



Dummy

Gerhard Pfeifer, managing partner at ATD-LabTech, reveals the thinking behind a new generation of dummy test labs



German company ATD-LabTech has been producing and supplying fully equipped test laboratories for compliant dummy certification since 2015. This innovative, turnkey test equipment is supplied and installed as a plug-and-play system, including data acquisition system and analysis software.

A look at the size reveals that the new laboratories have very little in common with solutions that have established themselves in the past: ATD-LabTech's complete systems measure 11ft (3.4m) in height and require half as much space as the solutions previously available.

Numerous innovative details patented for ATD-LabTech and an intelligent combination of various test stands minimize the footprint and contour line. For instance, the impact test system uses a horizontal rope pendulum with a high-precision servo drive, replacing the conventional vertical pendulum, which requires room heights of 16ft (5m) or more.

Developed from scratch, the test bench can be moved freely and automatically via four axles, thus ensuring exceptional flexibility in terms of different dummy types and test scenarios. *ATTI* spoke to Gerhard Pfeifer, founder and managing partner of ATD-LabTech, about the features and benefits of the new generation of laboratories.

How long did it take to develop the new dummy laboratories?

It took us two years to develop the actual technology in its reliable and reproducible form. Our team is made up of specialists who have been involved in dummy certification for many years and have already certified thousands of dummies. I myself have been working in the field for 20 years. When we founded ATD-LabTech, we began with a clean sheet of paper on the wall. We were looking for a high-tech solution that sets new benchmarks.

What are the main differences compared to previous dummy laboratories?

A lot of practical knowledge has gone into the concept. All the components required for dummy certification are integrated as a turnkey system solution, from the swiveling crane and the actual data acquisition system, to the laboratory software, which we have incorporated into the system control. As such, facility operators no longer have to manually activate different components and software systems for reliable results. The new servo drive accelerates the rope pendulum linearly and horizontally up to 29.5ft (9m) per second. Our laboratories are also very compact and much lower than conventional systems. The footprint is reduced to 753ft² (70m²), which

TOP: Gerhard Pfeifer, who founded the Niedernberg-based company in 2015

INSET: ATD-LabTech test benches are highly flexible for analyzing a range of dummy types in various different scenarios. This is thanks to the automation concept, which enables operation along four axes

minimizes installation complexity and offers the opportunity to implement two laboratories instead of one in the same amount of space.

How do you adapt the system to different data acquisition systems?

Designed specifically for the test stands, the touch panel with an industrial computer combines the control and data acquisition system as the central element. The universally designed system can be adapted with ease for use with all standard data acquisition systems. Another benefit is that the platform is based on Windows, ensuring simple, self-explanatory operation of the test stands. If required, our technicians can access the control system via a VPN connection and support local teams, offer remote training, and assistance during dummy certification.

In January 2018, your ATD-Service company was accredited as a test laboratory for dummy certification in accordance with ISO 17025:2005. Do you use the same technology in your own laboratory that you supply to customers?

Yes, we do. In fact, that's our company philosophy! At ATD-Service, we certify 200 to 300 standard size dummies every year on behalf of customers. We also test and validate our products at the same time. We're currently the only laboratory in Europe that can also offer this service for the new dummy types – the WorldSID 50th, the THOR 50th, and the Q range dummies – in the accredited scope. We also share our expertise with other companies. Facility operators can acquire an accreditable and globally recognized test laboratory through us. The laboratory is produced and configured to meet all required customer demands. The lab is then fully commissioned at the ATD-Service company and installed at the customer's site. Customer employees can be trained onsite under field conditions. ATD can also support throughout the whole DIN:ISO 17025 accreditation process of a customer's laboratory. That's something that truly sets us apart.



TOP: The PDC test system combines numerous rigs in a single, compact system

INSET: Multiple tests can be performed at the same time on different body parts

BELOW: These tests include neck pendulum tests; foot impact tests; head-drop-and rib-drop-tests; and compression/tension tests

How long does installation and training take?

Delivery and installation will take a maximum of a week. Trained employees receive quick access to the system, as most things are automated and self-explanatory. For customers such as Audi, Porsche and ZF, it usually takes a week or less – and the teams can then take over.

You recently entered into a sales collaboration with Messring, a market leader in crash test facilities and components. What are your expectations for the partnership?

The collaboration creates the perfect win-win situation for both companies. As a strong (and loyal) business partner, Messring gains exclusive access to our products, enabling us to serve China, Taiwan and South Korea – the key Asian markets. Conversely, Messring takes responsibility for sales, export, transportation, installation, training, and maintenance in these markets. The fact that Messring integrates the M=BUS data acquisition system and CrashSoft 3 system software into our laboratories offers further benefits for customers.

When do you expect the initial results?

There's already a huge demand for our test laboratories. The first systems to be supplied in Asia in 2018 are just about to be delivered. One customer, for example, is a Taiwanese manufacturer of child car seats. Others are still in the works and will soon follow. The production of five additional complete systems for delivery in 2018 has already begun. ◀

