SAAB CBRN SOLUTIONS
SAFEGUARDING OPERATIONAL CAPABILITIES
EARLY WARNINGS TO UNITS AND PERSONNEL IN THE FIELD are a key factor in limiting the effects of CBRN threats. With Saab’s coherent and integrated CBRN solutions CBRN specialists and decision-makers will have efficient tools to detect and identify a wide range of threats and receive the support needed for providing fast and accurate early warning.

Our CBRN solutions include systems for Automatic Warning and Report (AWR), customizable sampling equipment and certified transport packaging as well as a wide range of services and solutions for CBRN training, individual protection and support, to mention some examples.

Today, both military and civil forces rely on Saab’s CBRN solutions for protection of people and for securing operational capabilities. By challenging the conventional and by putting new ideas to the test we support our customers in protecting and securing their operational capabilities.
The Saab CBRN Automatic Warning and Reporting System is unique in that it integrates Detection, Identification, Monitoring, Warning and Reporting and provides a consolidated threat picture to the operational forces. It negates the need for specialist CBRN personnel to be employed widely throughout the operational forces, reducing training and personnel management costs.

The system can use virtually any type of sensor – meteorological, chemical, biological, radiological, positioning or video, to mention a few – from any manufacturer. It is based on a modular and open architecture that allows users to change sensor configuration over time in response to changing threats. All units, from fixed and mobile to the soldier system, are fully integrated.

The AWR system is robust, weather-protected, EM/HPM-protected and designed for use in harsh environments. It can be installed in headquarters, camps and vehicles as well as on hand-held computers.

It is based on Saab’s recognised Safir BMS, which is designed to meet military communications and management requirements. The AWR system also supports international standards such as ADtP-3, ATP45 and JC3I EDM to make it possible to exchange warnings and reports with other forces.

When the unthinkable happens, The AWR System puts you in control.
THE AWR SYSTEM – THIS IS HOW IT WORKS

THE AWR SYSTEM ALLOWS the incorporation of existing, new and evolving capabilities into a common architecture that can evolve with emerging threats. It provides a protected environment that allows for non-ruggedised sensors (COTS) to be incorporated into the system.

MOUNTED AREA DETECTION
Consists of a network of sensors that can be mounted on any vehicle or vessel. Meets very strict technical requirements regarding environment and EMC/EMI protection.

STATIONARY AREA DETECTION
Permanent surveillance of strategic sites, buildings etc. Designed for long-term installation and can accurately detect C, B and RR events.

RECONNAISSANCE VEHICLE AREA DETECTION
A complete CBRN reconnaissance vehicle carrying specialists with advanced detection, identification and sampling equipment. The vehicle is equipped with protective suits, masks and detection instruments for its crew.

CBRN TRAINING
Realistic simulations reduce the need for live exercises. Saab provides a simulation solution with realistic CBRN-dispersion that supports CBRN training and provides relevant CBRN-sensor information in a Battle Management System for warning and reporting.

DEPLOYED AREA DETECTION
A stand-alone solution that works autonomously and automatically reports any events through TCP/IP. Easily mounted and re-mounted on vehicles or placed near a building for surveillance.

CBRN MISSION CONTROL SOFTWARE
Mission Control solution that supports international standards and is able to exchange warnings and reports with other coalition forces. It also includes applications for planning, decision support, monitoring, tracking, control, configuration, test, geographical fences and calculation of warning areas.

RADIO COMMUNICATION
Flexible and secure data transmission is achieved through reliable equipment, encrypted tunnels and network redundancy. With a primary and secondary network the system can automatically use the secondary network if the primary one fails.

PERSONNEL AREA DETECTION
A dismounted CBRN AWR unit using Saab's Rugged Soldier System – a rugged display and computer that provides individuals with PC-compatible interfaces and the ability to interconnect with any field radio. Enhances early detection of threats.

STATIONARY AREA DETECTION
Permanent surveillance of strategic sites, buildings etc. Designed for long-term installation and can accurately detect C, B and RR events.

CBRN HQ MANAGEMENT SYSTEM
To secure a shared understanding of the common operational picture the CBRN AWR HQ Management System (CAhMS) should be based on a similar system to the various CBRN units.
CBRN Transport Packaging
The transport packaging solution provides safe transportation of hazardous CBRN samples and toxic industrial chemicals. Easy to handle even in full protection clothing and approved for air, land, sea and rail transports. The package consists a case and a transportation container.

The plywood case has aluminium-reinforced edges, is furnished with shock absorbing material and has a documentation compartment for signs, seals, transportation documents, test documents, manual and spare parts list. The transportation container is made of stainless steel with two shock-absorbing inserts housing 1 litre or 250 ml assaying vessel.

Approvals
Saab CBRN Transportation Packaging is approved for transportation by SP Technical Research Institute of Sweden according to ADR, RID, IMDG, ICAO, IATA and UN regulations. Transport Packaging and Advanced Sampling equipment is available with NATO stock numbers.

CBRN Sampling Kit
The CBRN Sampling Kit is a man-portable case with a selected range of sampling equipment. It provides first responders, military or other operational forces with all the tools they need to conduct efficient, proper and secure field collection of all types of chemical, biological and radiological agents, including toxins and other toxic industrial materials.

The CBRN Sampling Kit comprises the equipment and procedures needed for proper collection of a wide range of sample materials, including, liquids, soil, powder, objects, and vegetation. It is also designed to work with Saab’s CBRN transport packaging solution for hazardous materials.

Advanced CBRN Sampling Equipment
The Advanced CBRN Sampling Equipment is a dynamic and customizable collection of field sampling equipment that can be combined and packed to suit precise customer needs and requirements.

The collection includes everything needed for sampling of all types of chemical, biological and nuclear warfare agents, toxins and industrial chemicals as well as radiological substances. It contains more than 300 different articles for forensic sampling of CBRN agents from air, water, liquids, soil, powder, objects and vegetation and includes 11 different sampling kits, one record kit, one accessory kit, three mission boxes and a cooling box for samples. All equipment follows NATO Standard AeP 10 and AeP 49.
REALISTIC LIVE EXERCISES with emission of real CBRN substances and agents are often costly, complex and environmentally hazardous to conduct. The need to train with real substances and agents can never be entirely eliminated. However, by using realistic simulations of dispersions together with source strengths, spill locations, geographical environment, weather conditions and positions of simulated sensors, live sensors, vehicles, personnel etc., this can be greatly reduced.

Together with the Swedish Defense Research Agency (FOI) Saab has developed a simulation based on realistic CBRN-dispersion data generated by the FOI Dispersion Engine.

The simulation can support different training needs such as the AWR simulation system which has the capability to simulate the dispersion of a chemical agent and then provide relevant CBRN-sensor information in a Battle Management System for warning and reporting. The simulation also allows for the distribution of biological and radiological dispersions in the air as well as ground surfacing of CBRN agents.

**Integrated real-time data collection**

To enhance the value of the training course an easy-to-use system is integrated in the simulation platform. It allows for real-time organized collection of large amounts of information from different sources – technical systems as well as personnel – to support After Action Reviews, evaluations and analysis.
As part of Saab’s total CBRN commitment our offer also includes solutions for AWIR training, field analysis, individual protection, decontamination and solutions for maritime CBRN operations. Together with our partners and subcontractors Saab can act as system integrator and service provider for several CBRN solutions.

**IPE (Individual Protection Equipment)**
Saab has extensive experience in supporting authorities with IPE expertise and together with its partners delivers equipment according to customer requirements.

**Decontamination solutions**
Everything required for efficient and safe decontamination – from complete, self-contained, large-capacity mobile field stations for continuous and simultaneous decontamination of personnel, materials and vehicles to personal equipment and environmental containers and burners for hazardous waste.

**Collective Protection Solutions**
Saab can support and deliver Collective Protection Solutions together with partners according to customer requirements.

**CBRN Aircrew Protection**
Based on the standard equipment used by the Swedish Air Force, Saab has developed a complete CBRN Aircrew Protection solution for Gripen C/D.
IN THE CBRN FIELD, Saab can provide a wide range of advanced technical services. We perform traditional tasks such as maintenance engineering, production of documentation, follow-ups and technical support services in connection with procurements, operation and phase-out of CBRN equipment. Saab also undertakes product development and production and we offer tailor-made system solutions including system integration and handling systems.

TOTAL CBRN COMMITMENT
FROM PILOT STUDIES TO PHASE-OUTS

Some examples of our services:
- Pilot studies
- Project management
- Requirement specifications
- Documentation
- System integration
- System safety analysis
- Quality testing
- Technical documentation
- General technical support
- Sensor integration
- System delivery and maintenance
- Maintenance analysis
- Training
- Environmental impact studies
- Modifications
- System delivery and maintenance
- Product development and manufacturing

Support Services
Pre-Service Support ensures that the customer is able to receive, maintain and operate the system. In-Service Support is provided to achieve operational effectiveness and effective and economic maintenance. Extended Support ensures operational effectiveness over time. End-life support ensures the cost-effective decommissioning of the system.