ČVUT
ČESKÉ VYSOKÉ UČENÍ TECHNICKÉ V PRAZE

REVIEWER'S OPINION OF FINAL THESIS

I. IDENTIFICATION DATA

Thesis name:	**Advanced cruise control development and validation for an in-wheel motor based powertrain**
Author's name:	**Kevin Régis Mbenza Mbuambua**
Type of thesis :	master
Faculty/Institute:	Faculty of Mechanical Engineering (FME)
Department:	U12120,Department of automobiles, internal combustion engines and railway vehicles
Thesis reviewer:	Geert Kwintenberg
Reviewer's department:	e-Traction

II. EVALUATION OF INDIVIDUAL CRITERIA

Assignment — **challenging**

Evaluation of thesis difficulty of assignment.

This assignment is about the development a validation of software component that maintains the vehicle speed which is set by the driver. e-Traction needs to have a solution that can maintain the speed with a minimum amount of speed over and undershoot for the supported vehicle types. Furthermore there are dynamic situations such as vehicle mass and road slope conditions which will influence the performance of the speed controller. The assignment will therefore also focus on methods to correctly compensate for these dynamic and static variations. This assignments requires the application of control and observation techniques applied to the automotive domain.

Satisfaction of assignment — **fulfilled**

Assess that handed thesis meets assignment. Present points of assignment that fell short or were extended. Try to assess importance, impact or cause of each shortcoming.

The student proved to be able to both connect the control domain and information obtained from academic literature into the assignment and secondly apply the e-Traction model based development process into the software design into the realization of the software module. A point of improvement would be on the documentation of the rationale of the selected control methods, and the formal connection between the controller performance versus the current situation (basic cruise control mechanism)

Method of conception — **correct**

Assess that student has chosen correct approach or solution methods.

Good application of information gathered from the academic literature. The student showed a good collaboration with other team members, to find help when needed. This is supported by the outstanding social and communicative skills of the student.

Technical level — **B - very good.**

Assess level of thesis specialty, use of knowledge gained by study and by expert literature, use of sources and data gained by experience.

The student applied the e-Traction knowledge, process and modelling guidelines in a good way with sufficient independence.

Formal and language level, scope of thesis — **C - good.**

Assess correctness of usage of formal notation. Assess typographical and language arrangement of thesis.

Good writing and good document structure.

Selection of sources, citation correctness — **C - good.**

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REVIEWER'S OPINION OF FINAL THESIS

Present your opinion to student's activity when obtaining and using study materials for thesis creation. Characterize selection of sources. Assess that student used all relevant sources. Verify that all used elements are correctly distinguished from own results and thoughts. Assess that citation ethics has not been breached and that all bibliographic citations are complete and in accordance with citation convention and standards.
Good independence in the selection of relevant literature towards the assignment. Regarding citation ethics, convention and standards there is not e-Traction guidelines for this item. Therefore difficult to judge.

Additional commentary and evaluation *Present your opinion to achieved primary goals of thesis, e.g. level of theoretical results, level and functionality of technical or software conception, publication performance, experimental dexterity etc.*
None

III. OVERALL EVALUATION, QUESTIONS FOR DEFENSE, CLASSIFICATION SUGGESTION

Summarize thesis aspects that swayed your final evaluation. Please present apt questions which student should answer during defense.

The student showed good independence and involved other team members when required. The student has the ability to quickly familiarize with the process, guidelines and standards. The result of the thesis will later this year be incorporated into the software application of our powertrain solution. My expectation is that the amount of required changes to get the solution field ready will be limited.

I evaluate handed thesis with classification grade **B - very good.**

Date: **3.9.2018**

Signature: