

Corporate Communications

Sabine Taner

Press Spokeswoman Production and Logistics

Phone: +49 841 89 42505

E-mail: sabine.taner@audi.de

www.audi-mediacyenter.com

Audi uses modular solution for virtual-reality training

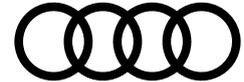
- **Learning program for multiple sites and languages**
- **Virtual experience of production and logistics processes in a playful way**

Ingolstadt, September 21, 2018 – Planning virtual training courses with almost no programming knowledge. With the so-called Virtual Reality (VR) Software Development Kit (SDK), trainers at Audi with IT experience will design the content of their training courses themselves in the future. Until now, this could be done only by programmers and was very time-consuming and complex. That has all been changed by a newly developed module solution from Audi’s brand logistics. Apprentices at the plant in Ingolstadt are now practicing the “pick-by-light” method for the first time with VR training.

In order to make virtual training accessible to as many employees as possible in the future, a team of five persons from different business areas has now designed a Virtual Reality Software Development Kit (SDK) – a kind of construction set for creating virtual-reality training courses. In the future, trainers with IT experience will also be able to use this kit to independently create VR training courses without being skilled programmers. Various training sequences can be combined with the use of about 20 standard process steps such as “Remove component from container,” “Tighten screws” or “Install part in the vehicle.” Project manager Mirko Göres from Audi Brand Logistics explained, “With the help of easy-to-use menu navigation, the trainer will be able to select the desired work steps and combine them.” It is no longer necessary to work directly in the program code.

Apprentices from the Ingolstadt plant’s logistics department have recently started using this virtual modular principle to learn the so-called “pick-by-light” process at the training center. When picking components, a light signal shows the employee the required articles and their quantity directly at the respective removal point. For the new VR training, a typical workstation was virtually reproduced in great detail. With the help of particularly high-resolution 3D glasses and with two controllers in their hands, a trainee can move freely in the virtual workstation and can practice various work routines on the basis of various work orders.

Over the past eight months, the project team has used the modular system to create 20 different training courses in several languages for the Audi plants in Ingolstadt and Neckarsulm. Compared to previous VR training courses, development is now much faster and more cost-effective. With the modular system, practice programs can be put together for all operative and



process-oriented work routines. This means it can be used not only in logistics, but also in service training or in production for example.

“Virtual-reality training is very popular with our employees,” said trainer Florian Kunz from the training center in Ingolstadt. “The gamification approach is fun, so it also improves the learning progress. If a trainee performs the tasks correctly, he or she receives points. In this way, the trainee learns the way through different levels, comparable to a video game.” With each level, the degree of difficulty increases. At the beginning, all work steps are moderated, but gradually the program gives fewer hints. In the final run, the employee must complete all tasks without any help. This increases motivation and boosts the trainees’ ambition.

The modular solution was developed through cooperation between Audi brand logistics, sales, IT, the training center and the Audi Academy. By the end of the year, the SDK will be integrated into Volkswagen’s Group-wide VR platform, the “Digital Reality Hub.” In the future, trainers from other Group brands will also be able to access the software kit. At the same time, the application is to be further expanded and made even more user-friendly in the future in cooperation with the Munich start-up company Innoactive.

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In 2017, the Audi Group delivered to customers about 1.878 million automobiles of the Audi brand, 3,815 sports cars of the Lamborghini brand and 55,900 motorcycles of the Ducati brand. In the 2017 fiscal year, AUDI AG achieved total revenue of €60.1 billion and an operating profit of €5.1 billion. At present, approximately 90,000 people work for the company all over the world, more than 60,000 of them in Germany. Audi focuses on sustainable products and technologies for the future of mobility.