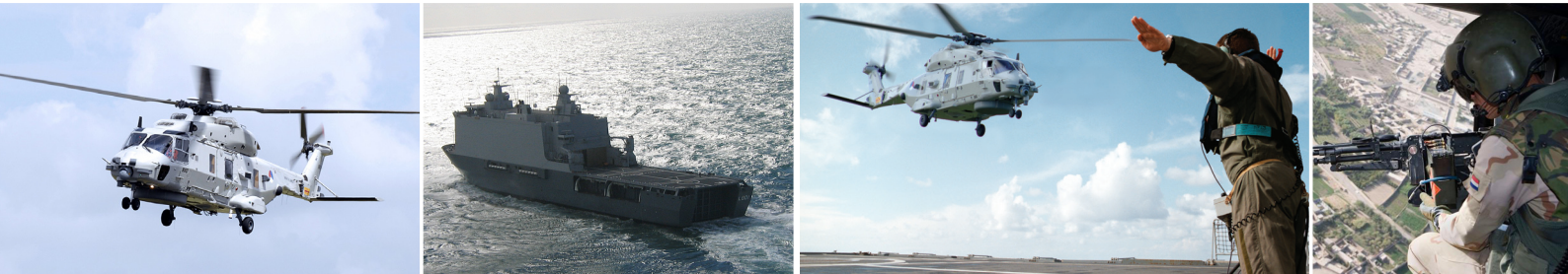




# Virtual Reality Room (VROOM)



 **Air Transport Division**  
Training, Simulation & Operator Performance

 [training@nlr.nl](mailto:training@nlr.nl)

 +31 88 511 31 01

## “CAN BE USED STANDALONE OR LINKED UP WITH OTHER TYPES OF SIMULATORS”

‘VROOM’ is a modular and portable (standalone) simulator that facilitates research on virtual but highly immersive (collective) training scenarios. VROOM derived solutions offer the option of training for nominal and non-nominal situations without the risk and cost associated with conventional training. VROOM can be augmented with a selection of hard- and software extensions and can itself be an extension of other simulators, including other VROOMs.

Training Flight Deck Officers (FDOs) with the help of a VROOM-derived solution illustrates the possibilities of this simulator. Conventional FDO-training with a helicopter takes place on an onshore dummy deck and on a marine ship. Both are costly solutions and depend on the availability of a manned helicopter and ship. Thanks to a VROOM-derived solution, training sessions could take place in an indoor environment. A VROOM derived solution would enable FDOs and helicopter crews to train in a single computer generated environment, whereby the FDO can see the virtual helicopter and the helicopter crew can see a virtual representation of the FDO in realtime.



“RESEARCH TRAINING FOR NON-NOMINAL SITUATIONS WITHOUT THE ASSOCIATED RISK AND COST”

The VROOM concept for FDOs works by equipping the FDO with a head mounted display (HMD) and motion and positioning sensors. This facilitates the creation of a virtual representation of the FDO which can then be deployed in the connected helicopter simulator. Standalone deployment is also an option. For instance, the behaviour of a virtual pilot can be pre-defined and subsequently triggered during training via the FDO's hand and arm gestures or by the trainer via a controller. Alternatively, an interactive artificially intelligent virtual pilot can be deployed.

VROOM can also be used for other helicopter related training research. For example training the acts of hoisting, using the door gun and landing in confined areas can be effectively researched with the help of VROOM. Optionally a bridge- or other type of simulator can be linked with VROOM. Due to its highly customisable nature VROOM isn't limited to helicopter related simulations; for example offshore and oil rig associated tasks can also be simulated. If you have any questions we kindly invite you to contact us.

## Features

- Highly customisable
- Modular
- Portable
- Can be used standalone or linked up with other types of simulators or VROOMs
- Deploy an A.I. pilot or use pre-recorded behaviour during training
- Research training for non-nominal situations without the associated risk and cost
- Generates a high level of spatial immersion by using a large horizontal field-of-view HMD and high speed/high precision motion sensing
- Train multiple roles simultaneously in a single virtual environment, reducing cost
- VROOM can enhance the efficiency and effectiveness of the training

Please contact us for more information

### National Aerospace Laboratory NLR

**Amsterdam** – Anthony Fokkerweg 2 • 1059 CM Amsterdam • P.O. Box 90502 • 1006 BM Amsterdam • The Netherlands  
**Flevoland** – Voorsterweg 31 • 8316 PR Marknesse • P.O. Box 153 • 8300 AD Emmeloord • The Netherlands

