

## Introduction and Objectives

The sea is an extremely aggressive and corrosive environment that adversely affects most materials and coatings significantly.

CTC dedicates a part of its activity to the formulation and testing of coatings designed to increase the life of components in the sea, focusing on protection against corrosion and biofouling. For a realistic test of these new developments, CTC has a real marine exposure site, the Marine Corrosion Test Site (MCTS) “El Bocal”.

The main objective of this facility is to test, study and analyse, under real conditions, coatings and materials used in the marine industry, both in renewable energy devices, as in ships, oil & gas structures, etc.

The MCTS “El Bocal” has been developed by CTC in collaboration with the Spanish Institute of Oceanography (IEO).

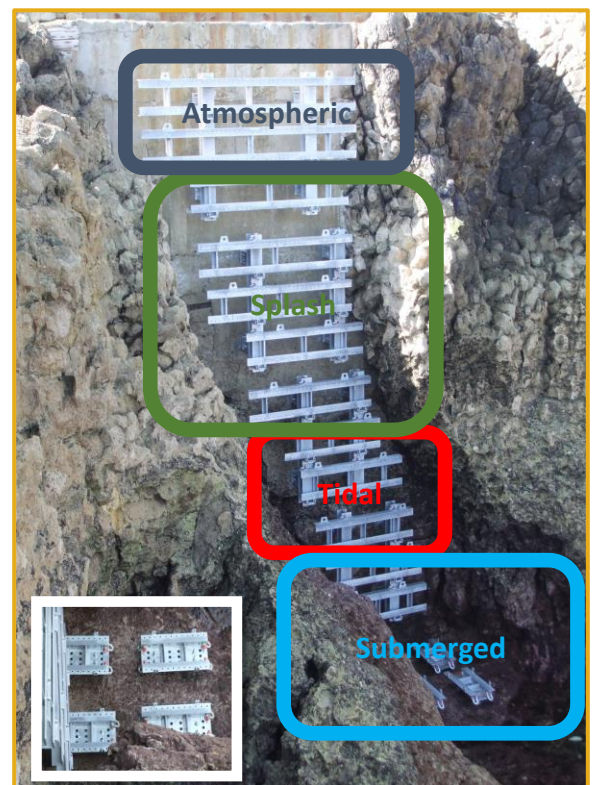
## Location and Exposure Areas

The MCTS “El Bocal” is on the coast of Cantabria (Spain), in the open sea, a few kilometres from the city of Santander, in the facilities of the Aquaculture Research Plant of the Spanish Institute of Oceanography (Instituto Español de Oceanografía, IEO). It is conveniently located and easily accessible for testing and follow-up activities.

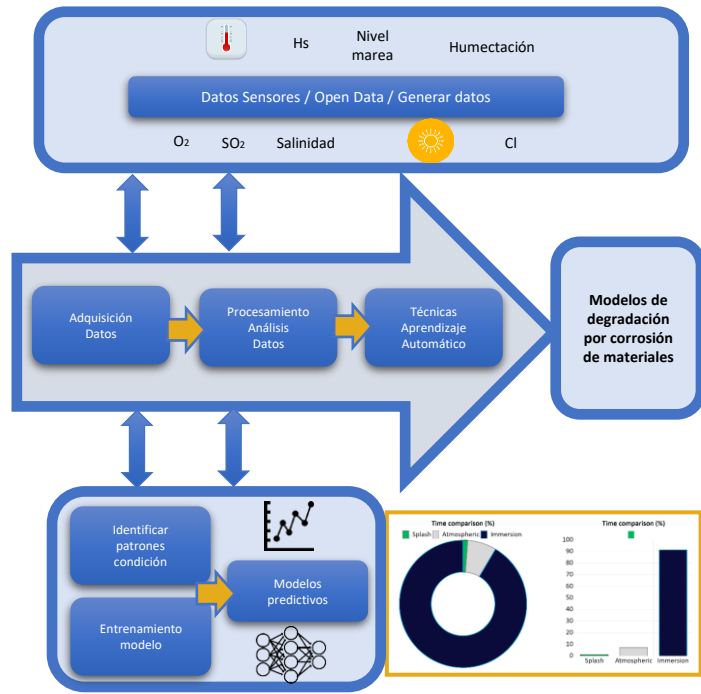
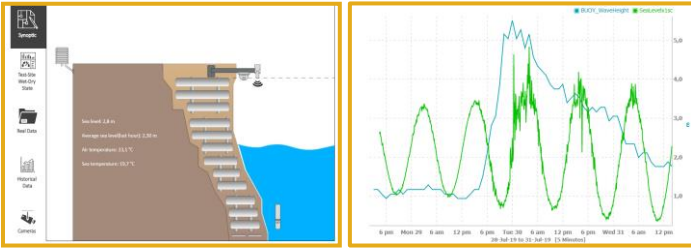
The effects of four marine corrosion environments (C5M according to ISO 9223) can be studied at the MCTS “El Bocal”: submerged, tidal, splashing and atmospheric. Thus, a wide range of corrosion and biofouling environments are covered.

Besides, the MCTS El Bocal, CTC has three other sites to study the effects of corrosion in a real marine environment:

- Atmospheric marine environment 80 m from the coast
- Marine and river environment
- Offshore buoy 22 miles off the coast



CTC has developed an SW Tool to visualise instantaneous and historical data of the parameters measured by the sensors through a web platform.



## Services and Support

CTC has a fully equipped Corrosion Laboratory available at its headquarters. The technological and scientific support offered by CTC in mitigating its effects provides companies added value.

A wide range of specimens can be tested and studied. Typical sample dimensions are 150x80mm, although other sizes can, by all means, be considered.

Parts of other components such as fishing nets, steel cables, concrete, offshore chains, materials for aquaculture cages, etc. can also be placed and studied.

CTC offers these services:

- Analysis of the influence of the offshore environment on materials and degradation processes.
- Determination of corrosion rates.
- Influence of biofouling and induced microbiological corrosion.
- Testing of anti-fouling coatings and corrosion protection systems.
- Validation of results obtained in the laboratory (e.g. salt spray chamber, UV chamber, etc.)
- Transport and installation of samples at the MCTS "El Bocal".
- Visual inspection and review of the condition of the samples at set intervals.

