

PRESS RELEASE

IAA 2019: Smart servicing with VR/AR

Fraunhofer IGD is presenting solutions for a smart maintenance service thanks to virtual and augmented reality (VR/AR) at the IAA, the International Motor Show Germany. The research institute from Darmstadt has, for the first time, made it possible to run AR applications directly from the cloud. Through real-time comparison with the vehicle's CAD data and the fully automatic access to important information it brings, mechanics can find defective parts even more quickly.

(Frankfurt am Main/Darmstadt) The Fraunhofer Institute for Computer Graphics Research IGD is using its instant3Dhub technology as the basis for providing a platform with which it is possible to visualize 3D models of any distribution based on the original CAD data. With this platform, enormous amounts of data can be visualized automatically and swiftly, regardless of the device used—AR glasses, tablets or smartphones.

Thanks to the integration of the AR tracking library VisionLib, objects are captured in 3D and a fully automatic AR visualization is made possible. The CAD data remains stored exclusively in the infrastructure of the originating company while only the data relevant to the current visualization is transmitted to the mobile device (e.g., smartphone, tablet, data glasses) in real time. This makes unnecessary the time-consuming and interactive reduction of the data by IT experts, which often results in valuable semantic details being lost. This makes it possible to use AR easily and routinely in the context of industry 4.0 or a digital twin.

At IAA, a live scenario at the Fraunhofer stand will demonstrate the advantages to mechanics. Using a Porsche Cayenne, the scenario will show how a service technician can use a tablet to find defective parts in a car in seconds. Important information for repair processes that are becoming increasingly complex are shown on the display alongside metadata such as high-voltage warnings or bolt torques, making it easier to make repairs at the garage.

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**Fraunhofer IGD
at IAA 2019, Frankfurt/Main**September 10-13
(press and industry days)Fraunhofer-Gesellschaft joint booth
Hall 4, Stand C12

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More information:

<https://www.igd.fraunhofer.de/en/veranstaltungen/iaa-2019>
<https://www.igd.fraunhofer.de/en/projects/instant3dhub>
[instant3dhub.org](https://www.igd.fraunhofer.de/en/projects/instant3dhub.org)
<https://www.igd.fraunhofer.de/en/competences/technologies/virtual-augmented-reality>



Photo (M): Finding defective parts on a car with a glance at a tablet—this is possible with the AR technology by Fraunhofer IGD, presented at IAA 2019. (© Fraunhofer IGD)

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Institute Profile

Founded 30 years ago, Fraunhofer IGD has become the world's leading institution for applied research in the field of visual computing. Visual computing means image and model-based IT. In simple terms, it describes the capability of transforming information into images (computer graphics) and extracting information from images (computer vision). The numerous application scenarios include human/machine interaction, interactive simulation, and modeling situations.

Our developers at the sites in Darmstadt, Rostock, Graz, and Singapore develop new technical solutions and prototypes all the way up to the market readiness stage. In collaboration with our partners, this results in application solutions that are custom-tailored to customer requirements.

Our approaches facilitate the work with computers and are efficiently used in the industry, in everyday life, and in the healthcare sector. Our research highlights includes assisting people in the Industry 4.0, the development of key technologies for the Smart City, and the use of digital solutions in the field of Individual Health.

Through applied research, we support the strategic development of the industry and economy. Especially small and medium-sized enterprises as well as service centers can benefit from this and be successful on the market with the help of our leading technologies.

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