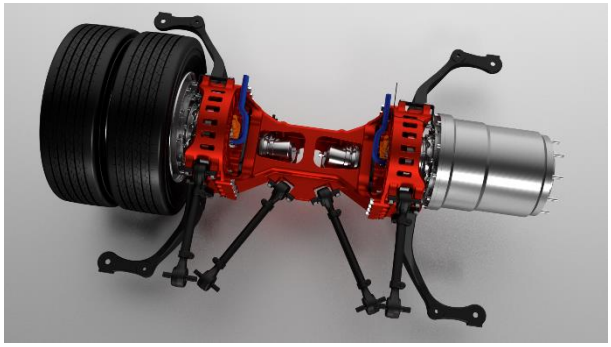
e-Traction, Apeldoorn

Internship/Graduation Assignment:

IGBT cooling strategy comparison; 'A key topic in inverter development'



Founded in the Netherlands e-Traction offers superior technology in e-mobility and related services that is based on solid expertise and experience. Since 1981 the key focus has been to commercialize and integrate innovative and state of the art e-mobility solutions.

We developed a unique electric in-wheel powertrain technology which offers the essence of pure direct drive power. With our sustainable technology only a bare minimum of components is required to reach the highest efficiency level. The simplicity of our drivetrain is the ultimate sophistication.

Assignment description:

Electric motors for our commercial vehicle drive trains are powered by high power inverters. These are developed in house at e-Traction by an experienced design team. In order to lower the break-even point for electrification we strive for state of the art efficiency and low investments for our customers. Direct water cooling of IGBTs could be a way to optimize our inverter designs. Comparing cooling strategies to find the optimum for the inverter will be the goal of this graduation assignment. A combination of theoretical modeling and practical experiments shall make this assignment a perfect learning opportunity for you as well as e-Traction!

The assignment consists of:

- Learning about inverter technology and IGBT's
- Investigating IGBT cooling designs
- Modeling IGBT cooling
- Preparing, executing and analyzing IGBT cooling experiments

Profile:

/ Primarily: Master level engineering graduation for those that love to dive into multidisciplinary challenges

Do you not fit the exact profile above, but you do love the topic? Please write us and we can look into mutual opportunities!

For more information regarding this assignment, contact Jorrit Heusinkveld, T. +31 (0)55 521 11 11 – j.heusinkveld@e-traction.com