Artificial Intelligence to Monitor our Seas

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AIMS

Artificial Intelligence to Monitor our Seas

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SHORT ABSTRACT FOR DISSEMINATION PURPOSES

Abstract

The "Communication, Dissemination, and Exploitation Plan, First Version" delineates a strategic blueprint for maximizing the outreach and impact of the AIMS project. This deliverable outlines a multifaceted approach to engage diverse stakeholders, including scientific communities, industry partners, policymakers, and the wider public. Through targeted communication strategies, dissemination efforts, and opportunities for exploitation, the plan aims to amplify the visibility of AIMS research outcomes, foster collaboration, and catalyse innovations in marine surveillance and artificial intelligence.

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TABLE OF CONTENTS

AIMS: Artificial Intelligence to Monitor our Seas is funded by the European Union - NextGeneration EU within the PRIN 2022 PNRR program (D.D.1409 del 14/09/2022 Ministero dell'Università e della Ricerca). This document reflects only the authors' view, and the Commission and Ministry cannot be considered responsible for any use that may be made of the information it contains.

LIST OF PARTNERS

N°	Logo	Name	Short Name	City
1	Politecnico di Torino	Politecnico di Torino	POLITO	Torino
2	ROMA TRE UNIVERSITÀ DEGLI STUDI	Universitá degli studi di Roma Tre	ROMA3	Roma
3	Italian National Research Council	Consiglio Nationale delle Ricerche	CNR	Firenze

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ABBREVIATIONS

Acronym	Description

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LIST OF FIGURES

LIST OF TABLES

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EXECUTIVE SUMMARY

The Communication, Dissemination, and Exploitation Plan for the AIMS project serves as a comprehensive framework to facilitate the effective promotion and dissemination of project activities and outcomes. This document outlines a strategic approach tailored to engage diverse stakeholders and maximize the impact of AIMS research. It emphasizes the importance of targeted communication strategies, tailored to the unique needs and interests of different stakeholder groups. Through proactive dissemination efforts, the plan aims to raise awareness of the project, share research findings, and foster collaboration. Sections within the document provide an overview of the project goals, communication strategy, planned activities, monitoring and evaluation mechanisms, editorial plan, and impact assessment framework. This plan will evolve over the course of the project to ensure alignment with project objectives and evolving stakeholder needs.

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1. PROJECT OVERVIEW

The AIMS (Artificial Intelligence to Monitor our Seas) project represents a pioneering effort to enhance ocean monitoring and resource assessment through the integration of diverse datasets and cutting-edge AI algorithms. With the overarching goal of advancing knowledge in artificial intelligence and remote monitoring of the ocean, AIMS brings together a consortium of leading institutions including Politecnico di Torino (PoliTO), Roma Tre University (ROMA3), and the National Research Council of Italy (CNR).

Through a multidisciplinary approach, AIMS develops innovative AI algorithms capable of effectively analysing and synthesizing data from multiple sources, including numerical models, satellite observations, and in-situ measurements. These algorithms will enable more accurate and comprehensive monitoring of ocean parameters such as wave height, period, and wind speed, thereby facilitating improved resource assessment for offshore renewable energy projects.

The project is structured into four distinct work packages (WPs), each focusing on key research milestones. WP1 is dedicated to building a comprehensive metocean dataset, while WP2 focuses on the development of AI algorithms using satellite and numerical data. WP3 involves the training and validation of these algorithms using experimental data, and WP4 oversees project management activities to ensure the smooth execution and impact of the project.

AIMS is expected to have significant implications for various sectors, including offshore renewable energy, marine environmental protection, navigation safety, and climate change research. By reducing costs and time associated with offshore monitoring, the project aims to benefit stakeholders ranging from port operators to policy-makers. Furthermore, AIMS wants to foster collaboration and knowledge exchange within the scientific community, both nationally and internationally.

2. COMMUNICATION AND DISSEMINATION OVERVIEW AND STRATEGY

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Communication and dissemination play a crucial role in the AIMS project, serving to convey project information, promote achievements to relevant stakeholders, and enhance awareness through various communication channels. The overarching aim is to ensure the widest possible adoption and impact of AIMS results.

Specifically, the strategy emphasizes communicating the advantages of AIMS to end-users, universities and research centres, industry representatives and technology providers. Moreover, laypersons will be targeted for more general topics regarding ocean literacy, climate change, earth observation monitoring and artificial intelligence.

The various measures are intended to achieve the following objectives:

1. **Enhance** the project's visibility and that of its network of experts, facilitating understanding among local communities and key stakeholders, and garnering support from the scientific community and policymakers.
2. **Ensure** the adoption of research outputs, solutions, and recommendations, as well as the uptake of results by the scientific community.
3. **Disseminate** knowledge and raise awareness by engaging with laypersons and stakeholders by openly sharing project results on the webpage and relevant open-access platforms.

Throughout the 24-month project duration, the dissemination effort ensures continuous communication of the project's advancements and outcomes, actively involving all identified target audience categories from the project's inception.

The dissemination activities in AIMS are strategically crafted to align messages with specific target audiences, aiming to foster awareness across a diverse community spectrum. To achieve this, the dissemination plan for AIMS is structured around five fundamental pillars, each elaborated upon in this document:

1. **Establishing Key Messages and Dissemination Goals**: Defining the desired outcomes and outlining the strategies to accomplish them.

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2. **Identifying Stakeholders**: Identifying key entities invested in the project's outcomes and pivotal for its success.
3. **Tailoring Information**: Customizing communication messages to align with the interests and requirements of stakeholders. Depending on audience characteristics, content, style, and support may vary.
4. **Planning and Executing Communication Activities**: Developing a coherent communication strategy that aligns with project goals, targets specific audiences, and ensures consistency in messaging.
5. **Evaluating Communication Impact**: Establishing a set of Key Performance Indicators (KPIs) to monitor dissemination activities and assess progress. These indicators serve as benchmarks to gauge the effectiveness of the dissemination strategy.

2.1 Communication and Dissemination goals

In the AIMS project, communication and dissemination goals are intricately tied to its overarching objective of advancing knowledge in artificial intelligence (AI) algorithms and remote monitoring of the ocean. The project aims to leverage a multidisciplinary approach, combining AI techniques with satellite and numerical data to develop innovative solutions for metocean monitoring and forecasting.

Specifically, AIMS seeks to achieve the following communication and dissemination goals:

1. **Awareness**: Raise awareness about AIMS activities and promote its achievements to all relevant stakeholders, including the scientific community, industry representatives, and laypersons. This involves providing comprehensive information about the project's objectives, methodologies, and anticipated outcomes.
2. **Understanding**: Transfer key messages to different stakeholder groups to enhance their understanding of AIMS outcomes. This includes translating complex scientific findings into accessible language and disseminating them through various channels to ensure comprehension among diverse audiences.
3. **Engagement**: Foster active engagement with stakeholder communities throughout all stages of the project. This particularly involves interaction with local communities, industry stakeholders,

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and policymakers to promote social acceptance and awareness of AI-driven metocean monitoring solutions.

4. **Utilization of Results**: Facilitate the uptake and utilization of research outputs and methods developed within the AIMS project. These resources will be tailored to meet the specific needs of stakeholders, thereby maximizing their practical application in real-world settings.

2.2 Target audience

Strategic communication within AIMS relies on first delineating targets, understanding the audience, and refining the message before determining the most suitable channels for transmission. The AIMS communication and dissemination plan is meticulously designed to ensure that messages are tailored to resonate with specific audiences and are disseminated through appropriate channels. This approach is vital for customizing communication efforts and maximizing the likelihood of achieving project objectives.
The AIMS project targets a diverse range of stakeholders, categorized into four main clusters:

1. Research and Innovation Communities: AIMS ensures alignment with cutting-edge research and innovation standards, fostering collaboration and knowledge exchange within the research community. Through participation to targeted conferences and research events, the project seeks to be visible to the following diverse research communities: artificial intelligence, ocean modelling, offshore renewable energy, coastal engineering, climate science.
2. Industry Representatives and Technology Developers: Offshore sector, including oil and gas, offshore wind, wave and tidal energy. AIMS engages stakeholders across the offshore industry and results are disseminated within relevant industry networks and industry-oriented conferences.
3. Citizens and laypersons: AIMS endeavours to enhance public understanding and engagement with critical topics such as climate change and ocean literacy, aiming to empower individuals with knowledge about these pressing environmental concerns. Additionally, the project seeks to demystify complex subjects like artificial intelligence and space-based observation, fostering greater

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awareness and appreciation for the innovative technologies driving advancements in environmental research and monitoring.

Given the diverse range of stakeholders, AIMS will employ tailored communication and dissemination strategies, including various styles, content types, and levels of detail. This strategic approach ensures effective engagement with target audiences and facilitates the utilization of project outcomes in specific contexts.

3. COMMUNICATION MEANS AND ACTIVITIES

The communication and dissemination strategy for the AIMS project will be a concerted effort spearheaded by the project lead, with active participation from all consortium members. The aim is to ensure widespread dissemination of project information and outcomes to relevant stakeholders and communities. Each partner will contribute to identifying target audiences and appropriate communication channels. Tailored messaging will be employed to enhance engagement levels based on the specific needs of different target audiences. The communication plan will be adaptable, allowing for updates and adjustments to meet evolving needs and additional communication goals throughout the project duration.

Key components of the communication and dissemination plan include:

- **Communication Means**: Brochures and posters (printed), pictures and videos (digital).
- **Dissemination Means**: Scientific papers, oral presentations, reports and deliverables will be produced to promote project results. These materials will be disseminated digitally and presented during workshops and conferences.
- **Communication and Dissemination Channels**: Web channels include the project webpage (http://www.morenergylab.polito.it/aims/) on the website of the coordinator and social media posts on the partners' accounts. These channels will host project-related content and provide access to online tools for official communication and dissemination activities.

3.1 Dissemination pack and brand identity

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The dissemination of branded multimedia products will be essential for establishing and reinforcing the project's identity and visibility. These materials will be prominently featured during organized presentations, public events, forums, and conferences to enhance the project's messaging through visual representation.

The dissemination pack comprises essential elements of the project's visual identity, including the logo and document templates. This pack is designed to maintain consistency in project communication efforts and will serve as a practical framework for all members of the AIMS consortium. Updates to the dissemination pack will be made as needed throughout the duration of the project.

The logo is shown in Figure 1, Figure 2, and Figure 3. It has been defined with the objective to include all key elements of the project:

- Sea waves
- Satellites
- Artificial intelligence
- A bullseye target, that refers to the acronym of the project, as well as the fact that the projects' approach with artificial intelligence and satellite information enables to reach the target of higher accuracy.

Figure 1. Logo of AIMS with full project title

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Figure 2. Logo of AIMS with project acronym

Figure 3. Logo of AIMS without words

Consequently, templates for deliverables and meetings minutes have been prepared and shared among the consortium partners, using the common SharePoint.

As a deliberate choice, no template for a presentation deck has been provided, in order to leverage the strong visual identity of the project partners. However, the logo of the AIMS project, as well as the appropriate acknowledgements, will be included in all presentations and dissemination materials:

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3.2 Dissemination events

All consortium members are committed to actively seeking, participating in, and/or attending national, European and international networking conferences, as well as domain-specific fairs and events, to disseminate AIMS' advancements and results. The objective is to raise awareness of the project's potential beneficial impacts among a specialized audience and expand the pool of stakeholders.

A preliminary list of events and conferences is provided below, and further events will be identified and included throughout the duration of the project.

Table 1: List of monitored conferences

City, Country	Name of the event	Dates
Rhodes, Greece	The 34th International Ocean and Polar Engineering Conference (ISOPE)	16-21 June 2024
Rome, Italy	38th International Conference on Coastal Engineering	08-14 September 2024
Lisbon, Portugal	6th International Conference on Renewable Energies Offshore	19-21 November 2024
…		

3.3 Scientific papers

During the project's duration, AIMS aims to release at least 2 scientific publications in peer-reviewed journals. These publications will undergo rigorous evaluation to ensure their quality and accuracy, with a focus on major peer-reviewed scientific journals.

To maximize visibility and impact, AIMS will adhere to guidelines outlined in Springer publishing's article "Maximize your visibility. Promoting your

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research effectively."[4]. This approach increases the likelihood of the research being cited and referenced by other researchers.

Following European guidelines on large-scale accessibility, AIMS will ensure gold open access publishing for all scientific publications resulting from the project. Furthermore, all articles stemming from AIMS will be made available on the project website to facilitate accessibility and dissemination of findings. The following table summarises main journals to be monitored, also including if the project partners have transformative agreements in place for free gold open access publishing,

Table 2: List of monitored scientific journals

Name of the journal	Link	Transformative agreement?
Ocean Modelling	https://www.sciencedirect.com/journal/ocean-modelling	Yes (POLITO)
Applied Energy	https://www.sciencedirect.com/journal/applied-energy	Yes (POLITO)
Artificial Intelligence	https://www.sciencedirect.com/journal/artificial-intelligence	Yes (POLITO)
Coastal Engineering	https://www.sciencedirect.com/journal/coastal-engineering	Yes (ROMA3)
…		

[4] https://www.springernature.com/gp/researchers/publication-promotion#c19043898 , Last access on April 2024

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4. EXPLOITATION PLAN

This section delineates the plan for harnessing the outcomes of AIMS effectively. It articulates the strategy aimed at maximizing the project's impact. It introduces a roadmap outlining critical components, encompassing strategic initiatives and a systematic methodology to craft a holistic exploitation plan that aligns with both the project's objectives and the partners' requirements. The section delineates the primary considerations for exploitation, with provisions for regular updates to accommodate the project's progress and the evolving needs of consortium members.

In this initial phase of exploring the exploitation strategy for AIMS, partners define the project's Key Exploitable Results (KERs) and identify the specific KERs relevant to each partner.

4.1 Key Exploitable Results (KERs)

In a project, Key Exploitable Results (KERs) encompass tangible and intangible outputs with notable potential for exploitation. It's imperative to identify and underscore the exploitation potential of KERs as soon as their initial versions become available, as it steers focus towards impactful outcomes. This plan functions as a roadmap, directing efforts and resources to maximize the project's impact potential across various levels. Through the specification of KERs, the AIMS framework ensures a focused approach, enabling stakeholders to recognize and adopt pertinent achievements. This emphasis on key results elevates the project's visibility, societal impact, and seamless integration into broader contexts.

The primary project Key Exploitable Results (KERs) are outlined in Table 3 below, demonstrating their potential for exploitation within the project. Each KER can be utilized for diverse objectives, including commercialization, dissemination, or additional research endeavours.

Table 3: AIMS Key Exploitable Results (KERs)

ID	KER Type	KER name	KER description	KER Owner

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KER-1	Dataset	Metocean numerical data (SWAN)	The wave propagation numerical model SWAN has been run in an area of interest in the Tyrrhenian Sea.	ROMA3
KER-2	Dataset	Metocean numerical data (WW3)	The wave propagation numerical model WW3 (Wave Watch 3) has been run in an area of interest in the Tyrrhenian Sea.	CNR
KER-3	Algorithm	Gap-filling algorithms	Time and space gap-filling algorithms to infer metocean variables from satellites remote sensing	POLITO
…				

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