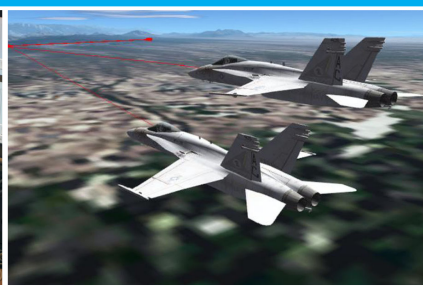
Live Virtual Constructive Operations



Air Transport Division
Training, Simulation & Operator Performance
training@nlr.nl
+31 88 511 31 01

"A LIVE VIRTUAL CONSTRUCTIVE ENVIRONMENT OPENS UP NEW OPPORTUNITIES"

Training, exercises and experimentation take more and more place in an environment where live systems operate together with man-in-the-loop simulators or in a live environment that is enriched and stimulated by computer generated players and events. Such a Live Virtual Constructive environment opens up new opportunities but at the same time it calls for other demands than traditional live or simulation environments.

"NLR FACILITATES THE INTEGRATION OF LVC COMPONENTS TO SUPPORT THE MILITARY OPERATOR"

NLR's goal is to facilitate the integration of LVC components to support the military operator during battlefield operations, mission planning/rehearsal, joint exercises and mission training.

In 2004 NLR was with its F-16 simulator G-Force one of the sites of the NATO Exercise First WAVE. First WAVE was a very successful demonstration of Mission Training through Distributed Simulation by linking operational training simulators in a secret network. This has finally accumulated into the participation of the Fighter 4-Ship in the joint exercise Purple NECtar 2010. Here the F4S was connected to the live air Command & Control system MASE and was fully integrated in the live operational picture. A succesful example of Live Virtual integration.

NLR has also been advancing Embedded Training (ET) applications for fast jets for over a decade. Advanced ET applications are a form of Live-Constructive simulations and the availability of such technology on a platform is thereby an enabler for successful LVC integration. ET on its own provides training capabilities that can be easily employed anytime anywhere with the real platform and very limited added infrastructure compared to pure live training. By integrating an ET platform in a full LVC environment training can scale to large scale exercises. Blending LVC and ET thus presents opportunities to flexibly scale training application from individual training to large scale (air) operation and joint training exercises with the most effective use of scarce resources.

NLR has developed the UAV control station simulator MUST as part of its Airpower Simulation capability. Originally a pure virtual simulator, but nowadays MUST is connected through a datalink to real air systems like NLR's research aircraft and sensor systems like cameras can be real-live controlled from the control station MUST.

NLR has a number of building blocks for LVC operations.

Simulators

Fighter 4-Ship: mobile multi-ship generic fast-jet simulator
Helicopter Pilot Station: generic helicopter simulator
MUST: UAV control station simulator

Supporting components and tools

Computer generated forces
Scenario tools
Mission planning system
Briefing and debriefing tools
Exercise control and monitoring interface
Gateways
Environment databases

NLR is continously evolving its LVC capability and practical knowledge and can support you in operating LVC environments.

Please contact us for a free demonstration

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

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