

## 3D cars from the Twinner Space

### The young company DCI Digital Car Institute GmbH from Halle (Saale) in Saxony-Anhalt digitises vehicle inspections for the first time

In Saxony-Anhalt, DCI has developed a unique technology with which an entire vehicle is completely digitally recorded and the inspection is automated for the first time. DCI makes use of Artificial Intelligence techniques for it.

It is dazzlingly bright in the Twinner Space. The 70 square-metre scanner station into which the car rolls in is evenly illuminated. When the door is closed, the system is lit up with white light and up to 20,000 lux; normal daylight starts at 3,500 lux. It takes eight minutes, then around 40 sensors and cameras have completely measured, scanned and photographed the vehicle - and recorded its status precisely. UV and infra-red photos are also part of the analysis methods in the Twinner Space. For example, the UV light can determine in which places the vehicle was repainted. 360 degree images are created from the interior space. And the bottom side is also displayed in high resolution; the vehicle does not have to be on a lifting platform for it. "The machine measures all the parameters concerning the exterior of the vehicle: status of the chassis, tyres, underside, scratches, dents, other damage. It is an external view, but which constitutes 90 percent of the vehicle's evaluation", explains Geert Peeters, Managing Director of DCI Digital Car Institute GmbH from Halle (Saale) in Saxony-Anhalt, founded in 2017.

### Twiner improves thanks to artificial intelligence

All the data recorded is merged in the Twinner Cloud: photos and scans with the facts about the vehicle type. This creates a complete digital image of the vehicle. And from the analysis of the 3D model and the comparison with the previously used list of damages, a valuation report is created - automatically, quickly and cost-effectively. The developed DCI software uses Artificial Intelligence for this: "The data generated in the Twinner Space per digitisation are collected in our machine learn-systems. The data is analysed in such a way that individual damage profiles are detected and automatically assigned. The more data sets we analyse in our system, the more our system learns to optimise the accuracy of the evaluations and the higher the degree of automation becomes", Geert Peeters says. Today, 5,5 million vehicle expert reports are done every year in Germany, largely manually. "The market for an automated inspection of vehicles does not exist yet. We actually run market development", Geert Peeters says. We hope, Geert Peeters says, for a market share of 25 to 30 percent. This level of automation promises a better quality of inspections, higher efficiency and therefore significant savings.

### A finished expert report is available after 12 to 13 minutes

While, until now, a reviewer had to walk around the vehicle, mark his control slip with crosses and took around 35 minutes in total, the Twinner requires eight minutes for the recording of the status, as Managing Director Geert Peeters says. The finished expert report is already available after 12 to 13 minutes, depending on the volume of entered data. "A great advantage of the system is also that an expert does not longer need to be on site, but the data set is immediately visible on the screen, for the dealer and the client."

With the innovative concept of a complete digital recording of the entire vehicle and of the automated inspection, DCI would like to make a start this year: "The first version of our product appeared in June 2018. We have now set up six systems, two of which in China", Peeters says. This should be expanded to 80 systems in Germany in 2019. The aim is to make as many digitisations as possible, as expert reports can be created based on them.

### The state of Saxony-Anhalt relies on innovative technology

The state of Saxony-Anhalt promotes the first automated digital vehicle inspection. DCI GmbH is an affiliated company of APi International AG from Leipzig and the IBG funds, the venture capital fund of the state of Saxony-Anhalt. The IBG funds provide capital to young innovative technology companies with long-term and above-average growth potential in the state. DCI's registered office is located in the city of Halle, currently with around 20 employees. In April 2019 there will be more than 50. The number of employees should increase from 70 to 100 already this year, says Geert Peeters, who is also Managing Director of APi. Both companies will soon merge to Twinner GmbH; the state of Saxony-Anhalt has extended its participation.

Saxony-Anhalt is the home of the "Twiner": A Twinner Space is already working in Halle (Saale): at the König car dealership. The car dealership does not pay for the system directly, but pays a transaction fee per use which covers all the investments. The dealer costs for photographers, reviewers and car dealership employees are therefore almost entirely omitted. Managing Director Peeters is certain that the future of vehicle assessment lies in digitisation. The need for simple as well as time and cost-efficient options for the digitisation of vehicle data is continuously increasing. 80 percent of all vehicles have been traded on stock markets such as mobile.de or autoscout24. These require images of good quality so that the vehicle can be displayed well. And data such as motor, equipment, colour, leather seats, lighting, air conditioning can also be automatically determined; the results of the inspection are processed in such a way that they can also be used again for the sales process.

### The system should also be interesting for the manufacturing industry

With the Twinner, vehicle fleet managers, leasing companies, insurance companies, second-hand vehicle dealers and many others have the chance of redefining their business. This opens up new opportunities for holistic online marketing, especially for the vehicle remarketing area. The client can also examine the car virtually at any time, objectively, round the clock, worldwide. But an industrial use of Twinner technology is also plausible: The system should also be interesting for the manufacturing industry in the automotive area. At any rate, 30 percent of the delivered vehicles already have some damage, for instance small scratches on the exterior mirror which are not initially seen in manufacturing.

Author: Michael Falgowski

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