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LoCoMaTech

Low Cost Materials Processing Technologies for Mass Production of Lightweight Vehicles

Newsletter n.1

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Imperial College London, AIN, DIAD GROUP, ANTER, PAB COVENTRY, MARBEAU DesignConsultancy, TBZ-PARIV GmbH, Plasma Technik AG, AML, Impression Technologies, APT Automation·Presses·Tooling, esi get it right, Constellium, voestalpine ONE STEP AHEAD., CRF An FCA company, University of Birmingham, University of Strathclyde Glasgow

The LoCoMaTech Project: Presentation

The **LoCoMaTech** project is a European Union funded project under the H2020 scheme (topic NMBP-08-2016) comprising of 19 universities and industrial partners from 9 countries. The overall aim of LoCoMaTech is to enable the implementation, to a mass-production scale, of a **novel sheet metal forming HFQ® technology** (patented by Imperial College London) for the manufacture of **lightweight**, **high strength** body and chassis structures and components for **low-cost vehicles**. The HFQ® technology is able to form complex shaped components using high strength aluminium which cannot be achieved with conventional forming technologies. This implementation will be achieved by establishing a **full scale production line** with the support from the 19 partners specialising in various aspects of the supply chain, including research to end-users. The 1st generation of the HFQ® process was successfully developed in a previous EU

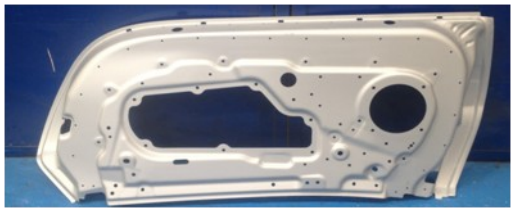

Fig. 1: Door Inner formed at PAB Sept 2015. Most complex HFQ® component

FP7 project 'LoCoLite' with the production of demonstrator components for producing 4 types of niche vehicles.

In the LoCoMaTech project, the manufacturing costs will be significantly reduced for the HFQ® process through the introduction of newly patented technologies to enable the process to be scaled for **mass-produced** and **low-cost vehicles**. The mass production of aluminium components, structures or even whole aluminium car bodies will improve the

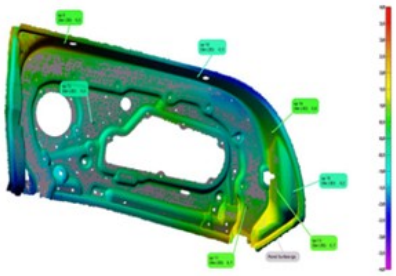

Fig. 2: Door Inner FEM simulation

energy efficiency and reduce CO_2 emissions even for lower-cost vehicles. LoCoMaTech can contribute substantially towards helping vehicle manufacturers to meet the increasingly stringent European Union **regulations** concerning our **environment** and **responsible energy usage**.

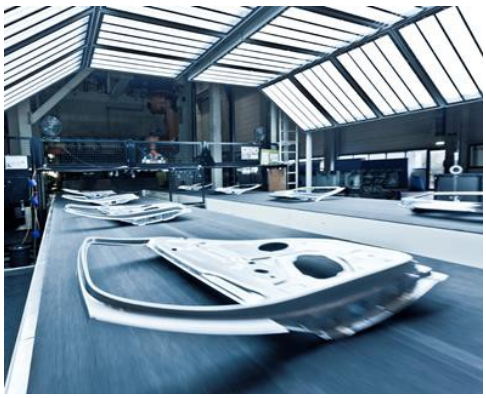

Fig. 3: Serial Press Line (courtesy Voestalpine)

LoCoMaTech has started on Sept. 1st, 2016 and will last until August 31st, 2019.

The Consortium

The LoCoMaTech consortium consists of **19 beneficiaries**, from **9 countries** (UK, Spain, Italy, France, Germany, Greece, Hungary, Romania, Sweden). The SMEs are well represented, with 9 companies: **Impression Technologies Ltd** (the HFQ® Technology provider), **Asociación de la Industria Navarra** (Surface and coating technology), **PAB Coventry Ltd** (Stamping specialist to vehicle industry), **Marbeau Design Consultancy** (Aluminium specialist), **S.C. Plasmaterm SA** (tool manufacturer), **TBZ-PARIV Technologieberatungszentrum Parallele Informationsverarbeitung GmbH** (tool analysis specialist), **Anter Ltd** (KBES developer), **Diad Group s.r.l.** (EVs and Life Cycle specialist), **Advanced Manufacturing (Sheffield) Ltd** (tool manufacturer). Industry is represented by **Centro Ricerche Fiat ScpA** (Automotive Industry), **Constellium Technology Centre** (Aluminium supplier), **voestalpine Automotive Components Schwäbisch Gmünd GmbH & Co. KG** (Automotive parts manufacturer), **ESI Group** (CAE software provider), **Automation Press and Tooling** (Stamping equipment provider); universities are represented by **Imperial College London** (Coordinator, stamping technology and material testing), **University of Birmingham** (surface engineering), **University of Strathclyde** (system integration), **University of Miskolc** (material specialist), **National Technical University of Athens** (joining and life cycle specialist).

An Industrial Advisory Board will overview the work carried out by the partners; members are **Mercedes-Benz Manufacturing Hungary** and **Process&Product.**

Fig. 4: LoCoMaTech Consortium @ Mercedes-Benz Plant in Kecskemét

Dissemination Activities

As soon as the LoCoMaTech project has kicked off, dissemination activites have begun for the widespreading of the knowledge created. A webpage www.locomatech.net has been created, for both partners and external contacts to find information and data about the project; the Twitter account @locomatech is used for updating the information to partners about market developments, research progress, fairs and conferences, as well for external parties to learn about the presence of LoCoMaTech at various events and the possibility to meet the partners; the Facebook page of LoCoMaTech informs about the meetings, test trials, conferences and public events attended. A YouTube channel will be used for showing the presentation of videos shot during forming trials.

Past events: EuroCarBody 2106 (https://youtu.be/9bTNHg_o2K8); GALM 2016.
Forthcoming events: Hannover Messe 2017; Shemet 2017; Materials in Car Body Engineering 2017; Automotive Engineering Expo.
A mini symposium will be dedicated to "Low Cost Materials Processing Technologies for Mass Production of Lightweight Vehicles" of LoCoMaTech at the IDDRG2017 Conference to be held in Munich on July 2nd-6th, 2017.

LoCoMaTech on social media:

website

locomatech.net

Facebook Page

Twitter

@locomatech