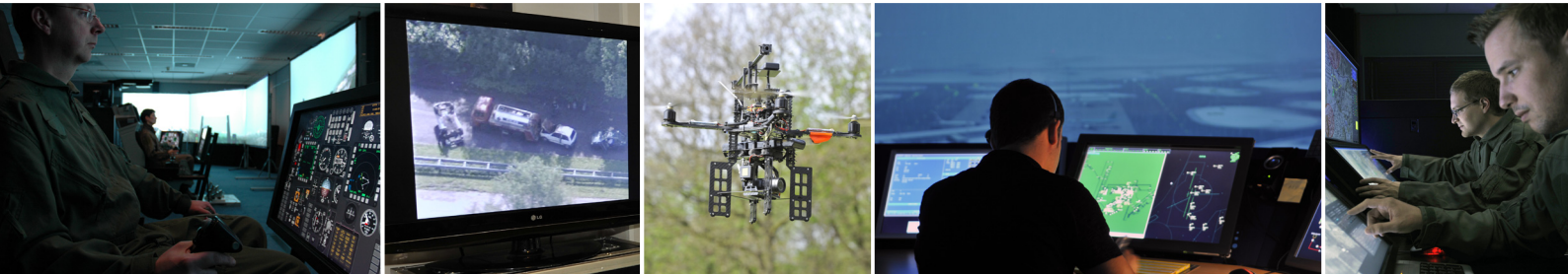




Training, Simulation and Operator Performance



 Air Transport Division
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“CREATING SYNERGY BY ACTIVELY CONNECTING
ALL ASPECTS OF HUMAN EFFECTIVENESS”

Human factors are vital in the safety and effectiveness of air transport and military air operations. NLR is at the forefront of research on human effectiveness.

Human effectiveness requires an understanding of, and integrated approach to, the aviation professional. To optimize how the aviation professional operates in his environment, knowledge about his abilities and limitations and the environment he operates in needs to be integrated in comprehensive solutions. Increasing human effectiveness therefore spans all aspects of training, human factors and simulation. This includes training design, training media, and the human-machine interface. These knowledge areas are actively tied together to achieve optimum efficiency through synergy.



“SIMULATION CAN OPEN THE DOOR TO A BETTER UNDERSTANDING OF FUTURE SITUATIONS”

Through years of research and development, NLR has developed a large body of knowledge and practical experience on human effectiveness. This expertise is divided in three main knowledge areas:

- Education and training
- Modeling and simulation
- Operator performance

Education and training:

Training offers the possibility to optimize efficiency and get the best out of both user and equipment. NLR offers scientific research into the full range of aspects that revolve around training of cockpit crew, air traffic controllers, UAS operators and support staff. By developing and utilizing innovative training solutions, and integrating training media and training effectiveness measurement tools, full potentials can be unlocked.

Modeling and simulation:

The full potential of modeling and simulation for training and validation is increasingly recognized in the aviation industry.

Offering a realistic, safe, controllable, and relatively inexpensive experimental environment, simulation can seamlessly be integrated into modern training designs. NLR continually develops and improves the models, methods and systems needed for an optimal training effectiveness. In the development of new operational concepts, doctrines and capabilities, modeling and simulation also opens the door to a better understanding of complex, future situations.

Operator performance:

The way humans interact with their equipment largely determines their effectiveness and inherently the safety of the operation. Determining the optimum human-machine interface can provide important advantages to the pilots, air traffic controllers, UAV operators and many others that utilise this equipment on a day to day basis. NLR combines in-depth knowledge of human effectiveness and the work domain to design the user interfaces of tomorrow. A wide range of measurement tools is used to study e.g. visual sampling behaviour, situational awareness, and operator status assessment for validation of new concepts or for the purpose of adaptive and intuitive automation.

Key activities:

- Performing research to optimize training effectiveness and efficiency
- Integration of knowledge and experience in working environments, training design and training media into effective training solutions
- Finding the best fit between selection, training, training media and learning abilities
- Developing and improving the models, methods and systems needed for an optimal training effectiveness
- Using modeling and simulation to open the door to a better understanding of complex, future situations
- Improving safety and efficiency by determining the optimum human-machine interface and/or concept of operation
- Measuring and gathering data to design the interfaces of tomorrow

Please contact us for a free demonstration