



BORDER + COASTAL SURVEILLANCE





COASTAL SURVEILLANCE

Coastal radar and long-range sensors combine to cover large areas of open water and create virtual perimeters that detect and track anything entering the border zone, and assess the threat level instantly.

INTELLIGENT SURVEILLANCE

Border security and coastal surveillance are 24/7 operations that can't afford downtime or periods of reduced readiness. Guarding against illegal immigration, smuggling, and terrorism demands reliable long-range threat detection and positive identification of potential threats all day, all night, and in all conditions.


Inbound threats come from land, on the sea, and in the air. With FLIR's powerful border surveillance solutions, earlier detection and intelligent threat assessment mean greater coverage and faster response without increasing workload.

Whether your primary targets are small boats on the water, or people crossing borders on foot, FLIR's high performance cameras and radars can give you the early warning and threat assessment you need to respond efficiently and effectively. With industry standard interfaces, FLIR components are easy to integrate with the command and control solution you desire to create the rapid deployment solution you need.



CRITICAL INFRASTRUCTURE PROTECTION

By integrating radar, sonar and multispectral imaging, see beyond the perimeter of critical infrastructure facilities to stop suspicious activity before it gets close.



MOUNTAINOUS BORDER SURVEILLANCE

Overcome challenging terrain and provide persistent surveillance using a combination of tactical vehicles and networked ground surveillance assets.



DESERT SURVEILLANCE

Land-based radars, mobile surveillance vehicles, and networked multispectral surveillance systems provide total situational awareness and early detection in the most challenging environments.

MOBILE

The mission of securing a nation's borders is challenging for many reasons, chief among them is the sheer size of the area that needs to be effectively monitored and patrolled. Vehicle-based platforms need to be able to operate independently, while still integrating with a central command-and-control facility so that sector commanders can reposition their border security assets as the tactical situation demands. FLIR border vehicle solutions do all this and more with modular, configurable sensors to match the mission.





LVSS

The LVSS is a lightweight, covert and nimble surveillance system that converts a full-sized commercial pickup into a rapidly deployable command and control center within minutes. With customizable radar and EO/IR cameras mounted to its 16-foot mast, the LVSS provides efficient surveillance coverage to guard against smuggling, terrorism, and illegal immigration – day and night. A single operator can deploy, operate, stow, and relocate – all from the comfort of the cab.



MVSS

The MVSS is a powerful, flexible long-range integrated surveillance system that goes wherever your missions demand. As a standalone system, or an interconnected network MVSS combines ground surveillance radar and multispectral imaging sensors to detect threats out to 25 kilometers away, and accurately assess their intent. Its integrated command and control software gives sector commanders real-time threat assessment so they can respond immediately. MVSS gives you the flexibility to set up persistent surveillance, or reinforce areas in an existing network with unmatched vision.



LTV-X

The Light Tactical Vehicle (LTV-X) from FLIR is a light, agile – yet powerful – mobile imaging and radar platform. A tactical mobile surveillance platform, LTV-X gets operators into position and gives them clear situational awareness all day, all night, and from extreme ranges. Combining ground surveillance radar with multispectral imaging, LTV-X can detect threats out to 10 kilometers away, and accurately assess their intent. Its integrated command and control capability lets operators work independently and feed real-time imagery back to their command center.



CERBERUS

Cerberus™ is a rugged, trailer-based, preconfigured, long-range mobile surveillance system that rapidly deploys in austere and environmentally challenging environments to provide remote perimeter surveillance unmanned for weeks at a time.



SKYWATCH

SkyWatch™ mobile observation towers provide a high level platform for an array of surveillance options. Every portable tower includes the basics for the comfort and safety of the officer inside through adjustable heat and air conditioning, tinted sliding glass windows and comfortable seating. And no matter the application, SkyWatch can be set up and deployed by a single person.



RADARS

Understanding the nature of a threat is critical to intercepting and defeating it. FLIR's ground surveillance radars detect and track multiple threats simultaneously, providing precise location, heading and speed details. Covering areas beyond the fence line, security personnel can monitor and control their security zone by intercepting threats before they can cause harm. With next-generation FMCW technology in a ruggedized, MIL-spec design, FLIR radars deliver exceptionally fast class leading target detection and acquisition performance.





ARGUS

Argus is a fixed, rugged, preconfigured wide area surveillance system. Combining a best-in-class radar with a thermal imager and Command and Control software, Argus is designed to detect, assess, and track multiple threats in the most demanding weather conditions 24 hours a day, 7 days a week. When compared to other perimeter security solutions, Argus has the lowest initial cost per kilometer of secured space as well as the lowest lifetime cost.



RANGER® R6SS & R8SS

The mid-range, man-portable FLIR Ranger® R6SS and R8SS radars detect and track personnel and vehicles within 15km ranges, and detect up to 512 threats simultaneously. Light and small, the R6SS and R8SS fits in a backpack or is easily mounted to a vehicle or permanent structure as part of an integrated solution. With a pan tilt mount, the Ranger panel radars can scan a full 360° every second for complete perimeter security.



RANGER® R6SS-3D & R8SS-3D

The man-portable FLIR Ranger® R6SS-3D and R8SS-3D has the vertical coverage, low minimum detection velocity, and algorithms to detect and track up to 512 threats simultaneously, including drones, while filtering bird detections. The R6SS-3D and R8SS-3D radars can monitor the coverage area 4x per second, running 24/7, detecting all ground and aerial threats in virtually any climate, day and night. Compact and lightweight, it fits in a backpack, draws only 85W, and can integrate with other sensors, while costing much less than its vehicle-sized counterparts.



RANGER® R20SS LAND/COASTAL

The Ranger® R20SS is a ground and coastal surveillance radar specifically designed to detect and track personnel and vehicles at distances up to 20 kilometers. With its solid-state electronic scanning capability and fast 2 Hz refresh rate, the Ranger R20SS has class leading target detection and acquisition performance. The Ranger R20SS utilizes advanced tracking algorithms which enable fast detection and track initiation resulting in highly accurate target location with a low false alarm rate. The system operates in the X-band for all weather operation and can be vehicle-mounted or stationary.



RANGER® R1, R3, R5, R3D, R5D

The Ranger perimeter surveillance radars provide accurate, high resolution detection of vehicles and personnel. Designed to perform in the most demanding environments, they provide 24/7 security to ranges of up to 5Km. Scanning as much as a full 360 degrees every second they can effectively monitor up to 78 square kilometers (30 square miles). These radars also feature Doppler Staring mode, which significantly increases detection range. Multiple units can be installed with overlapping coverage to protect the larger areas required for border security missions, and are easily networked to form a single integrated system with other sensors and command and control systems. By leveraging the radar's advantage in detecting intruders, pan-tilt-zoom (PTZ) cameras can focus on their strength – identifying and assessing those threats – for a more efficient and cost effective solution.



IMAGERS

Detecting a potential threat is just the first step. Once an object of interest is detected, it must be identified, and its threat level assessed. Without clear, long-range visual analysis of detected threats on land or water, operators can't discern between false or nuisance alarms and alerts that require interdiction. As the world leader in thermal imaging, FLIR extends your vision with crisp, clear thermal and visible imagery to give you the information you need to respond.



TACFLIR® 380-HD

The world's most capable all-digital, fully high definition system under 100 lbs, providing thermal, visible, and SWIR imagery along with superior image stabilization, ultra long range imaging performance, and true metadata embedded in the digital video. A single LRU system, the 380-HD is easy to integrate into a variety of towers and vehicles, providing persistent surveillance over the largest patrol areas.



TACFLIR® 280-HD

TacFLIR 280-HD is a high-performance land-based imaging system designed to identify and track smugglers, terrorists, or any other threat – day and night, and in the toughest terrain. Tailored for mobile deployment with high-definition imaging and powerful optics, TacFLIR 280-HD reveals the details necessary for long-range vehicle detection, identification, and threat assessment, and provides operators greater standoff.



TACFLIR® 230

The TacFLIR 230 provides maximum sensor range performance including a high-resolution color zoom TV camera with low light capability, a powerful 640 x 480 cooled MWIR thermal camera with 18x total magnification, and optional laser pointer and range finder. At 41 pounds and with a nine-inch diameter, the TacFLIR 230 is optimized for mobility and easily deployed with extendable masts and gyro-stabilized for on-the-move operations.



PAN/TILT LONG-RANGE MULTI-SENSORS

Ranger™ HDC and HRC thermal imaging systems offer extended range performance with HD (1280x720) or high-resolution (640x480) midwave sensors and powerful continuous-zoom telescopes. Available standalone or integrated with visible cameras, laser rangefinder, digital magnetic compass, and robust pan/tilt platform, the Ranger family of sensors provides precision geo-location and superior reliability.



PAN/TILT MEDIUM-RANGE MULTI-SENSOR

The Ranger® MS-UC DefendIR is an industry leading mid-range thermal imager utilizing continuous zoom thermal and optical lenses, a 640 x 480 array uncooled VOx detector, 26x zoom CCD color camera and an optional 12 million-candlepower (MCP) spotlight. Innovative VisionSense™ technology offers user-controlled blending of the visible and infrared cameras, providing greater threat detail. Easily integrated into existing fiber, wireless or IP networks, and with VMD, radar, UGS or other trigger sensors, DefendIR delivers a powerful, flexible “slew to cue” solution.



PAN/TILT PORTABLE & LONG-RANGE MULTI-SENSOR WITH SPOTLIGHT

The Ranger MS-LRTI deterrence system is equipped with a day/low-light CCD camera and cooled InSb thermal imager and adds a high-power spotlight to detect, deter and temporarily disorient intruders. The 12 million candlepower spotlight can illuminate trespassers within a one-mile radius. With continuous thermal optical zoom, the Ranger MS-LRTI meets the requirements for any mission, from wide-area surveillance to long-range threat identification.

A person in a military-style uniform is seen from behind, sitting at a control desk. The desk is filled with multiple computer monitors. The top-left monitor shows a 3D topographical map of a city. The top-right monitor shows a security camera feed of a parking lot with cars and a person walking, with a digital display showing 'AZ: 251.3°'. Below these are two more security camera feeds showing an indoor area with people. The middle monitor displays a schematic diagram of a facility with labels 'MAIN', 'HVAC', and 'CHECKPOINT'. The person is wearing a dark green jacket. The overall scene is dimly lit, with the primary light source being the screens.

COMMAND & CONTROL

All of the long-range imagers and radars won't help you keep your borders secure if field operators and sector commanders can't view the information they provide and coordinate the movement of forces accordingly. FLIR's C2 software allows you to control and network multiple cameras and radars to operate efficiently and effectively over wide areas.

A man in a military uniform is seated at a desk, pointing his right index finger towards a large wall of surveillance monitors. The monitors display various scenes, including parking lots, streets with cars, and industrial areas. Some monitors have technical data overlays such as 'AZ: 251.9° EL: -0.8°', 'AZ: 219.7° EL: -2.6°', 'AZ: 124.5° EL: -1.6°', and 'AZ: 325.0° EL: -5.6°'. In the foreground, there are two desktop monitors. The one on the left shows a 3D architectural model of a building, and the one on the right has the FLIR logo on its bezel. The overall scene is dimly lit, with the primary light source being the screens.

INTEGRATED INTELLIGENCE

FLIR's sensor solutions can be integrated using a variety of third party C2 platforms, and are designed to maximize interoperability, and minimize setup complexity. FLIR also offers its own powerful C2 solution, Cameleon™, which provides comprehensive surveillance in a highly customizable and user-friendly environment. Readily scalable, it allows the addition of servers and clients as needed. The intuitive and configurable client interface provides operators with access to distributed displays through simple drag-and-drop actions while the powerful server environment provides intelligent, workload-reducing features including device prioritization, system security and granular permissions control, alarm management, archived video storage/retrieval and advanced automation using a robust scripting language. Your C2 or ours, FLIR works with all solutions.

KEY INSTALLATIONS

- US and Foreign Military Installations
- US Customs and Border Protection
- Foreign Border Security Forces
- Schiphol Airport
- Port Metro Vancouver
- Baltimore Police Department
- New Doha International Airport
- Over 500 sites in operation today



HANDHELDS

FLIR's handheld imagers are lightweight, powerful, and easy to use, making those responsible for border surveillance more capable and more agile on their frontiers than ever before. FLIR's Recon® series of thermal binoculars and monoculars can combine longer range imaging with enhanced features like hot-swappable batteries, laser rangefinders, a digital magnetic compass, and up to 10x optical zoom for target identification at greater standoff range.



RECON V

The Recon V is a compact, rugged, easy to use, lightweight multi-sensor thermal binocular designed for 24/7 field operations that require enhanced imagery and long standoff range performance. Its internal GPS, DMC, and long-range laser rangefinder provide accurate range to target as well as precise target location. The 10x continuous zoom optic, MEMS-based electronic stabilization, and high definition color video display combine to provide unmatched image quality and flexibility.



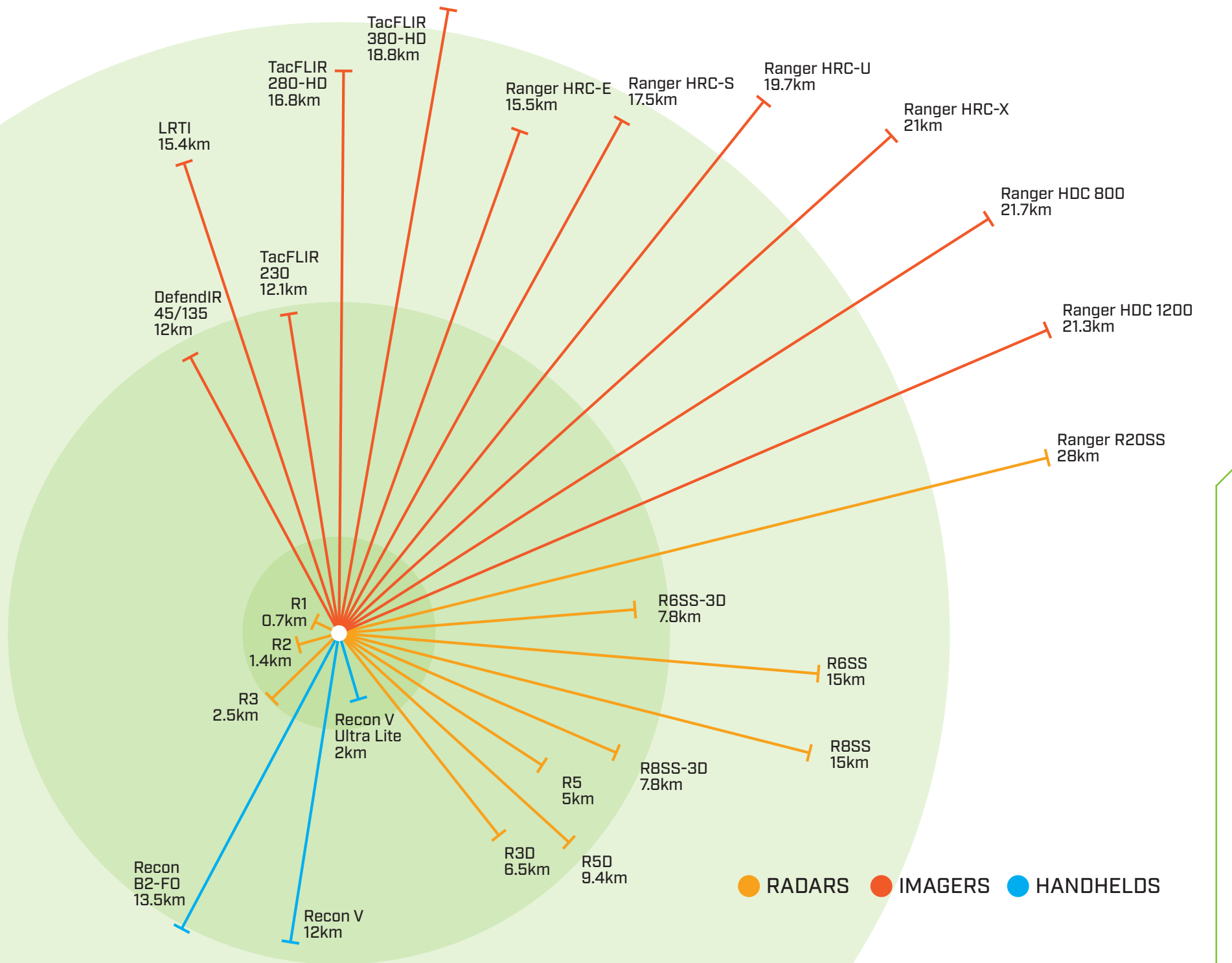
RECON V ULTRA LITE

Fully operational at less than three pounds, the Recon V Ultra Lite provides long-range target detection, recognition, recording and geo-location with an HD color camera and dual FOV thermal channels. Powered by commercially available AA batteries, the unit has a run time greater than four hours with smart power management. With day and night capabilities, a quick-shot laser range finder instantly generates target geo-location data to accompany imagery that can be shared with ground forces through Bluetooth, WiFi or hardwired USB connections to peripheral device for acute situational awareness.



RECON B2-FO

The Recon B2-FO offers long range reconnaissance and target geo-location capability with options for up to three fields of view, mid-wave and long-wave IR sensors, 4x continuous zoom, GPS, DMC, laser rangefinder, laser pointer and on-screen mapping, image storage and download capability, color CCD video day channel, tripod base, remote control, power and video options. Weighs 8 lbs (3.6 kg) or less.



● RADARS
 ● IMAGERS
 ● HANDHELDS

SYSTEM PERFORMANCE



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