DEPLOYMENT STORY

REAL-TIME DIRECTION FINDING & FULL SPECTRUM AWARENESS

How a Southeast Asian government intelligence service secured multiple borders

Domain: Land

Application: Border security monitoring

Customer: Government agency

SITUATION: DETECTING PUSH TO TALK RADIO

Southeast Asia is a region of divisions and tensions. Countries have long, geographically complex borders, and maintaining national security is a critical concern.

One of the region's intelligence services wanted to implement an intelligence-gathering program to protect its multiple borders. It wanted to detect push-to-talk radio using narrowband signals—and then geolocate, decode, and demodulate signals of interest.

CRFS' local partner worked closely with the end user to define the project's technical details and requirements for success.

SOLUTION: DETECT, CAPTURE & DEMODULATE

The government agency chose the RFeye ecosystem to provide a tailored solution that fully met the 'always-on' operating up-time requirement.

Multiple RFeye Array 300 systems were positioned along several borders, focusing on particular strategically important zones. This provided the intelligence agency with direction finding capabilities from a fixed border position—an initial early-warning solution. The RFeye 300-8 Arrays have two RFeye Nodes onboard, meaning one can be used to record I/Q data and the other for spectrum monitoring—with both missions triggered in parallel.

Armed with high-fidelity I/Q data, the intelligence agency had everything it needed to enhance its intelligence picture.

Demodulation and decoding signals of interest were made possible owing to integration with specialist third-party software. CRFS ensured that the intelligence agency could extract precisely what it was looking for.

In addition, tactical and mobile deployment options were enabled through a series of RFeye Stormcases, which allowed the intelligence agency to conduct precise geolocation missions using Time Difference of Arrival (TDoA) and gain a closer look at signals of interest and an enhanced intelligence picture.

RESULTS: ALL OBJECTIVES MET & EXPAND INTO PHASE 2

Phase one provided the intelligence agency with a robust, reliable fixed location DF and intelligence gathering solution to detect push-to-talk radio and mobilize units to dig deeper. Bespoke training and integration with third-party demodulation software ensured the customer could fully leverage intelligence data.

However, the government agency acknowledged that as the assets were thinly spread across its borders, it only received localized information. Therefore, a second phase would fill the gaps over the multiple borders with a further 48 assets and upgrade to 300-18 GHz RFeye arrays.

The intelligence agency already uses RFeye Mission Manager software for automated monitoring and EW support. Still, it will seek to use all automation and scheduling features to ensure 24/7/365 smart surveillance and intelligence.

Want to discuss border security & enhanced EW operations?

Talk to us

*Deployment arranged by **Kerry Mertz***

CRFS | EXTRAORDINARY **RF TECHNOLOGY**

CRFS is an RF technology specialist for defense, national security agencies and systems integration partners. We provide advanced capabilities for real-time spectrum monitoring, situational awareness and electronic warfare support to help our customers understand and exploit the electromagnetic environment.

EQUIPMENT USED

RFeye® Site

Real-time spectrum monitoring & geolocation toolkit

RFeye® Mission Manager

Automated monitoring & mission management

RFeye® Array

Direction finding from 20MHz to 40GHz

RFeye® Stormcase

Plug-and-play, portable intelligent RF receiver

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