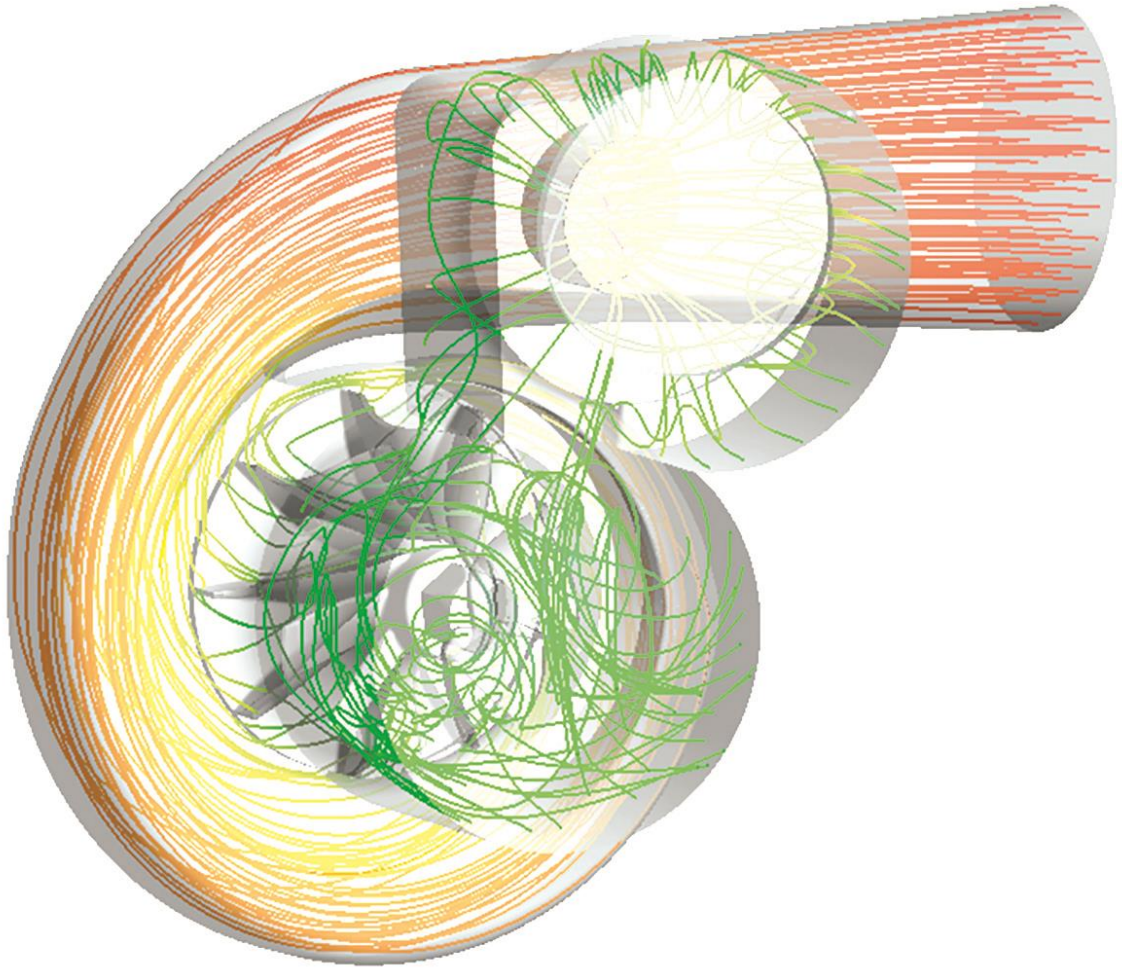
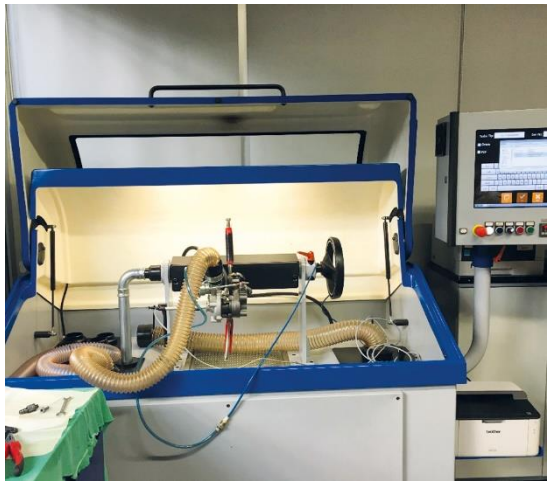
Supsan Division, Borusan R&D
Developing a turbocharger

SIEMENS
Ingenuity for life



Developed completely new turbochargers with the use of Simcenter FLOEFD

Cost optimization
through simulation-supported material selection



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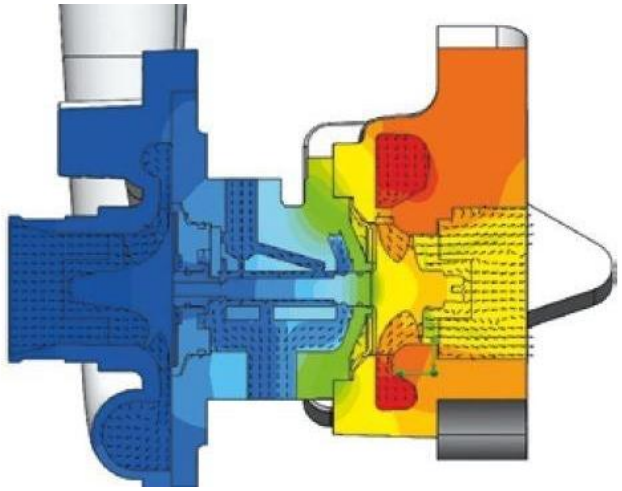
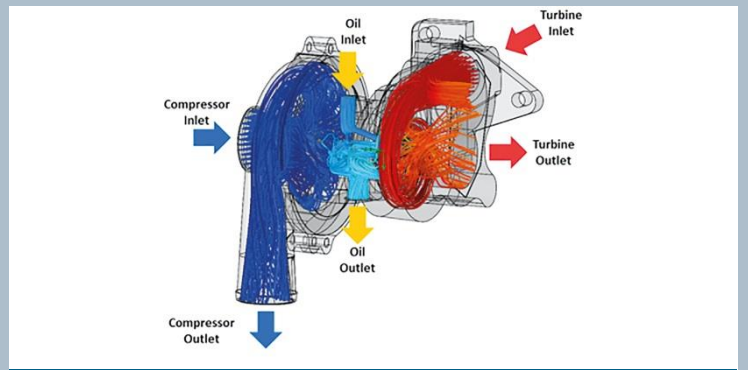
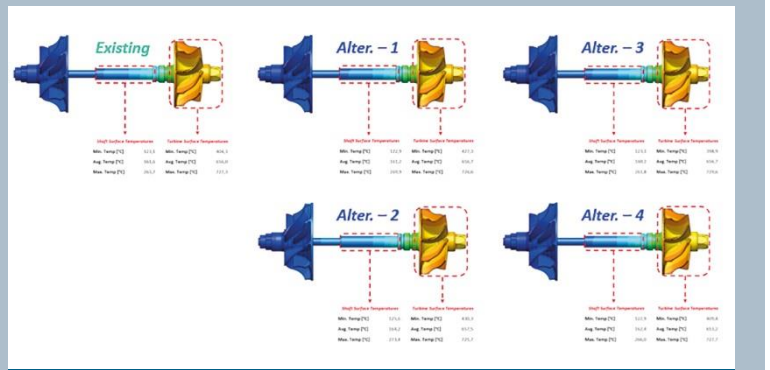


- **Developed new turbochargers**
- **Created optimal design based on simulation**
- **Optimized cost due to selection of material**

Influence of impeller materials



Simulation of the entire turbo charger



Investigation of different materials

- Use CAD-embedded Simcenter FLOEFD for testing digital twins
- Analyze entire turbocharger including hot turbine gases and oil flow
- Determine thermal distributions

“We started our new designs and we performed the whole turbocharger simulations, obtained the thermal distributions and found material substitution opportunities. We achieved this with Simcenter FLOEFD."

Mert Alpaya, Researcher