

Topic 3

E-axle structural optimized ready for 3D printing

Thesis extract

- The main goal is to take an existing e-axle and optimize with a structural optimization tool. Parts like e-motor, inverter, gears and mounting points need to be taken as fixed.
- In a first loop the optimization should show the required structure to cover all load cases
- In a second loop the assembly (including new possibilities due to 3D printing) as well as closing of open structure need to be evaluated
- Estimation of printing time as well as assembly time compared to the base axle
- Estimation of cost compared to the base axle