

News from the visit to Cologne



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They explained the area where prototyping is performed. Equipment used for producing the prototypes and the methods were explained. We got to see swiss CNC, laser cutter, laser marking machine and several other machines. To our surprise we were gifted with a pen with our names laser marked right in front of us.

Furthermore, we visited the area where the new prototypes are tested on some of the most advanced vehicles and the area where the electric motor and gearbox were put through its paces with different arrangements of engines to simulate road conditions. The development of differential system was also briefly explained. One of the most interesting labs in the visit was the NVH lab where they demonstrated how to identify a vibration from a vehicle powertrain and calibrate it. We were given a short explanation into the use of different geometry to achieve the desired results.

The session ended with an insight into internship opportunities and a chance to pursue a master thesis at GKN Driveline in Germany or in one of their other premises around the world. GKN is very interested to support the JMSAE students in the frame of internship and thesis, because:

- the JMSAE students can work with GKN during 6 months or even a full year;
- the JMSAE students are internationally oriented;
- the JMSAE students have good English skills.

And of course, at the very, very end, we had the traditional photo shoot !

One of the best things about studying in University of Antwerp is the proximity to the vast network of prominent industries in the automotive sector. Today we received an opportunity to visit one such location. The day started very early and we set off from Antwerp to the TH-Köln (University of Applied Sciences, Cologne). We were addressed by Prof. Dr.-Ing. Rainer Haas from the faculty of Automotive Engineering and Production Systems about the University.: its history, objectives, study programmes, research areas and laboratories.

This was followed by a few examples of projects undertaken by the university for master thesis. An introduction into vehicle concepts and integration was given by Dr Michael Frantzen, followed by an example of a product made by the students of the university. The project was an electric motorcycle called "Steereo", which surprised most of us with its capabilities range and lightweight construction. We were given a delicious lunch and the second leg of our day's journey started after that. We went to Lohmar to visit the powertrain development facility of GKN Driveline International GmbH (<https://www.gkn.com/en/our-divisions/gkn-driveline/>). The company is one of the pioneers in powertrain development and has 90 % of the automotive industry using one or more of their components. After a detailed explanation of their product portfolio and about the advantages of their system in comparison to the existing technology, we were given a tour of the facility.

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