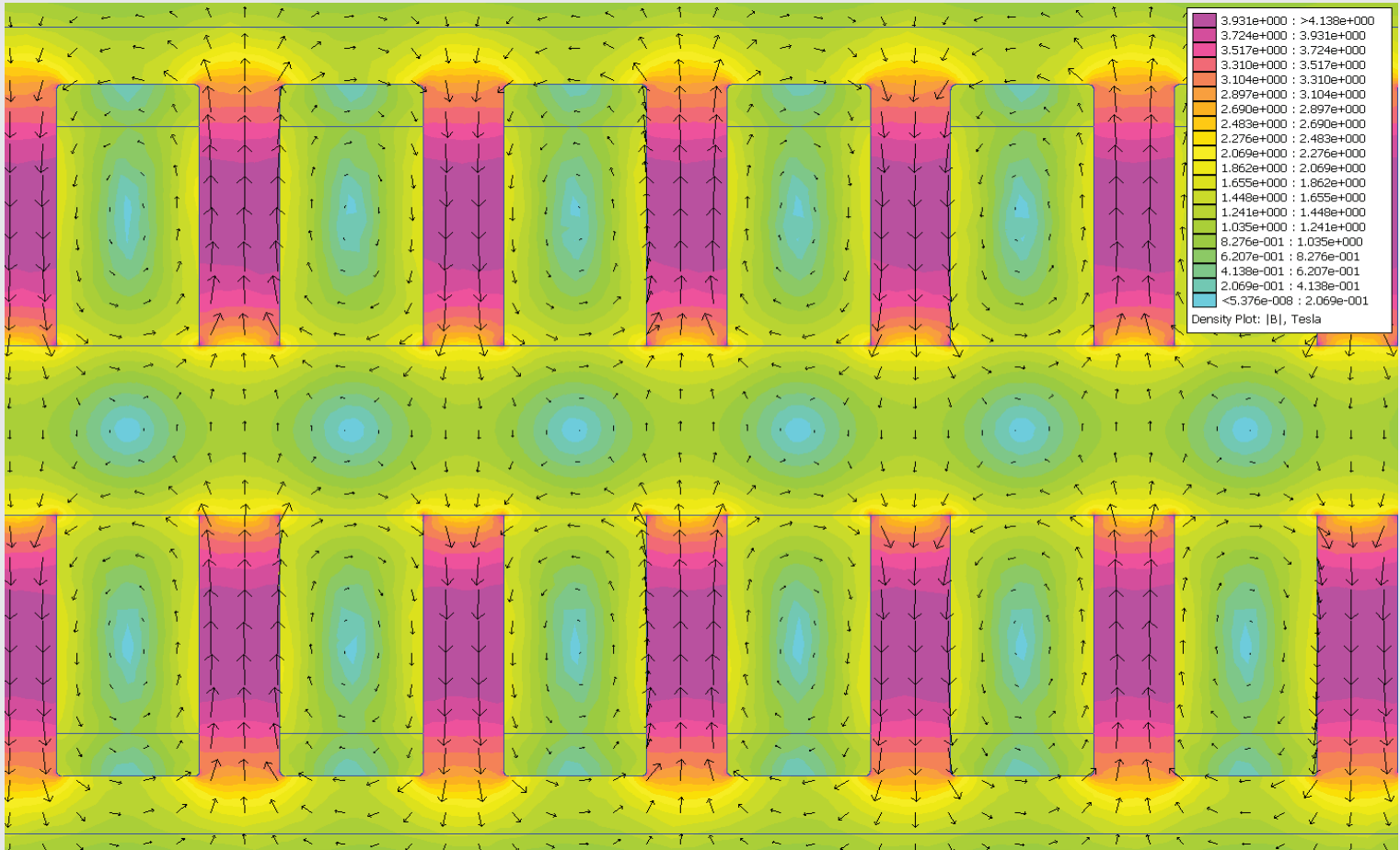


# ENGINEERING CALCULATIONS

MAGNET TECHNOLOGIES



## Engineering Calculations

We perform:

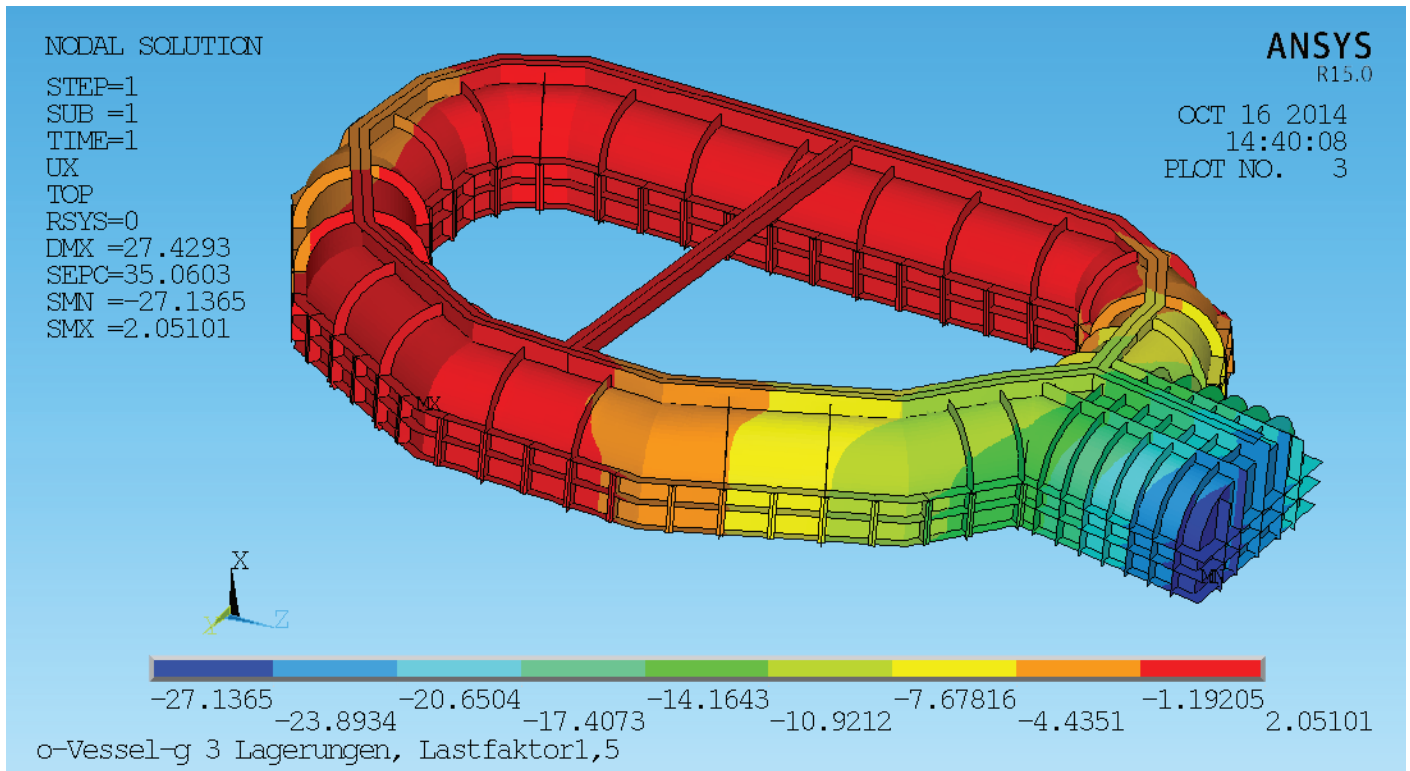
- Mechanical calculations
- Heat transfer starting at cryogenic temperatures
- 2D and 3D electromagnetic field simulations
- Quench calculations for superconducting magnets
- Fluid Dynamic Calculations
- Multiphysics calculations (forces, fields, temperature, heat transfer, quench)
- Shock Test Simulation
- Beckhoff PLC Programming
- Our main tools are **ANSYS** ©, **Vector Fields Opera** ©, **FEMM** ©, **Mathematica** © and **LabVIEW** ©

Bilfinger Noell provides magnet systems, vacuum and cryogenic facilities for research and industry.

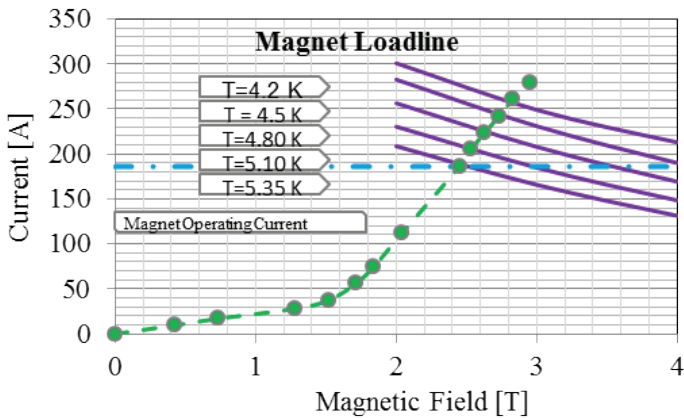
We are pleased to provide support to design, feasibility and production analyses already in the early phases of projects.



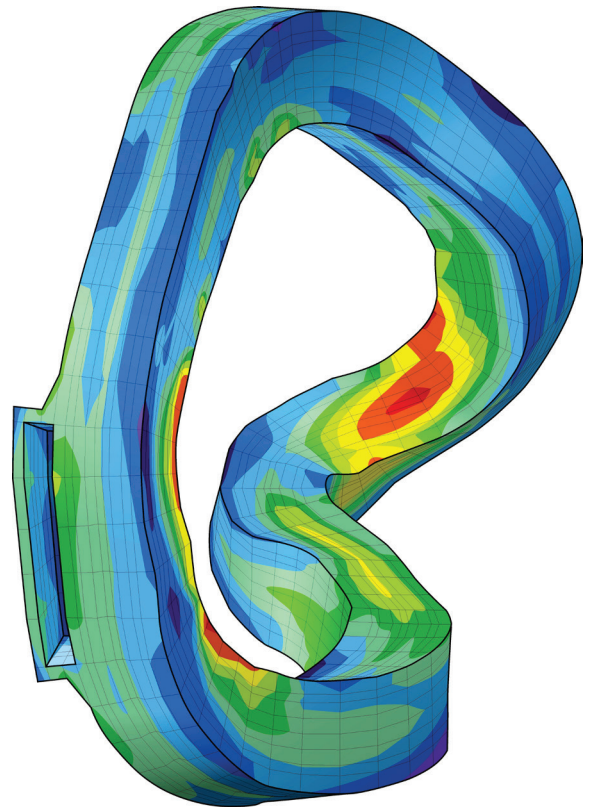
**BILFINGER**



Cryogenic Test Vessel



Loadline of Superconducting Magnet



W7-X Coil

## References

- Electromagnetic Calculations (FEM 2D and 3D, analytical)
- Cryogenic Calculations and Design
- Design of Vacuum Systems
- Multi-Physics Calculations
- Quench Analysis
- Mechanical Analysis (Static and Dynamic)

## Engineering & Technologies

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