



Electric Vehicle Range Improvement

ARC, the Best Kept Secret in Efficiency!

The specialized testing capabilities at ARC allow for several areas of further development to increase the range of your electric vehicle.

Consultancy

ARC has a team of expert aerodynamicists and vehicle designers on staff that can provide a third party independent review of designs.

Aerodynamic Drag Reduction - Lowering the overall drag means less power is needed to propel the vehicle.

Rolling Road Wind Tunnel - Put your styling clay model in the ARC scale wind tunnel or have ARC build a scale model for you to find improvements throughout the design cycle.

Computational Fluid Dynamics - Using ELEMENTS, a CFD program custom coded for the automotive industry.

Adjoint CFD - A specialized CFD solver that is like 1000 CFD runs in 1. It morphs the car surface to show which way to morph the body for aerodynamic improvements. Adjoint has helped OEM's find additional drag reductions even after intensive traditional aerodynamic development.

Sculpted Underfloor - ARC is a world leader in understanding how to make a 3d aerodynamic underfloor, while still retaining correct cooling, exhaust and safety requirements.

Thermal Testing - Increase the efficiency of electric components and batteries by getting cool airflow to them.

Thermal CFD Testing - Using the thermal solvers in ELEMENTS, CFD software coded specially for automotive purposes, get valuable flow visualization information and temperatures. Then, optimize the flow to the components and ensure hot air is kept away.

Development Ductwork - Adjoint CFD solver can take a duct and automatically morph it into the most efficient shape in one CFD run.

Rolling Resistance - Decreasing the rolling resistance of your drivetrain

Hybrid Drivetrain Test Rig - The ARC drivetrain test rig, capable of 600 hp and shaft speeds of 9000 rpm can do hybrid drivetrain testing by switching the wheel side of the dyno from absorption to driving thus replicating realistic drive cycles.