

Advanced Fire Support Information System (AFSIS)

Royal Netherlands Army



The Advanced Fire Support Information System (AFSIS) provides support to the command & control functions of the fire support personnel at battalion (bn) and brigade (bde) levels. Although the application is expected to run in both the Battlefield Management System (BMS) and the Command and Control Workstation (C2WS) environments, this is not yet the case.

In a short time, however, all of the operational standalone applications in use by the artillery will be brought under the AFSIS programme. This includes operational applications such as the Safety PC, Plotter PC, the coordinate transformation application TRAFO, and the survey calculator/terrain intelligence post-application, TMR/TIP-PC.

AFSIS at battalion level

The application AFSIS at battalion level (AFSIS-bn) is sub-divided into two different packages. Package 1 is designed for the mortar platoon level (120 mm and 81 mm) for both mechanised infantry battalions and airmobile units. The intention is for this package to be used in the future by mortar units of the Marine Corps, as well. The staff requirements for the introduction of AFSIS-bn Package 1 in the Marine Corps are being drawn up now.

Package 1 has been completely developed and made operational as a system. The equipment is built into the vehicles of both the fire direction centre and the platoon commander (military ruggedized laptop computer) and the mortar tractors (military ruggedized personal digital assistant (palmtops)). It goes without saying the both hardware systems have been 'Military ruggedized'. Only if all of these systems are shock resistant and water tight, will they be able to function under all operational conditions.

The Mortar Fire Direction Centre (MORTFDC) application runs on the fire direction centre's and the platoon commander's laptops. The mortar application (MORT) runs on the palmtop. Data communication between the two systems is via the radios that the units already have (RT 9500 and RT 9100) across the platoon command net.

All information exchange and commands, as well as calculating firing data, are carried out by the system. The unit is therefore able to position itself dispersed around the terrain.





How does AFSIS work?

The mortar fire direction centre receives a fire request from an observer on the radio (voice). The fire direction officer enters the fire request into the AFSIS system. The system then advises the operator as to which fire unit (section A, B or the whole platoon) is best suited to provide fire. The operator then selects a fire unit. As soon as the operator has selected a fire unit, the system calculates the firing data (elevation and quadrant) and the munition to use (type and quantity) for the participating mortars. The firing data and the information concerning the munition to be used are transmitted to the participating mortar units by means of a data message. The mortars' gun crews then position their mortars (elevation and quadrant) and fire.

The components of the AFSIS-bn

The AFSIS-bn Package 1 system for a 120 mm platoon consists of the following components:

- 1 x fire direction centre (MORTFDC)
- 1 x backup fire direction centre (BKPFDC)
- 4 x mortar (1 section consists of 2 mortars)
- 2 x section commander

Hardware

The fire control centre and the platoon commander both have a ruggedized notebook. Communication with the mortars is via the vehicle radio, RT 9500. The mortar tractors and the section commanders have ruggedized palmtops. Communication from the palmtops to the fire control centre (MORTFDC) is via the RT 9100 handheld radio attached to the palmtop's serial port.

