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TRW Provides Leading-Edge Technology Products and Services to the Defence Industry and Government

by

Alan Marcus, Senior Writer, TRW Business Communications

As one of the world's 10 largest information technology providers and one of the top 10 U.S. integrators, TRW designs, develops and integrates command-and-control systems, information management and decision-support systems, and advanced battlefield simulation methodologies. Advanced information technologies products and services are supplied to the defence industry and government, including broadband communication networks. The organisation also provides life-cycle support (development, integration and maintenance) to systems encompassing mission planning, tactical intelligence collection and production, tactical communications and tactical product dissemination.

In addition, TRW manufactures command and control information management systems and surveillance systems, and develops and integrates high technology space and defence mission support systems, including mission control centres, ground station and sensor data processing and analysis systems for defence and satellite applications and high-tech information and telecommunication systems. Additionally, TRW provides high energy electronic and mechanical design and ground systems engineering services.

Strong Systems Engineering Comes to the UK

With over 11,500 personnel working in the United Kingdom, TRW brings nearly 50 years of innovation and experience in developing, engineering, and integrating military command, control, and communications systems, and in integrating large, complex communications networks to the UK.

TRW is the systems integrator (as one of two subcontractors to British Telecom) for Airwave (formerly known as PSRCP - Public Safety Radio Communications Project), a national digital radio service for safety communications for the emergency services in England, Wales and Scotland, including police, fire, ambulance and other public safety organisations.

The Airwave service will use advanced digital information technologies in voice, data, image communications, and information processing to help emergency services in England, Wales, and Scotland respond rapidly and reliably to emergency calls. Police, fire, ambulance and other public safety officers using the system will be able to gain access to computerised databases and, ultimately, to receive and transmit photographs, maps, and other documents from handheld, portable radios, and public safety vehicles.

As part of its overall systems engineering and integration responsibility, TRW is developing the network that integrates PSRC's components, and links it with existing and future information-technology systems. Forces and other agencies nation-wide will be able to operate seamlessly, and stay in contact with each other from any location in Britain.

TRW was chosen as the prime contractor for NAFIS (National Automated Fingerprint Identification System), bringing the benefits of advanced computerised fingerprint technology to operational police officers. The company will provide a powerful computing infrastructure connecting the fingerprint bureau of 43 police forces throughout England and Wales. NAFIS, implemented by the Police Information Technology Organisation (PITO) will connect central system services with local police force systems providing a large scale, distributed computing

infrastructure for the police. When fully deployed, NAFIS will consist of a central system, bureau front-end systems to support the 43 police forces; an integrated communications system connecting the central system to the bureau systems; two training systems and a test, development and maintenance system.

The Battlefield of the Future Has Arrived

Success on the future battlefield will go to those who control the flow of information. This is why battlefield digitization has become one of the U.S. Army's highest priorities over the next decade.

Proving the concept of the digital battlefield is the goal of the Force XXI Battle Command Brigade-and-Below program (FBCB2), a key element of the U.S. Army's vision for force multiplication through battlefield digitization.

The Tactical Internet – Real-Time Access to Situational Awareness

FBCB2 uses the "tactical internet" (TI), a new communications concept to gather and distribute critical combat information to soldiers, units, and battle commands in near real-time. TRW is leading the way to pioneer the "digital battlefield," replacing paper maps and voice-radio communications with fully integrated digital capabilities, providing real-time, real-world access to situational awareness as well as resource information.

TRW is the prime contractor for the FBCB2 programme, which integrates secure voice radio networks, secure data radio networks, and provides a TI for battlefield digitization. Its architecture precludes single point failures. The U.S. version of this architecture has been proven in field trials at the U.S. National Training Centre, during operational tests at Fort Hood, Texas, where TRW is now

completing the fielding of FBCB2 to the Army's first digitized division, and during actual peacekeeping operations in the Balkans.

FBCB2 inserts advanced information system automation technology into the battlefield at echelons brigade-and-below, to provide real-time situational awareness and command-and-control. From the foot soldier to the upper echelons of the Army commanders, FBCB2 has set the stage for a fundamental change in the manner of how war is conducted, decisively reducing the fog of war and giving battlefield commanders the information they need when they need it.

FBCB2 hardware is currently in Low Rate Initial Production (LRIP) and being installed to the U.S. Army (approximately 9,000 systems have been approved for LRIP, with approximately 60,000 planned for total acquisition), bringing the Army one step closer toward digitizing the force and achieving information dominance on the battlefield.

Unmanned Aerial Vehicles (UAVs) – Eyes in the Sky

A new element in the arsenal of the 21st century warfighter, UAVs have been added to work in conjunction with the digital battlefield. UAVs provide real-time information to tactical battlefield commanders and significantly contribute to the Army's efforts to gain and maintain information dominance on the battlefields of the 21st century. This capability was successfully demonstrated in Kosovo, where UAVs played a key role in NATO's 78-day air offensive in Yugoslavia in 1999. TRW's Hunter UAV system was one of several deployed. Its efforts in support of NATO's KFOR (Kosovo's Force) clearly demonstrated the value of UAVs in the tactical environment.

Applying its communications systems skills and building on its UK presence, TRW is now competing on the MOD's BOWMAN Battlefield Communications

Programme -- another nationally important UK programme. BOWMAN will provide a tactical secure voice and data communications system for all three military services, in support of land and littoral operations. BOWMAN will replace the Clansman Combat Net Radio and other existing equipment.
TRW is the only company in the world with total system responsibility for fielding a BOWMAN-like battlefield communications system on a large scale.

TRW's risk reduction programme will develop an overall system architecture for BOWMAN that uses the lowest-risk, secure radios available in the world today, together with an architecture built specifically for the UK. The "tactical internet" will provide the appropriate British military users with secure, survivable communications and ultimately real-time picture of the battlespace.

As the number one supplier of tactical reconnaissance and direction-finding systems to the U.S. military, TRW has produced more than 200 navigational and “friend or foe” identification systems for aircraft and ground vehicles. The winning combination of electronics, software technology and clear, jam-proof communications gives military commanders critical, decisive advantages in combat and can save soliders’ lives.

State-of-the-art systems from TRW also encompass information technology applications. TRW was the prime contractor and systems integrator for the complete upgrade for the city of Atlanta’s public safety communications system, incorporating the latest technology in radio communications, emergency 911 processing and computer-aided dispatch systems. The Atlanta Citywide Radio System consolidates police, fire and city services emergency dispatch into a single center for effective response to emergency situations.

A Wide Spectrum of Programs

In addition to our spacebased missile warning and communications systems, crucial to our nation's strategic posture, TRW developed the world's premier fixed-wing communications intercept and emitter location system, as well as airborne signal intelligence systems that deliver the most capable signal intelligence collection and accurate emitter location technology available.

From ensuring continual operational readiness of U.S. forces as the Prime Integration Contractor on the ICBM program, developing advanced information technology for the U.S. Army to multiply effectiveness of land combat forces through battlefield digitization, overseeing system engineering and integration on Battle Management Command, Control and Communications systems for Theatre Missile Defence/National Missile Defence, to creating an airborne laser that will help provide defence against ballistic missiles at the speed of light for airborne, ground and spacebased applications, destroying them in the boost phase, TRW's proven skills and vast resources are an integral part of the resources available to defence and intelligence communities world-wide.