



POLICY BRIEF COMMON TEMPLATE

RESEARCH INFRASTRUCTURES

INTRODUCTION: PROJECT TITLE AND PROJECT OBJECTIVES

CALL: [HORIZON-INFRA-2021-SERV-01](#)

TOPIC: [HORIZON-INFRA-2021-SERV-01-06](#)

PROJECT: [iMagine](https://www.imagine-ai.eu/). <https://www.imagine-ai.eu/>.

PROJECT OBJECTIVES:

1. Deliver a scalable, shared IT platform for image analysis in marine and freshwater research
2. Advance existing image analytical services to increase research performance in aquatic sciences
3. Develop prototype new image analytical services and datasets that can accelerate progress towards healthy oceans, seas, coastal and inland waters
4. Capture and disseminate development and operational best practices to imaging data and image analysis service providers
5. Deliver a portfolio of scientific image and image analytics services targeting researchers in marine and aquatic sciences

Name and email address of the operational project coordinator.

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POLICY IMPLICATIONS AND RECOMMENDATIONS

- **Implementation of research infrastructures.**
Key Results: [iMagine AI Platform](#), [8 internal + 3 External AI-based image services](#), [Volumes of data and Best Practices for AI development](#).
How: The results of the project will contribute towards implementations of the related RIs¹ to enable them to make these resources and services available to research communities and beyond to conduct research and foster innovation.
Recommendations: Need for EU support for sustained funding for long-term operational capacities of these services and incentivising innovation in AI techniques for aquatic sciences.
- **Access to research infrastructures.**
Key Results: [iMagine AI Platform service](#), [5 mature internal AI-based services](#), [Volumes of data](#).
How: The services will be made accessible using Virtual Access and through EOSC and AI4EU for a much wider group of researchers. The services will also provide open access to existing image repositories. The data repositories will also be made

¹ These are: Antares, Copernicus Marine Service, EMBRC, EMODnet, EMSO ERIC, EuroArgo, JERICO RI, LifeWatch, OBSEA, Observatoire Oceanologique, PAP, SeaDataNet

discoverable in the EOSC and AI4EU Marketplaces, and image sets will be searchable by metadata through the cataloguing systems.

Recommendations: Maintain and evolve further the Virtual Access funding mechanism to facilitate cross-national uptake of digital services that cannot be replicated in multiple countries and need to be delivered outside their prime user communities.

- Funding of research infrastructures.

Key Results: 8 internal + 3 External AI-based image services, Volumes of data, and Best Practices for AI development.

How: The services and best practices combined will enhance the efficiency and effectiveness of AI-driven research processes within the related RIs. More importantly, the use of AI will significantly speed up the processes and reduce manual involvement, freeing up the researchers to focus on actual research. All this will have a positive impact on the funding model and mechanisms for the RIs as it will create new opportunities and new avenues for funding.

Recommendations: EC to participate in the promotion of HE R&D project outcomes towards RIs, encouraging them to integrate these outcomes within their core service portfolios and consequently secure sustainable funding for the operation and maintenance.

- International cooperation of research infrastructures.

Key Results: Competence Centre for AI-based image analysis to support the uptake of AI approaches in aquatic sciences and publishing FAIR AI models and data.

How: The Competence Centre operates as a distributed, virtual team that pools expertise across the RIs and technological institutes active in the field. Regular video calls and annual f2f meetings.

Recommendations: EC to promote the uptake of services, data and best practices in international venues such as relevant conferences, supporting or co-locating the organisation of training and workshops where possible.

- Employment and skills in research infrastructures.

Key Results: Training, Webinars, Competence Center, Best Practices

How: Through the Competence Center, the project enables both internal and external use cases to develop AI-based image services. The experience from this will be documented and made available to an even wider group through the Best Practice documentation. This will be complemented by a myriad of training and webinars which will also be openly available. Furthermore, the service providers within the project will also be trained in the FitSM methodology, allowing them to better serve the users.

Recommendations: Prioritise training RI personnel in essential skills like AI, data science, engineering, and management to prepare for digital transformation.

- Greening of research infrastructures.

How: Though no direct results contribute towards this, the underlying infrastructure will benefit from the results of the Greener Future Digital Research Infrastructures (GreenDIGIT) project.

Recommendations: NA.

- Interaction of research infrastructures with industry.

Key Results: Marine Ecosystem Monitoring service at EMSO, ZooProcess Service, Oil Spill Detection service, Underwater Noise Detection service, Beach Monitoring service.

How: These services will serve the industry as one of their key users as some segments of the industry will have a vested interest in the results from the analysis of these services. These services can usher in new policies governing the related industries.

Recommendations: Support dissemination actions targeting relevant industries with a multi-channel approach.

- ERIC legal framework.
Not Applicable
- Technology development, data and digital services, digitalisation.
Key Results: iImagine AI Platform, 8 internal + 3 External AI-based image services and Best Practices for AI development.
How: Co-designing and co-developing services with the involvement of RIs, e-infrastructures and AI experts.
Recommendations: Continue the support of R&D calls that encourage the co-development of new services and service prototypes across multiple groups of stakeholders on the RI, e-infrastructure landscape.
- Level of connection of your RI to EOSC.
Key Results: All results including services, deliverables and publications.
How: All of the project's results will be made available through Zenodo and the EOSC EU Node Resource Hub. The iImagine AI Platform has been onboarded as a service in the EOSC EU Node Resource Hub² of EOSC-Future. iImagine datasets have been published in Zenodo³. Zenodo and EOSC act as both a dissemination and an exploitation channel providing an additional avenue for attracting users but also for the cross-fertilisation and sharing of knowledge across domains.
Recommendations: EOSC is still relatively unknown among researchers so more effort must be taken to communicate and disseminate it. Furthermore, the structure of EOSC (especially with the nodes) may hinder its understanding, so it should be better obscured from the end users.
- Contribution to other research areas and broader EU priorities.
Key Results: Collaboration with projects e.g. ANERIS, BlueCloud under the theme Healthy oceans, seas, coastal and inland waters. Collaboration with Zenodo. Contribution to the Green Deal EU priority on the protection of environment and oceans.
How: Leveraging each other's networks to promote project solutions and widen the impact of the iImagine platform. The selected use cases in iImagine tackle topics such as Pollution, Biodiversity, Climate Change, and Ecosystems, promoting non-invasive monitoring methods to the maximum extent possible. The project is also collaborating with Zenodo to implement a domain-specific metadata schema for its marine sciences-related datasets. This should bolster the EU's open science policy by making the data available in a FAIR manner.
Recommendations: To follow in future.
- Sustainability of research infrastructures.
Key Results: Business Model Analysis and Sustainability Outlook

² https://open-science-cloud.ec.europa.eu/resources/services/eosc.ifca-csic.imagine_platform

³ https://zenodo.org/communities/imagine-project/records?q=&f=resource_type%3Adataset&l=list&p=1&s=10&sort=newest

How: The project will organise multiple Business Model sessions with all the mature use cases. The project will also devise a sustainability plan for the various results developed by the project. The core sustainability pathway for the imaging services lies in integrating them into the portfolio of the Research Infrastructures related to the services.

Recommendations: To follow in future.
