



The ideal place to develop new ideas: The “jungle” on the 18th floor of the TÜV high-rise measures only 160 square feet but still provides space for creativity.

Clearing New Paths

The TÜV Rheinland inspection company needs a new approach: artificial intelligence is changing its business.

Text David Selbach Photo Stephan Ortmanns

We follow Dr. Matthias Schubert to the company's own “jungle” to take the photo for this article. Featuring artificial trees and birdsong, the room is located on the “innovation floor” of the TÜV high-rise in Cologne. The 18th floor is a good place to think about the future. Schubert, who heads TÜV Rheinland's Mobility division, cannot actually foretell the future, of course. But he has a very good idea about the new developments soon to confront both him and his company. He sees self-driving robo-taxis so stuffed with sensors that they can register any damage that occurs in an accident. He sees cars that immediately upload these data to the cloud, where an algorithm compares them with accident templates, automatically produces a report—and then immediately calculates the remaining value of the car.

“The technical capacities are already here,” says Schubert. “I'm convinced we'll be seeing this type of thing. The only question is when.” As executive vice president for mobility at TÜV Rheinland AG, he is responsible for being ready when that time arrives. Because when it does, a major source of revenue for his division will disappear, namely, damage and valuation reports for the automotive sector.

TÜV stands for Technischer Überwachungsverein, or technical inspection association. Commissioned by car dealerships, insurance companies, and leasing agen-

cies, engineers at TÜV member companies inspect and estimate the residual value of cars that have been in accidents as well as vehicles that are returned when their leases expire. Although this is a mass business—TÜV Rheinland handles around 20,000 cars a year at its largest drop-off center—the processes are automated to only a small degree. At least the employees enter data and photos on tablets.

“Digitalization is literally knocking at the door,” says Schubert. All around the world, leasing and car-sharing options are increasingly replacing individual car ownership. And automated processes are crucial to the professional fleet business, which means that there is increasing pressure to use technical solutions such as digital photo processing, artificial intelligence, and automotive sensors that register the forces involved in accidents. For TÜV Rheinland that means finding new digital business models, because when damage and valuation reports become automated, they will bring in much less revenue than is the case today. And that is assuming digital disruptors do not manage to take over the entire sector beforehand.

TÜV Rheinland has therefore worked together with Porsche Consulting on a digitalization strategy for its damage assessment and valuation business. “We wanted outside input,” says Schubert. “We also needed to get the wheels moving, and to make everyone aware of where changes are needed.” The company selected Porsche Consulting for the job, because in addition to conventional methods, the consultants also proposed a “business model hack,” which thoroughly exposes the vulnerabilities of the current set-up. Porsche Consulting Senior Partner Dirk Pfitzer delivered the project outlines in early 2018, and work commenced three weeks later. The Porsche experts familiarized themselves with the current state of affairs, examined how TÜV personnel analyze vehicles, compiled all the data, and derived a forecast. The result was a shock. Revenue in the damage assessment and valuation business could drop by up to 90 percent by the year 2030. “By that point at the latest everyone could see we're facing a real threat,” says Schubert.

Then for the actual business model hack, a team of Porsche consultants and TÜV employees withdrew for a period of nearly two weeks. The group was made up of managers, assessors, open-minded revisionists, and colleagues with a more traditional bent. Young founders of tech companies were also involved. Three start-ups presented digital technologies with the potential to turn the world of damage assessment and valuation

upside down. The Porsche Consulting moderators then posed the following challenge to the participants: If you had the time and financial resources, how would you destroy TÜV Rheinland? How would you attack? "The group could undermine absolutely everything," says Schubert. A key factor in this hack event was the location: the UnternehmerTUM new business center in Munich. It was important to Schubert that his colleagues be completely removed from their everyday routines. "I didn't want them to sleep at home, to have lunch with their co-workers, or to chat with anybody at the coffee machine."

The team derived the properties that a company would have to qualify as the worst possible nightmare for TÜV Rheinland. It would need to be well funded, have access to advanced artificial intelligence systems, be in a position to analyze past damage-related data, and have an opportunity to enter TÜV Rheinland's markets. Then there was a second shock. This "nightmare company" already exists—or at least is awfully close. The Chinese e-commerce Alibaba Group is active on the used car market, so it possesses enormous amounts of vehicle data. It is working on applying artificial intelligence to damage assessment, and it can draw on enormous funds. The only thing the Chinese have been lacking thus far is access to TÜV Rheinland's market. "That example was an eye-opener," recalls Schubert. "And it flipped the switch for many of my colleagues."

The participants in the hack event now swung into action as if suddenly freed from a block. They engaged in brainstorming sessions to develop new and completely different business ideas by which TÜV Rheinland's expertise could also generate profit in a world of digital mobility. They analyzed existing strategies, prioritized the results, and filtered them. "Porsche Consulting's model for strategic control points was especially helpful here," says Schubert. "It enabled us to pick out promising ideas very quickly."

Schubert and his colleagues ended up with five "growth initiatives," which—if successfully implemented—could more than compensate for losses in the damage assessment and valuation business.

"Now the team is really taking off," observes Schubert. He wants to make use of the momentum from the business model hack. His people are working on an app that enables end consumers to record accident damage. Another team is working with a start-up on applying artificial intelligence. And other colleagues want to work with a partner to automate processes between workshops, insurance companies, and assessors.

"When I see the enthusiasm being put into this work, I'm very satisfied," says Schubert. But he also knows that TÜV Rheinland has a long road ahead of it. "Ask me again in a year," he says. "Then we'll see how far we've come."

TÜV Rheinland: On the road to "new mobility"

Headquartered in Cologne, TÜV Rheinland AG is one of the world's leading independent inspection service providers. With 20,000 employees worldwide, it posted sales of around \$2.3 billion last year. Following TÜV Süd and ahead of TÜV Nord, the company is one of the three largest TÜV organizations (technical inspection companies) in Germany. Founded more than 145 years ago, it currently has six divisions: Industrial Services, Products, Academy & Life Care, ITC, Business Solutions & Systems, and Mobility. The latter division includes services like the inspections all cars in Germany must go through every two years. TÜV Rheinland personnel inspect nearly ten million vehicles a year in Germany, Chile, Latvia, and Spain on the basis of technical and environmental regulations. The company also tests and authorizes vehicle components and provides consulting services to rail and bus companies. TÜV Rheinland personnel do automotive damage and valuation reports for insurance and leasing companies. The company set its sights on digitalization last year. Because alternative drive systems, autonomous vehicles, and new digital developments are changing its market, the company's mobility division is working on new business models.



New cars in Germany need to pass their first TÜV inspection within three years, and then every two years after that. TÜV Rheinland inspectors connect an adaptor to the cars' on-board diagnosis interface. That lets them access vehicle data on their laptop, smartphone, or tablet and compare them with those in a central database.

BUSINESS MODEL HACK

The power of destruction

The "business model hack" developed by Porsche Consulting is an agile management method. Supported by consultants, employees develop approaches that could be used to attack their own company if the requisite resources were available. The motto is "Destroy your own business model—before someone else does." That helps the company develop new competitive strategies before real disruptors enter the picture.

