Surface Movement Radar
SCANTER 5000 Series
Plot Extraction
As a unique feature the embedded plot extraction is performed in a signal processing board taking advantage of the full resolution of the digital processed radar video. The associated plots may be correlated to secondary information such as ADS-B.

Embedded Tracker
Terma offers a knowledge-based embedded tracker automatically adjusting the number of scans needed to initiate a track depending on the local clutter density and how well a series of consecutive plots describe a possible target trajectory.

Aerodrome Traffic Awareness
Aerodrome traffic awareness is an add-on to the well-known SMR application. It enables detection and tracking of descending aircraft up to 5 NM from the SMR radar as well as non-transponder low-level unidentified flying objects around the airport. It is a 2-in-1 solution not compromising the 60 RPM for a SMR.

A well-known challenge of a modern airport is that the PSR and SSR do not provide coverage below 2-300 m. These radars might also have a limited view to the descending aircraft due to buildings or blind zones. A correlation in the A-SMGCS between the SSR and SMR makes it possible automatically to transfer the label before landing to save time later when ground traffic might be heavy.

Low Life Cycle Cost (LCC)
The SCANTER technology selected, the robust mechanical design, and efficient temperature management ensure a long lifetime of the Solid State Power Amplifier (SSPA) and a high reliability and LCC.

Antenna Program
The Termo SMR systems utilize line array antennas optimized for high gain, low side-lobes, good weather penetration, and high reliability. The antennas come with Fan, Cosc2 or Inverse Cosc2 vertical beam shape as appropriate for the in-involved airport. The combination of X-band and circular polarization is optimal for rain penetration in SMR applications without need for introducing rain dependent compensations.

Multi-Sensor Operation
Radar coverage and resolution can be expanded by introducing multiple sensors allowing for separate presentation or centralized compilation of composite images. Illumination from different angles and distances may enhance target discrimination. Otherwise, obstructed areas can be included and unwanted effects from multi-path propagation eliminated.

Based on the SCANTER Radar Technology
Terma has more than 60 years of experience in developing and manufacturing radars, and more than 2,200 radar systems are installed worldwide. Terma provides radar sensors to Vessel Traffic Services (VTS), Coastal Surveillance-Radar (CS), and Surface Movement Radar (SMR) segments. More than 85% of all major airports around the world and 65% of all coastal shores rely on Terma’s sensor technology.

**Product Characteristics**

**Solid State Radar**
The use of solid state makes it possible to software define the frequency over the full band (9.0-9.5 GHz) to avoid interference.

**Airport Surface Movement Radar**
The SCANTER 5502/5602 Surface Movement Radar (SMR) is designed to provide airport ground surveillance integrated as the non-cooperative primary sensor in an airport Advanced Surface Movement Guidance and Control System (A-SMGCS).

The outstanding capabilities of the SCANTER 5502/5602 SMR ensure reliable detection of very small targets and produce an overall clear high-resolution radar awareness of the coverage area, day and night and in all weather conditions.

Frequency diversity and time diversity functionality further enhance the probability of detection (PD), specifically for small targets, and improved sector control reduces the risk of multi-path.

**SCANTER 5000 Series**

<table>
<thead>
<tr>
<th>Feature</th>
<th>5502</th>
<th>5602</th>
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<tbody>
<tr>
<td>Featuring</td>
<td>SMR ground surveillance, full coherence, frequency diversity, time diversity, A-SMGCS integration</td>
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<tr>
<td>Frequency</td>
<td>Software-defined frequencies within 9.0-9.5 GHz, 8 up to 16 sub-bands</td>
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<tr>
<td>Transmitter</td>
<td>50 W SSPA, 200 W SSPA, 6-26 kW equivalent pulse power</td>
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<td>Receiver</td>
<td>Digital sampling on IF, ≥ 140 dB amplitude span of signals handled</td>
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<tr>
<td>Design</td>
<td>Open architecture, wall/bulkhead mounted, ruggedized housing</td>
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<tr>
<td>External Interfaces</td>
<td>Digital, analogue, and IP network radar signals, control and monitoring via IP network/serial communication ports</td>
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<tr>
<td>Antennas</td>
<td>21' high gain linear array, circularly polarized, fan, cosec2 or inverse cosec2, 60 RPM</td>
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<tr>
<td>Embedded Tracking &amp; Extraction</td>
<td>SMR plot extractor, SMR tracker, Aerodrome traffic awareness</td>
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<td>Conformity</td>
<td>EUROCAE ED-116, IEC 60068, IEC 60529, IEC 61000, ITU-R SM 1541, ICAO 1987</td>
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Specifications subject to change
Operating in the aerospace, defense, and security sector, Terma supports customers and partners all over the world. With more than 1,400 committed employees globally, we develop and manufacture mission-critical products and solutions that meet rigorous customer requirements.

At Terma, we believe in the premise that creating customer value is not just about strong engineering and manufacturing skills. It is also about being able to apply these skills in the context of our customers’ specific needs. Only through close collaboration and dialog can we deliver a level of partnership and integration unmatched in the industry.

Our business activities, products, and systems include: command and control systems; radar systems; self-protection systems for ships and aircraft; space technology; and advanced aerostructures for the aircraft industry.

Terma has decades of hands-on know-how in supporting and maintaining mission-critical systems in some of the world’s most hostile areas. Terma Support & Services offers Through Life support of all our products to maximize operational availability, enhance platform lifetime, and ensure the best possible cost of ownership.

Headquartered in Aarhus, Denmark, Terma has subsidiaries and operations in the Netherlands, Germany, Belgium, UK, India, UAE, Singapore as well as a wholly-owned U.S. subsidiary, Terma North America Inc. Terma North America Inc. is headquartered in Arlington, in the Washington D.C. area, with other offices in Georgia, Texas, and Virginia.