ESSIAL

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Titre projet : Electrical Steel Structuring, Insulating and Assembling by means of the Laser Technologies
Programme : H2020
Unité de recherche : Laboratoire des Technologie Innovantes EA 3899, UPJV
Porteur du projet : J. Fortin / S. Panier
Objectif du projet : ESSIAL will use laser surface texturizing in order to improve the performance and functionalities of laminated magnetic circuits, while preserving a high mechanical and thermal resistance.

In addition the improved materials will be eco-friendly (no emission of pollutant during their working life), and made of materials that are easy to recycle.

At the end of this four-year project, the ESSIAL consortium aims to :

Decrease iron losses due to magnetic reversal processes by 20% (namely the excess magnetic losses),
Control and decrease mechanical vibrations and acoustic noise by 20%,
Make the deposition/removal of insulating layer easier for sustainable manufacturing process chains,
Integrate new laser processes with maximum 10% price increase,
Implement innovative and unconventional technologies along the European manufacturing value chain,
Transfer the ESSIAL technology to European clusters and companies.

Achieving these goals will help Europe reaching the objectives of the energy transition agenda, while strengthening European industrial base.

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