



# **MA**terials solutions for cost **Reduction** and **Extended** service life on **WIND** off-shore facilities

**EU H2020 PROJECT**  
**GENERAL PRESENTATION**



The project has received funding from the European Union's Horizon 2020 research and innovation program under Grant Agreement N° 952960



# Project video

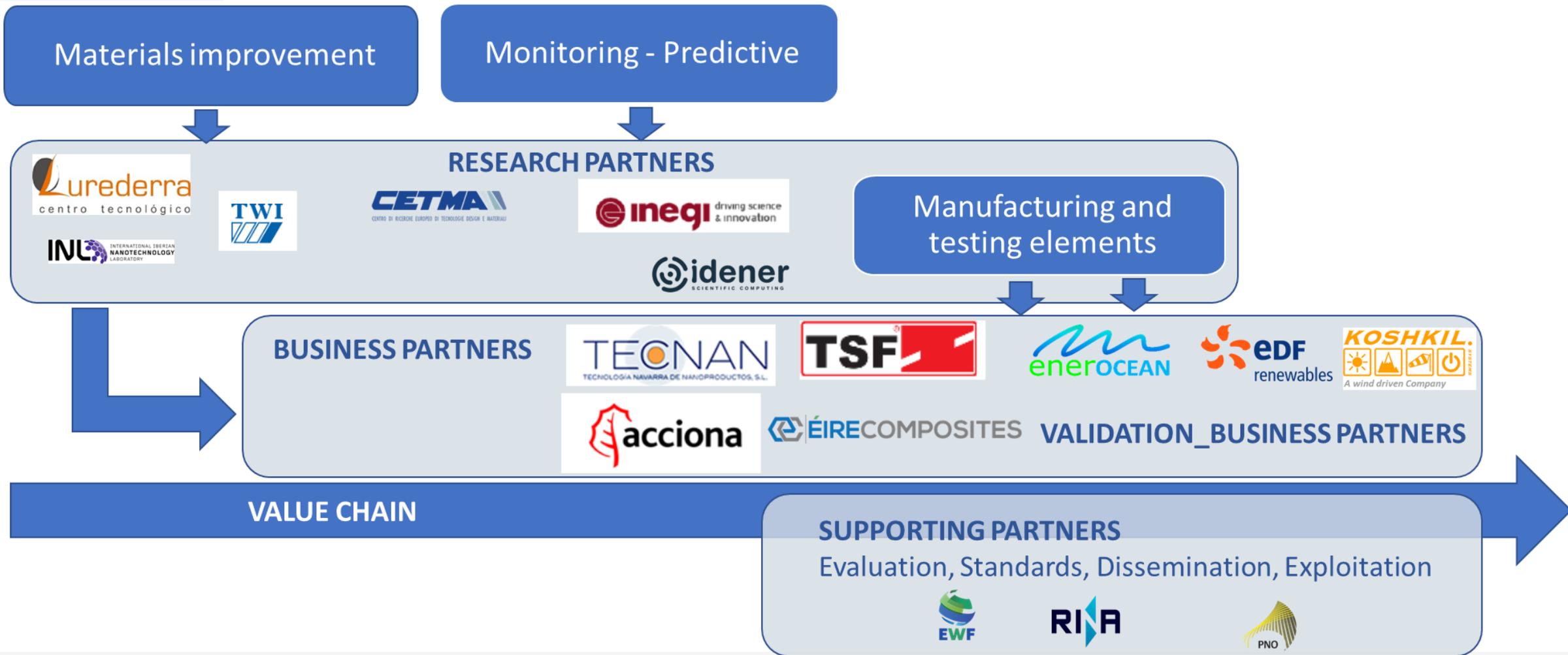
[https://www.youtube.com/watch?v=\\_aWAwhjcxfl](https://www.youtube.com/watch?v=_aWAwhjcxfl)



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# Concept



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# The MAREWIND concept

**Goal:** Provide vital solutions to help building a next generation of large offshore wind energy- and tidal power generators by solving the current challenges related to materials, coatings and multi-material architectural performance.

## Main developments:

- Coatings
- Concrete
- Composite for blades
- Complementary tools (monitoring and modelling)

**Expected impact:** O&M cost reduction as result of the improvement in durability



# COATING DEVELOPMENTS

## ANTICORROSION COATING



Uncoated bolt

Uncoated bolt **corroded** after 24 h in saline mist chamber

Coated bolt after > 4200 h in saline mist chamber  
(**No corrosion** damage)

Coated bolt before saline mist chamber

## ANTIFOULING COATING



Coated steel sample

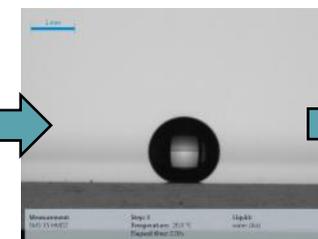


Uncoated steel sample

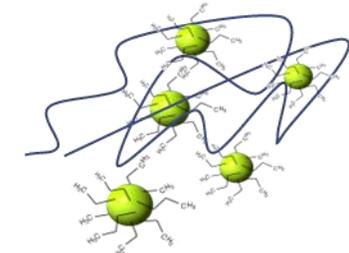
## ANTIEROSION SUPERHYDROPHOBIC COATING



Unfunctionalised SMS35



Functionalised SMS35



MAREWIND coating

# CONCRETE DEVELOPMENTS

## HIGH AND ULTRA-HIGH PERFORMANCE CONCRETE

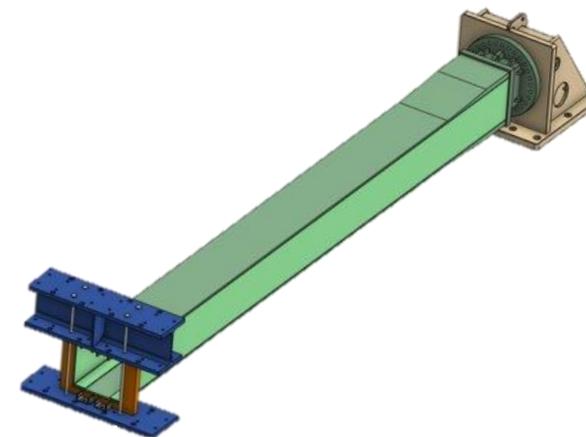


## ALKALY ACTIVATED CONCRETE



# NEW COMPOSITE FOR BLADES

## NOVEL COMPOSITE FOR BLADES (GF/epoxy-SiO<sub>2</sub>)



## RECYCLED COMPOSITE AND RECYCLING PROCESS

TPR COMPOSITE FEED  
MATERIAL



GRINDED MATERIAL



COMPRESSION  
MOULDING



# Get in touch with us for more information!



## CONTACT US

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A photograph of an offshore wind farm at sunset. The sun is low on the horizon, casting a warm glow over the sea and the white towers of the wind turbines. The water is dark blue with white foam from the waves. The sky is a mix of orange, yellow, and light blue.

Thank you!

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MAREWIND CONSORTIUM  
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