



Red Bull Racing and Ansys Fast-Track Race Winning Design

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Ansys' industry-leading digital technologies cut engineering costs, greatly reduce race car development time

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Ansys___Red_Bull_Racing_Simulations

/ Key Highlights

- Red Bull Racing uses Ansys to optimize aerodynamic performance as the team heads into the 2021 season
- The renewed innovation partnership helps the team's engineers quickly create the most high-performing designs substantially faster, equipping them with a significant performance edge over the competition

[Red Bull Racing](#) is using [Ansys](#)' (NASDAQ: ANSS) cutting-edge simulation solutions and highly advanced materials data management system to rapidly develop its Formula One race cars. Building on a 13-year relationship as innovation partners, Red Bull Racing and Ansys are continuing to drive engineering productivity and slash design cycle time by helping engineers create enhanced car designs faster.

With mere days to plan between competitions, Red Bull Racing's engineering team must operate within a tight development window to evolve race car aerodynamics and shave seconds off lap times. The team relies on [Ansys® Fluent®](#) and supporting Ansys computational fluid dynamics (CFD) solutions, which help the team's engineers improve the design of the aerodynamic package for each race track, enabling more revisions and optimizations to be made in the virtual world before moving to physical manufacture. Fluent's automated workflow serves as a core component of the team's virtual wind tunnel to run external aerodynamic simulations and enables the team to develop the chassis cooling circuit to support the Honda Power Unit to achieve its optimum performance.

Additionally, engineers leverage [Ansys® Granta MI™](#), a comprehensive, single source of truth materials data management system that enables engineers to swiftly select materials, reduce errors and drive team collaboration. The team also depends on [Ansys® LS-DYNA®](#) to define car crash structures by simulating and correlating impacts with real-world testing, greatly decreasing the need for physical tests.

"Digital simulation is core to Red Bull Racing's rapid design process and extending our innovation partnership with Ansys ensures that our team continues to benefit from best-in-class simulation technologies," said Matt Cadieux, chief information officer at Red Bull Racing. "As a team, we are always pushing our innovation partners to deliver the latest competition-beating tools to maximize on-track performance. By integrating Ansys' technology into our design processes, our team iterates aerodynamic designs much faster, giving us the edge against our competition on the track."

"Facing extremely short development periods between races to overcome complex aerodynamic design issues creates major hurdles for developing enhanced Formula One cars," said Shane Emswiler, senior vice president at Ansys. "By renewing our longstanding partnership with Red Bull Racing, their team's engineers will continue to rely on Ansys' high-fidelity simulation solutions to speed the design of championship race cars that consistently outpace and outperform the competition."

/ About Ansys

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