REVOLUTION

The future is now

Project Overview

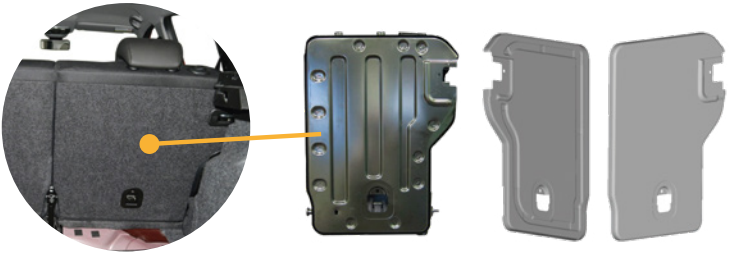
REVOLUTION is proposing a disruptive innovation that will bring open-loop recycling to the forefront of automotive injection moulding. *REVOLUTION* will use machine learning and artificial intelligence to optimise the input of recycled materials and injection moulding process to deliver high-quality parts. The AI-Platform will use data from three areas of the production process to predict part quality when using recycled materials. The project will develop this platform, and develop a range of recycled formulations, including self-reinforced materials to deliver innovative components that offer light weighing, superior performance and distinctive end of life advantages for future EVs.

Goals

The Revolution Project aims to reduce the weight of the components between 10% and 40% compared to the current alternatives and to demonstrate that at least 80% of the components of the selected use cases can be recovered for recycling and/or reuse.

4 Uses cases

Back seat panel: This component is currently made of a formed steel sheet that is welded to a metallic frame. *REVOLUTION* will build on CRF's previous efforts to convert this component to a SRPO, with a weight saving of ~55%.

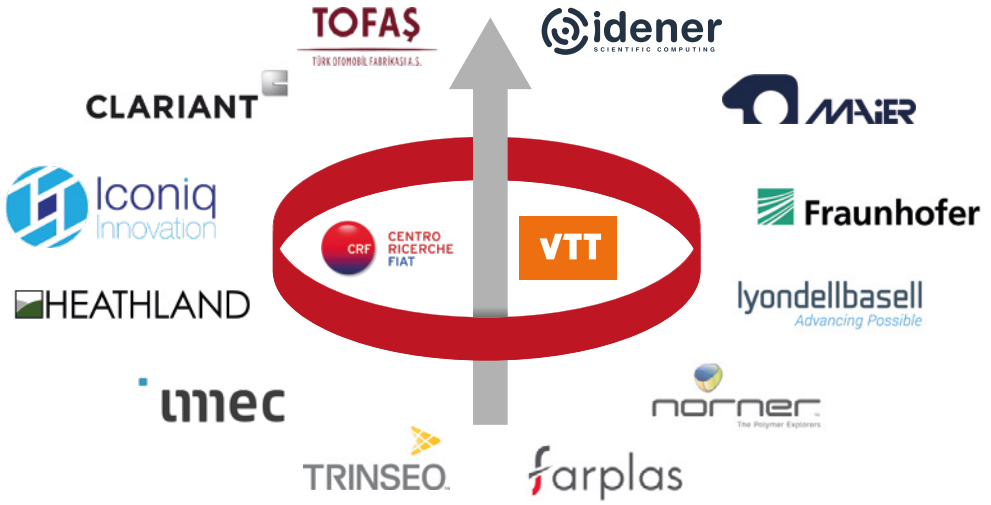


B-Pillar Cover: During the *REVOLUTION* project, the manufacturing of a 2k dual-part will be transformed into a mono-material injection moulded component using post-industrially recycled PMMA.

Crash Box: Nowadays, most crash boxes are commercially produced using steel. The rear crash box demonstrated in *REVOLUTION* will be a 100% polymer solution.

Lower Rear Bumper: It is a coloured aesthetical part. Many times, it is difficult to attain the appropriate colour and gloss using post-consumer recycled materials and, at the same time, keep mechanical and physical properties. *REVOLUTION* project will optimise the use of PCR PP, aiming to achieve a 20% weight reduction.

REVOLUTION



"This project has received funding from the European Union's Horizon 2020 research and innovation programme under grant agreement No 101006631"

Follow us!

@RevolutionH2020

REVOLUTION Project