

Development of 3D-CFD simulation methodologies

➤ Supporting companies: **GammaTech Engineering** (GTE)

- ❑ Start date: February/March 2025
- ❑ Project duration: 6÷8 months
- ❑ Site:
 - GTE's offices in Turin
- ❑ Compensations: Meals
- ❑ Motivations and Project Scope
 - Among the available software, OpenFOAM stands out for its open-source characteristics and its ability to fully customize also the entire simulation process. This flexibility is made possible both through individual user initiatives and collaboration within the OpenFOAM user community.
- ❑ Thesis proposal:

Development of simulation methodologies in OpenFOAM to enable specific types of analyses, including for example:

 - Evaluation of steady-state flow development in engine components (e.g., intake and exhaust systems) and vehicle (e.g. cabin flow, underhood flow)
 - Assessment of thermal fields in assemblies (e.g., battery cooling plates)
 - Simulation of injections and sprays (e.g., H₂ injection, oil jets)

The reliability of the developed methodologies will be validated through comparison with experimental data and/or benchmark results

Open  FOAM

