



Enabling Electromagnetic Dominance



MANAGE, OBSERVE and DEFEND your Spectrum

Systems for tactical radio planning and advanced spectrum management
Military spectrum monitoring and drone detection
System integration and turnkey projects
Spectrum consulting and training

Mastering the Electromagnetic Battlespace

Modern warfare is increasingly defined by the dominance of the Electro-Magnetic Spectrum (EMS). As the operational environment becomes more dynamic, contested, and congested, Electromagnetic Spectrum Operations (EMSO) demand an unprecedented level of coordination and synchronization across the entire decision-making chain. Commanders and operators must rapidly sense, understand, and act within a complex electromagnetic environment where timelines are compressed and the margin for error is minimal.

Achieving this level of effectiveness is no longer possible through fragmented tools or manual processes alone. LS telcom's integrated EMSO solutions provide the link between strategic spectrum governance and tactical execution. By using our automated capabilities in spectrum management, tactical radio planning, real-time spectrum monitoring and geolocation of EMS threats, defense organizations achieve information superiority and operational advantage in contested EMS environments.

Building on more than 30 years of military spectrum and EMSO expertise, LS telcom enables armed forces to MANAGE, OBSERVE, and DEFEND the electromagnetic spectrum across its entire operational lifecycle.

Customer voices

"mySPECTRA for Defense is going to improve the efficiency of what we do, because we spend a lot of time messing around with data transfers because the old software is outdated."

"Using the new software is like going from Windows XP to Windows 11. Everything is modernized, it looks better and functions like a modern website everyone uses."

Government Defense Organization

Why Defense Organizations Choose LS telcom



END-TO-END SPECTRUM PARTNER

From strategic spectrum policy and management to tactical radio planning, spectrum monitoring, EW support, and training, LS telcom's solutions cover the full EMSO chain



DECADES OF SPECTRUM DNA

More than 30 years of expertise in spectrum management, monitoring, and EMS operations. Focused on Software-Defined Defense and electromagnetic dominance



PROVEN WITH DEFENSE CUSTOMERS

Systems deployed in national defense programs worldwide. Major projects include EMS management modernization and tactical EW integration



INTEGRATED EMSO TOOLKIT

Tactical planning (SPECTRAemo), spectrum management (mySPECTRA for Defense), and land- and drone-based spectrum monitoring (LS OBSERVER), all designed to work seamlessly together



VENDOR-NEUTRAL, COTS-BASED

Open architecture enabling seamless integration with EW systems, radios, BMS and C2 systems, and third-party hardware. No vendor lock-in, designed to fit into existing armed forces structures



TURNKEY SYSTEM

EMSO shelters, operations rooms, and integrated mission workstations, ready to be deployed within existing or new communications and EW infrastructures

Smart Solutions for Defense & Security

Integrated EMSO solutions at a glance

PLAN & MANAGE YOUR SPECTRUM **mySPECTRA for Defense**

The military's automated spectrum management and electronic warfare system



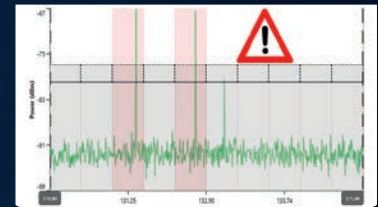
TACTICAL RADIO PLANNING FOR DEFENSE **SPECTRAemo**

Spectrum planning and management tool for tactical and operational missions



OBSERVE & DEFEND YOUR SPECTRUM **LS OBSERVER**

Sensor based monitoring system for defense & security



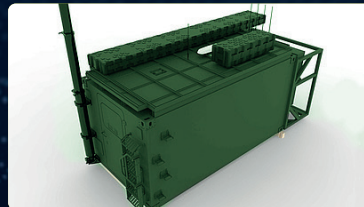
AERIAL SPECTRUM INTELLIGENCE & DRONE DEFENSE SOLUTIONS

From drone detection to deployment, enhancing situational awareness



SYSTEM INTEGRATION & TURNKEY PROJECTS

Custom solutions for advanced electronic warfare operations



SPECTRUM CONSULTING & TRAINING

Elevating expertise in electronic warfare and spectrum management



PLAN & MANAGE your Spectrum - **mySPECTRA for Defense**

Mission success relies on secure, real-time access to the electromagnetic spectrum. Critical functions like command, surveillance, and communication require effective spectrum management. In congested and contested spectrum environments, mySPECTRA for Defense provides a comprehensive, flexible, and user-centric suite of capabilities to support military spectrum managers and users:

Frequency Plan Management

Enables multi-step planning for military, civilian, and international spectrum usage

Holistic Spectrum Management

Central system for processing frequency usage requests, managing equipment data, and performing technical analyses

Mission Data Visualization

Web-based interface for real-time visualization of friendly and hostile forces, technical analysis results, and geospatial intelligence

Technical Analysis

Advanced coverage prediction, interference analysis, and electronic warfare support tools

Technical Database

Central repository for all frequency plans, equipment data, and compliance records

Integration with National & International Partners

Interface through NATO's SMIRonline, ITU's BR IFIC, civilian regulator database and other international standards

Tactical Radio Planning for Defense - **SPECTRAemo**

SPECTRAemo is an advanced radio planning tool for military operations at tactical and strategic levels. It supports electromagnetic operations by enabling reliable coverage analysis, interference assessment, and informed spectrum decisions through high-performance offline analysis. Key features include:

Electromagnetic Coverage Prediction

Simulation of realistic signal and field strength conditions under operational environments

Spectrum Deconfliction

Detection and mitigation of interference in complex communication scenarios

Tactical Radio Link Planning

Analysis of path profiles, line-of-sight, and MANET network connectivity

Structured Data Management

Secure reference databases and interoperable data exchange

Automation and Operator Assistance

Scripting, macros, and guided workflows for efficient mission planning

OBSERVE & DEFEND your Spectrum - LS OBSERVER

LS OBSERVER delivers real-time situational awareness across the electromagnetic domain, enabling continuous COMINT and SIGINT by transforming RF data into actionable intelligence across diverse mission scenarios:

Electronic Support Measures (ESM)

Continuous 24/7 passive monitoring to support military commanders in obtaining a detailed picture of friendly and adversary spectrum usage

Border Surveillance

The integrated AI-powered Automatic Violation Detection (AVD) technology provides rapid detection, geolocation, and tracking of hostile PMR radios, mobile phones, and drones

Protection of Critical Sites and Networks

Interference detection and geolocation of hostile emissions targeting critical radio networks at military basecamps and airbases

Spectrum Operations Planning

As a clear embodiment of the software-defined defense concept, LS OBSERVER continuously compares measured RF data with authorized spectrum information stored in the master frequency database. New, unusual, or unknown signals automatically trigger alerts, are geolocated, and forwarded to the C2 system

Aerial Spectrum Intelligence & Drone Defense Solutions

The rapid proliferation and operational use of unmanned aerial systems on the modern battlefield have introduced new challenges in detecting and countering malicious airborne threats, while simultaneously creating opportunities to employ drones for innovative military applications:

Drone Detection

LS OBSERVER ground units detect and analyze RF signals from drones and controllers in real time, automatically generating alerts, while the complementary Airborne Monitoring Unit (AMU) extends line of sight and coverage for earlier detection

Mobile Drone Warning

Our fast-scanning mobile drone warning system detects drones at long range and provides timely alerts to tactical forces on the ground

Drone-based Monitoring and RF Analysis

The AMU enables airborne detection, direction finding, and triangulation of RF signals, supporting both military reconnaissance and coverage assessment of friendly networks in complex terrain

Satellite Uplink Monitoring

Drone-based measurements with LS telcom's AMU to identify if non-GSO (e.g.) Starlink uplink signals are present and estimation of location of ground terminal with airborne RF drive test

System Integration & Turnkey Projects

LS telcom specializes in integrating software and hardware to deliver comprehensive EWOC, ESM, & ECM systems across multiple platforms:

- Armored and protected vehicles
- Naval and maritime units
- Aircraft and UAV
- Transportable sheltered container units
- Maintenance and service entities

Whether delivered as a platform pre-equipped with operational infrastructure or as a turnkey solution including purpose-built hardware and software, we offer flexible deployment options tailored to your specific requirements.

A wide range of omni-directional and directional monitoring antennas, as well as direction-finding antennas, can be installed to cover multiple frequency ranges. The integrated software suite is optimized for spectrum monitoring, spectrum analysis, and radio planning, ensuring effective operation across the electromagnetic spectrum.

Spectrum Consulting and Training

Effective control of the Electromagnetic Spectrum (EMS) requires more than technology. It demands operational expertise and well-trained personnel. LS telcom supports armed forces with specialized consulting services and training programs tailored to military spectrum management and EMSO requirements.

Through the LS telcom Training Academy, a broad portfolio of role-based courses is delivered in flexible formats, on-site, online, or mission-specific. From spectrum planning and coordination to operational and tactical EMS challenges, our programs translate knowledge into practical, deployable capability for operators, engineers, and decision-makers in complex electromagnetic environments.



Enabling Electromagnetic Dominance

LS telcom – A Trusted Partner for Armed Forces Worldwide

LS telcom is a German technology company with over 30 years of field-proven expertise in spectrum management, monitoring, and mission-critical communications. Founded in 1992, we are a globally established provider with subsidiaries and partners across the world, serving customers in over 100 countries. With a workforce of around 300 specialists and a portfolio supported by extensive certifications, we deliver reliability, continuity, and technical excellence.

Technological Sovereignty

LS telcom maintains full control over its technology stack. Our solutions are developed in-house, supported by dedicated R&D laboratories and test facilities in Germany. With no external dependencies, we ensure secure, autonomous, and rapidly available systems, delivering a decisive advantage for defense organizations operating under strict security and availability requirements.

Future-Ready Innovation and Training

Our platforms are designed for long-term deployment and continuous evolution. We provide customer-specific configurations, COTS-based systems ready for immediate delivery, and AI-driven advancements aligned with the principles of Software-Defined Defense. In addition, LS telcom offers comprehensive training programs, including specialized courses for military personnel, delivered at our own training centers.

Achieve spectrum superiority, connect with our experts to discuss your operational requirements.

CIPA

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