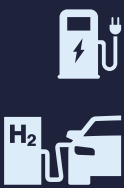


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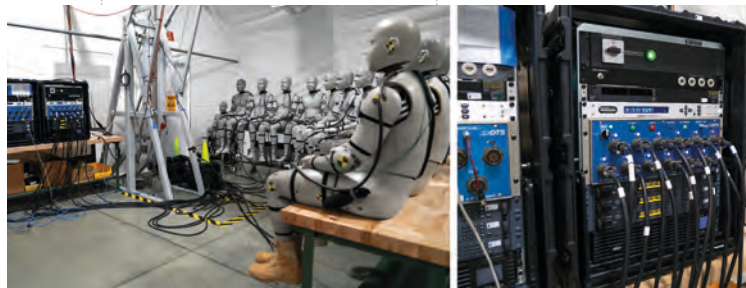
An expanding fleet of WIAMan ATDs is to be used in US Army injury biomechanics research to examine skeletal injuries of soldiers who have endured underbody blasts

While auto makers and Global NCAP continue to focus on the safety of drivers, passengers and vulnerable road users such as pedestrians and cyclists, the military remains steadfastly focused on the safety of its personnel. The US Army has continued to expand its fleet of Warrior Injury Assessment Manikin (WIAMan) anthropomorphic test devices. Undoubtedly the most advanced and biofidelic vertical load manikin ever built, the WIAMan was developed to assess potential skeletal injuries of soldiers exposed to underbody blasts.

As the ATD fleet grows, so do the opportunities for additional testing both in the field and in the lab. Just prior to the last shipment to the US Army was the first time that 12 WIAMan were together in one location. The new WIAMan, plus two development and five production manikins, were all gathered in Diversified Technical Systems' ATD lab in Seal Beach, California, for system validation testing and some 'family' photos.

"This was our first chance to test the external distributor at full capacity. There literally have never been 12 WIAMan in existence, let alone all in one place," says Tamer Abubakr, ATD systems manager at DTS. The test involved connecting all 12 WIAMan to a single DTS external distributor, which manages test communication commands. As anticipated, the nearly 2,000-channel test was a success.

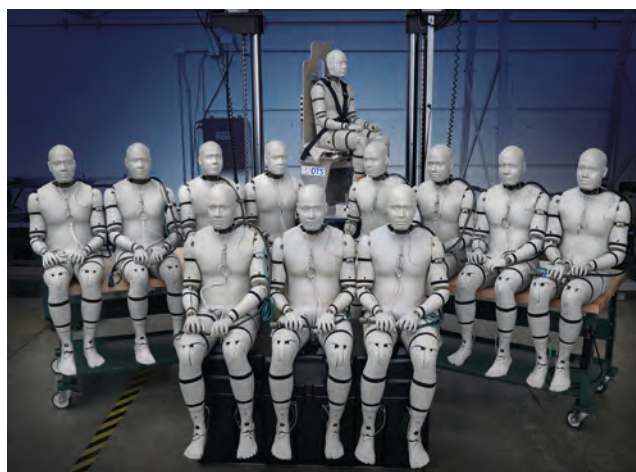
This milestone 1,872-channel lab test involved connecting 12 WIAMan to a single DTS external distributor, which manages communication, status, trigger and IEEE 1588 synchronization for the underbody blast testing



DTS's involvement with the WIAMan project includes building the anthropomorphic test device, as well as the Slice6 data acquisition system embedded inside and ancillary equipment, such as the external distributor. Each WIAMan supports up to 156 sensor (data) channels.

Abubakr continues, "A single exit cable from each ATD gets plugged in to the external distributor to manage communication, status, trigger, IEEE 1588 synchronization and backup power if needed."

He then explains, in general terms, how a blast test is set up. First, the miniature Slice6 data recorders and sensors are embedded inside each WIAMan as part of the ATD build. The manikins are then positioned in the test vehicle and an exit cable from each ATD is run to the external distributor. The distributor sends commands to and from each ATD, and it's secured in a blast bunker many meters away from the actual blast site. While one external distributor can 'talk' to up to 12 WIAMan at any one time, the official command center is miles away managing the complete test



The full fleet of US Army WIAMan blast manikins was gathered at the DTS ATD lab in California for the first opportunity to test some of the support equipment at full capacity

setup and trigger, which is transmitted via fiber-optic cables to the distributor and then to each WIAMan.

DTS is prepared to deliver additional WIAMan to the US Army as part of the contract, which includes up to 40 WIAMan in total. An official 700-page WIAMan accreditation report is currently under review by the US Army, which will

make WIAMan the first-ever accredited ATD for use in underbody blast testing.

DTS has been part of the WIAMan development team from the initial concept phase, including being chosen as the prime contractor to the US Army.

The WIAMan represents one of the most advanced collaborations of injury biomechanics research, engineering, manufacturing and testing. "WIAMan is the most high-tech, biofidelic soldier surrogate in existence. It's all about the data and each test provides more data to help keep our war fighters safer," adds Abubakr. ◀

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