



C2 & Weapon Deployment System ADLER II

The Challenge

Future missions for the German armed forces will primarily be carried out within the framework of combined and joint task forces. To successfully execute such operations, adequate command and control means are required. High-performance information and communication systems as a basis for network-enabled capabilities play an important role.

A military commander needs a deployment support system which can quickly collect the huge amount of data from highly modern sensors and present the information in near real-time as a comprehensive operational picture. This system is required to support the process of situation-oriented decision-making on the basis of this highly detailed operational picture in conjunction with additional command and control information. If necessary, this can include the optimised and timely deployment of individual weapon platforms or combinations of different types of weapon systems.

The ESG Solution

ADLER II has been developed to meet this specific user profile.

The command, control and weapon deployment system **ADLER** connects the network of STAR, command and control and effects systems of all the artillery forces in different formations under a uniform command.

ADLER II is optimised for mobile deployment and ensures near real-time information exchange on the battlefield via digital radio within a communication network which automatically and continuously adapts to the situation. Up-to-date information on enemy and friendly forces is presented to the commander in an automatically updated, appropriately detailed and comprehensive situational picture. A flexible user role concept allows function-oriented control of the information flow and display of the information on a modern graphical user interface using a digital map.

ADLER II supports the user with extensive functionality in the evaluation

and prioritisation of the information and in the decision-making process, thus releasing him from routine tasks. Orders and missions can be initiated and their execution observed directly from the situation map. Analysis functions help to optimise the deployment of weapon systems, from individual weapon platforms including ballistics calculations through to the interaction of different weapon systems.

ADLER II enables, by means of automated interfaces, multinational cooperation with the command, control and weapon deployment systems of other nations within the ASCA Programme (Artillery Systems Cooperation Activities) and also in future joint cooperation with the Navy and Airforce in the area of Joint Fire Support.

ADLER II can be configured by the user in accordance with his mission and can therefore be applied at all command levels. The concept of alternating command post configurations enables command posts to be assembled with varying numbers of

workstations, from an individual vehicle up to an operation centre with multiple shelters and dismounted workstations in fixed facilities.

ADLER II combines the experience of over 10 years use in the German Artillery with modern information technology and user interfaces. **ADLER II** is open for upgrading and adaptation to the rapid progress of information technologies and the changing mission spectrum and organisational structure of the German Armed Forces.

ESG, as the main contractor for the command, control and weapon deployment system **ADLER II**, has not only developed the system but has also supported and accompanied it during the fielding and in-service phases.

The experience gained and the technologies applied in **ADLER II** also form the basis for DVA II, the command, control and weapon deployment system for mortar units, and for ARES II, the fire control system of the rocket artillery units.

PERFORMANCE CHARACTERISTICS

User Interface

- ▶ Graphical user interface with digital map and situation display
- ▶ Scalable according to the user-specific tasks
- ▶ Task-independent screen formats with user support and plausibility checks
- ▶ Context-sensitive help system
- ▶ Open Office applications

Communication and Message Handling

- ▶ Flexible addressing and network management with access control
- ▶ Comprehensive lists for receipt and transmission management
- ▶ Automated processing of all orders, messages and status information
- ▶ Information distribution scaleable in accordance with the specific task per workstation

- ▶ High performance database with back-up and command post inter-change functions

Surveillance, Target Acquisition and Reconnaissance

- ▶ Coordination and control of all target acquisition means
- ▶ Evaluation of target information by means of adjustable filter functions
- ▶ Comprehensive display in tables and on the map

Tactical Fire Control

- ▶ Prioritisation of targets in accordance with flexible criteria
- ▶ Calculation of the optimal deployment of weapon systems and ammunition for fire mission proposals
- ▶ Optimisation of weapon and ammunition deployment with regard to time
- ▶ Checks of fire coordination and safety measures

- ▶ Automated or manual creation of fire missions and fire orders
- ▶ Detailed control of fire mission proposals

Technical Fire Control

- ▶ Establishment and control of the readiness for action of fire units
- ▶ Ballistics calculations using the NABK (NATO Armaments Ballistic Kernel)
- ▶ Transformation of fire orders into gun commands
- ▶ Execution and status control of various firing procedures

Map and Situation Display

- ▶ Digital map with various data formats (raster, vector, altitude, aerial picture)
- ▶ Self-updating, near real-time operational picture with variable filter and display options

- ▶ Graphical support for generating reports and orders from the digital map

Interfaces

- ▶ Automatic interfaces to numerous national and international systems
- ▶ Standardised interfaces for inter-connection with further systems or components

TECHNICAL CHARACTERISTICS

- ▶ Operates on standard hardware with Intel architecture and Windows operating systems (2000, XP, Vista)
- ▶ Modern, modular component-based software architecture with growth potential
- ▶ Scalable hardware architecture ranging from a stand-alone workstation to major command posts with a number of workstations and shelters
- ▶ Use in stationary and mobile operation
- ▶ Identical hardware and software for all user roles and command levels
- ▶ Can be set up in accordance with the user's role without additional system administration effort
- ▶ Communication protocols optimised for near real-time, secure and priority-dependent data transmission via digital radio (data, text, images)
- ▶ Various communication means (VHF, HF, LAN, WLAN, trunk networks)
- ▶ High speed command post communication via Ethernet for data and Voice over IP



ADLER II, the key element in the artillery system network