



**POLITECNICO
DI TORINO**

Dipartimento Energia
"Galileo Ferraris"

THESIS PROPOSAL

(MASTER'S DEGREE – LAUREA MAGISTRALE)

DESIGN OF A PERMANENT MAGNET ELECTRIC MACHINE FOR HYBRID POWERTRAIN APPLICATION IN MOTORCYCLE FIELD

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Keywords: Design of synchronous Permanent Magnet electric machine, FEM analyses using professional software, Matlab programming

Description

The thesis focuses on the electromagnetic design and the development of advanced analyses methodologies for synchronous permanent magnet starter/booster/generator for hybrid powertrain applications. Starting from critical analysis of existing products, the goal is to customize motor package in accordance with motorcycle constrains. The thesis project will be conducted at the Politecnico di Torino, in collaboration with the TESI TECHNOLOGY SRL, motorcycle engineering consultancy firm.

During the thesis the student will have the opportunity to apply to real design cases the knowledge learned in the Electrical engineering courses as well as to acquire high level skills on the use of professional FEM software used in the R&D department of the major companies in this field.

The expected timeframe for this thesis is **6 months**. For further details and information, please contact by e-mail prof. Silvio Vaschetto.

