Advanced Land Surveillance Radar for Domain Awareness

MDA delivers Advanced Land Surveillance Radar systems for airborne platforms designed to meet a wide range of defence, law enforcement, civil, environmental, and economic user requirements.

Based on more than 40 years of industry leadership in synthetic aperture radar (SAR) systems, processing, and analysis, the company’s advanced radar systems are capable of conducting multiple surveillance missions with fixed wing aircraft, helicopters, or unmanned aerial vehicles.

MDA SAR systems are flexible, cost effective, and high-performance.

HIGH PERFORMANCE IMAGERY AND TARGET TRACKING

MDA’s Advanced Land Surveillance Radar system allows operators to view high-resolution imagery of areas of interest from long standoff ranges. The system employs an active sensor that performs well across all weather conditions and in both day and night operations.

Military and law enforcement operators can monitor vast tracts of land far beyond the range of EO/IR cameras. In addition, the system enables airborne or ground system operators to detect and track moving vehicles in real time. The system captures valuable terrain elevation information for mapping agencies.

MDA’s Land Surveillance SAR installed on a Brazilian Air Force Embraer.

MDA's Ground Moving Target Indicator (GMTI) accurately detects and tracks all movement in an area of interest, even at long standoff ranges.
MISSION-CRITICAL AIRBORNE INTELLIGENCE, SURVEILLANCE, AND RECONNAISSANCE

MDA’s Land Surveillance Radar system supports a wide range of applications for defence and civil agencies.

Defence and Security Applications
Defence users are provided with responsive tools to conduct the following missions:

- Defence and security missions
- Target detection, identification, and tracking
- Detection of covert operations and installations
- Troop movement/maneuvers
- Surveillance and enforcement
- Border surveillance
- Drug/crime interdiction
- Tracking criminal movements

Civil and Environmental Applications
Civil applications span regular monitoring and reporting, mapping, and disaster response activities:

- Resource Management
- Detection of illegal forestry
- Detection of illegal mining
- Fisheries habitat incursion
- Mapping and Land Use Planning
- Terrain and elevation modeling
- Forest coverage, water resources, urban and industrial growth
- Road, bridge, and rail infrastructure
- Disaster evaluation and response
- Oil spill detection
- Forest fires
- Flooding

IMAGING MODES PROVIDE FLEXIBILITY

Multiple imaging modes and standoff ranges enable flexible image acquisition, day or night, and in all weather conditions.

Stripmap Imaging
Stripmap imaging provides a continuous moving image display parallel to, or at an angle relative to the flight path. MDA’s solution allows imaging during maneuvers to enable the use of flexible acquisition geometries and flightlines.

Sub-metre resolution at long standoff ranges are available, and configurable range swath widths and imaging resolution can be optimized for user applications.

Landspot (Spotlight) Imaging
Spotlight imaging mode enables a target area to be continuously observed to provide multiple views. Horizontal and vertical radar polarizations are available for improved target classification. Sub-metre resolution at long standoff ranges can be configured to deliver a high degree of detail. Imagery acquisition is enhanced by the ability to squint forward or backward up to 60º from broadside of the air platform.
Ground Moving Target Indicator (GMTI)

Ground moving targets can be accurately detected and tracked, superimposed on Doppler Beam Sharpened (DBS) imagery. MDA’s 3-channel STAP delivers superior detection, localization, and jamming suppression.

Detected moving targets are overlaid on Doppler Beam Sharpened imagery for the most accurate representation of activities within an area of interest.

Image Exploitation

Users are supported by powerful image analysis tools that draw on MDA’s heritage in SAR data acquisition, processing, and exploitation.

MDA’s heritage of more than 40 years at the forefront of airborne SAR has led to a powerful suite of image analysis capabilities that can include assisted target identification.

CUSTOMER SATISFACTION

MDA has worked closely with its worldwide customer base for more than four decades, leveraging its advanced technologies to deliver efficient information solutions that improve productivity and profitability.

For more information, please contact us today:

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