THE IMPACT OF MULTIPHYSICS OPTIMIZATION ON E-MOTOR DESIGN

ACCELERATING DEVELOPMENT WITH EARLY SIMULATION

IDEATE FREELY

Explore New Ideas
- Don't just tweak existing concepts, test and compare
- Find the best motor topologies

Altair FluxMotor™ enables you to edit motors designs in just a few clicks, and calculates performance results in minutes

EXPLORE DEEPLY

Generate Possibilities
- Generate alternative configurations with Design of Experiments (DoE)
- Automate DoE studies to save engineering time

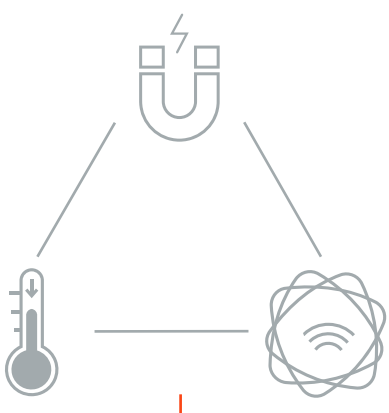
Altair HyperStudy™ efficiently drives design exploration and automates research, helping designers understand the relationship between parameters

INTERACT EARLY

Make Informed Decisions
- Perform quick feasibility iterations
- Consider product modifications early in the design stage
- Accelerate the model approval process

The most cost-effective time to make changes is early in the design process

> **"FluxMotor gives our development and marketing teams a great tool for quick and still very accurate decision making regarding new development requests. Designing an electrical machine in less than one day sounds incredible, doesn't it?"**
>
> Kobi Ingram, Electrical Engineer at Gevasol Engineering



THINK MULTIPHYSICS

Consider Interactions
- Understand how design decisions impact your global motor performance
- Optimize electromagnetic, thermal, and mechanical performance in a single environment
- Verify balanced design

Ensure first-time-right design by considering cost, weight, and performance constraints in a multiphysics optimization

OPTIMIZE EFFICIENTLY

Boost Performance
- Strongly couple analysis and optimization to get the best from your concept

HyperStudy's efficient optimizer guides non-experts to manage design objectives and constraints

VALIDATE ACCURATELY

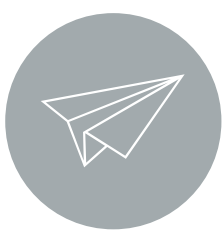
Confirm and Document
- High-fidelity models, efficient workflows and synergy to Altair's multiple physics solvers
- Precise prediction of motor behavior

Perform advanced loss computation, simulate manufacturing processes, study cooling strategies, carry out NVH analysis, examine drive and control scenarios, and more

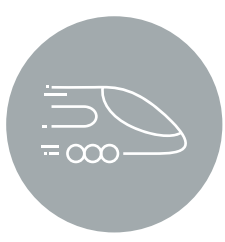
Simulation-driven design accelerates the creation of cost effective, quiet, efficient, reliable, and lightweight products.

ALTAIR HAS FUELED MOTOR INNOVATION FOR:

The worlds biggest dam hydrogenerator



The first solar-powered airplane to travel around the world



Generations of high-speed trains

Luxury watches that run with precision

Pumps in artificial hearts that extend life