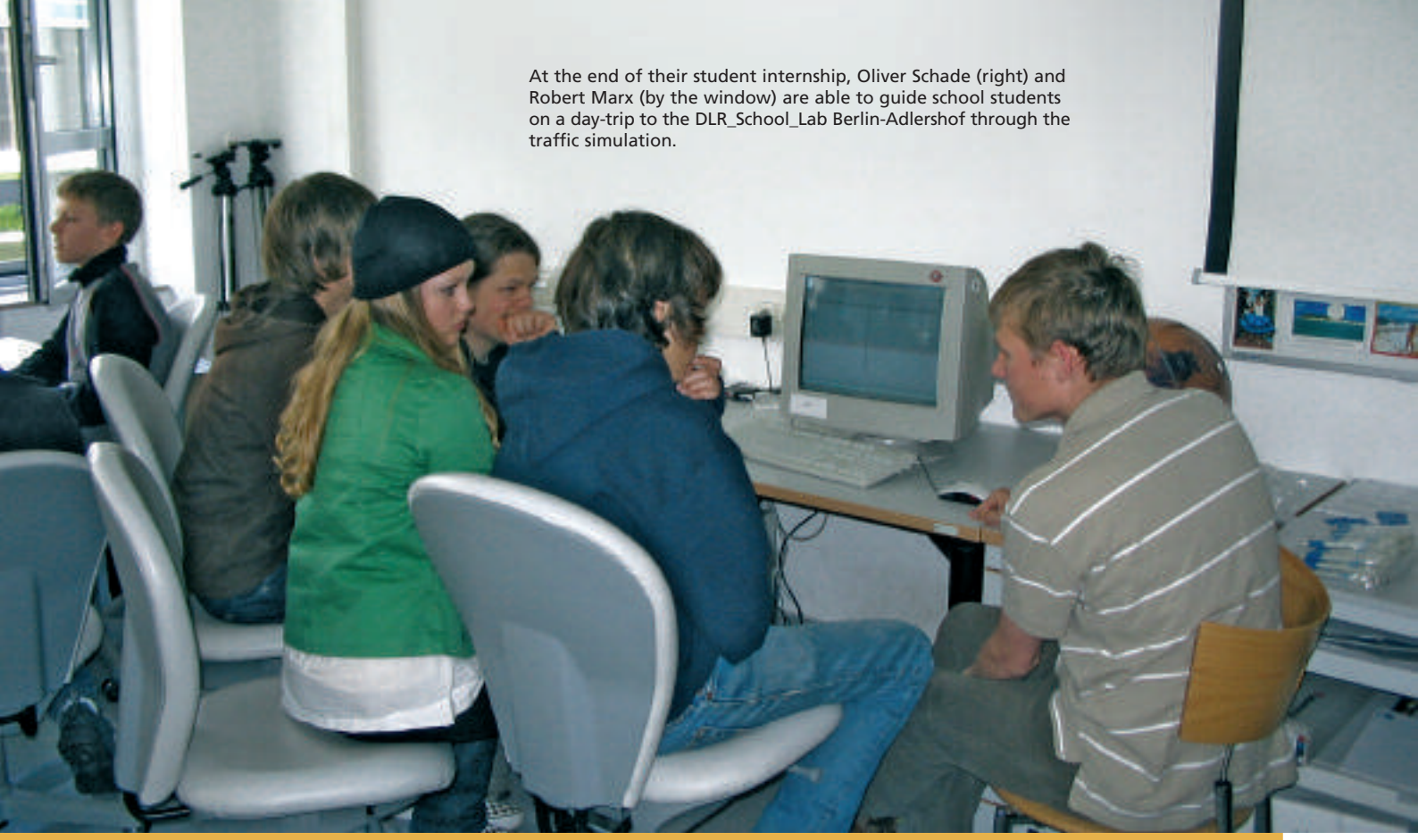


At the end of their student internship, Oliver Schade (right) and Robert Marx (by the window) are able to guide school students on a day-trip to the DLR_School_Lab Berlin-Adlershof through the traffic simulation.

# TRAFFIC MANAGERS FOR A DAY

By Dr. Bernd Kirchner

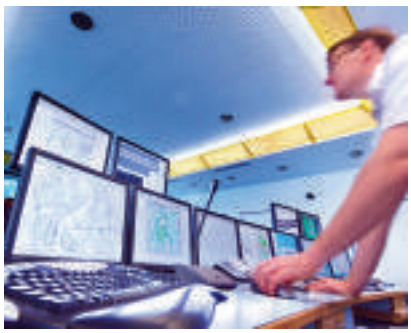
## DLR_School_Lab experiment covers PC simulation right through to the traffic tower

Summer 2007: Robert Marx and Oliver Schade from the 9th grade of the Berlin Archenhold secondary school are working at the DLR_School_Lab in Berlin-Adlershof for two weeks. They were really taken with the traffic simulation experiment. After tutors had explained the program to them, they were practically glued to the computer. Robert thinks the simulation is great and Oliver added: "It's a shame that I can't take it home with me." The pair was also filled with enthusiasm when it came to carrying out the traffic simulation with a school class.

Robert and Oliver described the course of the student experiment for DLR Nachrichten:

What is a simulation and what is it needed for? This and other basic facts are explained by a tutor in an introductory presentation in small groups of three to five people. Then we go on to the intersection, only in the simulation of course.

For the sake of simplicity, the intersection consists of just one main road and one side road. The problem is quickly identified by the students: Since the cars on the side road have



During a visit to the DLR virtual transport management center, the Traffic Tower, students gain an insight into the complexity of traffic in reality.

The computer simulation shows the results of various measures with which traffic can be influenced. The simulation program VISSIM was provided by the company PTV Vision AG in a reduced test version for the student experiments.

to give way to all road users on the main road and as there is no traffic light, a traffic jam quickly forms. But even a traffic light is not enough to put an end to this. Only after the length of the green and red phases has been doubled, does the traffic flow fluidly. The students have just been familiarized with one of the simple factors that enables freely flowing traffic.

What effects do speed limits have before bottlenecks? How many cars does a road have capacity for? How does a gradient, traffic light or blocking a lane affect the flow of traffic? – You can either illustrate or simulate these questions using a specially developed program, which is easy to operate even for students, or you can use the more realistic traffic tower, the virtual transport management center of the Berlin Transport Research Institute.

Through induction loops and cameras you can see how traffic is counted and how the data is analyzed. The task consists in observing and finding out how the traffic flow can be improved. Diagrams of the analyzed data are also created and sections of the Berlin highway are depicted. Even entire cities, such as Cologne, are depicted with their transport network. In this way, you can realistically experience the problems and difficulties with traffic planning and see how intersections, for example, in the city center, could have been planned better.

After a bit of practice, all of the students were able to use the complex simulation program. They designed their first intersections and looked at real road sections in the traffic tower and their traffic composition and peculiarities.

For Robert and Oliver, this marks the end of their student internship. As tutors for the traffic simulation experiment at the DLR_School_Lab Berlin-Adlershof, they independently guided the students through the experiment. They will now receive certificates to confirm the successful completion of their student internships.

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