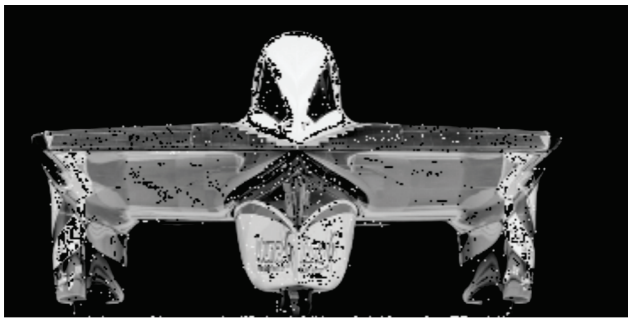
Actiflow BV: Nuna6 solar car aerodynamics

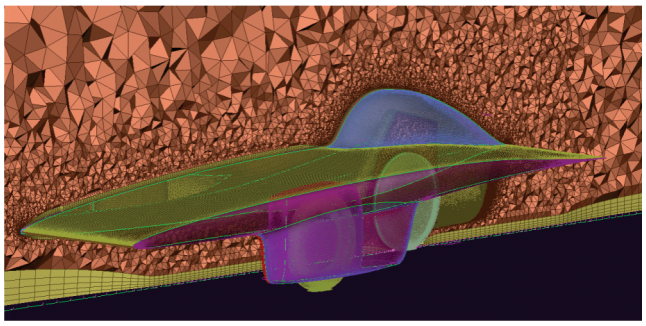
Challenge

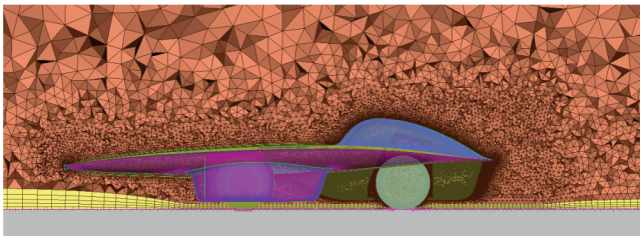
- Reduce the aerodynamic drag while keeping maximal solar cell area and minimal lift.

Approach

- Read in a Rhino generated IGES file in ANSA.
- Perform geometry clean up and watertight model preparation.
- Generate high quality surface and volume mesh with boundary layers all around the vehicle, moving wheels and road.
- Output in OpenFOAM for CFD simulations.







Results

- Nuna 6 took the 2nd position in the World Solar Challenge that took place in Australia in October 2011.

"The use of ANSA throughout the whole process of CFD model preparation allows the fast generation of high quality meshes that are necessary for reliable and accurate CFD simulations."

Tom Fahner, Actiflow BV,
Aerodynamics Engineer