

# aselsan

## Fire Support Systems



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# AFSAS

## FIRE SUPPORT SYSTEM

ASELSAN Fire Support System (AFSAS) is a system of systems which provides the automation of planning and execution of fire support. It has the capability of performing all command and control functions for an effective fire support, including the tactical and technical fire direction.

AFSAS integrates all fire support units within the sensor-shooter chain through digital communication channels provided by secure tactical radios and or field wires. Digital communication between units is realized by using military standard communication protocols and message formats.

AFSAS provides highly mobile, survivable, flexible, adaptable and reconfigurable architecture for different tactical requirements of the armies.



# AFSAS

## FIRE SUPPORT SYSTEM

AFSAS is a combination of subsystems for tactical and technical fire direction that covers the entire fire support functionality, ranging from the uppermost command centers at the corps level to the lowermost individual unit, at gun and forward observer levels;

- Tactical Fire Direction System,
- Battery Fire Direction System,

- Mortar Fire Direction System,
- Multiple Launch Rockets Fire Direction System,
- Forward Observer Systems,
- Artillery/Mortar Locating Radars
- Field Artillery Meteorology System,
- Artillery Survey Systems.

AFSAS provides the integration of fire support assets to the other functional areas of the battlefield, such as maneuver, intelligence, air defense and combat service support. System enables digital integration to sensors such as artillery and mortar target locating radars.

AFSAS provides an infrastructure ready for integration to the fire support C4I Systems of other NATO and allied countries.

AFSAS includes rugged general purpose military hardware; such as computers, hand-held terminals, printers, monitors and keyboards as well as hardware and software units specially developed for fire support applications.



# TAIKS

## TACTICAL FIRE DIRECTION COMMAND CONTROL SYSTEM

ASELSAN Fire Support Command, Control and Communication System (TAIKS) is a member of AFSAS family of systems which provides the automation of planning and execution of fire support. The system can be used at Fire Support Element (FSE), Fire Direction Centers (FDC), Fire Support Coordination Centers (FSCC) and Tactical Operation Centers (TOC) in echelons from battalions to corps.

TAIKS analyzes the targets in accordance with the commander's intent and criteria, status of all available fire support assets (e.g. weapons, ammunition, readiness and firing range), tactical situation, battlefield conditions, status of friendly and hostile units as well as fire support coordination measures.

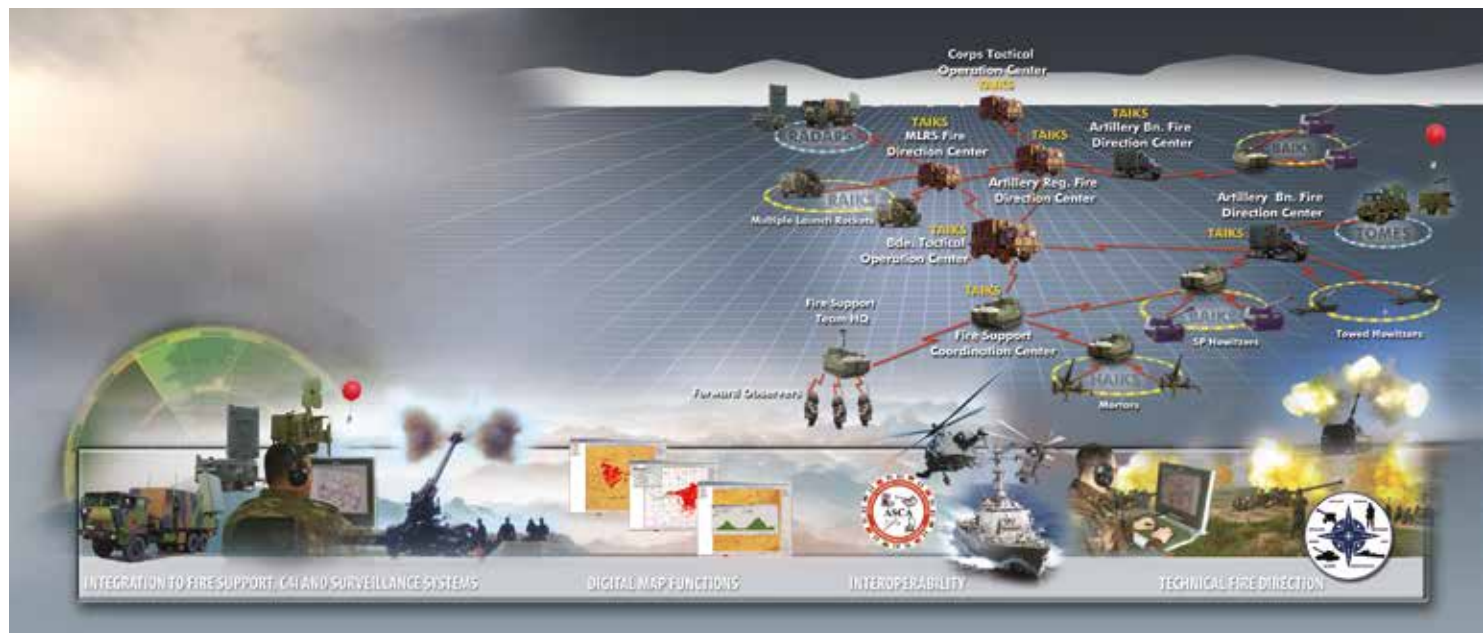
TAIKS enables the fire support commander to plan and execute attacks on the right target, at the right time, with the most appropriate weapon system and ammunition to support the maneuver. It provides maximum utilization of the fire support assets in the battlefield.

TAIKS provides digital integration of fire support command posts to artillery and mortar locating radars and other target acquisition sensors.

### Main Functions

- Fire Support Planning
- Target Management
- Tactical Situational Awareness
- Fire Support Execution
- Technical Fire Direction
- Munitions Effects Analysis
- Support Management
- Integration to C4I Systems
- Digital Communications
- Digital Map Functions
- Reporting

BAIKS : Battery Fire Direction System  
 HAIKS : Mortar Fire Direction System  
 RAIKS : Multiple Launch Rockets Fire Direction System  
 TOMES : Field Artillery Meteorology System



# BAIKS

## BATTERY FIRE DIRECTION SYSTEM

ASELSAN Field Artillery Battery Fire Direction System (BAIKS) is a technical fire direction and data communications system designed to increase the accuracy, fire power and the responsiveness of field artillery batteries.

BAIKS provides automation of technical fire direction processes in towed and self-propelled (SP) Direct Support/General Support field artillery batteries/platoons. The system enables the fire direction center and the firing units to perform their missions fast, accurately and effectively.

BAIKS fire direction software implements "NATO Armaments Ballistic Kernel" (NABK). The system is able to compute the firing commands rapidly and precisely. The system can be easily configured to support different unit organizations (e.g. battery-based with 4, 6 or 8 guns or platoon-based battery with 2 platoons, each having 2, 3 or 4 guns) as required by the tactical environment.

### Main Functions

- Technical Fire Direction
- Processing of Fire Missions (e.g. adjustment fire and subsequent adjustment, registration fire, fire-for effect, time-on-target missions)
- Muzzle Velocity Management
- Integration to C4I Systems
- Inventory Management
- Digital Communications
- Digital Map Functions
- Reporting



# HAIKS

## MORTAR FIRE DIRECTION SYSTEM

ASELSAN Mortar Fire Direction System (HAIKS) is a technical fire direction and data communications system designed to increase the fire power and first round hit capability of mortars.

HAIKS automates the technical fire direction processes in mortar platoon/sections. The system enables the fire direction center and the mortars to perform fire missions fast, accurately and effectively. The system provides the mortar fire direction centers with the capability of digital data communication with other fire support units including company fire support team headquarters, forward observers, maneuver and fire support command posts via tactical radios and wire.

HAIKS fire direction software implements "NATO Armaments Ballistic Kernel" (NABK). The system computes firing commands rapidly and precisely. HAIKS can be easily configured in order to support various unit organizations (e.g. mortar platoon with two or three sections each having two or three mortars) as required by the tactical situation.

### Main Functions

- Technical Fire Direction for Mortars
- Processing of Fire Missions
- Integration to C4I Systems
- Digital Communications
- Digital Map Functions
- Reporting



# RAIKS

## MULTIPLE LAUNCH ROCKET FIRE DIRECTION SYSTEM

ASELSAN Multiple Launch Rocket Fire Direction System automates the technical fire direction processes in Multiple Launch Rocket Systems. The system enables the fire direction center and the weapon to perform fire missions fast, accurately and effectively. The system is also capable of digital data communication with other fire support units including maneuver and

fire support command posts, artillery meteorological system via tactical radios and wire.

Fire direction software of the system computes firing commands rapidly and precisely. The system can be easily configured to support different unit organizations as required by the tactical environment.

### Main Functions

- Technical Fire Direction for Rockets
- Processing of Fire Missions
- Integration to C4I Systems
- Digital Communications
- Digital Map Functions
- Reporting





# FORWARD OBSERVER SYSTEMS

ASELSAN's Forward Observer Systems provide target acquisition at day-night and adverse combat conditions like dust, smoke, fire and camouflage. The vehicle mounted system determines the target coordinates with electro optical sensors and performs navigation, precise positioning and pointing functions.

Forward Observers equipped with portable target positioning systems and radio, execute their tasks in different operational modes, as commanded.

## Main Functions

- Fire Support Planning
- Target Acquisition
- Forward Observer Coordination
- Observer Fire Mission
- Integration to C4I Systems
- Digital Communications
- Digital Map Functions
- Reporting



# ARTILLERY FIRE CONTROL SYSTEMS

AELSAN Artillery Fire Control Systems are weapon management systems providing computer-aided execution of deployment / positioning, fire preparation, fire direction and fire control functions for self propelled/towed howitzers, mortars and Multiple Launch Rocket Systems and digital integration to other fire support elements.



## Main Functions

- Fire planning and fire mission execution in a digital environment
- Rapid deployment
- Execution of all artillery missions including, time on target, fire for effect, adjustment fire, registration fire and direct fire
- Rapid & accurate calculation of firing commands using "NATO Armaments Ballistic Kernel (NABK)"
- Muzzle velocity measurement and management
- Calculation and display of munitions trajectory on digital map
- Continuous location and gun heading measurement
- Graphical display of gun laying information
- Automatic and precise gun laying
- Digital integration with Fire Support Command Posts and other fire support assets, such as target locating systems, artillery meteorological systems with via Digital Radios
- Display of battlefield information on a digital map
- Mission oriented, menu driven graphical user interface

# ARTILLERY FIRE CONTROL SYSTEMS

## SYSTEM UNITS





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