Development of a 3D-CFD Methodology for Airflow Correlation on Heat Exchangers in Hypercar Applications

➢ Supporting companies: **GammaTech Engineering** (GTE) | **BUGATTI-RIMAC** (BR)

- Start date: February/March 2026
- Project duration: 6÷8 months
- Site:
  - PoliTO's R&D labs and GTE's offices in Turin
- Compensations: Meals, travel expenses
- Motivations and Project Scope
  - Modern hybrid hypercars feature **highly complex powertrains** that **require multiple cooling circuits**. **Accurate airflow estimation on heat exchangers is critical** for predicting thermal performance, however the unique constraints of hypercars make airflow prediction challenging.
  - To ensure robust thermal management, predictive 3D-CFD full-vehicle simulation methodologies must be developed and correlated with experimental data.
- Thesis proposal:
  - The student will **develop and refine a methodology for the 3D-CFD full vehicle simulation,** assessing **airflow distribution across underhood heat exchangers**, **using** the software **Star-CCM+**.
  - The methodology will be supported by experimental data for calibration and validation of the models.