



iImagine

Innovation Management and Exploitation Updated Plan

iImagine Deliverable D2.5

31/05/2024

Abstract

This deliverable provides an update on various activities carried out by the Innovation and Exploitation team based on the plan presented in D2.2 First Innovation Management and Exploitation Plan at the end of February 2023. This updated plan is to be implemented by the Task2.1 members during the next 15 months.



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Introduction

iImagine has the overall objective to deploy, operate, validate, and promote a dedicated iImagine AI framework and platform. The platform, connected to the EOSC and AI4EU, provides researchers in aquatic sciences with open access to a diverse portfolio of AI-based image analysis services and image repositories from multiple RIs. These services and repositories are of relevance to the overarching theme of 'Healthy oceans, seas, coastal and inland waters'.

The project concept revolves around three main working blocks:

- A common **iImagine AI framework and computing platform** will be configured facilitating researchers in developing, testing, training, hosting, and operating AI-based image analysis services, following FAIR practices.
- **Five operational and three prototype AI-based image analysis services** with image repositories will be developed and deployed at the iImagine AI platform to provide open access and exploitation by researchers. They will also be instrumental in demonstrating value and fostering further uptake by a large community of target users and beneficiaries.
- **Best Practices** – consisting of documentation and training materials – will be compiled giving practical guidance and examples to end-users on exploiting image datasets and analysis applications offered by the iImagine portfolio and serving as an example to whoever wishes to develop and deliver similar AI-based image analysis services and image repositories.

The activities related to the Innovation and Exploitation Management in the iImagine project fall under task 2.1 with the main objectives to:

1. Implement and conduct an operational innovation management process.
2. Capture and assess project results for exploitation readiness.
3. Identify and articulate the Key Exploitable Results (KERs).
4. Organise hands-on workshops (for example, business models) that will support innovation management and exploitation activities.
5. Monitor changing market landscapes, responding to feedback and the potential for new business opportunities.
6. Provide facilitation in project events and meetings (for example, brainstorming sessions).

This document is an updated version of D2.2 First Innovation Management and Exploitation Plan delivered in February 2023¹.

¹ <https://zenodo.org/records/7760155>

Purpose of the document

The purpose of the document is to provide an update of the guidelines, processes, key concepts, templates and tools that have been described in D2.2, and to structure activities that drive innovation management and exploitation in iMagine. This document refers to the target groups as identified in the D2.1 First Communication, Dissemination and Engagement plan² for exploitation purposes.

Scope of the document

The first iteration of this deliverable covers Innovation Management and Exploitation aspects mainly focused on the project results and KERs. The second iteration of this public document will also cover the plan for business modelling and sustainability analysis. The outcome of the business modelling and sustainability analysis, however, will be included in the D2.6 (Business Model Analysis and Sustainability Plan), which will be marked as sensitive and to be prepared in the last year of the project. The final iteration of the deliverable will focus on showcasing the outputs of innovation management and exploitation activities and lessons learned during the project.

Structure of the document

This document is structured as follows,

- The next section provides an overview of the various activities which fall under innovation and exploitation management.
- A section is then dedicated to each of these activities.
- Finally, the last section provides the activity plan for the last 15 months of the project.

² <https://zenodo.org/records/7462914>

Innovation and Exploitation Activities

The innovation and Exploitation Management approach of the iImagine project derives loosely from the Technology Management Process³ and ISO 56002:2019 Innovation management – Innovation management system – Guidance⁴. However, both these approaches are geared towards organisations. Therefore, the elements from these approaches are modified to better suit the requirements of a Horizon Europe project. Innovation and Exploitation management in a Horizon Europe project should cover the following aspects:

1. Managing the IP and its rights related to the project (Background, Sideground, Third-party and Foreground).
2. Capturing and managing information related to the results developed by the project.
3. Developing a comprehensive business plan/case for the project results.
4. Developing exploitation strategies and documenting exploitation, impact and success stories from the project.

Using all of these as a basis, the following activities were identified in D2.2 First Innovation Management and Exploitation Plan⁵, for activities to be performed in Task 2.1:

- Stakeholder Analysis
- Key Exploitable Result Management
- Project Result Management
- Intellectual Property Management
- Business Modelling and Sustainability Analysis
- Exploitation Strategy
- Impact Analysis

Each of these activities is covered in a separate chapter in this document.

Stakeholder Analysis

Stakeholder analysis is the process of collecting information about any person who will be impacted by (or can impact) your project. Conducting a stakeholder analysis will enable you to identify all your stakeholders as well as their needs and expectations. The goals of this activity are to,

1. Identify and map stakeholders relevant to the iImagine project.
2. Assess stakeholder engagement and awareness.
3. If required, identify ways to improve stakeholder engagement and awareness.

³ Gregory, M.J. (1995), "Technology management: a process approach", Proceedings of the Institution of Mechanical Engineers, Vol. 209, pp. 347–56.

⁴ <https://www.iso.org/standard/68221.html>

⁵ <https://zenodo.org/records/7760155>

Stakeholder identification

Stakeholder identification was based on the stakeholders identified in the proposal and the initial analysis presented in the D2.1 First Communication, Dissemination and Engagement plan⁶. In addition, an online workshop was organised with the use cases of the iImagine project to collect additional information about these stakeholders⁷. All the information was collected and categorised into the following set of stakeholders,

- Users
- Service and Content Providers
- Infrastructure Providers
- Similar AI initiatives
- Suppliers
- Organisations/Agencies from different disciplines
- Policy Makers
- Decision Makers
- General Public

Stakeholder Engagement Assessment Matrix (SEAM)

Once the stakeholder groups are mapped, they will be assessed intermittently using the SEAM. The SEAM supports the comparison between the current engagement levels of stakeholders and the desired engagement levels required. This assessment will feed into the communication and dissemination strategy by helping determine who to engage with, how to engage them, and what kind of information or resources they may need. The engagement will be gauged at five levels as suggested in the Project Management Body of Knowledge (PMBOK) guide^{8 9},

1. Unaware — Not aware of the project or its impact
2. Resistant — Aware of the project but resistant to change
3. Neutral — Aware of the project, but neither supportive nor resistant
4. Supportive — Aware and supportive of the project
5. Leading — Aware of and actively engaged in ensuring the success of the project

With the support of the communications manager, Task 2.1 developed the SEAM for the iImagine project. This SEAM was presented to the Activity and Service Board (ASB) of the iImagine project for feedback and suggestions. The current SEAM with desired (“D”) and

⁶ <https://zenodo.org/records/7462914>

⁷

<https://app.mural.co/t/egi3550/m/egi3550/1695966032458/dd143e781759c7c8b897d667355a638fca3fa6cb?sender=u297868c2869ea72cbfe74783>

⁸ <https://www.pmi.org/pmbok-guide-standards>

⁹ <https://project-management.info/stakeholder-engagement-matrix/>

current (“C”) levels of engagement per stakeholder for the iImagine project is presented in **Table 1**.

Table 1 – SEAM

Stakeholder Group	Unaware of the project	Aware of the project			
		Resistant	Neutral	Supportive	Actively Engaged
Users	C				D
Service and Content Providers					C D
Infrastructure Providers			C		D
Similar AI initiatives				C D	
Suppliers					C D
Organisations/Agencies from different disciplines			C	D	
Policy Makers				C	D
Decision Makers	C		D		
General Public			C D		

Stakeholder prioritisation

The last part of the stakeholder analysis was to prioritise the identified stakeholders. Since the project will likely not be able to meet the needs of all stakeholders at the same time, prioritising was key to getting engagement started. ‘Users’ and ‘Similar AI initiatives’ were identified as the key stakeholders to whom engagement activities had to be targeted. The detailed engagement activities are documented in the D2.4 Communication, Dissemination and Engagement Updated plan¹⁰.

Key Exploitable Result Management

A Key Exploitable Result (KER) is a project result or a group of similar project results with particularly high exploitation potential, i.e., use and benefits from something often for commercial purposes, public policymaking, or further research. The goals of this activity are to,

1. Identify and manage KERs.

¹⁰ <https://zenodo.org/records/11192926>

2. Identify KER Ambassadors.
3. Collect information related to KERs.

KER Identification

After detailed discussions in the ASB, it was decided to modify the list of KERs of the project to better represent the project's results. From the original five KERs identified during the project phase, the list was expanded to the current eight KERs by breaking up and combining some of the old KERs. Here is the list of the new KERs of the project:

1. KER#1 Marine litter assessment
2. KER#2 Zooscan - EcoTaxa pipeline
3. KER#3 Marine ecosystem monitoring
4. KER#4 Oil spill detection
5. KER#5 Flowcam plankton identification
6. KER#6 Prototype Marine Imaging services
7. KER#7 The iImagine-AI Platform
8. KER#8 Best Practices

KER Ambassadors

For each of the KERs identified, one or two KER Ambassadors were appointed with the support of the ASB. These KER Ambassadors, together with the Innovation Manager leading, form the Innovation and Exploitation Group (IEG) of the iImagine project.

KER Ambassadors have the following role in the project:

1. They act as an Ambassador for the KER – a primary spokesperson within the project, helping to encourage uptake, exploitation and dissemination of the KER.
2. They provide the relevant data for the Horizon Result Platform (HRP) template for their respective KERs.
3. They support the development and exploitation plan, pointing to the relevant contact persons for technical, IP and other exploitation plan aspects of the KER.
4. They take the lead in providing inputs on dissemination messaging.
5. They help bridge the gap between technical outputs and their practical implications by promoting uptake.

Table 2 - KER Ambassadors

KER	Ambassador
KER#1 Marine litter assessment	Carolin Leluscho
KER#2 ZooProcess	Madeleine Walker

KER#3 Marine ecosystem monitoring	Gabriella Quaranta; Enoc Martinez
KER#4 Oil spill detection	Giovanni Coppini; Igor Atake
KER#5 Flowcam plankton identification	Rune Lagaisse
KER#6 Prototype Imaging services	Valentin Kozlov
KER#7 The iImagine-AI Platform	Alvaro Lopez Garcia
KER#8 Best Practices	Dick MA Schaap

KER Templates

A key aspect of the Horizon Europe projects is that every KER should be submitted to the Horizon Results Platform (HRP). The template for the HRP, though extensive, still misses some important aspects like underlying problems, future outlook, related IP and dissemination activities, etc. The HRP template has then been expanded to cover these aspects so that all the relevant information for each KER is captured in the same place. For each of the KER, this information will be collected throughout the project with the support of the KER Ambassadors. A snapshot of the information collected for each of the KERs is presented in Appendix A.

Project Result Management

A project result is any output generated during the project implementation. Some examples of project results include know-how, experience, algorithms, prototypes, new products or services, policy recommendations, roadmaps, learnings, reports, publications, data, events, etc. The goals of this activity are to,

- Identify, record and manage the project results.
- Ensure that innovation developed or enhanced by the project is well-documented.

The list of currently documented project results and their related IP details is presented in the next section.

Intellectual Property Management

This activity documents and manages the intellectual property that existed before the project started (relevant to the execution and exploitation of the project) and will be generated during the project duration. The goals of this activity are to,

1. Identify, record and manage the Background IP, Third-party IP and Sideground IP.
2. Ensure sufficient rights exist to the Background, Third-party and Sideground IP.
3. Identify and record the Foreground IP.
4. Protect the Foreground IP using appropriate methods and support the resolution of any IP conflicts that may arise.

5. Develop any agreements related to the generated IP (joint ownership, licensing, etc.)

There are four types of intellectual property in the context of the iImagine project that could be relevant; these are detailed in the following.

Background IP

Background IP is knowledge/IP relevant to a collaborative project and supplied by the partners at the start of the project. Background IP was identified as part of the Consortium Agreement. The task continues to monitor if all the required Background IP was listed as part of the agreement.

Sideground IP

Sideground IP is knowledge/IP that is relevant to a collaborative project but produced outside the project by any of the partners during the project's tenure.

Table 3 – Sideground IP

Name	Short Description	IP Owner(s)	IP protection or license used
AI4Dashboard	The dashboard is the entry point to the AI platform	CSIC; INFN; UPV; IISAS; PSNC; Predictia	Protection: Copyright License: Apache 2.0 Repository: https://github.com/ai4os/ai4-dashboard
AI4EOSC- Platform API	Platform API for interacting with the AI4EOSC services	CSIC; UPV	Protection: Copyright License: Apache 2.0 Repository: https://github.com/ai4os/ai4-papi
AI4OS Hub Modules Template	Templates for developing new modules and for users performing retraining of an existing AI4OS-Hub module in the AI4OS Platform	KIT	Protection: Copyright License: MIT Repositories: <ul style="list-style-type: none"> • https://github.com/ai4os/ai4-template-adv • https://github.com/ai4os/ai4-template-child • https://github.com/ai4os/ai4-template

OSCAR	OSCAR is an open-source platform that supports the event-driven serverless computing model for data-processing applications	UPV	Protection: Copyright License: Apache 2.0 Repository: https://github.com/grycap/oscar
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Third-Party IP

Third-party IP is knowledge/IP that is relevant to a collaborative project but supplied by third parties other than the project consortium.

No third-party IP relevant to the project has been identified yet.

Foreground IP

Foreground IP is captured during the execution of the project and is important to ensure that sufficient rights exist to ensure the successful exploitation of the project results to which this IP is connected.

Table 4 presents the list of already documented Foreground IPs. Please note that this list is yet incomplete and will continue to be expanded in the coming months.

Table 4 - Documented Foreground IPs

Name	IP Owner(s)	KER	Confidential	Embargo Date	IPR Issues	Type of IP protection and licensing used	IP protection or license used	Joint Ownership Agreement Required
Code for Litter Assessment Service	DFKI	KER1	No	N/A	No	Software License	MIT License	No
Code for Phytoplankton species classifier	VLIZ	KER5	No	N/A	No	Software License	Apache 2.0 https://github.com/lifewatch/phyto-plankton-classification	No
LifeWatch observatory data: phytoplankton annotated training set by FlowCam imaging in the Belgian Part of the North Sea	VLIZ	KER5	No	N/A	No	Copyright	CC-BY https://zenodo.org/records/10554845	No
SCLabels: Labelled rectified RGB images from the Spanish CoastSnap network	SOCIB	KER6	No	N/A	No	Copyright	CC-BY https://zenodo.org/records/10159978	No

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Name	IP Owner(s)	KER	Confidential	Embargo Date	IPR Issues	Type of IP protection and licensing used	IP protection or license used	Joint Ownership Agreement Required
Labeled Images at OBSEA for Object Detection Algorithms	UPC	KER3	No	N/A	No	Copyright	CC-BY https://zenodo.org/records/10809434	No
EyeOnWater training dataset for assessing the inclusion of water images	MARIS	KER6	No	N/A	No	Copyright	CC-BY https://zenodo.org/records/10777441	No
Code for ZooProcess Pipeline (Zooscan)	SU	KER2	No	N/A	No	Copyright	MIT https://github.com/ecotaxa/ZooProcess-front https://github.com/ecotaxa/ZooProcess-back https://github.com/ecotaxa/ZooProcess-python	No

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Name	IP Owner(s)	KER	Confidential	Embargo Date	IPR Issues	Type of IP protection and licensing used	IP protection or license used	Joint Ownership Agreement Required
Code for Multi-Plankton Separation (Zooscan)	SU	KER2	No	N/A	No	Copyright	MIT https://github.com/ecotaxa/DEEP-OC-multi_plankton_separation?tab=readme-ov-file https://github.com/ecotaxa/multi_plankton_separation	No
Training Dataset for Zooscan	SU	KER2	No	N/A	No	Copyright	CC-BY https://www.seanoe.org/data/00885/99663/	No
Dashboard Look and Feel Customisations <i>(Sideground coming from AI4EOSC)</i>	CSIC; UPV	KER7	No	N/A	No	Copyright	Apache 2.0 https://github.com/ai4os/ai4-dashboard	No*

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Name	IP Owner(s)	KER	Confidential	Embargo Date	IPR Issues	Type of IP protection and licensing used	IP protection or license used	Joint Ownership Agreement Required
<p>Improvements to API for creating new prototyping deployments using Nomad and OSCAR (Branding, AAI integration; OSCAR integration)</p> <p><i>(Sideground coming from AI4EOSC)</i></p>	CSIC; UPV	KER7	No	N/A	No	Copyright	<p>Apache 2.0</p> <p>https://github.com/ai4os/ai4-papi</p>	No*
<p>Improvements to Templates service to bootstrap repository structure, compatible with iMagine platform (Branding, AAI integration)</p> <p><i>(Sideground coming from AI4EOSC)</i></p>	KIT	KER7	No	N/A	No	Copyright	<p>MIT License</p> <p>https://github.com/ai4os/ai4-template-adv</p> <p>https://github.com/ai4os/ai4-template-child</p> <p>https://github.com/ai4os/ai4-template</p>	No

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Name	IP Owner(s)	KER	Confidential	Embargo Date	IPR Issues	Type of IP protection and licensing used	IP protection or license used	Joint Ownership Agreement Required
Improvements to OSCAR (Branding, AAI integration, dashboard integration; accounting module to get usage metrics; UI enhancements) <i>(Sideground coming from AI4EOSC)</i>	UPV	KER7	No	N/A	No	Copyright	Apache 2.0 https://github.com/grycap/oscar	No
Project Deliverables	Consortium	KER8	No	N/A	No	Copyright	CC-BY https://zenodo.org/communities/imagine-project/	No
Project Presentations	Consortium	N/A	No	N/A	No	Copyright	CC-BY https://zenodo.org/communities/imagine-project/	No
iMagine Website	EGI Foundation	N/A	No	N/A	No	Copyright	CC-BY https://www.imagine-ai.eu/	No

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Name	IP Owner(s)	KER	Confidential	Embargo Date	IPR Issues	Type of IP protection and licensing used	IP protection or license used	Joint Ownership Agreement Required
Promotional Material	EGI Foundation	N/A	No	N/A	No	Copyright	CC-BY	No

*Within the Horizon Europe framework, results are owned by the parties that generate them. In scenarios where the results are generated by multiple partners together, a Joint Ownership Agreement (JoA) may be necessary to document the ownership of the result. In the iImagine project, there are currently a couple of results, mainly concerning the improvements of components of the iImagine-AI platform, that more than one partner has developed. However, these components are being mainly developed in other projects (see Sideground IP). Therefore, the question of ownership and any need for JoA must be discussed and resolved within these projects, as there are entities involved in development who are not part of iImagine. Any improvements originating from the iImagine project will be freely assigned to the respective owners.

Business Modelling and Sustainability Analysis

Task 2.1 will organise a business modelling and sustainability workshop for all the use cases involved in the project. Considering the nature of the service and the fact that these services will not be commercialised, T2.1 looked at the concept of Business Modelling more broadly. Therefore, the five mature use cases were asked to delineate their requirements so that a more useful set of workshops could be organised benefiting them. The requirements collected from the use cases are listed in **Table 5**. Further information about the plans for these workshops and output from already conducted workshops will be presented in the D2.6 Business Model Analysis and Sustainability Plan due in M24.

Table 5 - Requirements Use Cases

	Requirements
All use cases	Sustainability beyond the project
Use case 1	Expanding the user base Understanding additional factors/information that is missing for potential users
Use case 2	Convince users to move away from existing traditional methods
Use case 3	Expanding the user base Increase the impact of the produced data/services. Sustainability of the services beyond the project
Use case 4	Improving the user experience Expanding the user base
Use case 5	Understand what could be missing for potential users

Exploitation Strategy

Exploitation is the use of results in further research and innovation activities other than those covered by the action concerned; this includes, among other things, commercial exploitation such as developing, creating, manufacturing and marketing a product or process, creating and providing a service, or in standardisation activities. The goals of this activity are to,

1. Collect partner-specific exploitation plans
2. Develop a collective exploitation strategy

A survey was distributed to the partners to collect their input for the exploitation plan. The outputs from the survey were used to identify exploitation channels for each of the KERs. An overview of these Exploitation channels for each of the KERs is presented in **Table 6**.

Table 6 - KER Exploitation Channel

KER	Exploitation Channel
All KERs	<ul style="list-style-type: none"> • Discoverable through Horizon Results Platform • Onboarded to EOOSC* and AIoD Marketplaces • Open source and restriction-free licensing of components to promote exploitation • Inclusion in the service portfolio of consortium partners • Using the developed components for further research projects • Publications
KER#1 Marine litter assessment	<ul style="list-style-type: none"> • Operational service available to users • Using the developed mapping from initial litter categories to EU JointList categories for future research projects to achieve better standardisation • Contributing to indicators such as the EU Marine Strategy Framework Directive (MSFD) and the EU Green Deal
KER#2 ZooProcess	<ul style="list-style-type: none"> • Operational service available to users • Plankton indicators are used within several descriptors of the MSFD and WFD
KER#3 Marine ecosystem monitoring	<ul style="list-style-type: none"> • Operational service available to users • Essential Ocean Variables (EOVs) available from the EMSO sites, along with the annotated imagery, will contribute towards further biodiversity and ecosystem studies
KER#4 Oil spill detection	<ul style="list-style-type: none"> • Operational service available to users • Output will contribute to Policy developments and better mitigation strategies

*The option to onboard new services to the platform has been disabled as of 15 March 2024. With the introduction of the EOSC EU node¹¹, it is currently unknown what would be the requirements and process for onboarding services and providers to the EOSC EU Node. iMagine T2.3 will continue to monitor the developments and assess the situation as and when the new onboarding processes and requirements are communicated.

Impact Analysis

In the long term, the results of the iMagine project are expected to contribute strongly towards the aquatic sciences and accelerate progress towards healthy oceans, seas, and coastal and inland waters. Therefore, it is important to better understand, disseminate and communicate the impact of the project to all its relevant stakeholders. The goals of this activity will therefore be to,

1. Support all work packages in capturing the impact of their activities.
2. Support T2.2 in communicating this impact through success stories, recommendations, best practices, etc.

All the impact emerging from the project will be documented and presented through the periodic report and D2.9 Final Innovation Management and Exploitation Plan.

Plan for the next 15 months

- Monitor the engagement strategy and its effectiveness. Provide recommendations to the Communications team.
- Complete the KER Templates. Upload them to the Horizon Results Platform.
- Finalise the Sideground, Third-Party and Foreground IP templates.
- Organise the business modelling and sustainability workshops.
- Further elaborate on the exploitation strategy.
- Document the impact of the project.

Acronyms

AI Artificial Intelligence

ASB Activity and Service Board

CA Consortium Agreement

IEG Innovation and Exploitation Group

¹¹ <https://open-science-cloud.ec.europa.eu/news/commission-announces-eosc-eu-nodes-web-presence>

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RI Research Infrastructures

AI4EU (project) AI on-demand platform to support research excellence in Europe

EOSC European Open Science Cloud

KER Key Exploitable Result

NGO Non-governmental organisation

SEAM Stakeholder Engagement Assessment Matrix

Appendix A: KER Templates

KER#1 Marine litter assessment

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Contact Person	Carolyn Leluschko [REDACTED]
Overall Status	INCOMPLETE
Result Information	FINALISED
Stakeholder and Users	FINALISED
Target Audience and Needs	INCOMPLETE
Result Maturity and Exploitation Outlook	INCOMPLETE
Business Model and Sustainability	INCOMPLETE
Auxiliary Contributions	INCOMPLETE
Other Background Information	INCOMPLETE
Last Updated	28 Mar 2024

Result Information

Problem	Understanding the nature of plastic waste and the quantities of it plays an important role in cleanup activities. It can help determine the best treatment options for river plastic waste.
Result Description (1200 characters)	<p>About: The Aquatic Litter Monitoring system uses RGB images and composites from Unmanned Aerial Systems (UAS; drones) cameras along with Convolutional neural networks (CNN) for precise litter quantification and characterization. The system ingests, stores, analyses and processes litter floating at surface waters in seas, rivers and lakes, and lying at beaches and shores and eventually delivers standardised classified litter data sets, which are fit for environmental management and indicators. With fine-tuned processing methodology, quality-checked training dataset of litter and the adoption of standardised protocols, the system is operational in the iImagine AI platform, providing valuable analysis to local stakeholders and clean-up operations in multiple countries. Comprehensive guidance and training materials are also available to facilitate the adoption of drone-based litter observation and image processing.</p> <p>Impact: Resulting litter data sets are important for environmental management, cleaning operations, and contributing to indicators such as the EU Marine Strategy Framework Directive (MSFD) and the EU Green Deal.</p>
Result Type	<p>(Select one from the list)</p> <p><input type="checkbox"/> Policy Related Result</p> <p><input type="checkbox"/> Scientific or Technological R&D Result including ICT Hardware</p> <p><input type="checkbox"/> ICT Software Digital solution</p> <p><input type="checkbox"/> Other Intangible Results</p> <p><input checked="" type="checkbox"/> Services</p> <p><input type="checkbox"/> Other</p>
EU Mission	<p>(Select one from the List)</p> <p><input type="checkbox"/> Not Applicable</p> <p><input type="checkbox"/> Adaptation to Climate Change</p> <p><input type="checkbox"/> Cancer</p> <p><input type="checkbox"/> Climate-neutral and Smart Cities</p> <p><input checked="" type="checkbox"/> Oceans, seas and waters</p> <p><input type="checkbox"/> Soil health and food</p>
Video/Image	Other video to be developed.

Key Value Proposition	<p>1. Pinpoint Pollution Insights: Aquatic Litter Monitoring system offers precise, AI-driven analysis for accurate assessment of aquatic litter, enabling targeted pollution control.</p> <p>2. Streamlined Data Excellence: By automating image processing, the Aquatic Litter Monitoring system ensures consistent, standardized litter datasets, empowering efficient decision-making and environmental action.</p> <p>3. Inclusive Engagement: Aquatic Litter Monitoring system's user-friendly approach extends to citizen scientists, fostering widespread involvement and awareness for a cleaner aquatic environment.</p>					
Business Sector(s)/ Policy Area (s)	(Select max three from the list)					
	<input type="checkbox"/> Agriculture and rural development	<input type="checkbox"/> Banking and financial services	<input type="checkbox"/> Borders and security	<input type="checkbox"/> Budget	<input type="checkbox"/> Business and industry	<input checked="" type="checkbox"/> Climate action
	<input type="checkbox"/> Competition	<input type="checkbox"/> Consumers	<input type="checkbox"/> Culture and media	<input type="checkbox"/> Customs	<input type="checkbox"/> Digital economy and society	<input type="checkbox"/> Economy, finance and the euro
	<input type="checkbox"/> Education and training; Employment and social affairs	<input type="checkbox"/> Energy; Environment	<input type="checkbox"/> EU enlargement	<input type="checkbox"/> European neighbourhood policy	<input type="checkbox"/> Food safety	<input type="checkbox"/> Foreign affairs and security policy
	<input type="checkbox"/> Fraud prevention	<input type="checkbox"/> Home affair	<input type="checkbox"/> Humanitarian aid and civil protection	<input type="checkbox"/> Institutional Affairs	<input type="checkbox"/> International cooperation and development	<input type="checkbox"/> Justice and fundamental rights
	<input checked="" type="checkbox"/> Maritime affairs and fisheries	<input type="checkbox"/> Migration and asylum	<input type="checkbox"/> Public health	<input checked="" type="checkbox"/> Regional policy	<input type="checkbox"/> Research and innovation	<input type="checkbox"/> Single market
	<input type="checkbox"/> Sport	<input type="checkbox"/> Statistics	<input type="checkbox"/> Taxation	<input type="checkbox"/> Trade	<input type="checkbox"/> Transport	<input type="checkbox"/> Youth
Main project	iImagine					
Other related projects	N/A					
Result Contributors	DFKI; MARIS; OGS					
Owners for exploitation	DFKI					
Tags/ Keywords	Aquatic Litter; Drones; Monitoring; Pollution; Environment; Image Analysis; Standardization; Data Sets; AI Technology; Precision; Characterization; Clean-up; Awareness; Ecological Impact; Marine Strategy; Guidelines; UAS Cameras; Environmental Management; Citizen Science; Sustainable Practices; MSFD; CNN; UAS; Unmanned Aerial Systems; EU Green Deal; Citizen Science;					

Stakeholders and Users

Target User Group and Benefits	User Group	Benefits
	Monitoring Agencies	<ul style="list-style-type: none"> ▪ Possibility to obtain the change in plastic waste composition over a certain period of time from collected image data ▪ Get an analysis of the composition of plastic waste for their recorded data
	Researchers	<ul style="list-style-type: none"> ▪ Ability to adjust the service and its individual components to specific needs and settings.
	Environmental Managers	<ul style="list-style-type: none"> ▪ Larger areas can be monitored and examined
	Local Government and Policy Makers	<ul style="list-style-type: none"> ▪ Gain an understanding of the composition of plastic waste in specific areas for which data is available. Measures can then be taken in response to this established knowledge. ▪ After the adoption of certain policies to reduce plastic waste, the effectiveness can be checked and quantified by comparing the waste distribution before and after the policy is implemented.
	MSFD and WFD Communities	<ul style="list-style-type: none"> ▪ Gain an understanding of litter composition in order to identify most present litter items.
	NGOs	<ul style="list-style-type: none"> ▪ Clean-up operations can be carried out more efficiently by better planning routes based on where plastic litter is most prevalent ▪ The collected waste can be quantified in order to obtain information about its composition
	Private Companies	<ul style="list-style-type: none"> ▪ Clean-up operations can be carried out more efficiently by better planning routes based on where plastic litter is most prevalent ▪ Results of clean-up operations can be quantified to gain an understanding how much and what litter was collected.

What type of customers/ users do you have?	<input checked="" type="checkbox"/> Individuals <input checked="" type="checkbox"/> SMEs <input checked="" type="checkbox"/> Big corporations <input type="checkbox"/> Academia <input checked="" type="checkbox"/> R&T organisations <input checked="" type="checkbox"/> Public Institutions and Authorities <input checked="" type="checkbox"/> Governments <input type="checkbox"/> Commerce <input type="checkbox"/> Manufacturers																																				
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Message/ Teaser to the potential user (1000 characters)	<p>Unleash the power of cutting-edge drone technology with the Aquatic Litter Monitoring System. Dive into a world of precision monitoring and AI-driven analysis, unlocking insights that redefine pollution control. Join us in shaping a cleaner, more vibrant aquatic ecosystem. Together, we create a sustainable future.</p>																																				
Do you already have customers for this result?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No																																				
Number of existing customers	<input type="checkbox"/> 1-5 <input type="checkbox"/> 6-30 <input type="checkbox"/> 31-50 <input type="checkbox"/> 51-100 <input checked="" type="checkbox"/> 101-500 <input type="checkbox"/> 501-1000 <input type="checkbox"/> >1000																																				
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KER#2 ZooProcess

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- [Target Audience and Needs](#)
- [Result Maturity and Exploitation Outlook](#)
- [Business Model and Sustainability](#)
- [Auxiliary Contributions](#)
- [Other Information](#)

Contact Person	Madeleine Walker [REDACTED]
Overall Status	INCOMPLETE
Result Information	FINALISED
Stakeholder and Users	FINALISED
Target Audience and Needs	INCOMPLETE
Result Maturity and Exploitation Outlook	INCOMPLETE
Business Model and Sustainability	INCOMPLETE
Auxiliary Contributions	INCOMPLETE
Other Background Information	INCOMPLETE
Last Updated	27 Mar 2024

Result Information

Problem	The ZooScan instrument allows scanning plankton samples. The current ZooProcess software processes those images but regularly produces images containing more than one organism, which biases all subsequent analysis, and is slow. Those images are manually sorted out and reprocessed to separate the touching organisms, which is slow and takes a lot of time. Considering that there are millions of images generated every month, image processing, machine learning and artificial intelligence can significantly reduce processing time.
Result Description (1200 characters)	<p>About: The new ZooProcess v10 accelerates the processing of images of plankton samples produced by the ZooScan instrument through the combined use of classical image segmentation and measurement methods with panoptic segmentation by neural network models. The use of this Artificial Intelligence approach allows to automatically separate touching objects to enable their exploitation in the further steps. This new pipeline supersedes the current versions of the ZooProcess software. It efficiently handles metadata recording, image acquisition from the scanner, image processing, segmentation, feature extraction and data formatting. The resulting data is imported and managed into EcoTaxa, a web application coupling a database with AI tools to accelerate the labelling of large quantities of plankton images by human operators, who are trained biologists. The operational environment provided by the iImagine AI platform as well as dedicated training material and support will promote further uptake of this new pipeline to enhance research efficiency.</p> <p>Impact: Plankton indicators are used within several descriptors of the MSFD and WFD. The output of this pipeline will contribute to a better understanding of the dynamics of food availability for commercially exploited species and of the effects of climate change.</p>
Result Type	<p>(Select one from the list)</p> <p><input type="checkbox"/> Policy Related Result</p> <p><input type="checkbox"/> Scientific or Technological R&D Result including ICT Hardware</p> <p><input type="checkbox"/> ICT Software Digital solution</p> <p><input type="checkbox"/> Other Intangible Results</p> <p><input checked="" type="checkbox"/> Services</p> <p><input type="checkbox"/> Other</p>
EU Mission	<p>(Select one from the List)</p> <p><input type="checkbox"/> Not Applicable</p> <p><input type="checkbox"/> Adaptation to Climate Change</p> <p><input type="checkbox"/> Cancer</p> <p><input type="checkbox"/> Climate-neutral and Smart Cities</p> <p><input checked="" type="checkbox"/> Oceans, seas and waters</p> <p><input type="checkbox"/> Soil health and food</p>
Video/Image	To be developed

Key Value Proposition	<p>1. Efficient Data Management: Handle water sample images and all the associated metadata through this new pipeline.</p> <p>2. Improved Taxonomic Coverage: The use of instance segmentation in ZooProcess10 will allow a better coverage of the different taxonomic groups present in a sample.</p> <p>3. Accelerated Research Insights: The acceleration of the data flow through ZooProcess10 and EcoTaxa can provide faster information from plankton samples.</p>					
Business Sector(s)/ Policy Area (s)	(Select max three from the list)					
	<input type="checkbox"/> Agriculture and rural development	<input type="checkbox"/> Banking and financial services	<input type="checkbox"/> Borders and security	<input type="checkbox"/> Budget	<input type="checkbox"/> Business and industry	<input checked="" type="checkbox"/> Climate action
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Main project	iImagine					
Other related projects	N/A					
Result Contributors	SU					
Owners for exploitation	SU					
Tags/ Keywords	Zooscan; EcoTaxa; ZooProcess; Plankton; Taxonomic Identification; Instance Segmentation; Convolutional Neural Networks; CNN; Image Processing; Biodiversity; Climate Change; Marine Water Samples; Data Formatting; AI Tools; Biologists; Ecosystem; Preservation; Food Dynamics; MSFD; WFD; Image Processing; Marine; Water;					

Stakeholders and Users

Target User Group and Benefits	User Group	Benefits
	ZooScan Users	Faster and less human intensive processing of ZooScan images.
What type of customers/ users do you have?	<input checked="" type="checkbox"/> Individuals <input type="checkbox"/> SMEs <input type="checkbox"/> Big corporations <input type="checkbox"/> Academia <input type="checkbox"/> R&T organisations <input checked="" type="checkbox"/> Public Institutions and Authorities <input type="checkbox"/> Governments <input type="checkbox"/> Commerce <input type="checkbox"/> Manufacturers	

Are you targeting geographical markets?	<input checked="" type="checkbox"/> Global <input type="checkbox"/> Europe <input type="checkbox"/> Asia <input type="checkbox"/> North America <input type="checkbox"/> South America <input type="checkbox"/> Middle-East <input type="checkbox"/> Africa <input type="checkbox"/> Oceania <input type="checkbox"/> <Individual Countries> (Mention here)																																				
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Message/ Teaser to the potential user (1000 characters)	<p>Accelerate the processing of your Zooscan samples with this new version of ZooProcess. The separation of objects touching each other is a long and cumbersome step in the processing of samples and the use of Artificial Intelligence in ZooProcess10 will allow the automatic separation of some of those. As a result, the final data quality will improve while lowering the human cost of processing samples. Join us to benefit from these improvements!</p>																																				
Do you already have customers for this result?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No																																				
Number of existing customers	<input type="checkbox"/> 1-5 <input type="checkbox"/> 6-30 <input type="checkbox"/> 31-50 <input type="checkbox"/> 51-100 <input checked="" type="checkbox"/> 101-500 <input type="checkbox"/> 501-1000 <input type="checkbox"/> >1000																																				
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Target Audience and Needs

KER#3 Marine ecosystem monitoring

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- [Business Model and Sustainability](#)
- [Auxiliary Contributions](#)
- [Other Information](#)

Contact Person	Gabriella [REDACTED] Enoc Martinez [REDACTED]
Overall Status	INCOMPLETE
Result Information	FINALISED
Stakeholder and Users	FINALISED
Target Audience and Needs	INCOMPLETE
Result Maturity and Exploitation Outlook	INCOMPLETE
Business Model and Sustainability	INCOMPLETE
Auxiliary Contributions	INCOMPLETE
Other Background Information	INCOMPLETE
Last Updated	22 Apr 2024

Result Information

Problem	EMSO ERIC has a network of subsea infrastructures which use different technologies each. So there is a need to standardise to provide consistent service offerings to users and stakeholders. Another problem is that thousands of images are currently tagged manually which is time consuming and lengthy process.
Result Description (1200 characters)	<p>About: The European Multidisciplinary Seafloor and water column Observatory (EMSO) aims to explore the oceans, better understand the phenomena happening within and below them, and explain the critical role that these phenomena play in the broader Earth systems. Several of the EMSO sites capture underwater videos. The Marine Ecosystem Monitoring system has developed standards for managing and storing video imagery, and annotated images have been developed. EMSO workflow has been set up in the iImagine-AI platform using Artificial Intelligence (AI) for the preselection of interesting images and AI analysis of selected images for the identification of biota. Documentation and guidance about standard data management practices and for using the AI analysis pipelines for biota classification have also been developed.</p> <p>Impact: Essential Ocean Variables (EOVs) available from the EMSO sites, along with the annotated imagery, will contribute towards biodiversity and ecosystem studies.</p>
Result Type	<p>(Select one from the list)</p> <p><input type="checkbox"/> Policy Related Result</p> <p><input type="checkbox"/> Scientific or Technological R&D Results including ICT Hardware</p> <p><input type="checkbox"/> ICT Software Digital solution</p> <p><input type="checkbox"/> Other Intangible Results</p> <p><input checked="" type="checkbox"/> Services</p> <p><input type="checkbox"/> Other</p>

EU Mission	(Select one from the List)					
	<input type="checkbox"/> Not Applicable <input type="checkbox"/> Adaptation to Climate Change <input type="checkbox"/> Cancer <input type="checkbox"/> Climate-neutral and Smart Cities <input checked="" type="checkbox"/> Oceans, seas and waters <input type="checkbox"/> Soil health and food					
Video/Image						
Key Value Proposition	<p>1. Oceanic Insight Unveiled: Marine ecosystem monitoring provides underwater videos and leverages AI for biota identification, paving the way for groundbreaking insights into oceanic phenomena and biodiversity.</p> <p>2. Depth of Database: EMSO – OBSEA has a 10-year dataset of annotated images with information about the number and type of species that appear on each photo. EMSO-Smartbay has footage archives dating back to 2017. Also, data from additional sensors including the measurement of environmental parameters (temperature, salinity, dissolved oxygen, turbidity), current flow and sound. EMSO-Azores has an 11-year video archive from which extracted images have been annotated either by experts or by citizens through the DeepSeaSpy platform. Also, data from additional sensors provide the measurement of physico-chemical conditions (temperature, salinity, dissolved oxygen, turbidity and dissolved metals) and current flow.</p> <p>3. Scientific Impact: Join a pioneering journey towards comprehensive understanding. By leveraging standardized data management and AI pipelines, Marine ecosystem monitoring contributes to essential ocean variables and fosters transformative biodiversity and ecosystem studies.</p>					
Business Sector(s)/ Policy Area (s)	(Select max three from the list)					
	<input type="checkbox"/> Agriculture and rural development	<input type="checkbox"/> Banking and financial services	<input type="checkbox"/> Borders and security	<input type="checkbox"/> Budget	<input type="checkbox"/> Business and industry	<input checked="" type="checkbox"/> Climate action
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	<input type="checkbox"/> Sport	<input type="checkbox"/> Statistics	<input type="checkbox"/> Taxation	<input type="checkbox"/> Trade	<input type="checkbox"/> Transport	<input type="checkbox"/> Youth
Main project	iImagine					
Other related projects	N/A					
Result Contributors	EMSO-ERIC; Ifremer; MI; UPC					
Owners for exploitation	EMSO-ERIC					
Tags/ Keywords	EMSO; Ocean Exploration; Underwater Videos; Artificial Intelligence; Biota Identification; Biodiversity; Ecosystem Studies; Essential Ocean Variables; Data Management; AI Analysis; Oceanic Phenomena; Standard Practices; Scientific Insight; Cutting-Edge Technology; Ocean Observatories; Earth Systems; Hidden Treasures; Marine Research; Deep-sea Exploration; Scientific Discovery.					

Stakeholders and Users

<p>Target User Group and Benefits</p>	<table border="1"> <thead> <tr> <th>User Group</th> <th>Benefits</th> </tr> </thead> <tbody> <tr> <td>Researchers</td> <td>Scientific data outputs for ecosystem studies</td> </tr> <tr> <td>EMSO Data managers</td> <td>tools for automatic data analysis</td> </tr> <tr> <td>Environmental managers</td> <td>real-time data on ecosystem for informed decisions</td> </tr> <tr> <td>Citizens</td> <td>real-time fish detections as a fun manner to improve the general public knowledge about marine ecosystems</td> </tr> <tr> <td>Industry</td> <td>for fisheries and/or ports manager better understanding of the impact of their activities</td> </tr> </tbody> </table>	User Group	Benefits	Researchers	Scientific data outputs for ecosystem studies	EMSO Data managers	tools for automatic data analysis	Environmental managers	real-time data on ecosystem for informed decisions	Citizens	real-time fish detections as a fun manner to improve the general public knowledge about marine ecosystems	Industry	for fisheries and/or ports manager better understanding of the impact of their activities																								
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<p>Do you already have customers for this result?</p>	<ul style="list-style-type: none"> <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No 																																				

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Local and Regional Agencies	real-time data on ecosystem for informed decisions						
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Target Audience and Needs

Target Audience	Select a maximum of three from the following, <ul style="list-style-type: none"> <input type="checkbox"/> Others/ No specific audience; <input type="checkbox"/> Public or private funding institutions; <input checked="" type="checkbox"/> EU and Member State Policy-makers; <input checked="" type="checkbox"/> International Organisations (ex. OECD, FAO, UN, etc.); <input type="checkbox"/> Other Actors who can help us fulfil our market potential; <input type="checkbox"/> Research and Technology Organisations; <input checked="" type="checkbox"/> Academia/ Universities; <input type="checkbox"/> Private Investors 																																							
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We specifically need/ are looking for (600 words)																																								
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KER#4 Oil spill detection

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Contact Person	Giovanni Coppini [REDACTED] Igor Atake [REDACTED]
Overall Status	INCOMPLETE
Result Information	FINALISED
Stakeholder and Users	FINALISED
Target Audience and Needs	INCOMPLETE
Result Maturity and Exploitation Outlook	INCOMPLETE
Business Model and Sustainability	INCOMPLETE
Auxiliary Contributions	INCOMPLETE
Other Background Information	INCOMPLETE
Last Updated	24 Apr 2024

Result Information

Problem	At present, there are no accurate estimates of how much oil is spilled in the ocean every year nor the environmental impacts of so-called "ghost spills". ML-based algorithms capable of detecting oil spills in SAR and optical satellite imagery have been proposed in recent years unveiling pollution hotspots around the globe. On the other hand, oil spill forecasting models, paramount to fill in observation gaps in remote observations and estimate the impact of spills on the coast, are still unable to deliver accurate and refined predictions of spill impacts. An ML-based algorithm capable of enhancing the current numerical oil spill simulation with the advent of Bayesian Optimisation Function, providing a sensitive parametric choice, leading to more realistic results on the real world.
Result Description (1200 characters)	<p>About: WITOIL (Where Is the Oil) is a multi-model Decision Support System (DSS) on-demand service that forecasts transport and weathering of actual or hypothetical oil spills in the global, regional European Seas, and in the selected coastal areas. WITOIL uses the MEDSLIK-II oil spill model forced by operational meteo-oceanographic services. The service has been further refined by using labelled image datasets from Sentinel 1, Sentinel 2 and Landsat 8 satellites to improve existing deep-learning algorithms and the AI-supported detection of oil spills. WITOIL is now an operational service in the iMagine-AI platform and interfaces with existing operational marine pollution oil spill monitoring and modelling service running at CMCC. Relevant guidelines and documentation are also available to promote the service uptake.</p> <p>Impact: With WITOIL, Policymakers can better understand the problem, which will lead to the development of more effective policies, mitigation strategies, and further funding for technologies related to mitigating the environmental impact of oil spills.</p>
Result Type	<p>(Select one from the list)</p> <p><input type="checkbox"/> Policy Related Result</p> <p><input type="checkbox"/> Scientific or Technological R&D Result including ICT Hardware</p> <p><input type="checkbox"/> ICT Software Digital solution</p> <p><input type="checkbox"/> Other Intangible Results</p> <p><input checked="" type="checkbox"/> Services</p> <p><input type="checkbox"/> Other</p>
EU Mission	<p>(Select one from the List)</p> <p><input type="checkbox"/> Not Applicable</p> <p><input type="checkbox"/> Adaptation to Climate Change</p> <p><input type="checkbox"/> Cancer</p> <p><input type="checkbox"/> Climate-neutral and Smart Cities</p> <p><input checked="" type="checkbox"/> Oceans, seas and waters</p> <p><input type="checkbox"/> Soil health and food</p>
Video/Image	

Key Value Proposition	<p>1. Unmasking Ocean Mysteries: WITOIL leverages ML-based algorithms and deep learning to uncover pollution hotspots, understand "ghost spills," and refine predictions, equipping decision-makers with vital insights for informed actions.</p> <p>2. Cost-Efficiency Redefined: WITOIL's integrated service offers a remarkable 10x reduction in expenses compared to traditional aerial monitoring.</p> <p>3. Accurate Predictions: WITOIL offers 70% greater accuracy in oil spill detection while delivering advanced analytics (e.g., spill volume, type of oil).</p>					
Business Sector(s)/ Policy Area (s)	(Select max three from the list)					
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Main project	iImagine					
Other related projects	N/A					
Result Contributors	CMCC; OrbitalEOSC; UNITN					
Owners for exploitation	CMCC					
Tags/ Keywords	WITOIL; Environmental Protection; Oil Spill Detection; Forecasting; Cutting-Edge Technology; ML-Based Algorithms; Deep Learning; Pollution Hotspots; Decision Support System; Advanced Analytics; Cost-Efficiency; Sustainable Solutions; Oceanic Impact; Environmental Stewardship; Policy Formulation; Pollution Mitigation; Data Insights; Advanced Forecasting; Operational Service; Greener Future.					

Stakeholders and Users

Target User Group and Benefits	User Group	Benefit
	Environmental Managers	Perform risk assessment on a more realistic scenario, given the improvement made on the oil spill forecasting system.
	Oil and Gas Companies	Use the capability provided by the system to assess potential risks, worst case scenarios and be prepared for emergencies in case of an accidental oil spill.
	Companies providing services to Environmental Authorities	Empower the analysts to give quick and reliable responses to the Environmental agencies, allowing policies and planning, and decisions to be taken with data driven capability.
What type of customers/ users do you have?	<input type="checkbox"/> Individuals <input checked="" type="checkbox"/> SMEs <input checked="" type="checkbox"/> Big corporations <input checked="" type="checkbox"/> Academia <input checked="" type="checkbox"/> R&T organisations <input type="checkbox"/> Public Institutions and Authorities <input type="checkbox"/> Governments <input type="checkbox"/> Commerce <input type="checkbox"/> Manufacturers	

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Message/ Teaser to the potential user (1000 characters)	Dive into the forefront of environmental protection with WITOL. Experience accurate spill detection, refined forecasting, and advanced analytics that empower policymakers to shape effective strategies. Join us in safeguarding our oceans and fostering a sustainable future.																																				
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Other Stakeholders and Benefits	Stakeholder	Benefits/Impact
	ESA	Demonstrate what is currently possible to do with open access satellite data, providing insights into future developments on satellite and remote sensing technology.
	Sentinel 1 and Sentinel 2	Show the current capabilities that have been developed by the data provided by these current satellite systems.
	International organisations (United Nations International Maritime Organisation Interpol, etc.)	Allows international stakeholders to see that despite the challenge of following ghost spills, with current remote sensing techniques and modeling capabilities, this use case is capable of performing oil spill simulations to tackle these hidden problems. Possibly, these technical approaches can make it easier to make responsible for the spillage accountable.
	Public Institutions	Give data and voice to these institutions so they can use what is being observed and connect with the civil society, leveraging what has been obtained by technical means, but also how to effectively change and turn the ghost spills to 0, by enforcing more restrictions and penalties on oil spill cases.

Target Audience and Needs

Target Audience	Select a maximum of three from the following. <ul style="list-style-type: none"> <input type="checkbox"/> Others/ No specific audience; <input type="checkbox"/> Public or private funding institutions; <input type="checkbox"/> EU and Member State Policy-makers; <input type="checkbox"/> International Organisations (ex. OECD, FAO, UN, etc.); <input type="checkbox"/> Other Actors who can help us fulfil our market potential; <input type="checkbox"/> Research and Technology Organisations; <input type="checkbox"/> Academia/ Universities; <input type="checkbox"/> Private Investors 																																							
Our needs are	Select a maximum of three from the following. <table border="1" data-bbox="383 961 1471 1360"> <tbody> <tr> <td><input type="checkbox"/> We are sharing our knowledge</td> <td><input type="checkbox"/> Other blended financing</td> <td><input type="checkbox"/> Marketing Mentoring or Coaching</td> <td><input type="checkbox"/> I/we wish to transfer my/our IPR to an interested party</td> <td><input type="checkbox"/> Expanding to more markets /finding new customers</td> <td><input type="checkbox"/> Collaboration</td> <td><input type="checkbox"/> Fellowship to advance my/our research</td> <td><input type="checkbox"/> Other type of Investment</td> </tr> <tr> <td><input type="checkbox"/> Grants and Subsidies</td> <td><input type="checkbox"/> To raise awareness and possibly influence policy</td> <td><input type="checkbox"/> Financing Expertise</td> <td><input type="checkbox"/> Investor readiness training</td> <td><input type="checkbox"/> Executive Training</td> <td><input type="checkbox"/> Help in technical expertise</td> <td><input type="checkbox"/> Business Angels</td> <td></td> </tr> <tr> <td><input type="checkbox"/> Loans</td> <td><input type="checkbox"/> Business partners - SMEs, Entrepreneurs, Large Corporations</td> <td><input type="checkbox"/> Technology Transfer Expertise</td> <td><input type="checkbox"/> Investor introductions</td> <td><input type="checkbox"/> Help in technical expertise</td> <td><input type="checkbox"/> Use of research Infrastructure</td> <td><input type="checkbox"/> Venture Capital</td> <td></td> </tr> <tr> <td><input type="checkbox"/> Loan guarantees</td> <td><input type="checkbox"/> Incubators / Accelerators</td> <td><input type="checkbox"/> Legal / IPR advise</td> <td><input type="checkbox"/> Business plan development</td> <td><input type="checkbox"/> Use of research Infrastructure</td> <td><input type="checkbox"/> Collaboration</td> <td><input type="checkbox"/> Crowd-funding Equity</td> <td></td> </tr> </tbody> </table>								<input type="checkbox"/> We are sharing our knowledge	<input type="checkbox"/> Other blended financing	<input type="checkbox"/> Marketing Mentoring or Coaching	<input type="checkbox"/> I/we wish to transfer my/our IPR to an interested party	<input type="checkbox"/> Expanding to more markets /finding new customers	<input type="checkbox"/> Collaboration	<input type="checkbox"/> Fellowship to advance my/our research	<input type="checkbox"/> Other type of Investment	<input type="checkbox"/> Grants and Subsidies	<input type="checkbox"/> To raise awareness and possibly influence policy	<input type="checkbox"/> Financing Expertise	<input type="checkbox"/> Investor readiness training	<input type="checkbox"/> Executive Training	<input type="checkbox"/> Help in technical expertise	<input type="checkbox"/> Business Angels		<input type="checkbox"/> Loans	<input type="checkbox"/> Business partners - SMEs, Entrepreneurs, Large Corporations	<input type="checkbox"/> Technology Transfer Expertise	<input type="checkbox"/> Investor introductions	<input type="checkbox"/> Help in technical expertise	<input type="checkbox"/> Use of research Infrastructure	<input type="checkbox"/> Venture Capital		<input type="checkbox"/> Loan guarantees	<input type="checkbox"/> Incubators / Accelerators	<input type="checkbox"/> Legal / IPR advise	<input type="checkbox"/> Business plan development	<input type="checkbox"/> Use of research Infrastructure	<input type="checkbox"/> Collaboration	<input type="checkbox"/> Crowd-funding Equity	
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We specifically need/ are looking for (600 words)																																								
What level of investment (EUR) are you currently looking for?																																								

KER#5 Flowcam plankton identification

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- [Target Audience and Needs](#)
- [Result Maturity and Exploitation Outlook](#)
- [Business Model and Sustainability](#)
- [Auxiliary Contributions](#)
- [Other Information](#)

Contact Person	Rune Lagaisse XXXXXXXXXX
Overall Status	INCOMPLETE
Result Information	FINALISED
Stakeholder and Users	FINALISED
Target Audience and Needs	INCOMPLETE
Result Maturity and Exploitation Outlook	INCOMPLETE
Business Model and Sustainability	INCOMPLETE
Auxiliary Contributions	INCOMPLETE
Other Background Information	INCOMPLETE
Last Updated	27 Mar 2024

Result Information

Problem	Image-based phytoplankton biomonitoring (for Belgium: 9 stations (monthly) and 17 stations (seasonally)) generates a lot of images. This means there is a huge workload involved in annotating the images manually. An automated approach is developed to optimise this process.
Result Description (1200 characters)	<p>About: Flowcam phytoplankton identification service uses a deep learning image recognition algorithm based on a Convolutional Neural Network (CNN) on Flowcam image data residing in the institutes internal MongoDB database for taxonomic identification of phytoplankton. The output data has FAIRness characteristics in accordance with the Darwin Core standards and relevant vocabularies. With an operational environment in the iImagine-AI platform for processing images and storing the output data along with relevant guidance and documentation material, the service is available for users. Long-term (>4y) high-quality phytoplankton image dataset is also available for exploitation.</p> <p>Impact: The global description of the abundance and diversity of phytoplankton communities yields an indication of the health of marine ecosystems and their response to anthropic stressors. As such, the image-derived phytoplankton community characteristics are used in three common OSPAR indicators for the Good Environmental Status Assessment for pelagic habitats under Descriptor 1 (Biodiversity).</p>
Result Type	<p>(Select one from the list)</p> <p><input type="checkbox"/> Policy Related Result</p> <p><input type="checkbox"/> Scientific or Technological R&D Results including ICT Hardware</p> <p><input type="checkbox"/> ICT Software Digital solution</p> <p><input type="checkbox"/> Other Intangible Results</p> <p><input checked="" type="checkbox"/> Services</p> <p><input type="checkbox"/> Other</p>
EU Mission	<p>(Select one from the List)</p> <p><input type="checkbox"/> Not Applicable</p> <p><input type="checkbox"/> Adaptation to Climate Change</p> <p><input type="checkbox"/> Cancer</p> <p><input type="checkbox"/> Climate-neutral and Smart Cities</p> <p><input checked="" type="checkbox"/> Oceans, seas and waters</p> <p><input type="checkbox"/> Soil health and food</p>

Video/Image

The collage illustrates the workflow of the 'Phytoplankton Unveiled' project. It starts with sample collection from a research vessel (R/V Atlantis) using a FlowCAM system. The resulting data is processed through a pipeline involving MDAS, FlowCAM, and various data directories. The processed data is then stored in a MongoDB database and used for training a deep learning model (CNN) using TensorFlow. The trained model is deployed as a REST API for real-time classification. The project is supported by funding from IMIS, EuroOBIS, and GBIF, and is part of the Plankton Validation Ann initiative.

media_UC...wCam.zip

Key Value Proposition

1. **Phytoplankton Unveiled:** Leverage cutting-edge deep learning to accurately identify and classify these crucial marine organisms, fostering a comprehensive understanding of biodiversity.
2. **Efficiency Redefined:** Experience streamlined image processing and storage optimizing taxonomic identification and data management.
3. **Biomonitoring Made Easy:** Harness the FAIRness of output data, adhering to Darwin Core standards, and contributing to efficient biomonitoring for marine ecosystem health.

Business Sector(s)/ Policy Area (s)	(Select max three from the list)					
	<input type="checkbox"/> Agriculture and rural development	<input type="checkbox"/> Banking and financial services	<input type="checkbox"/> Borders and security	<input type="checkbox"/> Budget	<input type="checkbox"/> Business and industry	<input checked="" type="checkbox"/> Climate action
	<input type="checkbox"/> Competition	<input type="checkbox"/> Consumers	<input type="checkbox"/> Culture and media	<input type="checkbox"/> Customs	<input type="checkbox"/> Digital economy and society	<input type="checkbox"/> Economy, finance and the euro
	<input type="checkbox"/> Education and training; Employment and social affairs	<input type="checkbox"/> Energy; Environment	<input type="checkbox"/> EU enlargement	<input type="checkbox"/> European neighbourhood policy	<input type="checkbox"/> Food safety	<input type="checkbox"/> Foreign affairs and security policy
	<input type="checkbox"/> Fraud prevention	<input type="checkbox"/> Home affair	<input type="checkbox"/> Humanitarian aid and civil protection	<input type="checkbox"/> Institutional Affairs	<input type="checkbox"/> International cooperation and development	<input type="checkbox"/> Justice and fundamental rights
	<input checked="" type="checkbox"/> Maritime affairs and fisheries	<input type="checkbox"/> Migration and asylum	<input type="checkbox"/> Public health	<input type="checkbox"/> Regional policy	<input checked="" type="checkbox"/> Research and innovation	<input type="checkbox"/> Single market
<input type="checkbox"/> Sport	<input type="checkbox"/> Statistics	<input type="checkbox"/> Taxation	<input type="checkbox"/> Trade	<input type="checkbox"/> Transport	<input type="checkbox"/> Youth	
Main project	iImagine					
Other related projects	LifeWatch ERIC					
Result Contributors	VLIZ					
Owners for exploitation	VLIZ					
Tags/ Keywords	Flowcam; Phytoplankton Identification; Deep Learning; Taxonomic Classification; Biodiversity Insights; iImagine-AI Integration; Operational Platform; Data Processing; Marine Ecosystems; FAIRness; Darwin Core Standards; Biomonitoring; Environmental Managers; Marine Research; Deep Learning Algorithms; Image Analysis; Data Management; Taxonomic Composition; Oceanic Health.; CNN; MongoDB; NoSQL.					

Stakeholders and Users

Target User Group and Benefits	User Groups	Benefits
	<p>Research/Academia /ERICs</p> <p>Private Enterprises</p>	<ul style="list-style-type: none"> ▪ technology to handle large amounts of image data coming from high-throughput imaging devices used in monitoring or dedicated research studies ▪ taxonomic identification of challenging groups ▪ computing resources, code, integrated environment, additional scripts for model performance analysis, image augmentation and transformation <ul style="list-style-type: none"> ▪ Manufacturer: case study on applicability of FlowCam in marine monitoring and how to process and identify high-load of image data ▪ private institutions: algorithms for classification of marine phytoplankton, code, integrated environment with computing resources
What type of customers/ users do you have?	<input checked="" type="checkbox"/> Individuals <input type="checkbox"/> SMEs <input type="checkbox"/> Big corporations <input checked="" type="checkbox"/> Academia <input checked="" type="checkbox"/> R&T organisations <input type="checkbox"/> Public Institutions and Authorities <input type="checkbox"/> Governments <input type="checkbox"/> Commerce <input checked="" type="checkbox"/> Manufacturers	

Are you targeting geographical markets?	<input checked="" type="checkbox"/> Global <input checked="" type="checkbox"/> Europe <input type="checkbox"/> Asia <input type="checkbox"/> North America <input type="checkbox"/> South America <input type="checkbox"/> Middle-East <input type="checkbox"/> Africa <input type="checkbox"/> Oceania <input type="checkbox"/> <Individual Countries> (Mention here)																																				
Business Sector(s) / Policy Area(s)	<p>(Select max three from the list)</p> <table border="1"> <tr> <td><input type="checkbox"/> Agriculture and rural development</td> <td><input type="checkbox"/> Banking and financial services</td> <td><input type="checkbox"/> Borders and security</td> <td><input type="checkbox"/> Budget</td> <td><input type="checkbox"/> Business and industry</td> <td><input checked="" type="checkbox"/> Climate action</td> </tr> <tr> <td><input type="checkbox"/> Competition</td> <td><input type="checkbox"/> Consumers</td> <td><input type="checkbox"/> Culture and media</td> <td><input type="checkbox"/> Customs</td> <td><input type="checkbox"/> Digital economy and society</td> <td><input type="checkbox"/> Economy, finance and the euro</td> </tr> <tr> <td><input type="checkbox"/> Education and training; Employment and social affairs</td> <td><input type="checkbox"/> Energy; Environment</td> <td><input type="checkbox"/> EU enlargement</td> <td><input type="checkbox"/> European neighbourhood policy</td> <td><input type="checkbox"/> Food safety</td> <td><input type="checkbox"/> Foreign affairs and security policy</td> </tr> <tr> <td><input type="checkbox"/> Fraud prevention</td> <td><input type="checkbox"/> Home affair</td> <td><input type="checkbox"/> Humanitarian aid and civil protection</td> <td><input type="checkbox"/> Institutional affairs</td> <td><input type="checkbox"/> International cooperation and development</td> <td><input type="checkbox"/> Justice and fundamental rights</td> </tr> <tr> <td><input checked="" type="checkbox"/> Maritime affairs and fisheries</td> <td><input type="checkbox"/> Migration and asylum</td> <td><input type="checkbox"/> Public health</td> <td><input type="checkbox"/> Regional policy</td> <td><input checked="" type="checkbox"/> Research and innovation</td> <td><input type="checkbox"/> Single market</td> </tr> <tr> <td><input type="checkbox"/> Sport</td> <td><input type="checkbox"/> Statistics</td> <td><input type="checkbox"/> Taxation</td> <td><input type="checkbox"/> Trade</td> <td><input type="checkbox"/> Transport</td> <td><input type="checkbox"/> Youth</td> </tr> </table>	<input type="checkbox"/> Agriculture and rural development	<input type="checkbox"/> Banking and financial services	<input type="checkbox"/> Borders and security	<input type="checkbox"/> Budget	<input type="checkbox"/> Business and industry	<input checked="" type="checkbox"/> Climate action	<input type="checkbox"/> Competition	<input type="checkbox"/> Consumers	<input type="checkbox"/> Culture and media	<input type="checkbox"/> Customs	<input type="checkbox"/> Digital economy and society	<input type="checkbox"/> Economy, finance and the euro	<input type="checkbox"/> Education and training; Employment and social affairs	<input type="checkbox"/> Energy; Environment	<input type="checkbox"/> EU enlargement	<input type="checkbox"/> European neighbourhood policy	<input type="checkbox"/> Food safety	<input type="checkbox"/> Foreign affairs and security policy	<input type="checkbox"/> Fraud prevention	<input type="checkbox"/> Home affair	<input type="checkbox"/> Humanitarian aid and civil protection	<input type="checkbox"/> Institutional affairs	<input type="checkbox"/> International cooperation and development	<input type="checkbox"/> Justice and fundamental rights	<input checked="" type="checkbox"/> Maritime affairs and fisheries	<input type="checkbox"/> Migration and asylum	<input type="checkbox"/> Public health	<input type="checkbox"/> Regional policy	<input checked="" type="checkbox"/> Research and innovation	<input type="checkbox"/> Single market	<input type="checkbox"/> Sport	<input type="checkbox"/> Statistics	<input type="checkbox"/> Taxation	<input type="checkbox"/> Trade	<input type="checkbox"/> Transport	<input type="checkbox"/> Youth
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Message/ Teaser to the potential user (1000 characters)	<p>Dive into the world of phytoplankton using FlowCam high-throughput imaging and machine-learning to reveal the taxonomic community composition from FlowCam images. Seamlessly process, analyze, and store data in an operational environment, and contribute to vital biodiversity insights for marine ecosystems. Join us in shaping a healthier oceanic future.</p>																																				
Do you already have customers for this result?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No																																				
Number of existing customers	<input type="checkbox"/> 1-5 <input type="checkbox"/> 6-30 <input type="checkbox"/> 31-50 <input type="checkbox"/> 51-100 <input checked="" type="checkbox"/> 101-500 <input type="checkbox"/> 501-1000 <input type="checkbox"/> >1000																																				
Other Stakeholders and Benefits	<table border="1"> <thead> <tr> <th>Stakeholder</th> <th>Benefits/Impact</th> </tr> </thead> <tbody> <tr> <td>Environmental Agencies</td> <td>automatisation of monitoring</td> </tr> <tr> <td>Fluid Imaging Technologies Yarmouth, Maine USA</td> <td>manufacturer, case study on how to handle high-throughput image data coming from a device they sell</td> </tr> <tr> <td>Lifewatch, EMO BON (EMBRC)</td> <td>research infrastructures, automatisation of phytoplankton monitoring,</td> </tr> <tr> <td>Biodiversity researchers</td> <td>taxonomic IDs, computing resources, integrated environment and code provided, code for post-hoc analysis</td> </tr> </tbody> </table>	Stakeholder	Benefits/Impact	Environmental Agencies	automatisation of monitoring	Fluid Imaging Technologies Yarmouth, Maine USA	manufacturer, case study on how to handle high-throughput image data coming from a device they sell	Lifewatch, EMO BON (EMBRC)	research infrastructures, automatisation of phytoplankton monitoring,	Biodiversity researchers	taxonomic IDs, computing resources, integrated environment and code provided, code for post-hoc analysis																										
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Target Audience and Needs

KER#6 Prototype Imaging services

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- [Business Model and Sustainability](#)
- [Auxiliary Contributions](#)
- [Other Information](#)

Contact Person	Valentin Kozlov [REDACTED]
Overall Status	INCOMPLETE
Result Information	FINALISED
Stakeholder and Users	FINALISED
Target Audience and Needs	INCOMPLETE
Result Maturity and Exploitation Outlook	INCOMPLETE
Business Model and Sustainability	INCOMPLETE
Auxiliary Contributions	INCOMPLETE
Other Background Information	INCOMPLETE
Last Updated	17 Jan 2024

Result Information

Problem	<p>Underwater Noise Detection: Marine species use sound to interact with each other which is often disturbed by the presence of human activity. So therefore, it is important to understand the underwater soundscape as it can teach us a lot about health of the marine organisms and also about how healthy the environment is in terms of sound pollution. Sound data is also very tedious to process manually so automation can significantly improve this activity.</p> <p>Beach Monitoring: Spatiotemporal detection/measurement of Posidonia oceanica berms (beach-cast litter) and rip currents from video monitoring imagery at Balearic Islands: The challenge is to automatically classify/object detection video monitoring imagery (different viewing geometries, light conditions ...) to detect both coastal features (berms and rip currents) at different timestamps/scenarios and degrees of development.</p> <p>Freshwater Diatom Identification: Diatoms are microscopic unicellular organisms used routinely for the ecological quality evaluation of freshwaters within the implementation of the European Water Framework Directive. The identification of the diatom species is performed under the microscope by a human expert, which is currently time-consuming and often subject to bias (operator experience, image quality...), which leads to great between-expert variability in diatom classification. This service aims to reduce some bias by developing a decision-making tool for the human expert.</p>
Result Description (1200 characters)	<p>About: The underwater noise identification service utilises the neural network to recognise acoustic events in the spectrograms. These spectrograms are generated by post-processing acoustic underwater recordings by the broadband acoustic network of a LifeWatch marine observatory. The Beach Monitoring system detects Posidonia oceanica berms and rip currents detection in addition to shoreline detection using long-term time-series data. This data has been collected by systematic and continuous monitoring of beaches using cameras since 2011. The freshwater diatoms identification system uses AI to identify freshwater diatoms using microscopic images based on morphological characteristics.</p> <p>Impact: By addressing sound pollution, coastal risks, and water quality, these services contribute to marine ecosystem preservation and efficient environmental monitoring across Europe.</p>
Result Type	<p>(Select one from the list)</p> <p><input type="checkbox"/> Policy Related Result</p> <p><input type="checkbox"/> Scientific or Technological R&D Result including ICT Hardware</p> <p><input type="checkbox"/> ICT Software Digital solution</p> <p><input type="checkbox"/> Other Intangible Results</p> <p><input checked="" type="checkbox"/> Services</p> <p><input type="checkbox"/> Other</p>

EU Mission	(Select one from the List)					
	<input type="checkbox"/> Not Applicable <input type="checkbox"/> Adaptation to Climate Change <input type="checkbox"/> Cancer <input type="checkbox"/> Climate-neutral and Smart Cities <input checked="" type="checkbox"/> Oceans, seas and waters <input type="checkbox"/> Soil health and food					
Video/Image						
Key Value Proposition	<ol style="list-style-type: none"> Enhanced Marine Understanding: The underwater noise detection, beach monitoring, and freshwater diatom identification services offer deeper insights into species interactions, coastal dynamics, and ecosystem health. Efficient Environmental Monitoring: By automating the analysis of underwater sounds, beach features, and diatom species, the services streamline data processing, enabling more efficient and accurate environmental monitoring that contributes to informed decision-making. Policy and Conservation Impact: These services support policy decisions by providing essential indicators of marine health and ecosystem changes, and guiding strategies for pollution mitigation, coastal protection, and conservation efforts. 					
Business Sector(s)/ Policy Area (s)	(Select max three from the list)					
	<input type="checkbox"/> Agriculture and rural development	<input type="checkbox"/> Banking and financial services	<input type="checkbox"/> Borders and security	<input type="checkbox"/> Budget	<input type="checkbox"/> Business and industry	<input checked="" type="checkbox"/> Climate action
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	<input type="checkbox"/> Sport	<input type="checkbox"/> Statistics	<input type="checkbox"/> Taxation	<input type="checkbox"/> Trade	<input type="checkbox"/> Transport	<input type="checkbox"/> Youth
Main project	iMagine					
Other related projects	N/A					
Result Contributors	VLIZ; SOCIB; UL-LIEC; CNRS; SU					
Owners for exploitation	VLIZ; SOCIB; UL-LIEC;					
Tags/ Keywords	underwater noise; marine ecosystem; coastal monitoring; species classification; sound pollution; beach dynamics; environmental health; aquatic bioindicators; marine conservation; policy support; AI technology; marine life; biodiversity assessment; ecosystem preservation; environmental policy; underwater sound analysis; marine protection; diatom identification; coastal hazards; water quality;					

Stakeholders and Users

Target User Group and Benefits	To be covered at individual service result level
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What type of customers/ users do you have?	<input checked="" type="checkbox"/> Individuals <input checked="" type="checkbox"/> SMEs <input type="checkbox"/> Big corporations <input checked="" type="checkbox"/> Academia <input checked="" type="checkbox"/> R&T organisations <input type="checkbox"/> Public Institutions and Authorities <input type="checkbox"/> Governments <input type="checkbox"/> Commerce <input type="checkbox"/> Manufacturers																																				
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<input type="checkbox"/> Education and training; Employment and social affairs	<input type="checkbox"/> Energy; Environment	<input type="checkbox"/> EU enlargement	<input type="checkbox"/> European neighbourhood policy	<input type="checkbox"/> Food safety	<input type="checkbox"/> Foreign affairs and security policy																																
<input type="checkbox"/> Fraud prevention	<input type="checkbox"/> Home affair	<input type="checkbox"/> Humanitarian aid and civil protection	<input type="checkbox"/> Institutional affairs	<input type="checkbox"/> International cooperation and development	<input type="checkbox"/> Justice and fundamental rights																																
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<input type="checkbox"/> Sport	<input type="checkbox"/> Statistics	<input type="checkbox"/> Taxation	<input type="checkbox"/> Trade	<input type="checkbox"/> Transport	<input type="checkbox"/> Youth																																
Message/ Teaser to the potential user (1000 characters)	<p>Explore the world of marine sciences with iImagine's innovative services. Dive into underwater noise identification, make beaches safer through beach monitoring, and monitor freshwater characteristics with diatoms. Harness the power of AI to unlock insights into marine ecosystems, safeguarding their health and balance.</p>																																				
Do you already have customers for this result?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No																																				
Number of existing customers	<input type="checkbox"/> 1-5 <input checked="" type="checkbox"/> 6-30 <input type="checkbox"/> 31-50 <input type="checkbox"/> 51-100 <input type="checkbox"/> 101-500 <input type="checkbox"/> 501-1000 <input type="checkbox"/> >1000																																				

KER#7 The iImagine-AI Platform

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- [Result Maturity and Exploitation Outlook](#)
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- [Auxiliary Contributions](#)
- [Other Information](#)

Contact Person	Alvaro Lopez Garcia [REDACTED]
Overall Status	INCOMPLETE
Result Information	FINALISED
Stakeholder and Users	FINALISED
Target Audience and Needs	INCOMPLETE
<i>Result Maturity and Exploitation Outlook</i>	INCOMPLETE
<i>Business Model and Sustainability</i>	INCOMPLETE
<i>Auxiliary Contributions</i>	INCOMPLETE
<i>Other Background Information</i>	INCOMPLETE
Last Updated	17 Jan 2024

Result Information

Problem	Aquatic sciences use ad-hoc solutions for AI/ML analysis, siloing the developments in the domain to institutional/regional setups. While generic AI/ML frameworks exist, the uptake of AI/ML in aquatic sciences is limited by the availability of a framework that is validated and endorsed by RIs of that field.
Result Description (1200 characters)	<p>About: The iImagine-AI Framework and Computing Platform facilitate transparent AI model training, sharing, serving, and publication. Harnessing the expansive capabilities of the EGI Federation, this platform capitalizes on its hyper-scale distributed computing prowess, effectively eliminating bottlenecks in computational resources. The iImagine AI framework is instrumental in both model development and delivery of AI services. For model development, it provides an agile environment for prototyping AI models, offering JupyterLab instances, extensive data science, AI, deep learning frameworks, and GPU-powered model training. In the realm of AI service delivery, the iImagine framework adopts a serverless approach, enabling scalable, high-performance deployment of AI models. The served models seamlessly leverage the iImagine API, integrating with external image repositories and facilitating event-based data processing.</p> <p>Impact: Through all this, users can rapidly iterate AI models, optimize them, and efficiently serve them to scientific end users.</p>
Result Type	<p>(Select one from the list)</p> <p><input type="checkbox"/> Policy Related Result</p> <p><input type="checkbox"/> Scientific or Technological R&D Result including ICT Hardware</p> <p><input type="checkbox"/> ICT Software Digital solution</p> <p><input type="checkbox"/> Other Intangible Results</p> <p><input checked="" type="checkbox"/> Services</p> <p><input type="checkbox"/> Other</p>
EU Mission	<p>(Select one from the List)</p> <p><input type="checkbox"/> Not Applicable</p> <p><input type="checkbox"/> Adaptation to Climate Change</p> <p><input type="checkbox"/> Cancer</p> <p><input type="checkbox"/> Climate-neutral and Smart Cities</p> <p><input checked="" type="checkbox"/> Oceans, seas and waters</p> <p><input type="checkbox"/> Soil health and food</p>
Video/Image	

Key Value Proposition	<p>1. Unleash AI Potential: Seamlessly integrate AI into aquatic sciences with the iImagine Framework. Leverage state-of-the-art technologies to amplify research capabilities, streamline processes, and drive innovation.</p> <p>2. Scalable Powerhouse: Harness the EGI Federation's hyperscale distributed computing to eliminate computational barriers. Benefit from vast computing facilities, GPU, CPU, and storage resources, ensuring scalability for projects of any magnitude.</p> <p>3. Agile Development and Delivery: From prototyping to deployment, the iImagine AI framework offers an agile environment. Rapidly iterate AI models, optimize them, and efficiently serve them to scientific end users, supported by continuous integration and serverless architecture.</p> <p>4. Expert Collaboration: Join forces with the iImagine Competence Centre, a hub of AI and IT experts. Unlock the potential of synergistic collaboration, garnering insights from diverse fields and fostering cross-fertilization.</p>					
Business Sector(s)/ Policy Area (s)	(Select max three from the list)					
	<input type="checkbox"/> Agriculture and rural development	<input type="checkbox"/> Banking and financial services	<input type="checkbox"/> Borders and security	<input type="checkbox"/> Budget	<input type="checkbox"/> Business and industry	<input checked="" type="checkbox"/> Climate action
	<input type="checkbox"/> Competition	<input type="checkbox"/> Consumers	<input type="checkbox"/> Culture and media	<input type="checkbox"/> Customs	<input type="checkbox"/> Digital economy and society	<input type="checkbox"/> Economy, finance and the euro
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	<input type="checkbox"/> Sport	<input type="checkbox"/> Statistics	<input type="checkbox"/> Taxation	<input type="checkbox"/> Trade	<input type="checkbox"/> Transport	<input type="checkbox"/> Youth
Main project	iImagine					
Other related projects	N/A					
Result Contributors	CSIC; KIT; LIP; IISAS; UPV; EGI; INCD; TUBITA; WIT					
Owners for exploitation	CSIC					
Tags/ Keywords	AI Integration; Distributed Computing; Scalability; Agile Development; GPU Resources; CPU Power; Serverless Architecture; Expert Collaboration; Innovation Catalyst; Research Advancement; Cutting-Edge Technology; Seamless Integration; Rapid Prototyping; Data Science; Deep Learning; Continuous Integration; End-to-End Solution; Synergistic Excellence; Resource Optimization; Sustainable Future; Research Empowerment; Cross-Fertilization; Hyperscale Computing; Model Deployment; Scientific Insights; Collaborative Hub; Scalable Services; Transformative Discoveries.					

Stakeholders and Users

Target User Group and Benefits	User Group	Benefit
	Image- based AI practitioners and data scientists	Rapidly iterate AI models, optimize them, and efficiently serve them to scientific end users.
What type of customers/ users do you have?	<input checked="" type="checkbox"/> Individuals <input checked="" type="checkbox"/> SMEs <input checked="" type="checkbox"/> Big corporations <input checked="" type="checkbox"/> Academia <input checked="" type="checkbox"/> R&T organisations <input type="checkbox"/> Public Institutions and Authorities <input type="checkbox"/> Governments <input type="checkbox"/> Commerce <input type="checkbox"/> Manufacturers	

Are you targeting geographical markets?	<input checked="" type="checkbox"/> Global <input type="checkbox"/> Europe <input type="checkbox"/> Asia <input type="checkbox"/> North America <input type="checkbox"/> South America <input type="checkbox"/> Middle-East <input type="checkbox"/> Africa <input type="checkbox"/> Oceania <input type="checkbox"/> <Individual Countries> (Mention here)																																				
Business Sector(s)/ Policy Area (s)	<p>(Select max three from the list)</p> <table border="1"> <tr> <td><input type="checkbox"/> Agriculture and rural development</td> <td><input type="checkbox"/> Banking and financial services</td> <td><input type="checkbox"/> Borders and security</td> <td><input type="checkbox"/> Budget</td> <td><input type="checkbox"/> Business and industry</td> <td><input checked="" type="checkbox"/> Climate action</td> </tr> <tr> <td><input type="checkbox"/> Competition</td> <td><input type="checkbox"/> Consumers</td> <td><input type="checkbox"/> Culture and media</td> <td><input type="checkbox"/> Customs</td> <td><input type="checkbox"/> Digital economy and society</td> <td><input type="checkbox"/> Economy, finance and the euro</td> </tr> <tr> <td><input type="checkbox"/> Education and training; Employment and social affairs</td> <td><input type="checkbox"/> Energy; Environment</td> <td><input type="checkbox"/> EU enlargement</td> <td><input type="checkbox"/> European neighbourhood policy</td> <td><input type="checkbox"/> Food safety</td> <td><input type="checkbox"/> Foreign affairs and security policy</td> </tr> <tr> <td><input type="checkbox"/> Fraud prevention</td> <td><input type="checkbox"/> Home affair</td> <td><input type="checkbox"/> Humanitarian aid and civil protection</td> <td><input type="checkbox"/> Institutional affairs</td> <td><input type="checkbox"/> International cooperation and development</td> <td><input type="checkbox"/> Justice and fundamental rights</td> </tr> <tr> <td><input checked="" type="checkbox"/> Maritime affairs and fisheries</td> <td><input type="checkbox"/> Migration and asylum</td> <td><input type="checkbox"/> Public health</td> <td><input type="checkbox"/> Regional policy</td> <td><input checked="" type="checkbox"/> Research and innovation</td> <td><input type="checkbox"/> Single market</td> </tr> <tr> <td><input type="checkbox"/> Sport</td> <td><input type="checkbox"/> Statistics</td> <td><input type="checkbox"/> Taxation</td> <td><input type="checkbox"/> Trade</td> <td><input type="checkbox"/> Transport</td> <td><input type="checkbox"/> Youth</td> </tr> </table>	<input type="checkbox"/> Agriculture and rural development	<input type="checkbox"/> Banking and financial services	<input type="checkbox"/> Borders and security	<input type="checkbox"/> Budget	<input type="checkbox"/> Business and industry	<input checked="" type="checkbox"/> Climate action	<input type="checkbox"/> Competition	<input type="checkbox"/> Consumers	<input type="checkbox"/> Culture and media	<input type="checkbox"/> Customs	<input type="checkbox"/> Digital economy and society	<input type="checkbox"/> Economy, finance and the euro	<input type="checkbox"/> Education and training; Employment and social affairs	<input type="checkbox"/> Energy; Environment	<input type="checkbox"/> EU enlargement	<input type="checkbox"/> European neighbourhood policy	<input type="checkbox"/> Food safety	<input type="checkbox"/> Foreign affairs and security policy	<input type="checkbox"/> Fraud prevention	<input type="checkbox"/> Home affair	<input type="checkbox"/> Humanitarian aid and civil protection	<input type="checkbox"/> Institutional affairs	<input type="checkbox"/> International cooperation and development	<input type="checkbox"/> Justice and fundamental rights	<input checked="" type="checkbox"/> Maritime affairs and fisheries	<input type="checkbox"/> Migration and asylum	<input type="checkbox"/> Public health	<input type="checkbox"/> Regional policy	<input checked="" type="checkbox"/> Research and innovation	<input type="checkbox"/> Single market	<input type="checkbox"/> Sport	<input type="checkbox"/> Statistics	<input type="checkbox"/> Taxation	<input type="checkbox"/> Trade	<input type="checkbox"/> Transport	<input type="checkbox"/> Youth
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Message/ Teaser to the potential user (1000 characters)	<p>Dive into the future of aquatic sciences with the iImagine Framework and Computing Platform. Seamlessly integrate AI into your research endeavors, leveraging the power of cutting-edge technologies and the EGI Federation's distributed computing. Experience agile AI model development and deployment, propelling your projects forward and fostering innovation. Join a collaborative ecosystem of experts, unlock limitless scalability, and embark on a journey of transformative discoveries. The iImagine Framework awaits, ushering in a new era of possibilities.</p>																																				
Do you already have customers for this result?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No																																				
Number of existing customers	<input type="checkbox"/> 1-5 <input type="checkbox"/> 6-30 <input checked="" type="checkbox"/> 31-50 <input type="checkbox"/> 51-100 <input type="checkbox"/> 101-500 <input type="checkbox"/> 501-1000 <input type="checkbox"/> >1000																																				
Other Stakeholders and Benefits	<table border="1"> <thead> <tr> <th>Stakeholder</th> <th>Benefits/Impact</th> </tr> </thead> <tbody> <tr> <td>Resource and service providers</td> <td>Being integrated in a production-grade platform for AI prototyping, developing and deployment</td> </tr> <tr> <td>Other R&D projects integrating VRE</td> <td>Integration of iImagine platform, compatible with AI4OS stack and AI4EOSC platform, as an easy toolbox for developing AI applications</td> </tr> </tbody> </table>	Stakeholder	Benefits/Impact	Resource and service providers	Being integrated in a production-grade platform for AI prototyping, developing and deployment	Other R&D projects integrating VRE	Integration of iImagine platform, compatible with AI4OS stack and AI4EOSC platform, as an easy toolbox for developing AI applications																														
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Target Audience and Needs

KER#8 Best Practices

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- [Result Maturity and Exploitation Outlook](#)
- [Business Model and Sustainability](#)
- [Auxiliary Contributions](#)
- [Other Information](#)

Contact Person	Dick MA Schaap [REDACTED]
Overall Status	INCOMPLETE
Result Information	FINALISED
Stakeholder and Users	FINALISED
Target Audience and Needs	INCOMPLETE
<i>Result Maturity and Exploitation Outlook</i>	INCOMPLETE
<i>Business Model and Sustainability</i>	INCOMPLETE
<i>Auxiliary Contributions</i>	INCOMPLETE
<i>Other Background Information</i>	INCOMPLETE
Last Updated	17 Jan 2024

Result Information

Problem	In the aquatic community, there is limited published Best Practice documentation available, other than some scientific articles, next to internal documents about the existing experiences of partners with their services. Existing best practices lack practices on scalable analysis of imaging data in aquatic sciences.
Result Description (1200 characters)	<p>About: Drawing from the experiences of use case development, the Competence Centre's support, and insights from AI projects and existing literature, iImagine has compiled a series of Best Practice documentation. This documentation encapsulates overarching approaches for adopting AI and setting up AI image processing workflows, how to make optimal use of the iImagine framework and platform for practical developments, training of models, and going into operation. These practices have been illustrated with practical insights and examples by showcasing both operational and prototype aquatic services from the iImagine project.</p> <p>Impact: This documentation will serve as a versatile resource for projects, researchers, students, and other stakeholders alike, enabling them to delve into AI techniques and begin their explorations. This knowledge repository will guide future AI adopters and users, providing a roadmap for harnessing the potential of AI within the aquatic sciences and beyond.</p>
Result Type	<p>(Select one from the list)</p> <p><input type="checkbox"/> Policy Related Result</p> <p><input type="checkbox"/> Scientific or Technological R&D Result including ICT Hardware</p> <p><input type="checkbox"/> ICT Software Digital solution</p> <p><input checked="" type="checkbox"/> Other Intangible Results</p> <p><input type="checkbox"/> Services</p> <p><input type="checkbox"/> Other</p>
EU Mission	<p>(Select one from the List)</p> <p><input type="checkbox"/> Not Applicable</p> <p><input type="checkbox"/> Adaptation to Climate Change</p> <p><input type="checkbox"/> Cancer</p> <p><input type="checkbox"/> Climate-neutral and Smart Cities</p> <p><input checked="" type="checkbox"/> Oceans, seas and waters</p> <p><input type="checkbox"/> Soil health and food</p>

Video/Image																																					
Key Value Proposition	<p>1. Efficiency Amplification: iMagine's Best Practice documentation streamlines the adoption of AI techniques, empowering users to seamlessly integrate AI image processing workflows, reducing operational hurdles and accelerating project timelines.</p> <p>2. Practical Empowerment: Unlock the power of AI through tangible insights and real-world examples showcased in the Best Practice documentation.</p>																																				
Business Sector(s)/ Policy Area (s)	<p>(Select max three from the list)</p> <table border="1"> <tr> <td><input type="checkbox"/> Agriculture and rural development</td> <td><input type="checkbox"/> Banking and financial services</td> <td><input type="checkbox"/> Borders and security</td> <td><input type="checkbox"/> Budget</td> <td><input type="checkbox"/> Business and industry</td> <td><input checked="" type="checkbox"/> Climate action</td> </tr> <tr> <td><input type="checkbox"/> Competition</td> <td><input type="checkbox"/> Consumers</td> <td><input type="checkbox"/> Culture and media</td> <td><input type="checkbox"/> Customs</td> <td><input type="checkbox"/> Digital economy and society</td> <td><input type="checkbox"/> Economy, finance and the euro</td> </tr> <tr> <td><input type="checkbox"/> Education and training; Employment and social affairs</td> <td><input type="checkbox"/> Energy; Environment</td> <td><input type="checkbox"/> EU enlargement</td> <td><input type="checkbox"/> European neighbourhood policy</td> <td><input type="checkbox"/> Food safety</td> <td><input type="checkbox"/> Foreign affairs and security policy</td> </tr> <tr> <td><input type="checkbox"/> Fraud prevention</td> <td><input type="checkbox"/> Home affair</td> <td><input type="checkbox"/> Humanitarian aid and civil protection</td> <td><input type="checkbox"/> Institutional Affairs</td> <td><input type="checkbox"/> International cooperation and development</td> <td><input type="checkbox"/> Justice and fundamental rights</td> </tr> <tr> <td><input checked="" type="checkbox"/> Maritime affairs and fisheries</td> <td><input type="checkbox"/> Migration and asylum</td> <td><input type="checkbox"/> Public health</td> <td><input type="checkbox"/> Regional policy</td> <td><input checked="" type="checkbox"/> Research and innovation</td> <td><input type="checkbox"/> Single market</td> </tr> <tr> <td><input type="checkbox"/> Sport</td> <td><input type="checkbox"/> Statistics</td> <td><input type="checkbox"/> Taxation</td> <td><input type="checkbox"/> Trade</td> <td><input type="checkbox"/> Transport</td> <td><input type="checkbox"/> Youth</td> </tr> </table>	<input type="checkbox"/> Agriculture and rural development	<input type="checkbox"/> Banking and financial services	<input type="checkbox"/> Borders and security	<input type="checkbox"/> Budget	<input type="checkbox"/> Business and industry	<input checked="" type="checkbox"/> Climate action	<input type="checkbox"/> Competition	<input type="checkbox"/> Consumers	<input type="checkbox"/> Culture and media	<input type="checkbox"/> Customs	<input type="checkbox"/> Digital economy and society	<input type="checkbox"/> Economy, finance and the euro	<input type="checkbox"/> Education and training; Employment and social affairs	<input type="checkbox"/> Energy; Environment	<input type="checkbox"/> EU enlargement	<input type="checkbox"/> European neighbourhood policy	<input type="checkbox"/> Food safety	<input type="checkbox"/> Foreign affairs and security policy	<input type="checkbox"/> Fraud prevention	<input type="checkbox"/> Home affair	<input type="checkbox"/> Humanitarian aid and civil protection	<input type="checkbox"/> Institutional Affairs	<input type="checkbox"/> International cooperation and development	<input type="checkbox"/> Justice and fundamental rights	<input checked="" type="checkbox"/> Maritime affairs and fisheries	<input type="checkbox"/> Migration and asylum	<input type="checkbox"/> Public health	<input type="checkbox"/> Regional policy	<input checked="" type="checkbox"/> Research and innovation	<input type="checkbox"/> Single market	<input type="checkbox"/> Sport	<input type="checkbox"/> Statistics	<input type="checkbox"/> Taxation	<input type="checkbox"/> Trade	<input type="checkbox"/> Transport	<input type="checkbox"/> Youth
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Main project	iMagine																																				
Other related projects	N/A																																				
Result Contributors	Entire Consortium																																				
Owners for exploitation	EGI																																				
Tags/ Keywords	Efficiency; AI Adoption; Streamlining; Framework Utilization; Operational Excellence; Practical Insights; Real-world Examples; Acceleration; Hands-on Understanding; Research Enhancement; Application Optimization; Tangible Strategies; Proven Approaches; Workflow Integration; Productivity Boost; Knowledge Enrichment; Transformative Impact; Versatile Toolkit; Innovation Catalyst; Roadmap.																																				

Stakeholders and Users

Target User Group and Benefits	User Group	Benefits
	Researchers in Aquatic Sciences	Access to best practices guides facilitates the adoption of AI and streamlines the setup of image processing workflows, enhancing research efficiency and accuracy.
	Data Scientists and AI Practitioners	Guidance on making optimal use of the iMagine framework and platform accelerates the development, training, and deployment of AI models for image analysis, leading to more robust and accurate results.
What type of customers/ users do you have?	<input checked="" type="checkbox"/> Individuals <input checked="" type="checkbox"/> SMEs <input checked="" type="checkbox"/> Big corporations <input checked="" type="checkbox"/> Academia <input checked="" type="checkbox"/> R&T organisations <input type="checkbox"/> Public Institutions and Authorities <input type="checkbox"/> Governments <input type="checkbox"/> Commerce <input checked="" type="checkbox"/> Manufacturers	

Are you targeting geographical markets?	<input checked="" type="checkbox"/> Global <input type="checkbox"/> Europe <input type="checkbox"/> Asia <input type="checkbox"/> North America <input type="checkbox"/> South America <input type="checkbox"/> Middle-East <input type="checkbox"/> Africa <input type="checkbox"/> Oceania <input type="checkbox"/> <Individual Countries> (Mention here)																																				
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<input type="checkbox"/> Sport	<input type="checkbox"/> Statistics	<input type="checkbox"/> Taxation	<input type="checkbox"/> Trade	<input type="checkbox"/> Transport	<input type="checkbox"/> Youth																																
Message/ Teaser to the potential user (1000 characters)	Unlock the secret to seamless AI integration with iImagine's Best Practice repository. Propel your projects forward with proven strategies, practical insights, and real-world examples. Navigate AI complexities effortlessly and elevate your research, armed with a versatile toolkit designed to accelerate innovation. Explore the future of aquatic sciences and beyond, guided by the expertise of iImagine's Best Practices.																																				
Do you already have customers for this result?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No																																				
Number of existing customers	<input type="checkbox"/> 1-5 <input type="checkbox"/> 6-30 <input type="checkbox"/> 31-50 <input type="checkbox"/> 51-100 <input type="checkbox"/> 101-500 <input type="checkbox"/> 501-1000 <input checked="" type="checkbox"/> >1000																																				
Other Stakeholders and Benefits	N/A																																				

Target Audience and Needs