology in students populations • Participation in national initiatives promoting the training of teachers in topics related with the national marine environment/coastal ocean • Participation in national events dedicated to Scientific & Technology Outreach, showing JERICO-RI activities in nation and highlighting Citizen Science contributions • Development of communication material with high impact (videos, photos) focusing JERICO-RI activities, emphasizing national waters. • Use of influencers with high national recognition to promote JERICO-RI activities among students and general public
	European & Global	• Contribute to raise the interest of the young generations towards Marine Sciences & Technologies, the marine environment, in general, and the coastal ocean, in particular. • Promote JERICO-RI role in contributing to the training of the next generations of Marine scientists, engineers and technicians • Contribute to raise the recognition, among European policy makers, researchers and users, of Citizen Science as a trusted and reliable component of the European capacity for coastal ocean observation. • Promote European society awareness about the European coastal ocean areas, the many different phenomena, environments and ecosystems these areas host, the fragilities of these systems and the threats that loom over them.	• Implement in the JERICO-RI web page and newsletter a specific area for communication to and support of citizen scientists & general dissemination about JERICO-RI activities directed to these communities • Participation in international events direct to promote science and technology in the different European countries • Promote the realization of regular events (conferences, workshops, webinars) dedicated to the Citizen Science challenges and achievements in the coastal ocean domain. • Including success stories of integration of Citizen Science data in the communication material directed to Users and Stakeholders

2.3.4 JERICO-RI Communication Directed to Selected Stakeholders

A specific component of the JERICO-RI communication strategy is direct to selected stakeholders that, at National as well as European level, play a key role in the Research Infrastructure purpose and sustainability. Based on the results of JERICO-S3 D9.1 "User requirement and classification" – User Survey), two main groups of JERICO-RI stakeholders were proposed in JERICO-S3 D10.4 to be identified as Core Target Audiences of JERICO-RI. These are presented with an orange color in Table 1.

The first of these aggregates National Governments and Associated Entities in Core Target Audience #2. These are identified as our main Core Target Audience after the Research Community, not only due to the fundamental role they will be ask to play in the long term sustainability of JERICO-RI, but also because they will be among the prime destinations for JERICO-RI data, products and services, namely those relevant to support national policies related to the marine environment. Several different individual stakeholders are included in this general designation, some acting at the National level others at Local level. The most representative of these individual stakeholders are indicated in Table 1.

The second group of high priority stakeholders aggregates the European Commission and Associated Entities in the Core Target Audience #3. This CTA has a major role in the establishment and long term development of JERICO-RI as the European Research Infrastructures for the Coastal Ocean, and in the establishment of JERICO-RI as the coastal component of the future European Ocean Observing System (JERICO-S3 High-level Objective 4). The infrastructure is also aimed to address societal and policy needs that impact European coastal ocean areas as a whole. Several different individual stakeholders are included in this designation, some operating at European level while we also included others that operate at Global level. Table 1 presents some of the main examples of these individual stakeholders.

Before progressing to more detailed analysis of the specific JERICO-RI communication directed to these two Core Target Audiences, it is important to have a first perception on how the individual stakeholders in these two CTAs are presently positioned in regards to JERICO-RI and how this positioning could be improved during the following 5-10 years period, covering the Preparation and Implementation Phases of the JERICO-RI lifecycle, supported by a well-designed communication strategy directed to these stakeholders.

Like before (section 2.3.3, JERICO Communication Directed to Users) this perception is based on the analysis is based on power-interest diagrams, which maps stakeholders regarding their degree of interest in/availability towards the Research Infrastructure as well as their influence on/ power regarding the RI development. Figure 3a presents the power-interest diagram that corresponds to the present day scenario, while Figure 3b presents the power-diagram that could be reached at the end of the Preparatory and Implementation phases. In these diagrams, stakeholders developing their activities mainly at National or Local level are indicated in black, while those developing activities at a European or Global dimension are indicated in white.

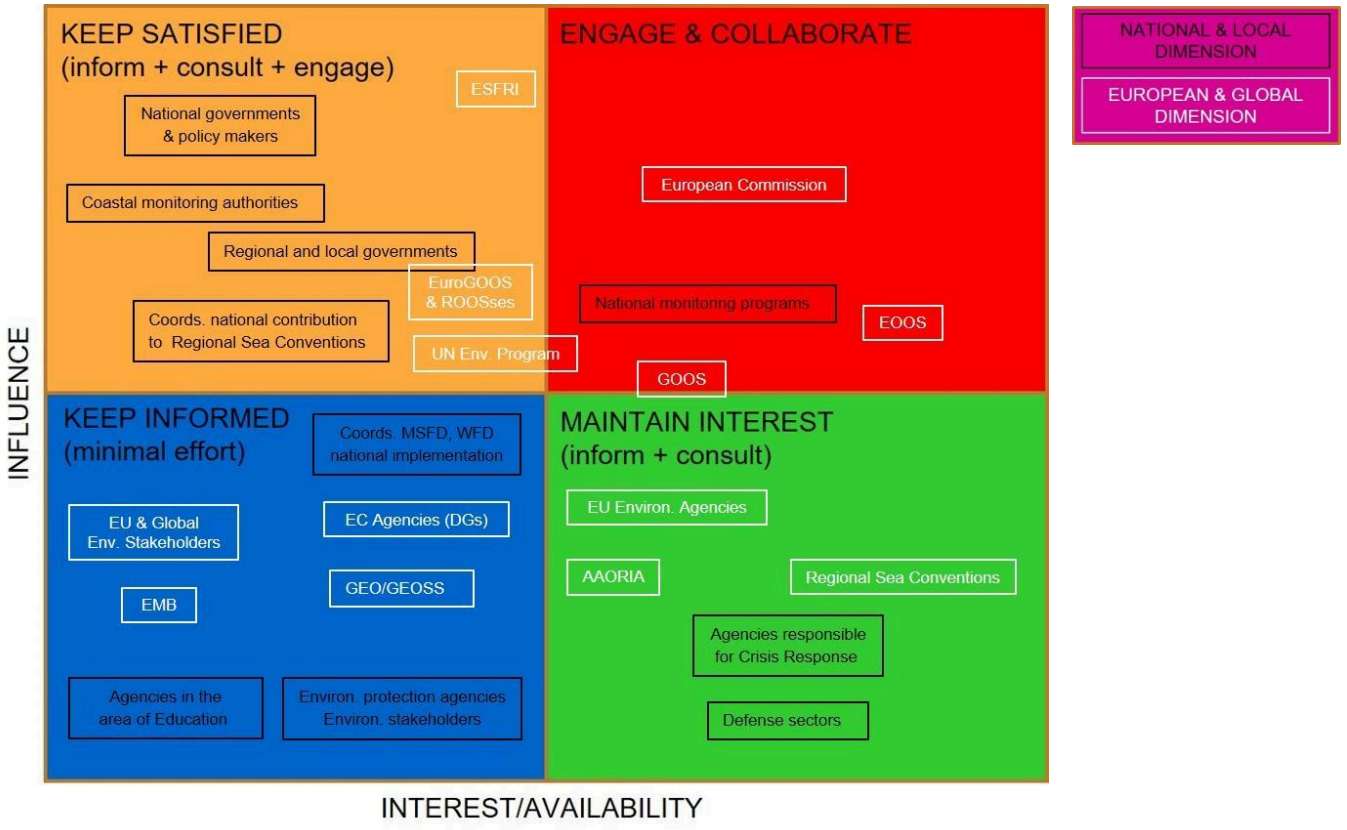

Figure 3a. Power-interest diagram for selected stakeholders of JERICO-RI (present day scenario).

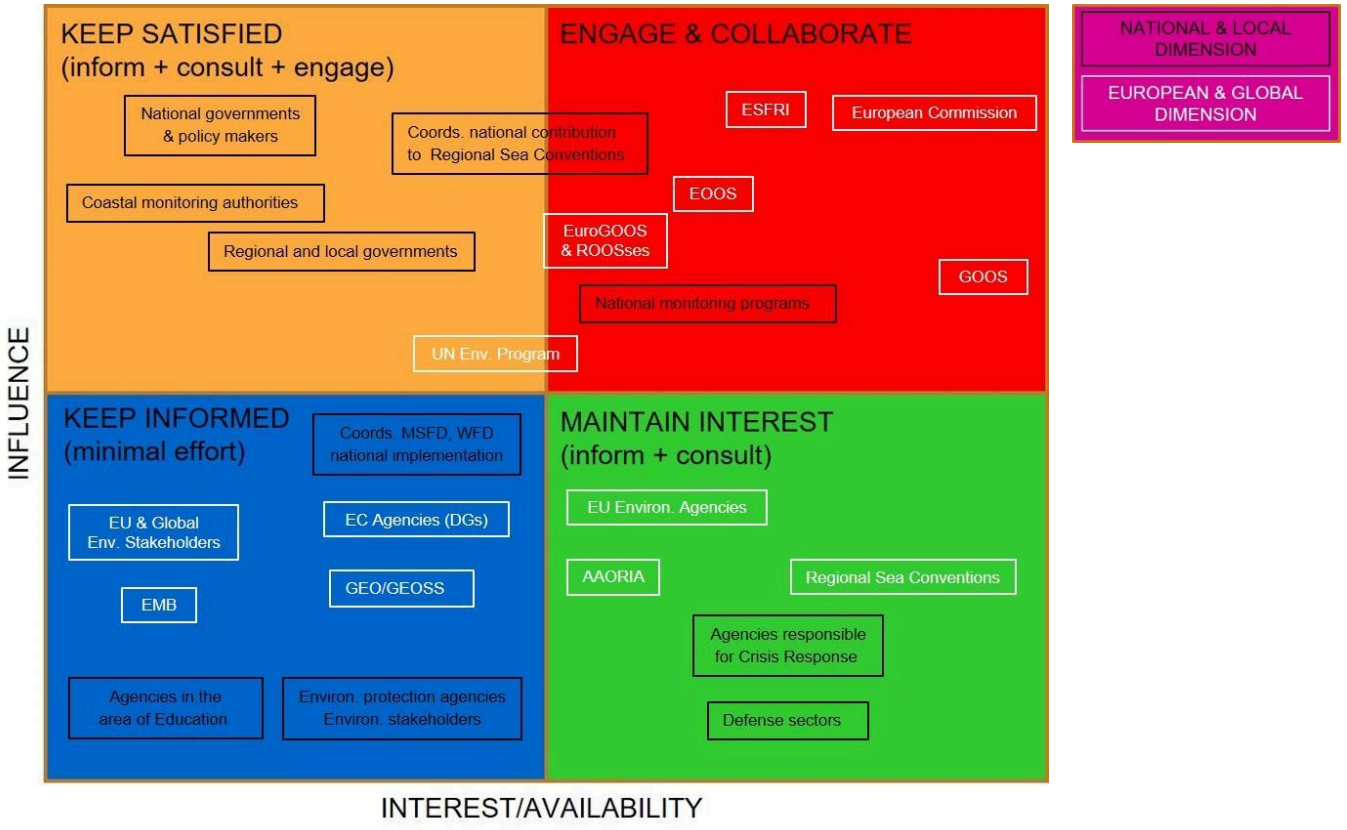

Figure 3b. Power-interest diagram for selected stakeholders of JERICO-RI (expected scenario after the Preparation and Implementation phases)

Core Target Audience #2: National Governments and associated entities

This core target audience gathers different users and stakeholders which are key stakeholders in the support of JERICO-RI implementation and integration in the ESFRI roadmap and in the long-term sustainability of JERICO-RI. They are use some of the main recipients of JERICO-RI data, products and services, which are used to the support of national policies related to the marine environment, in national activities in the areas of Research and Technology, Environment, Economy, Defense and Education and in the fulfillment of national commitments at European and international level. These stakeholders were identified by the JERICO-S3 WP9 User survey and indicated in the JERICO-S3 Dissemination and Exploitation Plan as recipients of the Key Exploitable Results (KERs) of JERICO-RI. They include many individual entities, some of the higher priority ones being indicated in Table 1.

These users and stakeholders share, as a common characteristic, the fact that they all manage, at different levels and using different instruments, the national marine areas and the connected coastal areas. They are, then, particularly receptive to messages containing compelling arguments showing how JERICO-RI could support and improve these management actions.

Among the Main Objectives for External Communication introduced in section 2.3.1, MOEC#2 was specifically directed to "promote the engagement of funding entities at European and National level". The Narratives and Messages associated with the MOEC, used in different contexts and actions, in which JERICO-RI communication is directed to different external audiences, also contain elements that resonate in national governmental entities or associated entities, so they fulfill a first level of (background) communication directed to these audiences.

A more specific communication directed to National Governments and Associated Entities is to be developed by JERICO-RI along the different phases of the RI lifecycle. During the Preparatory and Preliminary Phases, this specific communication can adopt the specific communication objectives presented in Table 7 (from which associated Narratives and ;Messages can be shaped), which were initially introduced in JERICO-S3 D10.4 and further developed in JERICO-DS milestone MS67 (Liblik et al., 2024).

The importance of JERICO-RI communication directed this Core Target Audience motivated a detailed analysis of the communication channels and tools, conducted in JERICO-DS Task 6.3 and reported in JERICO-DS milestone MS67 (Liblik et al., 2024). A SWOT (Strengths, Weaknesses, Opportunities and Threats, Helms and Nixon, 2010) analysis of these different communication channels and tools was developed for JERICO-RI communication with National Stakeholders, with European Structures and International Bodies, and with Regional Bodies and Regional Conventions. The SWOT analysis for the 3 types of stakeholders and were presented in the same tables, here reproduce in figures 4a and 4b.

Based on the SWOT analysis tables, Liblik et al. (2024) then discussed the use of the different channels and tools for each type of stakeholders. The main results that this study

provided for the National Stakeholders are condensed in the information about the communication activities/channels and tools indicated in table 7.
Of particular importance, inside this Core Target Audience, is the communication directed to National Governments. These represent a high priority target audience, with several different roles regarding JERICO-RI and thus requiring a communication adapted to these different roles. National Governments will be asked to politically support the national contribution to the development of a European research infrastructure for the coastal ocean environment. In this perspective the engagement of national governments is of fundamental importance to guarantee the necessary political support to JERICO-RI proposal to the ESFRI roadmap and to assure the required sustainability of the national contribution to this Research Infrastructure.

National Governments are also stakeholders of JERICO-RI. The Research Infrastructure can boost several areas of Research, Development and Innovation at the national level and support national and local Blue Economy sectors. It can also contribute to support the national contributions to several European and international commitments.

Finally, National Governments can also appear as direct users of JERICO-RI data, products and services. In most of the cases this role is assumed indirectly, via governmental agencies with responsibilities in areas such as environmental management, monitoring and supporting the national blue economy sectors, crisis management, defense and many others. In some cases, however, this role can even be assumed directly, like in the management of a major crisis at sea which can eventually be coordinated directly at the ministry level.

The importance of the communication towards National Governments motivates a dedicated study of the most relevant communication tools through which JERICO-RI can develop this communication. This study was conducted as part of JERICO-DS task 6.3 and was reported in JERICO-DS milestone MS6.4 (Liblik et al., 2022). It evaluated the different communication tools and channels listed in the JERICO-RI Communication Plan (JERICO-S3 Deliverable 10.2,) and proposed in JERICO-S3 D10.4 to be adapted to the engagement with national governments, with additional communication tools proposed by experts. The selected (8) tools were then object of a SWOT analysis that finally concluded that the most impacting communication tools that could be used by JERICO-RI to promote the engagement of National Governments would be "offering consultation and services to governmental agencies" and "Dedicated meetings with national ministries, ESFRI national representatives, national agencies and local governments" (both indicated in table 7).

Table 7. Specific JERICO-RI communication strategy directed to National Governments and Associated Entities (Core Target Audience #2 in table 1)

Core Target Audience	Dimension	Communication objectives – Main messages	Activities/Channels/Tools
National Governments and associates entities	**National**	• "Make the case" for the add-value of JERICO-RI in supporting national strategies and decision making process on what regards the marine and coastal environments (e.g. strategies marine environment; preparation/assessment/public information of policies for the marine environment, strategies to Climate Change mitigation and agendas of resilience to climatic change and extreme events). • Show JERICO-RI contribution in boosting national and local capacities in marine sciences & technologies and supporting Blue Economy sectors and agendas of innovation, employment and food security. • Present compelling evidence on how JERICO-RI can bring add-value in supporting nations to fulfill European (e.g. national contributions to MSFD and WFD) and International (e.g. regional conventions, UN Decade and SDGs) commitments. • Show why JERICO-RI national and regional installed capacities, real-time or delayed delivery of data, integration of robust expertise of coastal ocean processes all contribute to support the national response to crisis at sea and environmental threats (oil-spills, extreme events, Search and Rescue operations, HABs, invasive species, others)	• Offering consultation and services to governmental agencies • Meetings with national ministries/ESFRI national delegation, or with other national stakeholders. • Publicize the use of JERICO-RI data, products, and services in reports of consultation and service projects ordered by the stakeholders. • Meetings with national agencies to discuss how JERICO-RI can support national commitments in specific areas. • Meetings with local governments and associated entities • Presentation, slides, videos, brochure, leaflets (best if in national language, ok in English) • Participation in events organized by national ministries, aimed at national community/larger international events. • Publicize JERICO-RI during visits of ministers and other government's member to the national institutions that are partners of the RI. • Production of slides, videos, posters, roll-ups, brochure, leaflet showing • JERICO-RI Website Translated in National Language social media

JERICO-RI website, newsletters, press-releases, social media, web-based communication tools

Strengths	Weaknesses
• Fast & Broad delivery • Maintain JERICO in the spotlight • Hot topics & short news • Comprehensive description • Local developments in wider context	• Stakeholders need to be alerted • Organizations have to be followers • Already too much material exists
Opportunities	**Threats**
• Variety of subjects & importance • Allow appropriate news frequency • Demonstrates added value of RI of Pan-European dimension	• Infrequent news/social media posts • Too frequent low importance posts • If not clear, messages are missed

JERICO-RI Communication Channels and Tools

JERICO-RI identity in publications, reports, consultation, and service projects

Strengths	Weaknesses
• Most common way to show JERICO value to high-level science and blue growth • JERICO role spread through global research community • JERICO in specific tasks highlighted. • Fulfils governmental services & reporting.	• Awareness restricted to few target groups • Overall impact might remain unclear • Significant resources involved in projects, , complicated to achieve in project-basis
Opportunities	**Threats**
• Quantitative evaluation of JERICO impact • Completed projects create trust and visibility and prove the need for JERICO	• If uncoordinated, might underestimate impact • Readers interest in results, not methods. • Not successful projects

Graphics (flyers, leaflets, posters, infographics, brochures)

Strengths	Weaknesses
• Simplified and condensed tools to give an overview of the importance of JERICO • Visual presentation of the JERICO-RI	• There are many other graphics around • If not handed over personally (e.g. sent by post), the impact could be negligible
Opportunities	**Threats**
• Allows demonstration of the quantitative impact of JERICO-RI in a simplified and visual way	• Graphics overflooded with info, main message (why JERICO is need) might be lost.

Figure 4a. SWOT analysis for three groups of communications channels and tools to be used by JERICO-RI to communicate with National and European/International stakeholders, comprising digital channels, printed materials and JERICO-RI identity (from Liblik et al. 2024).

JERICO-RI Communication Channels and Tools

Participation in conferences, events, exhibitions

Strengths	Weaknesses
• Direct (face-to-face) communication with people	• Conferences JERICO-RI can be presented dedicated to marine/ocean science or observing network design. Representatives of stakeholders are there hardly present.
Opportunities	**Threats**
• Allows usage/advertising of other JERICO communication tools.	• In scientific conferences, audience focus on results not on who collected data

Webinars, workshops

Strengths	Weaknesses
• Webinars and workshops demonstrate JERICO as a hub of knowledge related to coastal observations	• Representatives of stakeholders hardly participate
Opportunities	**Threats**
• Allows demonstration of the added value of the research infrastructure of the Pan-European dimension	• Webinars and workshops might look for stakeholders that would be organized anyway by the ocean observers community (even if JERICO would not exist)

Dedicated meetings with stakeholders

Strengths	Weaknesses
• Face-to-face meetings make the contacts live • The most effective way to engage target groups • Dedicated use of the JERICO-RI graphics	• It is hard to convince agencies and find a suitable time to be spent on these dedicated meetings
Opportunities	**Threats**
• The scope of the meeting/presentation can be set according to specific stakeholder • Selection of the most important messages to be delivered in a comprehensive way	• The right persons are not able to participate

Participation in events organized by the national ministries

Strengths	Weaknesses
• JERICO-RI (or partners) are made visible • Face-to-face meetings make the contacts live	• The topics are dictated by the organizers • The time for presentations is always limited
Opportunities	**Threats**
• Allow offering solutions for the problems of their interest (could be consultation and services to governmental agencies)	• With too many participants, JERICO-RI is not visible enough

Figure 4b. SWOT analysis for four groups of communications channels and tools to be used by JERICO-RI to communicate with National and European/International stakeholders, comprising several types of organization/participation in events (from Liblik et al. 2024).

Core Target Audience #3: European Commission and Associated Agencies and International Organizations

This Core Target Audience encompasses a number of high priority audiences selected among the main European policy making structures and European and international governmental and administrative agents. These are identified in JERICO-RI manifests (JERICO-S3 and JERICO-DS project proposals, ESFRI proposal) and clearly emerge in the Users Survey conducted by JERICO-S3 WP9 (being appointed in JERICO-RI Dissemination and Exploitation Plan as recipients of several Key Exploitation Results). The most relevant of these individual audiences, both operating at European level or in the international dimension, are indicated in Table 2.

A particular focus is given here to the European Commission, the European Commission Agencies and ESFRI, to which JERICO-RI communication must present compelling arguments for the need and add-value of a European Research Infrastructure dedicated to the coastal ocean. The communication directed towards these entities should take in consideration their roles as:

(a) potential funding agents (in case the ESFRI proposal is accepted and JERICO-RI progresses to the implementation phase), providing the political support and the European framework for the long term sustainability JERICO-RI;

(b) as stakeholders that benefit from an European Research Infrastructure for the Coastal Ocean as a vehicle in the understanding of opportunities, challenges and threats faced by Europe's coastal states and coastal populations;

(c) as users that can directly benefit from the data, products and services provided by JERICO-RI as support to the development of new European legislation or the assessment of the existing one.

In the framework of the European structures, a particular focus in given to the communication strategy and tools required to promote articulation of JERICO-RI with EOOS (taking advantage of the work developed by JERICO-S3) and with the All Atlantic Cooperation for Ocean Research and innovation (AANChOR). In the framework of International Bodies, particular emphasis is given to the interaction with GOOS, developing communication material that will put in evidence how JERICO-RI will contribute to the Decade and to the SDGs and to the engagement with the Regional Sea Conventions (OSPAR, HELCOM).

Given the characteristics of these audiences, it is clear that the Main Objectives for External Communication introduced in section 2.3.1, particularly MOEC#2, present a number of Narratives and Messages that, although designed to be used in the more general framework of communicating JERICO-RI to the broad external audiences, do contain elements that appeal to this particular Core Target Audiences.

A more specific communication directed to this Core Target Audience, to be used during the Preparatory and Preliminary Phases, can be designed based on the specific communication

objectives presented in Table 8 (from which associated Narratives and ; Messages can be shaped). These were initially introduced in JERICO-S3 D10.4 and later further developed in JERICO-DS milestone MS67 (Liblik et al., 2024) for the regional and international levels.
The SWOT analysis of the different JERICO-RI communication channels and tools, conducted in this latter report (Liblik et al., 2024) and reproduced here in figures 4a and 4b, was analyzed for the specific audiences related to regional organizations (ROOSes and sea conventions) and to international organizations, comprising the European structures and International bodies (UN, OECD, GOOS, Belmont-Forum, WMO). The main conclusions that result from this analysis are integrated in Table 8.

Table 8. Specific JERICO-RI communication strategy directed to European Commission and Associated Agencies and International Organizations (Core Target Audience #3 in table 1)

Core Target Audience	Dimension	Communication objectives – Main messages	Activities/Channels/Tools
European Commission and associated entities	**European**	• It should clearly state the unique capacity of JERICO-RI to monitor, understand and predict the Pan-European coastal ocean, a capacity essential to answer Europe's Global Threats and Global Crisis. • Show that this is presently the only EU RI for the coastal ocean; activities inscribed on Pillar 2 of Horizon Europe, specifically meeting the objectives of Cluster 6 and addressing the coastal component of the Mission "healthy oceans, seas, coastal and inland waters". • Clearly inform on how JERICO-RI can support EU policies and EU strategic axes • Show how JERICO-RI contributed to the European Green Deal and to the European Digital Twin of the Ocean. • Show the strong contribution to European Directives (MSFD, WFD), to Europe's response to Climate Change Impacts, Europe's Green Deal and UN Decade for the Ocean SDGs. • It should emphasize why JERICO-RI contributes to the development of an European Marine Research and Innovation of excellence	• Meetings with EU structures (at different phases) • Participation in EOOS meetings (EOOS Operation Committee) • Presentation, Slides, Videos, Brochure, Leaflets. • Communities highly receptive to communication promoted through JERICO-RI web page and Social Media Channels (Twitter/X Facebook, YouTube, LinkedIn) • Participation in meetings promoted by the EU Commission or related Agencies.
	Global	• Show how JERICO.RI contributes to the main international agendas (Decade, SDG,…) • Present clear arguments showing that with JERICO the stakeholders tasks (e.g. Regional Conventions)are solved more efficiently	• Highlight the use and importance of JERICO data in reports ordered by the Regional bodies (ROOSes) or Sea Conventions • Organizing JERICO workshops and webinars of interest for ROOSes working groups • JERICO-RI's website, newsletters, press releases, social media, and web-based communication tools • Presenting the JERICO in the conferences arranged by stakeholders or the conferences dedicated to ocean observing • Organizing JERICO workshops and webinars • Dedicated face-to-face meetings

2.4 Communication Channels and Tools

JERICO-RI explores a broad range of communication channels and tools to communicate with external as well as internal audiences. These include:

- Online communication

  - Website

The JERICO-RI website was implemented by Blue Lobster (partner in JERICO-S3 project) in 2021 as part of the work conducted in JERICO-S3 (Keeble and Keeble, 2021). This implementation followed the recommendations issued in European Commission (2020), which states that to ensure the visibility of the Research Infrastructure funding, it would be helpful to reflect the whole process and the timeline on the same website of the infrastructure, which would help to show the evolution of the RI and how it relates to other RIs/projects. The JERICO-RI website provides a comprehensive view of the Research Infrastructure, with detailed descriptions of some of the key components such as JERICO CORE or Transnational Access and with specific information on JERICO-RI main events and achievements. The website also integrates specific pages dedicated to the different projects that are building the research infrastructure (JERICO-NEXT, JERICO-S3, JERICO-DS). This allows to present the overall picture, providing the historical timeline of development of the infrastructure with specific acknowledgement of EU funding along with grant numbers and links to the CORDIS summary page and outputs.

National language translations of JERICO-RI website content were produced by JERICO-DS and implemented by Blue Lobster as part of JERICO-S3 (JERICO-DS deliverable D6.1). These translations are aimed to expand the universe of audiences receiving information on JERICO-RI, by opening this information to the broad national audiences.

  - Social media:

Social media communication is a high-impact way of creating visibility among the general public and specific target audiences. Facebook, Twitter, and LinkedIn are the key social media platforms explored by JERICO-RI. @JERICORI has about 3000 followers, the Facebook page has about 350 followers and the LinkedIn webpage more than 100 followers, divided in 2 groups, (the JERICO-RI group and the JERICO-RI Business Development & Funding, with about 20 members). The JERICO-RI LinkedIn webpage has top appearance in searches related with the ocean and with water.

- Press and media engagement

  - Press releases:

Press releases may be issued, for example at the launch of an action to highlight its objectives, beneficiaries and budget, and, at the end of an action, to publicise the action's outcomes and achievements.

However, care was taken in the use of press releases as experience gathered from different research infrastructures show that they may not be the best communication strategy, less efficient than the use of visuals (O'Neill et al., 2022:).

- Press conferences and interviews:

These can occur, for example, during periods of particularly high public interest such as the main crisis, main national or international events dedicated to key societal challenges or sports events, in which JERICO-RI can present how it is contributing.

- Journalist visits, interviews, participation in broadcast documentaries:

Actions involving media representatives in visits to the physical component of the research infrastructure (at sea or in land) can have a considerable impact to show to the public and decision makers, the highly skilled and highly technological work that JERICO-RI partners develop in the extremely difficult coastal ocean environment. These can be developed during specific actions to publicize JERICO-RI or in the framework of a documentary about coastal ocean phenomena or other. The experience from the participation of partners of JERICO-RI in these actions proved the huge impact that they have raised public and institutions recognition.

 Events

- Organized by JERICO-RI

For example, the organization of an annual conference dedicated to the coastal ocean environment, gathering the JERICO-RI community, other RIs from European nations and in the Global scenario, developers of technology for coastal ocean observation, Citizen Scientists, Blue Economy actors, policy makers, among others.

- Organized by others

A broad participation of JERICO-RI partners in national, European or Global events, with focus on the thematic of Marine Research and Observational, Environmental Sciences, Marine Technology, Research Infrastructures and other related events can contribute to a broad publicity of JERICO-RI.

 Printed Material

- Posters & Banners:

A set of graphics and posters with key statements and branding to form a "communication toolbox" were produced by JERICO-S3 Communication Work Package and made available on the JERICO-RI website. A project roller banner, project infographics, a series of thematic posters highlighting key aspects of JERICO-RI and JERICO-S3/JERICO-DS projects. These materials continue to improve and be updated during the development of the RI.

- Newsletter:

The first external JERICO-RI newsletter was published in May 2022. The newsletter is intended to raise the visibility of the JERICO-RI and has been promoted through email lists, the website and social media. It will be produced on a regular basis, with two, three numbers released each year.

- Brochure:

A new version of the JERICO-RI brochure was produced in 2023 and is being extensively disseminated to promote JERICO-RI in meetings and events. The brochure will be regularly updated to follow the evolution of the RI during the Preparation and Implementation Phases.

- Leaflets:

A leaflet focusing on the presentation of JERICO-RI was produced in 2023 and will be upgraded on a regular basis to follow the evolution of the RI. Thematic leaflets focusing scientific, technological or societal thematic that are relevant in the coastal ocean context and can highlight JERICO-RI capacities, data, products and services, are planned to be produced during the Preparatory and Implementation Phases.

- Audio-Visuals.

The experience shared by many existent research infrastructures is that visuals are a very good tool to get the message across, keep the momentum of the communication going and maximize its impact on the target audience (Brno, Czech Republic, 19-21 October 2022). These include:

- Photos

Photography is a powerful tool to help tell a story. Whether through a single shot or a series of photos, it can capture people's attention and invoke emotion in the viewer. As part of its communication strategy, it is important that JERICO-RI plans and allocates budget to the production and dissemination of high quality photos of the Research Infrastructure physical components, actions developed and staff.

JERICO-RI has the potential to produce powerful visual content, focusing on amazing coastal ocean phenomena and living creatures, cutting edge technologies, and complex operations. This can be one of the most effective ways to communicate information and ensure that messages are retained.

- Videos

Video continues to rise in importance as a medium for communication. Viewers retain more of the message when they watch it in a video, compared to when they read it in text, meaning video plays an important role in communicating both intention and impact. As was said to photos, JERICO-RI can generate highly impacting photos that can capture people's imagination, particularly the young generations, attracting and engaging them with the Research Infrastructure.

- Training Material: webinars and workshops

Webinars focusing specific presenting JERICO-RI to the external community and discussing thematic of interest for the JERICO-RI community were produced in JERICO-S3 Communication Work Package (WP10) and used as first steps to guide the regular production of these type of material to improve JERICO-RI visibility.

Two workshops to promote the knowledge transfer between JERICO-RI partners (also open to external audiences) were conducted in the framework of JERICO-S3 Communication

Workpackage (WP10). The feedback from these workshops is analyzed to extract lessons learned that will guide the continued development of these types of events as a way to develop the community spirit and improve harmonization among JERICO-RI.

As described in the section 2.2.2 Training materials directed to diverse audiences, such as Citizen Scientists, Schools and Teachers, can be one of the communication materials that JERICO-RI can develop and promote.

- Influencers

Being a coastal ocean research infrastructure, JERICO-RI is particularly well positioned to use influencers to explain to a broad audience the importance of the research infrastructure and to promote the products and services. These are persons that are easily recognized by and have a large impact on the general public or on specific groups of audience. Influencers that can resonate JERICO-RI messages in the general public and in young generations include well known personalities from sports connected to the marine environment (e.g. surf, sailing, diving), from the business world, from politics, from the arts, also coastal communities with exceptional ways of living.

An overview of the specificities of the different JERICO-RI communication channels and tools that are planned to be used during the Preparation and Implementation Phases is provided in the JERICO-RI Communication Activity Matrix, presented in Table 9.

Table 9. JERICO-RI Communication Activity Matrix expected during the period covered by the Preparation and Implementation Phase.

Type	Channel	Primary audience(s)	Reach (individuals, local, national, EU, international)	Inclusivity (Excellent, very good, good, fair, poor)	Average target frequency of communication	Immediacy (minutes, hours, days, weeks, months)	Management	Resourcing
Internal	Email	JERICO partners	Individuals	Excellent	When needed	Minutes	Individual	Low
	In person Meeting	JERICO partners	Individuals	Excellent	When needed	Days	Local Team	Moderate
	Virtual Conference	JERICO partners	Individuals	Good	When needed	Days	Local Team	Low
	Instant Messaging	JERICO partners	individuals	Fair	When needed	Minutes	Individual	Low
	Documents	JERICO partners	individuals	Very Good	When needed	Months	Local Team	Low
Website	News	Research, Stakehold.	EU, National	Fair	Daily	Minutes	Editorial Team	Low
	Events	Research, Stakehold.	EU, National	Fair	Daily	Minutes	Editorial Team	Low
	JERICO-RI	Research, Stakehold.	EU ,National	Fair	Monthly	Months	Editorial Team	Low
	TA	Research., BlueEcon	EU, National	Fair	When Needed	Days	Editorial Team	Low
	JERICO-Core	Research	EU. National	Fair	Monthly	Months	Editorial Team	Low
	Jobs	Research	EU, National	Fair	When Needed	Minutes	Editorial Team	Low
Social Media	Twitter/X	Research	EU, National	Good	Daily	Minutes	Individual	Low
	LinkedIn	Research	EU, National	Good	Daily/Weekly	Minutes	Individual	Low

	You Tube	Research	EU, National	Fair	Monthly	Days	Individual	Low
Audio-Visuals	Videos	Ngov, Egov, Schools	EU, National	Good	Biannual	Days	Editorial Team	High
	Webinars	Research,Ris	EU, National	Good	Biannual	Days	Editorial Team	Moderate
	Influencers	Schools, NGov, Egov	EU, National	Excellent	Biannual	Days	Editorial Team	Moderate/High
Meetings, events, exhibitions	Presentation	All	EU, National	Very Good	Monthly, Quarterly	Months	Individual	Moderate
	Sponsored Session		EU, National	Good				
	Booth	All	EU, National	Good	Biannual	Months	Local Team	High
	Ri-hosted Scientific or Technical Conference	Research, RIs, EC, ServicProv	EU, National	Excellent	Annually	Months	Local Team	High
Print Material	Leaflets	all	EU, National	Good	Biannual	Weeks	Editorial Team	Moderate
	Banners	all	EU, National	Good	Annually	Weeks	Editorial Team	High
	Brochure	Research, Ngov, Egov	EU, National	Good	Annually	Weeks	Editorial Team	Moderate
	Posters	all	EU, National	Good	Annually	Weeks	Editorial Team	Moderate
	Training material	all	EU, National	Excellent	Biannual	Weeks	Editorial Team	Moderate

[1] Inclusivity reflects the proportion of your primary audience(s) that can engage with the communication
[2] How often you would aim to communicate using the indicated channel
[3] How quickly the communication can be published from the time of its inception

2.5 Evaluating the Impacts of JERICO-RI Communication Strategy

The success of the JERICO-RI communication strategy depends on the ability to continuously adapt to the evolving needs it is supposed to answer. Two of the mechanism through which this adaptation can be succeeded are:

a) Regular updates of the communication strategy in order to maintain it aligned with the evolution of the Research Infrastructure and of the Societal and Scientific needs.

b) Regular evaluation of the performance of the JERICO-RI communication.

This latter mechanism involves the identification of suitable Key Performance Indicators that can be used to support the evaluation of impacts on JERICO-RI in the areas covered by communication, taking into account potential future evolutions in communication channels. This identification was conducted in the framework of JERICO-DS Task 6.5 and the selected Communication KPIs were reported in JERICO-DS Milestone MS6.2 (Vitorino et al., 2022).

The methodology followed included the following elements:

- Analysis of the use of communication KPIs in the marketing world (2021. Tryone): This was key to External and internal communication assessment
- Analysis of the use of KPIs to evaluate RIs performance and impacts, based on the general guidelines provided by OECD (2019)

- RI performance assessment vs RI impacts assessment, based on the specific ESFRI orientations provided by the ESFRi working group on monitoring of research infrastructures performance (ESFRI, 2019)
- Alignment with RI objectives, RACER criteria, Reference Sheet

At the end of this process a total of 5 Communication KPIs (C-KPIs) were selected and reported in JDS Milestone MS6.2.

- 4 addressing external communication, the first 3 of these were adapted from the list proposed by the ESFRI Working Group in the framework of *Outreach to the Public*
- 1 addressing internal communication

2.6 The Broader Perspective

Along this report, we focused on the Communication Strategy for JERICO-RI. The interaction of JERICO-RI with external as well as internal audiences also includes a second dimension, the one that develops through Dissemination and Exploitation. The Dissemination and Exploitation Strategy for JERICO-RI can be designed based on the approach followed in JERICO-S3 and reported in JERICO-S3 D10.1 (Durand et al., 2020).

2.7 Organisation of the JERICO-RI Communication

Corporate communication is a set of activities involved in managing and orchestrating all internal and external communications aimed at creating a favorable point of view among stakeholders on which the organization depends. Communication is an important function that, if executed properly, has a direct impact on the strategic planning process of any organization, including research infrastructures. As such, it is recommended that the communication function be integrated in the management structure of an organization (Brus, et al., 2020).

The long-term communication strategy of JERICO-RI should rely on a professional and dedicated communication team, supported by specific budget allocation. While the budget for communication may be relatively small compared to the overall RI spending budget, the impact of this communication on the future development of RI is significant (O'Neill. et al, 2022).

3. Conclusion and next steps

The present report presents the design study for the JERICO-RI Communication Strategy. This is proposed as a blueprint to guide the internal and external communication to be developed by the European Research Infrastructure for Coastal Ocean Observation, in the stages of development that follow a insertion in the ESFRI Roadmap. The design study gather different components of JERICO-RI developed in JERICO-S3 project and refined in the different task of the Communication Strategy WorkPackage of project JERICO-DS.

JERICO-RI has a large spectrum of potential users and stakeholders, to which external communication is directed, and integrates a broad range of nations and national partners, to which internal communication is directed. The shaping of a Communication Strategy for JERICO-RI can be a complex task if intended to address all these individual audiences. The approach followed here adopted a simpler and scalable strategy, progressing from using a limited number of main objectives for communication (for internal audiences as a whole and for external audiences also taken as a whole) to design a more specific communication directed to high priority Core Target Audiences. When required, for specific individual users, higher granularity in communication can be added and the design study provides examples of these for some specific users.

The proposed approach allowed to integrate in the JERICO-RI Communication Strategy several elements of the communication strategy that can subsist during a large part of the lifecycle of JERICO-RI, integrated in the ESFRI Roadmap. The more detailed communication is presented for a timespan that could cover the Preparation and Implementation Phases.

4. References

Brix, H. and Lips, I., 2021. Strategic synthetic document to co-construct JERICO-RI in the Landscape of environmental RIs finalised, JERICO-DS-WP5-M5.2-08/11/21-V1.1, 5p.

Brus, M. et al. , 2020: "D2.2. ENVRI COMMUNITY BUILDING, ENGAGEMENT AND COMMUNICATIONS STRATEGY", ENVRI-FAIR DELIVERABLE D2.2, 44 p.

Costa Abecasis, R., Pintar, B.., 2020. "RI-VIS D5.1 Communication Standards Toolkit," Zenodo, p. https://zenodo.org/record/3701172, 2020.

Council of the E, 2022. "Research infrastructures: Council adopts conclusions". PRESS RELEASE 1016/22 02/12/2022

Dañobeitia, J., Favali, P., Pade, N., Arvanitidis, C., Fredella, M. I., Galeotti, M., Giuntini, A., Di Laura, F., 2021. "EMSO ERIC LONG-TERM VISION AND STRATEGIC PLAN 2021-2023 Observing the Ocean to Save the Earth", 26 p, DOI: 10.5281/zenodo.5654745

Dansby, A., 2022. "Attracting investment for research infrastructures". Science|Business Special Report July 2022, David Pringle (Ed.), Maryline Fiaschi (Proj. Dir.).Science|Business Publishing International SRL Avenue des Nerviens 79, 1040 Brussels, Belgium, 11 pp.

Durand. D., Cocquempot,L. Godiveau, L., Keeble, S., Delauney, L., Puillat, I., 2020. Consolidated Dissemination & Exploitation Plan. JERICO-S3-WP10-D10.2- 271020-V1.2, 35p.

Delauney,L. 2023. JERICO-RI Conceptual Design Report. JERICO-DS-WP5-D5.3-121023_V1

European Commission, 2016. "Report on the Consultation on Long Term Sustainability of Research Infrastructures". Directorate-General for Research and Innovation ISBN 978-92-79-58988-1, doi: 10.2777/700893, KI-04-16-474-EN-N, 46p.

European Commission, 2018. "Communication from the Commission to the European Parliament, the Council, the European Economic and Social Committee and the Committee of the Regions. Horizon 2020 interim evaluation: maximising the impact of EU research and innovation", 11pp

European Commission, 2020. "Supporting the Transformative Impact of Research Infrastructures on European Research European Commission Directorate-General for Research and Innovation Directorate G — Research and Innovation Outreach Unit G.3 — Research and Innovation Infrastructures, Luxembourg: Publications Office of the European Union, 2020, ISBN 978-92-76-19272-5 doi: 10.2777/3423 KI-02-20-397-EN-N, 274 pp.

European Union, 2022. "Communicating and raising EU visibility - guidance for external actions". European Commission's Directorate-General for Communication, 25pp.

Fernández, V., Puillat, I., Tagliana, B., Lara-López, A., Lips, I., 2021. "User requirement and classification". JERICO-S3-WP9-D9.1-280721-V2.0. 45p.

Fernandez, V., Cocquempot, L., Durand, D., 2023. "User/Stakeholder Strategy". JERICO-DS-WP4-D4.1-090623_V1.2, 13p.

Helms, M.M., Nixon, J., 2010. "Exploring SWOT analysis – where are we now? A review of academic research from the last decade," Journal of Strategy and Management, no. 3, pp. 215-251, 2010.

ICOS ERIC, 2019. "ICOS Strategy. Published by ICOS ERIC, Helsinki, Finland, 40p. https://doi.org/10.18160/TV1J-4XQY

Keeble, K., Keeble, S., 2021. "Launch enhanced web presence". JERICO-S3-WP10-M54-180521-V1.0, 5p.

Liblik, T., Rünk, N., Urmas Lips, U., 2022. "Specific communication tool to engage National Governments". JERICO-DS-WP6-M6.4-210422-V1.0

Liblik, T., Lips, U., Vitorino, J., Pfannkuchen, M., 2024."*Communication Plan to Engage Stakeholders"*. JERICO-DS-WP6-MS6.7-08012024-V1.2, 24p.

OECD (2019), "Reference framework for assessing the scientific and socio-economic impact of research infrastructures", OECD Science, Technology and Industry Policy Papers, No. 65, OECD Publishing, Paris, https://doi.org/10.1787/3ffee43b-en.

O'Neill. M., Butland, B. , Samson, C., Stach, D., Tischler, K., 2022: "Communicating successes and raising awareness among decision-makers, their influencers, and the public". Parallel Theme A: Society and Economic Benefits and impact of Research Infrastructures, Proceedings Report, International Conference on Research Infrastructures (Brno, Czech Republic, 19-21 October 2022), Masarykova univerzita, Žerotínovo náměstí 9, 601 77 Brno, IČ 00216224, Pg.26

Presidency of the Council of the European Union, 2022. "Brno Declaration on Fostering a Global Ecosystem of Research Infrastructures". Czech Presidency of the Council of the European Union, EU2022.CZ, International Conference of Research Infrastructures (Brno, Czech Republic, 19-21 October 2022), 7p.

Report of the ESFRI WORKING GROUP ON MONITORING OF RESEARCH INFRASTRUCTURES PERFORMANCE (WG MONITORING, December 2019

Thijsse, P., Gorringe, P., 2021 Inventory of coastal citizen science initiatives. JERICO-S3-WP6-MS31-V1.1, 11 p.

"Which Internal Communications KPIs Matter?", 2021. Tryone. online

U.S. Integrated Ocean Observing System, 2022. "U.S. IOOS Enterprise Strategic Plan 2022-2025", ver.1.0.1, 19p, 2022.

Vincenz-Donnelly, L., Pieruschka, R., Haley, N., 2020: 'RI-VIS D4.2 Communication Strategy'. RI-VIS Deliverable D4.2 version 1.0, 24p.

Vitorino, J., Pfannkuchen, M., Lips, U., Liblik, T., 2022. "Identified Potential Communication KPIs to feed general KPIs table (WP5)", JERICO-DS-WP6-M6.2-010622-V1.0, 16p

Vitorino, J., Lima, V., Liblik, T., Pfannkuchen, M., 2024a. "Communication Plan to Users", JERICO-DS-WP6-M6.5-300124-V1.0, 15 p

Vitorino, J,, Lima, V., Pfannkuchen, M., Liblik, T., 2024b. Report on Case Study for Interactions between JERICO-RI community and initiatives at national level in education. JERICO-DS-WP6-M6.6-300124-V1.0