# Ansys

# Ansys + Autorient

"We are very pleased with the fast and responsive support from EDRMedeso. This support has enabled us to use Ansys Mechanical in a more advanced manner. Being able to model and accurately simulate complex physical behavior is very important to us. Ansys is a very efficient tool to do this, helping us to reduce time and cost spent on development of our products."

**Eskild Westby**
Chief Technology Officer / Autorient AS / Trondheim Norway

Autorient targets solutions for positioning and control of autonomous machines, robots and vehicles. As the market moves toward smaller products at lower cost with higher measurement precision, engineering simulation enables us to push design limits and to optimize systems.

## Instruments for Positioning of Autonomous Systems

### / Company Description

Autorient, founded in 2016, aims to be a world leader in positioning and control related to autonomous machines, robots, vehicles and operations. Our nine employees have combined experience from high-tech microelectronics, avionics and automotive industries, with a proven track-record in creating world-leading products.

### / Challenges

Both reducing the size and improving the performance of the measurement system are important. To accomplish this, it is vital to have full understanding of the behavior and the mechanical, thermal, and electrical properties of the system. Modeling and simulation of these various domains are critical to obtain this.

### / Technology Used

- Ansys Mechanical
- Ansys Maxwell

### / Engineering Solution

Ansys simulation solutions are, along with other tools and methods, used to map properties of several conceptual ideas. This, along with analytical estimates, enables a fast and robust concept evaluation. Further, Ansys solutions are used for detailed and in-depth analyses to estimate system performance. Especially useful is Ansys' ability to perform simulations in various domains, such as the mechanical, the thermomechanical and the electrical domain. This simplifies the workflow when doing parameter variations, optimizing toward a small and precise positioning system.

### / Benefits

Using Ansys for modeling and simulation helps us with:

- Fast tests/comparison of conceptual ideas.
- Reducing time, cost and need of prototyping.
- Better estimation of system performance.
- Better and faster optimization of system/package.
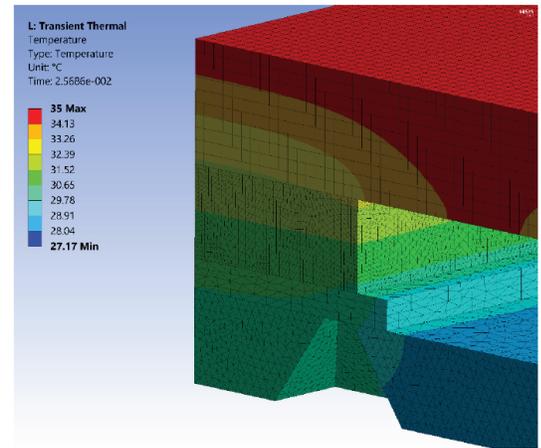


Results from a transient thermal simulation. The simulated transient temperature distribution can in turn be used to improve the design.



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