



Automated driving: acquisition gives boost to Bosch engineering work on SAE Level 4 solutions

Acquisition of map specialist Atlatec planned

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- ▶ Atlatec is one of the world's most innovative providers of high-resolution 3D maps for SAE Level 3 to 4 automated driving functions.
- ▶ Acquisition means even broader diversification of Bosch portfolio, and for customers all the building blocks for automated driving solutions from a single source.
- ▶ High-resolution digital maps are indispensable as an additional sensor for safe and relaxed automated driving.

Stuttgart, Germany – Bosch is expanding its expertise in automated driving and strengthening its market position with an acquisition. Atlatec GmbH, based in Karlsruhe, Germany, is to become part of the Bosch Cross-Domain Computing Solutions division as an independently operated company. Bosch and Atlatec have now signed agreements to this effect. Atlatec is one of the world's most innovative providers of high-resolution digital maps for driver assistance and automated driving. The company, which was spun off from the Karlsruhe Institute of Technology in 2014, employs around 25 people in Germany, Japan, and the United States. "The planned acquisition of Atlatec further expands our expertise in the field of high-resolution digital maps and makes us even more diversified. It makes Bosch the only company that can offer its customers all the necessary building blocks of automated driving – from actuators and sensors to software and maps – from a single source. We are thus consistently expanding our strong position in this area," says Dr. Mathias Pillin, president of the Cross-Domain Computing Solutions division. "In Bosch, we have found the right partner for us as we take the next step in expanding our digital mapping expertise even further," says Dr. Henning Lategahn, CEO of Atlatec GmbH. It has been agreed that the purchase price will not be disclosed. The acquisition is subject to approval by the antitrust authorities.

Digital maps are an additional sensor for automated driving

High-resolution digital maps play an essential part in making automated driving functions safe and convenient to use. Atlatec offers all the necessary building blocks for mapping from a single source: Its portfolio includes not only data recording and processing but also creation of the maps themselves as well as the requisite quality control. In addition to onboard sensors featuring radar, video, and ultrasonic technology, digital maps are another indispensable sensor in automated driving. The information they contain relating to the vehicle's surroundings and traffic events goes far beyond the detection range of a vehicle's onboard sensors. For the creation of maps, Atlatec has developed a scalable solution with its own sensor box and associated software. The raw data this solution collects is analyzed using artificial intelligence (AI) and enriched with important information such as traffic signs and the sharpness of bends, as well as structural features such as streetcar tracks. Since the AI algorithms are continuously learning, the proportion of road and environmental features detected purely by AI is constantly growing. On the basis of information from the map, an autonomously driving car can, say, adjust its speed in good time before a tight bend.

In the development of automated driving, digital maps play a crucial role right from the start. The higher the degree of automation, the more closely map creation and driving strategy programming must be dovetailed. "Atlatec GmbH's technology package for creating high-resolution maps makes the company an ideal addition for Bosch. The resulting mapping solution is very intelligent and agile, which sets it apart from other vendors. For example, the AI it uses identifies and maps road features such as guardrails and lane markings with the highest accuracy and consistency. This lets us design our driving strategy algorithms even more precisely," says Dr. Stephan Hönle, senior vice president of the Automated Driving unit in the Bosch Cross-Domain Computing Solutions division. Atlatec is also a useful complement to Bosch's [road signature](#) technology, which uses swarm data to enable self-driving cars to determine their exact position on the basis of digital maps. Bosch is successfully collaborating with various partners in the field of automated driving and mapping. Atlatec will complement these partnerships.

Bosch is working on every automation level from SAE Level 1 to 4

For Bosch, automated driving is a strategic area of business. The company is the innovation leader in this field. With driver assistance systems and the requisite sensor technology, it laid the foundation for all automation levels at an early stage. Bosch is taking a two-pronged approach. On the one hand, with the aim of making driving safer and more relaxed, it is developing solutions for private vehicles with a focus on driver assistance and on partially and conditionally automated systems (SAE Levels 1 to 3). On the other hand, the Bosch development team is also working on solutions for higher levels of automation, with a focus on fleet vehicles and new operating models. In the logistics sector in particular, the company sees attractive applications and huge business potential for SAE Level 4 automated driving systems. Moreover, Bosch has already developed automated valet parking, the first production-ready automated driving function not to require a driver at all.

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About Bosch

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