

SIRIUS

Silent Power

Passive Sensor Solutions

Multi-domain Passive Surveillance and Signals Intelligence



SAAB

Silent Power

When it comes to keeping people and society safe; guesswork is not an option. In order to make critical decisions, credible knowledge is required; and required at the right time. Preferably long before a situation develops out of control and without revealing that you possess a specific kind of knowledge.

Saab develops innovative passive sensor solutions and data fusion systems, based on decades of experience. Today, these systems enable Armed Forces and Intelligence Services around the world to detect, locate and turn signals into knowledge, whilst remaining undetected.

We cut through the confusion and contribute to our customers' information superiority essential for national security.

We call it **Silent Power**.



One family, every signal, any domain

Sirius is a comprehensive suite of passive sensor systems for Air, Land and Sea domains. A family of scalable, configurable and networked sensors providing a complete synergistic capability for Intelligence, Surveillance and Reconnaissance; beyond the scope of individual sensors.

Sirius systems are available for a wide range of applications and roles, such as:

Joint Air, Land and Sea passive situational picture

Early Warning

Wide area and border surveillance situational picture

High precision ELINT and COMINT signal capture

Target tracking and platform identification for Air Defence

Designed for multiple applications and enhanced awareness, Sirius provides the silent power you need to stay ahead of your challenges.

From noise to knowledge

To generate accurate information for decision-making you need more than just sensors. And that is exactly what Sirius provides.

It takes you all the way from detecting signals hiding in the noise to credible knowledge by including required capabilities, far beyond individual sensors, such as:

Advanced sensors for ESM, ELINT and COMINT

Advanced multi-sensor network capability

Analysis, production and dissemination of data

Tools for enhanced threat library management

SIGINT/EW databases

Multi-source information fusion system

Powered by freedom

We believe in the freedom of choice – especially our customer's freedom of choice. We also believe that capability enhancement is an evolutionary process. Therefore, our in-house developed and manufactured passive sensor systems will not only give you access to leading-edge Silent Power, you will also benefit from systems proven to enable efficient integration with legacy systems and other sensors.

Sensor supremacy by Saab

Sensors are part of Saab's DNA. Radar systems such as the Giraffe family and Erieye are recognised world-class active sensors and our sophisticated multi sensor fusion capability is proven on advanced airborne systems and solutions like Gripen and GlobalEye.

Sirius is another example of Saab's advanced and innovative sensor technology. It provides the capability to perform passive intelligence, surveillance, and reconnaissance missions without transmitting own energy.

In other words, it makes it possible to monitor your surroundings without anyone knowing that you know.

Sirius in brief

- For signals intelligence and surveillance missions in Air, Land and Sea domain
- Full RF-spectrum
- Advanced multi sensor network solution
- State-of-the-art antennas and digital receivers
- Open interfaces for efficient integration
- Machine learning for signal classification purposes
- Digitally steered antenna arrays on the horizon
- Cyber secure platform
- Backed by Saab's unique competence in sensors and data fusion
- Highly automated operation
- User programmable libraries





Sirius passive sensors are in operation across all domains.

Advanced ESM, ELINT and COMINT sensors

Fundamental to Sirius passive sensors is a domain-specific edge, whilst employing a common architecture philosophy. Sensors can be provided as stand alone or fully integrated and deployment ready solutions, for C-ESM/COMINT and R-ESM/ELINT.

Sirius sensors use a high degree of user-configurable automation which allows the operator to focus on critical tasks and support persistent operation with low personnel footprint during periods of low activity.

Sensor features:

Covers complete RF-spectrum: Radar, Communication, IFF, Tactical Data Links, Navigation systems, AIS & ADS-B

Antenna/DF/Geo principles based on Interferometry, high gain directional, TDoA, Superresolution DF and advanced digital beamforming

Wideband and narrowband digital receivers

Software Defined Waveform Processing

High selectivity in complex and dense signal environments

Robust, selective and proven algorithms for signal sorting and emitter identification

User programmable emitter libraries and demodulators

Extensive signal recording capability with a wide range of analysis tools

Utilizing full sensor potential

What if you could connect all available sensor resources and add a higher level of confidence to your situational picture?

Sirius will give you that advantage.

Sirius incorporates a Tasking and Reporting System (TRS) with functions for efficient sensor tasking, coordination, data fusion and reporting.

A multitude of sensors – air, land or sea based – can be connected to the TRS in a network and through efficient sensor data fusion provide a consolidated passive situational picture and optimal decision support.

TRS features:

Integrates a multitude of sensor types, including third party sensors

Centralised coordinated management and automated tasking of sensors

Incorporates reference data from other sources e.g. radar, AIS, ADS-B and EOB

Automated track correlation, geolocation and classification of platforms

Enables multi-user environment with intuitive HMI

Integration to external C4I system



Sirius enables coordinated mission planning and execution, utilising available sensor resources connected through a network. Sensors can be remotely controlled and sensor data is processed and consolidated into a common situational picture, including platform classification and geolocation, used for tactical objectives and reported to an external C4I system.



Sirius for land domain: example of an integrated C-ESM and R-ESM solution for electronic surveillance, suitable for both strategic and tactical applications.