



ENVIRO-ACTIONS PILOTE PROJECT

Port zones of Sept-Îles and Saguenay

US National Committee for the Ocean Decade meeting
National Academy of Sciences, Engineering and Medicine
October 8th 2024, Washington, USA

Speakers: Dr. Julie Carrière, eng., executive director
Dr. Elliot Dreujou, scientific director



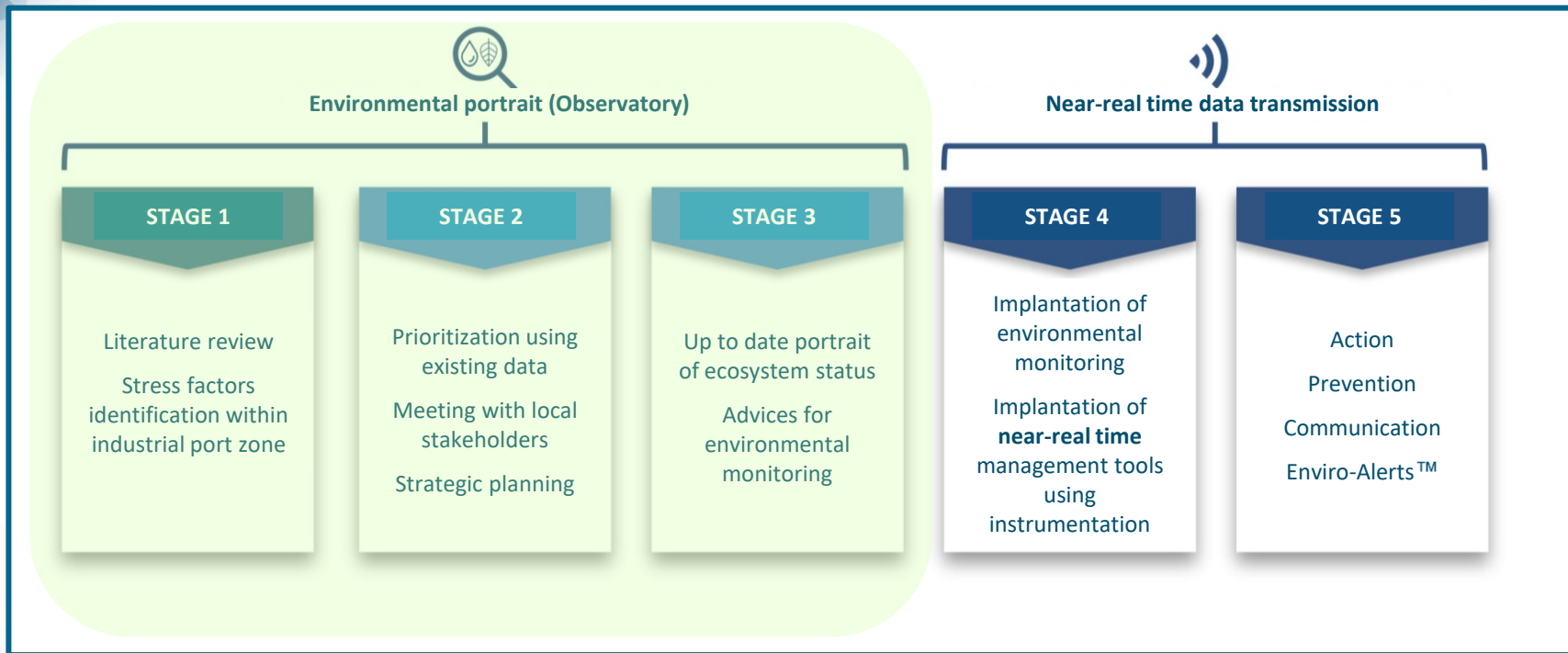
**2021
2030** United Nations Decade
of Ocean Science
for Sustainable Development

Enviro-Actions™ Model

for preventive management of the environment



Enviro-Actions™ Model



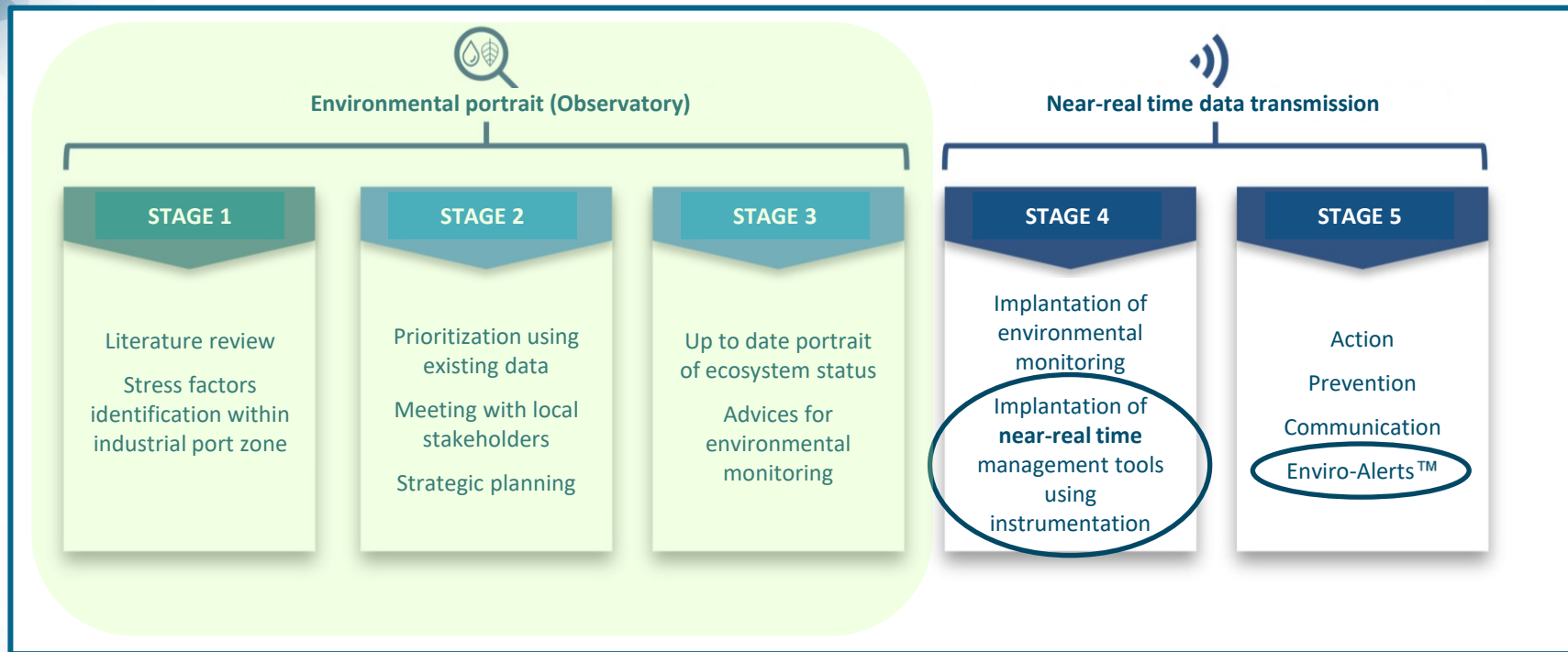
Knowledge integration

All waterfront communities

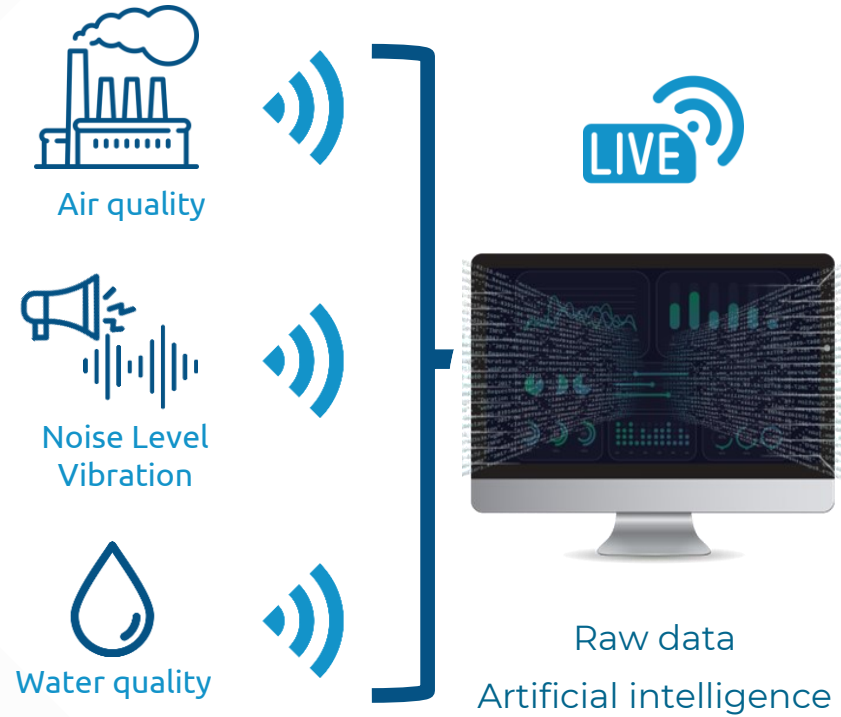
- Involve
- Informe
- To raise awareness
- Knowledge of elders
- Environmental concerns



Enviro-Actions™ Model



Enviro-Alerts™



Enviro-Alerts™



Raw data
Artificial intelligence

Norme /
Regulation



Level 3 Alert



V-P & President

Level 2 Alert



Environment Director

Level 1 Alert



Environmental &
Technician Advisor



Reporting and publication



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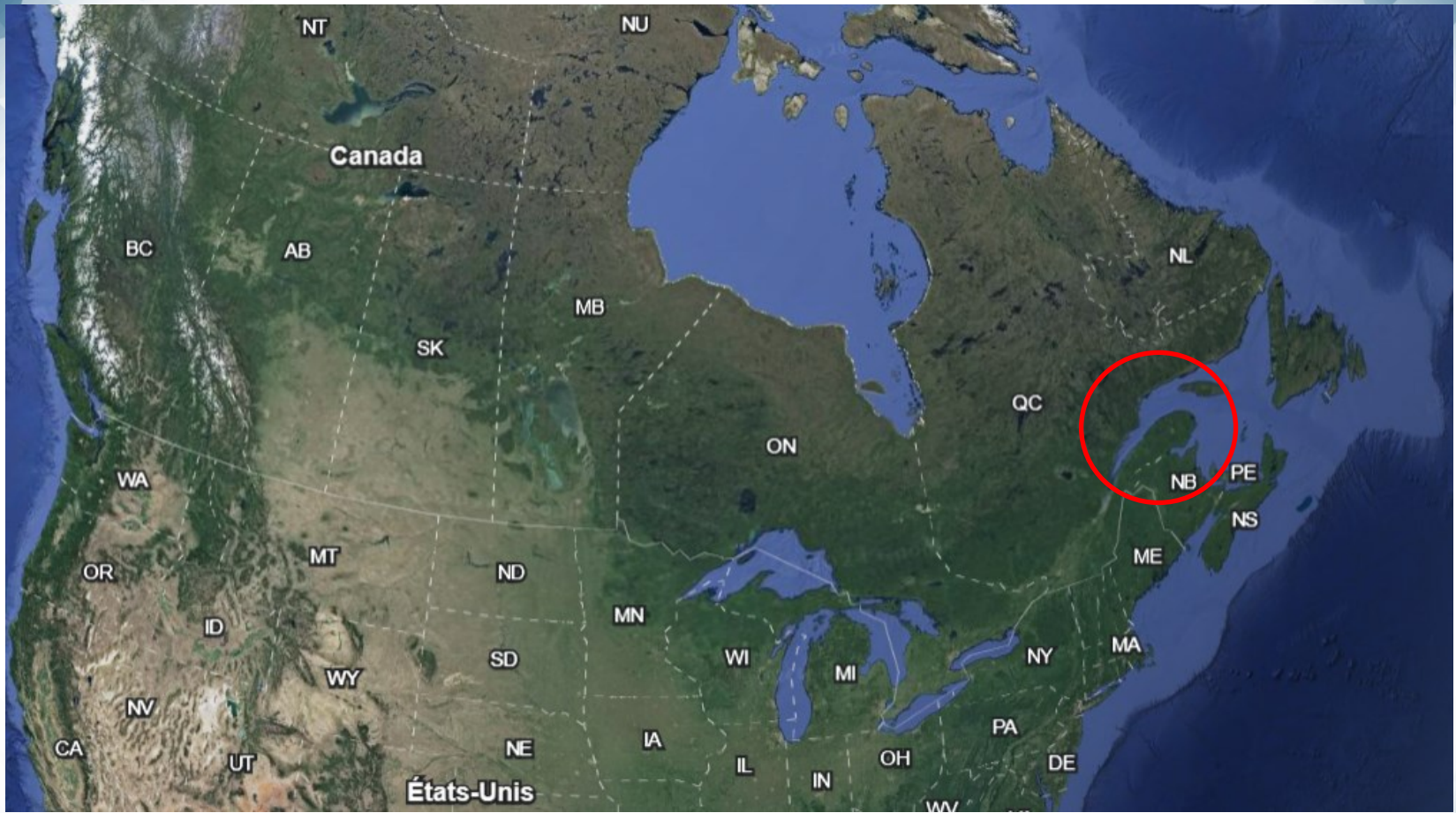
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Gestion environnementale préventive

Un projet reconnu par l'UNESCO







Port of Sept-Îles



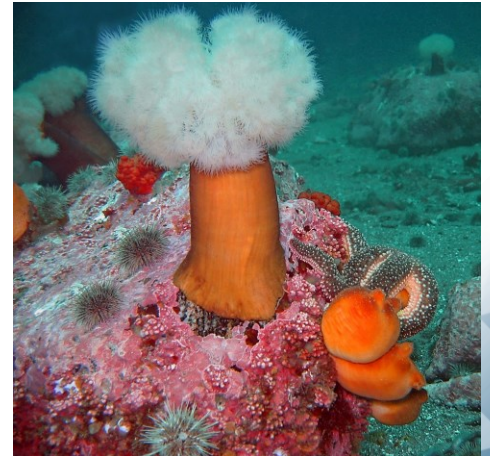
Port of Saguenay and Rio Tinto

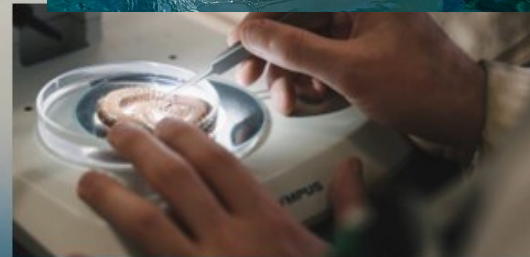


Bay of Sept-Îles



Photos: Claudy Deschênes





Le fjord du Saguenay

Financial partners

Overall investment of 8.42 M \$

Demonstration zone
Port of Sept-Îles



2.5 M \$

Québec 

2 M \$

Validation zone
Port of Saguenay



0.625 M \$

RioTinto

2.67 M \$



0.625 M \$

Québec 

1.64 M \$

The Enviro-Actions pilot project was made possible thanks to the financial support of the Transport Ministry of Quebec as part of Avantage Saint-Laurent, Quebec's new maritime vision.

Objectives

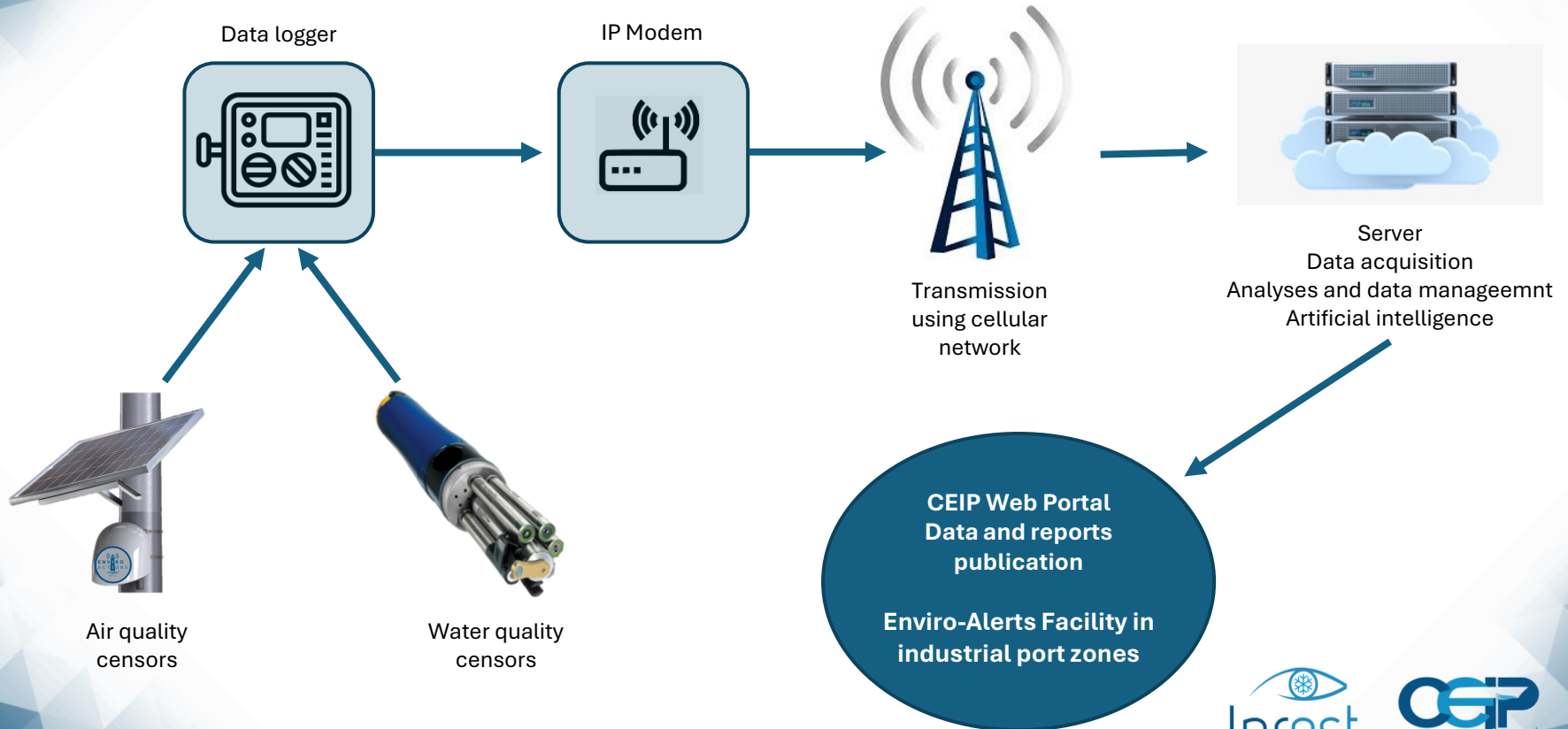


Near real-time tracking
Environmental Alerts
Equipping managers
Credible and up-to-date data
Better understanding of environmental impacts

- ✓ **Water quality**
- ✓ **Air quality**
- ✓ **Underwater noise**



Water quality



Water quality



In situ sensors



Big Data
Artificial intelligence



Enviro-Alerts™

On-site Station in Bay of Sept-Îles



Scientific buoy in Bay of Sept-Îles



On-site Stations at Saguenay



Air quality



In situ sensors

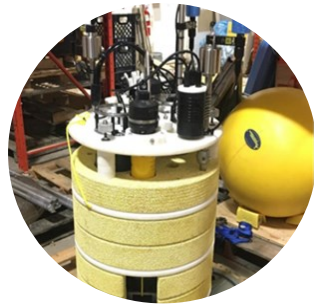


Big Data
Artificial intelligence



Enviro-Alerts™

Underwater noise



Hydrophones



Species present and sound levels



**Ships, anthropogenic activities present
and sound levels**



Enviro-Alerts™

Big Data and Web Portal

A screenshot of a web browser displaying the login page of the Aquarius WebPortal. The browser's address bar shows the URL "invest.aquaticinformatics.net/Account/SignIn". The page has a dark blue header with the text "L'INREST vous souhaite la bienvenue sur le projet Enviro-Actions !!". The main content area is light gray and contains a white box with the title "Connexion". Inside this box, there is a dark blue notification banner stating: "AQUARIUS WebPortal effectuera une maintenance planifiée de 2025-08-18 07:00 pm à 2025-08-19 12:00 am (UTC-04:00)". Below the banner are three input fields: "Nom d'utilisateur", "Mot de passe", and a "Langue" dropdown menu set to "Français". A blue "Connexion" button is positioned below the language dropdown. At the bottom of the white box, there is a link: "Vous avez oublié vos informations de connexion ? Obtenez de l'aide." The browser's taskbar at the bottom shows various application icons and the system clock indicating 11:53 on 2025-08-14.

Data storage

Integration of artificial intelligence

Near real-time management of Enviro-Alerts™





Thank you all

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