



Low SWAP, Fully automatic, Deploy anywhere, Next-gen ESM



Air



Land



Sea

ESROE

A spinout from the UK's Defence Science & Technology Laboratory, ESROE is recognised as at the forefront of electronic support measures (ESM) technology. It's radical breakthroughs are now completely changing the way that ESM contributes to the safety of armed forces in hostile environments across air, land and sea battlespaces.

From a single sensor to a battlefield array, ESROE's autonomous, next-gen ESM is available in a variety of modular configurations to meet user requirements, with each model sharing a core set of technical benefits and attributes.



Technical benefits:

- Reduces the typical £1M investment in a minimum 50Kg ESM sensor system, to under £150K for a < 2Kg solution.
- Low SWAP, all aluminium sensor design lends itself to a transformatively wide range of missions and use cases.
- Quick and easy to set up, with fully automatic operation; minimal system training required and no EW background necessary.
- Modular system allows for integration of small sensor heads into more traditional platforms.
- Standalone software application can be embedded in Electronic Surveillance suites across range of military platforms.

Technical attributes:

- Frequency coverage: 2 GHz to 18 GHz
- Weight: < 2Kg
- Operating voltage: 10-18v DC
- Power consumption: < 20 Watt
- Power source: BB2590 or LIPS 14 batteries
- Coverage: 360 degrees
- Operating range: Line of sight

A radical breakthrough in ESM sensor technology

Single sensor: Virtually undetectable ELINT capabilities



Tactical deployment of a single, very low SWAP ESM sensor provides virtually undetectable, real-time Electronic Intelligence (ELINT) capabilities at the tactical edge for advanced threat protection.

ESROE's single sensor deployment equips:

- Ground troops with early warning of when they could be discovered/targeted by ground surveillance radars or radar guided attack.
- Light Electronic Warfare Troops (LEWTs) with the option to perform reconnaissance missions further forward than traditional ELINT systems.
- Covert operations with ESM that can be deployed at speed and automatically operated in transit, with no restrictions on manoeuvrability.
- Operations with ESM data that can be used alongside AIS and other sensor data.

As well as providing real-time awareness of radar threats in the environment, data captured by the sensor is recorded for analysis at a later date.

Remote single sensor: Fully automatic ESM data capture



Deployed as a semi-permanent automatic solution, remote single sensors can be left in situ by frontline personnel, and operated remotely. ESROE's remote solution utilises a wireless TCP/IP socket to transfer track data back to a computer device running the MicroESM UI and control software.

A remote single sensor deployment enables real time ESM data to be collected on the frontline and shared with:

- ESM specialists in secure locations, to inform the forces command, enable better decision making, and shape a more informed electronic order of battle (EOB).
- Command, to provide situational awareness and ESM data amongst systems and units in operation.
- Libraries, to enhance ELINT and increase effectiveness of other systems.

Integrated sensor: Deployable across manned and unmanned platforms



Deployable where larger ESM systems cannot go, ESROE's MicroESM solution can be integrated as a payload on current operational platforms, including unmanned systems.

Used standalone on a platform, or part of a sensor suite, integrated sensors deliver two key functions - awareness and reconnaissance - by providing:

- ESM data collection capability on unmanned systems such as UAVs, carrying out reconnaissance missions in denied regions.
- Manned vehicles with early warning of threats by identifying signatures of radar guided systems.
- A low power Radar Warning Receiver (RWR) for armoured vehicles, giving vehicle crews early threat warnings and more time to deploy countermeasures.
- Detection and identification capability for UAVs seeking radars of interest and counterbattery radars.
- A guidance system for swarm drones when designating targets for strike.

Multi-sensor: Scalable and resilient geolocation of threat targets



With as few as two networked sensors out in the field, ESROE's multi-sensor deployment delivers threat geolocation capability. The ESM data captured by integrated and/or remote sensors - which can be placed across a range of platforms - are streamed back to the multi-sensor hub, allowing triangulation of bearing lines to provide an accurate indication of range.

Very small, with a low cost per unit, the networked sensors can be deployed in high volume, making the multi-sensor solution highly versatile and resilient:

- Enhancing ELINT data with geolocation of radar targets.
- Providing a low cost battlefield, border and coastline surveillance capability.
- Improving force protection around forward operating bases.
- Supporting the detection of unknown emitters, giving trained ESM operators the parameters and bearings needed to analyse tracks.