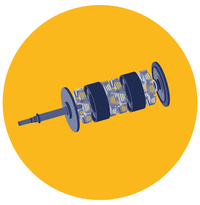
MAXIMA

Modular AXIal flux Motor for Automotive

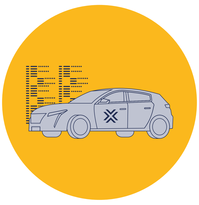


Axial Flux Synchronous Machine

MAXIMA aims to develop a cost-effective and versatile axial flux electric machine for the automotive sector, focusing on improved performance, reduced reliance on rare earth metals, and minimal environmental footprint.

Multiphysics and digital twin

Performance enhancement will be pursued via an innovative multiphysics design process integrating novel thermal management concepts. A Digital Twin will be constructed for optimizing control, and cost efficiency will be achieved through joint design of the electrical machine and its manufacturing process flow.



Life Cycle Assessment

End-of-life considerations, including rare earth metal recycling, will be thoroughly assessed for the electrical machine. A Life Cycle Assessment will be conducted to analyze its environmental impact, with a focus on reducing climate change and mineral resource scarcity effects.

Prototype Manufacturing

After MAXIMA project completion, prototypes will be made to test and validate novel concepts such as the modular electrical machine design, Digital Twin-based control, and manufacturing/recycling processes.

Arts et Métiers Sciences et Technologies

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