

Red Bull



RACING

FORMULA ONE TEAM



POLITECNICO
MILANO 1863



DIPARTIMENTO DI
SCIENZE E TECNOLOGIE
AEROSPAZIALI

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Formula One Aerodynamic Development

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A Formula One team is nowadays a very complex industry made by tens of departments and working groups operating with tight deadlines and aggressive schedules due to race calendar. The complexity of the cars and the high level of technology available require a large number of people involved on track, and at the factory. Aerodynamic development is a fundamental part of car design where a fine tuning of CFD, WT tunnel tests and Track experiments are deployed to ensure the car is efficient on all track layouts and in every racing condition. While Wind Tunnel has been the main tool for aerodynamic development for many years, now thanks to always increasing computing capabilities and shorter turnaround times, CFD is establishing its essential influence during the design process and it's even more trusted and used even if strictly limited by FIA Sporting Regulation. With 2021 new technical regulations on the doorstep, CFD simulations are playing an even more important role in understanding the physics around the car and predicting the aerodynamic development trends of the next few years. Being able to accurately represent the complex reality of the car behavior affected by many factors it's nowadays crucial. Endless research and benchmarking of new CFD technologies is essential to guarantee that the Team stays at the pinnacle of the Sport, and makes the working day at the office really exciting and a continuous challenge.

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