OpenFOAM at Volkswagen: Experiences, Challenges and Requirements

Dr. Gerd Rapin

Volkswagen AG, Letterbox 011/1697, D-38440 Wolfsburg, gerd.rapin@volkswagen.de

Due to the increasing number of car projects the virtual development has become essential for Volkswagen within the last years. In the car development process many different areas like aerodynamics, HVAC, aeroacoustics or engine flows are heavily based on CFD simulations. Besides OpenFOAM, at Volkswagen most of the commercial CFD solvers are applied, too.

In this talk an overview of different application areas of OpenFOAM at Volkswagen is given. Starting from the current status of selected areas required extensions and limits of OpenFOAM are discussed. Special attention is given to optimizations within the CFD field.

In the last part the benefits and issues using an open source code in automotive industry are reported.