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## **Rheinmetall's Legatus live simulation – leading technology for realistic modern combat training**

Train as you mean to fight! Rheinmetall's innovative and versatile Legatus live simulation technology doesn't just enable realistic training of entire units and formations using original equipment, even in urban environments. It also makes highly detailed control and evaluation of exercises possible, an indispensable prerequisite for tactical leaders eager to discover and address possible weak points. Rheinmetall is showcasing its Legatus Live Simulation technology at IDEX 2017.

Legatus underscores the Rheinmetall approach to developing forward-looking live simulation technology: tough, independent, smart. Tough – because the technology stands up to the harshest environments. Independent – because there's no need for fixed infrastructure with these wireless, mobile solutions. Smart – because it uses intelligent solutions for effective, highly realistic training with state-of-the-art technology. It even enables technically challenging training solutions for military operations in urban terrain, or MOUT.

Not a single live round is fired during these exercises – all weapons are fitted with laser transmitter units, while sensors in potential targets indicate hits in a way that's visible both to the soldiers and their trainers. Networking of all exercise participants facilitates after action reviews and evaluation, assuring maximum learning impact and potential for improvement through in-depth analysis of individual exercise sequences.

From the technical standpoint, simulation-supported training for operations in built-up areas is particularly demanding, since determining the position of exercise participants in narrow alleyways or inside buildings in order to depict them on a digital situation map cannot be done with a GPS-based system. The simulation of weapon effects on buildings and the personnel inside them cannot be achieved exclusively with simulated laser fire, but instead requires additional instrumentation inside the physical infrastructure. Near-real time transmission and evaluation poses an additional challenge given the tremendous volume of data flowing into the exercise control cell.

At the end of 2016, three important orders underscored the leading role played by Rheinmetall's Legatus Live simulation technology in sophisticated training and simulation systems for the world's armed forces.

On behalf of the German Bundeswehr, Rheinmetall has embarked on a step-by-step modernization of the German Army Combat Training Centre, or GÜZ, which it also

equipped and now operates. Here, variously composed units and formations can prepare for every conceivable type of mission in a highly realistic environment. In future this will include training for military operations in urban terrain as well as inclusion of Rheinmetall's Future Soldier (IdZ) system and its expanded version, the Gladius/IdZ-ES. Through to 2020, Rheinmetall will expand the system technology in a series of phased projects. Among other things, this will involve special expansion of the software for directing and evaluating training sequences in the new "Schnöggersburg" urban warfare facility at the GÜZ, coupled with modernization of the training area's data communication system. In short, Rheinmetall will make sure that the GÜZ is ready to hold future MOUT exercises.

A military customer from the MENA region has contracted with the Düsseldorf specialist for security and mobility to create a training facility for conducting "combat exercises in an urban environment". In the customer country, a complete training city is emerging whose technical infrastructure make it the world's most advanced training facility for preparing security forces for operations in an urban environment.

On behalf of another customer in the region, Rheinmetall's Simulation and Training unit is modernizing and expanding an existing mobile live training system. Besides new hardware and software, the scope of delivery includes new laser engagement simulators that will enable inclusion of various combat vehicles and the latest weapon systems in the tactical training process. These expanded capabilities will make it possible to train not only infantry units in the mobile combat training centre, but also mechanized forces up to the size of a reinforced company.

Visitors to IDEX 2017 can find out more about the Group's state-of-the-art Legatus live simulation technology at the Rheinmetall stand.

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