

#	PG	Subject	Description	Nr of stud
1	AD	Technical issue solving Tool based on Knowledge Data Base	Tool developed in an OOP language for gathering the technical issues encountered during a project lifetime.	1
2	AD	Automatic generation tool for Test Report CAPL test suites generated automatically based on Doors	Tool developed in an OOP language for generating a test report and for generating a test suite composed of automated tests from a test specification	1
3	AD	Framework for automated release notes / documentation generation at Software & System Integration.	Tool (preferably Python script; or C#) which based on appropriate inputs will automatically generate integration documents.	1
4	AD	Intersection assist using RADAR sensors.	Using RADAR sensors & technology, we want to implement an algorithm (C language used) on RADAR uC which is able to detect if an intersection is free and the user / driver can continue and pass the intersection.	1
5	AD	Extend RADAR specific tools (.xml merge tool and internal errors generator tool) with new features.	Extension of an existing tool in order to provide the possibility to perform generation of the C source files based on an excel file (instead of DOORS document) Extension of an existing tool in order to provide the possibility to perform generation of the C source files based on a particular baseline of the document stored in DOORS	1
6	AD	Test Vehicle Gateway Standardization	Mapping of project specific CAN messages to the test vehicle CAN Matrix. This mapping will be done using programming languages.	1
7	AD	Requirements Management tool	Requirements Management : Understanding Hella's requirements management strategy from 2 perspectives: <ul style="list-style-type: none"> • Information flow across domains (i.e. attributes, traceability) • Quality related (i.e. rules for writing requirements) Work with the project team in order to measure and identify the gaps. Support in closing out the open points.	1
8	AD	Data Decoding tool	Tool that has an input binary format and generates the logical information out of it.	1
9	AD	Automotive diagnostics implementation	Embeeded software development for diagnosis.	1
10	AD	E-learning training materials	Preparation of e-learning materials related to various radar functional development and radar tooling topics.	1
10	AD	Radar Signal Processing	Target detection algorthims using radard technology.	1

11	EM	Mini HIL for Fuel Control Module projects	Build-up mini-HIL software (Embedded C) and corresponding control tool (PC-based, Vector CANoe) for generating and testing hardware signals (KL15, PWM, CAN signals, SENT interface simulator)	1
12	EM	SBC reset circuit development	Create and program an electronic circuit for SBC. (HW background needed)	1
13	EM	Module Design updating Tool in Doors	Check current design diagram and compare with the diagram generated based on code. Update DOORS if needed.	1
14	EM	Automatic extract compiler errors	Automatic extract compiler errors from build process and categorize them.	1
15	EM	SW Module Test for Energy Management projects (Battery Management Systems, Fuel Control Modules, DCDC Converters,	Understand SW Module Test as testing level, tools usage, develop and execute testcases.	4
16	EM	SW Test for Energy Management projects (Battery Management Systems, DCDC Converters)	Understand SW Test as testing level, tools usage, develop testcases in CAPL and execute testcases.	2
17	EM	System Test automation for Energy Management Projects.	Learn how to create/automate test cases for system testing	4
18	EM	System Integration test for IFM projects	Learn to create and execute system integration tests.	1
19	EM	Tool for SW Integration Test automation for Intelligent Battery	Migration of TAE test cases to CAPL. (Vector tooling)	1
20	EM	Dynamic HBM	Windows application for monitoring Intelligent Battery Sensor outputs and configuring parameters.	2
21	EM	Intelligent Battery Sensor flash equipment for customer use	HW device which allows reflash of Intelligent Battery Sensor SW at customer site.	3
22	EM	Tool to generate Embedded flashtool	Windows application to generate Embedded flashtool based on GUI which allows the selection of the coresponding configuraiton.	1
23	COMP	System test tools SW development	<ol style="list-style-type: none"> 1. LIN Load Box creation for EMC tests (simulate up to 14 ECUs from the car) with variable number of the ECUs. 2. Control with CANoe the light functionality (ambient, front) of RCP. (knowledge needed: MATLab, CAPL) 3. The xls results comparing tool is not working accordingly. Transfer it to Python and integrate with the Qualification log analysis tool. 	1

24	COMP	Mechanical system test activities	<ol style="list-style-type: none"> 1. Geometrical measurements 2. Pedal potentiometer adjustment – Contactless programing 3. Test execution (depends on the case) 4. Force test 5. Durability test 6. Environmental test 7. Evaluation of test results and Creation of test report 	1
25	COMP	Design of plastic bracket for vacuum pump		1
26	AE	BH meter – using Digilent Discovery or Red Pitatya	FPGA, programing knowledge – C,C++, JS or python	1
27	AE	IOT – Internet of Things	Programing knowledge – C,C++, JS or python	1
28	AE	SCR- Synchronous Controlled Rectifier using SiC		1
29	AE	Traction Motor Drive		1
30	AE	Machine Vision systems	Programing knowledge – C,C++, JS or python / Mobile apps	1