

# iImagine: an AI platform supporting aquatic science use cases

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Aquatic ecosystems are vital in regulating climate and providing resources, but they face threats from global change and local stressors. Understanding their dynamics is crucial for sustainable use and conservation. The iImagine AI Platform offers a suite of AI-powered image analysis tools for researchers in aquatic sciences, facilitating a better understanding of scientific phenomena and applying AI and ML for processing image data. The platform supports the entire machine learning cycle, from model development to deployment, leveraging data from underwater platforms, webcams, microscopes, drones, and satellites, and utilising distributed resources across Europe. With a serverless architecture and DevOps approach, it enables easy sharing and deployment of AI models. Four providers within the pan-European EGI federation power the platform, offering substantial computational resources for image processing.

Five use cases focus on image analytics services, which will be available to external researchers through Virtual Access. Additionally, three new use cases are developing AI-based image processing services, and two external use cases are kickstarting through recent Open Calls. The iImagine Competence Centre aids use case teams in model development and deployment. The talk will provide an overview of the development status of the use cases and offer insights on the platform.

## Topic

Needs and solutions in scientific computing: Artificial Intelligence

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**Session Classification:** Processing Research Data with Artificial Intelligence and Machine Learning