

Graduation Assignment:

Conversion, storage and analysis of log data of a vehicle equipped with an in-wheel motor based powertrain.

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.



e-Traction's electronic control technology series consist of a number of sophisticated powertrain control modules (PCM) and vehicle energy managers (VEM). The e-Traction Electric Control Units are products of years of development and optimization within heavy-duty automotive environments and have been tested and certified accordingly. Both TheControl PCM and TheControl VEM are easy to integrate within an existing Vehicle CAN J1939 environment and offer distinctive functionality and safety features.

Assignment description

This assignment focusses on several aspects important when dealing with large data sets. These data sets are recorded during vehicle testing of the e-Traction in-wheel motor based powertrain. This assignment will improve the methods and technology used to handle these data sets in an efficient way. The method will be validated by using the proposed methods and technology by performing all steps typically required to analyse this information on real data.

The assignment can be subdivided in the following parts:

- / Improvement of the e-Traction raw CANbus data converter solution.
- / Investigation and implementation of a scalable and efficient data structure.
- / Development of the necessary data structure operations to interact with the data set.
- / The validation of the solution by analysing real test-data using the developed solution.
- / Deriving conclusions and recommendations from the executed data analysis.

The following technology and methods are part of this assignment:

- / Matlab/Simulink
- / Data structures for big data
- / CANbus data handling
- / Data conversion
- / (statistical) data analysis
- / Error information handling

Profile

- / Automotive/Computer Science/Information Technology background
- / Microsoft Office (or LaTeX) for reporting and presentation of results.

For more information regarding this assignment, contact Geert Kwintenberg,
T. +31 (0)55 521 11 11 - g.kwintenberg@e-traction.com