

TACTIS

the Dutch Way of Virtual Training for Manœuvre Elements

The Tactical Indoor Simulator (TACTIS) has been developed by THALES FRANCE for the tactical training of manoeuvre elements on section, group, platoon, company and battalion level, including gunnery training 120 mm and 35 mm. For the Royal Netherlands Army (RNLA), the TACTIS system will be integrated in the Manoeuvre Training Command in the Prins Bernhard barracks in Amersfoort. The TACTIS design is a system of systems, based on the link between high fidelity simulators, generic simulators, a TACTIS corps, digitised terrain 65x45 km, computer generated forces and facilities for the training staff. The generic simulators will only be used for the tactical training. The high fidelity systems are for tactical- and gunnery training.

BY LIEUTENANT COLONEL GEORGES UILENBROEK, PROJECT MANAGER TACTIS, MANŒUVRE TRAINING CENTRE RNLA

Role and objective of TACTIS

The role and objective of TACTIS will be to upgrade the training level of infantry and tank crews before a live tactical and/or gunnery training will be conducted. The strongpoint of TACTIS is the possibility to execute a great variation of high-intensity scenario's that are well analyzed and evaluated. They can be repeated as often as required.

On 16th October 2003 the RNLA has signed a contract with THALES FRANCE to develop and implement the TACTIS system. Nearly two years were used to achieve a good mutual understanding of the specific requirements. Intensive talks



resulted in a large amount of detailed documents concerning the hardware, software and test manuals. With these documents THALES FRANCE is building the system in close cooperation with the main user. The testing of the system will be conducted at the end of 2007 with the aim to have TACTIS operational in 2008.

Infrastructure

The TACTIS building site is being prepared for the construction. This new building will host:

- 15 x high fidelity simulators Leopard 2A6,
 - 7 x stationary simulators,
 - 2 x mobile sets of 4 simulators, including AAR facilities for 20 persons and 2 training staff workstations,
- 14 generic simulators YPR 765 PRI (actual RNLA Infantry Fighting Vehicle),
- 2 generic simulators YPR 765 CO C5 (command vehicles),
- 16 dismantled positions,
- 8 generic simulators for fire support, engineers, logistics, anti-tank, etc.,
- 17 x high fidelity simulators CV9035NL (the CV90 will replace the YPR 765 as of 2009),
 - 5 x simulator stationary,
 - 3 x mobile sets of 4 simulators CV9035NL, inclusive dismantled positions, AAR facilities for 20 persons and 2 training staff workstations,
- 1 x AAR facilities for 150 persons,
- 2 x AAR facilities for 20 persons,
- 2 x AAR facilities 30 persons,
- dining facilities for 150 persons (including a internet area),
- different offices.

Simulators

Leopard 2A6 high fidelity simulator

With the Leopard 2A6 simulator it is possible to conduct gunnery and tactical training. The simulator is a full copy of the main battle tank and the 'form, fit, function, look and feel' is extremely close to reality.

Generic simulator for the IFV (YPR 765 and CV9035NL)

Due to the replacement of the YPR 765, the system will only support the tactical training of the users. The basic facilities of the YPR vehicle are depicted. Touch screens provide the player (commander, driver, gunner) the use vehicle facilities. As soon as the YPR is replaced by the CV9035NL, these simulators will be used for generic purposes (convoy training etc) in which every RNLA vehicle can be simulated.

Dismounted position (DIM) generic simulator

The DIM will give the infantry group commander the possibility to simulate his group when dismantled. With this facility he can:

- guide his group,
- interact training with vehicle commanders and other dismantled commanders,
- train his decision making process,
- conduct dismantled reconnaissance.

The DIM has no capability to train the individual soldier. In the vehicle the group commander will make his choice with whom and with what equipment he will dismount. He will have the possibility to guide individual virtual soldier, section, or group. He can order basic drills, fire control orders and opening fire procedures.

YPR COC5 generic simulator

For the artillery- and Forward Air Controller (FAC), the generic YPR-COC5 simulator is available. The simulator will have a DIM facility.

General generic simulators

With these systems the player will have the possibility to simulate engineer elements, logistic support and medium range anti-tank units, including the effect of the Medium Range Anti-tank weapon system GILL. The interaction between commanders can be trained and evaluated.

Mobile simulators

The mobile simulator is a set for a platoon, either 4 simulators CV9035NL or Leopard 2A6, trainings staff facilities and an AAR container. The CV9035NL simulators will be equipped with a dismantled position. These mobile systems are prepared to be used in training areas, which will give the RNLA the possibility to deploy and train just before going into a major FTX or LFX.

CV9035NL high fidelity simulator

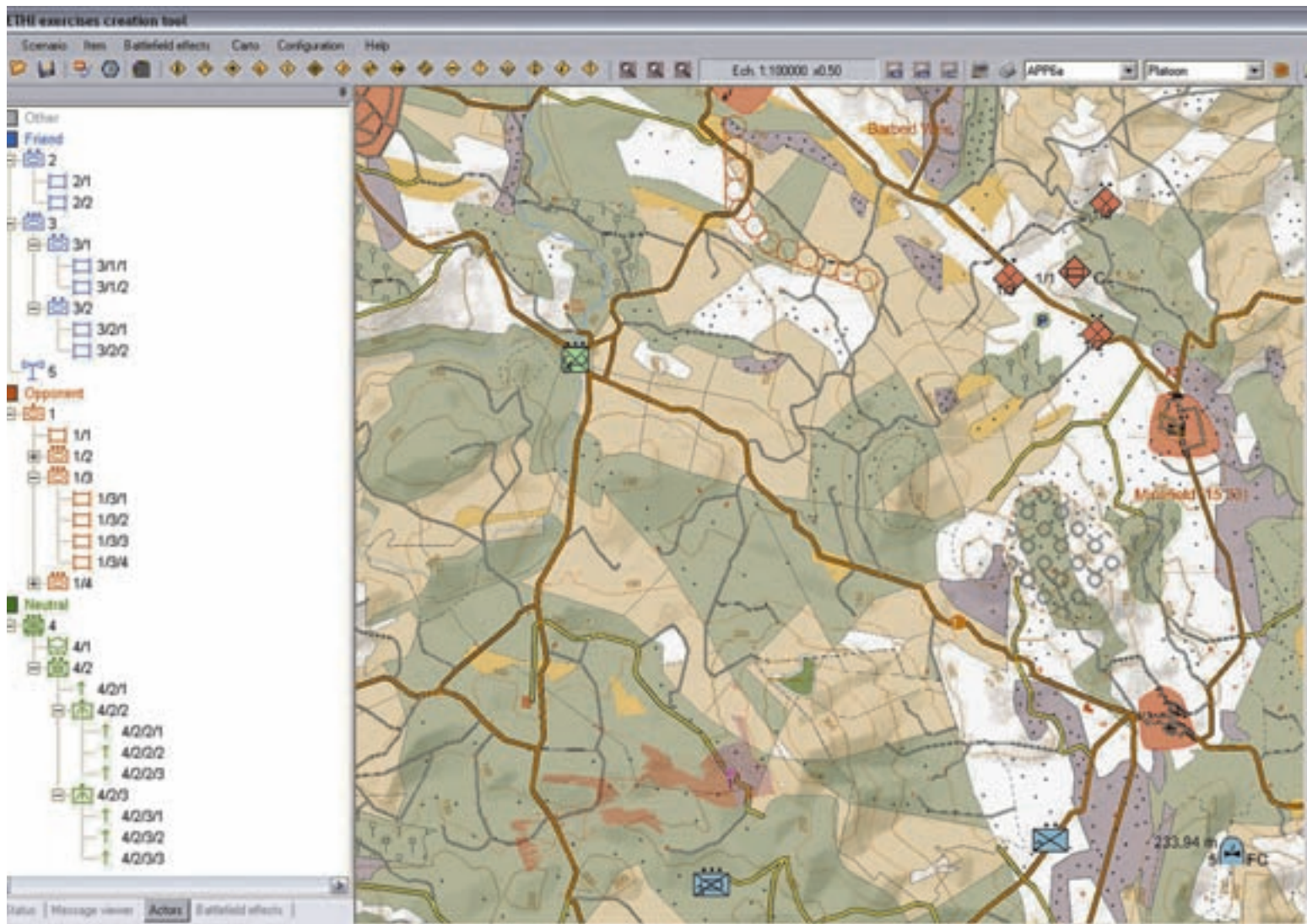
The CV9035NL high fidelity simulator is still in development and THALES FRANCE will use the feedback of our armoured infantrymen. Young platoon commanders and NCO's belonging to different operational battalions will participate directly in the development of the hard- and software of a new high fidelity simulator.

Facilities

Scenario Management Facilities (SMF)

A specific software is being developed to assist the creation, execution and evaluation of training. With this software it will be possible to:

- built different scenarios,
- command computer generated units (enemy or neutral elements),
- integrate combat support and logistics (fire support or engineer activities),



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- have an overview of the battlefield using a 2-dimensional map or an invisible camera which can move freely over the terrain,
- prepare and conduct high level AAR.

Computer Assisted Instruction (CAI)

The CAI will support the instructor in the users- and gunnery training. In some cases the CAI will even replace the instructor. One of the major advantages is that all trainees will be judged equally. The computer will never fail to register the necessary corrections.

CAI will support the training of:

- level 1: tank commander and gunner,
- level 2: single tank,
- level 3: section and platoon.

Terrain database

The database of the terrain represents an area of 75 x 55 km. All types of terrain are included, with different shooting ranges (0 - 600 m, 600 - 3500 m and 600 tot 5000 m). A specific weather type can be selected.

The **Tactical Indoor Simulator** is in fact a system of systems. It will give the RNLA the **possibility to execute effective high level individual, crew, platoon and company training** before real life exercises and gunneries are conducted. After introduction of the system, THALES FRANCE and the RNLA will continue to find area's in which TACTIS can be of help. A connection with other simulators (FAC, STINGER, GILL, etc) will be analysed. The system could also, for example, support the future development of doctrine on a tactical level. It is evident that the introduction of TACTIS does not mean the end of the project.