

THE PROBLEM

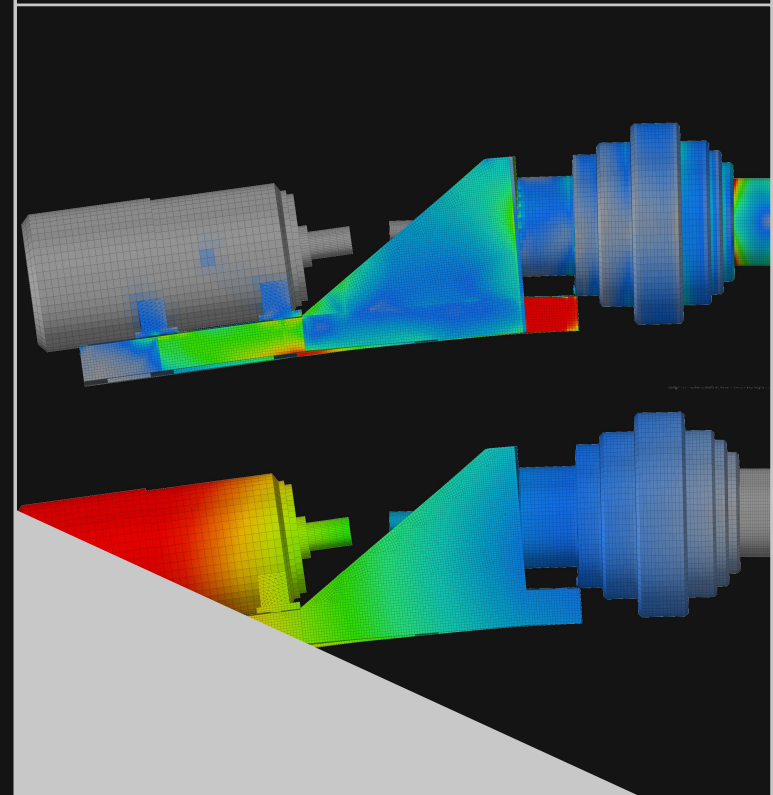
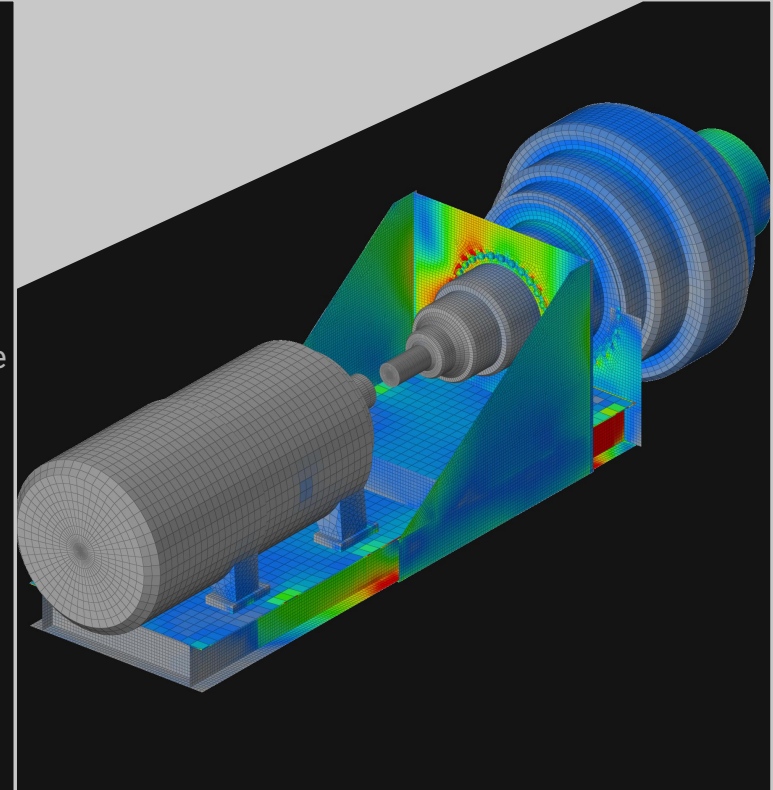
- The flexibility in the structural base of the power transmission gearbox causes misalignment between the electric motor and the gearbox.
- This misalignment reduces the lifespan of the gears.
- Production must be stopped to replace the gears.

OUR SOLUTION

- Decouple the gearbox and the electric motor to allow free transverse motion.
- Apply the transmitted torque to both sides.
- Perform Finite Element Analysis of the entire assembly.
- Measure the misalignment between the motor and gearbox axes.
- Redesign the structure to reduce the misalignment.

OUR METHODS

- Finite Element simulation using multi-bodies.
- Hybrid mesh of shells, flexible and rigid solids and multi-point constraints.
- Nonlinear static analysis with large displacements and rotations.
- Misalignment vs torque post processing using displacement signal.



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