

PROJECT

LeakFree

Development of a reliable quality control system using advanced Non-Destructive Evaluation (NDE) technologies for the production environment of leak-free fuel tanks from plastics and composites

Funding: European (Horizon 2020)

Duration: Jun 2015 - Dec 2016

Status: Complete

Total project cost: €1,196,287

EU contribution: €837,401



Call for proposal: H2020-SMEINST-2-2014

[CORDIS RCN : 196491](#)

Objectives:

Nowadays, the usage of Plastic Fuel Tanks (PFTs) has dominated over steel tanks as they offer numerous advantages such as lower weight, higher corrosion resistance, better crash performance and lower total systems costs. Tank manufacturing from plastics and composites in automotive sector is increasingly adapted to mass productions to meet the ever growing demand. The management of quality control (QC) systems for factory environment poses challenges in the absence of relevant experience in the development and use of in-situ non-destructive evaluation (NDE) technologies.

The problem currently faced by the automotive industry is that most techniques that fall within the accepted leak detection sensitivity requirements are based on manual intensive and operator-dependent tasks. Leak detection techniques with higher sensitivity do exist; however they are characterized by high investment and operational costs. Hence, their implementation is not economically feasible as the related costs outweigh their benefits for the automotive QC purposes.

The LeakFree project targets at bringing to the market a low cost leak detection system that is fast, accurate, traceable and automated for mass production environments in the fuel tanks production industry. The system eliminates the disadvantages associated with the manual-intensive and operator-dependent techniques, currently employed by the industry, through the development of an inspection technique based on Acoustic Emission (AE). The LeakFree acoustic technology has already been demonstrated in fuel-tank production environment and the project targets at bringing the system to the market. The activities to be performed span from design and prototyping to validation, demonstration, performance verification and standards certification. Additionally, efforts will be placed at connecting the LeakFree product to the Enterprise Resource Planning (ERP) system of the rotomolding production company.

Parent Programmes:

[H2020-EU.3.4. - Horizon 2020: Smart, Green and Integrated Transport](#)

Institute type: Public institution

Institute name: European Commission

Funding type: Public (EU)

Lead Organisation:

Floteks Plastik Sanayi Ve Ticaret As

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Organisation Website:

<http://www.floteks.com.tr>

EU Contribution: €837,401

Technologies:

Alternative fuels
Fuel storage systems

Development phase: Demonstration/prototyping/Pilot Production

STRIA Roadmaps: Vehicle design and manufacturing

Transport mode: Road transport

Transport sectors: Passenger transport, Freight transport

Transport policies: Safety/Security

Geo-spatial type: Other