

# PRESS RELEASE



## Introducing the **ALMA Project**: Nine European organizations have announced their intention to collaborate and develop a more energy efficient and sustainable vehicle structure

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According to the low emissions mobility strategy<sup>1</sup>, the European Union aims to have at least 30 million zero-emission vehicles on its roads by 2030. Measures to support jobs, growth, investment, and innovation are taken to tackle emissions from the transport sector.

The **ALMA** project (Advanced Light Materials and Processes for the Eco-Design of Electric Vehicles) aims to improve the efficiency and driving range of electric vehicles by reducing the weight of the global vehicle.



The EU-funded project held an online kickoff meeting on February 23-24, in which nine partners from four European Union countries participated. This consortium for a European Commission Horizon 2020 project<sup>2</sup> seeks to harness the collective strengths to collaborate across disciplines.

The group involves five market-orientated companies, three RTOs and one International association; the members of the consortium, led by CTAG – Automotive Technology Centre of Galicia (Spain), include: Arcelormittal Maizieres Research (France), Ford-Werke (Germany), Innerspec Technologies Europe (Spain), BATZ S. Coop. (Spain), RESCOLL (France), Fraunhofer Gesellschaft zur Foerderung der

Angewandten Forschung E.V. (Germany), Nederlandse Organisatie voor Toegepast Natuurwetenschappelijk Onderzoek TNO (Netherlands) and ISWA - International Solid Waste Association (Netherlands).

In order to improve the efficiency and driving range of electric vehicles (EVs), the weight of the global vehicle must be reduced. Furthermore, increasing environmental awareness and forthcoming stricter regulations demands the adoption of circular economy principles across the entire vehicle life cycle.

Raquel Ledo, Head of the Materials Innovation Area at CTAG and ALMA coordinator said: *“This project will not only represent an important*

<sup>1</sup> [https://ec.europa.eu/transport/themes/strategies/news/2016-07-20-decarbonisation\\_en](https://ec.europa.eu/transport/themes/strategies/news/2016-07-20-decarbonisation_en)

<sup>2</sup> Horizon 2020 program is the EU Research and Innovation program to fund scientific, industrial, and societal developments within the European Union. Funding for these projects are meant to secure European global competitiveness, particularly in novel breakthroughs and discoveries.



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*advance in the state-of-the-art for improving electric vehicle efficiency, but also a shift in the conventional linear conception of the automotive value chain towards the adoption of sustainability and circular economy as core principles in this sector.”*

**This is a three-year project which aims to achieve innovation and sustainability.** To respond to this challenge, ALMA will develop a novel battery electric vehicle (BEV) structure for a passenger car with 45% weight reduction potential compared to current baseline at affordable costs.

For this purpose, ALMA will develop a multi-material modular platform made of a combination of Advanced High Strength Steels (AHSS), Advanced-SMC and steel-hybrid

materials, characterized with multiscale model-based tools.

**The Circular Economy is at its core.** ALMA will adopt circular economy principles from early stages through the application of eco-design strategies to create a novel BEV platform “made to be recycled”. For this purpose, it will use a structural reversible bonding technology to enable the separation of components at the end-of-life (EoL) for repair and reuse. A ground-breaking health monitoring system based on acoustic emissions will be integrated in the structure to detect and locate damage while in-service. Finally, efficient recycling and material recovery options will be analyzed to complete the circular loop.

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#### About CTAG

CTAG is a Spanish private, independent, and non-profit technology center devoted to support the automotive industry in its research, development, and innovation needs. CTAG is the project coordinator of the ALMA project. [www.ctag.com](http://www.ctag.com)

#### About Fraunhofer-Gesellschaft

The Fraunhofer-Gesellschaft is the leading organization for applied research in Europe. The Fraunhofer Institute for Industrial Mathematics (ITWM) has gained a high reputation in mathematical research for industrial and commercial applications, especially mathematical modelling, and computer simulation. [www.fraunhofer.de](http://www.fraunhofer.de) - [www.itwm.fraunhofer.de](http://www.itwm.fraunhofer.de)

#### About ArcelorMittal Maizières Research

ArcelorMittal Maizières Research (AMMR) is an ArcelorMittal research center devoted to the development of advanced steels for automotive applications. AMMR is WP2 coordinator in the ALMA project. [www.corporate.arcelormittal.com](http://www.corporate.arcelormittal.com)

#### About ISWA – International Solid Waste Association

ISWA is the world's leading network promoting professional and sustainable waste and resource management. [www.iswa.org](http://www.iswa.org)

#### About TNO

TNO is a Dutch independent research organization which connects people and knowledge to create innovations that boost the competitive strength of industry and the well-being of society. TNO is WP-leader of WP1 (Circular Approach: LCA and LCC) and WP7 (Effective solutions for recycling and recovery) and provides the Circular Economy Manager. [TNO.nl](http://TNO.nl)

#### About Ford-Werke GMBH

Automotive End-User, CAE analysis. As part of the Ford-Werke GmbH, the team of Ford Research & Advanced Engineering Europe is developing the next generation, highly electrified powertrain portfolio. Further research projects are focused on new vehicle concepts as well as new materials and production processes such as additive manufacturing. Safety, comfort and wellbeing aspects are being addressed in the areas of new chassis technologies, advanced driver assistance systems, connectivity and smart mobility solutions. [www.ford.de](http://www.ford.de)

#### About RESCOLL

RESCOLL is an innovative SME, best defined as a research company for materials, specialized in composites and polymers. RESCOLL's activities are industrial research and development of innovative products and processes. [www.rescoll.fr](http://www.rescoll.fr)

#### About Innerspec Technologies Europe

Innerspec Technologies is the world leader in the development of High-Power Ultrasonic instrumentation for NDT applications. The mission is to provide non-destructive inspection solutions that provide a superior return on investment. [www.innerspec.com](http://www.innerspec.com)

#### About BATZ

BATZ, a first major automotive supplier (TIER1), is a cooperative which belongs to MONDRAGON, the largest cooperative industrial Group in the world. [www.batz.com](http://www.batz.com)

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