

### I. IDENTIFICATION DATA

<b>Thesis name:</b>	<b>Modeling of a Spark Ignition Systems Architectures</b>
<b>Author's name:</b>	<b>Yassine Haï</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>	Ing. Vít Doleček, Ph.D.
<b>Supervisor's department:</b>	CTU in Prague – FME, Department of Automotive, Combustion Engines and Railway Engineering

### II. EVALUATION OF INDIVIDUAL CRITERIA

<b>Assignment</b>	<b>ordinarily challenging</b>
<i>Evaluation of thesis difficulty of assignment.</i>	
Diploma thesis assignment was focused on analysis and upgrade of modelling architecture of diesel powertrains control systems. Same modelling architecture systems process should be applied also to the spark ignition powertrains.	

<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 completely.	

<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>	
According to assessment from student's supervisor in Renault Mr. Jamil Abida, students' technical initiative, autonomy, analyzing capacity and performance was excellent. Student's leadership was at very good level. Mr. Abida emphasizes student's excellent adaptability and teamwork.	

<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>	
According Mr. Abida technical level of the work is excellent. Student wrote brief introduction into model-based systems used for development of powertrain control systems. He described modelling of system architectures in tools used in Renault. He explained how they are displayed in several types of function diagrams representing communication between sub-models and their physical connections. These models are important for definition of communication between development teams and for consecutive failure modes and effect analysis (FMEA). Practical application of the work was evaluated as very good.	

<b>Formal and language level, scope of thesis</b>	<b>B - very good.</b>
<i>Assess correctness of usage of formal notation. Assess typographical and language arrangement of thesis.</i>	
Typographical arrangement of the work is on good level. The paragraph titles and figures are numbered according to demands claimed on diploma thesis. English grammar of the work is very good, nevertheless, it contains several typing errors.	

<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</i>	

*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.*

Used sources are cited according to citation norm and well-arranged list of used references is at the end of thesis.

### **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.*

I evaluate this diploma thesis according to attached evaluation form from Mr. Jamil Abida, System Architecture Expert who was supervising student's internship at Renault. Mr. Abida was satisfied with the work our student and he recommended him for employing in his department.

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

*Summarize thesis aspects that swayed your final evaluation.*

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

Date: **29.8.2019**

Signature:



## ASSESSMENT OF INTERNSHIP

Host organisation	RENAULT
Dates of internship	February 15 <sup>th</sup> 2019 to August 14 <sup>th</sup> 2019
Name of the intern	Yassine HAI

### EVALUATION

Criteria	Excellent / Professional	Very good	Good	Satisfactory	Sufficient/ Need improvement	Failed / Unsatisfactory
<b>Professional skills</b>						
Technical initiative	X					
Autonomy	X					
Performance	X					
Leadership		X				
Analysing capacity	X					
<b>Interpersonal skills</b>						
Adaptability	X					
Team work	X					
Communication skills		X				
<b>Internship report</b>						
Technical content	X					
Content	X					
Practical application for host organisation		X				

**Overall appreciation:**

Yassine HAI has a solid knowledge of internal combustion engines and an open minded behavior so he easily adapted the approach of systems engineering. He helped us a lot in the use of the new system modeling tool MagicDraw. His work gave an appreciable contribution in design reviews materials by feeding them with architecture diagrams and impacts analysis. Yassine is an excellent intern in terms of skills, work capacity and relationships.

In case of available position, would you consider employing this student?	<input checked="" type="checkbox"/> YES
	<input type="checkbox"/> NO

Name of the supervisor: **Jamil ABIDA**

Date: **July 9<sup>th</sup> 2019**

Title/Position: **Powertrain System Architecture Expert**

Signature: