

TODAY MORE THAN EVER, defence agencies require the ability to work with vast amounts of digital imagery and full motion video to monitor and protect broad expanses of land and related assets. They require solutions that help them to better collect, manage and analyse large volumes of complex, dynamic and sometimes disorganised data in an integrated environment. This directly accelerates the ability to formulate higher quality decisions with greater confidence. Technology allows agencies to dynamically combine data from different sources into a single, seamless environment – facilitating a common operating picture – for improved decision making and analysis. It helps meet operational goals and share data across the enterprise and around the world. Organisations such as the National Geospatial-Intelligence Agency (NGA) and international military mapping organisations rely on Intergraph technology for critical functions, such as map production and image exploitation. Additionally, Intergraph provides incident management and emergency response technology that plays a crucial role in protecting citizens around the world, including those in large, high-profile cities such as Washington, DC, Berlin and Mumbai.

The NGA has been working with Intergraph for more than 25 years, and is using Intergraph's Image Scout technology for advanced image exploitation and geospatial fusion. NGA has incorporated the technology into its broad area search activities and digital image exploitation workflows. The technology enables NGA analysts to work in a completely digital environment



Strong technology for strong borders

Security threats are increasing by the day and technology alone can combat the menace. **Robert Mott** writes how military mapping organisations the world over are using the technology

with vast amounts of imagery and other complex data, and quickly assemble all of that content into a meaningful visual representation, then easily use it to perform analysis and make high-confidence decisions.

Similarly, many international military mapping organisations work with Intergraph's Geospatial Intelligence Production System (GIPS) for efficient and accurate map production activities as part of broad participation with NGA in

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the Multinational Geospatial Co-Production Program (MGCP). The MGCP is a collaborative effort to remap the world at a greater level of resolution and quality than in the past. GIPS is an enterprise-scale high-end military map production suite that allows for streamlined data capture, so that data collectors can spend less time performing mundane tasks. GIPS includes built-in validity checks and error checking throughout the process, to ensure that the

output at the end of the cycle is of the highest quality possible.

In addition to high-quality imagery and strong image exploitation features, defence, intelligence and public safety organisations require technology that adheres to open standards for data storage and exchange. This is a critical requirement for military organisations involved in coalition activities, and in partnerships with other parts of the federal government, such as the Departments of Homeland Security and Justice, for various activities. Open standards allow them to easily share information across organisations, as well as

other military operations. This new technology enables video streams from UAVs to reach a wider number of users and support a much broader range of missions. Intergraph's Motion Video Analyst product performs real-time stabilisation and other quality improvements of multiple simultaneous video streams, and then overlays them with satellite imagery, aerial photos and other intelligence data feeds.

This integration provides the advantage of instantly orienting the analyst or operator so they can better assess objects or actions captured by the video. The video can be instantly used to

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new set of challenges to our military. As the US intelligence community evolves to play an increasingly greater role in domestic security operations through collaborations with other federal and state/local organisations, they will have an even greater need for streamlined collaboration and more efficient joint operations.

In addition to the new motion video capabilities, there is a new suite of security products that help organisations more effectively face this emerging challenge and participate in collaborative operations. This new type of geospatially-enabled security solution is based on Intergraph's strong heritage and competency in the areas of military and intelligence, public safety and emergency dispatch, such as the 9-1-1 system in use in large metropolitan regions like Washington, DC, and critical infrastructure systems, such as utilities, communication and transportation.

As deeper connections continue to form within government agencies, between government and public safety agencies and between various countries around the globe, the need for strong, geospatially-powered defence, intelligence and security solutions will continue to rise. Intergraph is well poised to help our customers meet these needs and to continue innovating to meet the defence and security requirements of future generations. ■

up and down various levels of government. This open-standards approach also allows applications from multiple vendors to share information seamlessly. Therefore, the Intergraph tools can very easily fit into existing enterprise systems to perform critical functions without the need for data conversion or other costly integration activities.

Intergraph is pioneering a new technology that integrates full motion video with its geospatial and imagery exploitation platform to provide its customers with improved analytical and decision-making abilities. Unmanned aerial vehicles (UAVs), for example, have traditionally been used very successfully for surveillance and

create a static geo-referenced image that can be used for automated change detection and other complex analyses. Details on objects can quickly be determined as the resulting image is combined with other types of data to help perform a better assessment of the area covered by a UAV. For example, UAVs can be used to search for improvised explosive devices (IEDs), and this approach can be used to perform the comparison between video collected from two successive passes over the area of interest.

The industry is also currently seeing a strong trend in military and intelligence organisations playing a more critical supporting role in domestic security activities, such as border security, which is presenting a



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