RHEINMETALL**ODIN2.0**

BEIDOU STRATEGIC SATCOM MONITORING SOLUTION

In regions marked by territorial disputes and escalating security risks, timely and precise location intelligence is no longer optional – it is mission-critical. Operational advantage in contested environments depends on knowing "who is where, when, and how they are moving" – across land and sea. Persistent visibility of mobile assets enables informed decision-making in complex geopolitical environments.

Accurate location tracking of ships and vehicles supports early threat detection, de-escalation, and coordinated response. Real-time geo-spatial awareness enables operators to monitor movement patterns, identify anomalies, and respond proactively. Understanding movement behavior across contested areas allows stakeholders to anticipate risks rather than react to them.

Accessing satellite communication data from Chinese SATCOM terminals is particularly challenging due to a combination of technical, regulatory, and operational barriers designed to limit external visibility and control information flow.

SOLUTION

Rheinmetall has developed a strategic operational SATCOM monitoring system to support regional and beyond geostationary BeiDou RDSS monitoring. The solution is being deployed for wide-area coverage to collect data from, e.g., critical regions or infrastructure and sensitiv border areas of countries or other areas of interest. The collected data is automatically and continuously sent to the headquarters for comprehensive evaluation. This enables a completely passive surveillance of the region and ensures seamless data collection.

PRODUCT OVERVIEW

The ODIN 2.0 sensor is an advanced Software defined Radio (SDR) monitoring solution designed to deliver comprehensive awareness of BeiDou GEO Stationary RDSS signals with a small operational footprint. Leveraging fully passive, near real-time monitoring, it observes satcom signals without transmitting or interfering, ensuring maximum discretion and security.

The product supports multiple antenna and beam connections, enabling wide-area coverage and concurrent monitoring of multiple RDSS S-band downlinks. Built with scalability and adaptability at its core, ODIN 2.0 can seamlessly evolve with changing mission needs, from small deployments to large setups as the BeiDou satellite constellation is extended.

A flexible API exporter interface allows easy integration with existing systems, analytics platforms, and command-and-control solutions, while the user-friendly web-based HMI ensures intuitive operation, rapid insight generation, and minimal training requirements.

Fully passive monitoring

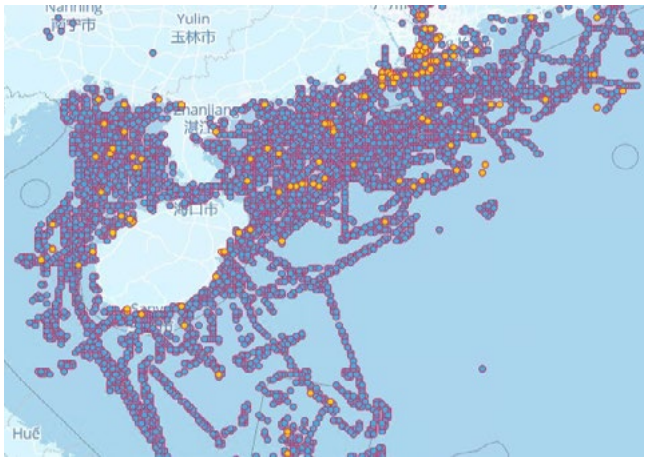
Higher security through real- time monitoring

Multiple antenna and beam connections

Scalability and adaptability to cover multiple SatCom systems

Flexible API exporter Interface

User friendly Web browser HMI



WHAT WE DO ?

Trusted advisor

Rheinmetall sees itself as a trusted advisor for all customers and supports the selection of the necessary infrastructure and systems based on customer requirements.

System demonstration

To illustrate the performance and reliability of ODIN 2.0, Rheinmetall will demonstrate the system on request.

Integration support

Rheinmetall can advise customers on the selection of most appropriate location for the ODIN 2.0 sensor by carrying out local measurements. Rheinmetall can support customers in setting up and building the system.

Training

Rheinmetall enables users to install, operate and use the system effectively.

Customer service

Rheinmetall offers fast support for technical issues and regular maintenance.

Development

Rheinmetall is constantly investing in its products and processes in order to keep pace with technological advances and new threats.

WHAT WILL YOU GET?

Complete system solution

Rheinmetall supplies a turnkey system that includes antennas and sensors. If required, remote sensor solutions can also be provided.

Automated processes

ODIN 2.0 can automatically detect signaling and message transfers received from selected BeiDou satellites. This enables fully passive interception and extraction of transmitted session data. Customers can configure the export technology. Session data can be exported in JSON file format or in REST format.

Long term support

The ODIN 2.0 system design is based on commercial off-the-shelf hardware including software-defined radio (SDR) components and servers. This approach enables long term operation of the system and minimize the obsolescence risk.

Scalability

The sensors design of ODIN 2.0 makes it easy to extend coverage by adding further sensors in appropriate locations.

Get in touch

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