

Supporting defence through innovation — the digital battlefield

Today, the boundaries of wars and battles are no longer as clearly defined as they once were in the past.

Alan Marcus, TRW Systems Integration Group

The instability of Third World aggressors and the very nature of their unpredictability necessitate the crucial need for military forces to "manage space" effectively, with the ability to counter unexpected hostilities and rapidly respond to threats worldwide.

On the new battlefield of today, the digital battlefield, the ultimate success of commanders depends on real-time, real-world access to information about all of their resources, assets, status, strength and tactics. Keeping up with the rapidly

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As an internationally recognised company on the cutting edge of defence technologies, TRW has more than 40 years of system engineering and integration expertise. TRW's proven skills and experience

are providing commanders with the leading-edge technology essential for victory on the digital battlefield. This is exemplified by the programmes that TRW is fielding today, such as the Forward Area Air Defence Command and Control Intelligence System (FAAD C²I).

FAAD C²I is the first in a series of the US Army's Tactical Command and Control (ATCCS) systems that initiate the digitisation of the battlefield.

The FAAD C²I system allows defence against enemy air threats by providing the capability to manoeuvre forces near the forward troop line, through integration of battlefield sensor data via real-time cueing and alerting inputs. This state-of-the-art system provides a mission response time measured in seconds.

Reliable communications are vital to battlefield commanders, and for the past decade, TRW has been the system engineer and integrator for STACCS. This secure, automated command, control and communications system was used successfully by US Army Central Command (ARCENT) during Desert Shield/Storm.

Proving the concept of the digital battlefield is the goal of the Force XXI Battle Command Brigade-and-Below Appliqué program, a cornerstone of the US Army's vision for force multiplication through battlefield digitisation. The

Appliqué program is defining techniques and concepts which will take Army command and control into the twenty-first century, permitting US Army troops to out-think, out-manoeuve, and out-fight any potential enemy.

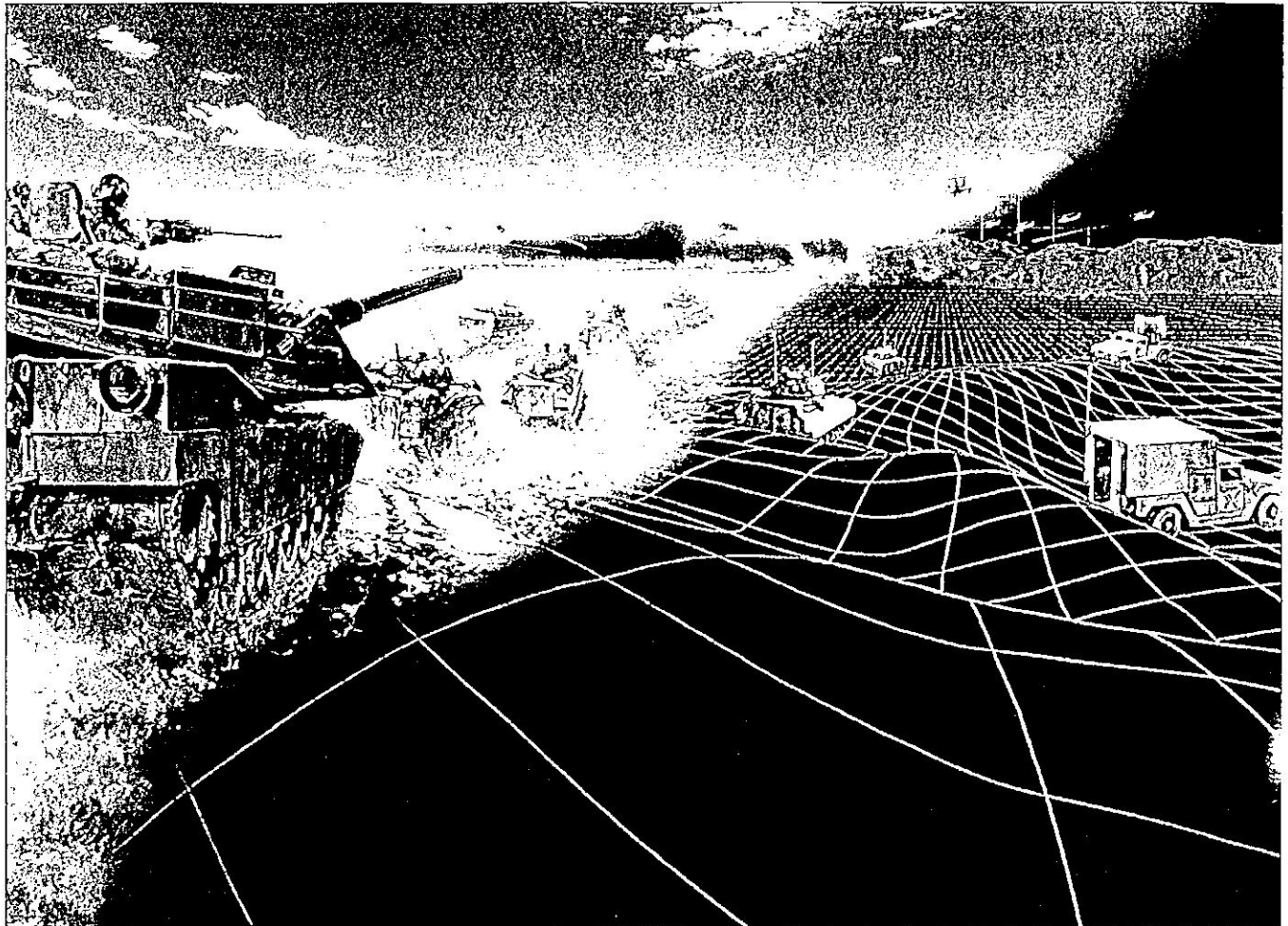
As the Appliqué contractor responsible for developing the architecture and operational constructs for the digital battlefield, TRW is proud to work with the US Army in leveraging existing and developing command and control systems into a vision of the future digital force.

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Friendly fire — war is tough enough

Stand-off weapons, pinpoint accuracy, flat-out speed, 24-hour operations — on today's modern battlefield, miscalculations can spell immediately disastrous results. The risk of fratricide is substantially increased by the very enhancements that amplify power projection and lethality.

Preserving the element of surprise is a crucial component of warfare. Being able to maintain this advantage while



As technology matures, the digital battlefield merges seamlessly with reality, but enhances it with strategic and logistical data.

reliably identifying friends or foes has often been relegated to sixth sense guesswork.

TRW millimetre wave technology is now helping combat ground forces separate allies from unknowns. With over 97 per cent demonstrated accuracy, this identification system from TRW is another outstanding example of the company's unmatched commitment to developing and integrating the most advanced, leading-edge technology for today's battlefield.

Providing early warning to battlefield commanders

When it comes to significant tactical advantages, few factors are as critical as early warning. TRW applies its decades of unparalleled experience and skills to support tactical or strategic armed forces, in addition to aiding other national agendas in the execution of their programme objectives, using integrated surveillance information.

As the systems engineering and integration support contractor for a vital US

Navy undersea surveillance programme, TRW assists US tactical and strategic forces in both regional-crisis or conflicts and traditional deep water naval warfare missions.

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The Guardrail Airborne Surveillance System, developed by TRW, is the US military's largest and most sophisticated tactical reconnaissance system. This corps-level airborne battlefield system introduced remotely-controlled signal data collection and air-to-ground data transmission, along with mobile direction-finding capability.

Tactical reconnaissance and direction-finding systems are key components of

Guardrail's mission of airborne surveillance, and relaying processed messages to tactical commanders in the field. TRW's leading-edge technology and enduring commitment to excellence has made the company the number one supplier of tactical reconnaissance and direction-finding systems to the US military.

In the rapidly changing world of defence, armed forces must continually seek new methods to keep pace with constantly changing operational requirements and evolving technologies. TRW is committed to innovation and is proud to continue its heritage in the ongoing pursuit of international as well as national security; something we have been doing for more than 40 years.

Biography

Alan Marcus is the senior communications writer for the TRW Systems Integration Group, Redondo Beach, California.