Fachhochschule Dortmund
University of Applied Sciences and Arts

IDiAL Institute for the Digital Transformation of Application and Living Domains

EUCLIDES

FACT SHEET BIP

Name institution	Dortmund University of Applied Sciences and Arts (FH Dortmund) **Erasmus code:** D DORTMUN02
Title / Name BIP *(Enter the official name of the BIP)*	Automotive Systems Block Week 2026
Abstract *(Brief summary of the activity – what it is about in 3–5 lines)*	The BIP Automotive Systems Block Week 2026 introduces students to the fundamentals of automotive systems engineering, with a focus on driver assistance and autonomous driving technologies. Participants work in international teams to explore the full development cycle, from requirements to validation, using tools like MATLAB/Simulink and a virtual autonomous robot lab. The program blends virtual preparation with hands-on workshops, industry insights, and real-world applications. It offers valuable cross-cultural teamwork experience and a deep dive into one of the most dynamic sectors of the engineering world.
Goal *(What is the main objective or purpose?)*	The objective of the BIP is to traverse the process of automotive systems engineering, from requirements engineering to system validation. The focus is set on driving assistance systems and autonomous driving. Automotive systems engineering is a complex process, fragmented over many companies in many different countries. Teaching automotive systems engineering to international and diverse teams recursively reflects this process. Feedback from past BIP participant batches confirms high interest in insights into the German automotive industry, complemented with a theoretical foundation in automotive systems engineering and a strong share of practical exercises. Guest speakers from the industry and an excursion to an automotive supplier provide real insights into the industry.

Topics covered *(List the key themes or subject areas that will be addressed)*	• The process of automotive system engineering – from requirement elicitation to system qualification • Different system architectures for ADAS/AD features like safety and comfort functions as well as the relevant components • Automotive SW development • Model-based SW development in MATLAB/Simulink for function design and testing
Expected outcome(s) *(What should students gain or achieve by the end?)*	The didactic concept includes lectures, enriched with videos and demos; excercises in Matlab/Simulink, ADAS algorithm development, Algorithm deployment on an autonomous robot Innok Heros (real and virtual). The live demonstration of a sensor measurement rack and a CAN bus setup make the learning points more tangible. Guest Talks, university lab tours and a company visit round off the didactic concept. A quick sport exercise by a trainer from the university sport center reminds students of the sane mind/sane body concept.
Start and end date of the BIP	23-27 March 2026
Content of virtual component *(Describe any online or hybrid elements – e.g., webinars, online modules, collaborative tools)*	During the virtual component, some theoretical knowledge is provided to secure equal foundation knowledge. International and diverse teams are defined, and initial assignments (inverse classroom principle) are distributed. This initiates the teambuilding process, which is an important precondition for the physical block week. After the physical phase, the results of the function development and validation will be consolidated and prepared for an online presentation by the students, which forms the final result of the BIP.
Start and end date of the virtual component	09 March – 03 April 2026
Maximum number of students *(Total number of participants allowed)*	30

Maximum number per university *(Limit per institution, if applicable)*	NA
Webpage	TBD
BIP ID *(If already available)*	TBD