MARELLI



- Tolmezzo (UD)
- Founded in 1969
- Business Line Marelli
- Competence center REAR LAMP
- 800 employees

- Premium Customers
- Innovation
- Advanced Technology
- Top Quality
- Costs Competitiveness

R&D

Innovation, Development, Simulation, Validation, Prototyping

TOOLSHOP

Design and Production of Mouldings, Laser Welding

MANUFACTURING

Moulding, Metallization, Manufacturing of PCB, Assembly Lines

recruiting.tolmezzo@marelli.com

MARELLI AUTOMOTIVE LIGHTING

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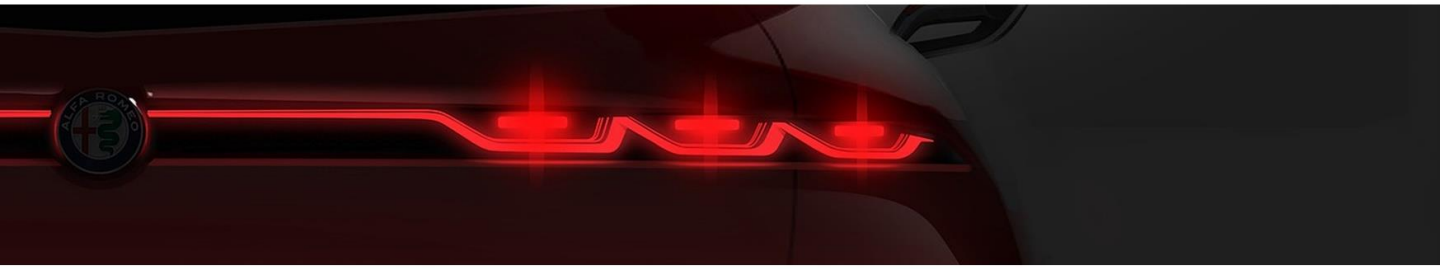
TOLMEZZO PLANT

Innovation department

THESIS PROJECTS

a. Moving parts in Rear Lamp, study of use cases and opportunities offered by the use of mechanical actuators inside Rear Lamp, design and realization of the electronic system.
b. Study and analysis of a new light source based on LED chip on a transparent flexible surface for display light, design and realization of the electronic system.
c. Study and analysis of molded interconnect device technology for board to board communication inside Rear Lamp
d. Embedded SW architecture to control miniLED matrix displays



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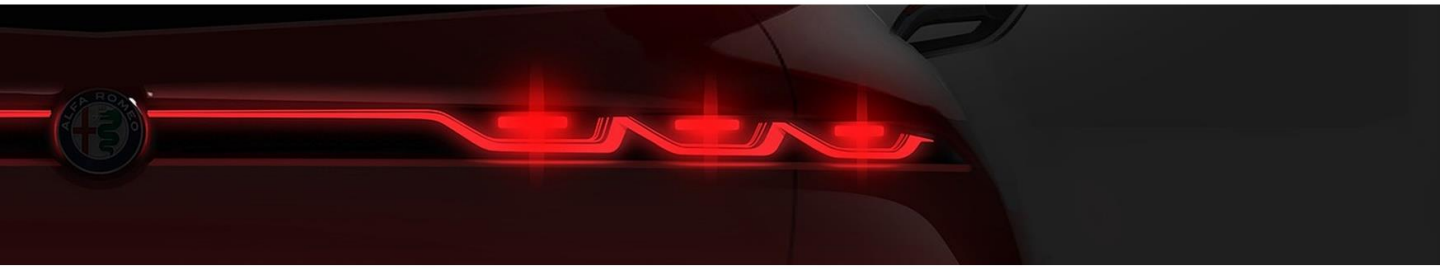
TOLMEZZO PLANT

Simulation and Validation department

THESIS PROJECTS

a) Artificial intelligence, techniques and applications to support designers
b) Application of the image recognition techniques to be applied in rear lamps testing
c) Design and implementation of a python based car body computer emulator for CAN-FD bus
d) Development of virtual led driver models to perform the Software in the loop testing in Vector toolchain environment



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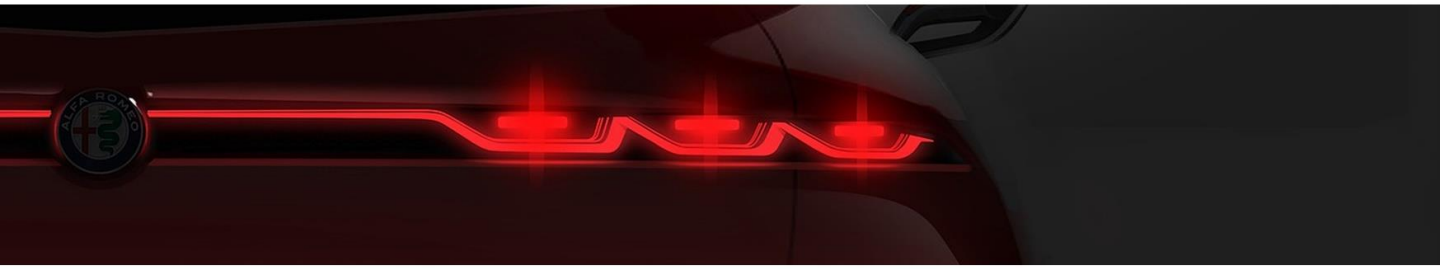
TOLMEZZO PLANT
Software department

THESIS PROJECTS

a) Implementing a tool for automatic calculation of the project Software & System development metrics and integrate it with the BI platform
b) Design and implement a SW (GUI) for managing of the configuration of the embedded SW component.
c) Identify possible review checks on development work products and implement a tool for perform this activity automatically considering artificial intelligence
d) Study of the Cybersecurity aspects related to the software development in the Rear Lamp domain
e) Study and integration of a tool for Model based design for Automotive applications
f) Study of the flash bootloader for automotive products starting from the customer functional requirement to the cybersecurity related requirements



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TOLMEZZO PLANT

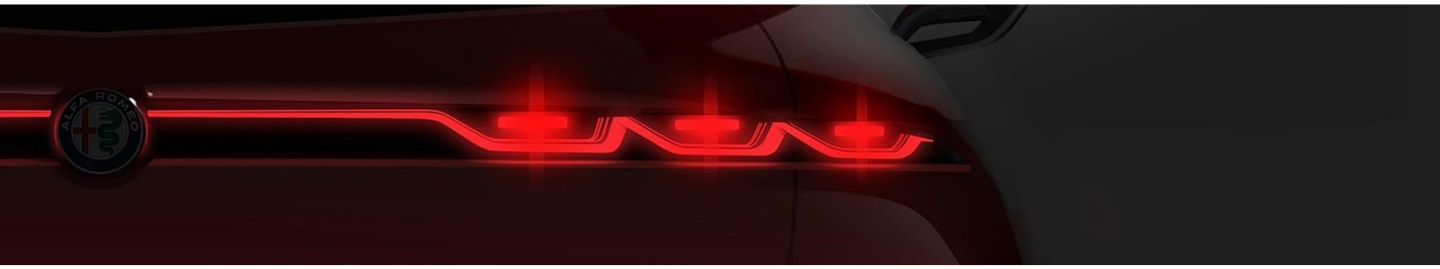
Hardware and EMC department

THESIS PROJECTS

a) Electromagnetic simulation of an automotive application for EMC: modelling, simulation and validation of the conducted emission test

b) Size migration of electronic components in automotive: a comprehensive feasibility and validation study towards miniaturization

c) Optical communication inside RL: feasibility and implementation of a multi-band optical physical layer to carry automotive grade communication protocol



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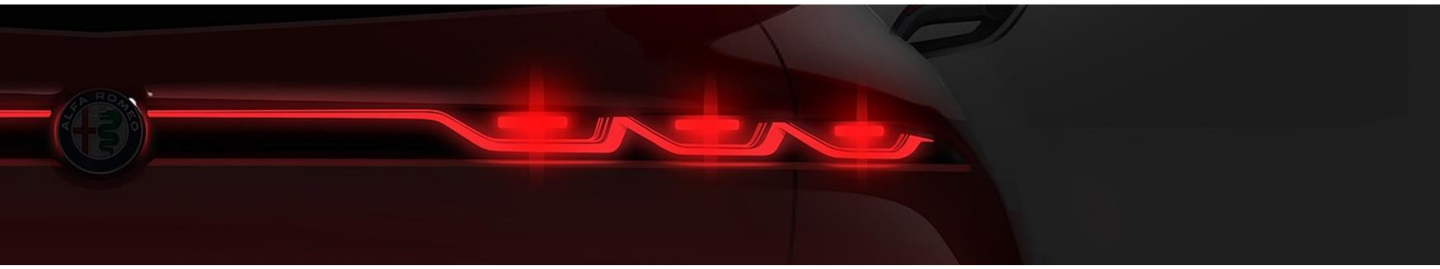
TOLMEZZO PLANT
Optical Department

THESIS PROJECTS

a. Luminance hot spot detection with neural network algorithms, a new way to improve the EOL (end of line) image processing techniques
b. Etendue theorem applications in rear lamp optimal design with the aim of optical efficiency improvement
c. Diffractive and meta optics as possible future applications in rear lighting design
d. Caustic optics for light projection signaling technology



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GENERAL INFORMATION

- Thesis project could be often experimental
- Ticket lunch + graduation reward
- Duration: 3-6-9 months
- Internal tutor during all the project phases
- Hybrid Formula: smart working and on site
- Training Plan during induction

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MARELLI ATTRIBUTES

DRIVE RESULTS

ACCOUNTABLE

ENTREPRENEURIAL

INCLUSIVE

INNOVATIVE

AWARE

POWERING PROGRESS TOGETHER