Open Innovation Platform for Optimising Production Systems by Combining Product Development, Virtual Engineering Workflows and Production Data.

MARELLI Ignites a New Chapter in PIONEER

2nd Press Release – December 2023

MARELLI RIDE DYNAMICS JOINS THE PIONEER PROJECT, INTRODUCING AN INNOVATIVE USE CASE IN THE AUTOMOTIVE INDUSTRY

It is a pleasure to welcome MARELLI RIDE DYNAMICS to the PIONEER Project.

Marelli Ride Dynamics, a distinguished business line under the Marelli umbrella, takes pride in designing, producing, and distributing cutting-edge suspension components and modules for the automotive mass market. A top-tier company in the automotive sector, Marelli's product portfolio includes structural suspension components and shock absorber elements. This addition enhances the PIONEER Consortium with a valuable partner and introduces a new demonstrator to the project's innovative arsenal.

The kick-off of this collaboration was marked by a successful meeting held on November 28th at Marelli's premises, where key PIONEER partners gathered to delve into the intricacies of the use case. Focused on an SMC process for a CFRP-based component in the automotive sector, the meeting proved exceptionally fruitful, providing a solid foundation for future developments.

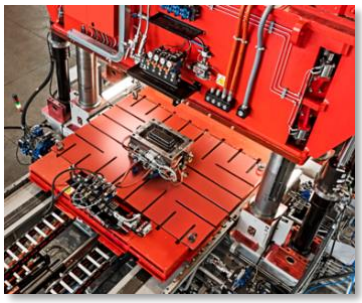
Funded by the European Union

The Carbon Fibre Sheet Moulding Compound (SMC) Components use case, led by Marelli, holds a promise to reshape the landscape of the automotive industry and introduce pioneering solutions seamlessly aligned with the project's goals and objectives.

Learn more about the PIONEER Consortium here.

ABOUT THE CARBON FIBRE SHEET MOULDING COMPOUND (SMC) COMPONENTS IN THE AUTOMOTIVE SECTOR

The SMC process, a sustainable Out of Autoclave (OoA) method, is prominently deployed in manufacturing exterior parts in the automotive industry. Specifically, Marelli's use case focuses on a Carbon Fibre-Reinforced Polymer (CFRP)-based component.



In this application, Marelli is leading the development of a new lightweight upper composite suspension control arm with an expected mass saving of around 30% compared to the normal production component.

PIONEER seeks to revolutionise the automotive industry by significantly **decreasing reliance on extensive physical testing.** This initiative aims to streamline product development, **saving both time and costs.**

A key tool in PIONEER's strategy is the digital twin of the production process, suitable for developing and testing new components. It allows optimisation of manufacturing processes, fine-tuning of mould designs, and adjustments to components changing the boundary conditions.

ABOUT THE PROJECT

This Horizon Europe project took off last January. PIONEER aims to develop and implement an interoperable Materials-Modelling-Manufacturing Ecosystem, enabling multidirectional dataflow throughout the material value chain by connecting the production's various stages. Combining a design-by-simulation approach with manufacturing and quality data, PIONEER will optimise product development strategies in high-mix/low-volume production schemes.

Project Title: Open Innovation Platform for Optimising Production Systems by Combining Product Development, Virtual Engineering Workflows and Production Data.

Project ID: 101091449 | Start **Date**: 01/01/2023 | Project **Duration**: 36 Months

Project Partners:

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