

making actions. The system has a powerful Central Image Processing Unit (CIPU) that can handle huge amounts of imagery data generated by the sensors, running complex algorithms so camera feeds from each SETAS module can be 'stitched' together to give a seamless, 360-degree view of what's going on outside the vehicle. The CIPU features up to eight outputs, allowing eight crew members to view the low-latency, video feed via a human-machine interface (HMI). Crews can use standard display screens as well as helmet-mounted displays that give instant orientation, as SETAS has an open HMI architecture. The system also allows each user to have graphical overlays that assist further with SA and decision making. For instance, a crew member could choose to have vehicle information overlaid on his SETAS view, giving them up-to-date information on how the vehicle is performing using the NATO Generic Vehicle Architecture (NGVA) to receive vehicle data, or a soldier could have military symbols from the battlefield management system (BMS) overlaid on their view, giving them indications of enemy and friendly forces before they dismount.



Photo: Hensoldt

Crews using SETAS can use standard display screens as well as helmet-mounted displays that give instant orientation.

A number of new software-enabled features for SETAS are currently in development, including a picture-in-picture mode and digital image enhancement, the latter includes digital image stabilisation enhancement to allow crew members or remote users to focus on specific objects while the vehicle is moving. By using machine-learning algorithms, SETAS can identify targets, thereby reducing crew workload. In the future, the company intends to network SETAS with

other vehicle sensors, including Hensoldt's Multifunctional Self-Protection System (MUSS) and shot detection systems, both of which alert the crew to potential missile and ballistic threats. In so doing, SETAS will evolve from a standalone SA solution to become a powerful sensor-management system, incorporating advanced AI algorithms and connecting a host of sensors to provide optimum SA and survival capabilities for vehicle commanders and crew.

Product Feature: EVPÚ Defence



Create Your Own Perfect View with the GATRIA Modular Awareness System

Last year, EVPÚ Defence a.s. attracted a lot of attention in the defence sector following a successful supply of its remote-controlled weapon stations to the Army of the Czech Republic and winning the Golden IDET 2021 for RCWS MANTIS. While certainly well-deserved, this focus slightly overshadowed the fact that EVPÚ Defence a.s. also produces a number of other interesting and versatile electro-optical systems for armoured vehicles.

Let's take, for example, the GATRIA modular awareness system. As its name suggests, it has been developed to monitor vehicle perimeter, detect and identify threats and targets and equip vehicle commanders with complete and continuous situational awareness. GATRIA consists of a number of modules which include a pan device and a variety of day and thermal imaging camera combinations. Together, the modules offer 360° view of the battlefield but customers

do not need to order a complete set. Depending on the needs of their project, they can choose any combination of the modules on offer to cover the required angle, which could lead to significant saving in the total cost. The whole system is operated from the vehicle interior via a touch screen terminal which displays the images from individual sensors.

Besides the flexibility and variety of options it offers, GATRIA can also be relied upon to operate in harsh conditions. The cameras and other electronic parts of each module are safely encased in a ruggedized aluminium housing for use on combat vehicles. Since 2016, the system has been used on five different types of vehicle in service with the Czech Army.

All in all, GATRIA offers one of the most reliable, flexible and cost-effective solutions to vehicle perimeter security that are currently available on the market.



Photo: EVPÚ Defence