

Partners



5 Industries



6 Research Centers



5 SMES



“ Learn more about MASTRO ”

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MASTRO

Intelligent bulk
MAterials for
Smart TRanspOrt
industries

www.mastro-h2020.eu

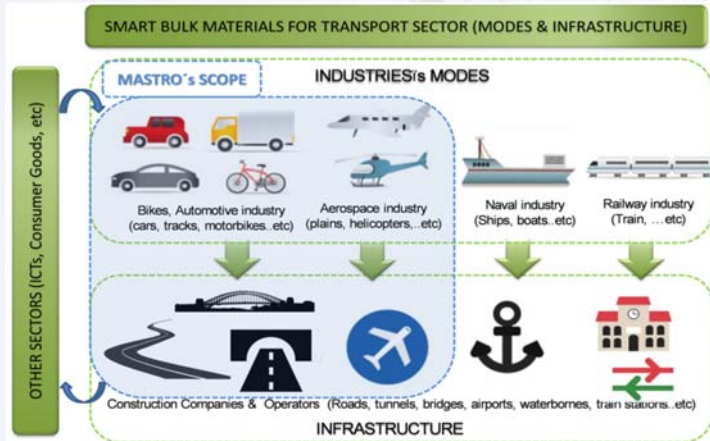
The MASTRO Project

aims to develop intelligent bulk materials for the transport sector based on novel concepts like self-sensing, self-deicing, self-curing, self-healing, and self-protection properties.

The functionality of the developed components will be supported by theoretical material models and demonstrated under relevant conditions at prototype level for the aerospace, automotive, and transportation networks.

The matrices addressed consist of lightweight polymer composites, asphalt, and concrete formulations incorporating electrical carbon-based conductive nanomaterials. These materials will improve consumer safety, component life-span, and performance while reducing maintenance and manufacturing costs.

The MASTRO Scope



The MASTRO work plan



The MASTRO Objectives

- To produce various types of tailored nanomaterials with the desired functionalities
- Develop a multi-scale predictive model for the self-responsive functionalities
- Design and develop intelligent bulk materials with self-responsiveness properties
- Develop an ICT platform for intelligent monitoring and control
- To demonstrate, prove, and validate the developed functionalities
- Conduct LCA, LCC, and REACH analysis, standardization, and training activities
- To boost the communication, dissemination, and exploitation of the technologies

Boosting Future market uptake



Research activities developed at small scale in laboratory environment



Upscaling of the manufacturing processes and products with prototype testing



Validation of the technologies according to requirements and needs set by END USERS

Enhancing market opportunities for European industries



Improving consumer safety

Reducing maintenance cost

Improving resource efficiency

Contributing to a future circular economy

Enhancing the knowledge base in the EU in R&D, manufacturing and production

Improving our understanding of material properties