

## I. IDENTIFICATION DATA

<b>Thesis name:</b>	<b>Hybridization of battle tank</b>
<b>Author's name:</b>	<b>Elisa Tanguy</b>
<b>Type of thesis :</b>	master
<b>Faculty/Institute:</b>	Faculty of Mechanical Engineering (FME)
<b>Department:</b>	Department of Automotive, Combustion Engine, and Railway Engineering
<b>Thesis supervisor:</b>	Rastislav Toman
<b>Supervisor's department:</b>	Department of Automotive, Combustion Engine, and Railway Engineering

## II. EVALUATION OF INDIVIDUAL CRITERIA

<b>Assignment</b>	<b>challenging</b>
<i>Evaluation of thesis difficulty of assignment.</i>	
The thesis assignment contains a challenging practical part. The aim is to develop a simulation model of hybridized battle tank, with a basis in former project of "conventional" battle tank, together with multi-mode energy management strategy. Simulation results must then be compared to non-hybridized model. Therefore, I find the assignment challenging.	

<b>Satisfaction of assignment</b>	<b>fulfilled</b>
<i>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.</i>	
The assignment was fulfilled without any objections in all its points.	

<b>Activity and independence when creating final thesis</b>	<b>A - excellent.</b>
<i>Assess that student had positive approach, time limits were met, conception was regularly consulted and was well prepared for consultations. Assess student's ability to work independently.</i>	
The student was very active and independent during her thesis creation, fulfilling all her time limits, agreed deadlines, and regular consultations.	

<b>Technical level</b>	<b>A - excellent.</b>
<i>Assess level of thesis specialty, use of knowledge gained by study and by expert literature, use of sources and data gained by experience.</i>	
The technical level of the thesis is excellent. The parts dealing with development of vehicle model, energy management strategy ECMS, and batteries' sub-systems are very detailed and well presented – where possible (e.g., energy management strategy ECMS), based on literature research and current modelling state-of-the-art. Generally, the thesis is very extensive from technical point of view: mainly the abovementioned ECMS and different battery models. Simulation results are properly introduced, although not everything could be presented due to confidentiality. Following steps for next work are also clearly stated.	

<b>Formal and language level, scope of thesis</b>	<b>A - excellent.</b>
<i>Assess correctness of usage of formal notation. Assess typographical and language arrangement of thesis.</i>	
The thesis's formal and language level is excellent. The text is well arranged and logically divided into different sections or chapters. The thesis length is standard.	

<b>Selection of sources, citation correctness</b>	<b>A - excellent.</b>
<i>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.</i>	
Student uses relevant and current sources: scientific papers and publications. All the citations are distinguished from the student's original ideas, therefore the citation ethics has not been breached.	

**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.*

Please insert your commentary (voluntary evaluation).

**III. OVERALL EVALUATION, QUESTIONS FOR DEFENSE, CLASSIFICATION SUGGESTION**

*The student proved with her master thesis the technical competence, and ability of theoretical knowledge application during the development and verification of simulation model of hybridized battle tank, and its sub-systems.*

*The thesis's overall complexity and high level of execution of different sub-tasks, together with the fact, that the thesis was carried out partially in a team, renders the final classification grade of excellent.*

I evaluate handed thesis with classification grade **A - excellent**.

Date: **25.8.2023**

Signature: