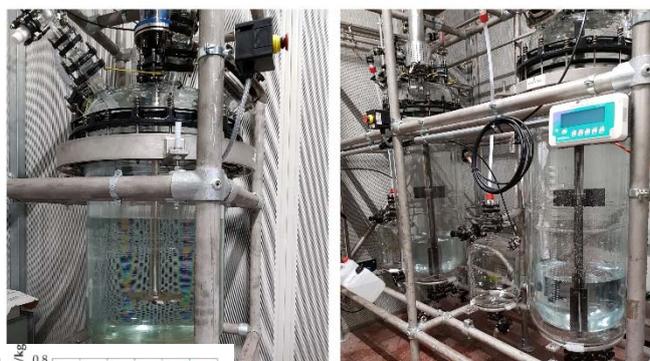


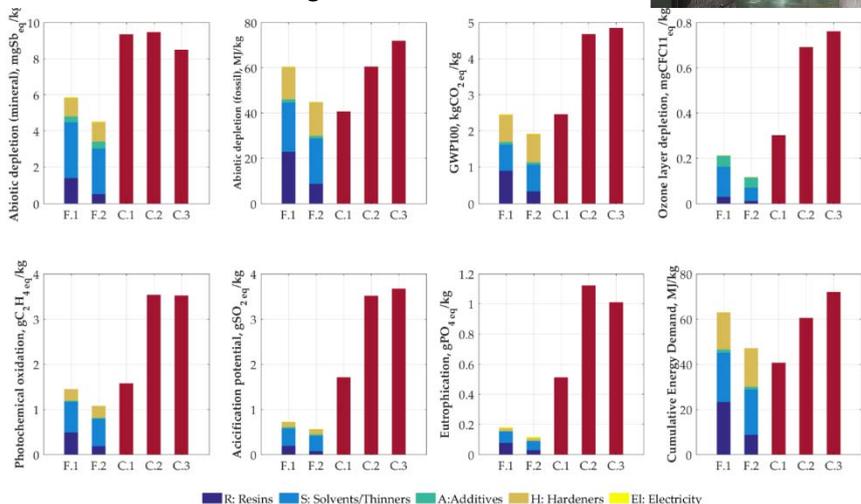
“Paint-it” project: eco-friendly anti-fouling marine paints.

From the LIFE PAINT-IT Project (LIFE 15 ENV/IT/000417), a novel manufacturing process based on a pre-industrial/prototype scale, capable of producing innovative eco-friendly and high-quality safe anti-fouling (AF) paints for naval applications, was implemented and now under full development towards the final validation step. The high environmental sustainability of the paints will ensure a total reduction of biocides harmful for the aquatic species and continuously released from the traditional AF paints in the marine environment especially in form of copper compounds. The preliminary scale-up phase involved the optimization of the formulations for the final application on small and medium-sized hulls. In particular, the characterization on a laboratory scale of the anti-fouling capacity, the mechanical evaluation as well as adhesion to different hull substrates, the control of the rheological properties and aesthetic finishing mainly for spray/airless application technologies, have been previously completed by the coordinating partner, University of Rome Tor Vergata. In addition, a practical testing in close-to real conditions on a volunteered fishing boat was preliminary conducted together with a first evaluation of the ecotoxicity as carried out by the partner University of Rome Niccolò Cusano on the optimized paints with promising results. Finally, three different optimized formulations are now under full-scale (150 Kg batches) production by the operating pilot plant prototype installed at the partner company site (Cericol, Colorobbia Consulting - Vinci).

Fig. 1 Non-continuous batch production of one of the three formulations, G def and Results of CML and Cumulative Energy Demand Assessments, where F.1 : Formulation F (Strategy 2), F.2 : Formulation G def (Hybrid Strategy), C.1 : Acrylic varnish, without water, C.2 : Alkyd paint, white, without solvent, C.3 : Alkyd paint, white, without water.



The first novel coatings obtained from the



industrial process are under validation of their chemical-physical properties and LCA assessment, while the final validation step of the anti-fouling activity on extended real substrates and in close-to-real conditions is coming. As regards, the paints, applied on large-scale supports and two testing prototype vessels, will be prepared in short by the involved

partner company (Azimut-Benetti - Sovigliana), in order to assess the AF activity both in harbor calm water and for a standard 6-months navigation period at sea (next spring-summer season of 2019). Moreover, the mechanical resistance and aesthetical properties will be evaluated (final validation phase).

Project details

- Project co-funded by the European Commission within the Life + Programme (2014-2020) LIFE-PAINT-IT ENV/IT/000417 (% EU Co-funding: 22.55%).
- BUDGET total amount: 5.712.506 EUR.