9LAND BMS

USE YOUR FORCES'
FULL
POTENTIAL

9LAND BMS

COMBINED
ARMS

The 9Land BMS (Battle Management System) is a tactical command and control system from Saab that lets you utilise the full potential of your forces by increasing the level of awareness in all units, at all times. Fully interoperable, the 9Land BMS is built in close collaboration with the armed forces. Its robust state-of-the-art information exchange solution incorporates real-time mission flexibility and facilitates transverse collaboration between arms in time and space.

EXPERTS IN COMMAND &
CONTROL

THE INDEPENDENT CHOICE

9Land BMS is already in operational use and can be deployed within your armed forces today. It is built as one coherent system, from commander down to the individual soldier, which makes the system scalable to your specific needs. Since it is based on an open integration platform it can easily be adapted to change and facili-

tates swift integration of legacy systems and 3rd party products. By using the open source software platform Safir SDK™, 9Land BMS enables cost sharing for heavyweight development, as well as high flexibility and independence for the user.

9LAND BMS

Saab has over 40 years of experience in developing command & control systems. The first system in operation was the 9LV - a naval solution. We know that hands-on experience and long-term relationships are key to success. For over a decade, we have worked together with the Swedish, Danish, Australian and South African

armies combining our collective expertise to develop solutions for the land domain. And in recognition of its links to the family of Saab command and control systems, we have named our latest addition 9Land BMS.

OPERATIONAL COMMAND

YOUR MISSION

The 9Land BMS has been developed in close collaboration with those who best understand the demands of the modern battlefield – our customers. It's fully interoperable and compliant with current international standards. Decades of research and development have been integrated into a cost-effective, well proven and robust solution.

There are three standardised configurations, all parts of one coherent system, adapted to the different needs of your mission:

- Basic Needs - Tracker
- Combat Needs - Integrator
- All Needs - Net Commander

TRACKER

The Tracker will improve your ability to provide the right information to the right people at the right time. By ensuring that individual soldiers are kept informed, the system enables them to perform more effectively, be more synchronised and achieve greater operational impact. The Tracker provides situational awareness down to the lowest tactical level – the individual soldier – and offers a seamless flow of information acr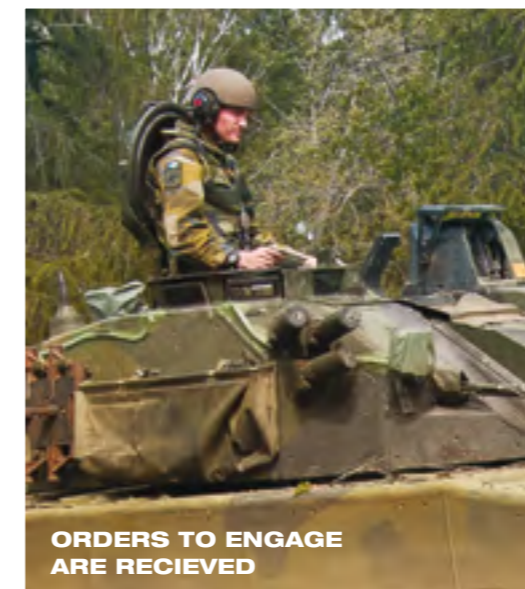oss the battlefield. The Tracker includes functionalities such as Navigation & Route management, Blue force tracking, Tactical messaging and Alarms & alerts. With the Tracker, the soldier will have instant and continuous access to information that will improve individual performance as well as collective capabilities. The tracker stores information locally, enabling the system to work autonomously during times of deficient radio contact.

The tracker is suitable as a wearable system or light vehicle system providing soldiers with precisely the information and communication tools they need to accomplish their mission. Soldiers are the outermost node in a network, which means they are not only receiving information, but also generating information for the entire system. The Tracker fits well with the Saab rugged soldier system, consisting of a wearable rugged portable computer, a handheld rugged display and a wearable rugged battery package, or on a light vehicle platform.

KEY FUNCTIONALITIES

- NAVIGATION & ROUTE MANAGEMENT
- BLUE FORCE TRACKING
- REPORTS
- ALARMS AND ALERTS

AQUIRING TARGET

TRANSMITTING TARGET COORDINATES

TARGET IS VERIFIED AS HOSTILE AND IS DESIGNATED TO A NEARBY VEHICLE

ORDERS TO ENGAGE ARE RECIEVED

INTEGRATOR

The information collected by troops and through sensors will be your eyes and ears on the battlefield providing you with a clear overview of the present situation and helping you predict what lies ahead. You can control the course of action and choose when and where to engage.

The Integrator is a configuration that provides all the functionality of the Tracker (Navigation, Route Management, Blue Force Tracking, Tactical Messaging and Alarms & Alerts), with additionally integrated Vehicle Information Systems, Sensors, and Video Systems. It also provides fire support, remote sensor management, multi-role functionality and collaborative mission management.

The Integrator is suitable for combat and heavy vehicles. The Vehicle commander has access to information from sensors and units, which will improve the overall performance. The solution is well suited for Saab's rugged vehicle computers, displays, switches and sensors.

The vehicle equipment from Saab can be installed without shock-damping beds or forced ventilation and still meet the harsh environmental requirements for battlefield use. The rugged design is based on COTS modules and components to ensure that the life-cycle cost is kept to a minimum.
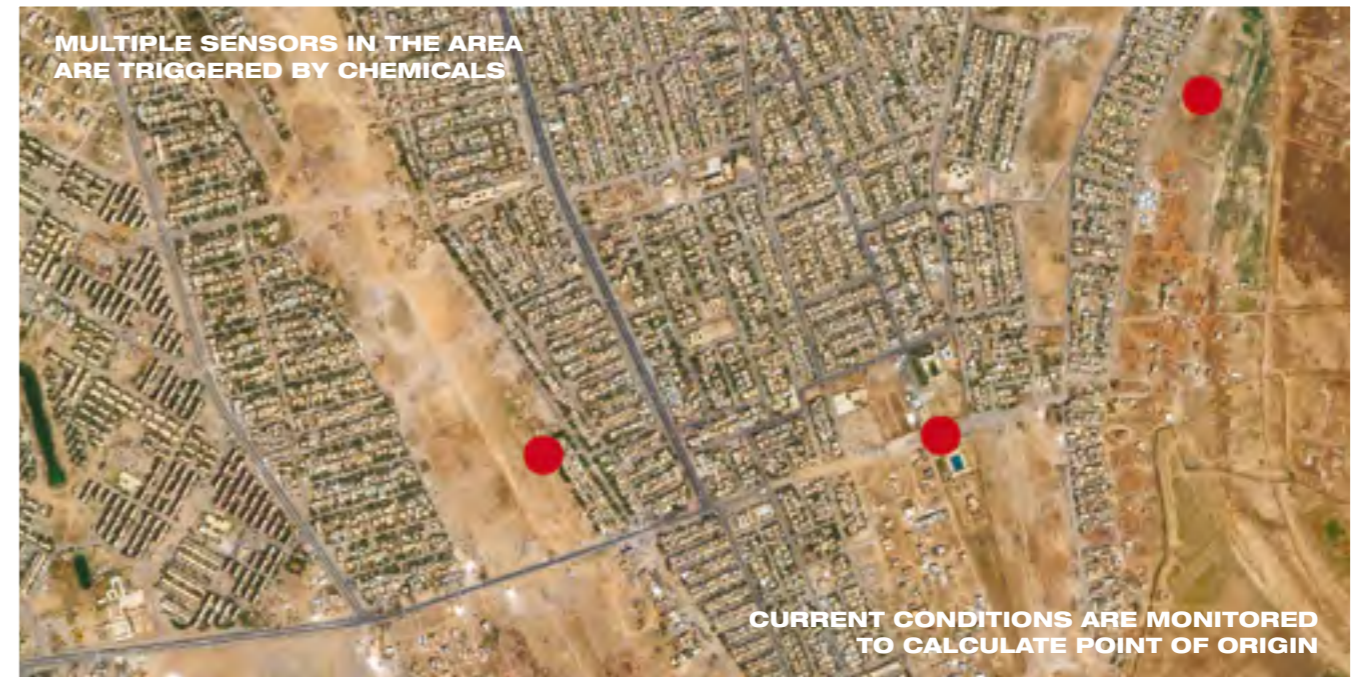
Saab's vehicle hardware products are modular, compact and designed to integrate as many functionalities in the unit as possible. With this approach, having several separate units can be avoided and space and weight requirements can still be fulfilled. Saab has excellent understanding of vehicle integration, both in-house and from B2B cooperation.

ADDED KEY FUNCTIONALITIES

- INTEGRATION OF VEHICLE INFORMATION SYSTEM
- INTEGRATION OF SENSORS
- INTEGRATION OF VIDEO SYSTEM
- REMOTE SENSOR MANAGEMENT
- FIRE SUPPORT
- MULTI-ROLE FUNCTIONALITY
- COLLABORATIVE MISSION MANAGEMENT

CBRN SENSORS ARE REMOTELY CONTROLLED AND TESTED

MULTIPLE SENSORS IN THE AREA ARE TRIGGERED BY CHEMICALS

CURRENT CONDITIONS ARE MONITORED TO CALCULATE POINT OF ORIGIN
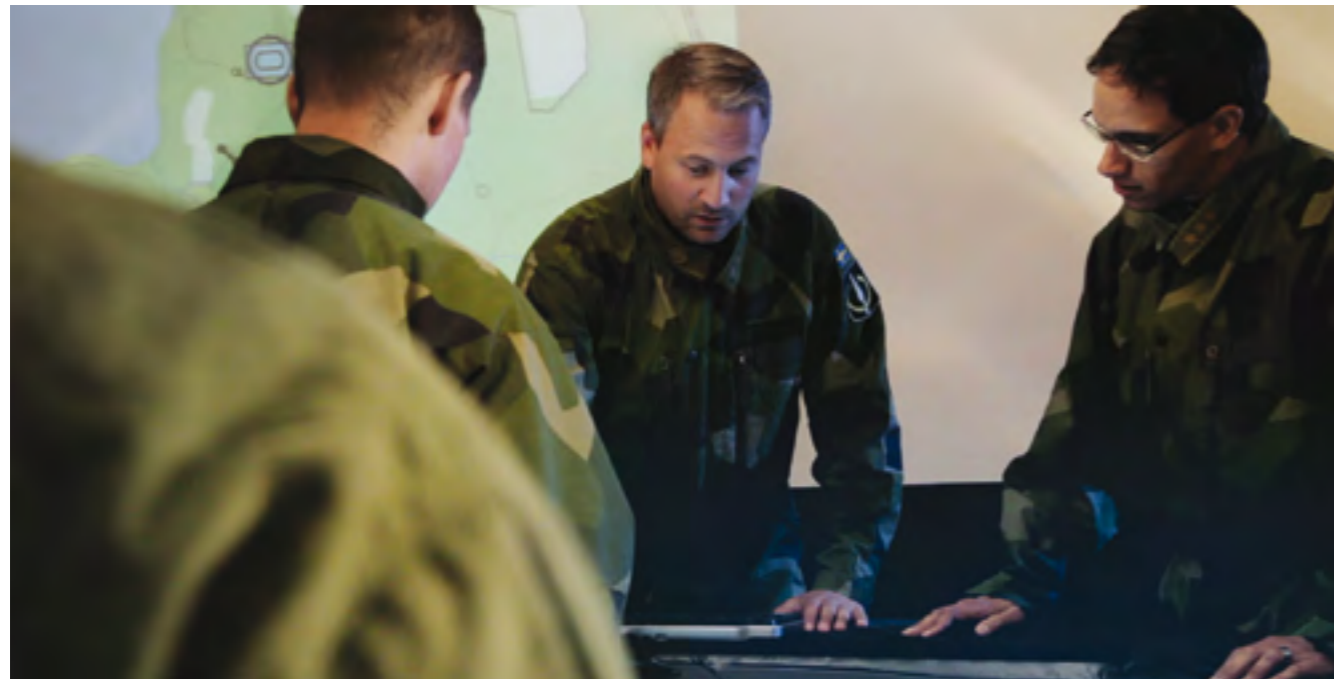
BMS RECEIVES UPDATED RISK AREAS

NET COMMANDER

The Net Commander is an extensive and complete configuration to support headquarter needs. It incorporates the most up-to-date technologies and is compliant with the latest military database and interoperability standards. The flexible multilevel system provides combined arms warfare capability.

The solution extends the functionality of the Integrator configuration with connectivity to higher command and coalition forces, mission and network management, decision, logistics and planning support as well as evaluation support.

The Net Commander is designed to improve and enhance command functions and is suitable for a wide range of mission types. It offers a vast number of tools that radically speed up and facilitate the process of planning military operations.

With its mission oriented command and control approach the Net Commander supports you every step of the way during your entire mission. In today's battlefield planning has to be flexible. No matter how good a plan, you will always have to expect the unexpected. The Net Commander facilitates real-time dynamic planning, mission tactics, decision points and collaboration in time and space.

The best way to improve is to learn from experience. The built-in after action review allows for all events running through the system to be recorded for later replay, evaluation and training.

ADDED KEY FUNCTIONALITIES

- INTEROPERABILITY
- MISSION MANAGEMENT
- NETWORK MANAGEMENT
- ENHANCED COMMON OPERATIONAL PICTURE (3D VIEW)
- DECISION SUPPORT
- PLANNING SUPPORT
- LOGISTICS SUPPORT
- EVALUATION SUPPORT

GIRAFFE AMB DETECTS INCOMING ARTILLERY

COMBAT VEHICLE

PREDICTED POINT OF IMPACT

GIRAFFE @ HQ

SOLDIERS

BMS RECEIVES UPDATED DATA IN REALTIME

FOCUS ON
YOUR NEEDS

	TRACKER	INTEGRATOR	NET COMMANDER
BLUE FORCE TRACKING	•	•	•
TACTICAL REPORTING	•	•	•
MESSAGING, SMS, CHAT	•	•	•
TACTICAL NAVIGATION	•	•	•
ROUTE MANAGEMENT		•	•
FIRE SUPPORT		•	•
ORDER MANAGEMENT	•	•	•
DECISION SUPPORT		•	•
PLANNING SUPPORT AND MISSION MANAGEMENT			•
LOGISTICS SUPPORT		•	•
INTEROPERABILITY, NFFI	•	•	•
INTEROPERABILITY, MIP BLOCK 2 AND BLOCK 3			•
COMMON OPERATIONAL PICTURE	•	•	•
ENHANCED COMMON OPERATIONAL PICTURE (3D VIEW)			•
EVALUATION SUPPORT			•
CBRN SUPPORT FRAMEWORK	•	•	•
ALARMS AND ALERTS	•	•	•
CONFIGURABLE MISSION BASELINE PACKAGES	•	•	•
MULTI-ROLE FUNCTIONALITY	•	•	•
NETWORK MANAGEMENT			•
SENSOR INTEGRATION	•	•	•
REMOTE SENSOR MANAGEMENT		•	•
WEAPON INTEGRATION		•	•
INTEGRATION OF VEHICLES INFORMATION SYSTEM		•	•
INTEGRATION OF VIDEO DISTRIBUTION SYSTEM		•	•

START WITH WHAT YOU NEED TODAY

The Tracker, Integrator and Net Commander are designed with a number of standard functions and a vast number of optional functionalities. This means that you can start with the standard configuration and, if your requirements change, it is easy to add on optional functionalities and enhance the operational capabilities of your solution even further. The system is built to support your every need. If the standard packages do not fit your needs, we will customise them for you.

SUCCESSIVE IMPROVEMENT

Saab's expert teams in military application development will continuously improve the three configurations; Tracker, Integrator and Net Commander. New releases are based on user requests, ensuring that new developments fulfil military standards and quality requirements.

BUNDLED, ADAPTABLE AND FLEXIBLE

The complete 9Land BMS solution is bundled with hardware equipment from Saab. The software and hardware are loosely coupled and thus easily detached – so you can easily customise a solution to your needs.

OPEN SOURCE PLATFORM

9Land BMS software is based on an open source platform Safir SDK™ (www.safirsdk.com). This enables you, as the end user, to add own functionality, drivers and devices.

MISSION BASELINE PACKAGE

9Land BMS is easily configurable through the "mission baseline package". This enables you to customise your command and control needs regarding hardware, units, materiel, communications, data priority, filtering, sensors etc. The entire configuration can be imported from other systems, stored for the archives and even be configured during operation.

FROM REACTION TO
ACTION

Superior situational awareness is what will take you from reaction, to action. The foundation of situational awareness rests on reliable information. The 9Land BMS information exchange solution will ensure you have the information advantage you need. The information can then be presented in multiple views, such as spatial, time and association views.

TRUE MULTI-ROLE CAPABILITIES

9Land BMS provides true multi-role capabilities. The entire solution is configured by role, not by person or installation. Each operator can be assigned to one or more role/roles, and shift between these e.g. from Fire Support to Forward Air Control. Roles are chosen in runtime without the need for restarting or re-configuration. Messages, orders, menus and button layout are tailored to the needs of various roles.
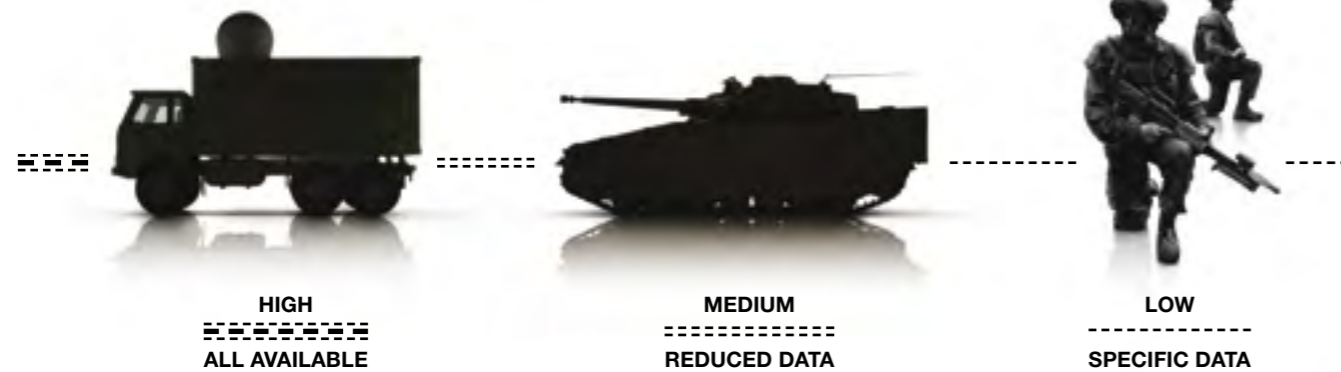
FULL ADVANTAGE OF YOUR SENSORS

9Land BMS is based on an open integration framework that facilitates integration of new sensors, communication solutions, modules and also allows you to make tailored adaptations to the system.

RELIABLE INFORMATION EXCHANGE

9Land BMS includes a highly robust information exchange solution. Whatever communication platform you are using, we will provide you with a solution that meets your precise needs. The 9Land BMS exchange solution improves communication on all levels through a shared common information bus and is well suited for any radio system or IP-based network.

BANDWIDTH

HIGH	MEDIUM	LOW
ALL AVAILABLE	REDUCED DATA	SPECIFIC DATA

NO SINGLE POINT OF FAILURE

9Land BMS is built on a decentralised architecture and replication model, allowing for loss of systems without loss of functionality. This means there is no single point of failure in the system, a feature that significantly strengthens the system's tactical battle capabilities.

BANDWIDTH OPTIMISATION

Traditional information exchange solutions are not capable of meeting all the demands of the modern battlefield. Because different nodes in the system do not always provide the same bandwidth, there is a high risk of data traffic congestion to units with low bandwidth communication. 9Land BMS has incorporated information filtering and bandwidth optimisation to protect you against information overload.

The information is filtered to optimise traffic between nodes based on your configuration. This configuration is based on bandwidth restrictions and priority defined in the mission baseline package. If a unit is out of reach, for example, the information sent to the unit when back within range will be conveyed according to filters and defined priority so that the most important information will reach the destination first.

AUTOMATIC INFORMATION REPLICATION

9Land BMS has an efficient replicator that replicates and synchronises information. This means that there is no need for a central server. When a new unit (node) connects/re-connects to the system it is automatically updated and synchronised by its neighbours.

TRAIN AS YOU **FIGHT**

Saab has a strong and highly successful pedigree in the provision of bespoke training solutions. Significant progress has been made in the development of a fully integrated Virtual/Constructive simulation training system.

It will be fully interoperable with 9Land BMS, providing a state-of-the-art training solution based on operational C2 systems and allowing the lowering of C2 training overheads whilst enhancing training through a Train-as-you-Fight philosophy.

BY YOUR SIDE
ALL THE WAY

STEP-BY-STEP
Whatever your current position, Saab will support you in optimising systems already in operation and provide you with the means to develop your future battle management capabilities and digitising your battlefield. Our commitment is long term and we will support you every step of the way.

TURN-KEY SOLUTION
9Land BMS can be deployed as a full featured turn-key solution with a pre-defined mission baseline package of your choice. We also offer a fully extended support and deployment service. This relieves you from the burden of installation and configuration.

TECHNOLOGY TRANSFER
Saab has a long tradition of standing by its customers. The modular design and open architecture of 9Land BMS allows for continuous development and enables us to share our accumulated knowledge with customers and partners through cooperation and technology transfer agreements. The formation of long-term and direct partnerships between Saab and local industries a key factor in meeting strategic priorities and developing the expertise essential for taking your business into the future.

LIFE-CYCLE PERSPECTIVE
Our lifecycle-based concept means that our support begins at the earliest stages of planning and continues through to decommissioning. Support is tailored to the unique demands of the individual customer, ensuring that your 9Land BMS solution provides you with maximum value in a sustainable manner.
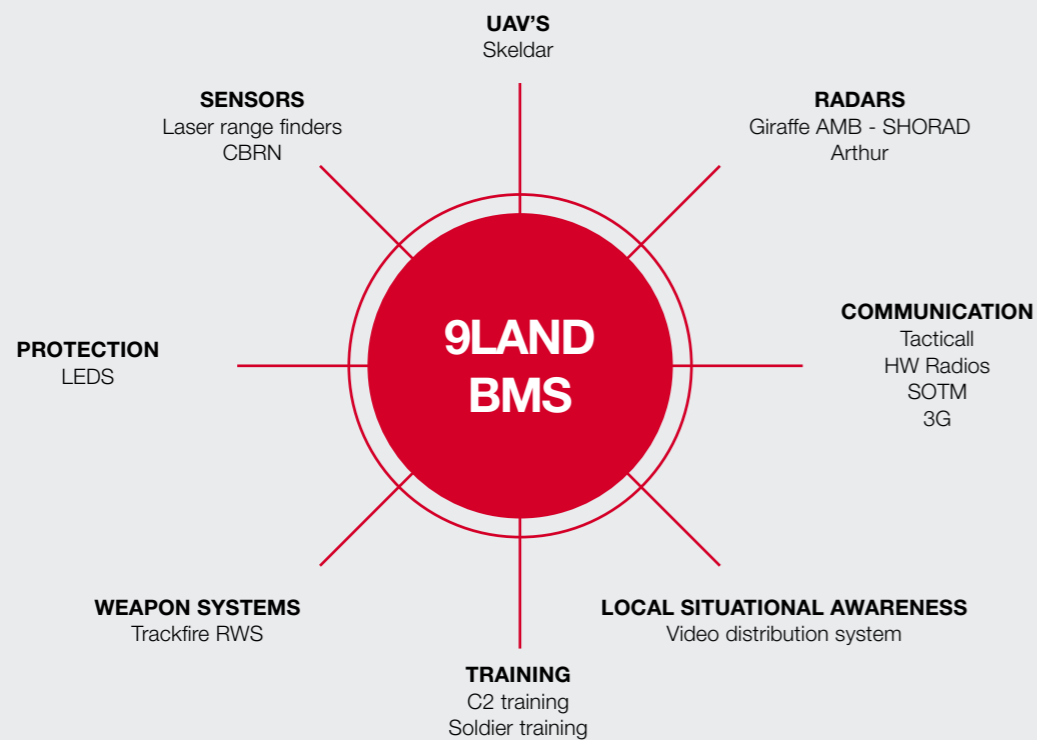
INDUSTRIAL COOPERATION
An investment in the defense of your nation should be an investment in your future and a generator of independence and economic and industrial growth. Industrial cooperation and long-lasting partnerships are the tools which make such progress possible.

At Saab we have made industrial cooperation and customised partnerships part of our business development. Consequently, our solutions represent more than state-of-the-art capabilities. They provide a foundation for job creation, technology transfer and investment, paving the way for economic development and national growth.

We are committed to supporting the development of a self-reliant and competitive industry. We will also give you access to a powerful network of global business partners helping to create job opportunities, genuine investments and providing local industries with access to unique know-how and state-of the-art technologies for military and civilian applications.

SAAB'S **LAND** OFFER

The collected capabilities of Saab's land offer cover all dimensions of the domain. We work with military organisations and industrial partners all over the globe to provide you with the solution you need. You will find a vast number of systems and products that are already integrated with the 9Land BMS. Saab provides the seamless integration you need to get the most out of your solution.

UAV'S
Skeldar

SENSORS
Laser range finders
CBRN

RADARS
Giraffe AMB - SHORAD
Arthur

9LAND BMS

PROTECTION
LEDS

COMMUNICATION
Tacticall
HW Radios
SOTM
3G

WEAPON SYSTEMS
Trackfire RWS

TRAINING
C2 training
Soldier training

LOCAL SITUATIONAL AWARENESS
Video distribution system

PRODUCT **DATA**

TRACKER

Rugged Soldier System
The Rugged Soldier System, RSS, is a Saab soldier display and computer solution and smart battery lithium technology. The system provides PC-compatible interfaces such as DVI, USB, RS232/422, LAN and GPS. The RSS can interconnect with any military field radio for best flexibility. The RSS consists of a wearable Rugged Portable Computer, handheld Rugged Portable Display 5 inch and wearable Rugged Portable Battery package.

RSS

INTEGRATOR

Rugged Vehicle Computer
The Rugged Vehicle Computer, RVC, is a rugged, compact, stackable, high performance computer unit developed for use in military vehicles and designed to provide high levels of performance and reliability in the toughest environments. The RVC is the latest computer unit from Saab. The computer unit is equipped with PC-compatible interfaces such as DVI-D, USB, RS422, RS232, Ethernet etc.

RVC

Rugged Vehicle Displays
The Rugged Vehicle Display, RVD, is a multifunction display unit. The unit is scalable to support different presentation modes: graphics (DVI-D) or video, video on graphics or video on video. Saab is able to meet specific customer needs for highly specialised products and services in a number of technical areas. Our rugged vehicle computer- and video- systems are designed to provide high levels of performance and reliability in the toughest environments. Whether you need minimum space or maximum capability, we can provide a system to meet your specific application.

Optionally, the RVD can be customised to support digital or analogue video systems, different control interfaces, protocols, night mode and function key-design, among others.

For best daylight performance, the RVD is provided with a scratch-proof, resistive, low reflection GFG-touch panel.

RVD 6"   *RVD 10"*   *RVD 15"*

Rugged Portable Display Computers
The Rugged Portable Display Computer, RPDC, the latest portable joint computer and display system from Saab, is offered in two different sizes, 10 and 6 inches. The two side connectors with power, USB, 2xRS232 and LAN, make the unit ideal for fixed, semi-fixed or wearable applications. The RPDC offers a wide range of options such as integrated GPS unit, Gbit Ethernet, video module/grabber, night mode, Built in Test, audio and docking bracket (for semi-fixed installation).

RPDC 10"

SAAB

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