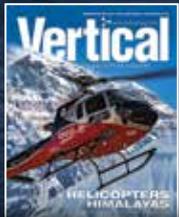


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AIRBUS H160

SIMULATION MATCHES REALITY

WITH THE “MADE IN GERMANY” H145 LEVEL D FFS AT THE ADAC HEMS ACADEMY, A MISSION-EXPERIENCED FLIGHT TRAINING SOURCE IS AVAILABLE FOR INTERNATIONAL H145 OPERATORS.

BY JAMES CARELESS
PHOTOS COPYRIGHT ADAC
HEMS ACADEMY / REISER

The new Airbus H145 simulator, certified as Level D by the European Aviation Safety Agency (EASA) and the German Luftfahrt Bundesamt (LBA) civil aviation authority, sets a new standard in the world of helicopter simulation.

Developed and produced in close cooperation with Reiser Simulation and Training GmbH in Germany, the simulator completes a portfolio at the ADAC HEMS Academy that also includes Airbus EC135 and EC145 full-flight simulators (FFSs).

Starting in 2014, ADAC Air Rescue—the sister organization of the HEMS Academy and one of the major helicopter emergency medical services operators in Europe—replaced its legacy BK117B-2 helicopters with Airbus H145s.

The new H145 fleet represents a significant advance, most obviously in the incorporation of the Helionix avionics suite.

Continuing to rely on existing FFS modules was not an option for the ADAC HEMS Academy, so it began the process of acquiring a simulator that would represent as much of a step forward in synthetic training as the new aircraft did in the air.

The specification called for certification at EASA Level D, the highest possible fidelity, but the academy also needed to incorporate a level of fidelity in the scenarios and environmental system that was, at the time, not available.

After partnering with Reiser

Simulation and Training, the two companies set about meeting the challenge.

With most aircraft manufacturers closely guarding their flight data as intellectual property, a rigorous flight test program was set up by Reiser’s Flight Systems business unit to generate the Flight Model.

The levels of flight simulation fidelity incorporate a vast array of criteria, which must be met within narrow tolerances to achieve Level D certification. But at least as much effort was poured into creating a system specified to meet the requirements of the ADAC HEMS Academy’s training philosophy: a whole mission, whole crew approach.

“Our training has to adjust to the constantly changing demands of new, smart technology, without losing sight of the fact that aviators still need traditional aeronautical knowledge and skills,” said Thomas Hütsch, CEO of the HEMS Academy.

“The new H145 FFS allows the instructor to create more complex compound malfunction scenarios that more closely mirror the progression of real-world emergencies.”

With a 240- by 80-degree field of view visual system powered by 15 LED-based projectors, the resolution and graphic fidelity give profound visual reference to provide unprecedented immersion.

The projectors can simultaneously project visual and infrared images, enabling proper night vision imaging system (NVIS) techniques to be taught and practiced, using the actual night vision goggles operators use in real life during training.

The first H145 operators making use of the simulator in their training noted the visual system was the best they’ve ever worked with.

“With an intuitive on-board instructor station (IOS); sophisticated briefing and de-briefing stations, which allow creating and pre-programming of

training scenarios; and a wide rear cabin for fast roll-on/roll-off of cockpit interchanges and mission kits, the new system provides maximum flexibility,” said Frank Thieser, Reiser’s chief sales and strategy officer.

The H145 FFS is supplemented with a Reiser Avionic Desktop Trainer (ADT), which uses touch screens to replicate the avionics and aircraft systems to assist in learning procedures.

Simultaneously displaying system diagrams and detailed 3D models of components clearly illustrates the complex interrelation between systems during various phases of aircraft operation. Equipped with software derived from the FFS, this tool allows both self-instruction and aided instruction up to difference Level C.

The academy’s external clients range from offshore and VIP to police and para-public operators from 29 countries. Their pilots are well-served by the academy’s facilities, with type ratings, differentials, instrument flight rules (IFR), NVIS and inadvertent instrument meteorological condition (IIMC) training offered for H135 and H145 operators worldwide, independent from their mission background.

The emphasis of simulator training at the HEMS Academy is on the mission, rather than flying techniques.

“Our aim is not to train procedures only, but to rehearse situations, let the trainee make mistakes safely, to learn and hereby to create resilient pilots,” said Thomas Hütsch.

“This groundbreaking H145 FFS at the highest possible standard is a result of being constantly challenged by our customers’ mission requirements,” concluded Dr. Roman Sperl, CEO of Reiser Simulation and Training GmbH.

“This success has only been made possible through the great teamwork of our professional teams!” ✨



HEMS Academy

hems-academy.de
00 49 2241-93219-0

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