Marelli Automotive Lighting Italy S.p.A

THESIS Project in Research and Development:

a. *Development of an accurate thermal model to be used for the evaluation of LED/electronic components junction temperature*

b. *Application of the image recognition techniques to be applied in rearlamps testing*

c. *State-of-the-art and development of new safety mechanisms in Automotive environment*

d. *Study and integration of a SW tool for static and dynamic analysis for Automotive Lighting applications*

e. *Study and development of a Secure Flash bootloader for Automotive Lighting applications*

f. *Study and development of a SW animation engine for Automotive Lighting Rear Lamp applications*

g. *Characterization of electrostatic discharge in automotive environment, modeling with electromagnetic software of a ESD test platform for integrated circuit, testing and validation of this platform with experimental measurements*

h. *Modeling and validation of the conducted emission test setup for EMC simulation in automotive field*

i. *Artificial intelligence, techniques and applications to support designers of car lighting devices*

j. *The evolution of the Rear Lamp system, from wired to wireless*

k. *Study and analysis of microLED technologies in the automotive market*

l. *Study and analysis of electronic components and architectures for the gesture recognition*

m. *Electronic architectures for the controlling of high density miniLED matrices*

n. *Study and Analysis of a feedback circuit for a robust and efficient control of the optical power generated by a LASER diode*

INFO: giulia.sandri@marelli.com