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the future of forging

*Forging technologies in new mobility*

## Project TRANSFUGE

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Marc Courteaux is a seasoned expert in long steel and associated treatments, currently working at Stellantis in France within the material department. With an impressive 34 years of experience at Stellantis, Marc has honed his skills and knowledge in the field, making him a valuable asset to the company. His expertise in long steel and associated treatments has contributed significantly to the success of Stellantis in the automotive industry.

### Abstract

Stellantis has participated for a project concerning new gears for the future. This project gathered different partners in automotive manufacturing but also naval and aeronautics activities. This project was called TRANSFUGE. One of the items, piloted by automotive partners, was to find solution to reduce the price of the component and also the CO2 footprint with the same functional behavior.

The work on this project allowed to test cold forging and warm forging for gear for the objective to directly integrate the teeth in the forging operation (near net shape) and to replace carburizing heat treatment by induction hardening process.

The results were totally in accordance with the objectives and all the modalities was tested in fatigue and bending tests and evaluate by an LCA analysis.

This project showed the new possibility to continue the forging but more adapted with the actual constrains to reduce price and CO2 emissions.



*Marc Courteaux*