



# NH90 VIRTUAL WORLDS

## NH90 WITH VIRTUAL AND AUGMENTED REALITY EXTENSIONS

Rheinmetall has a long and distinguished history in the development and production of innovative and advanced training systems for the Air Force, Army and Navy.

The company is involved in numerous multinational and global training programs for a wide range of aviation-based platforms such as the NH90 helicopter, Tiger attack helicopter, Eurofighter (Typhoon) combat aircraft and A400M military transport aircraft and C-390 military transport aircraft. Rheinmetall offers a complete range and tailored training solutions from computer-based training, procedures and systems trainers, cockpit procedures and maintenance trainers to full-mission flight simulators up to Level-D as well as networked tactics simulators. Several virtual and augmented solutions have already been developed and implemented in the area of flight simulation at Rheinmetall Electronic Solutions.

The applications allow users to immerse themselves in a virtual world in a variety of ways as part of their training to maximize their personal training experience. These remain in the memory for a long time and raise the training effect level to a new, next level. Furthermore, these training solutions are cost-efficient and can be made available after

the initial development as often as needed to perform a large amount of training courses in parallel.

### FLIGHT SIMULATION TECHNOLOGIES

- Introduction of holistic training tools in the field of flight simulation.
- Simple and intuitive augmented and virtual reality handling, exactly adapted to the respective field of application.
- For military transport aircraft, e.g.:
  - Embraer KC-390
  - Airbus A400M
  - Lockheed Martin C-130J
- For helicopters, e.g.:
  - NHIndustries NH90
  - Airbus Helicopters Tiger
- In the field of
  - pilot and crew training
  - loadmaster training
  - maintenance training
- Use of new, modern and intuitive technologies to obtain an holistic sustainable training on highest standards.

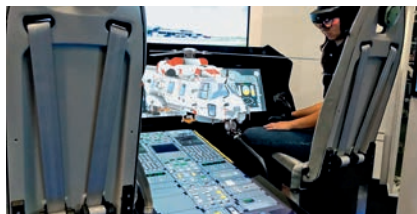
### NH90 MIXED REALITY TRAINER WITH OUT OF THE WINDOW VIEW

Virtual Reality is used for displaying the out of the window view. This solves the problem of different eye points of pilot and copilot and the reduced field of view of a dome or spherical display. A mask is defined to have a real view inside the cockpit and everything else will be a virtual representation of the world, also for the chin windows as an example. The trainee can also lean out of the window for example. This also leads to cost efficient training solutions.



### NETWORKED AUGMENTED REALITY NH90 FOR CPT-E

The Cockpit Procedure Trainer – Enhanced (CPT-E) is a unique standalone NH90 training device for aircrew and ground crew staff to perform procedural training. The device is adapted with a networked AR NH90 to observe the outside behavior while performing tasks inside the cockpit like e.g. wheel steering, landing gear, ramp, hatch, rotors and lights behavior.



### NH90 VIRTUAL REALITY TRAINER

The Virtual Reality Trainer (VRT) can be used to operate/interact via controllers with the virtual aircraft. It is possible to perform knowledge transfer also in combination with computer based training in self-paced learning modules.



### NH90 WORKSTATION TRAINER AR 2.0

Traditional desktop trainers use multiple monitors to present different content to the trainee. There is usually also a 3D representation of the training object. With the help of Augmented Reality at least one monitor can be replaced by a virtual representation. This eliminates the cumbersome zooming by mouse or keyboard and presents the content really in 3D.



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