Predictive maintenance & infrastructure management

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Developed by :

Fraunhofer IML

Newcastle University

HELLENIC INSTITUTE OF TRANSPORT CERTH / HIT

Project by :

CRISTAL

PREDICTIVE MAINTENANCE & INFRASTRUCTURE MANAGEMENT

Waterborne

Digital Twins, AI and predictive technologies

CRISTAL

Solution description

Digital twin for water infrastructures

This system uses sound and radar sensors to constantly check the condition of lock gates and walls.

It works in real time, meaning it always knows what's happening. If it finds signs of damage or wear, it can warn operators before something serious goes wrong.

This helps prevent unexpected breakdowns, makes maintenance easier to plan, and keeps the locks working safely and efficiently.

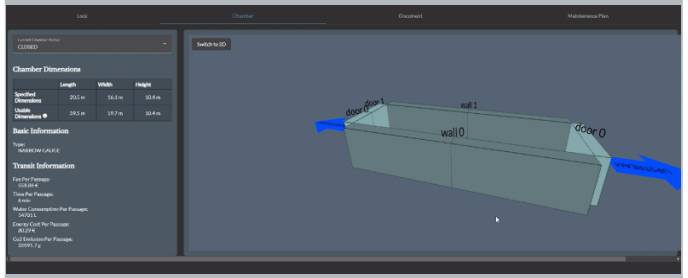
Benefits

- **Early detection** of mechanical and structural issues of water infrastructures
- **Minimizes unplanned downtime** and costly emergency repairs
- **Automated recommendations and alerts** integrated with planning platforms
- Enables **proactive maintenance strategies**

Main beneficiary:

Infrastructures managers

Lock dashboard



Technology readiness level : *6*
Implementation stage : ***Pilot***

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Expected impacts:

- Improved reliability and lifespan of lock infrastructure
- Lower maintenance costs and fewer unexpected closures
- Increases efficiency and resilience of inland waterway logistics

Let‘s get in contact!

Would you like to know more? Take contact :

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