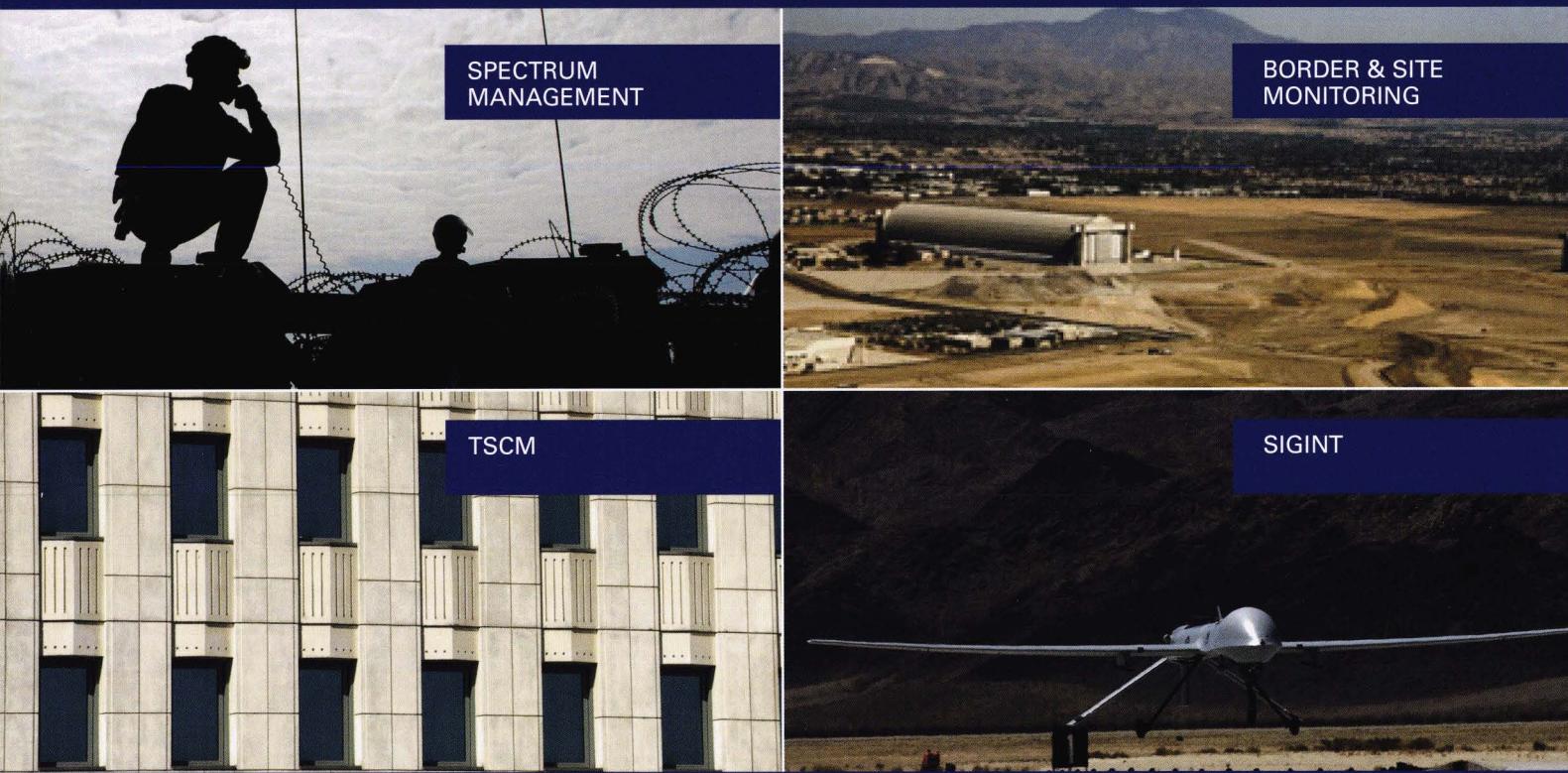




Award-winning
spectrum intelligence



SPECTRUM
MANAGEMENT

BORDER & SITE
MONITORING

TSCM

SIGINT



Detect, Analyze, Geolocate

www.crfs.com

The RFeye - a unique approach

CRFS pioneered the concept of remote, distributed, real-time networks of intelligent spectrum sensors providing continuous 24/7 monitoring of the RF environment.

The RFeye was designed as a completely new approach to spectrum monitoring and signals capture based deployment of cost-effective networks of nodes continuously monitoring areas of interest and accessible from anywhere in the world via IP. The RFeye Node was created specifically to meet these requirements.

Lightweight, low power, small footprint and housed in a robust IP67 enclosure, RFeye Nodes are simple to install, connect and start up and, once fitted, they take care of themselves. "Fit and forget". Each Node has its own in-built Linux processor and proprietary control protocol that allows it to operate fully autonomously and, where required, in cooperation with other Nodes in the network. No local PC server is required and each network node is directly IP addressable.

Through careful design we created a compact packaged unit at an attractive price-point without sacrificing RF performance. We paid special attention to achieving an excellent noise figure and very low spurious elements despite the size constraints.

The RFeye provides 24/7 real-time access and also records data for subsequent analysis and playback. Data can be logged to local USB or solid state memory or relayed over IP to a central server. On-board

processing means users can choose to continuously log all spectrum data or to record only data of interest in certain bands or above certain thresholds. Background masks, thresholds and alarms can all be programmed remotely.

The RFeye has "multi-user, multi-mission" capability – i.e. it can be used to perform near-simultaneous tasks (detection, analysis, geolocation) and can be simultaneously accessed by multiple users, each of whom can request different information. This enables the most efficient and cost-effective use of the assets.



Spectrum intelligence as a key to operational planning and security

Systems and solutions for spectrum critical sites, border monitoring, SIGINT applications and TSCM for secure facilities.

CRFS manufactures and supplies high performance RFeye systems and provides turnkey solutions for cost-effective deployment across any area, large or small, in-building or outdoors, fixed location or mobile. All products are designed and manufactured to the highest standards in compliance with ISO 9001:2008.

RFeye systems are used on sensitive sites and installations, along borders and in buildings, for detection of suspicious or unauthorized transmissions that may indicate a potential threat, security breach or cyber attack. They are also deployed on spectrum critical sites, such as government ranges, military bases and training grounds, to manage essential frequency bands and locate any sources of interference. National regulators use our systems to monitor spectrum usage and to help manage interference and detect license infringements. Finally,

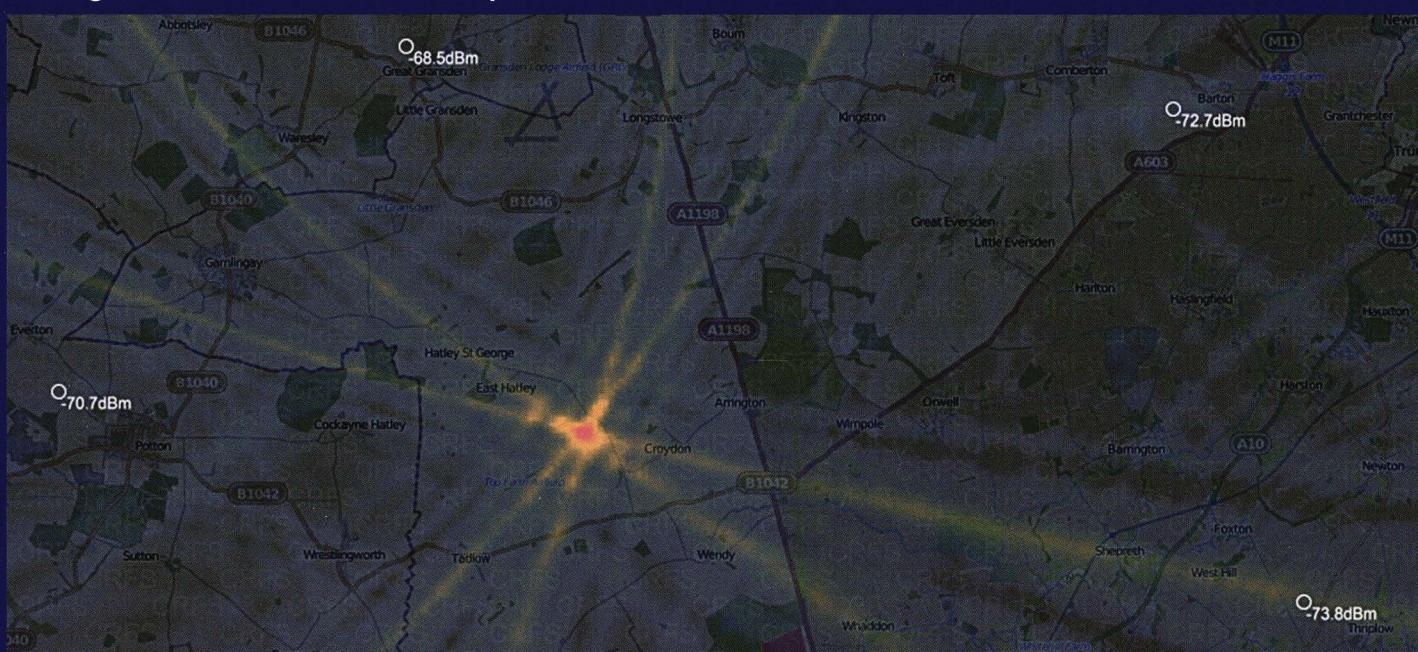
CRFS provides high performance signal capture and analysis modules for integration into broader SIGINT or EW systems.

We serve customers internationally in military and intelligence, police and homeland security, as well as civilians in spectrum agencies and regulators, sports stadia, public safety, airports and prisons.

CRFS is headquartered in Cambridge, UK and has a US office in California. We have a large network of agents and distributors around the world providing local in-country integration services and customer support. We also partner with system integrators, value-added resellers and OEMs.

CRFS is proud to have been awarded with the 2013 Queen's Award for Enterprise, International Trade in recognition of our significant growth in overseas sales over the past 3 years.

TDOA geolocation from wide area RFeye network



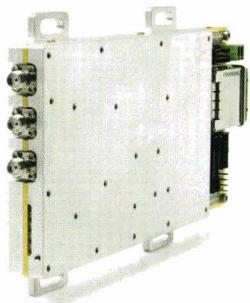
Products

CRFS provides 3 families of RFeye hardware designed to meet a wide range of applications and operational requirements.

The **RFeye Node**, our standard high performance 20MHz real-time bandwidth (RTBW) system, sweeps from 10MHz to 6GHz (extendable to 18GHz with Block Down Converter) at up to 40 GHz/s, housed in IP67 enclosure.



RFeye Node complete outdoor deployment



New RFeye Nexus module

integration into other systems. Available in various card formats or in IP67 housing.

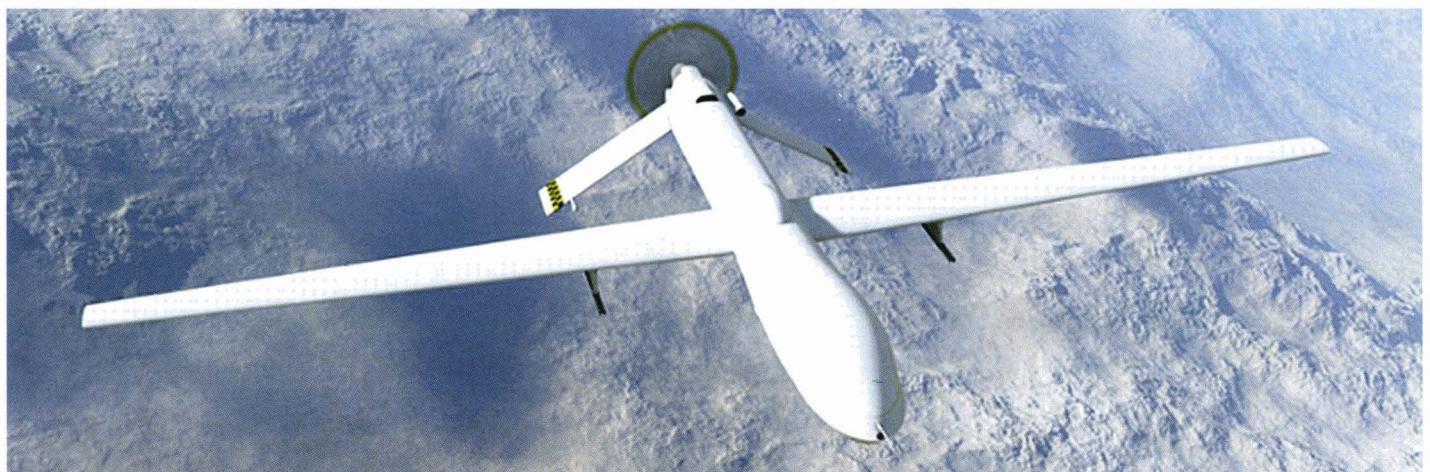
The **RFeye Nexus** series, our new premium range of wideband receiver modules, designed for demanding SIGINT applications, 80MHz RTBW, sweeps from 100kHz to 18GHz at up to 150 GHz/s flexible PCIe interfacing for easy

The **RFeye Array** series, our fully integrated, combined monitoring and Direction Finding (DF) systems for augmented "multi-layer" geolocation of transmitters, using well-proven AOA, TDOA and POA techniques. Available in various configurations, covering DF frequencies from 20MHz to 18GHz, housed in robust IP65 radomes for deployment at fixed locations or for vehicle-mounting.

CRFS also provides a number of powerful and easy-to-use PC software tools that can be used across the RFeye product range. Full details can be found on our website.



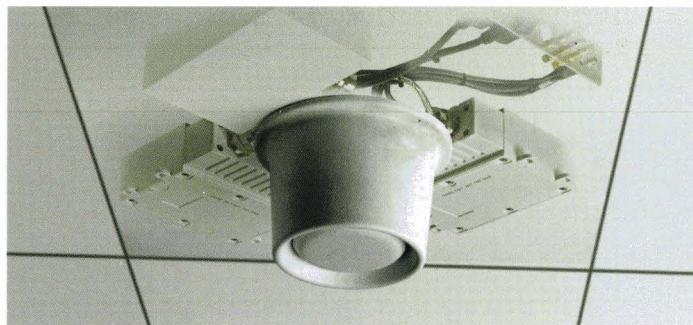
RFeye Array 500 augmented geolocation system



Solutions

CRFS provides a number of fully integrated end-user solutions comprising networks of nodes and state-of-the-art software with configurable GUI to meet specific customer requirements.

RFeye Secure is an integrated In-Building Monitoring System for detection and geolocation of unauthorized or clandestine transmitters for any secure area, such as in embassies, government buildings, military and intelligence offices, prisons and correctional facilities, corporate board rooms and conference



Ceiling-mounted RFeye Secure system for in-building monitoring

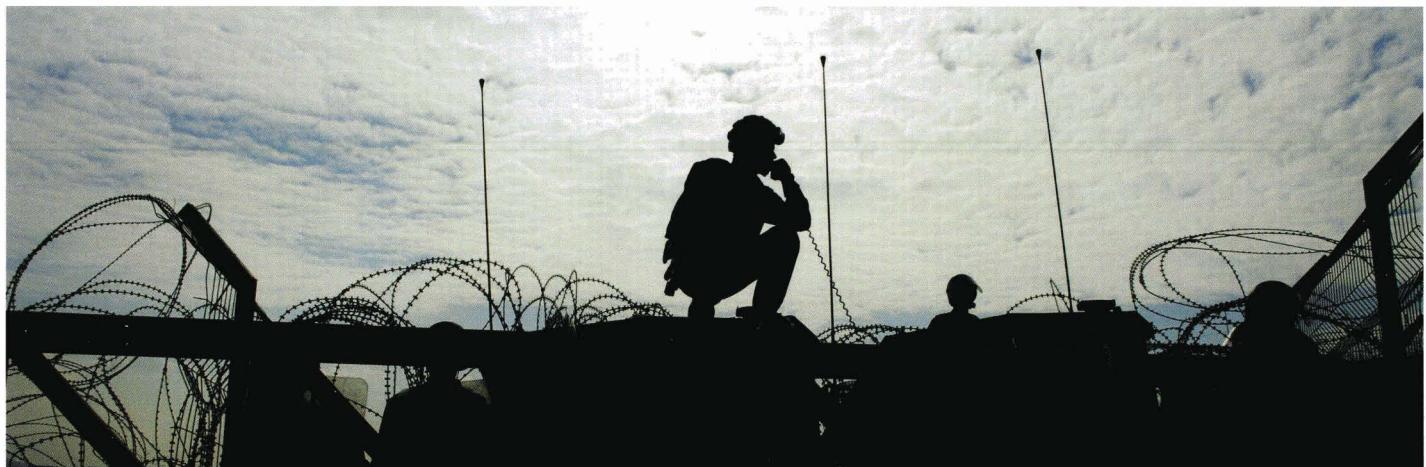
rooms. Providing uninterrupted 24/7 surveillance and awareness of the RF environment up to 18 GHz, RFeye Secure provides a high level of security for the most sensitive areas, including X-listed operations rooms, Sensitive Compartmented Information Facilities (SCIF), Secure Work Environments (SWE) and facilities containing Special Access Programmes (SAP). By detecting the presence, location and signal characteristics of suspicious transmitters such as bugging devices, or detecting unusual

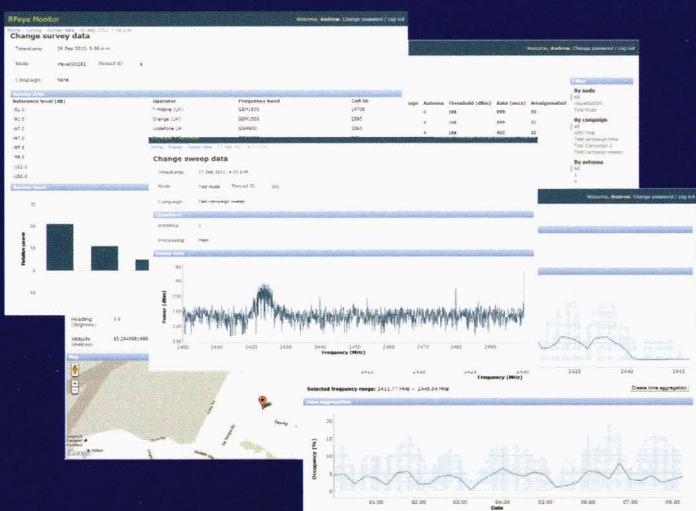
patterns of radio transmissions, RFeye Secure can help identify potential security breaches or provide intelligence to mitigate specific risks.



RFeye Secure in-building transmitter geolocation using POA

RFeye Detect is designed for wide area spectrum monitoring, interference management and real-time response requirements for any spectrum intensive or sensitive locations such as critical infrastructure sites, military training & proving grounds, airport facilities, sports stadia and special event arenas. Sources of unauthorized transmissions can be quickly identified, investigated and geolocated using reliable techniques such as Time Difference of Arrival (TDOA), Power on Arrival (POA) and Angle of Arrival (AOA). This can lead to fast resolution of spectrum conflicts and help support spectrum operations on the site. RFeye Detect can also be deployed for intercepting unexpected or unauthorized wireless activity along borders, coastlines or harbours, as an indicator of potential illegal activity such as illegal entry or trafficking of people or goods.



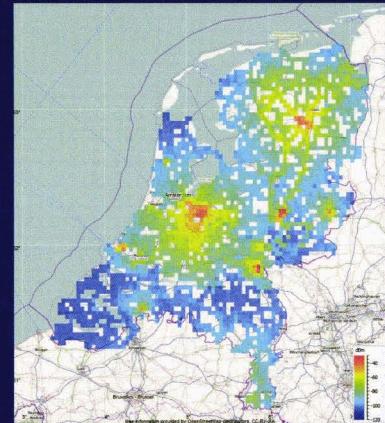


Processed RFeye network data accessed via RFeye Monitor web browser interface

RFeye Monitor is an integrated, fully configurable system for collecting and managing spectrum data using a network of widely distributed nodes. It is aimed at national regulators and other spectrum stakeholders who require accurate and current data to support planning and operational decision-making. It provides up-to-the-minute information about spectrum usage, occupancy, events and violations, across all measured spectrum, as well as fully programmable

alarms and campaigns. A highly efficient database and web portal interface provides streamlined data access. The whole system is designed for data security and integrity, optimal system speed and convenience of user interface.

RFeye Map is a mobile spectrum monitoring system for collection, management and analysis of very large spectrum data sets. It produces detailed maps of spectrum usage from national level down to individual street locations enabling national regulators or spectrum site operations to understand and anticipate “pinch” points and vulnerabilities, monitor compliance, identify and monitor trends over the long term. It provides a unique view of spectrum usage that can greatly inform policy and improve planning and decision-making.



Wide area spectrum survey data aggregated in RFeye Map

Contact us

Please contact us to discuss your specific application or requirements, to request a product demonstration or receive a quotation. We can also put you in touch with our appropriate in-country agent or distributor. Email: enquiries@crfs.com or call us on one of the numbers below.

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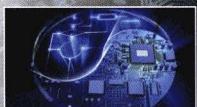
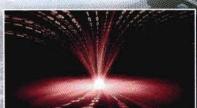
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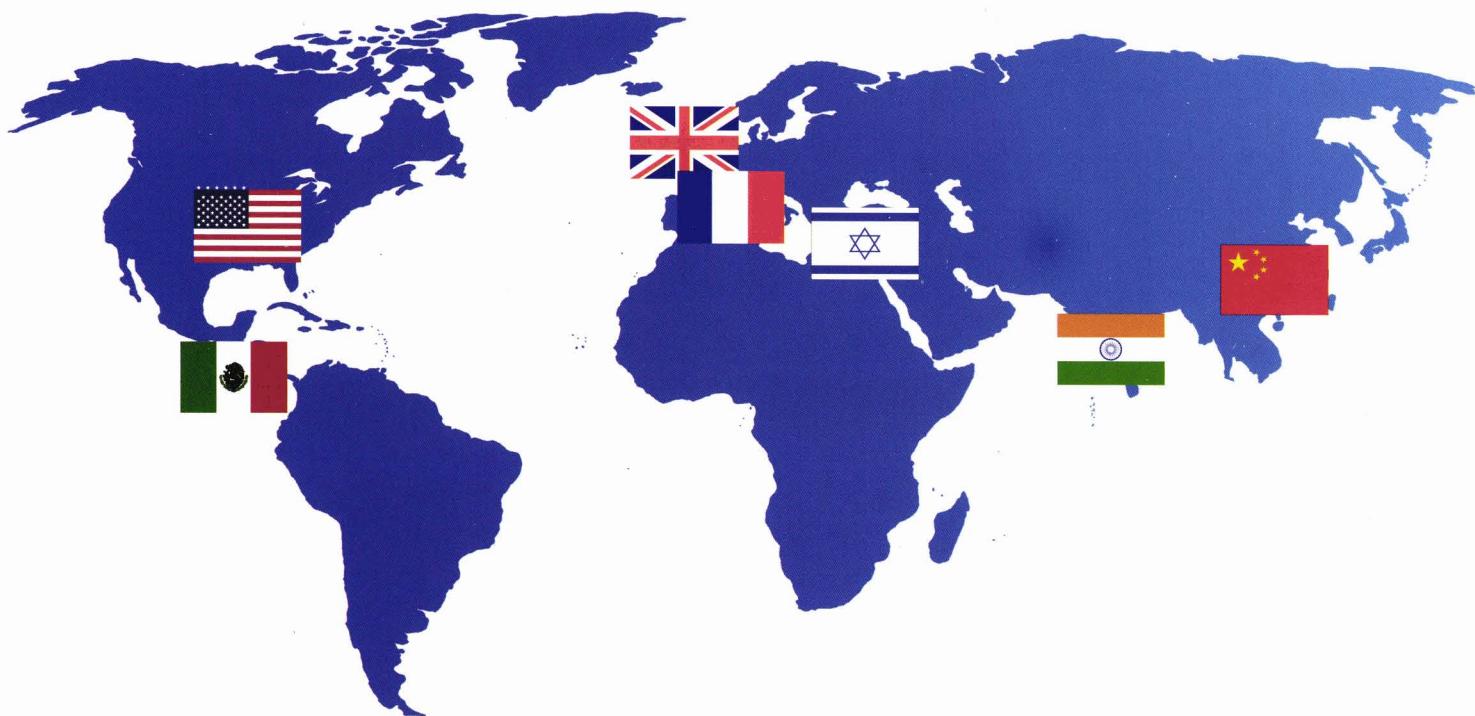
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