Pacific Geospatial Conference 2022

The use of Digital Platform for Marine Spatial Planning: the TAHATAI project in French Polynesia.

Pascal CORREIA, Head of GIS and control at Marine Resources office French Polynesia
Rémi ANDREOLI, Chief Operating Officer, BLUECHAM SAS

TAHATAI PROJECT

OBJECTIVES

Better plan concurrent uses of French Polynesia Marine Domain to preserv biodiversity and blue economy

See the past, present and futur

- Valorizing historical knowledge
- Connecting users to modern space resources
- Data analysis for spatial marine planning
- Continuous monitoring

https://linkedin.com/showcase/qehnelo

TAHATAI PROJECT

OBJECTIVES

https://linkedin.com/showcase/qehnelo

TAHATAI PROJECT

PARTNERS and TEAM

Rémi Andreoli

Chef de projet

Télédétection

Morgane Devaud

Gestion de projet

Arthur Espinosa

Data Scientist

Pascal Correia

Direction des Ressources Marines

Responsable SIG et contrôles

Vetea Leiao

Direction des Ressources Marines

Chargé de projets Qualité des milieux perlicoles

IRD – ANR Sea Mount

CSIRO - eQOD

Quintesens Pty Ltd

https://linkedin.com/showcase/qehnelo

TAHATAI PROJECT

LABELLED BY THE SPACE CLIMATE OBSERVATORY

SCO SPACE FOR CLIMATE OBSERVATORY | ABOUT SCO | PROJECTS | NEWS | SCO RESSOURCES | CONTACT | EN

Topics

Sustainable Development Goals

Date of acceptance
March 2021

Location
French Polynesia

Steering
SCO France

Duration
18 months

Share on

TAHATAI Polynesia

[fr]

TAHATAI aims to develop, implement, automate, operate and replicate on a Pacific scale, online digital resources (satellite data, apps, expertise, indicators), useful for the governance of the coastal zone. These resources will be integrated within a new generation digital platform, called "horizontal".

OVERVIEW

The Polynesian coastal zone is the privileged place of exchanges between the terrestrial and maritime parts, where numerous uses converge. **Particularly vulnerable to climatic hazards** due to its proximity to the sea, **this complex interface requires a horizontal, integrated and evolutionary approach to all the issues**.

Within the framework of the French Polynesian Government's global "Marine Spatial Planning" program, **TAHATAI's objective is to develop, implement, automate, operate, and replicate on a Pacific scale, new digital resources useful for the governance of the coastal zone. These new digital resources result from the convergence of a bundle of information from space, local databases, field knowledge and intuitive interfaces**. Intended for decision makers in French Polynesia, they will allow a better understanding of the evolution of current phenomena related to climate change and the anticipation of risks in the area of use. **The approach, based on cognitics (automation of knowledge processing) and interoperability, is designed to be replicable and operable at a lower cost** on all Polynesian archipelagos, and then on all Pacific states.

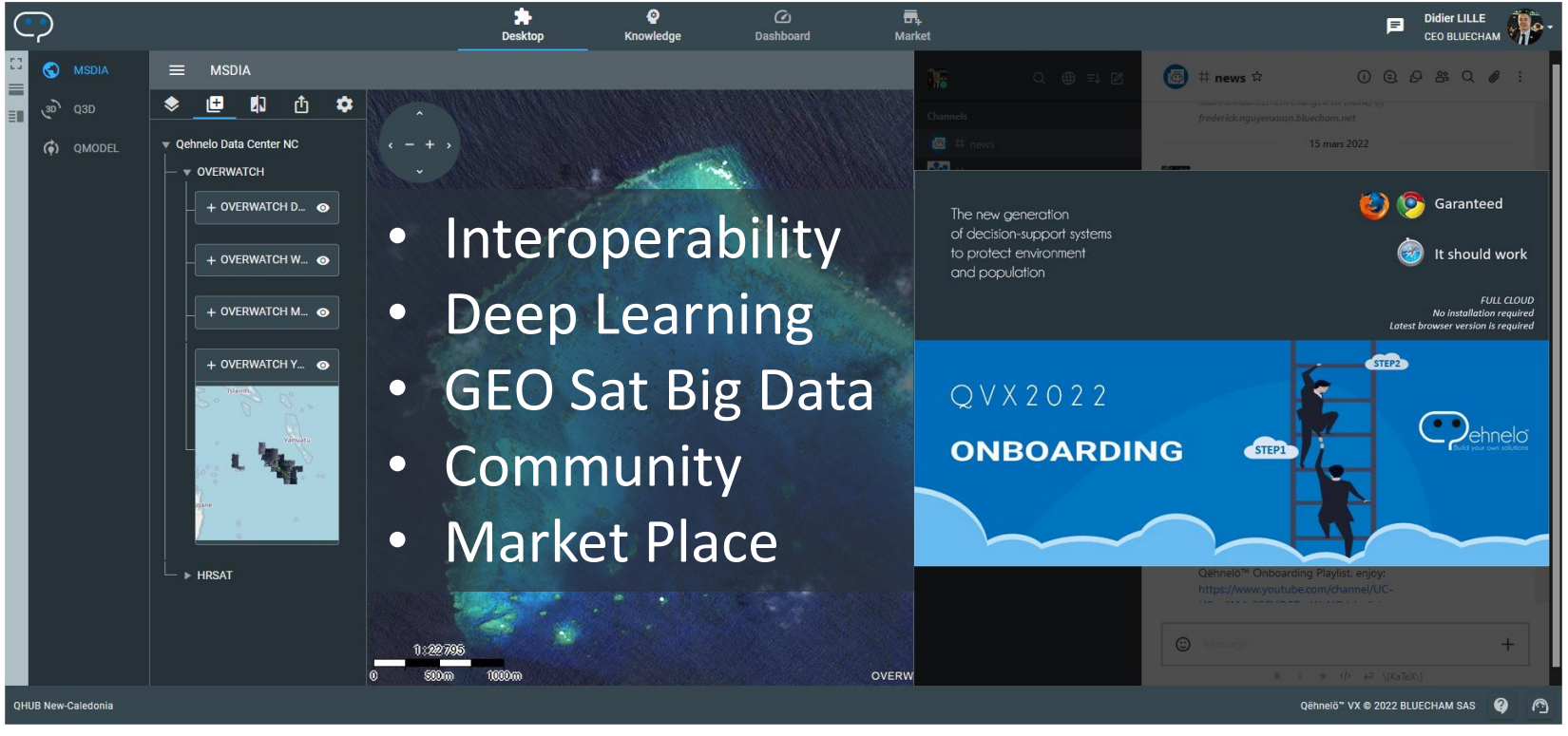
Visual Tahatai © DRM - Gouvernement de la Polynésie Française et BLUECHAM SAS

SCO
SPACE FOR CLIMATE OBSERVATORY

https://linkedin.com/showcase/qehnelo

THE NEW GENERATION OF DECISION-SUPPORT SYSTEMS

SMART Digital Platforms to adress complex issues



https://linkedin.com/showcase/qehnelo

GEO Satellite Big Data

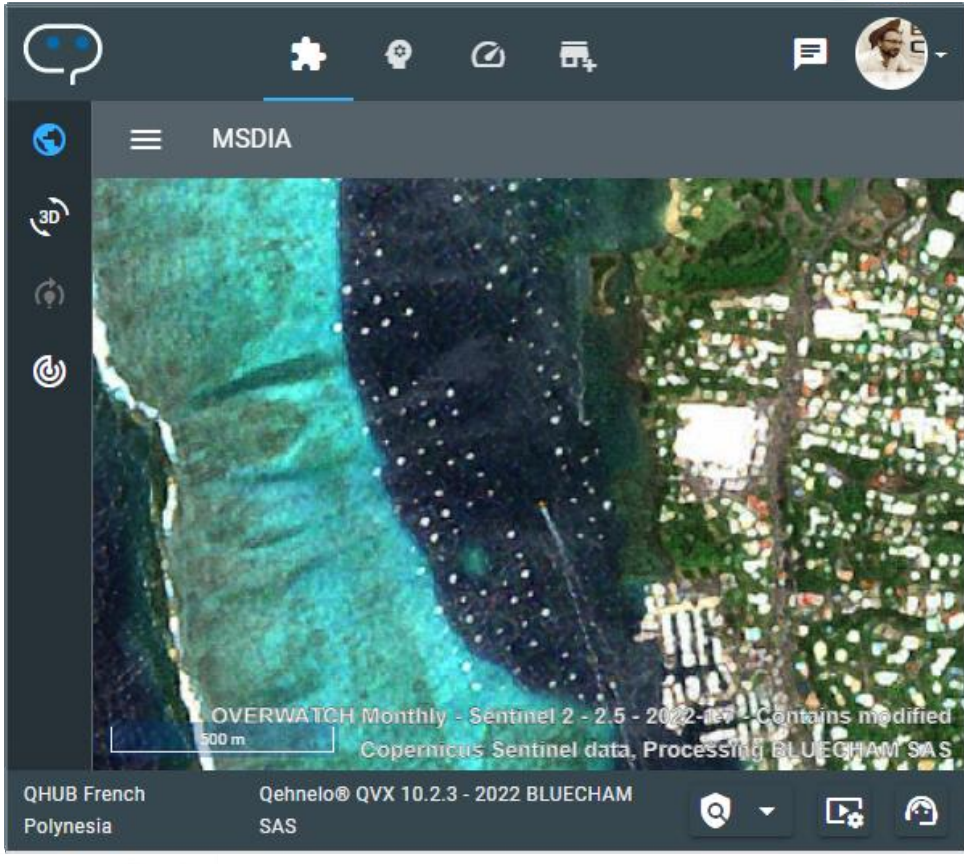
Most Advanced and up-to-date Data access

OVERWATCH Series

Sentinel-2 **High Defintion @2.5m**

- Daily takes
- Weekly coverages
- Monthly less cloudy Coverages
- Yearly less cloudy Coverage

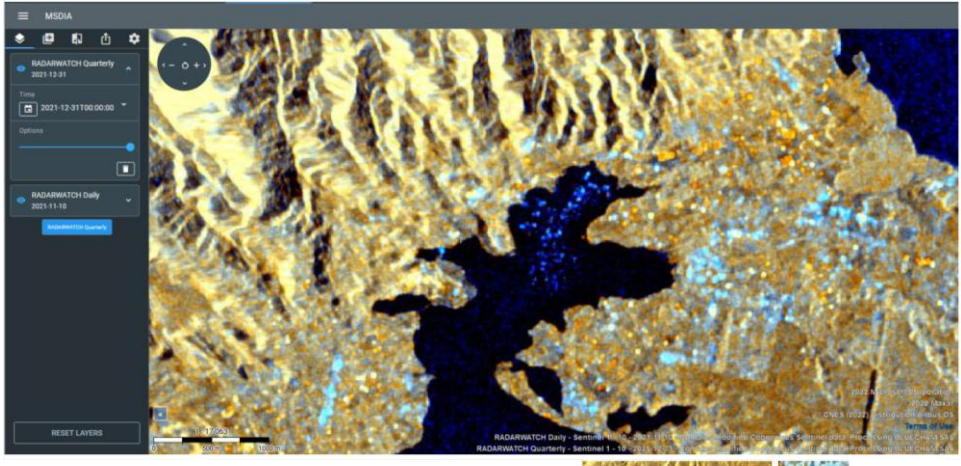
Ready-to-use spatial and temporal **DataCube**



https://linkedin.com/showcase/qehnelo

GEO Satellite Big Data

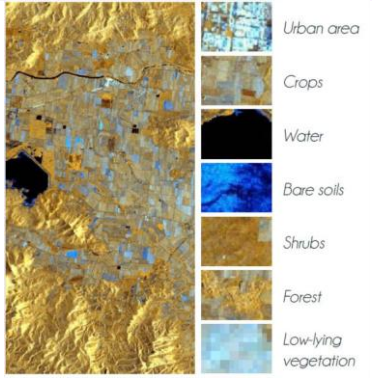
Most Advanced and up-to-date Data access



RADARWATCH Series

Sentinel-1 **Polarimetric view**

- Daily takes
- Quarterly Synthesis



Ready-to-use spatial and temporal **DataCube**

Coastline, land subisdence, human activities at sea

https://linkedin.com/showcase/qehnelo

GEO Satellite Big Data

Most Advanced and up-to-date Data access

Copernicus Atmospheric Monitoring Services

Climate change, Atmospheric conditions

- T°, precipitation, cyclones
- Polluants

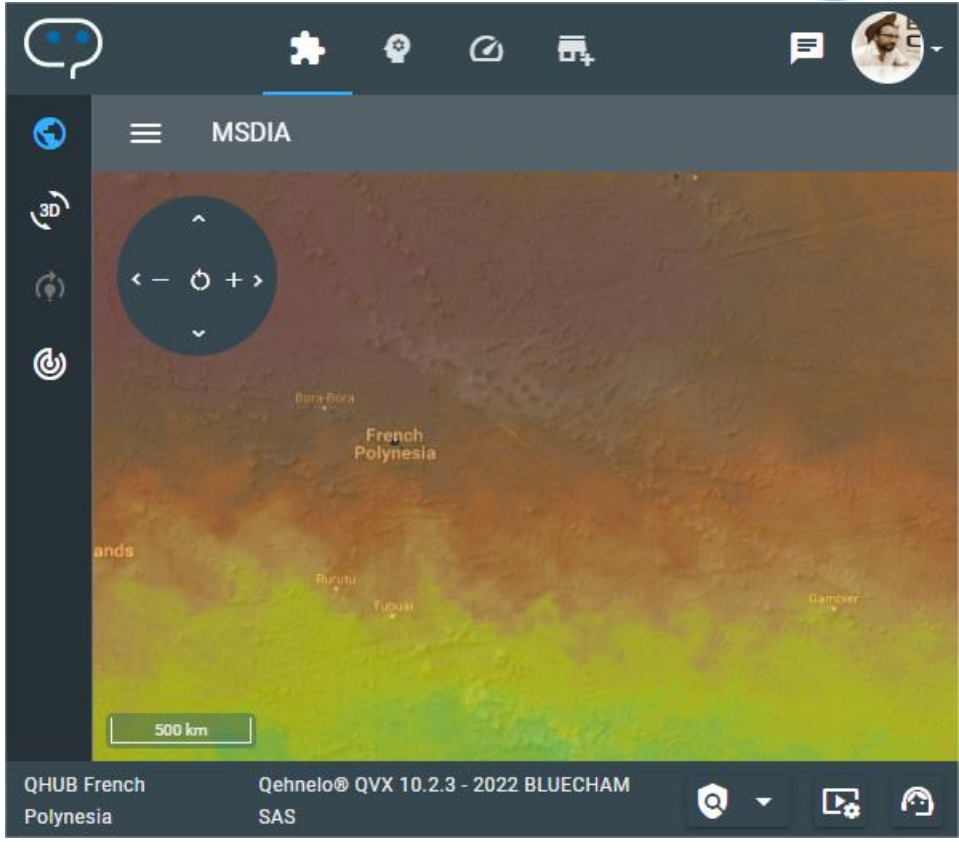
Copernicus Marine Services

Marine physics

- Currents, waves
- Chla, biochemistry

Ready-to-use spatial and temporal **DataCube**

Past, present and predictions



https://linkedin.com/showcase/qehnelo

GEO Satellite Big Data

Most Advanced and up-to-date Data access

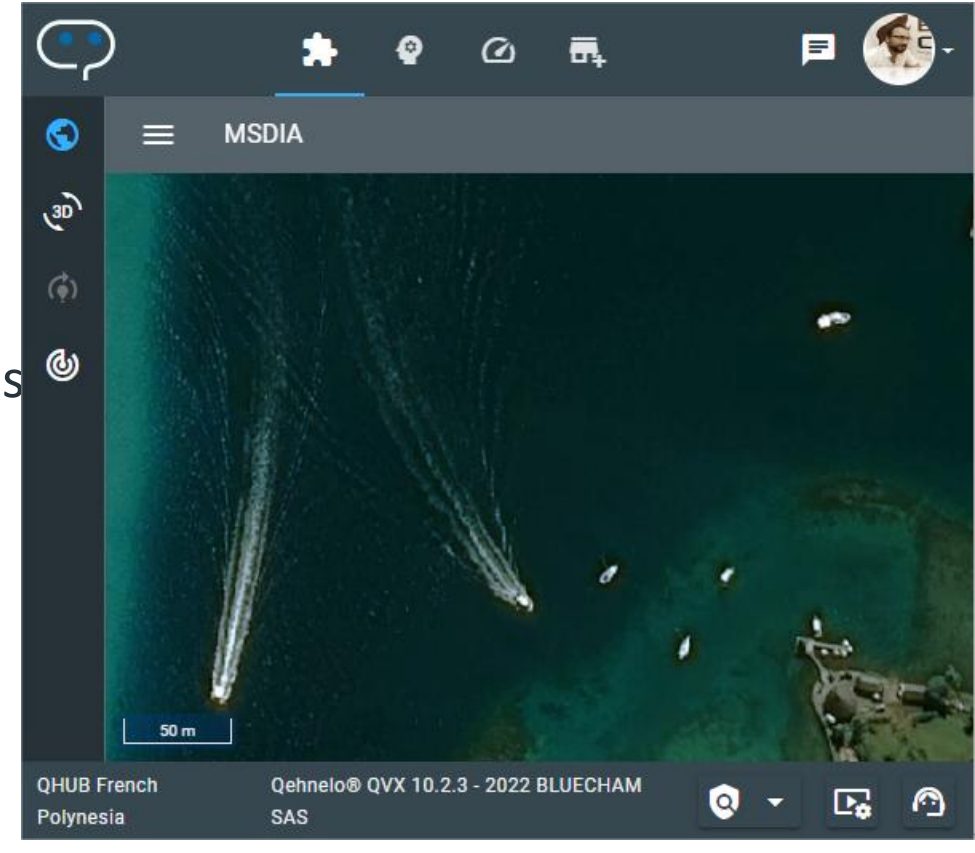
DRM DataCube

Imagery and value added products

- Pléiades 70cm UIA
  (© CNES, Distribution Airbus-DS)
- Analytics
- 1 TB hot cloud storage and access

Ready-to-use spatial and temporal **DataCube**

Self-produced data
Interoperability with QVX content



https://linkedin.com/showcase/qehnelo

GEO Satellite Big Data

Most Advanced and up-to-date Data access

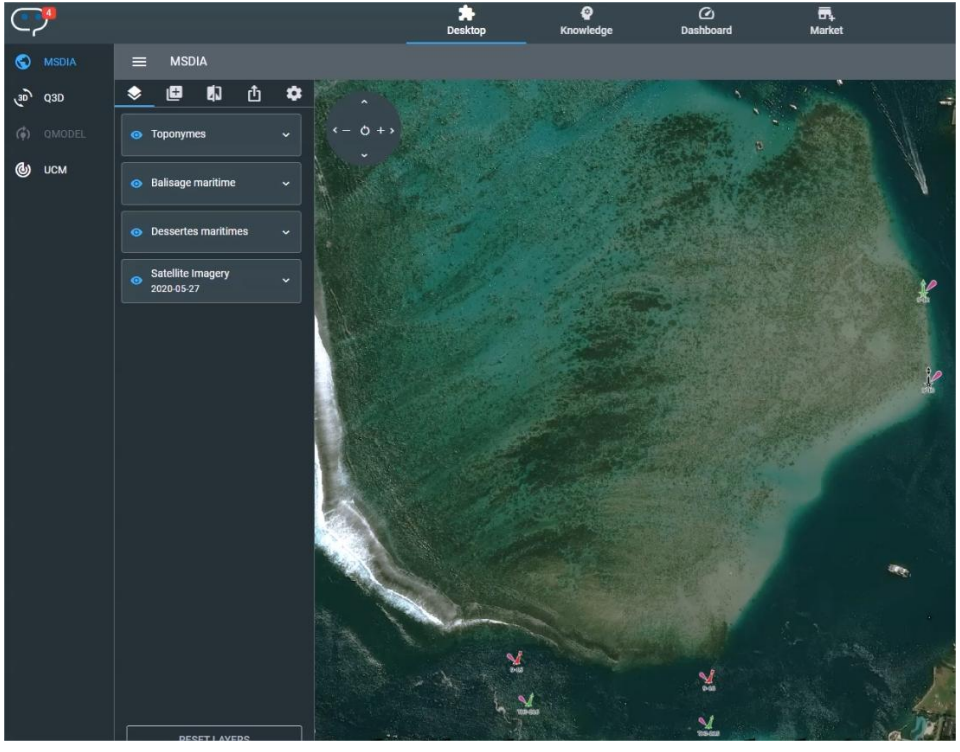
Third parties providers

Imagery and value added products

- MAXAR SecureWatch
- DRM GIS Data portal

One access to scattered resources

Interoperability with QVX content

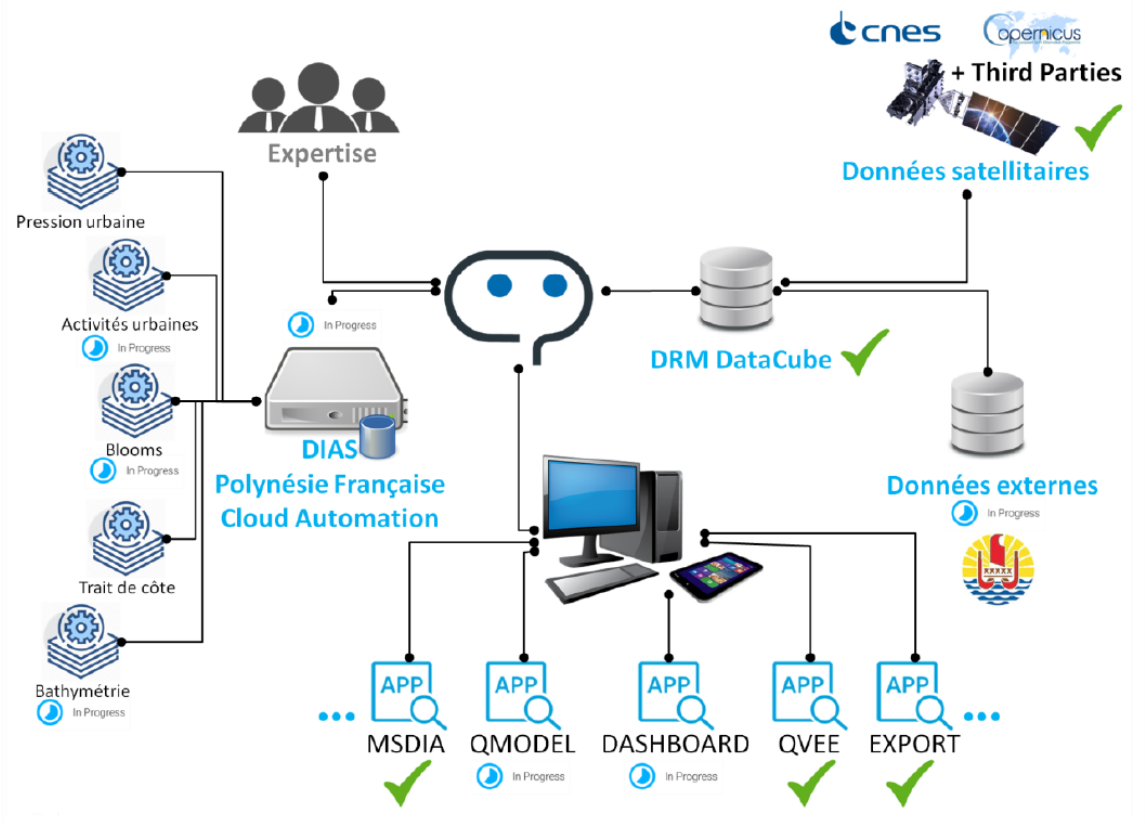


https://linkedin.com/showcase/qehnelo

QEHNELO Plateform

Within TAHATAI Project

Data and Information Access Service
Analysis Ready
View and Download
Communication and Sharing

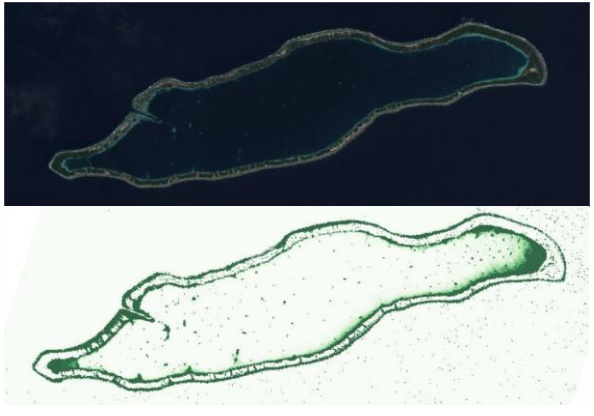


https://linkedin.com/showcase/qehnelo

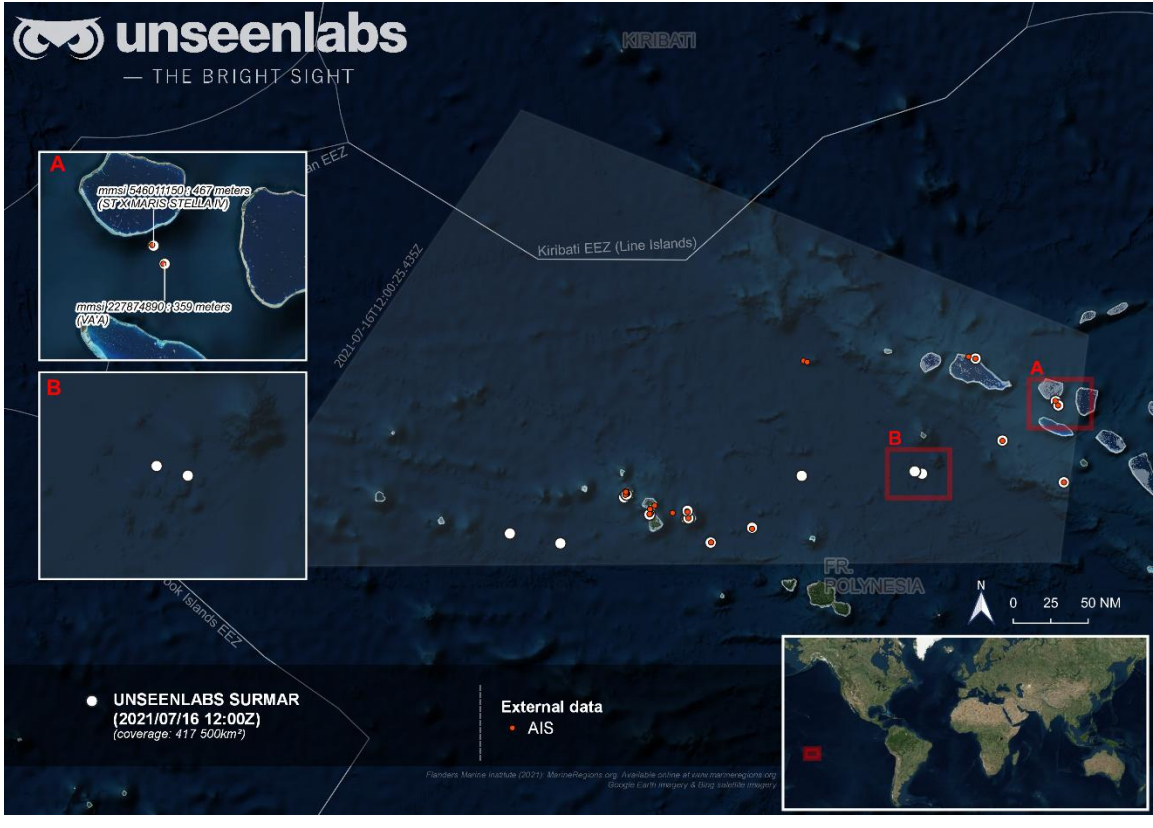
Decision-making dashboard

Data analysis to knowladge and action

- Phytoplakton blooms
- Water quality
- Human activities at sea
- Coastline changes



Takaroa, Tuamotu, Sentinel-2 from 18/12/2019
And derived Chla - C2RCC



https://linkedin.com/showcase/qehnelo

Valorizing data

Usage and Modelling

Sentinel-2 10m

OVERWATCH
Sentinel-2 HD
@2.5m

- ✓ **Photo-interpretation and Digitaizing**
- ✓ **AI model training**
- ✓ **AI model results**

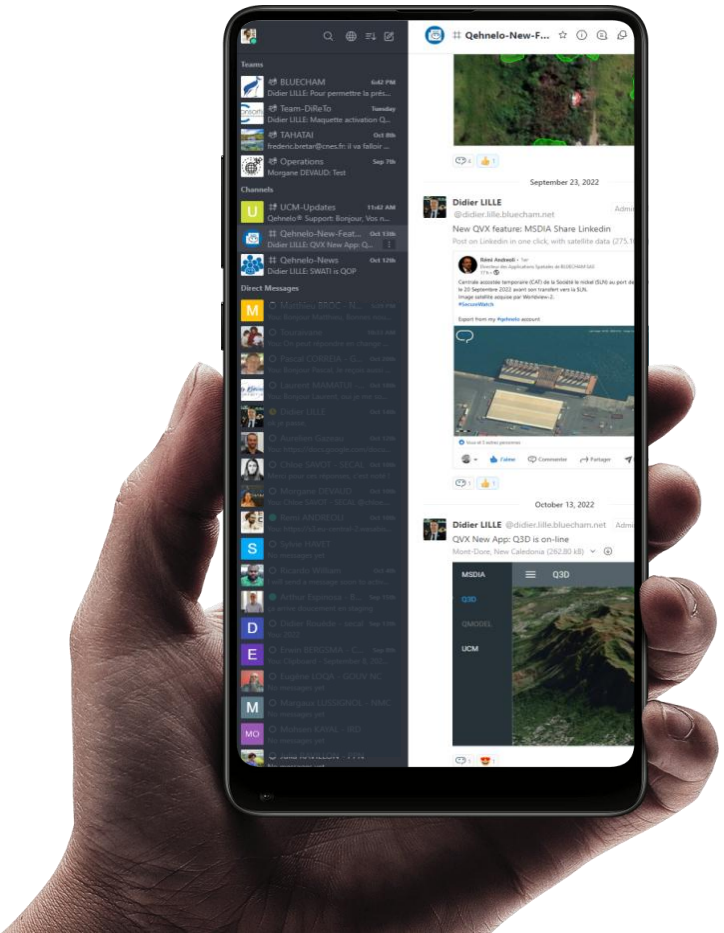
Sentinel-2 10m

OVERWATCH
Sentinel-2 HD
@2.5m

https://linkedin.com/showcase/qehnelo

Operational results

Communication, knowladge sharing and capacity building



- Community of users
- Experts
- Communication and sharing tools

https://linkedin.com/showcase/qehnelo

Capacity building

Tutorials and know-how videos

ONBOARDING STEP1: 1 - EARTH OBSERVATION FOR EVERYONE

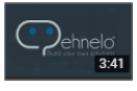
More than 1000 Earth-Observation satellites currently monitor the Earth. Lands, seas, the atmsophere are scrutinised every day. And you, do you benefit from Earth Observation satellites?

ONBOARDING STEP1: 2 - BE INFORMED OF NEW OVERWATCH CALCULATION

This short video explains you where to find notifications and how to navigate from the notification to the use of the notified resources.

ONBOARDING STEP1: 3 - COMPARE YOUR LANDSCAPE BETWEEN TWO SPECIFIC DATES

Earth is changing, faster than we percieve the changes. Observing the Earth from space is an incredible solution to easily and quickly detect changes and understand how our landscapes are evolving.

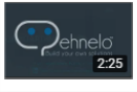


ONBOARDING STEP1: 4 - EXPORT YOUR LANDSCAPE SELECTION FOR GIS, REPORT OR COMMUNICATION

This video explains how to export data from your QHUB to your GIS software or presentation documents and reports

ONBOARDING STEP2: 1 - EARTH OBSERVATION SAR EASY ACCESS

SAR satellites generate their own source of energy to illuminate the Earth and create cloud-free, day and night measurments of the Earth Surface.

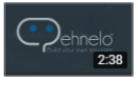


ONBOARDING STEP2: 2 - VIEW THROUGH THE CLOUDS TO MONITOR LANDSCAPES

Find where RADARWATCH notifications are sent and the differences between RADARWATCH and OVERWATCH

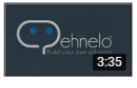
ONBOARDING STEP 2: 3 - USE SAR INFORMATION WITH RADARWATCH DAILY

Learn how to use, understand and exploit SAR signals to monitor landscapes



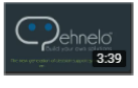
ONBOARDING STEP 2: 4 - USE SAR INFORMATION WITH RADARWATCH SYNTHESIS

Learn how to use, understand and exploit SAR signals to monitor landscapes



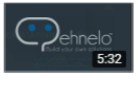
ONBOARDING STEP 2: 5 - DETECT AND ASSESS CHANGES IN COMPARING 2 RADARWATCH DATA

Detect and understand sudden or persistent changes using RADARWATCH products.



ONBOARDING STEP3: ACCESSING TIMELY AND ACTIONABLEINFORMATION FROM COPERNICUS

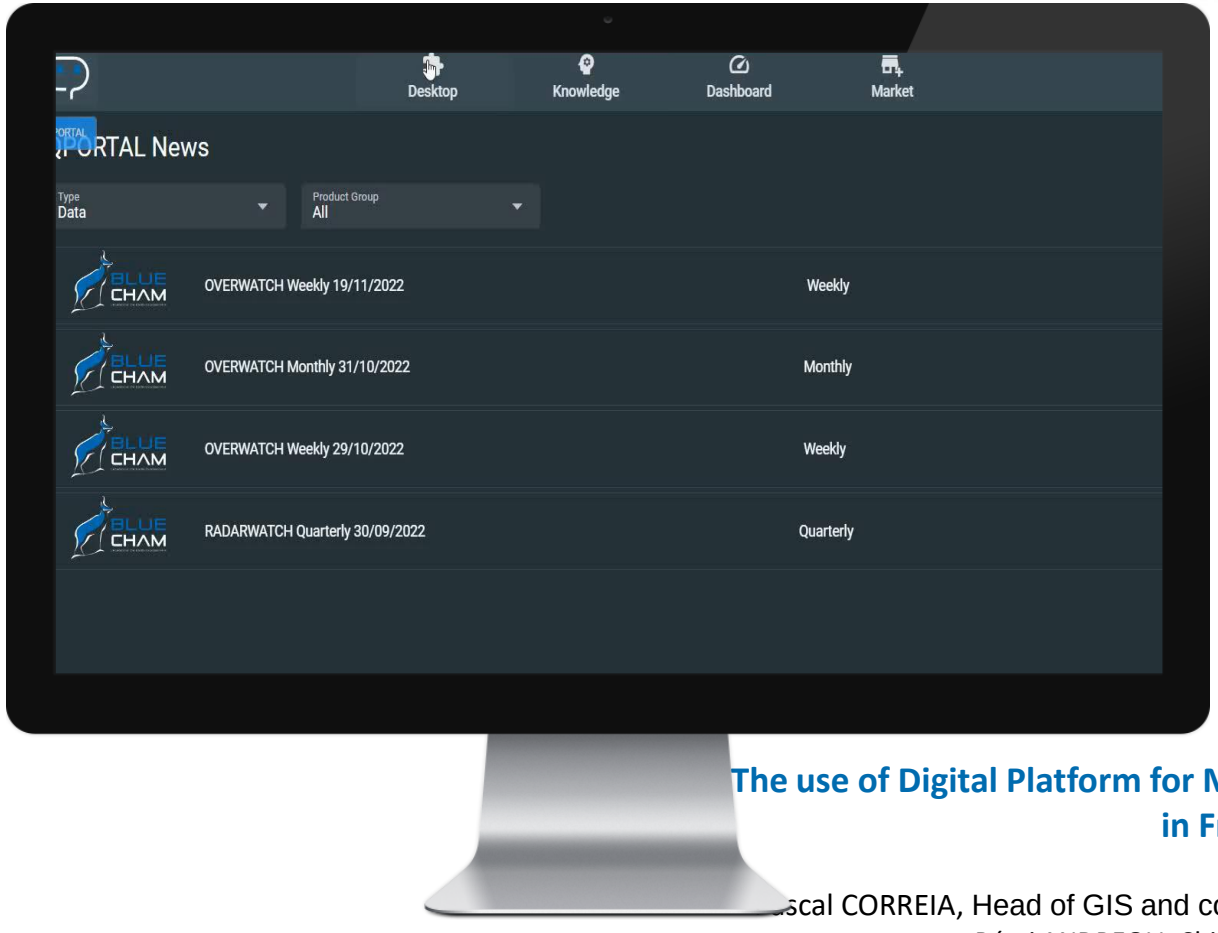
Discover how to benefit from Copernicus data, models and services in Qehnelo QVX.



ONBOARDING STEP4: Enhance the collaboration within and between teams

You can collaborate regionally and create work groups to communicate. In this video, you'll learn how to join everyone online, get the news, chat with the support team. And you will discover how to create your own work group in QVEE and collaborate with Qehnelo member's on your project.

https://linkedin.com/showcase/qehnelo



Pacific Geospatial Conference 2022

The use of Digital Platform for Marine Spatial Planning: the TAHATAI project in French Polynesia.

…scal CORREIA, Head of GIS and control at Marine Resources office French Polynesia

Rémi ANDREOLI, Chief Operating Officer, BLUECHAM SAS

https://linkedin.com/showcase/qehnelo