



Command and Communication Under the Toughest Conditions

In the 21st-century, communication and information are central factors on the battlefield. Superior information is what makes military firepower successful in the first place. Network-centric operational control is necessary for this, and has led to a change in the requirements of the skills profile of the armed forces, as well as to the demands made on the information technology: the spotlight is on integrated command and communication components.

This is precisely where ATM ComputerSysteme GmbH (ATM) comes into its own, offering mobile C4I systems (Command, Control, Communications, Computer & Intelligence), with "command support from a single source".

Sophisticated military-specific developments

ATM whose headquarters are on the shores of Lake Constance, has for three decades been one of the leading system manufacturers in the international security and defence industry. As a sup-

plier of complete mobile and stationary communications and IT solutions in the field of intelligence, command and weapons deployment systems, ATM supplies ruggedised products for applications in military environments. The products are particularly intended for use under difficult environmental conditions such as are found in tracked and wheeled armoured vehicles, as well as in aircraft and ships.

transmission. ATM makes an important contribution to this with its C4I components. The communication server and the software that was also developed by ATM for this purpose, make it possible to communicate data and carry out network-centric operations around the world over different radio systems. As each individual armed force maintains its own systems, total interoperability is at the heart of ATM's communications solution. Secure, fast data communication between moving units on land, sea and air is not a problem with the solutions from ATM. The latest intelli-

environmental standards, as well as for their electromagnetic compatibility.

Permitting network communication

ATM delivers communications solutions which support network-centric operations even in highly mobile mode. ATM's KommServer utilises dynamic network management across the armed forces to secure communication, and is part of the standard equipment of all the important vehicles in the German Army.

Whereas the operation of wired

Photos: ATM



KommServer permits dynamic network management across the armed forces



The VistaMaster family can be used either purely as a display or as a panel PC

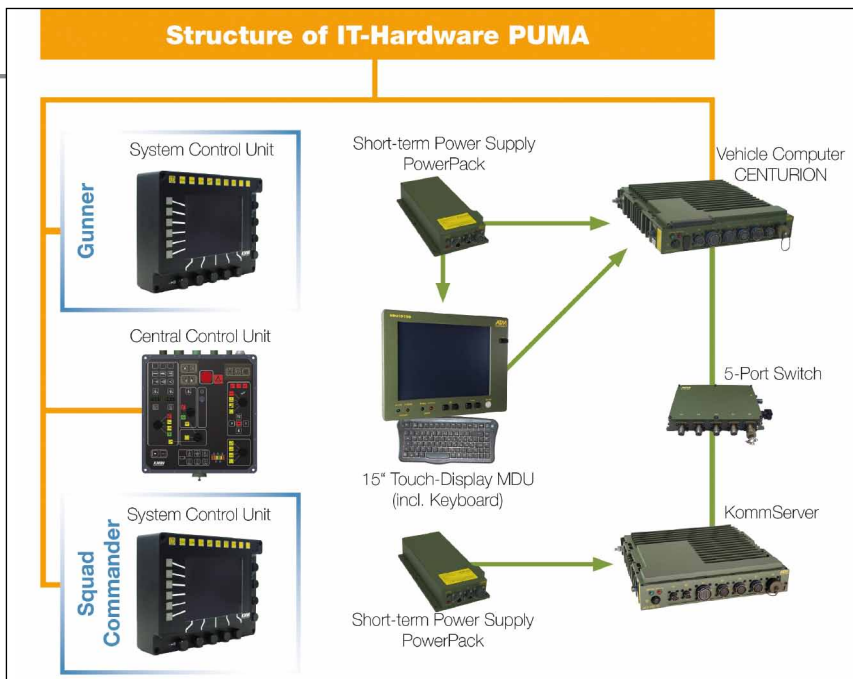
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The tactical need for information superiority shifts the focus to the areas of communication and information

gence data is therefore always available to every unit.

As an IT interface between the vehicle, operator and external communication participants, the modern IT command components from ATM can be employed without exception during both stationary and mobile applications in all environmental conditions and threat levels. In order to ensure this, all ATM's command support components are tested and qualified from the earliest stages of development in accordance with the relevant military

communications systems only allows limited mobility, units below the level of the brigade, and in the command and weapons deployment systems, require highly mobile communication when on the move. The KommServer can be adapted to customers' specific needs, and satisfies the requirements for high-mobility operation. The KommServer is then the central linking element between all the communication technologies operated in the German Federal Armed Forces, simultaneously allowing connection to the Armed Forces' mobile



Structure of the C4I components in the Puma

The fully stabilised tower-independent periscope and the weapon optics, which are also fully stabilised, are amongst the devices connected in this way. Ten programmable operating panels are available on every SBG, bringing together the operation of particular functional groups. The operating panels are selected via assigned function buttons, the so-called hard keys.

The central control unit (ZBG) is located between the squad commander and gunner where it acts as a central device. The crew uses this to control the primary operating functions through a close dialogue with the Puma's system logic. The operating functions are controlled via rotary and toggle switches plus buttons with back-lit pictograms.

communication system. This communication therefore makes the latest intelligence data available to, for instance, the forces in Afghanistan.

Access to data under difficult conditions

For mobile data access on the battlefield, ATM offers special tactical display solutions and panel PCs for use as operating and display devices, characterised by extreme robustness.

ATM developed the modular VistaMaster family for this purpose. The VistaMaster can be used as a Panel-PC or as a pure display solution. The VistaMaster can even be operated without difficulty in battle or on difficult terrain, in both wheeled and tracked vehicles, because the operator can put both hands firmly on the edges. The VistaMaster can be operated and read both in sunlight and with a night-vision device. The last point is an enormous tactical advantage on intelligence missions, as the crew can turn the lighting down so far that intelligence gathering and information processing are not prevented. It is also possible to display videos with a picture-in-picture (PIP) application, in parallel with the primary application. This solution has been installed in different 6x6 and 8x8 Multi-Role Armoured Vehicles (MRAV).

Extremely robust computers

With the Centurion, ATM also offers a powerful, robust vehicle computer that can be configured and extended flexibly.

The Centurion is based on PC technology, and has been designed for application under extreme environmental conditions and for use in weapons carriers, where the available space is extraordinarily limited. Freely configurable card slots are available for functional expansions for specific projects. The computer incorporates a large number of configurable electrical interfaces, accessible from the outside, for connecting external devices and integrating into the system as a whole. Special modules allow the Centurion to be extended with communication interfaces and with special military wired networks. The Centurion is being used in wheeled and tracked vehicles such as the Light Armoured Reconnaissance Vehicle Fennek, the armoured military infantry mobility vehicle Dingo, the multirole armoured fighting vehicle Boxer, the armoured personnel carrier Fuchs and the all-terrain carrier BV206 as well as in the Leopard 2 main battle tank.

Individual solutions for the Puma

ATM developed a customer-specific solution for the Armoured Infantry Fighting Vehicle (AIFV), the Puma.

ATM's special C4I solutions help the Puma's squad commander and the gunner to operate the devices. A consistent (programmable) user interface to the other Puma control units is available to both on the System Control Unit (SBG).



The central control unit and the MDU display as a user interface in the Puma

The device provides status information through illuminated display elements.

Many years of experience and a successful synergy of integrated hardware and software engineering under one roof enable ATM to offer not only standardised products with a long, battle-proven track record, but also highly customisable solutions. ATM have proven themselves in the "Enduring Freedom" mission, the KFOR deployment in Kosovo, during the ISAF deployment in Afghanistan and elsewhere.

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