

Internship Report – Škoda Auto a.s.

Student: Bc. Šimon Hudínek

Department: EPS/3 - Emission Laboratory

Internship period: 03/2025 – 08/2025

During his internship, Mr. Hudínek worked on the development and implementation of a mathematical model and software tool for optimizing humidity management in Constant Volume Sampler (CVS) systems used in vehicle emission testing.

His responsibilities included analysing critical failure scenarios, designing a Python-based simulation for gas and water vapor behaviour, and validating the model with real-world data from PEMS experiments. He also created a user-friendly application enabling technical staff to predict and adjust experimental settings, thus reducing test failures. The tool supports various vehicle types and driving cycles, allowing for flexible and reliable operation.

Throughout his internship, Mr. Hudínek demonstrated strong analytical and programming skills, independence, and initiative in tackling complex technical challenges. His solution contributes to reducing the number of failed emission tests, leading to more efficient use of time and materials within the department. His results were presented to the technical team and the developed application will be implemented to enhance future testing processes within the department.

Mladá Boleslav, 08.10.2025



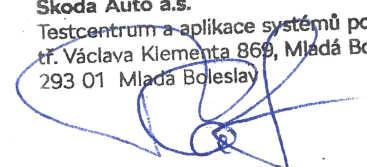
Project Advisor

Ing. Matěj Slavíček

SKODA

Škoda Auto a.s.

Testcentrum a aplikace systémů pohonu (3)
tr. Václava Klementa 869, Mladá Boleslav II
293 01 Mladá Boleslav



Head of Department

Ing. František Plát, Ph.D.